

**VOLUME I**

**PROJECT AGREEMENT**

**for**

**UC MERCED 2020 PROJECT**

**Between**

**The Regents of the University of California**

**and**

**Plenary Properties Merced LLC**

**Contract # Z830PUA026**

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**PROJECT AGREEMENT  
UC MERCED 2020 PROJECT**

This Project Agreement is entered into and effective as of August 12, 2016, between:

- (a) The Regents of the University of California (the “**Owner**”); and
- (b) Plenary Properties Merced LLC, a limited liability company organized under the laws of California (“**Developer**”).

**RECITALS:**

**WHEREAS:**

A. The Owner wishes to develop the UC Merced 2020 Project through a public-private partnership. The Project includes the design, construction, financing, operation and maintenance of academic classroom and laboratory facilities, student housing and dining facilities, administrative offices, and athletic and recreational facilities, together with associated utilities and infrastructure for the University of California, Merced campus. The Project is being undertaken in cooperation with Merced County, the City of Merced, Merced Irrigation District, and other local stakeholders;

B. The Owner issued a Request for Qualifications for the Project on September 25, 2014, as amended by an addendum issued on October 10, 2014 (as amended, the “**Request for Qualifications**” or “**RFQ**”). The Owner issued these and all subsequent procurement documents for the Project pursuant to Article IX, Section 9, of the California Constitution, Section 10500 et seq. of the California Public Contract Code (the “**Statutes**”) and other applicable provisions of Law. Article IX, Section 9, of the California Constitution grants the Owner broad authority to own, operate, lease and manage its property and assets in furtherance of its sovereign, educational, research and public service missions. Under the Statutes, the Owner is generally authorized to contract for construction, goods and services pursuant to the Statutes and to solicit proposals under such contracting modes as the Owner determines to be in the best interests of the University;

C. On January 13, 2015, pursuant to the procurement process outlined in the RFQ, the Owner announced the selection of three shortlisted proposers based on their respective financial and technical qualifications as detailed in their responses to the RFQ;

D. Pursuant to the procurement process outlined in the RFQ, the Owner issued a Supplemental Request for Qualifications on May 18, 2015, as amended by an addendum issued on June 8, 2015 (as amended, the “**Supplemental Request for Qualifications**” or “**SRFQ**”) to the three shortlisted proposers to qualify certain additional Key Contractors and Key Personnel;

E. The Owner issued a request for proposals for the Project to the shortlisted proposers on January 11, 2016 (as amended by addenda, the “**Original Request for Proposals**” or “**Original RFP**”), and issued a Request for Revised Proposal on June 7, 2016 (as amended by addenda, the “**Request for Revised Proposal**” or “**RFRP**”). The Original RFP, as amended by the RFRP, is hereinafter referred to as the “**RFP**”;

F. On June 17, 2016, the Owner selected Developer as the successful proposer to enter into the Project Agreement; and

G. On June 30, 2016, the Owner and Developer entered into an Early Works Agreement for the performance of certain Early Works (as defined therein) prior to Financial Close, and upon achievement of Financial Close, such work is deemed to have been performed under this Agreement and Developer has reimbursed the Owner for all amounts paid by the Owner to Developer under the Early Works Agreement.

NOW, THEREFORE, in consideration of the sums to be paid by the Owner to Developer, the Work to be financed and performed by Developer, the foregoing covenants and agreements set forth herein, the Parties agree as follows:

## **ARTICLE 1. DEFINITIONS AND INTERPRETATION; CONTRACT DOCUMENTS; STANDARDS**

### **1.1 Abbreviations and Definitions**

Abbreviations used in this Agreement and other Contract Documents have the meanings set forth in Section 1 of Appendix 1. Definitions for certain capitalized terms used in this Agreement and the other Contract Documents are set forth in Section 2 of Appendix 1. Abbreviations and capitalized terms used in the Technical Requirements but not otherwise defined in Appendix 1 have the meanings set forth in Section 2.1 of the Technical Requirements.

### **1.2 Headings**

The captions of the articles, sections and subsections of this Agreement are for convenience only and shall not be deemed part of this Agreement or considered in construing this Agreement.

### **1.3 Construction and Interpretation of Contract Documents**

1.3.1 The language in all parts of the Contract Documents shall in all cases be construed simply, as a whole and in accordance with its fair meaning and not strictly for or against any Party. The Parties acknowledge and agree that the Contract Documents have been prepared jointly by the Parties and have been the subject of arm's length and careful negotiation over a considerable period of time, that each Party has been given the opportunity to independently review the Contract Documents with legal counsel, and that each Party has the requisite experience and sophistication to understand, interpret and agree to the particular language of the provisions hereof. Accordingly, in the event of an ambiguity in or Dispute regarding the interpretation of the Contract Documents, the Contract Documents shall not be interpreted or construed against the Party preparing it, and instead other rules of interpretation and construction (as set forth herein) shall be utilized.

1.3.2 Any references to any covenant, condition, obligation and/or undertaking "herein," "hereunder" or "pursuant hereto" (or language of like import) mean, refer to and include the covenants, conditions, obligations and undertakings existing pursuant to this Agreement and any Appendices, riders, exhibits, addenda, attachments or other documents affixed to or expressly incorporated by reference in this Agreement. All terms defined in this Agreement shall be deemed to have the same meanings in all Appendices, riders, exhibits, addenda, attachments or other documents affixed to or expressly incorporated by reference in this Agreement unless the context thereof clearly requires the contrary. Unless expressly provided otherwise, all references to Articles, Sections and Appendices refer to the Articles, Sections and

Appendices of this Agreement. Unless otherwise stated or defined in this Agreement or the other Contract Documents, words which have well-known technical or construction industry meanings are used in this Agreement or the other Contract Documents in accordance with such recognized meaning. All references to a subsection or clause “above” or “below” refer to the denoted subsection or clause within the Section in which the reference appears. Wherever the word “including,” “includes” or “include” is used in the Contract Documents, it shall be deemed to be followed by the words “without limitation.”

1.3.3 As used in any Contract Document and as the context may require, the singular includes the plural and vice versa, and the masculine gender includes the feminine and vice versa.

1.3.4 Any reference to any Contract Document, or any appendix, section or table therein, means such Contract Document, appendix, section or table as amended, supplemented or replaced from time to time in accordance with the Contract Documents.

1.3.5 Any reference to systems or technology specified in the Contract Documents to be used for the Project means such systems or technology or their equivalent based on advances in technology: (a) with respect to D&C Work, as at 30 days prior to the Proposal Due Date; and (b) with respect to the O&M Services, over time, provided that Developer is not required under this Section 1.3.5 to perform Renewal Work in advance of when such Renewal Work is scheduled to be performed in the Renewal Work Schedule, except pursuant to an Owner Change.

1.3.6 Where a deliverable other than a payment is due under this Agreement or the Technical Requirements on a non-Business Day, such deliverable shall be deemed to be due on the first Business Day following such non-Business Day. Where a payment is due under this Agreement on a non-Financial Business Day, such payment shall be deemed to be due on the first Financial Business Day following such non-Financial Business Day.

1.3.7 References to “Financial Close” in the Early Works Agreement are deemed to mean the Effective Date. The Parties acknowledge and agree that Early NTP 2 was not issued under the Early Works Agreement.

## **1.4 Contract Documents; Order of Precedence**

Each of the Contract Documents is an essential part of the agreement between the Parties and a requirement occurring in one is as binding as though occurring in all. The Contract Documents are intended to be complementary and to be read together as a complete agreement.

1.4.1 In the event of any conflict, ambiguity or inconsistency among the Contract Documents, the order of precedence shall be as follows:

1. Amendments with respect to Volume I (this Agreement, including all Appendices);
2. Volume I (this Agreement, including all Appendices except Appendix 2);
3. Alternative Technical Concepts;
4. Amendments with respect to Project Commitments;
5. Project Commitments;
6. Amendments with respect to Volume II (Technical Requirements), except the Manuals and Guidelines;

7. Volume II (Technical Requirements), except the Manuals and Guidelines;
8. Amendments with respect to Additional Mandatory Standards;
9. Additional Mandatory Standards;
10. Revisions to the Plans;
11. Plans;
12. Manuals and Guidelines; and
13. Appendix 2 (Developer's Proposal Commitments), except Alternative Technical Concepts contained therein.

For the purposes of this Section 1.4.1, amendments to the Technical Volumes include any changes, additions and replacements to the provisions contained therein pursuant to an Owner Change and written amendments pursuant to Section 26.1, as applicable. Computed dimensions govern over scaled dimensions.

1.4.2 Notwithstanding the order of precedence among Contract Documents set forth in this Section 1.4, in the event of any conflict, ambiguity or inconsistency between or among any of the provisions in the Contract Documents, the provisions that establish the higher quality, manner or method of performing the Work, exceed Best Management Practice or use more stringent standards will prevail. If Developer's Proposal Commitments include statements, terms, concepts or designs that can reasonably be interpreted as offers to provide higher quality items than otherwise required by the other Contract Documents or to perform services or meet standards in addition to or better than those otherwise required, then Developer's obligations hereunder shall include compliance with all such statements, terms, concepts and designs. Additional details in a lower priority Contract Document shall be given effect except to the extent they irreconcilably conflict with requirements, provisions and practices contained in the higher priority Contract Document.

1.4.3 If either Party becomes aware of any conflict, ambiguity or inconsistency described in Section 1.4.1 or Section 1.4.2, it shall promptly notify the other Party in writing of such conflict, ambiguity or inconsistency and the Party's good faith assessment of which provision(s) should prevail, based on the application of the rules set forth in the relevant section. If: (a) such conflict, ambiguity or inconsistency cannot be reconciled applying the applicable rules; or (b) the Parties disagree about (i) which rule applies and/or (ii) the results of the application of such applicable rule(s), then the Owner will promptly issue a written determination, in its good faith discretion, respecting which of the conflicting provisions shall prevail.

1.4.4 Notwithstanding the order of precedence among the Contract Documents set forth in this Section 1.4, in the event of a conflict among the Manuals and Guidelines, the Owner shall have the right to determine, in its sole discretion, which provision applies. Developer shall request in writing the Owner's determination respecting the order of precedence involving the Manuals and Guidelines promptly upon becoming aware of any such conflict.

1.4.5 The conceptual building design for each Indicative Building included in the Proposal and attached as Appendix 2-B represents a design concept and minimum standards applicable to any other Building of the same Use Type.

1.4.6 In the event of any conflict, ambiguity or inconsistency between the Utilities Survey and the ALTA Survey regarding the as-built locations of Utilities, the Utilities Survey shall govern as to such locations.

1.4.7 Developer shall have available on the Work Site, at all times, one current, complete copy of the Contract Documents.

## **1.5 Principal Developer Documents**

Except with the Owner's prior written approval in its good faith discretion, Developer shall not: (a) terminate or permit the termination of a Principal Developer Document except in the case of material uncured default; or (b) agree to any amendment of any provision of a Principal Developer Document required by the Owner as specified in Section 8.3.3 or elsewhere in this Agreement, or agree to any amendment thereof inconsistent with the terms of the Contract Documents. The foregoing does not, however, affect Developer's rights with respect to any Refinancing set forth in Section 16.3.

## **1.6 Reference Documents**

1.6.1 The Owner has provided the Reference Documents to Developer. The Reference Documents are for information only, and are not mandatory or binding on Developer, except to the extent information in the Reference Documents is expressly made a contractual requirement as part of the Technical Requirements. Developer is not entitled to rely on the Reference Documents as accurately describing existing conditions, presenting design, engineering, operating or maintenance solutions or directions, or defining means or methods for complying with the requirements of the Contract Documents, Governmental Approvals or applicable Laws.

1.6.2 The Owner shall not be responsible or liable in any respect for any causes of action, claims or Losses whatsoever suffered by Developer or any Developer-Related Entity by reason of any use of information contained in, or any action or forbearance in reliance on, the Reference Documents.

1.6.3 The Owner does not represent or warrant that the information contained in the Reference Documents is complete or accurate or that such information is in conformity with the requirements of the Contract Documents, Governmental Approvals or Laws. Developer shall not be entitled to any additional monetary compensation, time extension or other relief on account of any incompleteness or inaccuracy in the Reference Documents, including any incompleteness or inaccuracies regarding the location, size, character and extent of Utilities and subsurface conditions.

## **1.7 Design and Construction Standards**

1.7.1 Developer shall use reasonable care to identify any provisions in the Technical Volumes that are erroneous, create a potentially unsafe condition, or are or become inconsistent with Best Management Practice or applicable Law. Whenever Developer knows, or in the exercise of reasonable care should have known, that a provision of the Technical Volumes is erroneous, creates a potentially unsafe condition or is or becomes inconsistent with Best Management Practice or applicable Law, Developer shall have the duty to notify the Owner in writing of such fact and of the changes to the provision that Developer believes are the minimum necessary to render it correct, safe and consistent with Best Management Practice and applicable Law. If Developer commences or continues any D&C Work affected by the change after the need for the change was discovered or suspected, or should have been discovered through the exercise of reasonable care, Developer shall bear any additional costs and time associated with redoing the Work already performed.

1.7.2 References in the Technical Volumes to the Manuals and Guidelines or other publications governing the D&C Work shall mean the most recent editions in effect as of 30

days prior to the Proposal Due Date, unless expressly provided otherwise. References in the Technical Volumes to the Manuals and Guidelines or other publications governing the O&M Services shall mean the current edition in effect at the time the work is performed, unless expressly provided otherwise.

1.7.3 The Parties anticipate that from time to time after the Owner issues the RFP, the Owner will adopt, through revisions to the Manuals and Guidelines or through new manuals and publications, changed, added or replacement standards, criteria, requirements, conditions, procedures, specifications and other provisions relating to the Work of general application to comparable Owner projects. Pursuant to Section 11.1, the Owner shall have the right in its sole discretion to add such changed, added or replacement standards, criteria, requirements, conditions, procedures, specifications and other provisions to the Technical Volumes by written notice to Developer, whereupon they shall constitute amendments to, and become part of, the Technical Volumes. The Owner will identify superseded provisions in its notice to Developer. Developer shall not be entitled to any additional compensation, time extension or other relief for any such change, addition or replacement, except to the extent that such change, addition or replacement is made to Manuals and Guidelines governing D&C Work after the date which is 30 days prior to the Proposal Due Date.

## **ARTICLE 2. CONCESSION TERM**

### **2.1 Grant of Concession; Project Right of Entry**

2.1.1 Subject to the terms and conditions of the Contract Documents and applicable Laws, the Owner grants to Developer the exclusive right, and Developer accepts the obligation and agrees, to develop, design, construct, finance, operate and maintain the Project.

2.1.2 The Owner hereby grants to Developer and its Contractors the right to enter (the **"Project Right of Entry"**) onto:

2.1.2.1 The Project Site and the Facilities on and after the Effective Date until the Termination Date (provided that the right of entry with respect to the Central Plant Expansion shall end on the earlier of the applicable Occupancy Readiness Date and the Termination Date);

2.1.2.2 The Central Plant Expansion Site on and after the Effective Date until the earlier of (a) the applicable Occupancy Readiness Date and (b) the Termination Date, subject to the requirements set forth in Sections 2.4.7.3.2 and 2.4.7.5.2 of the Technical Requirements;

2.1.2.3 The Bellevue Intersection Improvements Site on and after the Effective Date until the earlier of (a) the Substantial Completion Date and (b) the Termination Date;

2.1.2.4 The Borrow Site on and after the Effective Date until the earlier of (a) the Substantial Completion Date and (b) the Termination Date; and

2.1.2.5 The Ancillary Site on and after the Effective Date until the earlier of (a) 30 days following the Project Final Acceptance Date and (b) the Termination Date, in each case for purposes of carrying out Developer's obligations under the Contract Documents, subject to and in accordance with the terms and conditions of the Contract Documents and in compliance with the provisions of all agreements, easements, rights of entry, Governmental Approvals and other instruments under which the Owner has received title, rights of entry or rights of access on or to lands within the Project Site, the Central Plant Expansion Site, the Bellevue Intersection Improvements Site, the Ancillary Site and the Borrow Site.

2.1.3 It is the express intent and agreement of the Parties that this Agreement shall in no way be deemed to constitute a lease to Developer (whether an operating lease or a financing lease), or a grant (regardless of the characterization of such grant, including by way of easement, purchase option, conveyance, lien or mortgage) in each case, of any right, title, interest or estate in the Project, the Owner-Provided Work Site, the Facilities, or of any assets incorporated into, appurtenant to, or in any way connected with the Project. It is the express agreement and intent of the Parties that Developer shall not be treated as or deemed to be the legal or equitable owner of the Owner-Provided Work Site, the Facilities or any other Project improvements for any purpose. The Parties acknowledge and agree that the rights of Developer under Section 2.1.2 are not independent, durable, and exclusive of the rights held by others and that the rights of Developer under Section 2.1.2 do not provide a private benefit to Developer. Developer's rights hereunder are derived solely from its status as a Developer and independent contractor as described in this Agreement, and not as a tenant, lessee, easement holder, optionee, lienor, mortgagee, purchaser or owner of any other interest in real property. The payments to be received by Developer under this Agreement are for services to be performed by Developer, and are not payments in the nature of rent, fees with respect to real property, or purchase price of real property.

2.1.4 The Owner hereby advises Developer, in accordance with California Revenue and Taxation Code Section 107.6, that, notwithstanding Section 2.1.3, any possessory interest created by this Agreement may be subject to property taxation, and that Developer may be subject to payment of property taxes levied on such possessory interest. In the event that the County of Merced seeks to impose a possessory interest tax on all, or any portion, of Developer's interest under this Agreement, any Facilities, the Owner-Provided Work Site or the Project, Developer shall promptly notify the Owner and shall promptly deliver copies of all documentation relating thereto as received. Developer shall, if and as directed by the Owner, contest any such imposition, shall take all appeals available under applicable Law, and shall not pay any such tax. Developer shall cooperate and consult regularly with the Owner, and follow the Owner's directions, concerning tax protest and litigation strategy in any such circumstance. If a final, unappealable decision is made imposing the tax (or at any earlier stage, in the Owner's sole discretion), the Owner will pay the amount of the tax liability directly to the County of Merced upon sixty (60) days' written notice of same from Developer. Developer shall submit to the Owner an invoice (in a format acceptable to the Owner) on a monthly basis in arrears for all reasonable costs and expenses incurred by Developer in opposing the imposition of any such possessory interest tax, together with detailed, supporting documentation evidencing same. Within 30 days of receipt of such invoice and supporting documentation, subject to Section 12.4, the Owner will reimburse Developer for such invoiced amount.

## **2.2 Term of Concession**

This Agreement shall take effect on the Effective Date, and shall remain in effect for the Term, unless terminated earlier pursuant to the terms of this Agreement.

## **ARTICLE 3. DEVELOPER RESPONSIBILITY FOR WORK; OWNER REVIEW AND OVERSIGHT**

### **3.1 Developer's Responsibility for Work**

#### **3.1.1 General**

Developer shall:

3.1.1.1 Take charge and custody of the Work, and take all reasonable precautions, in accordance with Best Management Practice, the Contract Documents and



applicable Laws, against injury or damage to the Work by the action of the elements or from any other cause whatsoever, arising either from the execution or from the non-execution of the Work. Developer shall rebuild, repair, restore, and make good, without additional expense to the Owner, all injury or damage to any portion of the Work occasioned by any of the above causes, except as otherwise expressly provided in this Agreement.

3.1.1.2 Comply with, and require that all Contractors comply with, all requirements of all applicable Laws; and

3.1.1.3 Cooperate with the Owner and Governmental Entities with jurisdiction in all matters relating to the Work, including their review, inspection and Oversight of the Work.

### **3.1.2 Interference with Campus Activities**

Developer shall, at all times, conduct the Work in such manner and in such sequence as to ensure the least practicable interference with Campus Activities. Developer shall operate all vehicles and other equipment safely and without hindrance to the Users.

### **3.1.3 Coordination with other Contractors on Adjacent Projects**

Developer shall be responsible for identifying and coordinating design and construction activities with any other on-going projects that are impacted by, or impact the Project (collectively, “**Adjacent Projects**”). Adjacent Projects include projects under the jurisdiction of local governments, the Owner, or other local, regional and state agencies. The list of known Adjacent Projects is provided in the Reference Documents. This list is not intended to be all-inclusive, and Developer shall be responsible for determining the complete inventory of Adjacent Projects (present and planned) and the required coordination. Developer shall sequence the Work and dispose of materials so as to mitigate interference with the operations of other contractors engaged on Adjacent Projects; Developer shall join the Work to that of others on Adjacent Projects in a proper manner, in accordance with the Contract Documents, and perform the Work in the proper sequence in relation to that of other contractors on Adjacent Projects. Each contractor is responsible for any damage done by it or its subcontractors to the work performed by another contractor.

### **3.1.4 Project Commitments**

Except as otherwise provided in Sections 4.11 and 6.2.5, and without limiting Developer’s obligations thereunder, Developer shall, at its sole cost, expense and risk, comply with and observe the Project Commitments throughout performance of the Work. In addition, except as otherwise expressly provided in Appendix 23, Developer shall assume, and perform or cause to be performed on behalf of the Owner, the Owner’s obligations and liabilities under the Project Commitments, excluding any liabilities of the Owner accruing prior to the Effective Date pursuant to any indemnities to third parties under the Project Commitments except to the extent arising in connection with the Early Works.

## **3.2 Preliminary Planning and Engineering Activities**

3.2.1 Unless expressly provided otherwise in this Agreement for specific elements of the D&C Work, Developer shall perform or cause to be performed all preliminary planning and engineering activities appropriate for the D&C Work.

3.2.2 Except as expressly provided in this Agreement, Developer shall bear the risk of any incorrect or incomplete review, examination and investigation by it of the Work, Work Site and surrounding locations and of any incorrect or incomplete information resulting from preliminary planning and engineering activities conducted by Developer, the Owner or any other

Person. Except as otherwise expressly provided in this Agreement, the Owner makes no warranties or representations as to any surveys, data, reports or other information provided by the Owner or other Persons concerning surface conditions and subsurface conditions, including information related to Utilities and geotechnical conditions affecting the Work, Work Site or surrounding locations. Developer acknowledges that such information is for Developer's reference only.

### **3.3 Governmental Approvals**

3.3.1 Developer shall be solely responsible for securing all Governmental Approvals other than the Owner-Provided Approvals, and for securing any revision, modification, amendment, supplement, renewal or extension of any Governmental Approval required in connection with the Project or the Work. If the subject Governmental Approval is an Owner-Provided Approval or is a Governmental Approval obtained or to be obtained in the Owner's name, Developer shall obtain the Owner's prior written approval of the terms and conditions of any such Governmental Approval or revision, modification, amendment, supplement, renewal or extension, which approval shall not be unreasonably withheld or delayed.

3.3.2 Developer shall not be entitled to submit any claim for additional monetary compensation, time extension or any other relief associated with securing Governmental Approvals except to the extent required as a result of an Owner Change or to the extent provided in Section 3.3.3.

3.3.3 Developer shall be entitled to seek an extension of the applicable Completion Deadline(s) under Section 10.3.2 for any Governmental Approval Delay, provided that Developer shall not be entitled to any relief related to Governmental Approval Delays for the following:

3.3.3.1 Additional monetary compensation, including any Direct Costs and compensation under Section 10.4;

3.3.3.2 Delays that could have been mitigated by Developer through reasonable efforts; and

3.3.3.3 Governmental Approvals required in connection with Alternative Technical Concepts for which Developer is solely responsible under Section 11.4.

3.3.4 Developer shall comply with, and maintain in full force and effect, all Governmental Approvals, including performance of all measures required by the Contract Documents or Governmental Approvals, except to the extent that responsibility for performance of such measures is expressly assumed by the Owner in the Contract Documents. In case of a discrepancy between any Governmental Approval condition and the Contract Documents, the more stringent condition shall prevail.

### **3.4 Submittals**

#### **3.4.1 General**

This Section 3.4 sets forth uniform terms and procedures that shall govern all Submittals to the Owner pursuant to the Contract Documents.

#### **3.4.2 Owner Discretionary Approvals**

Certain Submittals are subject to the Owner's approval in its sole or absolute discretion. If the Submittal is one where the Contract Documents indicate approval is required from the Owner in its sole or absolute discretion, then the Owner's lack of approval, determination,

decision or other action within the applicable time period under the Contract Documents shall be deemed a disapproval.

#### **3.4.3 Other Owner Approvals**

Whenever the Contract Documents indicate that a Submittal is subject to the Owner's approval other than in its sole or absolute discretion, then, except as otherwise expressly provided in the Contract Documents, Developer must obtain the Owner's approval prior to proceeding with the Work that is the subject matter of the Submittal. No failure or delay by the Owner in delivering approvals or disapprovals shall constitute a basis for any claim for any additional monetary compensation, time extension or any other relief, except to the extent such failure or delay is an Owner-Caused Delay described in clause (d) of the definition of the Owner-Caused Delays.

#### **3.4.4 Owner Review and Comment**

Except in relation to Submittals referred to in Section 3.4.3 (with respect to which Section 3.4.3 shall govern), whenever the Contract Documents indicate that a Submittal or other matter is subject to the Owner's review and comment and the Owner delivers no comments, exceptions, objections, rejections or disapprovals within the applicable time period under the Contract Documents, then, except as otherwise expressly provided in the Contract Documents, Developer may proceed thereafter at its election and risk, without prejudice to the Owner's rights to later object to, reject or disapprove the Work on the basis that the Work is not in accordance with the requirements of the Contract Documents. No failure or delay by the Owner in delivering comments, exceptions, rejections or disapprovals within the applicable time period under the Contract Documents shall constitute a basis for any claim for any additional monetary compensation, time extension or any other relief.

#### **3.4.5 Submittals Not Subject to Prior Review, Comment or Approval**

Whenever the Contract Documents indicate that Developer is to deliver a Submittal to the Owner but express no requirement for Owner review, comment, disapproval, prior approval or other Owner action, then Developer is under no obligation to obtain Owner approval of the Submittal before proceeding with further Work, and the Owner shall have the right, but is not obligated, to at any time review, comment on, take exception to, object to, reject or disapprove the Submittal on the basis that such Submittal is not in accordance with the requirements of the Contract Documents. No failure or delay by the Owner in delivering comments, exceptions, objections, rejections or disapprovals with respect to the Submittal shall constitute a basis for any claim for additional monetary compensation, time extension or other relief in respect of Work that is not in accordance with the requirements of the Contract Documents.

#### **3.4.6 Owner Objection, Rejection Binding**

If the Submittal is one not governed by Section 3.4.2 concerning discretionary approvals, the Owner's exception, objection, rejection or disapproval shall be deemed reasonable, valid and binding if based on any of the following grounds:

3.4.6.1 The Submittal or subject provision thereof fails to comply with any applicable covenant, condition, requirement, term or provision of the Contract Documents;

3.4.6.2 The Submittal or subject provision thereof is not to a standard that is equal to or exceeds Best Management Practice;

3.4.6.3 Developer has not provided all content or information required in respect of the Submittal or subject provisions thereof, provided that Developer shall have the subsequent opportunity to resubmit the Submittal with the required content or information; or

3.4.6.4 Adoption of the Submittal or subject provision thereof, or of any proposed course of action thereunder, would result in a conflict with or violation of any Law or Governmental Approval.

### **3.4.7 Limitations on Developer's Right to Rely**

3.4.7.1 Except for the Owner's acceptance of a Developer Change Proposal pursuant to Section 11.2, no review, comment, objection, rejection, approval, disapproval, acceptance, concurrence, certification (including any Certificate of Occupancy Readiness, Substantial Completion, Facility Final Acceptance or Project Final Acceptance), or Oversight by or on behalf of the Owner, and no lack thereof by the Owner, shall constitute acceptance by the Owner of Work that does not comply with the Contract Documents or waiver of any legal or equitable right held by the Owner with respect to such Work under the Contract Documents or Law. The Owner shall be entitled to exercise all rights and remedies under the Contract Documents or Law to bring the Work and the Project into compliance with requirements of the Contract Documents, regardless of whether previous review, comment, objection, rejection, approval, disapproval, acceptance, concurrence, certification, or Oversight were conducted or given by the Owner. Developer at all times shall have an independent duty and obligation to fulfill the requirements of the Contract Documents. Developer agrees and acknowledges that any such activity or failure to conduct any such activity by the Owner:

1. Is solely for the benefit and protection of the Owner;
2. Does not relieve Developer of its responsibility for the selection of all Developer-Related Entities and the competent performance of Developer and all Developer-Related Entities;
3. Does not create or impose upon the Owner any duty or obligation toward Developer to cause Developer to fulfill the requirements of the Contract Documents;
4. Shall not be deemed or construed as any kind of warranty, express or implied, by the Owner;
5. May not be relied upon by Developer or used as evidence in determining whether Developer has fulfilled the requirements of the Contract Documents, except that the issuance of (i) certificates of Occupancy Readiness of all First Delivery Facilities, (ii) certificates of Occupancy Readiness of all Second Delivery Facilities, and (iii) the certificate of Substantial Completion, may be relied upon and used as evidence to establish the commencement of the Owner's payment obligations and Developer's entitlement to receive the applicable Payments, nevertheless without waiving the Owner's rights and remedies against Developer for failing to meet the requirements of the Contract Documents; and
6. May not be asserted by Developer against the Owner as a legal or equitable defense to, or as a waiver of or relief from, Developer's obligation to fulfill the requirements of the Contract Documents.

3.4.7.2 To the maximum extent permitted by Law, Developer releases and discharges the Owner from any and all duty and obligation to cause Developer's Work or the Project to satisfy the standards and requirements of the Contract Documents.

### **3.4.8 Time Periods**

3.4.8.1 Except as otherwise provided in Section 3.4.4, Section 3.4.5 or this Section 3.4.8, whenever the Owner is entitled to review and comment on, or to affirmatively

approve, a Submittal, the Owner shall have a period of 21 days after the date the Owner receives an accurate and complete Submittal in conformance with the Contract Documents to review, comment, or approve, as the case may be, the Submittal. The Owner's review period for Developer's re-submission of a previously submitted Submittal shall be 14 days, unless provided otherwise in the Contract Documents. The Parties shall agree in good faith in writing upon any necessary extensions of the review-comment-and-approval period to accommodate particularly complex or comprehensive Submittals.

3.4.8.2 If any provision of the Contract Documents expressly provides a longer or shorter period for the Owner to act, such period shall control over the time period set forth in Section 3.4.8.1.

3.4.8.3 Developer shall schedule, prioritize and coordinate all Submittals to allow an efficient and orderly Submittal review process. All time periods for the Owner to act shall be extended by the period of any delay caused by the negligence, willful misconduct, or breach of applicable Law or contract by Developer or any Developer-Related Entity. In no event shall Developer be entitled to any additional monetary compensation, time extension or other relief for such extension of the review period.

3.4.8.4 During any time that the Owner is entitled under Section 7.5.1 to increase the level of its Oversight of Developer's compliance with its obligations under this Agreement, the applicable period for the Owner to act on any Submittals received during such time shall automatically be extended by 10 days.

### **3.5 Damage and Disruption**

3.5.1 Developer shall be responsible for: (a) any loss of, or damage caused to, the property or assets of the Owner, its contractors or other Indemnified Parties; and (b) any disruption to the Campus Activities on, or operation of, the Existing Campus, in each case arising from any act or omission of Developer or any Developer-Related Entity to the extent not planned for in accordance with the terms and conditions of the Contract Documents, except to the extent caused by the active negligence or breach of this Agreement by the Owner.

3.5.2 Developer shall repair, rebuild, or otherwise restore any such lost or damaged property or remedy any such disruption, as applicable, within a reasonable period of time, having regard to: (a) the nature of the property lost or damaged or disruption caused; (b) the restoration work required; (c) the health and safety of Users; and (d) the nature and extent of the impact on the Existing Campus and Campus Activities, if applicable. If Developer fails to do so, the Owner may, upon 48 hours' notice (or immediately upon notice in the case of any Emergency, including any material disruption to the supply of any Utilities to the Existing Campus), proceed to repair, rebuild, or otherwise restore such property or remedy such disruption as the Owner deems necessary in its good faith discretion, including taking any temporary measures to prevent continued disruption to the Existing Campus and Campus Activities until a permanent cure can be effected.

3.5.3 Subject to Section 17.4.3, Developer shall indemnify the Owner, within 30 days of written demand by the Owner, for any Losses incurred by the Owner, its contractors or other Indemnified Parties, as applicable, in connection with any lost or damaged property or disruption for which Developer is responsible under Section 3.5.1, including any costs incurred by the Owner in taking steps to remedy such loss, damage or disruption in accordance with Section 3.5.2.

### **3.6 Policing, Security and Incident Response Police Services**

3.6.1 Developer acknowledges that any Governmental Entity empowered to enforce any applicable Law is free to enter the Project at any and all times to carry out its law enforcement duties. No provision of this Agreement is intended to surrender, waive or limit any police powers of any Governmental Entity or the Owner, and all such police powers are expressly reserved.

3.6.2 The Owner shall have no liability or obligation to Developer or any Developer-Related Entity resulting from, arising out of or relating to, the failure of a public law enforcement agency to provide services, or its negligence or misconduct in providing services.

### **3.7 Security and Incident Response**

3.7.1 Developer is responsible for the safety and security of the Project and the workers and public thereon during the performance of the D&C Work as provided in the Contract Documents. The Owner is responsible for providing security services for the Facilities upon commencement of applicable O&M Services.

3.7.2 Developer shall comply with all rules, directives and guidance of the U.S. Department of Homeland Security and comparable State agency and shall coordinate and cooperate with the Owner and all Governmental Entities providing security, first responder and other public emergency response services in accordance with the Contract Documents.

3.7.3 Developer shall perform and comply with the provisions of the Technical Volumes concerning Emergencies, Incident Response, safety and security, including implementing all procedures, plans, protocols and requirements set forth in Sections 2.7.2.8 and 4.3.2 of the Technical Requirements and the Emergency Management and Disaster Recovery Plan.

### **3.8 Financial Reporting**

#### **3.8.1 Annual Reporting**

On the first anniversary of the Effective Date and on every subsequent anniversary thereof during the Term, Developer shall deliver to the Owner certified copies of (i) Developer's most recent annual audited financial statements and (ii) any other reporting and notifications provided to Lenders regarding material events (including any draws on Developer's debt service reserve account) under the Finance Documents.

#### **3.8.2 Monthly Reporting**

From the Effective Date until the Project Final Acceptance Date, Developer shall deliver to the Owner, on a monthly basis, certified copies of (i) Developer's draw requests to Lenders (including corresponding payment applications by Developer's design-build contractor to Developer), and (ii) the LTA's reports and Developer's design-build contractor's invoices approved by the LTA in connection with the foregoing, in each case within two (2) Business Days following delivery or receipt, as applicable, by Developer of the relevant documentation.

## **ARTICLE 4. DESIGN AND CONSTRUCTION**

### **4.1 Obligations of Developer**

#### **4.1.1 General Duties**

Developer shall perform the D&C Work in accordance with (a) Best Management Practice, as it evolves from time to time; (b) the requirements, terms and conditions set forth in

the Contract Documents; (c) all applicable Laws; (d) the requirements, terms and conditions set forth in all Governmental Approvals; and (e) the approved Project Management Plan and all component parts, plans and documentation prepared thereunder, and all approved updates and amendments thereof. In addition to performing all other requirements of the Contract Documents, Developer shall:

4.1.1.1 Furnish, and assume all associated direct and indirect costs for, all Quality Management, campus planning, design, engineering and other services, all FF&E (subject to Sections 4.3.2 and 4.3.3), and all associated materials, equipment, supervision, tools, transportation, Utility services (except Temporary Utilities Costs, which will be paid directly by the Owner), supplies and labor, and undertake all efforts, necessary or appropriate (excluding only those materials, services and efforts which the Contract Documents expressly specify will be undertaken by the Owner or other Persons) to perform and complete the D&C Work in accordance with the requirements of the Contract Documents, including achieving Occupancy Readiness with respect to all First Delivery Facilities no later than the First Delivery Facilities Long Stop Date and achieving Substantial Completion no later than the Substantial Completion Long Stop Date;

4.1.1.2 Ensure that the Project Manager or the Construction Manager for the Lead Contractor, or one of their Owner-approved designees, is present at the Work Site at all times during the performance of Construction Work to perform the obligations required under Section 8.4.2; and

4.1.1.3 Use commercially reasonable efforts to mitigate delay to the D&C Work and damages due to delay regardless of the cause of the delay, including by re-sequencing, reallocating, or redeploying Developer's and Contractors' forces to other work, as appropriate; and

4.1.1.4 Be solely responsible for, and bear the full risk of unforeseeable work and conditions in connection with the D&C Work, except to the extent such responsibility and risk are expressly assumed by the Owner under the Contract Documents.

#### **4.1.2 Performance and Project Schedule**

4.1.2.1 Developer shall perform the D&C Work in accordance with: (a) Best Management Practice; (b) all requirements, terms and conditions set forth in the Contract Documents; (c) all applicable Laws; and (d) the requirements, terms and conditions set forth in all Governmental Approvals.

4.1.2.2 Developer shall schedule the D&C Work so as to minimize any inconvenience to adjacent businesses or residences and in accordance with any constraints or work restrictions identified in the Contract Documents.

## **4.2 Design Implementation and Submittals**

### **4.2.1 General**

Developer, through the appropriately qualified and licensed design professionals identified in the Project Management Plan, shall prepare designs, plans and specifications in accordance with all applicable requirements of the Contract Documents. All Submittals shall be in English.

### **4.2.2 Errors or Omissions in Plans or Design Documents**

Developer shall be solely responsible for errors and omissions discovered in the Plans or Final Design Documents. Developer shall bring to the attention of the Architect(s) of Record, the Engineer(s) of Record and the Owner any such errors and omissions. Developer shall

cause the Architect(s) of Record and the Engineer(s) of Record to resolve the errors or omissions at no additional cost to the Owner. All such modifications are subject to the Owner's approval.

### **4.3 FF&E**

#### **4.3.1 General**

4.3.1.1 Developer shall procure, install and commission the FF&E in accordance with Section 3.9 of the Technical Requirements and, if applicable, this Section 4.3.

4.3.1.2 Developer shall provide the Owner with one (1) year's prior written notice (each, an "**Anticipated Occupancy Readiness Date Notice**") of the date on which Developer expects to achieve Occupancy Readiness with respect to each Facility.

#### **4.3.2 Deferred FF&E**

4.3.2.1 Within 60 days following receipt of any Anticipated Occupancy Readiness Date Notice with respect to a Facility, the Owner will issue a Preliminary Change Order for any Deferred FF&E to be procured, installed and commissioned by Developer in each Area of the Facility, and the provisions of Appendix 21 shall apply, provided that payment for Deferred FF&E shall be made by way of lump sum payment or progress payments.

4.3.2.2 Developer shall procure, install and commission the Deferred FF&E specified in the applicable Change Order for each Facility in accordance with Section 3.9 of the Technical Requirements.

#### **4.3.3 IT Equipment**

4.3.3.1 Within 60 days following receipt of an Anticipated Occupancy Readiness Notice with respect to a Facility, the Owner shall provide to Developer the Facility IT Equipment List, together with the IT Equipment Supplier Information.

4.3.3.2 Within 30 days following receipt of the Facility IT Equipment List from the Owner, Developer shall obtain and provide to the Owner in writing the pricing information for the Facility IT Equipment (without mark-up), together with supporting documentation, for the Owner's review and written approval (it being understood that pricing consistent with the IT Equipment Supplier Information shall be approved). Within 20 days following receipt of Developer's initial pricing information, the Owner may provide to Developer a revised Facility IT Equipment List and Developer shall provide updated pricing information and supporting documentation to the Owner within 20 days thereafter for the Owner's written approval.

4.3.3.3 Developer shall procure the Facility IT Equipment at the prices approved by the Owner under Section 4.3.3.2 and deliver, install and commission the Facility IT Equipment in accordance with Sections 3.8.11, 3.8.12, and 3.11.2 through 3.11.8 of the Technical Requirements.

4.3.3.4 Not earlier than the first day of each month after the month in which any Facility IT Equipment, as approved by the Owner under Section 4.3.3.2, has been delivered on site, Developer shall submit an invoice to the Owner, in a format acceptable to the Owner, for the cost (without mark-up) of the Facility IT Equipment, as approved by the Owner under Section 4.3.3.2 (which costs are not included in the D&C Contract Amount). The Owner shall make payment to Developer within 30 days of receipt of the invoice.

4.3.3.5 The cost of labor for procuring, installing and commissioning the Facility IT Equipment will not be invoiced and paid pursuant to Section 4.3.3.4. Developer



has included in the D&C Contract Amount the cost of labor for procuring, installing and commissioning the IT Equipment specified in the Indicative IT Equipment Packages, as applicable to its Proposal. To the extent any differences in quantity and/or types of IT Equipment specified in the Facility IT Equipment List, as compared to the applicable Indicative IT Equipment Packages, would result in Developer incurring additional labor costs to procure, install and commission the Facility IT Equipment, such difference shall be treated as an Owner Change.

#### **4.4 Work Site**

4.4.1 The Project shall be situated entirely within the Project Site, with the exception of:

4.4.1.1 The Bellevue Intersection Improvements, which shall be situated entirely within the Bellevue Intersection Site; and

4.4.1.2 The Central Plant Expansion, which shall be situated entirely within the Central Plant Expansion Site.

4.4.2 The Ancillary Site is provided solely for use by Developer and its Contractors for construction staging and parking between the Effective Date and the Project Final Acceptance Date. Developer shall be responsible for providing all other parking necessary in connection with the performance of the D&C Work. Within 30 days following the Project Final Acceptance Date, Developer shall relinquish and surrender full control and possession of the Ancillary Site to the Owner in the condition required under Section 3.10 of the Technical Requirements.

4.4.3 The Borrow Site is provided solely for purposes of excavation and use of borrow material during the Construction Work, subject to the terms and conditions set forth in Section 3.4.21 of the Technical Requirements. The Owner makes no representation or warranty regarding quantity or fitness for purposes of the borrow material or the Borrow Site. On the Substantial Completion Date, Developer shall relinquish and surrender full control and possession of the Borrow Site to the Owner in the condition required under Section 3.4.21.6 of the Technical Requirements.

4.4.4 Developer shall be solely responsible for obtaining:

4.4.4.1 From the County of Merced all access rights and Governmental Approvals necessary to perform the D&C Work with respect to the applicable portion of the Bellevue Intersection Improvements within the Bellevue Intersection Site (Western Portion); and

4.4.4.2 Any Developer-Acquired Real Property.

4.4.5 Developer shall review and comply with all Site Commitments, and shall not be entitled to any additional compensation, time extension or other relief therefor.

#### **4.5 Utilities Adjustments**

##### **4.5.1 Developer's General Responsibilities**

4.5.1.1 Developer shall be responsible for coordinating with Utility Owners that have Utilities within the Work Site or which will be affected in any way by the Project and for coordinating and causing all Utility Adjustments necessary for the timely construction, operation and maintenance of the Project in accordance with the Contract Documents and the Project Schedule. Developer shall ensure that all Utility Adjustments, whether performed by Developer or a Utility Owner, comply with the Contract Documents and any applicable Utility Agreement, provided that to the extent a Utility Owner requires that the Utility Owner self-certify any work that it performs, Developer shall use all reasonable efforts to ensure compliance of such work with the Contract Documents and applicable Utility Agreement.

Except with respect to Developer's rights to claim for any applicable Relief Event, Developer shall not be entitled to any additional monetary compensation, time extension or any other relief related to the Utility Adjustment Work or Utilities located within or outside the Work Site or otherwise impacted by, or having an impact on, the Project or the Work.

4.5.1.2 Developer shall make all reasonable efforts to design and construct around existing Utilities, minimizing impacts, including shutoffs and downtime. Developer shall provide to the Owner plans showing existing and proposed Utility locations and their relationship to the proposed construction.

4.5.1.3 If a Utility Owner performs all or any part of the Utility Adjustment, Developer shall coordinate, monitor, and otherwise undertake all reasonable efforts to cause such Utility Owner to perform such work timely, in coordination with the Work, and in compliance with the Contract Documents and applicable Utility Agreement.

#### **4.5.2 Utility Agreements**

Developer shall be responsible for negotiating, preparing and executing Utility Agreements to accomplish the Utility Adjustment in accordance with the Contract Documents. All Utility Agreements shall: (a) be reasonably acceptable to the Owner; and (b) be consistent with the requirements of the Contract Documents related to the applicable Utility Adjustment.

#### **4.5.3 Utility Adjustment Costs**

4.5.3.1 Except for Betterment costs which are the responsibility of the Utility Owner, Developer is responsible for all costs of the Utility Adjustment Work. Developer is solely responsible for collecting directly from the Utility Owner any reimbursement due for Betterment costs or other costs for which the Utility Owner is considered responsible under applicable Law.

4.5.3.2 If for any reason Developer is unable to collect any amounts due to Developer from any Utility Owner, then: (a) the Owner shall have no liability for such amounts; (b) Developer shall have no right to collect such amounts from the Owner or to offset such amounts against amounts otherwise owing from Developer to the Owner; and (c) Developer shall have no right to suspend the Work or to exercise any other remedies against the Owner on account of such failure to pay.

#### **4.5.4 Utility Enhancements**

Developer shall respond to any requests by Utility Owners that Developer design and/or construct Betterments or Utility Owner Projects (collectively, "**Utility Enhancements**"), although Developer is not required to agree to such requests. Any Utility Enhancement performed as part of a Utility Adjustment, whether by Developer or by the Utility Owner, shall be subject to the requirements of this Section 4.5 and the same standards and requirements as if it were a Utility Adjustment. Developer shall perform any Utility Enhancement work only by separate contract outside of the Work. Any proposed Utility Enhancement shall be subject to the Owner's prior written approval, in its sole discretion. Under no circumstances shall Developer proceed with any Utility Enhancement that is incompatible with the Project or is not in compliance with the Contract Documents. Developer shall not be entitled to any additional monetary compensation, time extension or any other relief as the result of any Utility Enhancement, whether performed by Developer or by the Utility Owner, and shall be responsible for and liable to the Owner for any liability relating to any Utility Enhancements.

#### **4.5.5 Conditions to Commencement of Utility Adjustments**

Developer shall not commence or permit commencement of construction of a Utility Adjustment included in the Construction Work until the Owner issues NTP 2.

#### **4.5.6 PG&E**

On or prior to September 1, 2016, Developer shall submit to PG&E a complete application and all supporting documents required by PG&E to request an increase in service capacity of electricity and gas Utilities sufficient to meet the increased demand for such Utilities for each Facility.

#### **4.6 Conditions to Commencement of Design Work**

The Parties acknowledge the Early Design Work performed by Developer under the Early Works Agreement. Developer shall not commence or permit commencement of any further Design Work under this Agreement until the Owner has issued NTP 1 authorizing commencement of the Design Work. The Owner shall promptly issue NTP 1 when all of the conditions in this Section 4.6 have been satisfied:

4.6.1 The Performance Bond and Payment Bond required under Sections 17.2.1.1 and 17.2.2.1, respectively, have been obtained and are in full force and effect, and Developer has delivered to the Owner, as applicable, certified and conformed copies of the bonds and the original multiple obligee rider. If Developer procures the surety bonds directly, Developer shall deliver to the Owner the originals of the bonds;

4.6.2 Developer-Provided Insurance Policies required under Section 17.1 and Appendix 8 for the D&C Work have been obtained and are in full force and effect, and Developer has delivered to the Owner written binders of insurance verifying coverage from the relevant Insurers of such Developer-Provided Insurance Policies;

4.6.3 Developer has caused to be developed and delivered to the Owner, and the Owner has approved, the Preliminary Project Schedule, the Project Master Plan, and the Project Management Plan components listed in Part A of Appendix 4-A to the Technical Requirements;

4.6.4 Developer has delivered to the Owner, and the Owner has accepted and approved, as applicable, all other Submittals required by the Contract Documents to be delivered prior to commencement of the Design Work, in the form and content required by the Contract Documents;

4.6.5 All representations and warranties of Developer set forth in this Agreement shall be and remain true and correct, and Developer has delivered a certificate to the Owner certifying same;

4.6.6 Developer is not then in receipt of any notice of default delivered pursuant to the Financing Documents unless any such noticed default has been cured, and no Lender has otherwise indicated that it is unwilling or unable to presently fund Developer's costs of the Design Work, and Developer has delivered a certificate to the Owner certifying same; and

4.6.7 Developer has made all deposits to the Financial Escrow required pursuant to Section 15.4.

#### **4.7 Conditions to Commencement of Construction Work**

Except for any Advance Construction Activities authorized under Section 4.8.2, Developer shall not commence or permit commencement of any further Construction Work until the Owner's issuance of NTP 2 for the Construction Work. The Owner shall promptly issue NTP 2 when all of the conditions in this Section 4.7 have been satisfied:

4.7.1 All Governmental Approvals necessary to begin the applicable portions of the Construction Work have been obtained and Developer has furnished to the Owner fully executed copies of such Governmental Approvals other than the Owner-Provided Approvals;

4.7.2 All applicable pre-construction requirements contained in the Governmental Approvals for the applicable portion of the Construction Work have been satisfied;

4.7.3 Developer has caused to be developed and delivered to the Owner, and the Owner has approved, the Baseline Project Schedule with a detailed design schedule and preliminary construction schedule for the Project, and the Project Management Plan components listed in Part B of Appendix 4-A to the Technical Requirements;

4.7.4 Developer has delivered to the Owner, and the Owner has accepted or approved, as applicable, all other Submittals relating to the applicable portion of the Construction Work required by the Project Management Plan and the Contract Documents, in the form and content required by the Project Management Plan or Contract Documents;

4.7.5 Developer has delivered to the Owner an initial Skilled Workforce Plan and an initial SBE Plan;

4.7.6 All representations and warranties of Developer set forth in this Agreement shall be and remain true and correct, and Developer has delivered a certificate to the Owner certifying same;

4.7.7 Developer is not then in receipt of any notice of Developer Default from the Owner unless any such default has been cured or waived in writing by the Owner;

4.7.8 Developer is not then in receipt of any notice of default delivered pursuant to the Financing Documents unless any such noticed default has been cured, and no Lender has otherwise indicated that it is unwilling or unable to presently fund Developer's costs of the D&C Work and O&M Services;

4.7.9 Developer has provided a fully functional Project Office as set forth in Section 2.4.3 of the Technical Requirements; and

4.7.10 Developer has delivered the D&C Pricing Documents to the Owner in accordance with Section 22.6.

#### **4.8 Construction Commencement Deadline; Advance Construction Activities**

4.8.1 Developer shall commence the Construction Work no later than the Construction Commencement Deadline.

4.8.2 The Owner may, in its sole discretion, authorize Developer to perform Advance Construction Activities prior to NTP 2. In the event the Owner authorizes Developer to perform Advance Construction Activities, Developer shall satisfy and comply with the conditions and requirements imposed by the Owner, which may include certain conditions and requirements identified in Section 4.7 and/or the provision of performance and payment security in such amounts and forms as may be specified by the Owner, prior to commencing such activities.

#### **4.9 Substantial Completion and Project Final Acceptance**

##### **4.9.1 Substantial Completion**

Developer shall exercise its best efforts to achieve Substantial Completion on or before the Scheduled Substantial Completion Date. Failure to achieve Substantial Completion by the Substantial Completion Long Stop Date is a Developer Default under Section 19.1.1.15.

#### 4.9.2 Conditions to Substantial Completion

4.9.2.1 The Owner will issue a written certificate of Substantial Completion ("**Certificate of Substantial Completion**") upon satisfaction of all the following conditions for the entire Project:

1. Certificates of Occupancy Readiness have been issued for all Facilities;
2. The Facility Systems for all Facilities assessed as a whole comply, in all respects, with applicable Laws, are operational and functional and have passed all inspections and tests required under the Contract Documents and Developer has delivered to the Owner all reports, data and documentation relating to such tests;
3. Developer has completed all other D&C Work, including design and construction of Infrastructure, the Bellevue Intersection Improvements, Open Space/Landscaping Improvements and personal occupant vehicle parking spaces and installation of all required Exterior Furniture, in accordance with the Contract Documents, except for Punch List items;
4. All work related to the D&C Work that Developer is obligated to perform for or on behalf of third parties as required by the Contract Documents has been performed and complies with the requirements of any applicable agreements with such third parties, except for Punch List items;
5. Developer has received, and paid all associated fees due and owing for, all applicable Governmental Approvals (other than Owner-Provided Approvals) and other third-party approvals required for use and operation of the Project, and there exists no uncured violation of the terms and conditions of any such Governmental Approval or other third-party approvals;
6. Developer has delivered: (a) to the Owner all IP Materials, work product, documents, results and related materials for Subject Intellectual Property, and (b) to the Owner, or deposited to the Intellectual Property Escrow(s); pursuant to Section 22.5, the IP Materials for all Project Intellectual Property other than Subject Intellectual Property, in each case incorporated into the Project prior to Substantial Completion;
7. There exist no uncured Developer Defaults, except any Developer Default: (a) which will be cured by achieving Substantial Completion; (b) arising from a breach in respect of the O&M Services; or (c) for which the applicable cure period has not expired;
8. Developer-Provided Insurance Policies required under Section 17.1 and Appendix 8 for the O&M Services have been obtained and are in full force and effect, and Developer has delivered to the Owner written binders of insurance verifying coverage from the relevant Insurers of such Developer-Provided Insurance Policies;
9. All Governmental Approvals necessary to begin the applicable portions of the O&M Services following Substantial Completion have been obtained and Developer has furnished to the Owner fully executed copies of such Governmental Approvals other than the Owner-Provided Approvals;
10. Developer has prepared and submitted the D&C Punch List in accordance with Section 4.9.3 and the procedures and schedules set forth in the Project Management Plan;

11. All other Submittals required by the Project Management Plan or Contract Documents to be submitted to the Owner prior to Substantial Completion have been submitted and, to the extent Owner approval is required under the Contract Documents, approved by the Owner, in the form and content required by the Project Management Plan or Contract Documents; and
12. Developer has delivered to the Owner, for each Contractor who has performed work on the Project, originally executed: (a) unconditional waivers and releases of liens, stop payment notices and payment bond rights, in the form prescribed by California Civil Code Section 8134, for payments received by such Contractor; and (b) conditional waivers and releases of liens, stop payment notices and payment bond rights, in the form prescribed by California Civil Code Section 8132, conditioned upon receipt by such Contractor of a specified payment for work completed up to Substantial Completion.

4.9.2.2 Approximately 60 days prior to the date on which Developer expects to achieve Substantial Completion, Developer shall provide written notice to the Owner so as to allow the Owner to promptly commence its review of those conditions to Substantial Completion amenable to being reviewed at the time of the notice. Developer shall thereafter provide the Owner with written notification of the date Developer determines it has achieved Substantial Completion. During the 14-day period following receipt of such notice, Developer and the Owner shall meet and confer to facilitate the Owner's determination of whether Developer has met the criteria for Substantial Completion.

4.9.2.3 During such 14-day period, the Owner shall conduct an inspection of the Project and its components, a review of the Final Design Documents, Construction Documents, other Submittals and such other investigation as may be necessary to evaluate whether Substantial Completion is achieved.

4.9.2.4 Within this 14-day period, the Owner shall either: (a) issue the Certificate of Substantial Completion, effective as of the date that the conditions to Substantial Completion were actually satisfied; or (b) notify Developer in writing of the reasons why Substantial Completion has not been achieved.

4.9.2.5 The Certificate of Substantial Completion will indicate the actual date on which Developer achieved Substantial Completion.

#### **4.9.3 D&C and Facility Punch Lists**

4.9.3.1 Developer shall include in the Project Management Plan procedures and schedules for preparing the D&C Punch List and each Facility Punch List, and for completing the D&C Punch List and Facility Punch List work. Such procedures and schedules shall be in accordance with the requirements of Sections 4.9.3.2 through 4.9.3.5, which shall apply to each Punch List.

4.9.3.2 Developer shall prepare and maintain the Punch List. Developer shall schedule preparation of the Punch List so as to permit the Owner's review and inspection for Substantial Completion under Section 4.9.2 or for Occupancy Readiness under Section 5.2, as applicable.

4.9.3.3 Developer shall deliver to the Owner not less than five (5) days' prior written notice stating the date when Developer will commence Punch List field inspections and Punch List preparation. Developer shall cause the Lead Contractor, the Architect(s) of Record, the Engineer(s) of Record, and any other Key Contractor or Key Personnel reasonably

requested by the Owner, to participate in the development of each Punch List. The Owner may, but is not obligated to, participate in the development of the Punch List. The Owner shall have the right in its reasonable discretion to add items to the Punch List to address incomplete Work or Work that is not in compliance with the Contract Documents. Developer shall deliver to the Owner a true and complete copy of the Punch List, and each modification thereto, as soon as it is prepared.

4.9.3.4 The Punch List inspection shall be performed on all definable features of the Work, against the Plans, the Contract Documents and applicable Laws and Manuals and Guidelines, and note any discrepancies in the Work. Developer shall review the Project Records to ensure that all items addressed by non-conformance reports have been corrected, or have been included on the Punch List for corrective action.

4.9.3.5 Developer shall immediately commence work on the Punch List items and diligently prosecute such work to completion, consistent with the Contract Documents, the Final Design Documents and the Construction Documents within the time period to be set forth in the Project Management Plan and, in any case, shall use its best efforts to complete such work by the applicable Final Acceptance Deadline, provided that Developer shall not be entitled to any relief from Availability Deductions or Performance Deductions arising from uncompleted Punch List items.

4.9.3.6 The Owner will monitor Developer's development of the Punch List. The Owner will review Developer's documentation of the Punch List to determine that all Punch List activities have been performed and will physically verify correction of a minimum of 10% of the Punch List items in the field. Discrepancies found in the physical verification may result in a greater percentage of physical verification of Punch List items depending on the severity. Increase in frequency or percentage of verification will be made in the Owner's good faith discretion.

#### 4.9.4 Project Final Acceptance

4.9.4.1 Promptly after achieving Substantial Completion, Developer shall perform all remaining Construction Work, including completion of all Punch List items. Developer shall exercise its best efforts to achieve Project Final Acceptance by the Project Final Acceptance Deadline. The Owner will issue a written certificate of Project Final Acceptance ("**Certificate of Project Final Acceptance**") at such time as all of the following have occurred for the entire Project:

1. All Punch List items have been completed and the Work complies with the Contract Documents;
2. All other Submittals for the D&C Work that Developer is required by the Contract Documents to submit after Substantial Completion have been submitted to the Owner and approved by the Owner, in the form and content required by the Project Management Plan or the Contract Documents;
3. The Owner has received the As-Built Plans in accordance with the requirements of Section 2.6.3.6 of the Technical Requirements;
4. Developer has delivered to the Owner copies of all manufacturer warranties as required under, and in the form and content specified by, the Contract Documents;
5. Developer has delivered: (a) to the Owner all IP Materials, work product, documents, results and related materials for Subject Intellectual Property; and (b) to the Owner, or deposited to the Intellectual Property Escrow(s)

pursuant to Section 22.5, the IP Materials for all Project Intellectual Property other than Subject Intellectual Property, in each case incorporated into the Project prior to Project Final Acceptance;

6. If any Governmental Entity with jurisdiction requires any form of certification of design, engineering or construction with respect to the Project or any portion thereof, including any certifications from the Architect(s) of Record and Engineer(s) of Record for the Project, Developer has caused such certificates to be delivered and has concurrently issued identical certificates to the Owner;
7. There exist no uncured Developer Defaults, except any Developer Default: (a) which will be cured by achieving Project Final Acceptance; (b) arising from a breach in respect of the O&M Services; or (c) for which any applicable cure period has not expired;
8. Developer has delivered to the Owner originally executed unconditional waivers and releases of liens, stop payment notices and payment bond rights, in the form prescribed by California Civil Code Section 8138, from each Contractor who has performed work at any time on the Project, or Developer has provided a bond around any stop notices from any such Contractor;
9. Developer has submitted final documentation under Section 8.10.4 demonstrating full compliance with Section 8.10.1; and
10. Developer has paid for all work by third parties that Developer is obligated to pay for, other than disputed amounts, and Developer has delivered a certificate to the Owner certifying same.

4.9.4.2 Developer shall provide the Owner with written notification when Developer determines that it has achieved Project Final Acceptance. During the 20-day period following receipt of such notification, Developer and the Owner shall meet and confer to facilitate the Owner's determination of whether to issue a Certificate of Project Final Acceptance.

4.9.4.3 During such 20-day period, the Owner shall conduct an inspection of the Punch List items, a review of the As-Built Plans, other Submittals and such other investigation as may be necessary to evaluate whether Project Final Acceptance is achieved.

4.9.4.4 Within such 20-day period, the Owner shall either: (a) issue a Certificate of Project Final Acceptance effective as of the date that the conditions to Project Final Acceptance were actually satisfied; or (b) notify Developer in writing of the reasons why Project Final Acceptance has not been achieved. The Certificate of Project Final Acceptance will indicate the actual date on which Developer achieved Project Final Acceptance.

4.9.4.5 Within 10 days of issuance of a Certificate of Project Final Acceptance, the Owner shall file a Project Notice of Completion in the office of the county recorder in Merced County.

## **4.10 Contaminated Materials and Undesirable Materials Management**

### **4.10.1 Developer's General Responsibilities**

4.10.1.1 Developer shall manage, treat, handle, store, remediate, remove, transport (where applicable) and dispose of all Contaminated Materials or Undesirable



Materials encountered in performing the Work, including contaminated soil and groundwater, in accordance with applicable Laws, Governmental Approvals, the Environmental Management Plan, Best Management Practice, and all applicable provisions of the Contract Documents, including Section 2.4.13.8 of the Technical Requirements. Developer shall, without cost to the Owner, adopt design and construction techniques for the Project that, to the maximum extent possible in accordance with Best Management Practice, avoid the need for Contaminated Materials Management. Without limiting the foregoing, if, during the course of the Work, a Release of Contaminated Materials occurs or Developer otherwise encounters Contaminated Materials or Undesirable Materials, Developer shall: (a) follow the procedures and perform the activities as set forth in the Contract Documents and the Environmental Management Plan; (b) use Best Management Practice, including design modifications and construction, operation, maintenance, and Contaminated Materials management techniques, to minimize costs of Contaminated Materials Management; and (c) in the case of any Release of Contaminated Materials from a third party vehicle operating or located within the Work Site or from such vehicle's cargo, use diligent efforts to handle disposal of the Contaminated Materials in a manner that does not place Developer, any Developer-Related Entity or the Owner in the position of assuming generator or arranger liability.

4.10.1.2 As between Developer and the Owner, Developer shall be considered the sole generator and arranger for, and shall be solely responsible for all costs relating to: (a) Releases of Contaminated Materials by Developer or any Developer-Related Entity; and (b) Contaminated Materials that migrate into, onto or under the Work Site where the source of such Contaminated Materials is Developer or any Developer-Related Entity. Except to the extent available for Relief Events described in clauses (m), (n) and (o) of the definition of Relief Events, Developer shall not be entitled to any additional monetary compensation, time extension or any other relief associated with discovering, encountering, managing, treating, handling, storing, remediating, removing, transporting or disposing of Contaminated Materials or Undesirable Materials, including contaminated soil and groundwater.

4.10.1.3 If Developer encounters or exposes any abnormal condition that may indicate the presence of Contaminated Materials, Developer shall discontinue such Work in the vicinity of the abnormal condition and notify the Owner immediately. Developer shall be alert for the presence of tanks or barrels; discolored or stained earth, metal, wood, ground water, etc.; visible fumes; abnormal odors; excessively hot earth; smoke; or other conditions that appear abnormal as possible indicators of the presence of Contaminated Materials and treat these conditions with extraordinary caution. Developer shall not resume the Work in the vicinity of the abnormal conditions until so directed by the Owner. Developer shall make every effort to minimize the spread of any Contaminated Materials into uncontaminated areas.

4.10.1.4 If, within a reasonable time after discovery of Contaminated Materials, taking into consideration the nature and extent of the contamination, the type and extent of action required and the potential impact upon Developer's schedule for use of and operations on the Work Site, Developer has not undertaken the Contaminated Materials Management required of it under this Section 4.10 and Section 2.4.13.8 of the Technical Provisions, the Owner may provide Developer with written notice that it will undertake the Contaminated Materials Management itself. The Owner thereafter may undertake the Contaminated Materials Management actions in compliance with a remediation plan approved by applicable Governmental Entities, if applicable, and in compliance with applicable Laws. Without limiting the Owner's role or responsibilities set forth in Section 4.10.2, Developer shall reimburse to the Owner on a current basis within ten (10) days of request therefor, the reasonable costs, including the Owner's Recoverable Costs, that the Owner incurs in carrying

out such Contaminated Materials Management actions. The Owner shall have no liability or responsibility to Developer arising out of the Owner's Contaminated Materials Management actions and such actions shall in no event constitute a basis for the assertion of a Relief Event or other Claim.

#### **4.10.2 Unknown Contaminated Materials**

As between Developer and the Owner, the Owner shall be considered the sole generator and arranger of Known Contaminated Materials and Unknown Contaminated Materials existing prior to the Effective Date, provided that such Contaminated Materials are managed, treated, handled, stored, remediated, removed, transported (where applicable) and disposed of by Developer strictly in accordance with the Contract Documents, the Environmental Management Plan, all applicable Laws and Best Management Practice. The foregoing shall not preclude or limit any rights or remedies that the Owner may have against Developer-Related Entities, third parties and/or prior owners, lessees, licensees and occupants of the Work Site.

#### **4.10.3 Releases of Contaminated Materials**

4.10.3.1 As between Developer and the Owner, the Owner shall be considered the sole generator and arranger for: (a) Releases of Contaminated Materials by the Owner; (b) Releases of Contaminated Materials by a third party that is not a Developer-Related Entity; (c) Contaminated Materials that migrate into, onto or under the Work Site where the source of such Contaminated Materials is the Owner; and (d) Contaminated Materials that migrate into, onto or under the Work Site (excluding any Developer-Acquired Real Property) where the source of such Contaminated Materials is a third party who is not a Developer-Related Entity, in each case, provided that such Contaminated Materials are managed, treated, handled, stored, remediated, removed, transported (where applicable) and disposed of by Developer strictly in accordance with the Contract Documents, the Environmental Management Plan, all applicable Laws and Best Management Practice. The foregoing shall not preclude or limit any rights or remedies that the Owner may have against third parties and/or prior owners, lessees, licensees and occupants of the Work Site.

4.10.3.2 With respect to a Relief Event described in clause (m) of the definition of Relief Event, Developer shall, upon receipt of any written request from the Owner, promptly assign and subrogate, or cause to be promptly assigned and subrogated, as applicable, to the Owner any and all rights of recovery of Developer and any Developer-Related Entity against such third party in connection with such event, as such may exist.

#### **4.10.4 Contribution for Losses**

4.10.4.1 To the extent that the Owner is considered generator and arranger for: (a) Known Contaminated Materials or Unknown Contaminated Materials existing prior to the Effective Date under Section 4.10.2; or (b) Releases of Contaminated Materials or Contaminated Materials under Section 4.10.3, in each case, subject to the terms and conditions set forth in such section, Developer shall be entitled to seek contribution from the Owner for Developer's Losses arising out of third-party claims for such Contaminated Materials or Releases of Contaminated Materials, as applicable, provided that:

1. Developer shall promptly notify the Owner of incidents, potential claims and matters which may give rise to any such third-party claim;
2. The Owner may, in its sole discretion, give written notice to Developer to tender defense of any such third-party claim to the Owner at any time, in which case Developer shall promptly tender defense of such claim and

cooperate with the Owner as necessary or reasonably requested by the Owner to defend such claim;

3. Unless and until the Owner assumes defense of any such third-party claim, Developer shall keep the Owner informed at all times regarding such claim; and
4. Developer shall not enter into any agreement or settlement with respect to any such claim without the prior written approval of the Owner.

#### **4.11 Environmental Compliance**

Throughout the course of the D&C Work, Developer shall: (a) comply with all applicable Environmental Laws; and (b) perform, or cause to be performed, all environmental mitigation measures and permit conditions, monitoring and reporting required under the Contract Documents, the Environmental Approvals and the CEQA Documentation that are applicable to the D&C Work and shall comply with all other conditions and requirements thereof. Developer, at its sole cost and expense, shall also abide by and comply with any additional commitments contained in any subsequent environmental re-evaluations submitted up to 30 days prior to the Proposal Due Date. If the Owner directs Developer to comply with commitments contained in re-evaluations submitted after 30 days prior to the Proposal Due Date that affect the D&C Work, such directive shall be deemed an Owner Change.

#### **4.12 Oversight, Meetings and Reporting**

##### **4.12.1 Oversight by Owner and Third Parties**

4.12.1.1 The Owner shall have the right at all times to conduct Oversight of the D&C Work to the extent the Owner deems necessary or advisable, in its sole discretion, provided that the Owner shall conduct any such Oversight in a manner that does not unreasonably interfere with the Work. The Owner may, in its sole discretion, designate any Person(s) to carry out Oversight on its behalf.

4.12.1.2 Developer shall furnish the Owner with every reasonable facility for ascertaining whether the D&C Work performed and materials used are in accordance with the requirements of the Contract Documents. If the Owner so requests at any time before Final Acceptance of the D&C Work, Developer shall remove or uncover such portions of the finished D&C Work as directed. After examination, Developer shall restore the uncovered portions of the D&C Work to the standard required by the Contract Documents. If the Owner determines that the D&C Work so exposed or examined is not in accordance with the requirements of the Contract Documents (except to the extent a Deviation is approved by the Owner with respect to such nonconformance in accordance with Section 11.3), Developer shall perform the uncovering or removal. Developer shall not be entitled to any additional monetary compensation, time extension or any other relief in connection with such request or work, unless the Owner determines, or it is finally determined pursuant to the Dispute Resolution Procedures, that the D&C Work thus exposed or examined is in accordance with the requirements of the Contract Documents, in which case such event shall constitute an Owner-Caused Delay under clause (g) of the definition of Owner-Caused Delays.

4.12.1.3 If, during or prior to construction operations, the Owner fails to reject defective D&C Work, whether from lack of discovery of such defect or for any other reason, such initial failure to reject in no way prevents the later rejection of defective D&C Work or obligates the Owner to accept such D&C Work at Final Acceptance. The Owner is not responsible for losses suffered due to any necessary removals or repairs of such defects.

4.12.1.4 Subject to any applicable cure periods set forth in the Contract Documents, if Developer fails or refuses to remove and renew any defective D&C Work, or to make any necessary repairs in an acceptable manner and in accordance with the requirements of the Contract Documents within the time indicated in writing, the Owner has the authority to repair, remove, or renew the unacceptable or defective D&C Work as necessary, all at Developer's expense. The Owner will obtain payment for any expense it incurs in making these repairs, removals, or renewals, that Developer fails or refuses to make, by deducting such expenses from any moneys due or which may become due Developer, or by charging such amounts against the Performance Bond, except to the extent such expenses were previously recovered by the Owner under the Contract Documents.

4.12.1.5 Subject to Section 19.2.10, nothing contained in the Contract Documents shall in any way limit the right of the Owner to assert claims for damages resulting from patent or latent defects in the Non-O&M Segment Work for the period of limitations prescribed by applicable Law, and the foregoing shall be in addition to any other rights or remedies the Owner may have under the Contract Documents or under Law.

#### **4.12.2 Meetings**

4.12.2.1 Throughout the Term, Developer shall conduct weekly progress meetings in accordance with Section 2.4.1.3 of the Technical Requirements. The Owner shall be invited to participate in such progress meetings. At the Owner's request, Developer will require relevant Contractors and Key Personnel to attend these progress meetings.

4.12.2.2 Throughout the Term, Developer shall provide written progress reports to the Owner in accordance with Section 2.4.1.5 of the Technical Requirements.

4.12.2.3 Before Developer begins actual construction, the Owner will call a preconstruction conference at a place the Owner designates in the City of Merced to discuss the construction aspects of the Project. Developer shall attend this meeting, along with the Owner and any other Person designated by the Owner that will be involved with the Project.

4.12.2.4 In addition to the regularly scheduled meetings required under the Contract Documents, the Owner and Developer, through their respective Authorized Representatives, shall meet from time to time at the other Party's request to discuss and resolve matters relating to the D&C Work.

4.12.2.5 Developer shall schedule all meetings with the Owner at a date, time and place reasonably convenient to both Parties and, except in cases of urgency, shall provide the Owner with written notice and a meeting agenda at least three Business Days in advance of each meeting.

#### **4.12.3 Reporting**

Developer shall submit all reports relating to the D&C Work in the form, with the content and within the time required under the Contract Documents.

### **4.13 Design and Construction Warranties**

#### **4.13.1 Non-O&M Segments Warranty Work**

4.13.1.1 Developer shall perform, at Developer's sole cost and expense, Warranty Work for any Defect: (a) in respect of which the Owner delivers written notice to Developer within the applicable Non-O&M Segment Warranty Period; or (b) of which Developer otherwise has actual knowledge prior to the expiry of the applicable Non-O&M Segment Warranty Period.

4.13.1.2 Developer shall commence the applicable Warranty Work within: (a) fourteen (14) days of written notice of the relevant Defect from the Owner or Developer's actual knowledge thereof, whichever is earlier; or (b) such shorter period as may be designated by the Owner for emergency repairs; and Developer shall thereafter diligently complete the Warranty Work as soon as reasonably practicable and promptly notify the Owner in writing of completion of same. If Developer fails to commence or pursue with diligence and complete the Warranty Work as required, the Owner may, in its sole discretion, perform the Warranty Work upon written notice to Developer, and Developer shall reimburse the Owner within seven (7) days of any written demand from the Owner for all costs and expenses incurred by the Owner in connection with the performance of the Warranty Work, including any related reasonable attorneys' and consultants' fees and expenses.

4.13.1.3 In the event of an emergency constituting an immediate hazard to health or safety of Users or University property due to a Defect, the Owner may undertake, at Developer's sole cost and expense and without prior notice, all work necessary to correct such hazardous condition(s).

4.13.1.4 Promptly upon expiry of the applicable Non-O&M Segment Warranty Period, Developer shall execute and deliver to the Owner a written assignment, effective as of the expiry of the Non-O&M Segment Warranty Period and in form and substance acceptable to the Owner, acting reasonably, of all Developer's and Contractors' right, title and interest in and to all warranties, and to the extent assignable, claims and causes of action held by Developer or its Contractors against third parties, in connection with the Non-O&M Segment or the Non-O&M Segment Work.

#### **4.13.2 Contractor Warranties and Guaranties**

4.13.2.1 Developer shall obtain from all Contractors representations, warranties, guarantees and obligations appropriate for work of similar scope and scale, with respect to design, materials, workmanship, equipment, tools and supplies furnished by such Contractors, which shall extend not only to Developer but also to any third parties for whom Work is being performed; the warranties from Key Contractors shall be for such periods as specified in the Technical Requirements or, if not specified, a period of not less than one (1) year from the date of the applicable Certificate of Occupancy Readiness. All representations, warranties, guarantees and obligations of Key Contractors: (a) shall be written so as to survive all Owner and any third party inspections, tests and approvals; and (b) shall provide that upon expiration or any earlier termination of this Agreement prior to the expiration of such representations, warranties, guarantees and obligations they shall automatically be for the benefit of and enforceable by the Owner and its successors and assigns, and any third parties for whom Work is being performed, subject to the rights of the Lenders as provided in any Direct Agreement.

4.13.2.2 To the extent that any Contractor warranty or guaranty would be voided by reason of Developer's negligence or failure to comply with the requirements of the Contract Documents in incorporating material or equipment into the Work, Developer shall be responsible for correcting, at Developer's expense, any defects in the Work performed by such Contractor.

#### **4.13.3 No Limitation**

The Contractor warranties are in addition to all rights and remedies available under the Contract Documents or applicable Law, and shall not limit Developer's liability or responsibility imposed by the Contract Documents or applicable Law with respect to the Work.

#### 4.13.4 FF&E Warranties

Developer shall obtain all customary manufacturer and supplier warranties with respect to the FF&E in the name of and for the benefit of the Owner.

### **ARTICLE 5. First and Second Delivery Facilities; Occupancy Readiness; LEED Certification; Central Plant Invoiced Work**

#### **5.1 First and Second Delivery Facilities**

5.1.1 Developer shall exercise its best efforts to achieve Occupancy Readiness with respect to: (a) each First Delivery Facility on or prior to the applicable First Delivery Facilities Occupancy Readiness Deadline; and (b) each Second Delivery Facility on or prior to the applicable Second Delivery Facilities Occupancy Readiness Deadline.

5.1.2 If Occupancy Readiness is not achieved for:

5.1.2.1 First Delivery Facilities on or prior to the applicable First Delivery Facilities LD Deadlines, Developer shall be assessed the First Delivery Facilities Deduction; and

5.1.2.2 Second Delivery Facilities on or prior to the applicable Second Delivery Facilities LD Deadlines, Developer shall be assessed the Second Delivery Facilities Deduction.

5.1.3 If assessed, the First Delivery Facilities Deduction and/or the Second Delivery Facilities Deduction shall be deducted from the Monthly Progress Payments.

5.1.4 Failure to achieve Occupancy Readiness of all First Delivery Facilities by the First Delivery Facilities Long Stop Date is a Developer Default under Section 19.1.1.15.

5.1.5 Except for the Owner's rights and remedies under Articles 19 and 20 in connection with a Developer Default under Section 19.1.1.15, liquidated damages assessed in accordance with this Section 5.1 shall otherwise be the sole and exclusive remedy of the Owner for any failure by Developer to achieve Occupancy Readiness of the First Delivery Facilities or the Second Delivery Facilities by the applicable Occupancy Readiness deadlines.

#### **5.2 Conditions to Occupancy Readiness**

5.2.1 The Owner will issue a certificate of Occupancy Readiness with respect to a Facility (each, a **"Certificate of Occupancy Readiness"**) upon satisfaction of all the following conditions at any time prior to Substantial Completion, provided that notwithstanding any other provision of this Agreement, the Owner is not obligated to issue a Certificate of Occupancy Readiness for a Facility any earlier than the proposed date for achieving Occupancy Readiness as set forth in Developer's Sequencing Plan:

5.2.1.1 Developer has completed the D&C Work applicable to the Facility in accordance with the Contract Documents, including all FF&E required to be installed by Developer for the Facility and has obtained all related warranties in accordance with Section 4.13.4, except for Facility Punch List items;

5.2.1.2 The Designated Campus Fire Marshal has issued a Fire Clearance Notice and the Building Official has issued a Certificate of Occupancy for the Facility (if it is a Building);

5.2.1.3 The Facility and applicable FF&E are ready for use for the purposes of performing the applicable Facilities Activities, taking into account: (i) the

requirements of the Contract Documents; (ii) the ability of Users to access the Facility and conduct the applicable Facilities Activities without risk of injury, hazard or nuisance; (iii) the proper installation and functionality of all applicable FF&E; and (iv) such other functional requirements and considerations as a reasonable Person of ordinary prudence would take into account in determining whether the Facility and applicable FF&E are suitable for the purposes of performing the applicable Facilities Activities;

5.2.1.4 Without limiting the other provisions of this Section 5.2.1, the applicable Facility Systems comply, in all respects, with applicable Laws, are operational and functional and have passed all inspections and tests required under the Contract Documents and Developer has delivered to the Owner all reports, data and documentation relating to such tests;

5.2.1.5 All work related to the D&C Work for the Facility that Developer is obligated to perform for or on behalf of third parties as required by the Contract Documents has been performed and complies with the requirements of any applicable agreements with such third parties, except for Facility Punch List items;

5.2.1.6 Developer has received, and paid all associated fees due and owing for, all applicable Governmental Approvals and other third-party approvals required for use and operation of the Facility, and there exists no uncured violation of the terms and conditions of any such Governmental Approval or other third-party approvals;

5.2.1.7 The O&M Sub-Plans specified in Section 2.7.4 of the Technical Requirements and all other plans, manuals and reports for the Facility O&M Services have been submitted and approved or accepted, as applicable, by the Owner as required under the Contract Documents;

5.2.1.8 Developer has delivered to the Owner a certificate, in form acceptable to the Owner and signed by Developer, that Developer has completed training of operations and maintenance personnel sufficient to perform the Facility O&M Services in accordance with the Contract Documents, the Operations and Maintenance Plan and the Health and Safety Plan;

5.2.1.9 Developer has delivered: (a) to the Owner all IP Materials, work product, documents, results and related materials for Subject Intellectual Property; and (b) to the Owner, or deposited to the Intellectual Property Escrow(s) pursuant to Section 22.5, the IP Materials for all Project Intellectual Property other than Subject Intellectual Property, in each case incorporated into the Facility prior to Occupancy Readiness;

5.2.1.10 There exist no uncured Developer Defaults, except any Developer Default: (a) which will be cured by achieving Occupancy Readiness; (b) arising from a breach in respect of the O&M Services; or (c) for which any applicable cure period has not expired;

5.2.1.11 All Governmental Approvals necessary to begin the Facility O&M Services have been obtained and Developer has furnished to the Owner fully executed copies of such Governmental Approvals;

5.2.1.12 Developer has prepared and submitted the Facility Punch List in accordance with Section 4.9.3 and the procedures and schedules set forth in the Project Management Plan; and

5.2.1.13 All other Submittals required by the Project Management Plan or Contract Documents to be submitted to the Owner prior to Occupancy Readiness have been submitted and, to the extent the Owner approval is required under the Contract Documents,

approved by the Owner, in the form and content required by the Project Management Plan or Contract Documents.

5.2.2 Approximately 60 days prior to the date on which Developer expects to achieve Occupancy Readiness with respect to a Facility, Developer shall provide written notice to the Owner so as to allow the Owner to promptly commence its review of those conditions to Occupancy Readiness amenable to being reviewed at the time of the notice. Developer shall thereafter provide the Owner with written notification of the date Developer determines it has achieved Occupancy Readiness. During the 14-day period following receipt of such notice, Developer and the Owner shall meet and confer to facilitate the Owner's determination of whether Developer has met the criteria for Occupancy Readiness.

5.2.3 During such 14-day period, the Owner shall conduct an inspection of the Facility and applicable D&C Work, and their respective components, a review of the Final Design Documents, Construction Documents, other Submittals and such other investigation as may be necessary to evaluate whether Occupancy Readiness is achieved.

5.2.4 Within this 14-day period, the Owner shall either: (a) issue a Certificate of Occupancy Readiness for the Facility, effective as of the date that the conditions to Occupancy Readiness were actually satisfied; or (b) notify Developer in writing of the reasons why Occupancy Readiness has not been achieved.

5.2.5 The Certificate of Occupancy Readiness will indicate the actual date on which Developer achieved Occupancy Readiness with respect to the Facility.

### 5.3 Facility Final Acceptance

5.3.1 Promptly after achieving Occupancy Readiness with respect to a Facility, Developer shall perform all remaining Construction Work for the Facility, including completion of all Facility Punch List items. Developer shall exercise its best efforts to achieve Facility Final Acceptance by the applicable Facility Final Acceptance Deadline. The Owner will issue a written certificate of Facility Final Acceptance ("**Certificate of Facility Final Acceptance**") at such time as all of the following have occurred for the Facility:

5.3.1.1 All Facility Punch List items have been completed and the applicable Work complies with the Contract Documents;

5.3.1.2 All other Submittals for the D&C Work for the Facility that Developer is required by the Contract Documents to submit after Occupancy Readiness have been submitted to the Owner and approved by the Owner, in the form and content required by the Project Management Plan or the Contract Documents;

5.3.1.3 The Owner has received the As-Built Plans for the Facility in accordance with the requirements of Section 2.6.3.6 of the Technical Requirements;

5.3.1.4 Developer has delivered to the Owner copies of all manufacturer warranties in connection with the Facility as required under, and in the form and content specified by, the Contract Documents;

5.3.1.5 Developer has delivered: (a) to the Owner all IP Materials, work product, documents, results and related materials for Subject Intellectual Property; and (b) to the Owner, or deposited to the Intellectual Property Escrow(s) pursuant to Section 22.5, the IP Materials for all Project Intellectual Property other than Subject Intellectual Property, in each case incorporated into the Facility prior to Facility Final Acceptance; and

5.3.1.6 If any Governmental Entity with jurisdiction requires any form of certification of design, engineering or construction with respect to the Facility or any portion



thereof, including any certifications from the Architect(s) of Record and Engineer(s) of Record for the Project, Developer has caused such certificates to be delivered and has concurrently issued identical certificates to the Owner.

5.3.2 Developer shall provide the Owner with written notification when Developer determines that it has achieved Facility Final Acceptance. During the 20-day period following receipt of such notification, Developer and the Owner shall meet and confer to facilitate the Owner's determination of whether to issue a Certificate of Facility Final Acceptance.

5.3.3 During such 20-day period, the Owner shall conduct an inspection of the Facility Punch List items, a review of the As-Built Plans for the Facility, other Submittals and such other investigation as may be necessary to evaluate whether Facility Final Acceptance is achieved.

5.3.4 Within such 20-day period, the Owner shall either: (a) issue a Certificate of Facility Final Acceptance effective as of the date that the conditions to Facility Final Acceptance were actually satisfied; or (b) notify Developer in writing of the reasons why Facility Final Acceptance has not been achieved. The Certificate of Facility Final Acceptance will indicate the actual date on which Developer achieved Facility Final Acceptance.

5.3.5 Within 10 days of issuance of a Certificate of Facility Final Acceptance, the Owner shall file a corresponding Facility Notice of Completion in the office of the county recorder in Merced County.

## **5.4 LEED Certification**

5.4.1 Developer shall be responsible for achieving Gold level LEED certification from USGBC for each Building on or prior to the applicable LEED Certification Deadline. If Developer fails to achieve Gold level LEED certification with respect to any Building prior to the applicable LEED Certification Deadline, such failure shall constitute a Developer Default under Section 19.1.1.4.

5.4.2 The Owner will provide such information to, and cooperate with, the Green Building Certification Institute as may be reasonably requested by Developer to complete the certification process, provided that the Owner shall not be obligated to incur any costs or expenses in connection therewith and Developer shall be solely responsible for achieving Gold level of LEED certification.

## **5.5 Central Plant Invoiced Work**

5.5.1 Following the Owner's review and approval of the full set of 100% design development documents for the Central Plant Expansion Work specified under the heading "Design Development" in Appendix 4-C of the Technical Requirements, and prior to commencing development of the documents specified under the heading "Construction Documents" in Appendix 4-C of the Technical Requirements, Developer shall submit to the Owner, for its review and reasonable written approval within 30 days of receipt, a detailed breakdown of the Central Plant Invoiced Work Cost.

5.5.2 Within 30 days following issuance of a Certificate of Occupancy Readiness for the Central Plant Expansion Work, Developer shall submit an invoice to the Owner, in a format acceptable to the Owner, in the amount of the Central Plant Invoiced Work Cost reasonably approved by the Owner pursuant to Section 5.5.1, and the Owner shall make payment to Developer within 30 days of receipt of such invoice. Developer has included in the D&C Contract Amount all mark-ups applicable to \$5 million of such Base Direct Costs.

5.5.3 If the Central Plant Invoiced Work Cost is greater than \$5 million, mark-ups applicable to Base Direct Costs in excess of \$5 million (as permitted under Appendix 18) shall be paid by the Owner to Developer pursuant to a Change Order.

## **ARTICLE 6. OPERATIONS AND MAINTENANCE**

### **6.1 Commencement of O&M Services**

Developer shall commence the O&M Services upon the effective date of: (a) the applicable Certificate of Occupancy Readiness, if any; or (b) the Certificate of Substantial Completion.

### **6.2 Operation and Maintenance Standards and Requirements**

#### **6.2.1 General Obligations**

6.2.1.1 Developer shall perform the O&M Services in accordance with: (a) Best Management Practice, as it evolves from time to time; (b) the requirements, terms and conditions set forth in the Contract Documents; (c) all applicable Laws; (d) the requirements, terms and conditions set forth in all Governmental Approvals; (e) the approved Project Management Plan and all component parts, plans and documentation prepared thereunder, and all approved updates and amendments thereof; (f) the approved Operations and Maintenance Plan, and all approved updates and amendments thereof; and (g) any Safety Compliance Order and the Health and Safety Plan. If Developer encounters a contradiction between subsections (a) through (g), Developer shall advise the Owner of the contradiction and the Owner shall instruct Developer as which subsection shall control in that instance. Developer is responsible for keeping itself informed of current Best Management Practice.

6.2.1.2 Annexes 2 and 3 to Appendix 6 and Section 4 of the Technical Requirements set forth certain minimum performance requirements related to the O&M Services. Developer's failure to comply with such requirements shall entitle the Owner to the rights and remedies set forth in the Contract Documents, including the assessment of Noncompliance Points, deductions from payments in accordance with Appendix 6, and termination for Developer Default.

#### **6.2.2 Changes in Operation and Maintenance Standards**

6.2.2.1 The Owner shall have the right, in its sole discretion, to adopt at any time, and Developer acknowledges it must comply with, all changes and additions to, and replacements of, the Technical Volumes relating to the O&M Services. Developer shall be obligated to implement such change only after the Owner issues a Change Order or Unilateral Change Order, as applicable, which shall indicate the schedule, if applicable, for the completion of such work required by the Owner Change.

6.2.2.2 Developer may apply to the Owner for approval of Deviations regarding O&M Services in accordance with Section 11.3.

#### **6.2.3 Maintenance During Construction**

In connection with the performance of the Construction Work, Developer shall perform maintenance that is required, and in a manner, to ensure that the Project is maintained in a condition that poses no threat to the health or safety of any Person or physical damage to the Project and minimizes interference with Campus Activities, as further specified in Section 2 of the Technical Requirements.

#### **6.2.4 Management of Contaminated Materials and Undesirable Materials**

In performing the O&M Services, Developer shall manage, treat, handle, store, remediate, remove, transport (where applicable) and dispose of all Contaminated Materials and Undesirable Materials, including contaminated soil and groundwater, in accordance with applicable Laws, Governmental Approvals, the Environmental Management Plan, Best Management Practice and all applicable provisions of the Contract Documents. The provisions of Section 4.10 shall apply to the O&M Services, provided that Developer shall not be responsible for management of Contaminated Materials and Undesirable Materials to the extent generated by the Owner in the course of its use of a Facility following Occupancy Readiness or Substantial Completion, as applicable.

#### **6.2.5 Environmental Compliance**

Throughout the performance of the O&M Services, Developer shall: (a) comply with all applicable Environmental Laws; and (b) perform, or cause to be performed, all environmental mitigation measures and permit conditions, monitoring and reporting required under the Contract Documents, the Environmental Approvals and the CEQA Documentation that are applicable to the O&M Services and shall comply with all other conditions and requirements thereof. Developer, at its sole cost and expense, shall also abide by and comply with any additional commitments contained in any subsequent environmental re-evaluations that are submitted up to 30 days prior to the Proposal Due Date and Environmental Approvals required for the Renewal Work that may identify additional commitments.

#### **6.2.6 Utilities**

Subject to the provisions of Appendix 17 with respect to Energy Utilities, the Owner shall be responsible for the cost of Utility services required for the O&M Services.

#### **6.2.7 Emergency Repair Work**

6.2.7.1 Unless specified otherwise by the Owner and as demonstrated by issuance of a corresponding Change Order or Unilateral Change Order, as applicable, Developer shall be responsible for procuring and overseeing temporary and/or permanent emergency repair work for the Project from and after the Effective Date. If specified by the Owner, Developer shall solicit competitive bids for such work in accordance with the Owner's policies and procedures set forth in Appendix 27. The Owner shall provide Oversight relating to emergency repair work in accordance with the Contract Documents.

6.2.7.2 Developer shall ensure that such repair work is performed in accordance with Best Management Practice, the Contract Documents and State and federal Laws applicable to such repair work. Further, Developer shall maintain estimates, cost records and supporting documentation in accordance with such Laws, and in a form and content to enable the Owner to seek reimbursement for eligible costs from FEMA, if applicable.

6.2.7.3 When an incident/emergency causes damage to any Element, the Owner authorizes Developer to pursue claims against any responsible third party for reimbursement of expenses incurred. Such authorization does not, and is not intended to, authorize Developer to seek reimbursement for any Availability Failure or Performance Failure that would result if Developer fails to respond to the incident/event in accordance with the Contract Documents.

### **6.3 Vandalism**

6.3.1 If any maintenance, repair or replacement of any Facility or portion of a Facility is required due to Vandalism, Developer shall promptly perform such maintenance, repair or

replacement in accordance with Best Management Practice, the Contract Documents and all applicable Laws and Manuals and Guidelines.

6.3.2 With respect to a Relief Event described in clause (t) of the definition of Relief Event, Developer shall be responsible for the first \$10,000 of Direct Costs incurred in the aggregate per Calendar Year (the “**Annual Vandalism Deductible**”) to perform any maintenance, repair or replacement required under Section 6.3.1, inclusive of any insurance deductibles payable by Developer under the Owner-Provided Insurance Policy for Vandalism claims pursuant to Section 17.1.2.2.

## **6.4 Oversight, Meetings and Reporting**

### **6.4.1 Oversight by the Owner**

The Owner shall have the right at all times to conduct Oversight relating to the O&M Services to the extent the Owner deems necessary or advisable, in its sole discretion, provided that the Owner shall conduct any such Oversight in a manner that does not unreasonably interfere with the Work. The Owner may, in its sole discretion, designate any Person(s) to carry out Oversight on the Owner’s behalf.

### **6.4.2 Meetings**

6.4.2.1 Developer shall schedule all progress and periodic meetings with its Lead O&M Firm at a date, time and place reasonably convenient for the Owner to attend and, except in the case of urgency, shall provide the Owner with written notice and an agenda for such meetings at least seven days in advance of each meeting. The Owner may attend any such meeting and is permitted to raise any questions, concerns or opinions without restriction.

6.4.2.2 In addition to the regularly scheduled meetings set forth in Section 2.4.1.3 of the Technical Requirements, the Owner and Developer, through their respective Authorized Representatives, shall meet from time to time at the other Party’s request to discuss and resolve matters relating to the O&M Services or Project. Any such meeting may include the Lead O&M Firm, if its participation is requested in advance by Developer and agreed to by the Owner.

### **6.4.3 Reporting**

Developer shall submit all reports relating to the O&M Services in the form, with the content and within the time required under the Contract Documents.

## **6.5 Renewal Work**

6.5.1 Developer shall diligently perform Renewal Work as and when necessary to maintain compliance with performance measures and standards set forth in the Contract Documents. Developer also shall perform Renewal Work according to the other applicable terms of the Technical Volumes and, when applicable, the Handback Requirements. Developer shall use the Renewal Work Schedule, as updated from time to time, for scheduling and performing Renewal Work, provided that Developer may perform Renewal Work not identified in the Renewal Work Schedule at any time as necessary to maintain compliance with the Availability Standards and Performance Standards, subject to scheduling the performance of such Renewal Work at times agreed to by the Owner, acting reasonably.

6.5.2 No later than 90 days after the end of each Calendar Year, Developer shall deliver to the Owner a written report of the Renewal Work performed as required under Section 4.1.6.2 of the Technical Requirements. The report also shall set forth the total draws and deposits made from and to the Renewal Work Reserve in the immediately preceding Calendar

Year and the date, amount and use of each draw (including any use for Compliance Work or Handback Requirements work).

6.5.3 If at any time the Owner determines that Developer has failed to perform the Renewal Work in accordance with the then current Renewal Work Schedule and applicable Technical Requirements, the Owner may give written notice thereof to Developer. If Developer has failed to complete the Renewal Work within 30 days after the Owner delivers such notice, then the Owner shall have the right to perform and complete such Renewal Work at the expense and for the account of Developer, and to make draws from the Renewal Work Reserve to pay the costs of such action, subject to the Lenders' rights to cure such failure and the Lenders' rights in and to the Renewal Work Reserve established in the Financing Documents. If the amounts in the Renewal Work Reserve are insufficient or the Owner is unable to make draws from the Renewal Work Reserve, the Owner shall have the right to use and apply payments otherwise payable to Developer by the Owner under this Agreement to pay the costs of such action. The foregoing remedy is in addition to any other remedies available to the Owner under the Contract Documents on account of such failure, including the assessment of Noncompliance Points, and its right to intervene immediately and without notice to address Safety Compliance.

6.5.4 Developer may, by notice to the Owner, object to any demand by the Owner under Section 6.5.3 on the grounds that Developer has completed the Renewal Work specified in the Owner's demand or that such Renewal Work is not then required, which notice shall give details of the grounds for objection. Promptly after the delivery of any such notice, the Parties will endeavor to reach agreement as to any matters referred to in the notice. Either Party may refer the matter at any time for resolution in accordance with the accelerated Dispute Resolution Procedures set forth in Section 25.2.2, and the Owner shall not draw on the Renewal Work Reserve unless and until the Disputes Review Board makes a recommendation in favor of the Owner or the Parties otherwise agree.

## **6.6 Renewal Work Schedule**

6.6.1 Within 45 days of the beginning of each Calendar Year, Developer shall submit a Renewal Work Schedule and updates as required under Section 4.2.2.3 of the Technical Requirements. Developer's preparation of the updated Renewal Work Schedule shall include revisions as reasonably indicated by experience and then-existing conditions respecting the Project, changes in estimated costs of Renewal Work, Renewal Work Reserve funding and drawing plan and schedule, changes in technology, changes in Developer's planned means and methods of performing Renewal Work, and other relevant factors. The updated Renewal Work Schedule shall show the revisions, if any, to the prior Renewal Work Schedule and include an explanation of reasons for revisions. If no revisions are proposed, Developer shall include an explanation of the reasons no revisions are necessary. The updated Renewal Work Schedule also shall set forth, by Element, Developer's planned draws from the Renewal Work Reserve during the forthcoming three Calendar Years.

6.6.2 At the Owner's request, Developer and its Lead O&M Firm, if any, shall promptly meet and confer with the Owner to review and discuss the original or updated Renewal Work Schedule.

6.6.3 Within 30 days after receipt of the original and each updated Renewal Work Schedule, the Owner shall have the right to make comments and recommendations and object to or disapprove the original or updated Renewal Work Schedule or any elements thereof. Comments, objections, recommendations and disapprovals by the Owner shall be based on whether the original or updated Renewal Work Schedule and underlying assumptions are

reasonably likely to ensure that the condition of the Elements will meet or exceed the Technical Requirements throughout the rest of the Term and are consistent with the Contract Documents, including meeting the Availability Standards and the Performance Standards.

6.6.4 Within 30 days after receiving written notice of comments, objections, recommendations and disapprovals from the Owner, Developer shall submit to the Owner a revised original or updated Renewal Work Schedule rectifying such matters and, for matters it disagrees with, a written notice setting forth those comments, objections, recommendations and disapprovals that Developer disputes, which notice shall give details of Developer's grounds for dispute. If Developer fails to give such notice within such time period, it shall be deemed to have accepted the comments, objections and recommendations and the original or updated Renewal Work Schedule, as applicable, shall thereupon be deemed revised to incorporate the comments and recommendations and to rectify the objections. After timely delivery of any such notice, Developer and the Owner shall endeavor in good faith to reach agreement as to the matters listed in the notice. If no agreement is reached as to any such matter within 30 days after Developer delivers its notice, either Party may refer the Dispute for resolution in accordance with the Disputes Resolution Procedures.

6.6.5 The portions of the original or updated Renewal Work Schedule submitted by Developer that are not in Dispute shall go into effect and govern, while the immediately preceding Renewal Work Schedule (if any) shall remain in effect and govern until resolution as to those portions of the submitted Renewal Work Schedule that are in Dispute.

## **6.7 Renewal Work Reserve**

### **6.7.1 Establishment**

6.7.1.1 Developer shall establish and fund a reserve account (the "**Renewal Work Reserve**") in accordance with Section 6.7.2 that may be used for the purposes set forth in Section 6.7.3. The Renewal Work Reserve shall at a minimum be, at any given time, in the applicable amount identified in Appendix 2-M and shall be established under arrangements that, subject to the prior rights of the Lenders in and to the Renewal Work Reserve established in the Financing Documents, will ensure its availability to the Owner if the Owner exercises its option to perform the Renewal Work in accordance with Section 6.5.3.

6.7.1.2 Developer shall provide to the Owner the details regarding the Renewal Work Reserve, including the name, address and contact information for the depository institution and the account number, as well as any change made from time to time to any such details and the effective date of such change immediately upon or prior to such change taking effect. Developer shall inform the depository institution of the Owner's rights and interests with respect to the Renewal Work Reserve, which shall be subordinate to the rights of the Lenders in and to the account as provided in the Financing Documents, including the Owner's right to draw on the Renewal Work Reserve as provided in Section 6.5.3. Developer shall deliver such notices to the depository institution and execute such documents as may be required to establish and perfect the Owner's interest in the Renewal Work Reserve under the Uniform Commercial Code as adopted in the State, which interest shall be subordinate to the rights of the Lenders under the Financing Documents as provided herein.

6.7.1.3 In lieu of establishing the Renewal Work Reserve, Developer may deliver to the Owner Renewal Work Letters of Credit, on the terms and conditions set forth in Section 6.7.6.

### 6.7.2 Funding

Developer shall make deposits to the Renewal Work Reserve at the frequencies or intervals and in the amounts as determined by the Lenders under the Funding Agreements, as such requirements may be waived or amended by the Lenders. Notwithstanding the foregoing, Developer shall obtain the Owner's reasonable consent, in writing, if the amount in the Renewal Work Reserve is less than the applicable amount set forth therefor in Appendix 2-M.

### 6.7.3 Use

In addition to any other uses of the Renewal Work Reserve permitted by the Lenders under the Funding Agreements, Developer will have the right to draw from the Renewal Work Reserve for the following purposes:

1. Costs of Renewal Work;
2. Costs of Compliance Work; and
3. Costs of work pursuant to the Handback Requirements.

If Developer intends to spend from the Renewal Work Reserve less than 90% of the amount set forth in the then current Renewal Work Schedule for the scheduled Renewal Work, Developer shall obtain the reasonable consent of the Owner in writing. If the amount actually spent by Developer in performing scheduled Renewal Work is less than the amount set forth in the then current Renewal Work Schedule, the amount of the difference may be distributed to Developer only with the reasonable consent of the Owner in writing.

### 6.7.4 Disposition Upon Establishment of Handback Requirements Reserve Account or Earlier Termination

6.7.4.1 The Renewal Work Reserve shall be used to establish and fund the Handback Requirements Reserve Account as and within the time required under Section 6.9.1. Upon establishment and funding of the Handback Requirements Reserve Account, Developer's obligations to fund the Renewal Work Reserve pursuant to this Section 6.7, and the Owner's interest in such reserve, shall terminate.

6.7.4.2 If this Agreement is terminated for any reason prior to the establishment of the Handback Requirements Reserve Account, any remaining balance in the Renewal Work Reserve Account shall be deducted from the Termination Compensation in accordance with Article 20.

### 6.7.5 Coordination with Lender Requirements

6.7.5.1 It is the Parties' intent that any major maintenance or Renewal Work reserve required by the Lenders serve as the Renewal Work Reserve required under this Section 6.7.

6.7.5.2 Except as otherwise provided in this Agreement, no provisions of Financing Documents shall have any effect on the applicability and enforcement of any other provisions of the Contract Documents pertaining to Renewal Work, the Renewal Work Schedule or the Renewal Work Reserve.

### 6.7.6 Renewal Work Letters of Credit

6.7.6.1 In lieu of establishing the Renewal Work Reserve, Developer may deliver one or more letters of credit (each, a "**Renewal Work Letter of Credit**"), on the terms and conditions set forth in this Section 6.7.6 and Section 17.3. If the Renewal Work Reserve has been previously established, Developer at any time thereafter may substitute one or more Renewal Work Letters of Credit for all or any portion of the amounts required to be on

deposit in the Renewal Work Reserve, on the terms and conditions set forth in this Section 6.7.6 and Section 17.3. Upon receipt of the required substitute Renewal Work Letter of Credit, amounts in the Renewal Work Reserve shall be released to Developer equal to the face amount of the substitute Renewal Work Letter of Credit. The amount of the Renewal Work Letter of Credit shall be subject to adjustment in accordance with Section 6.7.2.

6.7.6.2 The Owner shall be named as a beneficiary under the Renewal Work Letter of Credit and shall have the right to draw on the Renewal Work Letter of Credit: (a) in accordance with Section 6.5.3 if Developer has failed to pay or perform as and when due any obligation with respect to Renewal Work under the Contract Documents for which the Renewal Work Letter of Credit is held, (b) if the financial institution issuing the Renewal Work Letter of Credit fails to meet the requirements set forth in Section 17.3.2.2 and Developer fails to provide a substitute letter of credit issued by a qualified financial institution within 30 days, or (c) if Developer for any reason fails to deliver a new or replacement Renewal Work Letter of Credit, on the same terms by not later than 14 days before such expiration date, in which event the Owner shall deposit the proceeds from drawing on the expiring Renewal Work Letter of Credit into the Renewal Work Reserve.

6.7.6.3 Developer shall execute, and shall cause the financial institution issuing the Renewal Work Letter of Credit to execute, such documents as may be required to establish and perfect the Owner's interest in the Renewal Work Letter of Credit under the Uniform Commercial Code as adopted in the State, which interest shall be subordinate to the rights of the Lenders under the Financing Documents, as provided in Section 6.7.1.2.

6.7.6.4 In the event the Owner draws on a Renewal Work Letter of Credit, the Owner shall have the right to use and apply the proceeds of such drawing as provided in Section 6.5.3.

6.7.6.5 The Owner's interest in the Renewal Work Letter of Credit shall terminate at the same time as its interest in the Renewal Work Reserve terminates under Section 6.7.4.1.

## **6.8 Handback Requirements**

### **6.8.1 Handback Condition**

6.8.1.1 Upon the Termination Date, Developer shall transfer the Project, including any Upgrades, to the Owner, at no charge to the Owner, in the condition and meeting all of the requirements set forth in Section 5 of the Technical Requirements ("Handback Requirements").

6.8.1.2 In the event of any earlier termination of this Agreement, Developer shall only be required to comply with the requirements of this Section 6.8 to the extent that any Renewal Work was scheduled to have been performed prior to the Early Termination Date.

### **6.8.2 Annual Handback Inspections and Report**

Developer will conduct inspections of the Project and deliver Annual Handback Evaluation Reports at the times and in accordance with the terms and procedures specified in the Handback Requirements.

### **6.8.3 Renewal Work under Handback Requirements**

6.8.3.1 Developer shall diligently perform and complete all Renewal Work required to be performed and completed prior to the Termination Date based on the



required adjustments and changes to the Renewal Work Schedule resulting from the inspections and analysis under the Handback Requirements.

6.8.3.2 In the event of any early termination of this Agreement, if Developer fails to complete such work prior to the Early Termination Date, the Owner shall deduct the cost of completing such work from the amount of compensation, if any, payable to Developer as a result of the early termination of this Agreement.

## **6.9 Handback Requirements Reserve Account**

### **6.9.1 Establishment**

6.9.1.1 Beginning four (4) full years before the expected end of the Term, Developer shall establish a reserve account (the “**Handback Requirements Reserve Account**”) exclusively available for the uses set forth in Section 6.9.3. Developer shall provide to the Owner the details regarding the account, including the name, address and contact information for the depository institution and the account number, as well as any change made from time to time to any such details and the effective date of such change immediately upon or prior to such change taking effect. The Owner shall have a first priority perfected security interest in the Handback Requirements Reserve Account, and the right to receive monthly account statements directly from the depository institution. Developer shall deliver such notices to the depository institution and execute such documents as may be required to establish and perfect the Owner’s interest in the Handback Requirements Reserve Account under the Uniform Commercial Code as adopted in the State.

6.9.1.2 In lieu of Developer establishing the Handback Requirements Reserve Account, Developer may deliver to the Owner Handback Requirements Letters of Credit on the terms and conditions set forth in Sections 6.9.4 and 17.3.

### **6.9.2 Funding**

6.9.2.1 The Financial Model projects the amount of funds to be held in the Handback Requirements Reserve Account to fund the Renewal Work necessary to meet the Handback Requirements. Amounts in the Renewal Work Reserve shall be transferred and used to fund the Handback Requirements Reserve Account pursuant to Section 6.7.4.1. Beginning on the 36<sup>th</sup> month prior to the expected end of the Term, if amounts then on deposit in the Handback Requirements Reserve Account are less than the Renewal Amount, as determined in accordance with Section 5 of the Technical Requirements, Developer shall deposit each month in the Handback Requirements Reserve Account an amount from the Monthly Disbursement received by Developer to fund the shortfall (the “**Monthly Handback Reserve Deposit**”). The Monthly Handback Reserve Deposit will be calculated in accordance with Section 6.9.2.2. If Developer does not have sufficient funds to pay the full amount of the Monthly Handback Reserve Deposit, then Developer will deposit an additional amount from the subsequent Monthly Disbursement(s) received by Developer to fund the prior month’s shortfall.

6.9.2.2 The Monthly Handback Reserve Deposit shall equal the Renewal Amount as determined in accordance with Section 5.5 of the Technical Requirements, less any amounts then on deposit in the Handback Requirements Reserve Account, divided by the number of months remaining in the Term. If Developer disputes, in good faith, any Renewal Amount as determined by the Owner pursuant to Section 5.5 of the Technical Requirements, the accelerated Dispute Resolution Procedure set forth in Section 25.2.2 shall apply, and Developer shall fund the undisputed portion of the Renewal Amount pending resolution of the Dispute in accordance with such Section.

6.9.2.3 The Monthly Handback Reserve Deposit will be subject to adjustment on an annual basis following each determination of the Renewal Amount in accordance with Section 5 of the Technical Requirements, taking into account the Renewal Amount and the amount of funds then on deposit in the Handback Requirements Reserve Account. If the Renewal Amount has not been determined within the time period provided in Section 5.5 of the Technical Requirements, the Monthly Handback Reserve Deposit shall equal the Monthly Handback Reserve Deposit for the prior year pending such determination.

6.9.2.4 Funds held in the Handback Requirements Reserve Account may be invested and reinvested only in Eligible Investments. Eligible Investments in the Handback Requirements Reserve Account must mature during the Term, and the principal of such Eligible Investments must be available for withdrawal at any time during the Term without penalty.

6.9.2.5 If Developer fails to make the deposit of any Monthly Handback Reserve Deposit when due, including funding any prior month's shortfall as required in Section 6.9.2.1, the Owner shall be entitled to deduct the amount of the Monthly Handback Reserve Deposit from the Monthly Disbursement due to Developer at the time of payment of the Monthly Disbursement to Developer, and shall deposit such amount to the Handback Requirements Reserve Account on behalf of Developer.

### 6.9.3 Use

6.9.3.1 Developer shall be entitled to draw funds from the Handback Requirements Reserve Account in such amounts and at such times as needed only to pay for the Renewal Work as required by the Handback Renewal Work Plan prepared in accordance with Section 5 of the Technical Requirements. Amounts in the Handback Requirements Reserve Account can only be used for the purposes described in this Section 6.9.3.1 and are not available as security for repayment of Project Debt or making Distributions. The use of amounts in the Handback Requirements Reserve Account by Developer for any purpose other than as permitted in this Section 6.9.3.1 shall be a Developer Default. Prior to drawing funds from the Handback Requirements Reserve Account, Developer shall give written notice to the Owner of the amount to be drawn and the purpose for which funds will be used. The Owner shall have 10 days from the date of the receipt of such notice to disapprove the draw from the Handback Requirements Reserve Account. The Owner may disapprove the draw only if the requested amount and/or purposes for which the funds will be used does not comply with the Handback Renewal Work Plan. If the Owner fails to disapprove the draw within the 10 day period following receipt of notice, Developer shall be entitled to draw funds from the Handback Requirements Reserve Account in the manner described in the notice to the Owner.

6.9.3.2 If, after recalculation of the Renewal Amount following any of the annual inspections provided for in the Handback Requirements, the amount on deposit in the Handback Requirements Reserve Account exceeds the Renewal Amount, Developer shall be entitled to draw any surplus amount and no further Monthly Handback Reserve Deposits shall be made until the next inspection and determination of the Renewal Amount.

6.9.3.3 Any Handback Requirements Reserve Balance shall be drawn by the Owner on or about the Termination Date, and Developer shall have no right or interest to any such balance.

### 6.9.4 Handback Requirements Letters of Credit

6.9.4.1 In lieu of establishing the Handback Requirements Reserve Account, Developer may deliver to the Owner one or more letters of credit (each, a "**Handback Requirements Letter of Credit**"), on the terms and conditions set forth in this Section 6.9.4 and

Section 17.3. Developer shall execute, and shall cause the financial institution issuing the Renewal Work Letter of Credit to execute, such documents as may be required to establish and perfect the Owner's interest in the Handback Requirements Letter of Credit under the Uniform Commercial Code as adopted in the State, which interest shall be a first priority security interest as provided in Section 6.9.1.1. If the Handback Requirements Reserve Account has been previously established, Developer at any time thereafter may substitute one or more Handback Requirements Letters of Credit for all or any portion of the amounts required to be on deposit in the Handback Requirements Reserve Account, on the terms and conditions set forth in this Section 6.9.4. Upon receipt of the required substitute Handback Requirements Letter of Credit, the Owner shall authorize the release to Developer of amounts in the Handback Requirements Reserve Account equal to the face amount of the substitute Handback Requirements Letter of Credit. If the face amount of all Handback Requirements Letters of Credit is less than the total amount required to be funded to the Handback Requirements Reserve Account prior to expiration of the Handback Requirements Letter of Credit, Developer shall be obligated to pay, when due, the shortfall into the Handback Requirements Reserve Account. Alternatively, Developer may deliver a Handback Requirements Letter of Credit with a face amount equal to at least the total amount required to be funded to the Handback Requirements Reserve Account during the period up to the expiration of the Handback Requirements Letter of Credit, or may deliver additional Handback Requirements Letters of Credit or cause the existing Handback Requirements Letter of Credit to be amended to cover the shortfall before deposits of the shortfall to the Handback Requirements Reserve Account are due. The Owner shall be named as the sole beneficiary under the Handback Requirements Letter of Credit.

6.9.4.2 The Owner will, at its election:

1. Draw on the Handback Requirements Letter of Credit on the Termination Date; or
2. Deduct from (i) the last Monthly Disbursement preceding the expiry of the Term, or (ii) the Termination Compensation in accordance with Article 20, if this Agreement is terminated for any reason prior to the expiry of the Term,

an amount equal to the Handback Requirements Reserve Balance, to the extent not drawn from the Handback Requirements Reserve Account pursuant to Section 6.9.3.3.

6.9.4.3 The Owner shall have the right to draw on the Handback Requirements Letter of Credit if: (a) for any reason Developer fails to deliver to the Owner a new or replacement Handback Requirements Letter of Credit, on the same terms, by not later than 14 days before such expiration date; or (b) the financial institution issuing the Handback Requirements Letter of Credit fails to meet the requirements set forth in Section 17.3.2.2 and Developer fails to provide a substitute letter of credit issued by a qualified financial institution within 30 days thereafter. In such event, the Owner shall deposit the proceeds from drawing on the expiring Handback Requirements Letter of Credit into the Handback Requirements Reserve Account.

## ARTICLE 7. NONCOMPLIANCE POINTS

### 7.1 Noncompliance Points System

Appendix 5 sets forth a table identifying Developer breaches or failures in performance of obligations under the Contract Documents (each, a “**Noncompliance**”) that will result in the assessment of Noncompliance Points and the cure period (if any) available to Developer for each such Noncompliance. Noncompliance Points are a system to measure Developer performance levels during the design, construction and operations and maintenance phases of

the Project and trigger the remedies set forth in this Article 7. To the extent that a particular breach or failure of obligation under the Contract Documents may constitute more than one event of Noncompliance, such breach or failure shall be deemed to be solely the event of Noncompliance to which the greatest number of Noncompliance Points applies.

## **7.2 Assessment, Notification and Cure Process**

### **7.2.1 Notification Initiated by Developer**

As an integral part of Developer's self-monitoring obligations, Developer shall notify the Owner in writing of the occurrence of any Noncompliance specified in Appendix 5. Developer shall deliver such notice in writing as soon as reasonably practicable, and in any event within seven days, after Developer first obtains knowledge of the Noncompliance. The notice shall describe the Noncompliance in reasonable detail and shall identify the applicable cure period. Within ten days of receiving the notice, the Owner shall deliver to Developer a written notice setting forth the Owner's determination whether the Noncompliance was cured during the cure period and, if not, whether to assess Noncompliance Points (a "**notice of determination**"). Developer shall provide electronic notice, by means of an Owner-developed compliance database, concurrently with any written notice required to be given by Developer to the Owner under Sections 7.2 through 7.4.

### **7.2.2 Notification Initiated by the Owner**

If the Owner believes there has occurred any Noncompliance specified in Appendix 5, the Owner may deliver to Developer a notice of determination setting forth the Noncompliance, the applicable cure period and the Noncompliance Points to be assessed with respect thereto. Owner-initiated notifications of Noncompliance under this Section 7.2.2 shall not include notifications by any User other than the Owner's Authorized Representative.

### **7.2.3 Cure Periods**

7.2.3.1 Developer shall have the cure period (if any) for each Noncompliance set forth in Appendix 5.

7.2.3.2 Developer's cure period (if any) with respect to such Noncompliance shall be deemed to start upon the date Developer first obtained knowledge of, or should have first reasonably known of (exercising reasonable prudence), the Noncompliance. For this purpose, if the notice of the Noncompliance is initiated by the Owner, Developer shall be deemed to first obtain knowledge of the Noncompliance not later than the date of delivery of the notice to Developer.

7.2.3.3 Each of the cure periods set forth in Appendix 5 shall be the only cure period for Developer applicable to the Noncompliance.

### **7.2.4 Notification of Cure**

When Developer determines that it has completed cure of any Noncompliance for which it is being assessed Noncompliance Points, Developer shall deliver written notice to the Owner identifying the Noncompliance, stating that Developer has completed cure and briefly describing the cure, including any modifications to the Project Management Plan and the Quality Management Plan to protect against future similar Noncompliance. Thereafter, the Owner shall promptly inspect to verify completion of the cure and shall, if its inspection verifies completion of the cure, deliver to Developer a written certification of cure. The Owner may, via written notice of rejection, reject any Developer notice of cure if it determines that Developer has not cured the Noncompliance and shall, upon making this determination, deliver a written notice of rejection to Developer.

### 7.3 Assessment of Noncompliance Points

7.3.1 If at any time: (a) any report indicates or the Owner is notified or otherwise becomes aware of a Noncompliance; or (b) the Owner serves notice of determination under Section 7.2.2, then, without prejudice to any other right or remedy available to the Owner, the Owner may assess Noncompliance Points in accordance with Appendix 5, subject to the following terms and conditions:

7.3.1.1 The date of assessment shall be deemed to be the date of the initial notification under Section 7.2.

7.3.1.2 The number of points listed in Appendix 5 for any particular Noncompliance is the maximum number of Noncompliance Points that may be assessed for each event or circumstance that is a Noncompliance. The Owner may, in its sole discretion, assess less than the maximum.

7.3.1.3 Upon occurrence of the Noncompliance entitling the Owner to assess Noncompliance Points, and to the extent the Owner has determined to assess Noncompliance Points, the Owner shall only allocate the percent thereof set forth in the following table prior to expiration of the applicable cure period. If the Noncompliance is not fully and completely cured by the expiration of the applicable cure period, the remaining percentage of Noncompliance Points indicated in the following table shall be deemed assessed, without further notice.

Notification Category:	Percent Assessed Prior to Expiration of Applicable Cure Period (if any):	Remaining Percent Assessed (a) if No Cure Period or (b) After Expiration of Applicable Cure Period without Full and Complete Cure (totaling 100%):
Notification initiated by Developer under <u>Section 7.2.1</u>	0%	100%
Notification initiated by the Owner under <u>Section 7.2.2</u>	100%*	0%

\* This 100% allocation of Noncompliance Points may be reduced in accordance with Section 7.3.1.5.

7.3.1.4 For the purpose of applying the foregoing table, if the Owner and Developer deliver concurrent written notices under Section 7.2 of the same Noncompliance, Developer's notice shall prevail. Notices shall be deemed to be concurrent if each sends its written notice before actually receiving the written notice from the other. Knowledge of the other's written notice obtained prior to actual receipt of the notice shall have no effect on determining whether concurrent notice has occurred.

7.3.1.5 Appendix 5 assigns to certain instances of Noncompliance a fast cure period, which is a shorter cure period within the full cure period allowed for the associated Noncompliance ("**Fast Cure Period**"). If the Owner has delivered to Developer a notice of determination under Section 7.2.2 for one of the instances of Noncompliance that has a Fast Cure Period assigned to it in Appendix 5, and if Developer cures the relevant Noncompliance within the Fast Cure Period, the Owner will assess Noncompliance Points at the rate of 50% of the Noncompliance Points that would otherwise be assessed in relation to that

Noncompliance. Fast Cure Periods do not apply to circumstances where Developer delivers a written notice of a Noncompliance under Section 7.2.1.

7.3.2 If a Noncompliance is capable of being remedied but is not fully and completely cured within the applicable cure period, then continuation of such Noncompliance beyond such cure period, and each subsequent Recurrence Period (if any), shall be treated as a new and separate Noncompliance, without necessity for further notice, for the purpose of assessing Noncompliance Points and accruing Noncompliance Instances. Regardless of the continuing assessment of Noncompliance Points under this Section 7.3.2, the Owner shall be entitled to exercise its step-in rights under Section 19.2.4 and, if applicable, its work suspension rights under Section 19.2.7, after expiration of the initial cure period or Recurrence Period available to Developer. However, if and when the Owner commences to exercise its step-in rights (after any prior opportunity of Lenders to exercise their step-in rights has expired without exercise), Noncompliance Points and Noncompliance Instances shall no longer accrue with regard to the subject Noncompliance. If the Noncompliance is one for which no cure period is provided, then continuation thereof shall not be treated as a new or separate Noncompliance.

7.3.3 Developer is responsible for keeping and providing the Owner with current records of the number of assessed Noncompliance Points and accrued Noncompliance Instances, the date of each assessment or accrual, and the date when the Noncompliance were cured.

## **7.4 Monetary Deductions**

### **7.4.1 General**

7.4.1.1 In addition to Noncompliance Points, certain instances of Noncompliance shall result in monetary deductions as set forth in Appendix 6.

### **7.4.2 Basis for Deductions**

7.4.2.1 Developer acknowledges that any monetary deductions assessed in accordance with this Agreement, including any First Delivery Facilities Deduction, Second Delivery Facilities Deduction, deductions under Section 8.10.6, Availability Deductions and Performance Deductions, are reasonable liquidated damages in order to compensate the Owner for:

1. The Owner's increased costs of administering the Contract Documents, including the increased costs of Oversight and any obligations to pay or reimburse Governmental Entities with regulatory jurisdiction over the Project for their increased costs of monitoring and enforcing Developer's compliance with applicable Governmental Approvals;
2. The Owner's increased costs of fulfilling its academic mission (including providing alternative facilities, if necessary);
3. The Owner's potential loss of tuition and auxiliary revenues due to the reduction in the availability and quality of the Project so as to adversely affect the experience of Users and their desire to use the Facilities or UC Merced generally;
4. Potential harm to the credibility and reputation of University of California, UC Merced and/or the Owner's 2020 UC Merced campus expansion program with Users and potential Users, stakeholders, policy makers and with the general public; and

5. Potential harm and detriment to Users, which may include disruption to studies, management, administration, student life, student residence and other Campus Activities.

7.4.2.2 Developer further acknowledges that such increased costs and loss of revenue, and harm and detriment to Users, would be difficult and impracticable to measure and prove, because, among other things, the costs of Oversight prior to increases in the level thereof will be variable and extremely difficult to quantify, the nature and level of increased Oversight will be variable depending on the circumstances, and the variety of factors that influence use of and demand for the Facilities make it difficult to sort out causation and quantify the precise revenue loss attributable to the matters that will trigger these liquidated damages.

7.4.2.3 Subject to any other remedy expressly provided in this Agreement, any monetary deduction assessed in accordance with this Agreement shall constitute the Owner's sole remedy in respect of the delay, breach or failure, as applicable, for which such monetary deduction is assessed.

## **7.5 Increased Oversight, Testing and Inspection**

7.5.1 If at any time Developer is assessed Noncompliance Points, or accumulates Noncompliance Instances, in excess of the applicable Increased Oversight Threshold, then, in addition to other remedies available under the Contract Documents, the Owner shall be entitled, at Developer's expense, to increase the level of Oversight of the Project and Developer's compliance with its obligations under this Agreement, to such level as the Owner sees fit, in its sole discretion, until such time as Developer has demonstrated to the reasonable satisfaction of the Owner that Developer:

7.5.1.1 Has reduced the number of Noncompliance Points below the threshold triggering such heightened scrutiny;

7.5.1.2 Is diligently pursuing cure of all other instances of Noncompliance;

7.5.1.3 Has cured any then-existing Developer Defaults, except a Developer Default based on a Persistent Developer Noncompliance; and

7.5.1.4 Will perform and is capable of performing its obligations under the Contract Documents.

7.5.2 The foregoing does not preclude the Owner, at its sole discretion and expense, from increasing its level of Oversight at other times.

## **ARTICLE 8. CONTRACTING AND LABOR PRACTICES**

### **8.1 Disclosure of Contracts and Contractors**

8.1.1 Developer shall provide the Owner with a list of all Contracts and the Contractors thereunder with each monthly report required under this Agreement or the Technical Volumes. Developer shall allow the Owner ready access to all Contracts and records regarding Contracts and shall deliver to the Owner, (a) within ten days after execution, complete copies of all Key Contracts, guarantees thereof and amendments and supplements to Key Contracts and guarantees thereof, in each case without redaction, and (b) within 20 days after receipt of a request from the Owner, complete copies of all other Contracts and amendments and supplements thereto, in each case without redaction, as may be requested by the Owner.

8.1.2 As soon as Developer identifies a potential first-tier Contractor, but in no event later than 15 days prior to the scheduled initiation of Work by such proposed Contractor, Developer shall notify the Owner in writing of the name, address, phone number and authorized representative of such Contractor.

## **8.2 Responsibility for Work, Contractors and Employees**

8.2.1 Developer shall retain or cause to be retained only Contractors that are qualified, experienced and capable in the performance of the portion of the Work assigned. Developer shall assure that each Contractor has at the time of execution of the Contract, and maintains at all times during performance of the assigned Work, all licenses, bonds and insurance required by applicable Laws. Developer shall not permit or suffer any Contractor to perform Work if that Contractor is ineligible to bid on, be awarded or perform work on public works projects pursuant to Section 1777.1 of the California Labor Code.

8.2.2 Without limiting the requirements of Section 8.2.1, Developer shall be, and shall ensure that each Contractor is, registered to perform public work pursuant to Labor Code Section 1725.5.

8.2.3 The retention of Contractors by Developer will not relieve Developer of its responsibilities hereunder or for the quality of the Work or materials or services provided by it.

8.2.4 Each Contract shall include terms and conditions sufficient to ensure both the acknowledgement and compliance by the Contractor with the applicable requirements of the Contract Documents, and shall include those terms that are specifically required by the Contract Documents to be included therein.

8.2.5 Developer shall require each Contractor to familiarize itself with the requirements of any and all applicable Laws, including those Laws applicable to the use of federal-aid funds, and the conditions of any required Governmental Approvals.

8.2.6 Nothing in this Agreement will create any contractual relationship between the Owner and any Contractor. No Contract entered into by or under Developer shall impose any obligation or liability upon any Indemnified Party, including to any Contractor or any of its employees.

8.2.7 Developer shall supervise and be fully responsible for the actions, omissions, negligence, willful misconduct, fraud, bad faith or breach of applicable Law or contract by any Developer-Related Entity or by any member or employee of Developer or any Developer-Related Entity in connection with the Project, as though all such individuals were directly employed by Developer.

## **8.3 Key Contracts; Contractor Qualifications**

For the purposes of this Section 8.3, references to Developer means Developer or the highest tier Contractor that is or will be party to the Key Contract, as the context may require.

### **8.3.1 Use of and Change in Contractors**

Developer shall retain, employ and utilize the firms and organizations specifically listed in Appendix 2-P to fill the corresponding Key Contractor positions listed therein. To the extent that any Contractor was identified in the Statement of Qualifications or Supplemental Statement of Qualifications, as applicable, Developer shall not remove or replace, and shall not permit removal or replacement of, such Contractor without the prior written approval of the Owner in its good faith discretion. Each Key Contractor must be pre-qualified by the Owner in the relevant type of work category in accordance with the requirements set forth in the RFQ or SRFAQ, as



applicable. Developer shall not terminate, and shall not permit any Contractor to terminate, any Key Contract with a Key Contractor, or permit or suffer any substitution or replacement (by way of assignment of the Key Contract, transfer to another of any material portion of the scope of work, or otherwise) of such Key Contractor, except, in each case:

8.3.1.1 In the case of material uncured default by the Key Contractor;

8.3.1.2 Termination of this Agreement and the Owner's election not to assume the Key Contract, in its sole discretion;

8.3.1.3 If there occurs any suspension, debarment, disqualification or removal (distinguished from ineligibility due to lack of financial qualifications) of the Contractor, or there goes into effect an agreement for voluntary exclusion of the Contractor, from bidding, proposing or contracting with any federal, State or local department or agency; or

8.3.1.4 With the Owner's prior written approval in its good faith discretion.

### **8.3.2 Key Contract Provisions**

Each Key Contract shall:

8.3.2.1 Require the Key Contractor to carry out its scope of work in accordance with the Contract Documents, the Governmental Approvals, applicable Law, and plans, systems and manuals developed and used by Developer pursuant to the Contract Documents;

8.3.2.2 Include a covenant to maintain all licenses required by applicable Law;

8.3.2.3 Set forth a standard of professional responsibility or a standard for commercial practice equal to the requirements of the Contract Documents and in accordance with Best Management Practice for work of similar scope and scale;

8.3.2.4 Set forth representations, warranties, guaranties and liability provisions of the Key Contractor appropriate for work of similar scope and scale;

8.3.2.5 Expressly state that all remaining warranties and guarantees, express or implied, shall inure to the benefit of the Owner, its successors and assigns, and any third parties for whom Work is being performed, upon expiration of the Term or earlier termination of this Agreement;

8.3.2.6 If applicable, require the Key Contractor to procure the Payment Bond and Performance Bond in accordance with Section 17.2 prior to commencement of any work by or on behalf of the Key Contractor, and expressly require such Key Contractor to provide any surety notices of loss or potential loss to Developer and the Owner;

8.3.2.7 Expressly provide that the Key Contractor shall have no right to suspend or demobilize unless and until it delivers to the Owner written notice of Developer's breach or default;

8.3.2.8 Require the personal services of and not be assignable by the Key Contractor without Developer's and the Owner's prior written consent, provided that this provision shall not prohibit the subcontracting of portions of the Work;

8.3.2.9 Expressly include the requirements and provisions set forth in this Agreement applicable to Contractors regarding Intellectual Property rights and licenses;

8.3.2.10 Expressly require the Key Contractor to participate in meetings between Developer and the Owner concerning matters pertaining to such Key Contractor, its work or the coordination of its work with other Contractors, provided that in all cases direction to such Key Contractor shall be provided by Developer, and provided further that nothing in this Section 8.3.2.10 shall limit the authority of the Owner to give such direction or take such action as in its opinion is necessary to remove an immediate and present threat to the safety of life or property;

8.3.2.11 Include an agreement by the Key Contractor to participate in any dispute resolution proceeding pursuant to Article 25, if such participation is requested by either the Owner or Developer;

8.3.2.12 Without cost to Developer or the Owner and subject to the Lender's rights under the Direct Agreement, expressly permit assignment to the Owner, the Lender, or either of their respective successors, assignees or designees, of all Developer's rights under the Key Contract, contingent only upon delivery of written request from the Owner following termination or expiration of this Agreement, allowing the Owner or its successor, assign or designee to assume the benefit of Developer's rights with liability only for those remaining obligations of Developer accruing after the date of assumption, such assignment to include the benefit of all Key Contractor warranties, indemnities, guarantees and professional responsibility;

8.3.2.13 Expressly state that any acceptance of assignment of the Key Contract by the Owner, the Lender or any of their respective successors, assigns or designees shall not operate to make the assignee responsible or liable for any breach of the Key Contract by Developer or for any amounts due and owing under the Key Contract for work or services rendered prior to assignment;

8.3.2.14 Subject to the Lender's rights under the Direct Agreement, expressly include a covenant acknowledging that, upon receipt of written notice from the Owner, the Owner is entitled to exercise step-in rights with respect to the Key Contract, without any necessity for a consent or approval from Developer or the making of a determination whether the Owner validly exercised its step-in rights, and include a waiver and release by Developer of any claim or cause of action against the Key Contractor arising out of or relating to its recognition of the Owner's rights in reliance on any such written notice from the Owner;

8.3.2.15 Expressly include a covenant, expressly stated to survive termination of the Key Contract, to promptly execute and deliver to the Owner or its successor, assign or designee a new contract between the Key Contractor and the Owner or its successor, assign or designee on the same terms and conditions as the Key Contract, if (a) the Key Contract is rejected by Developer in bankruptcy or is wrongfully terminated by Developer and (b) the Owner delivers written request for such new contract within 60 days following termination or expiration of the Key Contract. The Key Contract also shall include a covenant, expressly stated to survive termination of the Key Contract, to the effect that if the Key Contractor was a party to an escrow agreement for an Intellectual Property Escrow and Developer terminates it, then the Key Contractor also shall execute and deliver to the Owner, concurrently with such new contract, a new escrow agreement on the same terms and conditions as the terminated escrow agreement, and shall concurrently make the same deposits to the new Intellectual Property Escrow as made or provided under the terminated escrow agreement. The obligation to include the same terms and conditions is subject to the following exceptions: (i) terms and conditions of a Key Contract or Intellectual Property Escrow agreement rendered moot or inapplicable solely due to change in the identity of the contracting party to the Owner or its successor, assign or designee; and (ii) terms and conditions of a Key Contract that must be adjusted due to schedule

delay caused solely by Developer's rejection in bankruptcy or wrongful termination. This Section 8.3.2.15 shall not apply to Key Contracts with the Owner or Governmental Entities;

8.3.2.16 Expressly include requirements that the Key Contractor will: (a) maintain usual and customary books and records for the type and scope of operations of business in which it is engaged (e.g., constructor, equipment supplier, designer, service provider), and retain such books and records for the period set forth in Section 22.1.2; and (b) permit audit thereof by both Developer and the Owner; and (c) provide progress reports to Developer appropriate for the type of work it is performing sufficient to enable Developer to provide the reports it is required to furnish the Owner under this Agreement;

8.3.2.17 Expressly include the Indemnified Parties as indemnitees, with direct right of enforcement, in any indemnity given by the Key Contractor under the Key Contract;

8.3.2.18 Expressly include an acknowledgement that the Key Contractor has no right or claim to any lien or encumbrance upon the Project, the Work Site or the Facilities for failure of the other contracting party to pay amounts due the Key Contractor, and a waiver of any such right or claim that may exist at Law or in equity;

8.3.2.19 Expressly include the right of Developer to terminate the Key Contract in whole or in part upon any termination of this Agreement without liability of Developer or the Owner for the Key Contractor's lost profits or business opportunity;

8.3.2.20 Not contain any terms that do not comply or are inconsistent with the terms of the Contract Documents, including terms that do not comply or are inconsistent with this Article 8 or with the applicable requirements of Section 22.1 regarding maintenance of Project Records, or that are inconsistent with the requirements of the relevant scope of Work; and

8.3.2.21 Expressly provide that any purported amendment with respect to any of the foregoing matters without the prior written consent of the Owner shall be null and void.

### **8.3.3 Key Contract Amendments**

Developer shall not amend any Key Contract with respect to any of the foregoing matters without the Owner's prior written consent in its good faith discretion.

## **8.4 Personnel and Supervision**

### **8.4.1 Key Personnel**

8.4.1.1 Developer shall retain, employ and utilize the individuals specifically listed in Appendix 2-P and in the Project Management Plan to fill the corresponding Key Personnel positions listed therein. Developer shall not, prior to Substantial Completion, change or substitute any such individuals except due to retirement, death, disability, incapacity, or voluntary or involuntary termination of employment.

8.4.1.2 Developer shall notify the Owner in writing of any proposed replacement for any Key Personnel position. The Owner shall have the right to review the qualifications and character of each individual to be appointed to a Key Personnel position (including personnel employed by Contractors to fill any such position) and to approve or disapprove, in its good faith discretion, use of such individual in such position prior to the commencement of any Work by such individual.

8.4.1.3 Developer shall cause each individual filling a Key Personnel position to dedicate the full amount of time necessary for the proper prosecution and performance of the Work.

8.4.1.4 Developer shall provide the Owner with phone and cell phone numbers and email addresses for all Key Personnel. The Owner requires the ability to contact Key Personnel 24 hours per day, seven days per week.

#### **8.4.2 Supervision**

Developer shall give the Work the constant attention necessary to ensure the scheduled progress, and cooperate fully with the Owner. Without limiting the provisions of Section 8.4.1:

8.4.2.1 Developer shall ensure that the Project Executive or the Project Manager, or one of their Owner-approved designees, is at the Work Site at all times while Work is in progress to act as Developer's agent. Such supervisory personnel must be competent and capable of properly interpreting the Contract Documents and thoroughly experienced in the type of work being performed. Such supervisory personnel must have the full authority to receive instructions from the Owner and to execute the orders or directions of the Owner.

8.4.2.2 Developer shall provide a person who speaks and understands English, is available at or reasonably near the Work Site on a 24-hour basis, seven days a week, and has authority to act on behalf of Developer as a point of contact for emergencies or in case immediate action is required to resolve any other problem that might arise.

### **8.5 Contracts with Affiliates**

8.5.1 Developer shall have the right to have the Work performed by Affiliates of Developer only under the following terms and conditions:

8.5.1.1 Developer shall execute a written Contract with the Affiliate;

8.5.1.2 The Contract shall comply with all applicable provisions of the Contract Documents, be consistent with Best Management Practice, and be in form and substance substantially similar to Contracts then being used by Developer or Affiliates of Developer for similar work with unaffiliated Contractors;

8.5.1.3 The Contract shall set forth the scope of Work and all the pricing, terms and conditions respecting the scope of Work;

8.5.1.4 The pricing, scheduling and other terms and conditions of the Contract shall be no less favorable to Developer than those that Developer could reasonably obtain in an arms' length, competitive transaction with an unaffiliated Contractor. Developer shall bear the burden of proving that the same are no less favorable to Developer; and

8.5.1.5 No Affiliate of Developer shall be engaged to perform any Work which: (a) any Contract Document or the Project Management Plan indicates are to be performed by an independent or unaffiliated Contractor; or (b) would be inconsistent with Best Management Practice.

8.5.2 Before entering into a written Contract with an Affiliate of Developer or any supplement or amendment thereto, Developer shall submit a true and complete copy of the proposed Contract to the Owner for review and comment. The Owner shall have 20 days after receipt to deliver its comments to Developer. If the Contract with the Affiliate is a Key Contract, the Key Contract and the Affiliate shall be subject to the requirements of Section 8.3.

8.5.3 Developer shall make no payments to Affiliates of Developer for work or services in advance of provision of such work or services, except for reasonable mobilization payments

or other payments consistent with arm's length, competitive transactions of similar scope. Advance payments in violation of this provision shall be excluded from the calculation of Termination Compensation.

## **8.6 Labor Standards**

8.6.1 In the performance of its obligations under the Contract Documents, Developer at all times shall comply with, and require by contract that all Contractors and vendors comply with, all applicable federal and State labor, occupational safety and health Laws and federal and State orders.

8.6.2 All individuals performing the Work shall have the skill and experience and all licenses or certifications required to perform the Work assigned to them in accordance with the Contract Documents. In addition to any other rights and remedies under the Contract Documents, the Owner shall have the right to require Developer to remove any person who fails to meet such requirements upon written notice to Developer.

8.6.3 If any individual employed by Developer or any Contractor lacks such skill, experience, licensing and certification, or is not performing the Work in a proper, safe and skillful manner, then Developer shall, or shall cause such Contractor to, remove such individual and such individual shall not be re-employed on the Work. If, after notice and reasonable opportunity to cure, such individual is not removed or if Developer fails to ensure that skilled, experienced, licensed and certified personnel are furnished for the proper performance of the Work, then the Owner may suspend, upon written notice to Developer, the affected portion of the Work until such individual is removed or skilled, experienced, licensed and certified personnel are furnished, as applicable. Such suspension shall in no way relieve Developer of any obligation contained in the Contract Documents or entitle Developer to any additional compensation, time extension or other relief.

8.6.4 Without limiting the provisions of Section 8.6.1, Developer shall comply, and shall ensure that the Lead Contractor and the Lead O&M Firm and their respective Contractors comply, with Sections 1810 through 1815 of the State of California Labor Code. Developer shall, as a penalty to the Owner, forfeit twenty-five dollars (\$25) for each worker employed by Developer or any such Contractor performing any portion of the Work for each day during which the worker is required or permitted to work more than 8 hours in any day and 40 hours in any calendar week in violation of the provisions of Article 3 of the State of California Labor Code.

## **8.7 Ethical Standards**

8.7.1 Within ninety (90) days after the Effective Date, Developer shall adopt written policies establishing ethical standards of conduct for Developer and all Developer-Related Entities, including Developer's supervisory and management personnel in dealing with: (a) the Owner; and (b) employment relations in connection with the Project. Such policy shall be subject to review and comment by the Owner prior to adoption. Such policy shall include standards of ethical conduct concerning the following:

8.7.1.1 Restrictions on gifts and contributions to, and lobbying of, the Owner and any of its commissioners, directors, officers and employees, and elected State officials;

8.7.1.2 Protection of employees from unethical practices in selection, use, hiring, compensation or other terms and conditions of employment, or in firing, promotion and termination of employees;

8.7.1.3 Protection of employees from retaliatory actions (including discharge, demotion, suspension, threat, harassment, pay reduction or other discrimination in the terms and conditions of employment) in response to reporting of illegal (including the making of a false claim), unethical or unsafe actions or failures to act by Developer or any Developer-Related Entity;

8.7.1.4 Restrictions on directors, members, officers or supervisory or management personnel of Developer or any Developer-Related Entity engaging in any transaction or activity, including receiving or offering a financial incentive, benefit, loan or other financial interest, that is, or to a reasonable person appears to be, in conflict with or incompatible with the proper discharge of duties or independence of judgment or action in the performance of duties, or adverse to the interests of the Project or employees;

8.7.1.5 Restrictions on use of office or job position for a purpose that is, or would to a reasonable person appear to be, primarily for the private benefit of a director, member, officer or supervisory or management person, rather than primarily for the benefit of Developer or the Project, or primarily to achieve a private gain or an exemption from duty or responsibility for a director, member, officer or supervisory or management person; and

8.7.1.6 Adherence to the Owner's organizational conflict of interest rules and policies.

8.7.2 Developer shall cause its directors, members, officers and supervisory and management personnel, and require those of all Developer-Related Entities, to adhere to and enforce the adopted policy on ethical standards of conduct for the Project. Developer shall establish reasonable systems and procedures to promote and monitor compliance with the policy.

## **8.8 Nondiscrimination**

8.8.1 For purposes of this Section 8.8, the term Contractor shall not include Suppliers, manufacturers, or distributors.

8.8.2 Developer shall comply, and shall ensure that all Contractors comply, with Sections 12900 through 12996, of the State of California Government Code.

8.8.3 Developer agrees as follows during the performance of the Work:

8.8.3.1 Developer shall provide equal treatment to, and shall not willfully discriminate against or allow harassment of any employee or applicant for employment on the basis of: race; color; religion; sex; age; ancestry; national origin; sexual orientation; physical or mental disability; veteran's status; medical condition (as defined in Section 12926 of the State of California Government Code and including cancer-related medical conditions and or genetic characteristics); genetic information (as defined in the Genetic Information Nondiscrimination Act of 2008 and including family medical history); marital status; gender; gender expression; gender identity; pregnancy; or citizenship (within the limits imposed by Law or the Owner's policy) or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994). Developer will also take affirmative action to ensure that any such employee or applicant for employment is not discriminated against on any of the bases identified above. Such equal treatment shall apply, but not be limited to the following: employment; upgrade; demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Developer also agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. Developer will, in all solicitations or advertisements

for employees placed by or on behalf of Developer, state that qualified applicants will receive consideration for employment without regard to: race; color; religion; sex; age; ancestry; national origin; sexual orientation; physical or mental disability; veteran's status; medical condition (as defined in Section 12926 of the State of California Government Code and including cancer-related medical conditions and or genetic characteristics); genetic information (as defined in the Genetic Information Nondiscrimination Act of 2008 and including family medical history); marital status; gender; gender expression; gender identity; pregnancy; or citizenship (within the limits imposed by Law or the Owner's policy) or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994). For purposes of this provision: (1) "Pregnancy" includes pregnancy, childbirth, and medical conditions related to pregnancy and childbirth; and (2) "Service in the uniformed services" includes membership, application for membership, performance of service, application for service, or obligation for service in the uniformed services.

8.8.3.2 Developer and all Contractors will permit access to their records of employment, employment advertisements, application forms, and other pertinent data and records by the Owner or any appropriate agency of the State of California designated by Owner for the purposes of investigation to ascertain compliance with this Section 8.8. The outcome of the investigation may result in the following:

1. A finding of willful violation of the provisions of this Agreement or of the California Fair Employment and Housing Act may be regarded by the Owner as (1) a basis for determining that Developer and the Lead Campus Planner, the Lead Contractor, any firm comprising the Architectural Team or the Infrastructure Engineering Team, and/or the Lead O&M Firm, as applicable, is not a "responsible bidder" as to future contracts for which such Person may submit bids or (2) a basis for refusing to accept or consider the bids of Developer and bids of the Lead Campus Planner, the Lead Contractor, any firm comprising the Architectural Team or the Infrastructure Engineering Team, and/or the Lead O&M Firm, as applicable, for future contracts.
2. The Owner may deem a finding of willful violation of the California Fair Employment and Housing Act to have occurred if (1) the Owner receives a written notice from the Department of Fair Employment and Housing that the department has investigated and determined that Developer and/or the Lead Campus Planner, the Lead Contractor, any firm comprising the Architectural Team or the Infrastructure Engineering Team, or the Lead O&M Firm, as applicable, has violated the California Fair Employment and Housing Act and (2) a court has granted relief in an action filed pursuant to Government Code 12964 or 12965.
3. Upon receipt of such written notice from the Department of Fair Employment and Housing, the Owner may notify Developer that, unless it demonstrates to the satisfaction of the Owner within a stated period that the violation has been corrected, Developer's bids and the Lead Campus Planner's, the Lead Contractor's, any firm comprising the Architectural Team or the Infrastructure Engineering Team's and/or the Lead O&M Firm's bids, as applicable, on future projects will not be considered.
4. Nothing contained in this Section 8.8 shall be construed in any manner so as to prevent the Owner from pursuing any other remedies that may be available at Law.
5. Developer shall meet the following standards for compliance and provide the

Owner with satisfactory evidence of such compliance upon the Owner's request, which shall be evaluated in each case by the Owner:

- (a) Developer shall notify its Project Executive, Project Manager and other supervisory personnel of the nondiscrimination requirements of the Contract Documents and their responsibilities thereto.
  - (b) Developer shall notify all sources of employee referrals (including unions, employment agencies, and the State of California Department of Employment) of the nondiscrimination requirements of the Contract Documents by sending to such sources and by posting the Notice of Equal Employment Opportunity (EEO).
  - (c) Developer or its representative shall, through all unions with whom it may have agreements, develop agreements that (1) define responsibilities for nondiscrimination in hiring, referrals, upgrading, and training and (2) implement an affirmative nondiscrimination program, in terms of the unions' specific areas of skill and geography, such that qualified minority women, nonminority women, and minority men shall be available and given an equal opportunity for employment.
  - (d) Developer shall notify the Owner of opposition to the nondiscrimination requirements of the Contract Documents by individuals, firms, or organizations during the Term.
6. Developer shall include, or shall cause to be included, the provisions of the foregoing Sections 8.8.3.2.1 through 8.8.3.2.6 in all Contracts so that such provisions will be binding upon each Contractor.

## **8.9 Prevailing Wages and Fair Wages**

8.9.1 For purposes of this Section 8.9, the term Contractor shall not include Suppliers, manufacturers, or distributors.

8.9.2 Developer shall comply, and shall ensure that the Lead Contractor and the Lead O&M Firm and their respective Contractors comply, with Sections 1770, 1771, 1772, 1773, 1774, 1775 and 1776 of the State of California Labor Code.

8.9.3 The State of California Department of Industrial Relations has ascertained the general prevailing per diem wage rates in the locality in which the Work is to be performed for each craft, classification, or type of worker required to perform the Work. A copy of the general prevailing per diem wage rates will be on file at the Owner's principal facility office and will be made available to any interested party upon request. Developer shall pay not less than the prevailing wage rates, as specified in the schedule and any amendments thereto, to all workers employed by Developer in the execution of the Work. Developer shall cause all Contracts to include the provision that all Contractors shall pay not less than the prevailing rates to all workers employed by such Contractors in the execution of the Work. Developer shall also pay to any worker who was paid less than the prevailing wage rate for the work or craft for which the worker was employed for any portion of the Work, for each day, or portion thereof, for which the worker was paid less than the specified prevailing per diem wage rate, an amount equal to the difference between the specified prevailing per diem wage rate and the amount which was paid to the worker. Review of any civil wage and penalty assessment shall be made pursuant to Section 1742 of the California Labor Code.

8.9.4 The Work performed under this Agreement shall be subject to the Owner's Labor Compliance Program, as amended from time to time (hereinafter referred to as "**LCP**"); a copy of



the LCP is posted at <http://2020project.ucmerced.edu/resources/labor-compliance>), including all requirements of California Code of Regulations, Title 8, Chapter 8, Subchapter 4 (commencing with Section 16421). The primary function of the LCP is to ensure compliance with the prevailing wage requirements found in the Public Works Chapter of the Labor Code. Specific attention shall be given to the following requirements:

8.9.4.1 A mandatory pre-job conference to discuss federal and state labor law requirements shall be conducted before commencement of the work with the Lead Contractor and the Lead O&M Firm.

8.9.4.2 Certified payroll records be kept by Developer in accordance with Labor Code Section 1776 and furnished to the LCP at times designated in the LCP, which shall be at least monthly, or within 10 days of any request by the Owner.

8.9.4.3 The limited exemption from prevailing wages pursuant to Labor Code Section 1771.5(a) does not apply to contracts under the jurisdiction of the LCP. The LCP is administered by the UC Merced Design and Construction Office. Inquiries, questions, or requests for assistance with regard to the LCP may be made by calling the UC Merced Labor Compliance Officer at (209) 228-4485.

8.9.4.4 Developer and every Contractor required to submit certified payrolls and labor compliance documentation shall use the FM International Labor Compliance Program software LCPTracker provided by the Owner. The software is a web-based system accessed by a web browser. Developer and each Contractor will be provided a Log-On identification and password to access the Owner's reporting system. Use of the system may entail additional data entry of weekly payroll information, including employee identification, labor classification, total hours worked and hours worked on the Project, and wage and benefit rates paid. The required software shall be used regardless of the ability to interface with Developer's or any Contractor's payroll and accounting software or system. On-line training in the use of the system is available via the Internet. The Owner may elect to schedule training classes in the use of the LCPTracker and Developer shall have all necessary personnel attend and shall require attendance by all Contractors.

8.9.4.5 Developer shall not be entitled to any additional compensation, time extension or other relief for any amendment made to the LCP during the Term if such amendment is (i) a conforming amendment to reflect any change in federal or State labor Laws or (ii) an amendment to reflect a reasonable rate of inflation. All other amendments to the LCP will be deemed an Owner Change.

8.9.5 In addition to Developer's obligations under the other provisions of this Section 8.9, Developer shall comply, and shall cause every Contractor to comply, with the Owner's fair wage/fair work plan entitled "UC Fair Wage/Fair Work Plan," which is set forth at <http://ucnet.universityofcalifornia.edu/compensation-and-benefits/fairwage/index.html>.

## **8.10 Skilled Workforce**

8.10.1 For Contracts greater than \$250,000 (calculated on an annual basis from the effective date of the applicable Contract) entered into as of January 1, 2016, at least 30% of the workers employed by Developer and each Contractor to perform manual labor in connection with the development and Construction Work shall (i) either be registered in, or graduates of an apprenticeship program for the applicable occupation that was approved by the Chief of the Division of Apprenticeship Standards pursuant to Section 3075 of the Labor Code or located outside California and approved for federal purposes pursuant to the apprenticeship regulations adopted by the United States Secretary of Labor; and/or (ii) be Skilled Journeypersons covered

by a collective bargaining agreement for the applicable trade. As of January 1, 2018 the percentage of compliant workers required hereunder shall increase to 50%. As of January 1, 2019 the percentage of compliant workers required hereunder shall increase to 60%. Contractors shall employ apprentices from the local, state-approved, joint labor-management apprenticeship programs for the applicable occupation in at least the ratio required by Labor Code Section 1777.5. The requirements of this Section 8.10.1 shall not apply if the local joint labor-management program does not have the capacity, or neglects or refuses, to dispatch sufficient apprentices for the applicable trade to a Contractor that request apprentices and is willing to abide by the applicable apprenticeship standards. For purposes of this Section 8.10.1, a "local" program means a program that is approved to train apprentices in the Counties comprising San Joaquin Valley, including the Counties of Merced, Fresno, Kern, Stanislaus, Madera, Tulare and the portions of San Luis Obispo County east of the Coast Ranges.

8.10.2 The requirements of Section 8.10.1 do not apply to the following:

8.10.2.1 Work performed by non-manual employees, including superintendents, supervisors, staff engineers, quality control and quality assurance personnel, time keepers, mail carriers, clerk, office workers, messengers, guards, safety personnel, emergency medical and first aid technicians, and other professional, engineering, administrative, supervisory and management employees;

8.10.2.2 Any off-site manufacture and handling of materials, equipment or machinery except at Project-specific, dedicated staging, lay down or storage areas;

8.10.2.3 Any Project-related design or planning professions or employees of the Owner, a design firm or planning firm (including architects, engineers and master planners), or any other consultants for the Owner and their sub-consultants, and other employees of professional services organizations, not performing manual labor; and

8.10.2.4 Any work performed on or near or leading to or into the Project but is not part of the Project that is undertaken by the State, any County, City or other Governmental Entities, or public Utilities, or any of their respective contractors;

8.10.3 For the purposes of this Section 8.10, "Skilled Journeyperson" means a worker who either:

8.10.3.1 Graduated from an apprenticeship program for the applicable occupation that was approved by the Chief of the Division of Apprenticeship pursuant to Section 3075 of the Labor Code or located outside California and approved for federal purposes pursuant to the apprenticeship regulations adopted by the United States Secretary of Labor; or

8.10.3.2 Has at least as many hours of on-the-job experience in the applicable occupation as would be required to graduate from an apprenticeship program for the applicable occupation that is approved by the Chief of the Division of Apprenticeship Standards pursuant to Section 3075 of the Labor Code.

8.10.4 Prior to commencement of the Construction Work, Developer shall submit to the Owner a plan (the "**Skilled Workforce Plan**") detailing how Developer and its Contractors will comply with the requirements of this Section 8.10. Developer shall submit an updated Skilled Workforce Plan on each anniversary of the date of issuance of NTP 2 until completion of the Construction Work, and shall include in each such update a detailed report demonstrating compliance to date with the requirements of this Section 8.10. Each monthly certified payroll report submitted under Section 8.9.4.2 shall include an interim report on the current state of compliance by Developer with the Skilled Workforce Plan, including documentation to demonstrate that it will meet the minimum percentages set forth in Section 8.10.1. Such

documentation may include written acknowledgement from the applicable trade union or local joint labor-management program, or such other documentation that objectively demonstrates compliance with Section 8.10.1. Developer shall submit final documentation to demonstrate full compliance with Section 8.10.1 as a condition precedent to Project Final Acceptance.

8.10.5 Developer shall contact each local joint labor-management program to arrange for these programs to dispatch apprentices to Developer and its Contractors as and when needed to perform the Construction Work.

8.10.6 If the final documentation submitted by Developer indicates that Developer has failed to comply with the requirements set forth in Section 8.10.1, Developer shall be assessed liquidated damages in an amount of \$100,000 for each one (1) percent that the actual percentage of workers employed directly or indirectly by Developer or a Contractor is below the applicable percentage set forth in Section 8.10.1. Any liquidated damages assessed pursuant to this Section 8.10.6 shall be deducted from Monthly Disbursements and Quarterly Settlement Amounts until deducted in full.

## **8.11 Small Businesses**

8.11.1 For purposes of this Section 8.11, "local" means an enterprise headquartered within the Counties comprising the San Joaquin Valley, including the Counties of Merced, Fresno, Kern, Stanislaus, Madera, Tulare and the portions of San Luis Obispo County east of the Coast Ranges.

8.11.2 Developer shall take reasonable and appropriate steps to encourage meaningful participation in the Project by local Small Business Enterprises and local Disabled Veteran Business Enterprises.

8.11.3 Developer shall aspire, and exercise good faith efforts, to achieve the following goals (collectively, the "**Aspirational Goals**"): (a) thirty percent (30%) of the contract value of the Construction Work should be performed by local SBEs, of which three percent (3%) of the contract value of the Construction Work should be performed by local DVBEs; and (b) thirty percent (30%) of the contract value of the O&M Services should be performed by local SBEs, of which three percent (3%) of the contract value of the O&M Services should be performed by local DVBEs. For purposes of this Section 8.11.3, "contract value" excludes the value of any purchased materials.

8.11.4 The Aspirational Goals shall apply separately to the Construction Work and the O&M Services.

8.11.5 Prior to commencement of the Construction Work, Developer shall submit to the Owner a plan (the "**SBE Plan**") detailing how Developer and its Contractors will comply with the requirements of this Section 8.11. Developer shall submit an updated SBE Plan on each anniversary of the date of issuance of NTP 2 throughout the Term, and shall include in each such update: (a) a detailed report of all steps taken and efforts made by Developer and its Contractors to date to comply with the requirements of this Section 8.11; and (b) a completed and signed Local SBE/DVBE Self-Certification Form in the form attached as Appendix 22 for each local SBE or local DVBE performing a portion of the Construction Work or the O&M Services, as applicable.

## **8.12 Payment to Contractors; Releases and Waivers; Bonding**

8.12.1 Developer shall comply, and shall cause each Contractor to comply, with the provisions of Business and Professions Code Section 7108.5, California Civil Code Sections 8122-8138, and any other applicable Law relating to prompt payment of contractors and/or

subcontractors and waivers and releases by them of liens, stop payment notices and payment bond rights.

8.12.2 If any stop payment notice, lien or other claim is given, made or filed against the Owner or Project by any Contractor in connection with the performance of any portion of the Work, including the supply, furnishing or delivery of materials, equipment, labor and/or services, Developer shall promptly procure one or more bonds as necessary to release such claim within 10 days of the filing or receipt of same. All bonds furnished pursuant to this provision shall satisfy statutory requirements applicable to the subject stop payment notice, lien or other claim, for release of same, including California Civil Code Section 9364.

### **8.13 No Forced Labor**

8.13.1 By executing this Agreement, Developer hereby certifies that no foreign-made equipment, materials or supplies furnished to the Owner pursuant to this Agreement will be produced in whole or in part by forced labor, convict labor or indentured labor under penal sanction.

8.13.2 If Developer knew or should have known that the foreign-made equipment, materials or supplies furnished to the Owner were produced in whole or in part by forced labor, convict labor or indentured labor under penal sanction when entering into this Agreement, any or all of the following sanctions may be imposed:

8.13.2.1 This Agreement may be terminated at the option of the Owner in accordance with Section 20.3; and

8.13.2.2 Developer and any applicable Contractor may be removed from consideration for Owner contracts for a period not to exceed 360 days.

8.13.3 Developer may protest any sanction imposed under Section 8.13.2 in accordance with the procedures set forth in Section III of the Administrative Guidelines on the Procurement of Foreign-Made Equipment, Materials, or Supplies Produced by Forced Labor, Convict, or Indentured Labor, issued on April 7, 1998, pursuant to the Owner's action of March 1977 instituting a University Policy on the Procurement of Foreign-Made Equipment, Materials or Supplies Produced by Forced Labor, Convict, or Indentured Labor.

## **ARTICLE 9. SAFETY COMPLIANCE**

The Owner is entitled from time to time to issue Safety Compliance Orders to Developer with respect to the Project to correct a specific safety condition or risk involving the Project that the Owner has reasonably determined exists through investigation or analysis.

### **9.1 Safety Compliance Orders**

9.1.1 The Owner shall use good faith efforts to inform Developer at the earliest practicable time of any circumstance or information relating to the Project which in the Owner's reasonable judgment is likely to result in a Safety Compliance Order. Except in the case of an Emergency, the Owner shall consult with Developer prior to issuing a Safety Compliance Order concerning the risk to User or worker safety, alternative compliance measures, cost impacts, and the availability of Developer resources to fund the required Work.

9.1.2 Subject to conducting such prior consultation, the Owner may issue Safety Compliance Orders to Developer at any time from and after the Effective Date.

## **9.2 Duty to Comply**

Subject to Section 9.1, Developer shall implement all Safety Compliance as expeditiously as reasonably possible following issuance of the Safety Compliance Order. Developer shall diligently prosecute the work necessary to achieve such Safety Compliance until completion. In no event shall Developer be entitled to claim that any Relief Event relieves Developer from compliance with any Safety Compliance Order.

# **ARTICLE 10. RELIEF EVENT CLAIMS**

## **10.1 General**

### **10.1.1 Relief Events; Waiver**

If a Relief Event occurs, subject to the limitations and exclusions provided in this Agreement, Developer may seek additional monetary compensation, time extension and/or other relief in accordance with this Article 10. The compensation amounts, time extensions and any other relief granted in accordance with this Article 10 shall represent the sole and exclusive right of Developer against the Owner and its successors, assigns, members of the board of Owner, officers, agents, representatives, consultants and employees, for compensation, time extension or any other relief for any adverse financial, schedule or other effects of any Relief Event. Developer unconditionally and irrevocably waives the right to any claim against the Owner and its successors, assigns, members of the board of Owner, officers, agents, representatives, contractors, consultants and employees, for any additional monetary compensation, time extension and/or any other relief with respect to the occurrence of Relief Events except to the extent granted in accordance with this Article 10. The provisions of this Section 10.1 shall not limit Developer's rights under Section 4.10.4, 20.2, 20.4 or 20.8, provided that no award of compensation or damages shall be duplicative.

### **10.1.2 Relief Events during Early Works**

For purposes of this Article 10, any Relief Event that occurred during performance of the Early Works under the Early Works Agreement shall be deemed to have occurred under this Agreement, and Developer shall be entitled to submit a corresponding Relief Event Claim under this Article 10, subject to the limitations and exceptions expressly provided in this Agreement, provided that Developer shall have complied with the requirements of Sections 10.2.1 through 10.2.3 in respect of the Relief Event. For purposes of Relief Events occurring during the performance of the Early Works under the Early Works Agreement:

10.1.2.1 The corresponding Relief Event Claim under Section 10.2.4 shall be delivered by Developer to the Owner within 30 days following the Effective Date;

10.1.2.2 References to "Submittals" in clause (d) of the definition of Owner-Caused Delays shall be deemed to include all Submittals required to be delivered by Successful Proposer to the Owner under the Early Works Agreement; and

10.1.2.3 Clause (e) of the definition of Relief Event shall be deemed to include any failure by the Owner to perform or observe any of its material covenants or obligations under the Early Works Agreement.

## **10.2 Relief Event Claim Procedure**

### **10.2.1 Relief Event Notice**

In order to assert an entitlement based on the occurrence of a Relief Event, Developer shall give written notice ("**Relief Event Notice**") of the occurrence of the Relief Event

to the Owner as soon as practicable, and in any event within thirty (30) days of the date Developer has knowledge (including knowledge of any Contractor) that the Relief Event has caused or is likely to cause an entitlement under this Agreement (or should have discovered in the exercise of reasonable prudence). The Relief Event Notice shall set forth:

10.2.1.1 A description of the Relief Event and its cause to the extent known;

10.2.1.2 The date on which the Relief Event began and its estimated duration;

10.2.1.3 Developer's good faith estimate of the anticipated adverse and beneficial effects of the Relief Event and the basis for such estimate;

10.2.1.4 If the Relief Event will likely impact the D&C Work, Developer's preliminary good faith estimate of expected delay to any critical path matter in the Project Schedule directly attributable to the Relief Event and the basis for such estimate, including a description of measures that will be taken by Developer to mitigate the impact of the Relief Event on the Project Schedule;

10.2.1.5 A summary of the consequences of the Relief Event and the expected impact on the performance of Developer's obligations under the Contract Documents; and

10.2.1.6 The nature and scope of Developer's potential entitlement to additional monetary compensation, time extension and any other relief under this Agreement.

#### **10.2.2 Mandatory Claim Records**

Upon submitting a Relief Event Notice, Developer shall keep daily records of all labor, material and equipment costs incurred for operations affected by the Relief Event. Developer shall identify in such daily records each operation and specific location affected by the Relief Event. The Owner may also keep records of all labor, material and equipment used on the operations affected by the Relief Event. Developer shall provide to the Owner a copy of Developer's daily records on a weekly basis and shall be entitled to receive a copy of the Owner's daily records, if any, upon written request. Copies of daily records to be provided hereunder shall be provided at no cost to the recipient.

#### **10.2.3 Updates and Supplemental Information**

Developer shall provide the Owner with periodic updates, together with further details and supporting documentation, as it receives or develops additional information pertaining to the Relief Event and the matters described in Section 10.2.1. Without limiting the foregoing, Developer shall notify the Owner as soon as the Relief Event has ceased and when performance of its affected obligations can be resumed. The Owner may, at any time following receipt of a Relief Event Notice, request from Developer any further information that the Owner may reasonably require, and Developer shall provide such information to the Owner within a reasonable period after such request.

#### **10.2.4 Relief Event Claim**

Developer shall submit to the Owner a formal request ("**Relief Event Claim**") for specific monetary compensation, time extension and/or other relief, the basis therefor and the event giving rise to the requested compensation, time extension and/or relief, within 30 days after submittal of the corresponding Relief Event Notice. The Relief Event Claim shall include the following information, to the maximum extent then available:

10.2.4.1 Full details of the Relief Event, including its nature, the date of its occurrence, its duration (to the extent that the Relief Event and the effects thereof have ceased or estimated duration to the extent that the Relief Event and the effects thereof have not ceased), the portions of the Facilities and Work affected. Impacts to the O&M Services, if any, shall be stated by Fiscal Year;

10.2.4.2 Identification of all pertinent documents and the substance of any oral communications, if any, relating to the Relief Event and the name of the person or persons making such material oral communications;

10.2.4.3 Identification of the particular provisions of this Agreement that are claimed to entitle Developer to the compensation, time extension and/or other relief sought, and a statement that sets forth the reasons why such provisions entitle Developer to such compensation, time extension and/or other relief. If the Relief Event Claim relates to a Relief Event described in clause (e) of the definition of Relief Events, then Developer shall identify the provisions of the Contract Documents which the Owner has allegedly failed to perform or observe and the actions constituting such failure;

10.2.4.4 Where a request for a time extension, Delay Costs and/or compensation under Section 10.4 is made, a detailed analysis of the Relief Event Delay, including:

1. Its impact on the Project Schedule (including with respect to each affected Facility) and the number of days by which Developer's ability to meet any applicable Completion Deadline has been delayed;
2. If compensation is sought under Section 10.4, any impact of the Relief Event Delay on: (a) the Project Debt draw down schedule (if applicable), funding and release of reserves, financing costs and debt service profile (including debt interest payments due and accrual of interest); and (b) the Committed Series A Equity Investment draw down schedule, Developer's dividend profile and Equity IRR, in each case to the minimum extent required for Developer to avoid breaching its minimum debt covenants under the Funding Agreements as a result of the Relief Event Delay while maximizing Equity IRR, taking into account the compensation sought under Section 10.4.1 (excluding Sections 10.4.1.2.1(b) and Sections 10.4.1.2.2 and 10.4.1.2.3) and excluding the impact described in Section 10.2.4.4.3; and
3. With respect to any Deductible Relief Event, the amount of compensation that would have been payable under Section 10.4.1 during the 90-day deductible periods specified thereunder if the deductible periods did not apply;

10.2.4.5 A detailed, itemized estimate of all amounts claimed under Sections 10.3.3 and 10.4 to the extent such amounts are eligible for compensation under the terms of this Agreement for the Relief Event in question. All amounts claimed under Section 10.3.3 shall be broken down into the Direct Costs identified in Appendix 18 (Direct Costs);

10.2.4.6 Where relief is sought under Section 10.3.1, the effect of the Relief Event on Developer's ability to perform any of its obligations under the Contract Documents that would otherwise result in accrual of Noncompliance Point(s), Noncompliance Instances, assessment of monetary deductions under Appendix 6 or other liquidated damages under this Agreement, or occurrence of a Developer Default, in each case including details of the relevant obligations, the effect on each such obligation, the likely duration of that effect and the specific relief sought;

10.2.4.7 An explanation of the measures that Developer has previously taken to prevent, and proposes to undertake to mitigate, the costs, delay and other consequences of the Relief Event; and

10.2.4.8 The type and amount of insurance that may be applicable and amounts that have been or are anticipated to be collected under such insurance.

If all of the information relating to a specific relief cannot reasonably be ascertained or furnished within such 30-day period, Developer shall provide the Owner with further details and supporting documentation as soon as possible after it receives such information. The Owner may ask Developer to provide any further information that the Owner may reasonably require relating to any request for compensation, time extension or other relief, and Developer shall provide such information within 10 days after such request.

#### **10.2.5 Delay in Notification**

If any Relief Event Notice, Relief Event Claim or any other required information is submitted by Developer to the Owner after the dates required under this Section 10.2, then Developer shall have no right to make any claim with respect to the Relief Event.

#### **10.2.6 No Multiple and Overlapping Claims**

Developer may not make multiple or duplicative claims with respect to a Relief Event, provided that this Section 10.2.6 does not limit Developer's obligation to provide updated information regarding a Relief Event Claim in accordance with the last paragraph of Section 10.2.4.

#### **10.2.7 Burden of Proof and Mitigation**

10.2.7.1 Developer shall bear the burden of proof of: (a) establishing the occurrence of a Relief Event and the entitlement to compensation, time extension and/or other relief for such event; and (b) demonstrating that Developer complied with its mitigation obligations under Section 10.2.7.2.

10.2.7.2 Developer shall take all steps necessary on a commercially reasonable basis to mitigate the consequences of any Relief Event, including all steps that would generally be taken in accordance with Best Management Practice. Any compensation, time extension or other relief to which Developer is entitled under this Article 10 shall be adjusted to account for the effect of the mitigation measures which were or should have been taken by Developer or its Contractors, as applicable.

#### **10.2.8 Resumption of Performance**

Promptly following the occurrence of a Relief Event, Developer shall use all reasonable efforts to eliminate the cause of the Relief Event and resume performance of the Work.

#### **10.2.9 Owner Response**

Within 45 days after receipt of a Relief Event Claim submitted in full in accordance with Section 10.2.4, the Owner shall issue a written determination as to the extent, if any, to which it concurs with Developer's request (including reasons). The Owner's failure to respond to a full and final documentation of a Relief Event Claim within such 45-day period shall constitute the Owner's rejection of such Relief Event Claim.



## **10.2.10 Agreement or Dispute**

10.2.10.1 The agreement of the Parties as to the specific compensation, time extension and/or other relief to be given Developer on account of a Relief Event shall be evidenced by a written amendment to the Project Agreement, duly executed by both Parties, and shall include all pertinent information, references, arguments, and data to support the claim, including updated analyses, descriptions, actual amounts and impacts (including, with respect to any Relief Event Delay, information required under Section 10.2.4.4, updated to reflect actual amounts and impacts, and the Equity True-up Payment), and any other documentation covering the same scope of information as required for the request for specific relief.

10.2.10.2 Developer shall submit the full and final documentation of the Relief Event Claim on a standardized form approved by the Owner, and shall certify the claim to be accurate, truthful and complete. Information submitted subsequent to the full and final documentation submittal will not be considered. No full and final documentation of a Relief Event Claim will be considered that does not have the same nature, scope (except for reductions) and circumstances, and basis of claim, as those specified in the Relief Event Notice and any updates submitted in accordance with Section 10.2.3 and in the Relief Event Claim.

10.2.10.3 In the event the Parties are unable to agree as to the specific compensation, time extension and/or other relief to be given Developer on account of a Relief Event, the Owner shall pay or grant, as applicable, any undisputed portion of compensation, time extension and/or other relief, and either Party may refer the matter to the Dispute Resolution Procedures. If the Owner is deemed to have rejected the Relief Event Claim as provided in Section 10.2.9, Developer may refer the matter to the Dispute Resolution Procedures.

## **10.3 Compensation, Time Extension and Other Relief Entitlements**

### **10.3.1 Defense to Noncompliance Points, Deductions, Liquidated Damages and Developer Default**

Subject to the provisions of this Article 10 and any limitations and exceptions expressly provided in this Agreement, upon occurrence of a Relief Event and for so long as the Relief Event is continuing, Developer shall:

10.3.1.1 Be entitled to relief: (a) from accrual of Noncompliance Points and Noncompliance Instances; (b) from delivery by the Owner of an Initial Breach Notice or Final Breach Notice, as applicable; (c) from assessment of monetary deductions under Appendix 6 or other liquidated damages under this Agreement, as applicable; and (d) against the occurrence of a Developer Default, in each case to the extent the Relief Event would otherwise have caused such accrual, notice, assessment or occurrence, as the case may be.

10.3.1.2 Not be excused from compliance with the Contract Documents, applicable Laws or Governmental Approvals due to the occurrence of a Relief Event, except for its temporary inability to comply as a direct result of a Relief Event.

### 10.3.2 Time Extensions

Subject to the provisions of this Article 10 and any limitations and exceptions expressly provided in this Agreement (provided that the 90-day deductible applicable to Deductible Relief Events under Section 10.4 is not applicable to any extensions under this Section 10.3.2), upon occurrence of a Relief Event, Developer shall be entitled to an extension of:

10.3.2.1 The Construction Commencement Deadline solely to the extent that a Relief Event Delay actually delays satisfaction of the conditions set forth in Section 4.7 beyond the then current Construction Commencement Deadline;

10.3.2.2 The Scheduled First Delivery Facilities Occupancy Readiness Date solely to the extent that a Relief Event Delay actually delays achievement of Occupancy Readiness with respect to all First Delivery Facilities beyond the then current Scheduled First Delivery Facilities Occupancy Readiness Date;

10.3.2.3 With respect to a First Delivery Facility, the applicable First Delivery Facilities Occupancy Readiness Deadline and the corresponding First Delivery Facilities LD Deadline solely to the extent that a Relief Event Delay actually delays the critical path for achieving Occupancy Readiness of the First Delivery Facility beyond the then current applicable First Delivery Facilities Occupancy Readiness Deadline;

10.3.2.4 The First Delivery Facilities Long Stop Date by the number of days by which the last First Delivery Facilities Occupancy Readiness Deadline, as adjusted for a Relief Event Delay pursuant to Section 10.3.2.3, falls later than the last First Delivery Facilities Occupancy Readiness Deadline immediately prior to such adjustment;

10.3.2.5 The Scheduled Second Delivery Facilities Occupancy Readiness Date solely to the extent that a Relief Event Delay actually delays achievement of Occupancy Readiness with respect to all Second Delivery Facilities beyond the then current Scheduled Second Delivery Facilities Occupancy Readiness Date;

10.3.2.6 With respect to a Second Delivery Facility, the applicable Second Delivery Facilities Occupancy Readiness Deadline and the corresponding Second Delivery Facilities LD Deadline solely to the extent that a Relief Event Delay actually delays the critical path for achieving Occupancy Readiness of the Second Delivery Facility beyond the then current applicable Second Delivery Facilities Occupancy Readiness Deadline;

10.3.2.7 The applicable Facility Final Acceptance Deadline solely to the extent that a Relief Event Delay actually delays Facility Final Acceptance beyond the then current applicable Facility Final Acceptance Deadline;

10.3.2.8 The Scheduled Substantial Completion Date and a corresponding extension of the Substantial Completion Long Stop Date solely to the extent that a Relief Event Delay actually delays Substantial Completion beyond the then current Scheduled Substantial Completion Date, provided that if a Relief Event Delay occurs after the then current Scheduled Substantial Completion Date and Substantial Completion has not yet occurred, the Substantial Completion Long Stop Date will be extended by the length of such delay;

10.3.2.9 The Project Final Acceptance Deadline solely to the extent that a Relief Event Delay actually delays Project Final Acceptance beyond the then current Project Final Acceptance Deadline; and

10.3.2.10 The LEED Certification Deadline solely to the extent that a Relief Event Delay actually delays achievement of the LEED certification required under Section 5.4.1 beyond the then current LEED Certification Deadline.

### **10.3.3 Monetary Compensation for Relief Events**

10.3.3.1 Subject to the provisions of this Article 10 and any limitations and exceptions provided in this Agreement, upon occurrence of a Relief Event, Developer shall be entitled to compensation for Direct Costs incurred by Developer or its Contractors, as applicable, as determined in accordance with Appendix 18.

10.3.3.2 Subject to the provisions of this Article 10 and any limitations and exceptions provided in this Agreement, if the occurrence of a Relief Event actually delays receipt by Developer of Partial Availability Payments (or portions thereof) or Availability Payments, Developer shall be entitled to compensation to the extent provided in Section 10.4.

10.3.3.3 Notwithstanding any other provision of this Agreement, no compensation shall be payable by the Owner to Developer with respect to a Relief Event unless and until the Owner has issued a written determination in respect of such Relief Event under Section 10.2.9 (provided that the effective date from which Developer is determined to be entitled to compensation may be earlier), and the final amount of compensation to which Developer is entitled on account of a Relief Event shall be as evidenced in a written amendment to the Project Agreement, executed by both Parties, in accordance with Section 10.2.10.

10.3.3.4 Notwithstanding any other provision of this Agreement, Developer is not entitled to any monetary compensation in connection with a Relief Event described in clause (y) or (z) of the definition of Relief Event.

10.3.3.5 Notwithstanding any other provision of the Contract Documents, the Owner shall have no liability to Developer for expenses, costs, or items of damages in connection with a Relief Event other than those which are expressly provided as payable under this Agreement. In the event of any legal action for additional compensation, whether on account of Delay, breach of contract, or otherwise, Developer agrees that the Owner's liability will be limited to those items which are specifically identified as payable under this Agreement.

### **10.3.4 Costs Deductibles; CPI Adjustment**

10.3.4.1 The Relief Event Costs Deductible shall apply to any Relief Event Claim seeking the recovery of Direct Costs for a Deductible Relief Event.

10.3.4.2 The amount of the Relief Event Costs Deductible and the Annual Vandalism Deductible shall be adjusted annually at the beginning of each Fiscal Year after the Effective Date by a percentage equal to the percentage adjustment in the CPI between the CPI for October of the second immediately preceding Fiscal Year and the CPI for October of the immediately preceding Fiscal Year.

10.3.4.3 The Relief Event Costs Deductible and the Annual Vandalism Deductible reflect the Parties' agreement that: (a) Developer will bear the financial risks for Direct Costs for (i) each Relief Event Claim related to a Deductible Relief Event up to the amount of the Relief Event Costs Deductible and (ii) Vandalism annually up to the amount of the Annual Vandalism Deductible, respectively; and (b) subject to the provisions of this Article 10 and any limitations and exceptions expressly provided in this Agreement, the Owner will compensate Developer for Direct Costs in excess of the Relief Event Costs Deductible and Annual Vandalism Deductible, as applicable.

### **10.3.5 Insurance; Deductions**

Any entitlement of Developer to compensation with respect to a Relief Event (including under Section 20.2.4.1, if applicable) shall be net of: (i) all insurance proceeds received by any Developer or any Developer-Related Entity pursuant to any Developer-Provided Insurance

Policy or Owner-Provided Insurance Policy (inclusive of Developer's obligation to pay any applicable deductible or self-insured retention); (ii) any amounts which Developer is deemed to have self-insured under Section 17.1.4.4; (iii) any other insurance proceeds received by Developer or any Developer-Related Entity in connection with the Relief Event; and (iv) any deductions as provided in this Agreement.

## **10.4 Delayed Payments**

### **10.4.1 Delayed Partial Availability Payments and Availability Payments Due to Relief Events During Construction Period**

10.4.1.1 To the extent that a Relief Event Delay delays: (a) the Scheduled First Delivery Facilities Occupancy Readiness Date beyond the Baseline First Delivery Facilities Occupancy Readiness Date; (b) the Scheduled Second Delivery Facilities Occupancy Readiness Date beyond the Baseline Second Delivery Facilities Occupancy Readiness Date; and/or (c) the Scheduled Substantial Completion Date beyond the Baseline Substantial Completion Date, subject to the provisions of this Article 10, Developer shall be entitled to compensation for corresponding delays in receipt of Partial Availability Payments (or portions thereof) or Availability Payments, as applicable, in accordance with this Section 10.4.1.

10.4.1.2 Subject to the other limitations set forth in this Section 10.4.1, the total compensation owed to Developer for the delay in receiving Partial Availability Payments (or portions thereof) and/or Availability Payments, as applicable, shall be as an amount equal to:

1. To the extent the Scheduled Substantial Completion Date is delayed beyond the Baseline Substantial Completion Date:
  - (a) The lesser of the amount of: (i) debt service scheduled to be paid as shown in the Financial Model during the period commencing on the Baseline Substantial Completion Date and ending on the Scheduled Substantial Completion Date, prorated for the number of days of Relief Event Delays; or (ii) the actual amount of mandatory debt service scheduled to be paid during such period, prorated for the number of days of Relief Event Delays; plus
  - (b) The Final Delivery AP O&M Amount that would have been payable by the Owner to Developer pursuant to Sections 12.2 and 12.3 between the Baseline Substantial Completion Date and the Scheduled Substantial Completion Date, prorated for the number of days of Relief Event Delays, and multiplied by the Operating Final Delivery Facilities Ratio and by APO Ratio B; plus
2. To the extent the Scheduled First Delivery Facilities Occupancy Readiness Date is delayed beyond the Baseline First Delivery Facilities Occupancy Readiness Date:
  - (a) The amount of APC and APO-A that would have been payable by the Owner to Developer between the Baseline First Delivery Facilities Occupancy Readiness Date and the Scheduled First Delivery Facilities Occupancy Readiness Date; and
  - (b) The amount of APO-B that would have been payable by the Owner to Developer between the Baseline First Delivery Facilities Occupancy Readiness Date and the Scheduled First Delivery Facilities

Occupancy Readiness Date, multiplied by the Operating First Delivery Facilities Ratio,

in each case, prorated for the number of days of Relief Event Delays; plus

3. Without double-counting any Partial Availability Payments otherwise payable to Developer following achievement of Occupancy Readiness of all First Delivery Facilities, to the extent the Scheduled Second Delivery Facilities Occupancy Readiness Date is delayed beyond the Baseline Second Delivery Facilities Occupancy Readiness Date:
  - (a) The amount of APC and APO-A that would have been payable by the Owner to Developer between the Baseline Second Delivery Facilities Occupancy Readiness Date and the Scheduled Second Delivery Facilities Occupancy Readiness Date; and
  - (b) The amount of APO-B that would have been payable by the Owner to Developer between the Baseline Second Delivery Facilities Occupancy Readiness Date and the Scheduled Second Delivery Facilities Occupancy Readiness Date, multiplied by the Operating Cumulative Second Delivery Facilities Ratio,

in each case, prorated for the number of days of Relief Event Delays; minus

4. The proceeds from any delayed start up or business interruption insurance policy procured to cover any loss of: (a) Partial Availability Payments during the period commencing on the Baseline First Delivery Occupancy Readiness Date and ending on Scheduled First Delivery Occupancy Readiness Date; and (b) Availability Payments during the period commencing on the Baseline Substantial Completion Date and ending on the Scheduled Substantial Completion Date, in each case prorated for the number of days of Relief Event Delays, excluding any insurance proceeds paid to Developer to cover the loss of the Partial Availability Payments or Availability Payments, if any, during the 90-day period provided in Section 10.4.1.3,

provided that, subject to Section 10.3.1.1(c), any amounts payable under Sections 10.4.1.2.1(b), 10.4.1.2.2 and 10.4.1.2.3 shall remain subject to Availability Deductions and Performance Deductions in accordance with Appendix 6. Notwithstanding any other provision of this Agreement, the aggregate amount of APC and APO-A payable by the Owner to Developer during the Construction Period shall not exceed the aggregate amount of APC and APO-A scheduled to be paid to Developer during the Construction Period, as reflected in the Initial Financial Model.

10.4.1.3 No compensation shall be due or payable under Section 10.4.1.2 for the first 90 days of Relief Event Delays attributable to a Deductible Relief Event, and such deductible shall not be included in calculating the number of days of Relief Event Delays under Section 10.4.1.2. Such 90-day deductible shall not apply to any Relief Events other than Deductible Relief Events. If a Relief Event Delay is caused concurrently by a Deductible Relief Event and a non-Deductible Relief Event, such delay shall be deemed caused solely by the Deductible Relief Event. Notwithstanding the foregoing, for the purposes of compensation under Section 10.4.1.2.2 and Section 10.4.1.2.3, all Relief Events shall be treated as non-Deductible Relief Events.

10.4.1.4 In no event shall Developer be entitled to compensation under this Section 10.4.1 in excess of 180 days for Relief Event Delays in the aggregate. If Relief

Event Delays exceed 180 days in the aggregate, the Parties' rights and remedies shall be as set forth in Section 20.2.

10.4.1.5 Compensation owed under this Section 10.4.1 shall be paid monthly, commencing on:

1. With respect to compensation under Section 10.4.1.2.1, the last day of the month when Substantial Completion would have been achieved had the Relief Event Delays not occurred;
2. With respect to compensation under Section 10.4.1.2.2, the last day of the month when Occupancy Readiness of all First Delivery Facilities would have been achieved had the Relief Event Delays not occurred; and
3. With respect to compensation under Section 10.4.1.2.3, the last day of the month when Occupancy Readiness of all Second Delivery Facilities would have been achieved had the Relief Event Delays not occurred,

and continuing on the last day of each month thereafter until all compensation owed under this Section 10.4.1 is paid, subject to (a) Section 10.3.3.3, (b) any applicable deductible period under Section 10.4.1.3, and (c) Developer delivering to the Owner a request for payment together with documentation demonstrating the amount owing under this Section 10.4.1 for the applicable month. The amount paid each month shall not exceed the amount of compensation owed for 30 days of Relief Event Delays, and any remaining amounts shall be paid in the subsequent month(s).

10.4.1.6 Notwithstanding any provision to the contrary, Developer shall not be entitled to any payments under:

10.4.1.6.1. Section 10.4.1.2.1 (a) if Developer achieves Substantial Completion on or before the Baseline Substantial Completion Date, or (b) to the extent that payment for Relief Event Delays would compensate Developer for loss of Availability Payments, or loss of payments of the Final Delivery AP O&M Amount, earlier than the Baseline Substantial Completion Date;

10.4.1.6.2. Section 10.4.1.2.2 (a) if Developer achieves Occupancy Readiness of all First Delivery Facilities on or before the Baseline First Delivery Facilities Occupancy Readiness Date, or (b) to the extent that payment for Relief Event Delays would compensate Developer for loss of Partial Availability Payments earlier than the Baseline First Delivery Facilities Occupancy Readiness Date; or

10.4.1.6.3. Section 10.4.1.2.3 (a) if Developer achieves Occupancy Readiness of all Second Delivery Facilities on or before the Baseline Second Delivery Facilities Occupancy Readiness Date, or (b) to the extent that payment for Relief Event Delays would compensate Developer for loss of the Second Delivery PMAP Increase earlier than the Baseline Second Delivery Facilities Occupancy Readiness Date.

10.4.1.7 Claims under this Section 10.4.1 shall be submitted and subject to the claims procedures and requirements set forth in Section 10.2.

#### **10.4.2 Equity True-Up Payment**

10.4.2.1 The Owner will pay to Developer the Equity True-up Payment in accordance with this Section 10.4.2.

10.4.2.2 On or prior to the later of sixty (60) days following: (a) the date by which Developer has submitted full and final documentation of all Relief Event Claims in accordance with Section 10.2.10.2 for Relief Events occurring during the Construction Period; and (b) the Substantial Completion Date, Developer shall calculate the amount of the Equity True-up Payment in accordance with Section 10.4.2.4 and deliver to the Owner, for the Owner's review and approval, a written notice of the amount of such payment, together with a copy of the Equity True-up Financial Model and Developer's supporting calculations under Section 10.4.2.4.

10.4.2.3 Upon receipt of the Owner's written approval of the amount of the Equity True-up Payment under Section 10.4.2.2, Developer shall submit to the Owner an invoice, in a format acceptable to the Owner, for amount of the Equity True-up Payment, and the Owner shall make payment to Developer within thirty (30) days of receipt of the invoice. If the Parties disagree regarding the amount of the Equity True-up Payment, Developer shall submit an invoice for any undisputed portion of the Equity True-up Payment and may refer the disputed portion to the Dispute Resolution Procedures.

10.4.2.4 The Equity True-up Payment shall be calculated by Developer as follows:

10.4.2.4.1. Developer shall prepare, for the Owner's review and approval, a comparator Financial Model (the "**Equity True-up Financial Model**"), which shall be the Initial Financial Model adjusted solely to reflect the following aggregate impacts of Relief Event Delays occurring during the Construction Period, in each case based on the actual impact of each such Relief Event Delay as agreed to by the Parties in accordance with Section 10.2.10:

1. Net aggregate adjustments made to the Project Schedule and extensions of applicable Completion Deadlines to reflect the actual impact of Relief Event Delays during the Construction Period on the achievement of Occupancy Readiness of all First Delivery Facilities, Occupancy Readiness of all Second Delivery Facilities and/or Substantial Completion;
2. Payments actually made by the Owner to Developer pursuant to Section 10.4.1, adjusted to exclude from the true-up calculation: (a) any payments made pursuant to Sections 10.4.1.2.1(b), 10.4.1.2.2 and 10.4.1.2.3; and (b) all deductible periods applicable to Deductible Relief Events under Section 10.4.1; and
3. Net aggregate changes actually made to: (a) the Project Debt draw down schedule (if applicable), funding and release of reserves, financing costs and debt service profile (including debt interest payments due and accrual of interest); and (b) the Committed Series A Equity Investment draw down schedule and dividend profile, in each case to the minimum extent required for Developer to avoid breaching its minimum debt covenants under the Funding Agreements while maximizing Equity IRR after taking into account the determinations under clauses (1) and (2) above.

10.4.2.4.2. The amount of the Equity True-up Payment shall equal the amount, if any, that is required to increase the Equity IRR under the Equity True-up Financial Model to equal the Initial Equity IRR. Developer acknowledges and agrees that the Equity True-up Payment will not include any amount to address: (a) the net impact of Relief Events on the cost of O&M Services during the Construction Period, which, as between the Parties, is addressed in full under Sections 10.4.1.2.2 and 10.4.1.2.3; (b) the monetary consequence to Developer of deductible periods applicable to Deductible Relief Events under Section 10.4.1, which, as

between the Parties, Developer agrees to bear in full; or (c) any other monetary consequence of Relief Events occurring during the Construction Period.

10.4.2.4.3. In the event of a Termination for Convenience prior to Substantial Completion: (a) the Equity True-up Payment shall be determined in accordance with Sections 10.4.2.4.1 and 10.4.2.4.2, provided that only the Construction Period up to the Early Termination Date shall be taken into account; (b) the amount determined under clause (a) hereof shall be included in the Termination Compensation as provided Section 20.1.2.5; and (c) the Termination Equity IRR shall be recalculated to take into account such payment prior to calculating the Termination Compensation payable under Section 20.1.2.1.

## **10.5 Method of Payment of Compensation for Relief Events**

10.5.1 Except as provided in Section 10.4, the Owner shall compensate Developer for any additional compensation due for a Relief Event: (a) as periodic payments over the Term; (b) as an adjustment to the MAP over the Term; (c) as progress payments invoiced as Work is completed; (d) as an up-front lump sum payment; or (e) through any combination of the above, as determined by the Owner in its sole discretion. If the Owner elects to compensate Developer by way of periodic payments over the Term or as an adjustment to the MAP over the Term, and Developer demonstrates to the Owner's reasonable satisfaction that Developer has made good faith efforts to finance such payment method but is unable to do so, the Owner shall compensate Developer by way of progress payments invoiced as Work is completed or by an up-front lump sum payment, at the Owner's election in its sole discretion.

10.5.2 The Owner shall provide Developer with a written notice of the method chosen for paying Developer for the amounts owed under this Article 10. If the Owner elects to pay for such amounts by way of periodic payments, progress payments or lump sum payment, subject to Section 10.2.10, Developer shall submit an invoice, in a format acceptable to the Owner, for the amount of each such payment, and the Owner will make payment to Developer within 30 days of receipt of the invoice. The Parties shall conduct all discussions and negotiations to determine any compensation amount, and Developer shall provide the Owner with all data, documents and information pertaining thereto, on an open book basis.

## **10.6 Restoration of Financial Balance for Deferral of Compensation**

10.6.1 If the Owner elects to compensate Developer through Deferral of Compensation, Developer shall be entitled to additional compensation as necessary to maintain the Equity IRR and debt service coverage ratios in the Financial Model as a result of the Deferral of Compensation.

10.6.2 Developer shall provide the Owner with the total amount of compensation that Developer considers owed to restore the Equity IRR and debt service ratios in the Financial Model as a result of the Deferral of Compensation, including supporting Financial Model calculations and documentation. If the Owner disagrees with the amount sought by Developer, the Owner shall pay the undisputed portion to Developer, and any amount determined to be due pursuant to the Dispute Resolution Procedures will be paid in accordance with Section 12.4.3. In no event shall Developer be entitled to any compensation for losses unrelated and not directly caused by the Deferral of Compensation.

## **10.7 Audit**

All Relief Event Claims shall be subject to audit at any time following the filing of the Relief Event Claim, whether or not such Claim is part of a suit pending in the courts of the State. The audit may be performed, at the Owner's election in its sole discretion, by employees of the



Owner or by any independent auditor appointed by the Owner, or both. The audit may begin on ten (10) days' written notice to Developer or its Contractors, as applicable. Developer and its Contractors shall make a good faith effort to cooperate with the auditors. As a condition precedent to recovery on any Relief Event Claim, Developer and its Contractors shall retain sufficient records, including Tax records, and provide full and reasonable access to such records, to allow the Owner's auditors to verify the Relief Event Claim, and failure to retain sufficient records of the Relief Event Claim or failure to provide full and reasonable access to such records shall constitute a waiver of that portion of the Relief Event Claim that cannot be verified and shall bar recovery thereunder. Furthermore, and in addition to such audit access, upon Developer submitting a Relief Event Claim, the Owner shall have the right to request and receive, and Developer shall have the affirmative obligation to provide to the Owner, copies of any and all documents in the possession of Developer or its Contractors as may be deemed relevant by the Owner in its review of the bases, validity or value of the Relief Event Claim.

## **ARTICLE 11. CHANGES IN THE WORK; ALTERNATIVE TECHNICAL CONCEPTS**

### **11.1 Owner Changes**

#### **11.1.1 General**

Subject to Section 11.1.2, the Owner reserves the right to make, at any time during the Term, alterations or changes in the Work, including additions to scope, deletions to scope of the D&C Work (up to a cap of 10% of the cost for same as set forth in the Schedule of Values as at the Effective Date), deletions to scope of the O&M Services, and changes to requirements applicable to the Work, in each case as it may direct in its sole discretion (each, an "**Owner Change**") in accordance with the procedure set forth in Appendix 21, and the provisions of Article 10 shall apply with respect to Owner Changes except Sections 10.2.1 through 10.2.5 and Section 10.2.9. No Owner Change shall constitute a breach of the Contract Documents, invalidate the Contract Documents, or release the Surety from any liability arising out of the Contract Documents or the Performance Bond or Payment Bond. Developer agrees to perform the Work, as altered or changed by any Owner Change, as if it had been a part of the original Agreement. Developer shall not be entitled to any additional compensation, time extension or other relief in connection with an Owner Change except to the extent granted in accordance with Appendix 21 and the applicable provisions of Article 10.

#### **11.1.2 Restrictions on Owner Changes**

Developer shall not be required to implement any Owner Change to the extent the Owner Change would:

11.1.2.1 Result in a breach of Law or breach of any conditions of a Governmental Approval or revocation of any Governmental Approval;

11.1.2.2 Render any Developer-Provided Insurance Policy or Owner-Provided Insurance Policy void or voidable;

11.1.2.3 Require a new Governmental Approval which would not be reasonably obtainable;

11.1.2.4 Materially and adversely affect the health and safety of any person; or

11.1.2.5 Materially and adversely affect the risk allocation and payment regime under the Agreement with respect to the Work.

### 11.1.3 Renovations During Operating Period

Without limiting the provisions of Section 11.1.1 but subject to Section 11.1.2, an Owner Change may include, in whole or in part, Renovation(s) during the Operating Period. Developer or the Lead O&M Firm shall solicit competitive bids for any Renovation work in accordance with the Owner's policies and procedures set forth in Appendix 27 and applicable Laws.

## 11.2 Developer Change Proposals

11.2.1 Developer may request the Owner to approve modifications to the Technical Volumes by submittal of a written Developer Change Proposal using a form approved by the Owner. The Developer Change Proposal shall set forth Developer's detailed estimate of net cost impact (positive or negative) and schedule impact of the requested change.

11.2.2 The Owner, in its sole discretion may accept or reject any Developer Change Proposal submitted by Developer pursuant to Section 11.2.1. If such Change Proposal is accepted by the Owner, Developer shall implement the change in accordance with all applicable requirements contained in the Technical Volumes (as amended to reflect the Owner-approved Developer Change Proposal), the Project Management Plan, Best Management Practice, and all applicable Laws.

11.2.3 Developer shall be solely responsible for payment of any increased Design and Construction Costs, finance or other costs, additional risks, and any Project Schedule delays or other impacts resulting from a Developer Change Proposal accepted by the Owner. To the extent a change under this Section 11.2 results in a net cost savings to Developer, the Owner shall be entitled to a credit in the amount of 50% of the savings related to the Design and Construction Costs and costs of the O&M Services. However, the Owner shall be entitled to a credit in the full amount of savings related to the financing costs (and all related upfront and ongoing fees) associated with the Design and Construction Cost and O&M Services cost savings. The Owner may apply the credit to any amount otherwise payable by the Owner to Developer under the terms of this Agreement.

11.2.4 No Developer Change Proposal shall implement any change to the Work that is not specifically regulated or addressed by the Contract Documents or applicable Law.

11.2.5 Developer shall be responsible for identifying and assessing any potential impacts to a Utility that may be caused by the changes proposed by Developer. Developer shall include in the Developer Change Proposal notice to the Owner of any such potential impacts to Utilities. The Owner's approval of Developer's proposed change does not relieve Developer of sole responsibility for all Utility impacts, costs, delays or damages, whether direct or indirect, resulting from Developer initiated changes in the design or construction activities from those in the Technical Volumes, design plans or other Contract Documents and which effect a change in Utility work different from that shown in the Utility plans, or joint project agreements.

## 11.3 Deviations

Developer may apply to the Owner for approval of any deviation from, or noncompliance with, the requirements of the Technical Volumes in Work performed ("**Deviation**"). All such applications shall be in writing. The Owner shall consider, but shall have no obligation to approve, any such application, and Developer shall bear the burden of persuading the Owner that the Deviation sought constitutes sound and safe practices consistent with Best Management Practice and achieves or substantially achieves the Owner's applicable Safety Standards and criteria. No Deviation shall be deemed approved unless and until approved by the Owner in writing in its sole discretion, signed by the Owner's Authorized Representative. If

the Owner does not issue written approval of a Deviation within fourteen (14) days after Developer applies therefor in writing, the Owner shall be deemed to have disapproved the Deviation. To the extent that an approved Deviation results in diminution of value of the completed Work or reduction in Design and Construction Costs or costs of the O&M Services, the Owner shall be entitled to 100% of the amount of such diminution in value or reduction in costs which shall be paid by Developer to the Owner by way of reduction of payments otherwise payable by the Owner to Developer under this Agreement.

#### **11.4 Alternative Technical Concepts**

11.4.1 Developer acknowledges that any approvals from Persons other than the Owner required to implement Alternative Technical Concepts are Developer's sole responsibility to obtain. Developer shall use its good faith efforts to obtain such approvals. Developer agrees that if any condition set forth in the Owner's pre-approval of an ATC has not been met as of the Effective Date, Developer shall: (a) be responsible for ensuring that such condition is satisfied before implementing the ATC; and (b) use its good faith efforts to satisfy such condition. If Developer is unable to obtain any required approval, fails to satisfy any such condition, or fails in any other way to implement the approved Alternative Technical Concept, it shall provide written notice thereof to the Owner's Authorized Representative and shall comply with the corresponding baseline requirements (unmodified by the Alternative Technical Concept) at its cost, without any additional compensation, time extension or other relief. To the extent the ATC represented additional Work, higher quality materials, or would have required additional materials, equipment or other resources from what is otherwise required by the Contract Documents, the Owner shall be entitled to a credit for the reduced cost to Developer of reverting to the baseline requirements of the Contract Documents, including reduced financing costs, all of which shall be paid by Developer to the Owner by way of reduction of payments otherwise payable by the Owner to Developer under this Agreement.

11.4.2 Developer acknowledges and agrees that, to the extent that Developer uses any Unsuccessful Proposer's Work Product provided to Developer by the Owner, Developer shall do so at its sole risk, except to the extent otherwise provided by the Owner in writing, and such use shall in no way confer or be deemed to confer liability upon the Owner or the unsuccessful proposer.

### **ARTICLE 12. PAYMENTS TO DEVELOPER**

#### **12.1 Monthly Progress Payments**

12.1.1 Subject to Section 13.2.4, the Owner will pay to Developer monthly progress payments ("**Monthly Progress Payments**") in arrears in accordance with this Section 12.1.

12.1.2 The amount of each Monthly Progress Payment shall equal:

12.1.2.1 (a) The total amount payable by Developer to its design-build contractor for work associated with the Project incurred for the relevant month (as certified and approved by the LTA, as provided in Section 12.1.3), multiplied by (b) the Monthly Progress Payment Ratio, less

12.1.2.2 Any First Delivery Facility Deduction or Second Delivery Facility Deduction, if applicable.

The aggregate amount of Monthly Progress Payments payable by the Owner to Developer shall not exceed \$585,000,000. Monthly Progress Payments exclude the Central Plant Invoiced Work Cost and the cost of IT Equipment payable under Section 4.3.3.

12.1.3 Developer shall submit to the Owner a draft invoice for the anticipated Monthly Progress Payment, together with a copy of the corresponding design-build contractor's payment application, within two (2) Business Days following receipt of the design-build contractor's payment application. Not earlier than five (5) Business Days following submittal to the Owner of the draft invoice and corresponding design-build contractor's payment application, Developer shall submit to the Owner a final invoice, together with copies of the LTA's certification and approved design-build contractor invoice. Each draft and final Monthly Progress Payment invoice shall include the calculation of the anticipated or actual Monthly Progress Payment amount, as applicable, in accordance with the requirements set forth herein, and shall be in a format acceptable to the Owner.

12.1.4 The Owner shall make payment to Developer within five (5) Business Days following receipt of Developer's final invoice and supporting documentation in accordance with Section 12.1.3, provided that to the extent that the final invoiced amount is greater than the amount set forth in the draft invoice, the Owner will pay the amount of the difference within ten (10) Business Days of receipt of the final invoice.

12.1.5 Monthly Progress Payments will not commence until at least \$150,000,000 in cumulative work has been invoiced by Developer's design-build contractor for work associated with the Project (the "**Progress Payment Threshold**"), as demonstrated by certified copies of Developer's draw requests and design-build contractor invoices approved by the LTA. If a portion of the amount payable to Developer's design-build contractor included within the first Monthly Progress Payment invoice is below the Progress Payment Threshold, then such Monthly Progress Payment will only be calculated using the portion of the amount payable to Developer's design-build contractor over the Progress Payment Threshold.

## **12.2 Timing and Basis for Availability Payments and Partial Availability Payments**

12.2.1 From the date on which Occupancy Readiness is achieved for all First Delivery Facilities until the Substantial Completion Date or the Early Termination Date, whichever is earlier, the Owner will make the Partial Availability Payments to Developer as provided in this Section 12.2 and Section 12.3.1.

12.2.2 From the Substantial Completion Date to the Termination Date, the Owner will make Availability Payments to Developer as provided in this Section 12.2 and Section 12.3.2. Developer is not entitled to earn any Availability Payments before the Early Completion Date.

12.2.3 The Partial Availability Payments and Availability Payments are based on the applicable Facilities being available for the Facilities Activities and performance of the O&M Services as measured through Developer's conformance with the Contract Documents, including the minimum operating and maintenance requirements set forth in Section 4 of the Technical Requirements.

## **12.3 Calculation and Invoicing of Availability Payments and Partial Availability Payments**

### **12.3.1 Calculation of Partial Availability Payment**

12.3.1.1 Partial Availability Payments shall be calculated and earned by Developer according to the methodology set forth in Section 1.1 of Appendix 6. The Partial Availability Payments payable during any given Fiscal Year up to the Substantial Completion Date or the Early Termination Date, whichever is earlier, shall never exceed the PMAP for that year, as described in Section 1.1 of Appendix 6.

12.3.1.2 In addition to any other deductions or withholdings allowed under this Agreement, the Partial Availability Payments shall be subject to adjustment for Availability Failures and Performance Failures and other adjustments in accordance with Appendix 6.

### **12.3.2 Calculation of Availability Payment**

12.3.2.1 Availability Payments shall be calculated and earned by Developer according to the methodology set forth in Section 1.2 of Appendix 6. The Availability Payments payable during any given Fiscal Year during the Operating Period shall never exceed the MAP for that year, adjusted for inflation, as described in Section 1.2 of Appendix 6.

12.3.2.2 Each Availability Payment comprises a combined payment of an APC amount and an APO amount and is calculated in accordance with Section 1.2 of Appendix 6. In addition to any other deductions or withholdings allowed under this Agreement, the Availability Payments shall be subject to adjustment for Availability Failures and Performance Failures and other adjustments in accordance with Appendix 6.

### **12.3.3 Invoicing**

12.3.3.1 Partial Availability Payments shall be made by the Owner to Developer through a combination of advance Partial Monthly Disbursements and Partial Quarterly Settlement Amounts calculated in accordance with Section 1.1 of Appendix 6. Availability Payments shall be made by the Owner to Developer through a combination of advance Monthly Disbursements and Quarterly Settlement Amounts calculated in accordance with Section 1.2 of Appendix 6.

12.3.3.2 With respect to each Partial Monthly Disbursement or Monthly Disbursement, as applicable, Developer shall submit an invoice monthly in advance no earlier than the first day of the corresponding month. The invoice must set forth the amount of the Partial Monthly Disbursement or Monthly Disbursement, as applicable, due and the calculation of the Partial Monthly Disbursement or Monthly Disbursement due. Upon its receipt of a monthly invoice therefor, the Owner shall pay Developer the corresponding Partial Monthly Disbursement or Monthly Disbursement, as applicable, within 30 days of receipt of the invoice. Notwithstanding the foregoing, the Owner has no obligation to make a Partial Monthly Disbursement or Monthly Disbursement until Developer submits a proper monthly invoice therefor in accordance with this Section 12.3.3.2.

12.3.3.3 With respect to each Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable, Developer shall submit an invoice quarterly no later than the 10<sup>th</sup> day of each subsequent Quarter. The invoice must set forth the amount and calculation of the Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable. In addition, the invoice must be accompanied by an attachment containing information that can be used by the Owner in verifying the Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable. Such attachment shall include, with respect to the immediately preceding Quarter: (a) the calculation of the actual Partial Availability Payment or Availability Payment, as applicable, earned using the methodology set forth in Appendix 6; (b) a description of any Availability Failures and Performance Failures, including the date and time of occurrence and duration; (c) any adjustments to reflect previous over-payments and/or under-payments; (d) a detailed calculation of any interest payable in respect of any amounts owed; and (e) any other amount due and payable from Developer to the Owner or from the Owner to Developer under this Agreement, including any adjustments pursuant to Section 17.1.2.13 and Appendix 17. The Owner shall return any invoices that are incomplete and/or incorrect in any material respect, together with written reasons for so returning, to Developer for

correction and resubmission. Upon its receipt of an invoice therefor, the Owner shall pay Developer the corresponding Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable, within 30 days of receipt of the invoice. Notwithstanding the foregoing, the Owner has no obligation to pay the Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable, until Developer submits a proper invoice therefor in accordance with this Section 12.3.3.3.

12.3.3.4 The Partial Quarterly Settlement Amount shall be calculated at the end of the last month of each Quarter in accordance with Section 1.1.3 of Appendix 6. The Quarterly Settlement Amount shall be calculated at the end of the last month of each Quarter in accordance with Section 1.2.3 of Appendix 6. To the extent that the Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable, is negative for the Quarter, the corresponding Partial Excess Deduction Amount or Excess Deduction Amount, as applicable, shall accrue and be included in the invoice(s) for subsequent months in accordance with Section 12.3.3.2 until all deductions calculated in respect of any Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable, have been accounted for. The Owner will verify each Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable, by: (a) examining the monthly invoices for the applicable Quarter; (b) verifying the results reported therein by Developer, including through the Owner's independent Oversight process; and (c) reconciling the amounts paid with the actual QPMAP or QMAP, as applicable, earned and any other amount due and payable from Developer to the Owner or from the Owner to Developer under this Agreement.

12.3.3.5 The Owner shall not be required to pay: (a) any monthly invoice if Developer has failed to submit the reports required to be submitted for that month as required by Section 4.1.6.2 of the Technical Requirements; or (b) any invoice for a Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable, with respect to a Quarter in which any such reports remain outstanding, unless and until the required report is submitted. If it is determined that any monthly report required to be submitted pursuant to Section 4.1.6.2 of the Technical Requirements is found to be inaccurate, which, had it been accurate, would have revealed that an Availability Failure or Performance Failure had occurred, then the Owner shall not be required to pay any monthly or quarterly invoice submitted by Developer unless and until a revised report which is accurate to the reasonable satisfaction of the Owner is subsequently submitted to the Owner. Once the required or revised reports are submitted, the Owner shall process the applicable invoice(s) for payment. The failure to file a monthly report or the submission of an inaccurate report may result in the assessment of Noncompliance Points.

12.3.3.6 The Partial Monthly Disbursement and Partial Quarterly Settlement Amount for a month or Quarter (as applicable) in which Occupancy Readiness of all First Delivery Facilities, the Second Delivery Facilities, the Substantial Completion Date or any Early Termination Date occurs shall be prorated in accordance with Section 1.1 of Appendix 6. The Monthly Disbursement and Quarterly Settlement Amount for a month or Quarter (as applicable) in which the Substantial Completion Date, the Termination Date or any Early Termination Date occurs shall be prorated in accordance with Section 1.2 of Appendix 6.

## **12.4 Disputed Amounts**

12.4.1 The Owner shall have the right to dispute, in good faith, any amount specified in an invoice submitted by Developer under this Agreement. The Owner will pay the amount of the invoice in question that is not in dispute, and will be entitled to withhold the balance pending resolution of the Dispute, and the Owner will provide written reasons for any such withholding.

12.4.2 Developer and the Owner will use their reasonable efforts to resolve any such Dispute within thirty (30) days after the Dispute arises. If they fail to resolve the Dispute within that period, then the Dispute shall be resolved according to the Dispute Resolution Procedures.

12.4.3 Any amount determined to be due pursuant to the Dispute Resolution Procedures will be paid within thirty (30) days following final resolution of the Dispute.

## **12.5 Interest on Payments**

12.5.1 If a Party fails to pay any undisputed amount due and owing from such Party to the other Party under this Agreement (in the case of any amount due and owing from the Owner to Developer, subject to receipt by the Owner of an acceptable invoice from Developer for such amount), the owing Party shall pay to the other Party interest on such amount at the Late Payment Rate from the due date thereof until the date of payment.

12.5.2 Without limiting the provisions of Section 12.5.1, if, as a result of any inaccuracy in an invoice any overpayment is made by the Owner to Developer, then, in addition to the adjustments provided in Section 12.3.3.3, the Owner shall be entitled to deduct or receive as a payment from Developer, interest thereon at the Late Payment Rate from the date of payment of the invoice by the Owner to the date the overpayment is deducted or paid. The right of the Owner to deduct the interest from the Quarterly Settlement Amount and/or to receive a payment from Developer is without prejudice to any other rights the Owner may have under this Agreement.

## **12.6 Delay Damages**

Developer acknowledges and agrees that any Partial Availability Payment or Availability Payment, or portion thereof, not received by Developer as a result of a delay in achieving Occupancy Readiness of the First Delivery Facilities, the Second Delivery Facilities or Substantial Completion, as applicable (other than a delay for which Developer is entitled to compensation under Article 10), represents the liquidated amount of delay damages suffered by the Owner due to such delay.

## **12.7 Tax Allocation**

Developer acknowledges that the Owner may fund the Monthly Progress Payments with the proceeds of Tax-exempt bonds. Therefore, the Owner may desire to allocate, solely for purposes of the federal Tax requirements relating to Tax-exempt financing, the Monthly Progress Payments to specific Facilities, and the Owner may request Developer to provide certain information (as detailed in this Section 12.7) upon which the Owner will rely. In that regard:

12.7.1 If the Owner provides to Developer an allocation of the Monthly Progress Payments to specific Facilities and that is solely for purposes of federal Tax requirements relating to Tax-exempt financing, Developer will not allocate the proceeds of any Monthly Progress Payment received by Developer to specific Facilities in an inconsistent manner;

12.7.2 Upon request by the Owner, Developer will provide to the Owner information relating to (i) costs of developing each of the Facilities and (ii) an allocation of Developer's operating and maintenance costs to each of the Facilities, in each case, it being acknowledged by the Owner that categories of actual costs of the Project will not be broken down on a Facility-by-Facility basis and, for the purposes of this Section 12.7.2, a reasonable estimation of the allocation of costs between Facilities will be sufficient; and

12.7.3 Developer will not take the position for federal Tax purposes, explicitly or implicitly, that it is the owner or lessee of the Project or any of the Facilities, provided, however, that nothing in this Section 12.7 shall: (a) prohibit Developer from using Monthly Progress Payments to pay for any costs of the Project; or (b) require Developer to maintain separate bank accounts to pay for any specific costs of developing, operating or maintaining different Facilities or otherwise separate such payments.

## **ARTICLE 13. LENDERS**

### **13.1 Direct Agreement**

Concurrently with the execution and delivery of this Agreement, the Owner, Developer and the Collateral Agent, on behalf of the Lenders, have entered into the Direct Agreement. The rights and obligations of the Owner and the Collateral Agent in relation to the other are set forth in such agreement.

### **13.2 Lenders' Technical Advisor**

13.2.1 Developer shall facilitate unfettered access to the LTA and its work product for the purposes of understanding its basis of assessment for each and any certification made in relation to the Project. The Owner will use such access solely for the purposes of Oversight.

13.2.2 Developer shall use its best efforts to cause the LTA to at all times act in good faith and exercise the standard of care and degree of skill, diligence and prudence required of the LTA under the LTA Agreement. Subject to Section 13.2.4, the LTA's approval of payment applications by Developer's design-build contractor will be accepted by the Owner for purposes of the Monthly Progress Payments, provided that the LTA has exercised reasonable skill and care in determining the value of work done and associated payment amount, and will not be subject to further rights of approval or modification by the Owner.

13.2.3 Developer shall deliver to the Owner a copy of any notice given under Article 8 of the LTA Agreement by any party thereto within two (2) Business Days of delivery of same under the LTA Agreement. In addition, Developer shall keep the Owner apprised of any efforts to resolve any conflict of interest that may be the subject of a notice under Section 8.04 of the LTA Agreement.

13.2.4 If the Owner determines that (a) the LTA failed to exercise the requisite skill and care as provided in Section 13.2.2, (b) any conflict of interest involving the LTA has not or cannot be resolved, or (c) any proposed replacement LTA is not acceptable, and the Owner disputes any amounts approved by the LTA under any such circumstance, the Owner may refer the matter to the accelerated Dispute Resolution Procedures set forth in Section 25.2.2 (provided that Sections 25.2.2.1 through 25.2.2.3 shall not apply), and:

13.2.4.1 The Owner shall pay Monthly Progress Payments in accordance with Section 12.1, inclusive of the disputed amounts, pending the Dispute Review Board's provisionally binding recommendation under Section 25.2.2; and

13.2.4.2 Any disputed amounts paid by the Owner pursuant to Section 13.2.4.1 which the Dispute Review Board finds is not owing pursuant to its provisionally binding recommendation under Section 25.2.2 shall be deducted from subsequent Monthly Progress Payment(s) until such amounts have been deducted in full.



## **ARTICLE 14. EQUITY TRANSFERS AND CHANGE OF CONTROL; COMMITTED INVESTMENT REQUIREMENT**

### **14.1 Restrictions on Equity Transfers and Change of Control**

14.1.1 Except as provided in Section 14.1.3, no equity transfer shall result in any Key Qualified Investor ceasing to own (directly or indirectly) the same percentage of the issued share capital, partnership or membership interests, as applicable, in Developer that it owned (directly or indirectly) as of the Effective Date, unless Developer obtains the Owner's prior written approval as provided in Section 14.2.

14.1.2 Except as provided in Section 14.1.3, any Change of Control of Developer shall be subject to the Owner's prior written approval in accordance with Section 14.2.

14.1.3 Transfers and transactions within any of the exceptions described in clauses (a) through (f) of the definition of Change of Control are allowed at any time without necessity for the Owner's approval but, in the case of:

14.1.3.1 An exception described in clauses (a) (with respect to any initial public offering), (b), (c) or (d), subject to the condition that Developer deliver to the Owner, within ten (10) days prior to the effectiveness of the transfer or transaction; and

14.1.3.2 An exception described in clause (a) (other than with respect to an initial public offering), subject to the condition that Developer deliver to the Owner, within five (5) days after the effectiveness of the transfer or transaction,

written notice describing the transfer or transaction and (if applicable) the names of the transferor and transferee, together with documentation demonstrating that the transfer or transaction is within such an exception.

### **14.2 Standards and Procedures for Owner Approval**

14.2.1 Where the Owner's prior written approval is required for a proposed sale, assignment, conveyance, transfer, pledge, mortgage, encumbrance, grant of right of entry, or grant of other special use, management or control, or for any proposed Equity Transfer or Change of Control of Developer (each, a "**Transaction**"), and such Transaction is proposed at any time during the period ending two (2) years after the Substantial Completion Date, the Owner may withhold or condition its approval in its sole discretion. Any such decision of the Owner to withhold consent shall be final, binding and not subject to the Dispute Resolution Procedures.

14.2.2 After the second anniversary of the Substantial Completion Date, the Owner shall not unreasonably withhold its approval of a Transaction.

14.2.3 Among other reasonable factors and considerations, it shall be reasonable for the Owner to withhold its approval if:

14.2.3.1 Developer fails to demonstrate to the Owner's reasonable satisfaction that: (a) the proposed assignment, grant or transfer that would amount to a Change of Control of Developer will not have any adverse effect on Developer's ability to timely perform its obligations under the Contract Documents and Principal Developer Documents, taking into account the financial resources, qualifications and experience of the proposed assignee, grantee or transferee; and (b) the proposed assignee, grantee or transferee is in compliance with the Owner's rules, regulations, and adopted written policies regarding organizational conflicts of interest; or

14.2.3.2 At the time of the proposed Transaction, there exists any uncured Developer Default or any event or circumstance that with the lapse of time, the giving of notice or both would constitute a Developer Default, unless the Owner receives from the proposed transferee assurances of cure and performance acceptable to the Owner in its good faith discretion.

14.2.4 For transactions subject to the Owner's prior reasonable approval, the Owner will approve or disapprove in writing within sixty (60) days after it receives from Developer:

14.2.4.1 A request for approval;

14.2.4.2 A reasonably detailed description of the proposed Transaction;

14.2.4.3 Such information, evidence, and supporting documentation as the Owner may request concerning the identity, financial resources, qualifications, experience, and potential conflicts of interest of the proposed transferee and its proposed contractors; and

14.2.4.4 Such evidence of organization and authority, and such incumbency certificates, certificates regarding debarment or suspension, and other certificates, representations, and warranties as the Owner may reasonably request.

14.2.5 Except as otherwise provided in Section 14.2.7, for Transactions subject to the Owner's prior reasonable approval, the Owner will evaluate the identity, financial resources, qualifications, experience, and potential conflicts of interest using the same standards and criteria that it is then currently applying, or if there is no current application, then the same standards and criteria it most recently applied, to the evaluation of Persons responding to the Owner's requests for qualifications for concession or similar agreements for comparable projects and facilities.

14.2.6 If for any reason the Owner does not act within such sixty (60) day period, or any extension thereof by mutual agreement of the Parties, then the proposed Transaction shall not be permitted, subject to Developer's right, in the case of a proposed Transaction governed by Section 14.2.2, to submit a Dispute for resolution according to the Dispute Resolution Procedures.

14.2.7 Notwithstanding the foregoing, prior to the period ending two (2) years after the Substantial Completion Date, any Initial Equity Member whose role, and its Affiliates' roles, if any, are restricted solely to financial matters and which has no role in the performance of the Work and does not have a Controlling Interest, may assign, sell or transfer its interest (whether direct or indirect) in Developer, provided that any such Equity Transfer shall be subject to the Owner's prior reasonable approval unless such Equity Transfer constitutes a Change of Control (in which case it shall be subject to the Owner's approval, in its sole discretion). Developer shall deliver to the Owner, within sixty (60) days prior to the effectiveness of such transfer or transaction, written notice describing the transfer or transaction and the names of the transferor and transferee, together with documentation demonstrating that the Initial Equity Member's and any Affiliates' roles are restricted solely to financial matters with no role in the performance of the Work, and all other documentation and information required under Section 14.2.4. In determining whether to give its consent, the Owner will evaluate the financial qualifications and potential conflicts of interest of the transferee using the same standards and criteria that it applied to the evaluation of Developer in its response to the Owner's requests for qualifications to develop, design, construct, finance, operate, and maintain the Project.

### **14.3 Minimum Equity Requirement**

14.3.1 Developer shall have and maintain a Construction Equity Ratio of at least ten percent (10%) throughout the period between the date of Financial Close and the Substantial Completion Date, except to the extent:

14.3.1.1 The Owner otherwise approves in writing in its sole discretion;

14.3.1.2 Developer must reduce the Construction Equity Ratio below ten percent (10%) as part of a workout of a breach or default under the Financing Documents; or

14.3.1.3 The Construction Equity Ratio is reduced below ten percent (10%) because Developer incurs additional Project Debt pursuant to a Rescue Refinancing.

## **ARTICLE 15. FINANCIAL MODEL FOR THE PROJECT**

### **15.1 Financial Model**

15.1.1 A copy of the Initial Financial Model is attached to this Agreement as Appendix 2-J.

15.1.2 Developer shall bear the entire risk of any errors in or omissions from the Initial Financial Model and any subsequent Financial Model and shall not be entitled to any compensation from, claim or other relief against the Owner in relation to any loss or damage that it suffers in consequence of such error or omission.

15.1.3 In the event the Owner is requested to disclose the Initial Financial Model or any subsequent Financial Model and Developer has identified the Initial Financial Model or any subsequent Financial Model as confidential material, the Owner will promptly notify Developer so that Developer may seek a protective order or other appropriate remedy. If it wishes to protect the materials from disclosure, Developer shall seek court protection immediately on an emergency basis. In the event that such protective order or other remedy is not timely sought or obtained by Developer, the Owner will release the Initial Financial Model or any subsequent Financial Model if the Owner concludes, in its good faith discretion, that such disclosure is required by the Public Records Act.

### **15.2 Financial Model Updates**

15.2.1 Developer shall run new projections and calculations under the Financial Model Formulas to establish a Financial Model Update:

15.2.1.1 Whenever there occurs a Relief Event for which the Owner owes a compensation amount;

15.2.1.2 Whenever there occurs a Refinancing with Refinancing Gain in which the Owner participates;

15.2.1.3 Whenever there occurs an event for which the Owner is entitled to compensation pursuant to Section 1.7(b) of Appendix 21 or Section 11.2.3;

15.2.1.4 Whenever the Contract Documents are amended and the Parties agree that the amendment has a material effect on the Financial Model; and

15.2.1.5 As otherwise agreed to from time to time by the Parties.

The Financial Model Update shall only incorporate (1) changes to revenues and expenses that arise directly from the circumstances described above, and (2) consequential changes to the Project Debt draw down schedule, funding and release of reserves, financing costs, debt

service profile, Committed Series A Equity Investment draw down schedule and Developer's dividend profile. The Financial Model Update shall not (1) incorporate information or assumptions based on Developer's actual financial performance, or (2) generally update projections through the end of the Term based on current market conditions.

15.2.2 Developer shall prepare the Financial Model Updates and shall provide the Owner with each Financial Model Update including any updated and revised assumptions, and other data that form a part of the Financial Model as updated, including updated and revised cash flow projections. Financial Model Updates shall be audited by an independent model auditor in accordance with Section 15.3.2 prior to such Financial Model Update becoming a part of this Agreement.

15.2.3 the Owner shall have the right at all times to gain access, on an open book basis, to the Financial Model and each Financial Model Update and the set of updated and revised assumptions and other data that form part of each such model. The Owner shall have the right to challenge the validity, accuracy or reasonableness of any Financial Model Update or the related updated and revised assumptions and data. In the event of a challenge, the Financial Model effective prior to the submission of the Financial Model Update shall remain in effect pending the outcome of the challenge or until a new Financial Model Update is issued and not challenged.

### **15.3 Model Audits**

15.3.1 Concurrently with Financial Close, Developer shall have delivered to the Owner a copy of an update of the audit and opinion for the Initial Financial Model obtained from the independent model auditor that provided an opinion on the suitability of the Bid Financial Model. The updated audit and opinion shall be in the same form as that delivered for the Proposal, and shall take into account the final terms and conditions of the Initial Funding Agreements and Initial Security Documents.

15.3.2 Any Financial Model Update shall be audited by an independent audit firm and Developer shall deliver a copy of the firm's audit and opinion to the Owner prior to such Financial Model Update becoming effective under this Agreement. Developer shall solely bear the cost of the audit. The audit of the Financial Model Update shall be the same one required by the Lenders.

### **15.4 Escrow of Financial Model**

15.4.1 Promptly after Financial Close, the Owner and Developer shall jointly deposit the Initial Financial Model in an escrow to be established at a commercial business located in California, and on terms and conditions, mutually acceptable to the Parties, acting reasonably (the "**Financial Escrow**").

15.4.2 The Parties shall follow comparable procedures for examining, verifying and depositing into the Financial Escrow the Initial Financial Model and any subsequent Financial Model developed after the Effective Date. The Parties shall complete the examination and make the deposit within ten (10) days after the Financial Model Update is developed.

15.4.3 If the Owner elects not to be a signatory party to the escrow agreement establishing the Financial Escrow, then the Owner shall be a named, intended third-party beneficiary of the escrow agreement and the Financial Escrow with direct rights of enforcement against Developer and the escrow agent. The escrow agreement shall provide that neither Developer nor the escrow agent shall have any right to amend or supplement it, or waive any provision thereof, without the Owner's prior written approval in its sole discretion. Provisions in

the escrow agreement for access to the escrowed materials shall be consistent with this Section 15.4.

15.4.4 Developer shall submit the Initial Financial Model and any subsequent Financial Model into the Financial Escrow in macro-enabled excel format by email, on electronic storage media, or by such other method and medium as the Parties may agree in writing, provided that irrespective of method or medium, the electronic file containing the Financial Model being submitted and any medium on which it is stored, if applicable, shall be clearly marked with Developer's name, date of submittal, contract number and the words, "Financial Model for Escrow." Developer certifies that the material initially submitted to the Financial Escrow constitutes the Initial Financial Model, that Developer has personally examined the contents of the electronic file and/or electronic storage media, as applicable, and that they are complete.

15.4.5 Whenever Developer makes an additional deposit of the Initial Financial Model or any subsequent Financial Model to the Financial Escrow, Developer shall certify to the Owner in writing at the time of deposit that: (a) the material deposited into the Financial Escrow constitutes the true Initial Financial Model or subsequent Financial Model, as applicable; (b) Developer has personally examined the contents of the container; and (c) they are complete.

15.4.6 Each of the Owner and Developer shall have the right to examine, through one or more designated representatives, any and all components of the escrowed material in the Financial Escrow at any time. The Party undertaking an examination need not have or state a specific reason to examine such material. The applicable escrow agreement shall require that the escrowed information made accessible to the Parties shall be in read-only format and shall not be in a form that would permit either Party to modify, manipulate or delete such escrowed information. Without limiting the foregoing, the Parties recognize that examination of the escrowed material may assist in the negotiation or determination of MAP adjustments, compensation, damages, extension of Completion Deadlines, Owner Changes and Refinancing Gain calculations, or may assist in the potential resolution or settlement of Claims or Disputes.

15.4.7 The escrowed material in the Financial Escrow is, and shall remain, the property of Developer or its Contractors.

15.4.8 Either Party may introduce the escrowed material in the Financial Escrow into evidence before the Disputes Review Board and in court proceedings. The Parties shall promptly abide by any request from the Disputes Review Board to receive, review and utilize escrowed material to assist the Disputes Review Board in its deliberations.

15.4.9 The Financial Escrow shall remain in effect throughout the Term and thereafter until final resolution of all Disputes, subject to any mutual agreement of the Parties to discard materials therein from time to time.

15.4.10 Developer shall be responsible for the fees and costs of the escrow agent for the Financial Escrow.

## **ARTICLE 16. PROJECT FINANCING AND REFINANCING**

### **16.1 Developer Right and Responsibility to Finance Project**

16.1.1 Developer is solely responsible for obtaining and repaying, at its own cost and risk and without recourse to the Owner, all financing necessary for the Work, including the design, permitting, development, construction, equipping, operation, maintenance, modification, reconstruction, rehabilitation, restoration, renewal and replacement of the Project, except as otherwise expressly provided in this Agreement. Developer will diligently pursue its obligations

to obtain the necessary financing, as described in its financial plan reflected in the Initial Financial Model.

16.1.2 Notwithstanding the foreclosure or other enforcement of any security interest created or perfected by a Financing Document, Developer shall remain liable to the Owner for the payment of all sums owing to the Owner under this Agreement and the performance and observance of all of Developer's covenants and obligations under this Agreement.

## **16.2 No Owner Responsibility for Project Debt**

All Project Debt or other obligations issued or incurred by Developer or a Developer-Related Entity in connection with this Agreement or the Project shall be issued or incurred only in the name of Developer or a Developer-Related Entity. Except as otherwise expressly provided in this Agreement, the Owner shall have no obligation to pay debt service on any debt issued or incurred by Developer or a Developer-Related Entity. The Owner shall have no obligation to join in, execute or guarantee any note or other evidence of indebtedness of Developer or a Developer-Related Entity, any other Funding Agreement or any Security Document (other than the Direct Agreement).

## **16.3 Refinancing**

### **16.3.1 Right of Refinancing**

Subject to obtaining the Owner's prior written approval as provided in Section 16.3.3, Developer from time to time may consummate Refinancings under the Funding Agreements on terms and conditions acceptable to Developer and in compliance with Sections 16.3.2 and 16.3.3; provided that the Owner's consent shall not be required for an Exempt Refinancing or a Rescue Refinancing so long as Developer shall: (a) notify the Owner (i) at least 60 days in advance of any Exempt Refinancing other than an Exempt Refinancing described in clause (b) or (d) of the definition of Exempt Refinancing, (ii) at least 10 days in advance of any Exempt Refinancing described in clause (b) of the definition of Exempt Refinancing, (iii) at least 45 days in advance of any Rescue Refinancing, and (iv) within 7 days following any Exempt Refinancing described in clause (d) of the definition of Exempt Refinancing; and (b) include in any such notice facts to support the basis on which Developer believes the Refinancing constitutes an Exempt Refinancing or a Rescue Refinancing, as applicable. The Owner's approval of a Refinancing shall be based on confirming compliance with Sections 16.3.2 and 16.3.3 and agreement on the amount, if any, of Refinancing Gain payable to the Owner upon the closing of the Refinancing or as directed by the Owner in accordance with Appendix 11. Except as otherwise expressly provided in Section 16.3.2.1, the Owner shall have no obligations or liabilities in connection with any Refinancing except to deliver estoppel certificates pursuant to Section 18 of the Direct Agreement and to allow for the inclusion of the new Lender to be added to the Direct Agreement.

### **16.3.2 Notice, Consent and Documentation of Refinancing**

16.3.2.1 In connection with any proposed Refinancing, except a Refinancing that is exempt from approval as provided in Section 16.3.1, Developer shall as soon as practicable submit to the Owner a summary outline of the proposed Refinancing, together with a schedule setting forth the various activities, each with schedule durations, to be accomplished from the commencement through the close of the proposed Refinancing. At least 60 days prior to the proposed date for closing the Refinancing, Developer shall submit to the Owner all information and materials relevant to the Refinancing as required by Appendix 11. The Owner shall have up to 40 days to review and determine whether the proposed Refinancing: (a) will result in a Refinancing Gain; and (b) is an Exempt Refinancing, and, if

applicable, select the means for payment of its portion of the Refinancing Gain. If the Owner approves the draft proposed Financing Documents for further processing, Developer shall submit final drafts of these documents, including updated versions of the background information previously submitted to the Owner, for final review and approval not later than 15 days prior to the proposed date for closing the Refinancing. Developer shall only proceed with the Refinancing upon receipt of prior written consent from the Owner, which will be provided no later than ten days after receiving the final documents. If Developer proceeds with the Refinancing, the Owner will provide documents as are reasonably necessary to comply with applicable Laws as well as customary opinions and certificates in connection with the closing of such Refinancing. Developer shall perform a final calculation of the Refinancing Gain and deliver the results to the Owner in accordance with Section 5 of Appendix 11, and Developer shall pay the Owner its portion of the Refinancing Gain in accordance with Section 4 of Appendix 11. Developer shall deliver to the Owner copies of all signed Financing Documents in connection with such Refinancing not later than ten days after close of the Refinancing, together with a revised Financial Model reflecting the final terms of the Refinancing and showing Developer's final calculation of the Refinancing Gain.

16.3.2.2 With respect to a Rescue Refinancing, at least 30 days prior to the proposed date for closing the Refinancing, Developer shall submit to the Owner the proposed term sheet, the financial model and the other documents required by Appendix 11 showing how Developer has calculated the Refinancing Gain following the procedures set forth in Appendix 11 or demonstrating that the Rescue Refinancing will not produce a Refinancing Gain. The Owner will have up to 20 days to review and dispute Developer's calculation of Refinancing Gains, provide comments and determine whether such calculations have been made in accordance with the requirements of Appendix 11.

### **16.3.3 Refinancing Limitations, Requirements and Conditions**

Proposed Refinancings are subject to the following limitations, requirements and conditions precedent:

16.3.3.1 Refinancings other than Exempt Refinancings, Rescue Refinancings and Nominal Refinancings shall be subject to the Owner's prior written approval in its reasonable discretion. Nominal Refinancings shall be subject to the Owner's prior written approval in its sole discretion. Except to the extent approved by the Owner in its sole discretion, Developer must demonstrate that: (a) the Committed Equity Investment requirements under Section 14.3 will continue to be satisfied following the Refinancing; and (b) the Refinancing will not increase the amount of Lenders' Liabilities by more than ten percent (10%).

16.3.3.2 If the Owner renders any assistance or performs any requested activity in connection with a Refinancing apart from delivering an estoppel certificate, then concurrently with, and as a condition precedent to Developer's right to close a Refinancing, Developer shall reimburse the Owner all the Owner's Recoverable Costs the Owner incurs in connection therewith. The Owner shall deliver to Developer a written invoice and demand therefor prior to the scheduled date of closing. If for any reason the Refinancing does not close, Developer shall reimburse such the Owner's Recoverable Costs and such other fees, costs and expenses within ten days after the Owner delivers to Developer a written invoice and demand therefor.

16.3.3.3 For any Refinancing other than an Exempt Refinancing, the Owner shall be entitled to 50% of any Refinancing Gain, calculated in accordance with Appendix 11. The Parties shall negotiate in good faith to determine the Refinancing Gain.

16.3.3.4 Developer shall bear all risks for any Refinancing that negatively affects its Equity IRR, debt coverage ratios or financial performance.

## **ARTICLE 17. INSURANCE, PAYMENT AND PERFORMANCE SECURITY, AND INDEMNITY**

### **17.1 Insurance**

#### **17.1.1 Insurance Policies and Coverage**

##### **17.1.1.1 Owner-Provided Insurance Policy**

The Owner shall procure and maintain the Owner-Provided Insurance Policy strictly in accordance with the minimum coverage requirements and terms of coverage as set forth in Appendix 8.

##### **17.1.1.2 Developer-Provided Replacement Property Policy**

If the Owner determines, in its good faith discretion, that continuing to include Developer and/or its Contractors as additional insureds under the Owner-Provided Insurance Policy will adversely impact the Owner or the terms, conditions and/or costs of the Owner-Provided Insurance Policy due to the claims and loss experience for the Project caused by the negligence, willful misconduct, or breach of applicable Law or contract by Developer or any Developer-Related Entity, the Owner may, upon 60 days' prior written notice to Developer, require Developer to procure and maintain a replacement property policy for the Project on the applicable terms and conditions set forth in Appendix 8 for the Owner-Provided Insurance Policy, and such replacement policy shall be deemed a Developer-Provided Insurance Policy for the purposes of this Agreement. From and after the effective date of such replacement policy: (a) the Owner will pay to Developer the Base Project Property Insurance Cost, payable in four equal installments per annum as part of the Quarterly Settlement Amounts; and (b) the Base Project Property Insurance Cost will be subject to the benchmarking provisions set forth in Section 17.1.2.13.

##### **17.1.1.3 Developer-Provided Insurance Policies**

Developer shall procure and maintain, or cause to be procured or maintained, the Developer-Provided Insurance Policies strictly in accordance with the minimum coverage requirements and terms of coverage as set forth in Appendix 8 and in this Section 17.1 and, in the case of MID Required Insurance, in accordance with the minimum coverage requirements and terms of coverage set forth in the MID Agreement.

#### **17.1.2 General Insurance Requirements**

##### **17.1.2.1 Insurers**

All Developer-Provided Insurance Policies shall be procured from insurers that at the time coverage commences are admitted/authorized insurers to do business in the State and have a current policyholder's management and financial size category rating of not less than AX according to A.M. Best's Financial Strength Rating and Financial Size Category, except as otherwise provided in Appendix 8 or approved in writing by the Owner in its reasonable discretion.

##### **17.1.2.2 Deductibles; Self-Insured Retentions; Claims in Excess of Coverage**

Except to the extent expressly provided otherwise in the Contract Documents, Developer or its Contractor(s), as the case may be, shall be responsible for paying all insurance deductibles and self-insured retentions (and Developer shall promptly indemnify the Owner



upon written demand for any such deductibles and self-insured retentions paid by the Owner) and the Owner shall have no liability for deductibles, self-insured retentions or claim amounts in excess of the required coverage. The Owner shall be responsible for paying insurance deductibles and self-insured retentions: (a) under Developer-Provided Insurance Policies, to the extent such deductibles and self-insured retentions are for claims or losses arising from the negligence, willful misconduct, or breach of applicable Law or contract by the Owner; and (b) under the Owner-Provided Insurance Policy, provided that Developer shall be responsible for any such deductibles and self-insured retentions for claims or losses arising from (i) the negligence, willful misconduct, or breach of applicable Law or contract by Developer or any Developer-Related Entity, or (ii) Vandalism, to the extent Developer is responsible for Direct Costs up to the Annual Vandalism Deductible per Calendar Year. The Owner shall be entitled to set off any deductible and/or self-insured retention amounts owing from Developer to the Owner under this Section 17.1.2.2 from any amounts due and payable by the Owner to Developer under this Agreement. In the event that any Developer-Provided Insurance Policy involves a self-insured retention: (a) the entity responsible for the self-insured retention shall, in addition to naming the Owner as an additional insured as specified in Appendix 8, have an authorized representative issue a letter to the Owner, at the same time the Developer-Provided Insurance Policy is to be procured, stating that the entity shall protect and defend the Owner to the same extent as if an insurer provided coverage for the Owner; and (b) Developer shall ensure that the relevant Developer-Provided Insurance Policy expressly permits (but does not obligate) the Owner, or a designee of the Owner, to pay the self-insured retention amount on behalf of the entity responsible for the self-insured retention. If the entity responsible for the self-insured retention does not promptly pay the self-insured retention amount when due, then the Owner may, but is not obligated to, pay the self-insured retention amount on behalf of such entity, and Developer shall indemnify the Owner for such amount and any other Losses incurred by the Owner in connection with the entity's failure to promptly pay the self-insured retention amount.

#### 17.1.2.3 Primary Coverage

Each policy shall provide that the coverage thereof is primary and noncontributory with respect to all named insureds and Owner Additional Insureds. For each property policy, such policy shall provide that the coverage thereof is primary and noncontributory with respect to all insureds, as their interest may appear. Any insurance or self-insurance beyond that specified in this Agreement that is maintained by an insured or any the Owner Additional Insured shall be excess of such insurance and shall not contribute with it.

#### 17.1.2.4 Verification of Coverage

1. At each time Developer is required to initially obtain or cause to be obtained each Developer-Provided Insurance Policy, and thereafter not less than 30 days prior to the expiration date of each Developer-Provided Insurance Policy, Developer shall deliver to the Owner a written binder of insurance. The binder of insurance shall be on the most recent ACORD form consistent with the required coverage, without disclaimer. The Owner may, in its reasonable discretion, accept a written binder in a standard form other than the ACORD form. Each required binder must be an original in standard form, state the identity of all Insurers, named insureds and additional insureds, state the type and limits of coverage, deductibles, waiver of subrogation and termination provisions of the policy, list and describe all applicable endorsements, and include as attachments copies of all additional insured endorsements and copies of any other endorsements requested by the Owner in its reasonable discretion, and be signed by an authorized

representative of the insurance company shown on the certificate, including its licensed agent or broker. Each required binder must be personally and manually signed by a representative or agent of the insurance company shown on the binder with a statement that he/she is an authorized representative or agent of such insurance company and is authorized to bind it to the coverage, limits, endorsements and termination provisions shown on the binder. The binder must state the signer's company affiliation, title and phone number, and, where required by this Agreement, include a statement that coverage may not be cancelled by the insurer for any reason except for non-payment of premium.

2. In addition, as soon as they become available, Developer shall deliver to the Owner: (a) a true and complete copy of each such Developer-Provided Insurance Policy or modification, or renewal or replacement Developer-Provided Insurance Policy and all endorsements thereto; and (b) satisfactory evidence of payment of the premium therefor.
3. If Developer has not provided the Owner with the foregoing proof of coverage and payment within ten days after receipt of written request therefor, the Owner may, upon three Business Days written notice to Developer, in addition to any other available remedy, without obligation and without further inquiry as to whether such insurance is actually in force, obtain such an Developer-Provided Insurance Policy; and Developer shall reimburse the Owner for the cost thereof upon demand. In addition, the Owner shall have the right, without obligation or liability, to suspend all or any portion of Work, during any time that such proofs of coverage, in compliance with this Section 17.1, have not been provided.
4. Concurrently with Developer's first written notice to the Owner under Section 5.2.2, Developer shall deliver to the Owner a written request for a copy of the Owner-Provided Insurance Policy. Within 30 days of receipt of same, the Owner will deliver to Developer a true and complete copy of the Owner-Provided Insurance Policy.

#### 17.1.2.5 Controlled Insurance Program

During the Construction Period, a Controlled Insurance Program is acceptable to satisfy all insurance requirements, provided that it otherwise meets the requirements described in Appendix 8 and this Section 17.1.

#### 17.1.2.6 Project-Specific Insurance

All insurance coverage required to be provided by Developer, the Lead Campus Planner, each firm comprising the Architectural Team and the Infrastructure Engineering Team, the Lead Contractor and Lead O&M Firm shall apply specifically and exclusively to the Project and extend to all aspects of the Work, with coverage limits dedicated solely to the Project, except with respect to Workers Compensation/Employers Liability and Commercial Automobile Liability coverages or if otherwise specified in Appendix 8. Insurance programs providing dedicated Project-specific limits and identified premiums are acceptable, provided that they otherwise meet all requirements described in Appendix 8 and this Section 17.1.

#### 17.1.2.7 Endorsements and Waivers

All Developer-Provided Insurance Policies that Developer is required to provide hereunder shall contain or be endorsed to comply with all requirements specified in the Contract

Documents, as well as the following provisions, provided that: (a) for the workers' compensation policy, only subsections (3) and (7) below shall be applicable; and (b) for the professional liability policy, only subsections (3), (7) and (8) shall be applicable:

1. Any failure on the part of a named insured to comply with reporting provisions or other conditions of the policies, any breach of warranty, any action or inaction of a named insured or others, or any change in ownership of all or any portion of the Project or Developer's Interest shall not affect coverage provided to the other named insureds or the Owner Additional Insureds;
2. The insurance shall apply separately to each named insured and the Owner Additional Insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability;
3. Each policy shall be endorsed to state that coverage cannot be canceled, voided, suspended, lapsed, modified or reduced in coverage or in limits except after 60 days' (or for non-payment of premium, 10 days') prior written notice by registered or certified mail, return receipt requested, has been given to the Owner, except as otherwise specified in Appendix 8. Such endorsement shall not include any limitation of liability of the insurer for failure to provide such notice;
4. Endorsements adding the Owner Additional Insureds to required policies shall contain no limitations, conditions, restrictions or exceptions to coverage beyond those that apply under the policy generally, and shall state that the interests and protections of each the Owner Additional Insureds shall not be affected by any misrepresentation, act or omission of a named insured or any breach by a named insured of any provision in the policy which would otherwise result in forfeiture or reduction of coverage. The commercial general liability policy shall contain no limitations to coverage for the Owner Additional Insureds arising out of "completed operations";
5. The commercial general liability policy shall cover liability arising out of the acts or omissions of Developer's employees engaged in the Work and employees of Contractors to the extent Contractors are provided coverage under such liability policy;
6. The commercial automobile liability insurance policy shall be endorsed as necessary to provide Motor Carrier Act Endorsement-Hazardous Materials Clean up (MCS-90) for those Contractors who will at any time transport Contaminated Materials;
7. Unless specified otherwise in Appendix 8, each Developer-Provided Insurance Policy shall provide coverage on an "occurrence" basis and not a "claims made" basis; and
8. Each Developer-Provided Insurance Policy shall contain a priority of payments clause, providing that the policy will respond in priority to Developer's rights to recover under the Agreement.

#### 17.1.2.8 Waivers of Subrogation

The Owner and Developer waive all rights against each other, against each of their respective agents, employees and Project consultants, and against Contractors and their respective members, directors, officers, employees, subcontractors and agents for any claims to the extent covered and paid by insurance obtained pursuant to this Section 17.1, except such

rights as they may have to the proceeds of such insurance. Developer shall require all Contractors to provide similar waivers in writing each in favor of all other parties specified above. Each policy for which Developer or its Contractor is required to provide coverage for the Owner Additional Insureds shall include a waiver of any right of subrogation against the Owner Additional Insureds.

#### 17.1.2.9 No Recourse

Except as may be inclusive within the MAP or as expressly provided otherwise in this Section 17.1, there shall be no recourse against the Owner for payment of premiums or other amounts with respect to the Developer-Provided Insurance Policies.

#### 17.1.2.10 Support of Indemnifications

The coverage provided by the Developer-Provided Insurance Policies shall support but is not intended to limit Developer's indemnification obligations under the Contract Documents.

#### 17.1.2.11 Adjustments in Developer-Provided Insurance Policy Coverage Amounts

1. At least once every two years during the Operating Period (commencing initially on the Substantial Completion Date), the Owner and Developer shall review and adjust, as appropriate, the per occurrence and aggregate limits for the Developer-Provided Insurance Policies that have stated dollar amounts set forth in Appendix 8.
2. In determining adjustments, Developer and the Owner shall take into account: (a) claims and loss experience for the Project; (b) the condition of the Project; (c) the Safety Compliance and Noncompliance Points record for the Project; and (d) then prevailing Best Management Practice for insuring comparable infrastructure projects.
3. If an Owner Change to increase required limits of Developer-Provided Insurance Policies results in a net increase in applicable insurance premiums, Developer shall be entitled to the amount of such net increase, provided that to the extent such adjustments are made to reflect Developer's performance on the Project (including for reasons described in Section 17.1.2.11.2(a), (b) or (c)), Developer shall not be entitled to any compensation. If an Owner Change to reduce the required limits of Developer-Provided Insurance Policies results in a net reduction in applicable insurance premiums, the Owner shall be entitled to 100% of the amount of such net reduction.

#### 17.1.2.12 Inadequacy and Unavailability of Required Coverages for Developer-Provided Insurance Policies

If Developer demonstrates to the Owner's reasonable satisfaction that it has used diligent efforts in the global insurance and reinsurance markets to procure the required insurance coverages for Developer-Provided Insurance Policies, and if despite such diligent efforts and through no fault of Developer any of such coverages (or any of the required terms of such coverages, including policy limits) become completely unavailable or unavailable at commercially reasonable rates from insurers meeting the financial requirements set forth in Section 17.1.2.1, the Owner will consider in good faith alternative insurance packages and programs that provide coverage as comparable to that contemplated in this Section 17.1 as is possible under then-existing insurance market conditions. For purposes of this Section 17.1.2.12, commercially reasonable rates are rates equal to or less than 200% of the benchmark for the Developer-Provided Insurance Policy at issue as described in Section

17.1.2.13. The Owner will be entitled to a credit for any insurance premium savings resulting from the modification or elimination of the insurance requirements, and the Owner will act as the insurer of last resort to cover the unavailable Developer-Provided Insurance Policy or portion thereof. In the alternative and in the Owner's sole discretion, the Owner may terminate this Agreement if the insurance coverages required under this Agreement become completely unavailable or unavailable at commercially reasonable rates from insurers meeting the financial requirements set forth in Section 17.1.2.1, with the Termination Compensation owed to Developer being calculated pursuant to Section 20.2.7. If the required insurance coverage is available in the market, the Owner's decision to approve or disapprove a variance from the requirements of this Section 17.1 shall be final and not subject to the Dispute Resolution Procedures.

#### 17.1.2.13 Insurance Premium Benchmarking

Except as otherwise provided in Section 17.1.2.12 and this Section 17.1.2.13, Developer shall bear the full risk of any insurance premium increases with respect to Developer-Provided Insurance Policies from the Effective Date until the Substantial Completion Date (or, if Developer-Provided Insurance Policies required for the O&M Services are already in force at the Substantial Completion Date, until the expiration of those policies), and shall not be entitled to any claim for relief for such increases. The Owner will allocate the risk of significant increases in insurance premiums through an insurance benchmarking process as set forth in this Section 17.1.2.13. In no event shall the Owner participate in any insurance premium risk associated with additional or extended coverages beyond those required under Appendix 8, or changes in premiums that are not the result of market-wide factors. The benchmarking process will occur at each insurance renewal period, but no less than triennially, through the following:

1. 90 days prior to (i) the Substantial Completion Date (or, if Developer-Provided Insurance Policies required for the O&M Services are already in force at the Substantial Completion Date, the expiration of those policies) and (ii) each insurance renewal period (but no less than triennially) (each, a **"Benchmarking Date"**), Developer shall submit a report (**"Insurance Review Report"**) to the Owner that includes the following elements:
  - (a) Firm indications from three (3) established and recognized insurance providers for the Developer-Provided Insurance Policies required in Appendix 8, subject to Section 17.1.2.12, for performing the O&M Services (**"Required Minimum Developer-Provided Insurance Policies"**). The quotes shall represent the current and fair market cost of providing the Required Minimum Developer-Provided Insurance Policies.
  - (b) The written binders of insurance in the form and content required under Section 17.1.2.4.1 with the premium invoices for the actual Developer-Provided Insurance Policies obtained by Developer for the O&M Services (**"Actual Developer-Provided Insurance Policies"**).
  - (c) Except with respect to the initial Insurance Review Report, a comprehensive written explanation of any effect that Developer's or any Developer-Related Entity's loss experience has had on the premiums for the Required Minimum Developer-Provided Insurance Policies and the Actual Developer-Provided Insurance Policies. The explanation shall include: (i) an assessment by Developer's independent insurance broker addressing industry trends in premiums for the Required Minimum Developer-Provided Insurance Policies and analysis (if applicable) of any Project-specific reasons for the increase in premiums; and (ii) detailed

analysis of any claims (paid or reserved) since the last review period, with claim date(s), description of incident(s), claims amount(s), and the level of deductibles provided.

2. The Owner may independently assess the accuracy of the information in the Insurance Review Report and retains the right to perform its own independent insurance review, which may include retaining advisors, obtaining independent quotes for the Required Minimum Developer-Provided Insurance Policies or performing its own assessment as to the impact of claims history on renewal costs.
3. The Starting Insurance Benchmarking Premiums shall be calculated based on the premium information obtained from the initial Insurance Review Report or, if the Owner deems appropriate in its reasonable discretion, from information obtained pursuant to Section 17.1.2.13.2.
4. The Starting Insurance Benchmarking Premiums established on the Benchmarking Date shall be used in the benchmarking process for the remainder of the Term in accordance with the following procedures:
  - (a) 90 days prior to each renewal date (but no less than triennially), Developer shall provide the Insurance Review Report, with the information specified in Section 17.1.2.13.1. The Owner shall determine the change in premium costs on a coverage-by-coverage basis for the Required Minimum Developer-Provided Insurance Policies calculated based on the information obtained from the initial Insurance Review Report or, if the Owner deems appropriate in its reasonable discretion, from information obtained pursuant to Section 17.1.2.13.2.
  - (b) The Owner will use the Starting Insurance Benchmarking Premiums to measure changes in premium costs at each renewal period (but no less than triennially) for each of the Required Minimum Developer-Provided Insurance Policies. The Starting Insurance Benchmarking Premiums established on the Benchmarking Date shall be escalated by applying a fixed 3% annual increase ("**Escalated Benchmark Insurance Premiums**"). Broker's/agent's fees and/or commissions will not be considered as part of the benchmarking exercise described in this Section 17.1.2.13, shall be identified and excluded from premiums, and are the exclusive responsibility of Developer.
  - (c) The subsequent Insurance Review Reports shall be used to establish the renewal premiums for the Required Minimum Developer-Provided Insurance Policies for purposes of the benchmarking process described in this Section 17.1.2.13. In no event shall premium increases that are caused by Project-specific losses, changes in deductibles or matters within the control of Developer or any Developer-Related Entity be subject to the benchmarking exercise or risk sharing described in this Section 17.1.2.13. Developer may voluntarily choose to procure an insurance package which varies from the Required Minimum Developer-Provided Insurance Policies (with for example different deductibles, different coverage amounts, different exclusions, etc.), in which case both Parties recognize that: (i) the actual variations in Developer's insurance premiums may not necessarily reflect the variations in the minimum insurance requirements and (ii) the Owner will disregard the actual

insurance package and will rely upon the analysis from the Insurance Review Report and its own independent analysis of the effect on the minimum insurance requirements. Any insurance beyond the Required Minimum Developer-Provided Insurance Policies shall not be subject to the insurance benchmarking process and the Maximum Availability Payment adjustment described in subsection (5) below.

(d) If the Owner elects to retain its own insurance advisor to analyze the extent of eligible premium increases, Developer shall cooperate in good faith with any reasonable requests for additional information from the Owner's insurance advisor. No later than 30 days after Developer's submission of the Insurance Review Report, the Owner shall make its determination of the eligible premium increases subject to the risk-allocation described in subsection (5) below.

5. If the annual insurance premiums for the Actual Developer-Provided Insurance Policies, after adjustment for any changes in coverage and deductibles and as such premiums may be adjusted pursuant to subsection (c) of Section 17.1.2.13.4, are in excess of the applicable Escalated Benchmark Insurance Premiums, the Owner shall increase the Maximum Availability Payment in an amount equal to 85% of such premiums that are in excess of the applicable Escalated Benchmark Insurance Premiums until the next benchmarking period. If the annual insurance premiums for the Actual Developer-Provided Insurance Policy, as such premiums may be adjusted pursuant subsection (c) of Section 17.1.2.13.4, are below the applicable Escalated Benchmark Insurance Premiums, the Owner shall reduce the Maximum Availability Payment in an amount equal to 85% of the difference between such premiums and the applicable Escalated Benchmark Insurance Premiums until the next benchmarking period.

#### 17.1.2.14 Defense Costs

Unless otherwise agreed to in writing by the Owner in its reasonable discretion, no defense costs shall be included within or erode the limits of coverage of any of the Developer-Provided Insurance Policies, except that defense costs may be included within the limits of coverage of professional liability, contractor's pollution liability and pollution legal liability policies.

#### 17.1.2.15 Contesting Denial of Coverage

If any Insurer under a Developer-Provided Insurance Policy described in Sections 17.1.1 and 17.1.3 denies coverage with respect to any claims reported to such Insurer, Developer and the Owner shall cooperate in good faith to establish whether and to what extent to contest, and how to fund the cost of contesting, the denial of coverage; provided that if the reported claim is a matter covered by an indemnity in favor of the Owner or the denial is the result of Developer's failure to comply with an insurance requirement, then Developer shall bear all costs of contesting the denial of coverage.

#### 17.1.3 Lender Insurance Requirements

If under the terms of any Funding Agreement or Security Document Developer is obligated to, and does, carry insurance coverage with higher limits, lower deductibles or self-insured retentions, or broader coverage than required under this Agreement, Developer's provision of such insurance shall satisfy the applicable requirements of this Agreement provided such policy meets all the other applicable requirements of this Section 17.1. If Developer

carries insurance coverage in addition to that required under this Agreement, then Developer shall include the Owner Additional Insureds as additional insureds thereunder, under additional insured endorsements as described in Section 17.1.2.7.4, and shall provide to the Owner the proofs of coverage and copy of the policy described in Section 17.1.2.4. If, however, Developer demonstrates to the Owner that inclusion of such Persons as additional insureds will increase the premium, the Owner shall elect either to pay the increase in premium or forego additional insured status.

#### **17.1.4 Prosecution of Claims**

17.1.4.1 Unless otherwise directed by the Owner in writing with respect to the Owner's insurance claims, Developer shall be responsible for reporting and processing all potential claims by the Owner or Developer against the Developer-Provided Insurance Policies. Developer agrees to report timely to the insurer(s) under such policies any and all matters which may give rise to an insurance claim by Developer or the Owner and to promptly and diligently pursue such insurance claims in accordance with the claims procedures specified in such policies, whether for defense or indemnity or both. Developer shall enforce all legal rights against the insurer under the applicable Developer-Provided Insurance Policies and applicable Laws in order to collect thereon, including pursuing necessary litigation and enforcement of judgments, provided that Developer shall be deemed to have satisfied this obligation if a judgment is not collectible through the exercise of lawful and diligent means.

17.1.4.2 The Owner agrees to promptly notify Developer of the Owner's incidents, potential claims, and matters which may give rise to an Owner insurance claim, to tender to the insurer the Owner's defense of the claim (if applicable) under such Developer-Provided Insurance Policies, and to cooperate with Developer as necessary for Developer to fulfill its duties hereunder.

17.1.4.3 With respect to the Owner-Provided Insurance Policy, Developer shall promptly notify the Owner in writing of any incidents, potential claims, and matters which may give rise to a claim. Upon receipt of any such notice, the Owner shall promptly process the claim through its third party claims administrator, provided that Developer shall cooperate with the Owner and its third party claims administrator as necessary for the Owner to prosecute the claim.

17.1.4.4 If in any instance: (a) Developer has not performed its obligations respecting insurance coverage set forth in this Agreement; (b) Developer is unable to enforce and collect any insurance under the Developer-Provided Insurance Policies for failure to assert claims in accordance with the terms of the Developer-Provided Insurance Policies or to prosecute claims diligently; or (c) the Owner is unable to enforce and collect any insurance under the Owner-Provided Insurance Policy for failure of Developer to comply with Section 17.1.4.3, then for purposes of determining Developer's liability and the limits thereon or determining reductions in compensation due from the Owner to Developer on account of available insurance, Developer shall be treated as if it has elected to self-insure up to the full amount of insurance coverage which would have been available had Developer performed such obligations. Nothing in this Section 17.1.4 or elsewhere in this Section 17.1 shall be construed to treat Developer as electing to self-insure where Developer is unable to collect due to the bankruptcy or insolvency of any insurer which at the time the Developer-Provided Insurance Policy is written meets the rating qualifications set forth in this Section 17.1.

17.1.4.5 In the event that an insurer providing any of the Developer-Provided Insurance Policies required by this Agreement becomes the subject of bankruptcy proceedings, becomes insolvent, or is the subject of an order or directive limiting its business activities given by any Governmental Entity, Developer shall exercise best efforts to promptly



and at its own cost and expense secure alternative coverage in compliance with the insurance requirements contained in this Section 17.1 so as to avoid any lapse in insurance coverage.

17.1.4.6 If in any instance Developer has not promptly performed its obligation to report to applicable insurers and process any potential insurance claim tendered by the Owner, then the Owner may report the claim directly to the insurer and thereafter seek coverage under the relevant policy.

#### **17.1.5 Application of Insurance Proceeds**

All insurance proceeds received by Developer for physical property damage to the Project under any insurance policies required under Appendix 8, other than any business interruption or delay in start up insurance maintained as part of such insurance policies, shall be first applied to repair, reconstruct, rehabilitate, restore, renew, reinstate and replace each part or parts of the Project in respect of which such proceeds were received. With respect to physical property damage to the Project covered by the Owner-Provided Insurance Policy, except to the extent the Owner is expressly responsible under this Agreement for paying Developer for the cost of such Work, applicable insurance proceeds will be paid by the Owner's third party claims administrator to Developer.

#### **17.1.6 Property Damage Caused By Earthquake and Terrorism**

17.1.6.1 Subject to the provisions in this Section 17.1.6, the Owner shall, as of the Effective Date and continuing throughout the Term, pay for the Direct Costs to repair or replace tangible property damage to the Project caused by Terrorism or Earthquake. However, the Owner shall not be responsible for tangible property damage to any tools, machinery, equipment, protective fencing, job trailers or other items used in the performance of the Work but not intended for permanent installation into the Project that is caused by Earthquake or Terrorism.

17.1.6.2 If tangible property damage to the Project is caused by Terrorism or Earthquake, Developer shall, within ten (10) days of such occurrence, submit to the Owner written notice thereof. Within twenty (20) days of such notice, or such extended period of time as the parties agree is reasonable under the circumstances, Developer shall submit complete written and photographic documentation supporting its Claim, and provide detailed quantification of the damages caused thereby. Such written documentation shall include detailed identification of the tangible property damage, the scope of necessary repair work, the proposed approach to performing the necessary repair work, and the projected costs of repair together with a supporting cost-loaded repair schedule. The Owner shall within twenty (20) days, or such extended period of time as the Parties agree is reasonable under the circumstances, evaluate the documentation supplied by Developer and provide its provisional determination of the cost to repair the tangible property damage to the Project. Developer shall comply with any request of the Owner for explanation, elaboration or additional information reasonably necessary to facilitate the Owner's analysis.

17.1.6.3 Notwithstanding the foregoing, Developer shall not be entitled to compensation for any Delay Costs in connection with Earthquake or Terrorism.

17.1.6.4 Unless specified otherwise by the Owner, Developer shall comply with the requirements for performance of emergency repair work and maintenance of documents as set forth in Section 6.2.7 and other provisions of the Contract Documents.

## **17.2 Performance and Payment Bonds**

### **17.2.1 Performance Bond**

17.2.1.1 Developer shall, as a condition to the commencement of Design Work and the Owner's issuance of NTP 1, obtain or cause to be obtained a Performance Bond in an amount equal to the D&C Contract Amount, securing performance of the D&C Work.

17.2.1.2 The Performance Bond must be in the form set forth in Appendix 15-A, and must be issued by a surety or an insurance company authorized to issue bonds in the State that is rated in the top two categories by two of the three nationally recognized rating agencies or at least "A" or better and "Class VIII" or better according to A.M. Best's Financial Strength Rating and Financial Size Category except as otherwise approved in writing by the Owner in its reasonable discretion. The surety bond must include a multiple obligee rider, in the form of Appendix 15-C.1, which shall name the Owner as an additional obligee and may also name the Collateral Agent as an additional obligee. Developer may elect to procure the surety bond directly rather than rely upon its design-build contractor to do so as contemplated by the form contained in Appendix 15-A. If Developer makes this election, the Owner need not be named as an additional obligee under a multiple obligee rider, and the language of the bond form shall be adjusted to reflect the election, but only as necessary to eliminate references to the design-build contractor and to add the Owner. Subject to the Lenders' rights under the Direct Agreement, proceeds from a call on the Performance Bond by Developer shall be placed in a trust account and used solely for purposes of remedying the underlying performance default and the payment of costs contemplated under the bond.

### **17.2.2 Payment Bonds**

17.2.2.1 Developer shall, as a condition to commencement of Design Work and the Owner's issuance of NTP 1, obtain or cause to be obtained a Payment Bond in the amount of the D&C Contract Amount, securing the design-build contractor's obligation to pay for labor and materials in connection with the D&C Work.

17.2.2.2 The Payment Bond required by this Section 17.2.2 must be issued in the form set forth in Appendix 15-B, and must be issued by a surety or an insurance company authorized to issue bonds in the State that is rated in the top two categories by two of the three nationally recognized rating agencies or at least "A" or better and "Class VIII" or better according to A.M. Best's Financial Strength Rating and Financial Size Category except as otherwise approved in writing by the Owner in its reasonable discretion. The Payment Bond must each include a multiple obligee rider in the form of Appendix 15-C.2, which shall name the Owner as an additional obligee and may also name the Collateral Agent as an additional obligee. Developer may elect to procure the Payment Bond directly rather than rely upon its design-build contractor to do so as contemplated by the form contained in Appendix 15-B. If Developer makes this election, the Owner need not be named as an additional obligee under a multiple obligee rider, and the language of the bond form shall be adjusted to reflect the election, but only as necessary to eliminate references to the design-build contractor and to add the Owner.

### **17.2.3 Other Security-Related Provisions**

17.2.3.1 In the event that Developer gives notice to the surety of a loss or potential loss under any Performance Bond or Payment Bond, Developer shall provide a copy of such notice concurrently to the Owner, together with a description of the underlying default or potential default under the relevant Key Contract and any corresponding default or potential default under this Agreement.

### 17.3 Letters of Credit

17.3.1 Any terms and conditions applicable to a particular letter of credit which Developer is required to or may provide under this Agreement are set forth in the provisions of this Agreement describing such letter of credit. Wherever in the Contract Documents Developer has the option to deliver to the Owner a letter of credit, the provisions of this Section 17.3 shall apply:

17.3.2 The letter of credit shall:

17.3.2.1 Be a direct pay, standby letter of credit;

17.3.2.2 Be issued by an Eligible LC Issuer, substantially in the form of Appendix 14, provided that any deviation from the form of Appendix 14 shall be subject to the Owner's approval in its reasonable discretion. If the bank issuing the letter of credit fails to remain an Eligible LC Issuer, Developer shall provide a substitute letter of credit issued by an Eligible LC Issuer within 30 days of notice by the Owner of noncompliance or otherwise furnish replacement security acceptable to the Owner;

17.3.2.3 Be payable immediately, conditioned only on written presentment by the Owner to the issuer of a sight draft drawn on the letter of credit as provided in the applicable form of letter of credit attached as Appendix 14;

17.3.2.4 Be in place for the entire period of time for which the letter of credit is providing security. Letters of credit with an expiration date shall provide for automatic annual renewal no later than 30 days prior to the expiration date;

17.3.2.5 Allow for multiple draws; and

17.3.2.6 Name the Owner as sole beneficiary, provided that a Renewal Work Letter of Credit may also include the Collateral Agent as beneficiary.

17.3.3 The Owner shall have the right to draw on the letter of credit, without prior notice unless otherwise expressly provided in this Agreement with respect to the letter of credit (provided that the Owner will endeavor to provide advance notice to Developer), and use and apply the proceeds as provided in this Agreement for such letter of credit, if: (a) Developer has failed to pay or perform when due the duty, obligation or liability under this Agreement for which the letter of credit is held; (b) the Issuer of the Letter of Credit upon which draft is made has failed to remain an Eligible LC Issuer and Developer has failed to provide an acceptable substitute letter of credit issued by an Eligible LC Issuer other acceptable security within 30 days of the Owner's notice; or (c) Developer for any reason fails to deliver to the Owner an acceptable new or replacement letter of credit, on the same terms, by not later than 14 days before such expiration date, unless the applicable terms of this Agreement expressly require no further letter of credit with respect to the duty, obligation or liability in question. For all draws conditioned on prior written notice from the Owner to Developer, no such notice shall be required if it would preclude draw before the expiration date of the letter of credit. Draw on the letter of credit shall not be conditioned on prior resort to any other security of Developer.

17.3.4 Developer's sole remedy in connection with the improper presentment or payment of sight drafts drawn under letters of credit shall be to obtain from the Owner a refund of the proceeds which are misapplied and the reasonable costs Developer incurs as a result of such misapplication; provided that at the time of such refund Developer increases the amount of the letter of credit to the amount (if any) then required under applicable provisions of this Agreement. Developer acknowledges that the presentment of sight drafts drawn upon a letter of credit could not under any circumstances cause Developer injury that could not be remedied by an award of money damages, and that the recovery of money damages would be an

adequate remedy. Accordingly, Developer covenants: (a) not to request or instruct the issuer of any letter of credit to refrain from paying any sight draft drawn under the letter of credit; and (b) not to commence or pursue any legal proceeding seeking, and Developer irrevocably waives and relinquishes any right, to enjoin, restrain, prevent, stop or delay any draw on any letter of credit.

17.3.5 Developer shall obtain and furnish all letters of credit and replacements thereof at its sole cost and expense, and shall pay all charges imposed in connection with the Owner's presentment of sight drafts and drawing against letters of credit or any replacements thereof.

17.3.6 In the event the Owner's rights and interests under this Agreement are assigned, Developer shall cooperate so that concurrently with the effectiveness of such assignment, either replacement letters of credit for, or appropriate amendments to, the outstanding letters of credit shall be delivered to the assignee naming the assignee as beneficiary, at no cost to Developer.

#### **17.4 Indemnity by Developer**

17.4.1 Subject to Sections 17.4.3 and 19.2.10, Developer shall release, indemnify, defend and hold harmless the Indemnified Parties from and against any and all claims, causes of action, suits, investigations, legal or administrative proceedings, demands and Losses, in each case if asserted or incurred by or awarded to any third party, to the extent caused by:

17.4.1.1 The breach or alleged breach by Developer of the Contract Documents or any Principal Developer Document to which it is a party;

17.4.1.2 The failure or alleged failure by Developer or any Developer-Related Entity to comply with the Governmental Approvals, any applicable Environmental Laws or other Laws (including Laws regarding Contaminated Materials Management) in connection with the Work;

17.4.1.3 Any alleged patent, trademark, or copyright infringement or other allegedly improper appropriation or use by Developer or any Developer-Related Entity of trade secrets, patents, proprietary information, know-how, copyright rights, inventions or other third-party proprietary rights in performance of the Work, or arising out of any use in connection with the facility of methods, processes, designs, information, or other items furnished or communicated by or on behalf of Developer to the Owner or another Indemnified Party pursuant to the Contract Documents; provided that this indemnity shall not apply to any infringement resulting from the Owner's failure to comply with specific written instructions regarding use provided to the Owner by Developer;

17.4.1.4 The actual or alleged negligence, willful misconduct or breach of applicable Law or contract of Developer or any Developer-Related Entity in or associated with performance of the Work;

17.4.1.5 Any and all claims by any governmental or taxing authority claiming Taxes based on gross receipts, purchases or sales, the use of any property or income of Developer or any Developer-Related Entity with respect to any payment for the Work made to or earned by Developer or any Developer-Related Entity;

17.4.1.6 Any and all stop payment notices and/or liens filed by a Contractor in connection with the Work, including all reasonable expenses and attorneys', accountants' and expert witness fees and costs incurred in discharging any stop notice or lien, provided that the Owner is not in default in payments owing to Developer with respect to such Work;

17.4.1.7 Any actual or threatened Release of Contaminated Materials by Developer or any Developer-Related Entity or Contaminated Materials that migrate into, onto, under or from the Work Site where the source of such Contaminated Materials is Developer or a Developer-Related Entity;

17.4.1.8 Any dispute between Developer and a Utility Owner, or Developer or any Developer-Related Entity's performance of, or failure to perform, the obligations under any Utility Agreement;

17.4.1.9 (a) Developer or any Developer-Related Entity's breach of or failure to perform an obligation that the Owner owes to a third person, including Governmental Entities, under Law or under any agreement between the Owner and a third person, where the Owner has delegated performance of the obligation to Developer under the Contract Documents; or (b) the negligence, willful misconduct or breach of applicable Law or contract of Developer or any Developer-Related Entity which renders the Owner unable to perform or abide by an obligation that the Owner owes to a third person, including Governmental Entities, under any agreement between the Owner and a third person, where the agreement is previously disclosed or known to Developer;

17.4.1.10 The fraud, bad faith, willful misconduct, negligence or violation of Law or contract by Developer or any Developer-Related Entity in connection with Developer's performance of real property acquisition services under the Contract Documents;

17.4.1.11 Trespass, nuisance or similar taking of or harm to real property by reason of: (a) the failure of Developer or any Developer-Related Entity to comply with Best Management Practice, requirements of the Contract Documents, Operations and Maintenance Plan or Governmental Approvals respecting control and mitigation of construction activities and construction impacts; (b) the intentional misconduct or negligence of Developer or any Developer-Related Entity in connection with the Work; or (c) the actual physical entry onto or encroachment upon another's property outside the Owner-Provided Work Site by Developer or any Developer-Related Entity; or

17.4.1.12 Errors or other defects in the design or construction of the Project.

17.4.2 Developer shall assume the defense and indemnity, and save harmless MID, its officers, agents and employees, as provided in Section VIII of the MID Agreement, if and when the MID Agreement is executed by the parties thereto.

17.4.3 Subject to Section 17.4.5 and the releases and disclaimers herein, including all the provisions set forth in Section 3.4.7, Developer's indemnity obligations shall not extend to any claim, cause of action, suit, investigation, legal or administrative proceeding, demand or Loss to the extent caused by:

17.4.3.1 The active negligence, reckless or willful misconduct, bad faith or fraud of such Indemnified Party;

17.4.3.2 A Relief Event, subject to Developer's obligations as provided for in this Agreement; or

17.4.3.3 The Owner's breach of any of its obligations under the Contract Documents.

17.4.4 In claims by an employee of Developer, a Contractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Section 17.4 shall not be limited by a limitation on the amount or type of damages,

compensation or benefits payable by or for Developer or a Contractor under workers' compensation, disability benefit or other employee benefits laws.

17.4.5 It is specifically agreed between the Parties that it is not intended by any of the provisions of any part of the Contract Documents to create in the public or any member thereof, a third party beneficiary hereunder, or to authorize anyone not a party to the Agreement to maintain a suit for personal injuries or property damage pursuant to the terms or provisions of the Contract Documents.

17.4.6 The Owner will promptly notify Developer of its receipt of any third party claim relating to this Agreement.

## **ARTICLE 18. REPRESENTATIONS AND WARRANTIES**

### **18.1 Developer Representations and Warranties**

Developer represents and warrants to the Owner as follows:

18.1.1 The Initial Financial Model and Financial Model Formulas: (a) were prepared by or on Developer's behalf in good faith; (b) are the same financial formulae that Developer utilized and is utilizing in the Financial Model, in making its decision to enter into this Agreement and in making disclosures to potential equity investors and Lenders under the Initial Funding Agreements; and (c) as of the Effective Date are suitable for making reasonable projections.

18.1.2 The Initial Financial Model and any subsequent Financial Model, as applicable: (a) were prepared by or on Developer's behalf in good faith; (b) were audited and verified by an independent recognized model auditor prior to the Effective Date; (c) fully disclose all cost, revenue and other financial assumptions and projections that Developer has used or is using in making its decision to enter into this Agreement and in making disclosures to Lenders under the Initial Funding Agreements; and (d) as of the Effective Date represent the projections that Developer believes in good faith are the most realistic and reasonable for the Project; provided, however, that such projections (i) are based upon a number of estimates and assumptions, (ii) are subject to significant business, economic and competitive uncertainties and contingencies, and (iii) accordingly are not a representation or warranty that any of the assumptions are correct, that such projections will be achieved or that the forward-looking statements expressed in such projections will correspond to actual results.

18.1.3 Developer has reviewed all applicable Laws relating to Taxes for which it may be liable, has taken into account all requirements imposed by such Laws in preparing the Initial Financial Model and any subsequent Financial Model, and agrees to pay, prior to delinquency, all applicable Taxes owed by it except for those disputed in good faith. Further, without limiting Developer's rights under Section 2.1.4, Developer accepts sole responsibility and agrees that it shall have no right to compensation or other claim due to its misinterpretation of such Laws or incorrect assumptions regarding the applicability of Taxes.

18.1.4 Developer and its Contractor(s) have maintained, and throughout the Term shall maintain, all required authority, license status, applicable licensing standards, certification standards, accrediting standards, professional ability, skills and capacity to perform the Work.

18.1.5 Without limiting its rights and remedies expressly granted hereunder, Developer has evaluated the constraints affecting design and construction of the Project, including the Work Site and constraints described in the CEQA Documentation, and has reasonable grounds for believing and does believe that the Project can be designed and built within such constraints.

18.1.6 Developer has examined the Work Site and surrounding locations and reviewed the Contaminated Materials, Utility and geotechnical information provided in this Agreement and

the Reference Documents, and other available public and private records and information, to familiarize itself with surface conditions and subsurface conditions, including the presence of Utilities, Contaminated Materials, contaminated groundwater, expansive soil, canal seepage, archaeological, paleontological and cultural resources, and endangered and threatened species (including burrowing owls, kit foxes, salamanders and nesting raptors), affecting the Work Site or surrounding locations; and as a result of such examination and review, Developer is familiar with and accepts the physical requirements of the Work and all associated risks and costs, except as otherwise expressly provided in this Agreement.

18.1.7 Developer has familiarized itself with the requirements of any and all applicable Laws, and the conditions of any required Governmental Approvals prior to entering into this Agreement. Without limiting the foregoing, Developer is aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code. Developer will comply with such provisions before commencing performance of the Work under the Contract Documents and at all times during the Term.

18.1.8 Except as otherwise expressly provided in this Agreement, Developer shall be responsible for complying with all applicable Laws and conditions of any required Governmental Approvals at its sole cost and without any increase in compensation or extension of any deadlines in the Project Schedule on account of such compliance, regardless of whether such compliance would require additional time for performance or additional labor, equipment and/or materials not expressly provided for in the Contract Documents. Developer has no reason to believe that any Governmental Approval required to be obtained by Developer will not be granted in due course and, thereafter, remain in effect so as to enable the Work to proceed in accordance with the Contract Documents.

18.1.9 All Work furnished by Developer will be performed by or under the supervision of Persons who hold all necessary, valid licenses to practice in the State, by personnel who are skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the Work in accordance with the Contract Documents and who shall assume professional responsibility for the accuracy and completeness of the Design Documents, Construction Documents and other documents prepared or checked by them.

18.1.10 Developer is a limited liability company duly organized and validly existing under the laws of California, has the requisite power and all required licenses to carry on its present and proposed activities, and has full power, right and authority to execute and deliver this Agreement and the Principal Developer Documents to which Developer is a party and to perform each and all of the obligations of Developer provided for herein and therein. Developer is duly qualified to do business, and is in good standing, in the State, and will remain in good standing throughout the Term and for as long thereafter as any obligations remain outstanding under the Contract Documents.

18.1.11 The execution, delivery and performance of this Agreement and the Principal Developer Documents to which Developer is (or will be) a party have been (or will be) duly authorized by all necessary corporate action of Developer; each person executing this Agreement and such Principal Developer Documents on Developer's behalf has been (or at the time of execution will be) duly authorized to execute and deliver each such document on Developer's behalf; and this Agreement and such Principal Developer Documents have been (or will be) duly executed and delivered by Developer.

18.1.12 Neither the execution and delivery by Developer of this Agreement and the Principal Developer Documents to which Developer is (or will be) a party, nor the consummation of the transactions contemplated hereby or thereby, is (or at the time of

execution will be) in conflict with or has resulted or will result in a default under or a violation of the governing instruments of Developer or any other agreements or instruments to which it is a party or by which it is bound.

18.1.13 Each of this Agreement and the Principal Developer Documents to which Developer is (or will be) a party constitutes (or at the time of execution and delivery will constitute) the legal, valid and binding obligation of Developer, enforceable against Developer in accordance with its terms, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and the general principles of equity.

18.1.14 There is no action, suit, proceeding, investigation or litigation pending and served on Developer which challenges Developer's authority to execute, deliver or perform, or the validity or enforceability against Developer of, this Agreement and the Principal Developer Documents to which Developer is a party, or which challenges the authority of Developer's representative executing this Agreement or such Principal Developer Documents; and Developer has disclosed to the Owner any pending and un-served or threatened action, suit, proceeding, investigation or litigation with respect to such matters of which Developer is aware.

18.1.15 To the extent the Lead Campus Planner, the Architectural Team, the Lead Contractor, the Infrastructure Engineering Team and/or the Lead O&M Firm is not Developer, Developer represents and warrants, as of the effective date of the relevant Key Contract, as follows: (a) each of the Lead Campus Planner, each firm comprising the Architectural Team and the Infrastructure Engineering Team, the Lead Contractor, and the Lead O&M Firm is duly organized, validly existing and in good standing under the laws of the state of its organization; (b) except to the extent that any of them are publicly traded companies, the capital stock of each of them (including options, warrants and other rights to acquire capital stock) is owned by the Persons who Developer has set forth in a written certification delivered to the Owner prior to the Effective Date; (c) each of them has the power and authority to do all acts and things and execute and deliver all other documents as are required to be done, observed or performed by it in connection with its engagement by Developer; (d) each of them has all necessary expertise, qualifications, experience, competence, skills and know-how to perform the Design Work, Construction Work and the O&M Services, as applicable, of the Project in accordance with the Contract Documents; and (e) each of them is not in breach of any applicable Law that would have a material adverse effect on the Design Work, Construction Work and O&M Services, as applicable, of the Project.

18.1.16 Developer has no authority or right to impose any fee, toll, charge or other amount for the use of the Project.

18.1.17 Developer certifies, by entering into this Agreement, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from entering into this Agreement by any federal agency or by any department, agency or political subdivision of the State. For purposes of this Section 18.1.17, the term "principal" means an officer, director, owner, partner, Key Personnel, employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of Developer.

18.1.18 As of the Proposal Due Date, Developer disclosed to the Owner in writing all organizational conflicts of interest of Developer and its Contractors of which Developer was actually aware; and between the Proposal Due Date and the Effective Date, Developer has not obtained knowledge of any additional organizational conflict of interest, and there have been no organizational changes to Developer or its Contractors identified in its Proposal which have not



been approved in writing by the Owner. For this purpose, organizational conflict of interest has the meaning set forth in the ITP.

18.1.19 All Subject Intellectual Property, Developer Intellectual Property and, to the best of Developer's knowledge after due inquiry, Third Party Intellectual Property, does not infringe any right, title or interest of any other Person. Developer has executed, or shall have executed prior to incorporation, a license for, and in the name of, the Owner in respect of all Third Party Intellectual Property incorporated into the Project.

## **18.2 Owner Representations and Warranties**

The Owner represents and warrants to Developer as follows:

18.2.1 The Owner is a California public corporation, duly formed and validly existing pursuant to Article IX, Section 9, of the California Constitution, and has full status, power, right and authority to execute, deliver and perform this Agreement, the Direct Agreement, and the other Contract Documents to which the Owner is a party and to perform each and all of the obligations of the Owner provided for herein and therein.

18.2.2 This Agreement, the Direct Agreement, and the other Contract Documents to which the Owner is a party have each been duly authorized by the Owner, and each constitutes a legal, valid and binding obligation of the Owner enforceable against the Owner in accordance with its terms, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors and the general principles of equity.

18.2.3 Each person executing this Agreement, the Direct Agreement and the other Contract Documents to which the Owner is a party has been (or at the time of execution will be) duly authorized to execute and deliver each such document on behalf of the Owner; and this Agreement, the Direct Agreement and the other Contract Documents to which the Owner is a party have been (or will be) duly executed and delivered by the Owner.

18.2.4 Neither the execution and delivery by the Owner of this Agreement, the Direct Agreement and the other Contract Documents to which the Owner is a party nor the consummation of the transactions contemplated hereby or thereby, is (or at the time of execution will be) in conflict with or will result in a default under or violation of Article IX, Section 9, of the California Constitution or any other agreements or instruments to which it is a party or by which it is bound.

18.2.5 There is no action, suit, proceeding, investigation or litigation pending and served on the Owner which challenges the Owner's authority to execute, deliver or perform, or the validity or enforceability against the Owner of, this Agreement, the Direct Agreement or the other Contract Documents to which the Owner is a party, or which challenges the authority of the Owner official executing this Agreement, the Direct Agreement, or the other Contract Documents to which the Owner is a party; and the Owner has disclosed to Developer any pending and un-served or threatened action, suit, proceeding, investigation or litigation with respect to such matters of which the Owner is aware.

## **18.3 Survival of Representations and Warranties**

The representations and warranties of Developer and the Owner contained herein shall survive expiration or earlier termination of this Agreement.

## ARTICLE 19 DEFAULT; SUSPENSION OF WORK; SUSPENSION FOR DELINQUENCY

### 19.1 Default by Developer; Cure Periods

#### 19.1.1 Developer Default

Developer shall be in breach of this Agreement upon the occurrence of any one or more of the following events or conditions (each a “**Developer Default**”):

19.1.1.1 Developer fails to satisfy the conditions to NTP 1 as set forth in Section 4.6 within 30 days of the Effective Date;

19.1.1.2 Developer fails to begin the applicable portion of the Design Work within 10 days following the Owner's issuance of NTP 1;

19.1.1.3 Except to the extent expressly permitted in Section 19.4.2.1.2, Developer discontinues the prosecution of the Work for a continuous period of 30 days (except in accordance with a written directive issued by the Owner pursuant to Section 19.2.7) or fails to resume discontinued Work as required by the Contract Documents within 30 days after the Owner notifies Developer to do so;

19.1.1.4 Developer fails to perform the Work or any portion thereof in accordance with the Contract Documents in any material respect, including conforming to applicable requirements of the Technical Volumes; provided that a failure by Developer to perform any obligation for which Noncompliance Points are assigned or a Noncompliance Instance accrues pursuant to Appendix 5 will not constitute a Developer Default under this Section 19.1.1.4;

19.1.1.5 Developer fails to comply with applicable Governmental Approvals and Laws in any material respect;

19.1.1.6 Developer fails in any material respect to make an undisputed payment to the Owner under this Agreement when due, or fails to deposit funds to any reserve or account in the amount and within the time period required by this Agreement;

19.1.1.7 There occurs any use of the Project or a material portion thereof by Developer or any Developer-Related Entity in violation of, or not otherwise contemplated by, the Contract Documents, Governmental Approvals or Laws;

19.1.1.8 Developer fails to obtain, provide and maintain any insurance (except to the extent permitted under Section 17.1.2.12), bonds, guarantees, letters of credit or other performance security as and when required under this Agreement for the benefit of relevant parties, or fails to comply with any requirement of this Agreement pertaining to the amount, qualifications, terms or coverage of the same;

19.1.1.9 Developer makes or attempts to make or suffers a voluntary or involuntary assignment or transfer of all or any portion of this Agreement, the Project or Developer's equity or economic interest therein in violation of Article 24 or there occurs any transaction in violation of Section 14.1 or 14.2;

19.1.1.10 Any representation or warranty made by Developer or any Guarantor in the Contract Documents, any guaranty or any certificate, schedule, report, instrument or other document delivered to the Owner pursuant to the Contract Documents is false in any material respect or materially misleading or inaccurate in any material respect when made or omits material information when made;

19.1.1.11 Developer materially fails to timely observe or perform or cause to be observed or performed any other material covenant, agreement, obligation, term or

condition required to be observed or performed by Developer under the Contract Documents; provided that: (a) such actions shall not be considered a Developer Default if they are the direct result of the Owner's breach of its obligation to make payments to Developer; and (b) a failure by Developer to perform any obligation for which Noncompliance Points are assigned or a Noncompliance Instance accrues pursuant to Appendix 5 will not constitute a Developer Default under this Section 19.1.1.11;

19.1.1.12 Developer commences a voluntary case seeking liquidation, reorganization or other relief with respect to itself or its debts under any U.S. or foreign bankruptcy, insolvency or other similar Law now or hereafter in effect, seeks the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its assets; becomes insolvent, or generally does not pay its debts as they become due or admits in writing its inability to pay its debts (other than: (i) debts that are otherwise paid by an Equity Member; (ii) Project Debt that is otherwise paid by a financial guarantor that is a Lender to the holders thereof under its financial guaranty; or (iii) debt otherwise owing to a financial guarantor); makes an assignment for the benefit of creditors; or takes any action to authorize any of the foregoing; or any of the foregoing acts or events shall occur with respect to: (a) any Equity Member with a material financial obligation owing to Developer for Committed Equity Investment; or (b) any Guarantor of material Developer obligations owed to the Owner under the Contract Documents, provided such actions shall not be considered a Developer Default if they are the sole and direct result of the Owner's breach of its obligation to make payments to Developer;

19.1.1.13 An involuntary case is commenced against Developer seeking liquidation, reorganization, dissolution, winding up, a composition or arrangement with creditors, a readjustment of debts or other relief with respect to Developer or Developer's debts under any U.S. or foreign bankruptcy, insolvency or other similar Law now or hereafter in effect; seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of Developer or any substantial part of Developer's assets; seeking the issuance of a writ of attachment, execution, or similar process; or seeking like relief, and such involuntary case shall not be contested by Developer in good faith or shall remain undismissed and unstayed for a period of 60 days; or any such involuntary case, or any of the foregoing acts or events, shall occur with respect to: (a) any Equity Member with a material financial obligation owing to Developer for Committed Equity Investment; or (b) any Guarantor of material Developer obligations owed to the Owner under the Contract Documents; provided such actions shall not be considered a Developer Default if they are the sole and direct result of the Owner's breach of its obligation to make payments to Developer;

19.1.1.14 Developer fails to comply with the Owner's written suspension of Work and/or Project Right of Entry order issued in accordance with Section 19.2.7 within the time reasonably allowed in such order;

19.1.1.15 Developer fails to: (a) commence the Construction Work by the Construction Commencement Deadline; (b) achieve Occupancy Readiness of all First Delivery Facilities by the First Delivery Facilities Long Stop Date; or (c) achieve Substantial Completion by the Substantial Completion Long Stop Date;

19.1.1.16 A Persistent Developer Noncompliance exists;

19.1.1.17 Developer fails to comply with Section 22.3.1;

19.1.1.18 Developer or any Qualified Investor, or any of its respective partners, members, officers, directors, responsible managing officers, or responsible managing employees, has been convicted in a court of competent jurisdiction of any charge of fraud,

bribery, collusion, conspiracy, or any other act in violation of any state or federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Section 1101 of the California Public Contract Code, with any public entity, as defined in Section 1100 of the California Public Contract Code;

19.1.1.19 Any Iran Contracting Certification submitted by Developer, any Qualified Investor, or any other Affiliate of Developer (a copy of which is attached as Appendix 2-R), as part of the Proposal is determined by the Department of General Services to be false, and not thereafter cured in accordance with Section 2205 of the California Public Contract Code;

19.1.1.20 The Darfur Contracting Act Certification submitted by Developer or any Equity Member (a copy of which is attached as Appendix 2-Q) as part of the Proposal is determined by the Department of General Services to be false.

19.1.1.21 Developer, any Equity Member, or any Affiliate of Developer or any Equity Member is a "scrutinized" company as defined in Section 10476 of the California Public Contract Code;

19.1.1.22 Use by Developer of amounts in the Handback Requirements Reserve Account for any purpose other than as permitted in Section 6.9.3.1;

19.1.1.23 A Persistent Developer Breach exists; or

19.1.1.24 The circumstances described in Section 8.13.2 have occurred.

#### **19.1.2 Initial Notice and Cure Periods**

The Owner shall provide written notice to Developer of the occurrence of a Developer Default, except that no written notice is required for a Developer Default under Section 19.1.1.18 and, subject to the terms of the Direct Agreement, the Owner may terminate the Agreement for default immediately under Section 20.3 for such default. Upon receipt of the Owner's notice (if required), Developer shall have the following cure periods within which to cure the relevant Developer Default:

19.1.2.1 For a Developer Default under Sections 19.1.1.1 through 19.1.1.3, Sections 19.1.1.5 through 19.1.1.9, Section 19.1.1.17 and Section 19.1.1.22, a period of 30 days after Developer receives written notice from the Owner of the Developer Default; provided that as to a Developer Default under Section 19.1.1.7, such cure period shall not preclude or delay the Owner's immediate exercise, without notice or demand, of its remedy set forth in Section 19.2.2.

19.1.2.2 For a Developer Default under Sections 19.1.1.4, 19.1.1.10 and 19.1.1.11, a period of 30 days after Developer receives written notice from the Owner of the Developer Default; provided that if Developer Default is of such a nature that the cure cannot with diligence be completed within such time period and Developer has commenced meaningful steps to cure immediately after receiving the default notice, Developer shall have such additional period of time, up to a maximum cure period of 120 days, as is reasonably necessary to diligently effect cure.

19.1.2.3 For a Developer Default under Section 19.1.1.12 or Section 19.1.1.13 relating to an Equity Member or a Guarantor, Developer shall have a period of 30 days to effect cure of such default by providing a substitute Equity Member or Guarantor reasonably acceptable to the Owner or by providing a letter of credit or other form of security reasonably acceptable to the Owner in the amount of, as the case may be: (a) the Equity Member's financial obligation for Committed Equity Investment to or for the benefit of Developer; or (b) the Guarantor's specified sum or specified maximum liability under its

guaranty, or if none is specified, the reasonably estimated maximum liability of the Guarantor. Notwithstanding the foregoing, if such default relates to an Equity Member who holds a Controlling Interest in Developer, Developer shall cure such default only by providing a letter of credit or other form of security reasonably acceptable to the Owner in the amount of such Equity Member's financial obligation for Committed Equity Investment to or for the benefit of Developer.

19.1.2.4 For (i) a Developer Default under Section 19.1.1.12 or Section 19.1.1.13 relating to Developer; or (ii) a Developer Default under Sections 19.1.1.14 through 19.1.1.16, Sections 19.1.1.18 through 19.1.1.21, Section 19.1.1.23, or Section 19.1.1.24, there is no cure period.

## **19.2 Owner Remedies for Developer Default**

### **19.2.1 Termination**

If any Developer Default occurs and has not been cured within the applicable cure period, if any, set out in Section 19.1.2, the Owner may terminate this Agreement in accordance with Section 20.3.

### **19.2.2 Immediate Owner Entry and Cure of Wrongful Use**

Without notice and without awaiting lapse of the period to cure, in the event of any Developer Default under Section 19.1.1.7 (use of the Project in violation of the Contract Documents), the Owner may enter and take control of the Project to restore the permitted uses and reopen and continue operations for the benefit of Developer and the public, until such time as Developer or the Lenders cure such breach, or the Owner terminates this Agreement. Developer shall pay to the Owner on demand the Owner's Recoverable Costs in connection with such action. Immediately following cure of such Developer Default, as determined by the Owner, acting reasonably, the Owner shall relinquish control and possession of the Project back to Developer. So long as the Owner undertakes such actions in good faith, such actions shall not be deemed unlawful or a breach of this Agreement, and shall not expose the Owner to any liability to Developer and shall not entitle Developer to any other remedy, provided that if the Owner undertook such action under a mistaken belief in the occurrence of such a Developer Default, such event shall constitute an Owner-Caused Delay under clause (h) of the definition of Owner-Caused Delays.

### **19.2.3 Remedies for Failure to Meet Safety Standards or Perform Safety Compliance**

19.2.3.1 If at any time Developer, or its Surety under payment and performance bonds, fails to meet any Safety Standard or timely perform Safety Compliance or the Owner and Developer cannot reach an agreement regarding the interpretation or application of a Safety Standard or the valid issuance of a Safety Compliance Order within a period of time acceptable to the Owner, acting reasonably, the Owner shall have the absolute right and entitlement to undertake or direct Developer to undertake any work required to ensure implementation of and compliance with Safety Standards as interpreted or applied by the Owner or with the Safety Compliance Order.

19.2.3.2 To the extent that any work done pursuant to Section 19.2.3.1 is undertaken by the Owner and is reasonably necessary to comply with Safety Standards or perform validly issued Safety Compliance Orders, Developer shall pay to the Owner on demand the Owner's Recoverable Costs in connection with such work, and the Owner (whether it undertakes the work or has directed Developer to undertake the work) shall have no obligation or liability to compensate Developer for any Losses it suffers or incurs

as a result thereof, except as a result of the Owner's gross negligence, recklessness, willful misconduct or bad faith.

19.2.3.3 To the extent that any work done pursuant to Section 19.2.3.1 is undertaken by the Owner and is not reasonably necessary to comply with Safety Standards or perform validly issued Safety Compliance Orders, the Owner shall compensate Developer only for Losses it suffers or incurs as a direct result thereof.

19.2.3.4 Notwithstanding anything to the contrary contained in this Agreement, if, in the Owner's good faith discretion, Developer has failed to meet any Safety Standards or perform Safety Compliance and the failure results in an Emergency or danger to persons or property, and if Developer is not then diligently taking all necessary steps to cure or deal with such Emergency or danger, the Owner may (but is not obligated to), without notice and without awaiting lapse of the period to cure any breach, and in addition and without prejudice to its other remedies: (a) immediately take such action as may be reasonably necessary to rectify the Emergency or danger, in which event Developer shall pay to the Owner on demand the Owner's Recoverable Costs; or (b) suspend the Work and/or close or cause to be closed any and all portions of the Project affected by the Emergency or danger. So long as the Owner undertakes such action in good faith, even if under a mistaken belief in the occurrence of such failure or existence of an Emergency or danger as a result thereof, such action shall not be deemed unlawful or a breach, shall not expose the Owner to any liability to Developer, except if the Owner's action constitutes gross negligence, recklessness, willful misconduct or bad faith, and shall not entitle Developer to any other remedy, it being acknowledged that the Owner has a high priority, paramount public interest in protecting public and worker safety at the Project and adjacent and connecting areas. Immediately following rectification of such Emergency or danger, as determined by the Owner, acting reasonably, the Owner shall allow the Work to continue or such portions of the Project to reopen, as the case may be.

#### **19.2.4 Owner Step-in Rights**

Upon the occurrence of a Developer Default and expiration, without full and complete cure, of the cure period, if any, available to Developer, without waiving or releasing Developer from any obligations, but subject to the rights of the Lenders under the Direct Agreement, the Owner shall have the right, but not the obligation, to pay and perform all or any portion of Developer's obligations and the Work that relates to Developer Default, on and subject to the following terms and conditions.

19.2.4.1 The Owner may, to the extent necessary to cure the Developer Default:

1. Perform or attempt to perform, or caused to be performed, such Work;
2. Employ security guards and other safeguards to protect the Project;
3. Spend such sums as the Owner deems necessary and reasonable to employ and pay such architects, engineers, consultants and contractors and obtain materials and equipment as may be required for the purpose of completing the Work;
4. Draw on and use proceeds from the Payment Bond and Performance Bond and any other available security to pay such sums;
5. Execute all applications, certificates and other documents as may be required for completing the Work;

6. Make decisions respecting, assume control over and continue Work as the Owner determines appropriate, in its sole discretion;
7. Modify or terminate any contractual arrangements, without liability for termination fees, costs or other charges;
8. Meet with, coordinate with, direct and instruct Contractors, process invoices and applications for payment from Contractors, pay Contractors, and resolve claims of Contractors in accordance with the terms of the applicable Contracts, and for this purpose Developer irrevocably appoints the Owner as its attorney-in-fact with full power and authority to act for and bind Developer in its place and stead;
9. Take any and all other actions which it may in its sole discretion consider necessary to complete the Work; and
10. Prosecute and defend any action or proceeding incident to the Work.

19.2.4.2 Developer shall reimburse the Owner, on demand, the Owner's Recoverable Costs in connection with the performance of any act or Work authorized by this Section 19.2.4.

19.2.4.3 For the purpose of carrying out the Owner's step-in rights under this Section 19.2.4, the Owner shall have the right to take exclusive possession of the Project, the Work Site and the Facilities and to suspend or revoke Developer's right to enter the same, and the Owner is also granted a perpetual, irrevocable right of entry for the Owner and its authorized representatives, contractors, subcontractors, vendors and employees to enter onto any other construction, lay down, staging, borrow and similar areas, exercisable at any time or times without notice. Neither the Owner nor any of its authorized representatives, contractors, subcontractors, vendor and employees shall be liable to Developer in any manner for any inconvenience or disturbance arising out of any such exclusion of Developer from the Project, the Work Site or the Facilities or its entry onto any construction lay down, staging, borrow and similar areas in order to perform under this Section 19.2.4, unless caused by the gross negligence, recklessness, willful misconduct or bad faith of such Person. If any Person exercises any right to pay or perform under this Section 19.2.4, it nevertheless shall have no liability to Developer for the sufficiency or adequacy of any such payment or performance, or for the manner or quality of design, construction, operation or maintenance, unless caused by the gross negligence, recklessness, willful misconduct or bad faith of such Person.

19.2.4.4 The Owner's rights under this Section 19.2.4 are subject to:

1. The terms of the Direct Agreement;
2. The right of any Surety under the Performance Bond to assume performance and completion of all bonded Work; and
3. The exercise of rights by the Collateral Agent under the senior Security Documents, provided that the Collateral Agent complies with its obligations under the Direct Agreement.

## 19.2.5 Damages; Offset

19.2.5.1 Subject to Section 19.2.10, the Owner shall be entitled to recover any and all damages available under Law on account of the occurrence of the Developer Default, including loss of any compensation due to the Owner under this Agreement proximately caused by the Developer Default. Developer shall be liable for any damages that accrue after the occurrence of the Developer Default, regardless of whether the Developer

Default is subsequently cured, which shall be due and owing after the expiration of all cure periods available to Developer and Lenders under the Contract Documents.

19.2.5.2 In the case of a termination for Developer Default, the Owner may deduct and offset any damages owing to it under the Contract Documents from and against any amounts the Owner may owe to Developer. If the amount of damages owing to the Owner is not liquidated or known with certainty at the time a payment is due from the Owner to Developer with respect to such termination for a Developer Default, the Owner may deduct and offset the amount it reasonably estimates will be due, subject to the Owner's obligation to adjust such deduction or offset when the amount of damages owing the Owner is liquidated or becomes known with certainty.

#### **19.2.6 Persistent Developer Noncompliance**

19.2.6.1 Developer recognizes and acknowledges that a pattern or practice of continuing, repeated or numerous Noncompliance Instances, whether cured or not, will undermine the confidence and trust essential to the success of the public-private arrangement under this Agreement and will have a material, cumulative adverse impact on the value of this Agreement to the Owner. Developer acknowledges and agrees that measures for determining the existence of such a pattern or practice described in the definition of Persistent Developer Noncompliance and this Section 19.2.6 are a fair and appropriate objective basis to conclude that such a pattern or practice will continue.

19.2.6.2 A Persistent Developer Noncompliance under clause (a)(i) of the definition thereof, regarding accumulated Noncompliance Points, shall be deemed to exist during the Pre-First Delivery Construction Period if:

1. The cumulative number of Noncompliance Points assessed during any consecutive 365-day period equals or exceeds 100; or
2. The cumulative number of Noncompliance Points assessed during any consecutive 730-day period equals or exceeds 175.

19.2.6.3 A Persistent Developer Noncompliance under clause (a)(ii) of the definition thereof shall be deemed to exist during the Pre-First Delivery Construction Period if:

1. The cumulative number of Noncompliance Instances, cured or uncured, during any consecutive 365-day period equals or exceeds 250; or
2. The cumulative number of Noncompliance Instances, cured or uncured, during any consecutive 730-day period equals or exceeds 450.

19.2.6.4 A Persistent Developer Noncompliance under clause (b)(i) of the definition thereof, regarding accumulated Noncompliance Points, shall be deemed to exist during the Post-First Delivery Construction Period if:

1. The cumulative number of Noncompliance Points assessed during any consecutive 365-day period equals or exceeds 600; or
2. The cumulative number of Noncompliance Points assessed during any consecutive 730-day period equals or exceeds 1,100.

19.2.6.5 A Persistent Developer Noncompliance under clause (b)(ii) of the definition thereof shall be deemed to exist during the Post-First Delivery Construction Period if:

1. The cumulative number of Noncompliance Instances, cured or uncured,



during any consecutive 365-day period equals or exceeds 2,750; or

2. The cumulative number of Noncompliance Instances, cured or uncured, during any consecutive 730-day period equals or exceeds 4,900.

19.2.6.6 A Persistent Developer Noncompliance under clause (c)(i) of the definition thereof, regarding accumulated Noncompliance Points, shall be deemed to exist during the Operating Period if:

1. The cumulative number of Noncompliance Points assessed during any consecutive 365-day period (including any period prior to the Substantial Completion Date, subject to Section 19.2.6.8) equals or exceeds 1,200; or
2. The cumulative number of Noncompliance Points assessed during any consecutive 1095-day period (including any period prior to the Substantial Completion Date, subject to Section 19.2.6.8) equals or exceeds 3,200.

19.2.6.7 A Persistent Developer Noncompliance under clause (c)(ii) of the definition thereof shall be deemed to exist during the Operating Period if:

1. The cumulative number of Noncompliance Instances, cured or uncured, during any consecutive 365-day period equals or exceeds 5,500; or
2. The cumulative number of Noncompliance Instances, cured or uncured, during any consecutive 1095-day period equals or exceeds 14,800.

19.2.6.8 Notwithstanding any other provision of this Agreement, during the first year of the Operating Period, Noncompliance Points assessed during the Construction Period shall not be used to calculate a Persistent Developer Noncompliance.

#### **19.2.7 Suspension of Work**

19.2.7.1 Subject to the rights of the Lenders as provided in the Direct Agreement, the Owner shall have the right and authority to suspend, in whole or in part, the Work (including, in the Owner's discretion, suspension of the Project Right of Entry in whole or in part) by written order to Developer for Developer's failure to cure and correct, within the applicable cure period available to Developer (if any), the following:

1. Material failure to perform the Work in compliance with the Contract Documents;
2. Failure to comply with any Law or Governmental Approval (including failure to handle, preserve and protect archaeological, paleontological or historic resources, or failure to handle Contaminated Materials, in accordance with applicable Laws and Governmental Approvals);
3. The existence of conditions unsafe for workers, other Project personnel or the general public, including failures to comply with Safety Standards or perform Safety Compliance as set forth in Section 19.2.3;
4. Failure to provide proof of required insurance coverage as set forth in Section 17.1.2.4 or obtain and maintain the Payment Bond and Performance Bond required under Section 17.2; and
5. Material failure to carry out and comply with orders given by the Owner in accordance with the Contract Documents.

The Owner shall have no liability to Developer, and Developer shall have no right to any additional monetary compensation, time extension or any other relief under Article 10, for the

duration of any suspension under this Section 19.2.7.1, except to the extent such suspension is an Owner-Caused Delay described in clause (e) of the definition of Owner-Caused Delays.

19.2.7.2 The Owner shall have the right and authority, in its sole discretion, to suspend, in whole or in part, the Work (including, in the Owner's discretion, suspension of the Project Right of Entry in whole or in part) by written order to Developer for reasons other than set forth in Section 19.2.7.1; the written order shall set for the reason for such suspension.

19.2.7.3 For any suspension order issued under this Section 19.2.7, the Owner will provide Developer the reason for such suspension, and Developer shall comply with such suspension order in accordance with the following provisions:

1. Developer shall immediately comply with any suspension order. Developer shall not resume the suspended Work (or, if applicable, enter onto the Work Site and Facilities for which the Project Right of Entry has been suspended) until authorized to do so by the Owner in writing. Developer assumes the full risk and liability for any Work performed by Developer (and, if applicable, entry onto the Work Site and Facilities for which the Project Right of Entry has been suspended) after receipt by Developer of the suspension order and prior to the Owner's authorization to resume such Work (and, if applicable, entry onto the Work Site and Facilities for which the Project Right of Entry has been suspended). Further, failure to immediately comply with any suspension order will also constitute a default by Developer under the Contract Documents.
2. If the Owner suspends the Work and/or the Project Right of Entry, as applicable, for an indefinite period, Developer shall store all materials in such manner that they will not obstruct or impede the Campus Activities unnecessarily or become damaged in any way. Developer shall take every reasonable precaution to prevent damage to or deterioration of the Work performed.

19.2.7.4 Except to the extent expressly permitted in Section 19.4.2.1.2, Developer shall not suspend the Work or remove equipment or materials necessary for completing the Work without obtaining the Owner's written permission. Developer shall submit all requests for suspension of Work in writing to the Owner, and identify specific dates to begin and end the suspension. Developer is not entitled to any additional compensation, time extension or other relief for suspension of operations during such periods, except to the extent Developer is granted any such compensation, time extension or relief under Article 10 in connection with a Relief Event.

19.2.7.5 Except as otherwise expressly permitted under the Contract Documents, unless Developer submits a written request to work during one or more days of a Special Event at least ten days in advance of the beginning date of the Special Event and receives written approval from the Owner, in its sole discretion, Developer shall not perform Work during the Special Events. Developer is not entitled to any additional compensation, time extension or any other relief for suspension of Work during such Special Event periods.

#### **19.2.8 Persistent Developer Breach**

19.2.8.1 If Developer commits a breach of any of the provisions of the Contract Documents (other than (a) any breach for which a Noncompliance Point, Noncompliance Instance or payment deduction under Appendix 6 could have been assessed or (b) any breach that arises as a direct result of the occurrence of a Relief Event) that continues

for more than thirty (30) consecutive days or occurs more than three (3) times in any six (6) month period, then the Owner may serve a notice (an “**Initial Breach Notice**”) on Developer:

1. Specifying that it is an Initial Breach Notice;
2. Giving reasonable details of the relevant breach; and
3. Stating that the relevant breach is a breach which, if it recurs frequently or continues, may result in termination of this Agreement for Persistent Developer Breach.

19.2.8.2 If the breach specified in an Initial Breach Notice continues beyond thirty (30) consecutive days or recurs in three (3) or more months within the six (6) month period after the date of service of the Initial Breach Notice, then the Owner may serve another notice (a “**Final Breach Notice**”) on Developer:

1. Specifying that it is a Final Breach Notice;
2. Stating that the breach specified has been the subject of an Initial Breach Notice served within the six (6)-month period prior to the date of service of the Final Breach Notice; and
3. Stating that if the breach continues for more than thirty (30) consecutive days or recurs in three (3) or more months within the six (6)-month period after the date of service of the Final Breach Notice, this Agreement may be terminated for Persistent Developer Breach.

#### 19.2.9 Cumulative, Non-Exclusive Remedies

Subject to Sections 19.2.10 and 20.9, and except as specifically provided otherwise in this Agreement, each right and remedy of the Owner hereunder shall be cumulative and shall be in addition to every other right or remedy provided herein or now or hereafter existing under Law, and the exercise or beginning of the exercise by the Owner of any one or more of any of such rights or remedies shall not preclude the simultaneous or later exercise by the Owner of any or all other such rights or remedies.

#### 19.2.10 Limitation on Developer’s Liability for Certain Damages

19.2.10.1 Notwithstanding any other provision of the Contract Documents, and except as set forth in Section 19.2.10.2, to the extent permitted by applicable Law, Developer shall not be liable to the Owner for punitive damages or indirect, incidental or consequential damages, whether arising out of breach by Developer, tort (including negligence) or any other theory of liability, and the Owner releases Developer from any such liability.

19.2.10.2 The foregoing limitation on Developer’s liability shall not apply to or limit the Owner’s right of recovery respecting the following:

1. Losses (including defense costs) to the extent: (a) covered by the proceeds of insurance required to be carried pursuant to Section 17.1; (b) covered by the proceeds of insurance actually carried by or insuring Developer under policies solely with respect to the Project and the Work, regardless of whether required to be carried pursuant to Section 17.1; or (c) Developer is deemed to have self-insured the Loss pursuant to Section 17.1.4.4;
2. Losses arising out of fraud, criminal conduct, intentional misconduct, recklessness or bad faith on the part of Developer or any Developer-Related Entity;

3. Developer's indemnities set forth in this Agreement, to the extent any such remedies relate to claims, causes of action or Losses asserted by or awarded to third parties;
4. Developer's obligation to pay liquidated damages in accordance with the Contract Documents, including any First Delivery Facilities Deduction, Second Delivery Facilities Deduction, deductions under Section 8.10.6, Availability Deductions and Performance Deductions;
5. Losses arising out of Releases of Contaminated Materials by Developer or any Developer-Related Entity;
6. Amounts Developer may owe or be obligated to reimburse to the Owner under the express provisions of the Contract Documents, including the Owner's Recoverable Costs, but excluding Developer's indemnities set forth in this Agreement other than as provided in clause (3) above; and
7. Interest, late charges, fees, transaction fees and charges, penalties and similar charges that the Contract Documents expressly state are due from Developer to the Owner.

### **19.3 Default by the Owner; Cure Periods**

#### **19.3.1 Owner Default**

The Owner shall be in breach of this Agreement upon the occurrence of any one or more of the following events or conditions (each, an "**Owner Default**"):

19.3.1.1 The Owner fails to make any payment due Developer under this Agreement when due, provided that such payment is not subject to a Dispute;

19.3.1.2 Any representation or warranty made by the Owner under Section 18.2 is false or materially misleading or inaccurate when made in any material respect or omits material information when made; or

19.3.1.3 The Owner or any other Governmental Entity confiscates, sequesters, condemns or appropriates the Project or any material part thereof, or Developer's Interest or any material part thereof, excluding a Termination for Convenience or any other exercise of a right of termination set forth in this Agreement.

#### **19.3.2 Cure Periods**

The Owner shall have the following cure periods with respect to the following the Owner Defaults:

19.3.2.1 For an Owner Default under Section 19.3.1.1 with respect to:

1. Any Monthly Disbursement. Partial Monthly Disbursement, Monthly Progress Payment, payment due to Developer for Central Plant Invoiced Work under Section 5.5 or payment due to Developer for IT Equipment under Section 4.3.3, a period of 30 days after Developer delivers to the Owner written notice of the Owner Default; and
2. Any payment due to Developer under this Agreement other than any payment described in Section 19.3.2.1.1, a period of 90 days after Developer delivers to the Owner written notice of the Owner Default.

19.3.2.2 For an Owner Default under Section 19.3.1.2 or 19.3.1.3, a period of 30 days after Developer delivers to the Owner written notice of the Owner Default;

provided that if the Owner Default is of such a nature that the cure cannot with diligence be completed within such time period and the Owner has commenced meaningful steps to cure immediately after receiving the default notice, the Owner shall have such additional period of time, up to a maximum cure period of 120 days, as is reasonably necessary to diligently effect cure.

## **19.4 Developer Remedies for Owner Default**

### **19.4.1 Termination**

Subject to Section 19.4.3, Developer will have the right to terminate this Agreement and recover termination damages as more particularly set forth in, and subject to the terms and conditions of Section 20.4.

### **19.4.2 Damages and Other Remedies**

19.4.2.1 Subject to Section 19.4.3, Developer shall have and may exercise the following remedies upon the occurrence of an Owner Default but only following expiration, without cure, of the applicable cure period:

1. If Developer does not terminate this Agreement, Developer may submit a Relief Event Claim to the extent permitted under Article 10;
2. Solely with respect to an Owner Default under Section 19.3.1.1, if Developer does not terminate this Agreement, Developer may suspend performance of the Work until such Owner Default is cured; and
3. Developer may exercise any other rights and remedies available under this Agreement or available at Law.

19.4.2.2 Subject to Section 19.4.3 and except as specifically provided otherwise in this Agreement, each right and remedy of Developer shall be cumulative and shall be in addition to every other right or remedy provided by this Agreement or now or hereafter existing under Law, and the exercise or beginning of the exercise by Developer of any one or more of any of such rights or remedies shall not preclude the simultaneous or later exercise by Developer of any or all other such rights or remedies.

### **19.4.3 Limitations on Remedies**

19.4.3.1 Notwithstanding any other provision of the Contract Documents and except as provided in Section 19.4.3.2, to the extent permitted by applicable Law, the Owner shall not be liable to Developer for punitive damages or indirect, incidental or consequential damages, whether arising out of a breach by the Owner, tort (including negligence) or any other theory of liability, and Developer releases the Owner from any such liability.

19.4.3.2 The foregoing limitation on the Owner's liability for damages shall not apply to or limit Developer's right of recovery respecting the following:

1. Losses (including defense costs) to the extent covered by the proceeds of insurance or for which the Owner has self-insured;
2. Losses arising out of fraud, criminal conduct, intentional misconduct, recklessness or bad faith on the part of the Owner;
3. Any amounts the Owner may owe or be obligated to reimburse to Developer under the express provisions of the Contract Documents; or

4. Interest, late charges, fees, transaction fees and charges, penalties and similar charges that the Contract Documents expressly state are due from the Owner to Developer.

19.4.3.3 The measure of compensation available to Developer as set forth in this Agreement for an event of termination shall constitute the sole and exclusive monetary relief and damages available to Developer arising out of or relating to such event; and Developer irrevocably waives and releases any right to any other or additional damages or compensation. No award of compensation or damages shall be duplicative.

## ARTICLE 20. TERMINATION

### 20.1 Termination for Convenience

20.1.1 The Owner may, in its sole discretion, terminate this Agreement in whole if the Owner determines that a termination is in the Owner's best interest (a "**Termination for Convenience**"). The Owner will deliver to Developer a written Notice of Termination for Convenience specifying the election to terminate and its effective date, which shall not be less than 90 days following the date of delivery of such notice. Termination of this Agreement shall not relieve Developer or any Guarantor or Surety of its obligation for any claims arising from the Work performed prior to such termination.

20.1.2 In the event of a Termination for Convenience, the Owner shall pay compensation to Developer (or to the Collateral Agent as provided in the Direct Agreement) in an amount equal to:

20.1.2.1 To the extent it is a positive amount, (a) all amounts shown in the Financial Model as payable by Developer from the Early Termination Date, either in dividends or other distributions on the share capital of Developer or as payments of interest or repayments of principal made by Developer under the Equity Members Funding Agreements, each amount discounted back at the Termination Equity IRR from the date on which it is shown to be payable in the Financial Model to the Early Termination Date, minus (b) Deferred Equity Amounts as at the Early Termination Date; plus

20.1.2.2 Lenders' Liabilities; plus

20.1.2.3 Contractor Breakage Costs; plus

20.1.2.4 Redundancy Payments; plus

20.1.2.5 Equity True-up Payment calculated in accordance with Section 10.4.2.4.3(a), if applicable; minus

20.1.2.6 Account Balances; minus

20.1.2.7 Insurance Proceeds; minus

20.1.2.8 Handback Requirements Reserve Balance, if the Owner so elects pursuant to Section 6.9.4.2.2(ii); minus

20.1.2.9 If applicable, the First Delivery Facilities Deduction and the Second Delivery Facilities Deduction, to the extent not deducted in full from Monthly Progress Payments in accordance with Section 5.1.3; minus

20.1.2.10 Any deductions under Section 8.10.6, to the extent not deducted in full from Monthly Disbursements and/or Quarterly Settlement Amounts.

## **20.2 Termination for Extended Relief Events**

### **20.2.1 Notice of Conditional Election to Terminate**

Either Party may deliver to the other Party written notice of its conditional election to terminate this Agreement based on Relief Events (other than an Owner Default, which is governed by Section 20.4.1) under the following circumstances:

20.2.1.1 A Relief Event has occurred and:

1. (a) The Relief Event will result in a delay in achieving Substantial Completion beyond the period when the Owner is required to make payments as provided in Section 10.4.1.4 or (b) for which the period of time during which the Owner is required to make payments as provided in Section 10.4.1.4 has expired;

or

2. (a) The abovementioned notice is delivered after the Substantial Completion Date, (b) as a direct result of the Relief Event all or substantially all of the Facilities have become and remain inoperable for a period of 270 days or more, and (c) such suspension of operations is not attributable to another concurrent delay;

and

20.2.1.2 Developer could not have mitigated or cured such result through the exercise of diligent efforts; and

20.2.1.3 Such result is continuing at the time of delivery of the written notice; and

20.2.1.4 The written notice sets forth in reasonable detail the Relief Event, a description of the direct result and its duration, and the notifying Party's intent to terminate this Agreement.

### **20.2.2 No Right to Termination Election**

Notwithstanding the foregoing, if following the occurrence of any Relief Event results in damage or partial destruction of the Project and:

20.2.2.1 The conditions listed in Sections 20.2.1.1 through 20.2.1.4 are satisfied;

20.2.2.2 Insurance proceeds are available to fund work required to remedy the effects of the Relief Event; and

20.2.2.3 The Parties agree to a restoration plan in respect of such work required to remedy the effect of the Relief Event,  
then neither Party shall have the right to elect to terminate this Agreement pursuant to Section 20.2.1.

### **20.2.3 Developer Options Upon Owner Notice**

If the Owner gives written notice of conditional election to terminate under this Section 20.2, Developer shall have the option either to accept such notice or to continue this Agreement in effect by delivering to the Owner written notice of Developer's choice not later than 30 days after the Owner delivers its notice. If Developer does not deliver such written notice within such 30-day period, then it shall be conclusively deemed to have accepted the Owner's election to

terminate this Agreement. If Developer delivers timely written notice choosing to continue this Agreement in effect, then:

20.2.3.1 The Owner shall have no obligation to compensate Developer for any costs or for any loss of Payments or any other relief, in each case arising out of the Relief Event and incurred after the date on which the Owner gives written notice of conditional election to terminate under this Section 20.2;

20.2.3.2 If the Relief Event occurred prior to the Substantial Completion Date and resulted in a Relief Event Delay, Developer shall be entitled to an extension of the applicable Completion Deadlines in accordance with the Contract Documents; and

20.2.3.3 This Agreement shall continue in full force and effect and the Owner's election to terminate shall be deemed withdrawn.

#### **20.2.4 Owner Options Upon Developer Notice**

If Developer gives written notice of conditional election to terminate under this Section 20.2, including an estimate (with supporting documentation) of the compensation that would be paid or reimbursed to Developer under Section 20.2.4.1, the Owner shall have the option either: (a) to accept such notice, or (b) to continue this Agreement in effect for a period of up to 180 days or such longer period as may be mutually agreed to in writing by the Parties, provided that the Owner in its reasonable discretion determines that the Project can be completed or re-opened, as applicable, on a commercially reasonable basis, in each case by delivering to Developer written notice of the Owner's choice not later than 30 days after Developer delivers its notice. If the Owner does not deliver such written notice within such 30-day period, then it shall be conclusively deemed to have accepted Developer's election to terminate this Agreement. If the Owner delivers timely written notice choosing to continue this Agreement in effect, then:

20.2.4.1 Subject to Section 10.2.7, the Owner shall be obligated to pay or reimburse Developer an amount equal to (without double-counting):

1. The Direct Costs to repair and restore any physical damage or destruction to the Project, including any Delay Costs directly caused by the Relief Event which are incurred after the date Developer delivers its written notice of conditional election to terminate; plus
2. An amount equal to the amount of Availability Payments or Partial Availability Payments, as applicable, that Developer would have received during such extended period absent the Relief Event, prorated for the number of days in the period and to be paid in monthly installments, less any operation and maintenance expenses and other amounts that Developer may avoid through the exercise of reasonable diligence and would otherwise have incurred during the period had the Relief Event not occurred;

20.2.4.2 Developer's rights under Section 10.3.110.2.6 shall continue to apply to the Relief Event until the damages produced by such Relief Event are compensated as provided in this Agreement and the restoration works are completed; and

20.2.4.3 This Agreement shall continue in full force and effect and Developer's election to terminate shall not take effect for the period specified in the Owner's written notice under this Section 20.2.4 or such longer period as may be mutually agreed to in writing by the Parties.



#### **20.2.5 No Waiver**

No election by Developer under Section 20.2.3 or by the Owner under Section 20.2.4 to keep this Agreement in effect shall prejudice or waive such Party's right to thereafter give a written notice of conditional election to terminate with respect to the same or any other Relief Event.

#### **20.2.6 Concurrent Notices**

If the Owner and Developer deliver concurrent written notices of conditional election to terminate under this Section 20.2, Developer's notice shall prevail. Notices shall be deemed to be concurrent if each Party sends its written notice before actually receiving the written notice from the other Party. Knowledge of the other Party's written notice obtained prior to actual receipt of the notice shall have no effect on determining whether concurrent notice has occurred.

#### **20.2.7 Termination Compensation for Extended Relief Events**

If either Party accepts the other Party's conditional election to terminate, then this Agreement shall be deemed terminated on an Early Termination Date that is 60 days after the date of acceptance of the conditional election to terminate; and Developer will be entitled to compensation calculated as follows (calculated at the Early Termination Date and without double-counting):

20.2.7.1 All amounts paid to Developer by way of equity to the capital of Developer, less dividends and other distributions paid to the Equity Members (save to the extent deducted below), which shall never be a negative number; plus

20.2.7.2 Outstanding Equity Members Debt less an amount equal to the aggregate of all payments of interest made by Developer under the Equity Members Funding Agreements prior to the Termination Date; plus

20.2.7.3 Lenders' Liabilities; plus

20.2.7.4 Contractor Breakage Costs; plus

20.2.7.5 Redundancy Payments; minus

20.2.7.6 Account Balances; minus

20.2.7.7 Insurance Proceeds; minus

20.2.7.8 Handback Requirements Reserve Balance, if the Owner so elects pursuant to Section 6.9.4.2.2(ii); minus

20.2.7.9 If applicable, the First Delivery Facilities Deduction and the Second Delivery Facilities Deduction, to the extent not deducted in full from Monthly Progress Payments in accordance with Section 5.1.3; minus

20.2.7.10 Any deductions under Section 8.10.6, to the extent not deducted in full from Monthly Disbursements and/or Quarterly Settlement Amounts, provided that with respect to a termination for an extended Owner-Caused Relief Event, Developer will be entitled to compensation in the amount described in Section 20.1.2.

## **20.3 Termination for Developer Default**

### **20.3.1 Termination Upon Written Notice**

Subject to the rights of the Lenders pursuant to any Direct Agreement, if any Developer Default occurs and has not been cured within the applicable cure period, if any, set out in Section 19.1.2, the Owner may terminate this Agreement with immediate effect upon written notice to Developer.

### **20.3.2 Compensation to Developer**

If the Owner issues a notice of termination of this Agreement due to a Developer Default, Developer will be entitled to:

20.3.2.1 If termination occurs prior to the Substantial Completion Date, compensation in an amount equal to the lesser of: (a) the D&C Work Value, plus the lesser of (i) the amount of O&M Services costs scheduled in the Financial Model to be incurred by Developer through the Early Termination Date and (ii) the actual amount of O&M Services costs actually incurred by Developer through the Early Termination Date; and (b) the Net Lenders' Liabilities.

20.3.2.2 If termination occurs on or after the Substantial Completion Date, compensation equal to the amount calculated at the Early Termination Date (without double-counting) as follows:

1. Eighty percent (80%) of Lenders' Liabilities; minus
2. Maintenance Rectification Costs; minus
3. Account Balances; minus
4. Deferred Equity Amounts; minus
5. Insurance Proceeds; minus
6. Handback Requirements Reserve Balance, if the Owner so elects pursuant to Section 6.9.4.2.2(ii).

20.3.3 If this Agreement is terminated for grounds which are later determined not to justify a termination by the Owner pursuant to Section 20.3.1, such termination shall be deemed to constitute a Termination for Convenience pursuant to Section 20.1.1, and Developer's remedy shall be as set forth in Section 20.1.2.

20.3.4 Notwithstanding any provision to the contrary in this Agreement, Developer shall not be entitled to any compensation for termination of this Agreement under any of the circumstances described in Section 15.1(a) or Section 15.1(b) of the Direct Agreement if a new Project Agreement has been executed and delivered.

## **20.4 Termination for Owner Default or Suspension of Work; Termination by Court Ruling**

### **20.4.1 Termination for Owner Default**

In the event of a material Owner Default under Section 19.3.1 that remains uncured following notice and expiration of the applicable cure period under Section 19.3.2, Developer shall have the right to terminate this Agreement, effective immediately upon delivery of written notice of termination to the Owner. In the event of such termination, the Owner shall pay compensation to Developer in an amount equal to the amount described in Section 20.1.2.

#### **20.4.2 Termination for Suspension of Work**

If the Owner issues a suspension order under Section 19.2.7.2 that suspends the Work for a period of 270 days or more, Developer shall have the right to terminate this Agreement, effective immediately upon delivery of written notice of termination to the Owner, provided that such suspension is not the result of the negligence, willful misconduct, or breach of applicable Law or contract by Developer or any Developer-Related Entity. In the event of such termination, Developer will be entitled to compensation equal to the amount described in Section 20.1.2.

#### **20.4.3 Termination by Court Ruling**

Termination by Court Ruling means, and becomes effective upon: (a) issuance of a final order by a court of competent jurisdiction after exhaustion of all appeals to the effect that this Agreement is void, voidable, and/or unenforceable or impossible to perform in its entirety for reasons beyond the reasonable control of Developer; or (b) issuance of a final order by a court of competent jurisdiction after exhaustion of all appeals upholding the binding effect on Developer and/or the Owner of a Change in Law that causes impossibility of performance of a fundamental obligation by Developer or the Owner under the Contract Documents or impossibility of exercising a fundamental right of Developer or the Owner under the Contract Documents. The final court order shall be treated as the notice of termination. In the event of such termination, Developer will be entitled to compensation in an amount equal to the amount described in Section 20.2.7, provided that if the Termination by Court Ruling is caused solely by an Owner Default or an Owner-Caused Relief Event, Developer will be entitled to compensation in the amount described in Section 20.1.2.

### **20.5 Termination Procedures and Duties**

Upon expiration of the Term or any earlier termination of this Agreement for any reason, the provisions of this Section 20.5 shall apply. Except as expressly provided otherwise in this Section 20.5, Developer shall timely comply with such provisions independently of, and without regard to, the timing for determining, adjusting, settling and paying any amounts due Developer or the Owner on account of termination.

#### **20.5.1 Transition Plan**

20.5.1.1 Within three days after receipt of a notice of termination, Developer shall meet and confer with the Owner for the purpose of developing an interim transition plan for the orderly transition of Work, demobilization and transfer of control of the Project, the Work Site and the Facilities to the Owner. The Parties shall use diligent efforts to complete preparation of the interim transition plan within 15 days after the date the relevant Party receives the notice of termination.

20.5.1.2 The Parties shall use diligent efforts to complete a final transition plan within 30 days after such date. The transition plan shall be in form and substance reasonably acceptable to the Owner and shall include and be consistent with the other provisions and procedures set forth in this Section 20.5, all of which procedures Developer shall immediately follow, regardless of any delay in preparation or acceptance of the interim or final transition plan. The transition plan shall include an estimate of costs and expenses to be incurred by both Parties in connection with implementation of the transition plan.

#### **20.5.2 Relinquishment and Possession of the Project**

20.5.2.1 On the Termination Date, or as soon thereafter as is possible as provided in the transition plan, Developer shall relinquish and surrender full control and possession of the Project, the Work Site and the Facilities to the Owner, and shall cause all

Persons claiming under or through Developer to do likewise, in at least the condition required by the Handback Requirements.

20.5.2.2 On the later of the Termination Date or the date Developer relinquishes full control and possession as provided in the transition plan, the Owner shall assume responsibility, at its expense (subject to the right to recover damages under this Agreement), for the Project, the Work Site and the Facilities.

### **20.5.3 Continuance or Termination of Key Contracts Prior to Work Completion**

20.5.3.1 If, as of the Termination Date, Developer has not completed the Work, in whole or in part, the Owner may elect, by written notice to Developer, to continue in effect the relevant Key Contracts or to require their termination. If the Owner elects to continue such Key Contracts, then Developer shall execute and deliver (or, if Developer is not a party to such Key Contract, shall cause the relevant Key Contractor(s) to execute and deliver) to the Owner a written assignment, in form and substance acceptable to the Owner, acting reasonably, of all Developer's or such Key Contractor's, as applicable, right, title and interest in and to such Key Contracts, and the Owner shall assume in writing Developer's or such Key Contractor's, as applicable, obligations thereunder that arise from and after the Termination Date.

20.5.3.2 If the Owner elects to require termination of the Key Contracts, then Developer shall (or, if Developer is not a party to such Key Contracts, shall cause the relevant Key Contractor(s) to):

1. Unless the Owner has entered into a new project agreement with a Lender or its Substituted Entity, take such steps as are necessary to terminate the relevant Key Contracts, including notifying each Key Contractor that its Key Contract is being terminated and that each of them is to immediately stop work and stop and cancel orders for materials, services or facilities unless otherwise authorized in writing by the Owner;
2. Immediately demobilize and secure in a safe manner construction, staging, lay down and storage areas for the Project to the reasonable satisfaction of the Owner, and remove all debris and waste materials (including Contaminated Materials and Undesirable Materials that are in the process of removal) except as otherwise approved by the Owner in writing;
3. Take such other actions as are necessary or appropriate to mitigate further cost;
4. Subject to the Owner's reasonable prior written approval, settle all outstanding liabilities and all claims arising out of the Key Contracts;
5. As a condition to Developer receiving all payments required to be paid by the Owner under this Article 20 and pursuant to the requirements of the transition plan, cause each of the Key Contractors to execute and deliver to the Owner a written assignment, in form and substance acceptable to the Owner, acting reasonably, of all of their right, title and interest in and to all warranties, to the extent assignable, claims and causes of action held by each of them against subcontractors and other third parties in connection with the Project or the Work, to the extent the Project or the Work is adversely affected by any subcontractor or other third-party breach of warranty, contract or other legal obligation; and

6. As a condition to Developer receiving all payments required to be paid by the Owner under this Article 20 and pursuant to the requirements of the transition plan, carry out such other directions as the Owner may give for termination of the Work in accordance with the transition plan.

#### **20.5.4 Other Close-Out Activities**

20.5.4.1 Within 30 days after notice of termination is delivered or no later than 30 days prior to the natural expiration of the Term (as applicable), Developer shall provide the Owner with a true and complete list of all materials, goods, machinery, equipment, parts, supplies and other property in inventory or storage (whether held by Developer or any Person on behalf of or for the account of Developer) for use in or respecting the Work or the Project, or on order or previously completed but not yet delivered from Suppliers for use in or respecting the Work or the Project, and on or about the Termination Date shall transfer title and deliver to the Owner or the Owner's Authorized Representative, through bills of sale or other documents of title, as directed by the Owner, all such materials, goods, machinery, equipment, parts, supplies and other property.

20.5.4.2 Developer shall take all action that may be necessary, or that the Owner may direct, for the protection and preservation of the Project, the Work and such materials, goods, machinery, equipment, parts, supplies and other property.

20.5.4.3 On the Termination Date, Developer shall transfer to the Owner the amount in the Handback Requirements Reserve Account due the Owner in accordance with Section 6.9.3.3.

20.5.4.4 On or about the Termination Date, Developer shall execute and deliver to the Owner the following, together with an executed bill of sale or other written instrument, in form and substance acceptable to the Owner, acting reasonably, assigning and transferring to the Owner the following:

1. All completed or partially completed drawings (including plans, elevations, sections, details and diagrams), specifications, designs, Design Documents, As-Built Plans, surveys, and other documents and information pertaining to the Work;
2. All samples, borings, boring logs, subsurface data and similar data and information relating to the Project or the Work Site; and
3. All books, records, reports, test reports, studies and other documents of a similar nature relating to the Work, the Work Site or the Facilities.

20.5.4.5 Within 90 days after the Termination Date, the Parties shall adjust and prorate costs of operation and maintenance of the Project, including utility service costs, as of the Termination Date. If the Parties do not have complete or accurate information by such date, they shall make the adjustment and proration using a good faith estimate, and thereafter promptly readjust when the complete and accurate information is obtained. The Parties acknowledge that certain adjustments or readjustments may depend on receipt of bills, invoices or other information from a third party, and that the third party may delay in providing such information. Any readjustment necessary only because of error in calculation and not due to lack of complete and accurate information shall be irrevocably waived, unless the Party seeking readjustment delivers written request for such readjustment to the other Party not later than 180 days following the Termination Date.

20.5.4.6 On or about the Termination Date, Developer shall execute and deliver to the Owner a perpetual, non-exclusive license, in form and substance acceptable to

the Owner, acting reasonably, to use, exploit, manufacture, distribute, reproduce, adapt and display all of Developer's right, title and interest in and to any escrows or similar arrangements for the protection of Intellectual Property, source code or source code documentation of others (to the extent permitted by such third parties) used for or relating to the Project or the Work.

20.5.4.7 On or about the Termination Date, Developer shall execute and deliver to the Owner a written assignment, in form and substance acceptable to the Owner, acting reasonably, of all Developer's right, title and interest in and to all warranties, to the extent assignable, claims and causes of action held by Developer against third parties in connection with the Project or the Work which are not to be pursued by Developer as provided in the final transition plan.

20.5.4.8 On or about the Termination Date, Developer shall deliver: (a) to the Owner all IP Materials, work product, documents, results and related materials for Subject Intellectual Property not yet delivered to the Owner; and (b) to the Owner, or deposit into Intellectual Property Escrow(s) pursuant to Section 22.5, the IP Materials for Developer Intellectual Property and Third Party Intellectual Property not yet so delivered or deposited, as applicable.

20.5.4.9 Developer shall otherwise assist the Owner in such manner as the Owner may require to ensure the orderly transition of the Project, and shall, if appropriate and if requested by the Owner, take all steps as may be necessary to enforce the provisions of the Key Contracts pertaining to the surrender of the Project.

## **20.6 Effect of Termination**

### **20.6.1 Cessation of Developer's Project Interests**

Termination of this Agreement and payment of compensation as required under any provision of this Article 20 shall automatically cause, as of the Termination Date, the cessation of any and all interests of Developer in or with respect to the Project, the Owner-Provided Work Site, the Payments and the Handback Requirements Reserve Account, which thereupon shall be and remain free and clear of any lien or encumbrance created, permitted or suffered by Developer or anyone claiming by, through or under Developer, including the liens, pledges, assignments, collateral assignments, security interests and encumbrances of any and all Financing Documents. In order to confirm the foregoing, at the Owner's request, Developer shall promptly obtain and deliver to the Owner reconveyances, releases and discharges of all Security Documents, executed by the Lenders in proper form for recording or filing (as appropriate), but no such reconveyances, releases and discharges shall be necessary to the effectiveness of the foregoing.

### **20.6.2 Contracts and Agreements**

Regardless of the Owner's prior actual or constructive knowledge thereof, no contract or agreement to which Developer is a party as of the Termination Date shall bind the Owner, unless the Owner elects to assume such contract or agreement in writing. Except in the case of the Owner's express written assumption, no such contract or agreement shall entitle the contracting party to continue performance of work or services respecting the Project following Developer's relinquishment to the Owner of possession and control of the Project, or to any claim, legal or equitable, against the Owner.

## **20.7 Liability After Termination; Final Release**

20.7.1 No termination of this Agreement shall excuse either Party from any liability arising out of any default as provided in this Agreement that occurred prior to termination,

provided that no liquidated damages shall be assessed in respect of the period following the Termination Date.

20.7.2 Subject to Section 20.5.4.5, if this Agreement is terminated for any reason, then the Owner's payment to Developer of the amounts required under this Agreement (if any) shall constitute full and final satisfaction of, and upon payment the Owner shall be forever released and discharged from, any and all claims, causes of action, suits, demands and Losses, known or unknown, suspected or unsuspected, that Developer may have against the Owner arising out of or relating to this Agreement or termination thereof, or the Project. Upon such payment, Developer shall execute and deliver to the Owner all such releases and discharges as the Owner may reasonably require to confirm the foregoing, but no such written release and discharge shall be necessary to give effect to the foregoing satisfaction and release.

## **20.8 Payment of Termination Compensation**

20.8.1 Termination Compensation for termination pursuant to Section 20.1 or Section 20.4 shall be due and payable by the Owner in immediately available funds within 60 days after: (a) the Owner or Developer, as the case may be, gives its written notice of its election to terminate; (b) the Collateral Agent provides the Owner with a written statement as to (i) the Lenders' Liabilities and (ii) the Account Balances, to the extent such accounts are controlled by the Collateral Agent, with documentation reasonably required by the Owner to support such statement and certified that such amounts are true and correct; and (c) Developer provides the Owner with a written statement as to the amounts described in clauses (a) and (b) of Section 20.1.2.1 and Sections 20.1.2.3, 20.1.2.4, 20.1.2.6, 20.1.2.7, 20.1.2.9 and 20.1.2.10 (without duplication of any Account Balances verified by the Collateral Agent under (b)(ii) above), together with documentation reasonably required by the Owner to support such statement and a certification that such amounts are true and correct.

20.8.2 Compensation for termination pursuant to Section 20.2 shall be due and payable by the Owner within 60 days after: (a) either Party has accepted the other Party's election to terminate this Agreement; (b) the time period for the other Party to elect not to terminate this Agreement has expired and the party has not made the election; (c) the Collateral Agent provides the Owner with a written statement as to (i) the Lenders' Liabilities and (ii) Account Balances, to the extent such accounts are controlled by the Collateral Agent, with documentation reasonably required by the Owner to support such statement and certified that such amounts are correct; and (d) Developer provides the Owner with a written statement as to the amounts described in Sections 20.2.7.1, 20.2.7.2, 20.2.7.4 through 20.2.7.7, 20.2.7.9 and 20.2.7.10 (without duplication of any Account Balances verified by the Collateral Agent under (c)(ii) above), together with documentation reasonably required by the Owner sufficient to support such statement and a certification that such amounts are true and correct.

20.8.3 Compensation for termination pursuant to Section 20.3 shall be due and payable by the Owner within 60 days after: (a) the Owner has given written notice of its election to terminate this Agreement; (b) the Collateral Agent provides the Owner with a written statement as to (i) the Lenders' Liabilities and (ii) the Account Balances, to the extent such accounts are controlled by the Collateral Agent, with documentation reasonably required by the Owner to support such statement and certified that such amounts are correct; and (c) Developer provides the Owner with a written statement as to (i) the amounts described in subsections (2) through (6) of Section 20.3.2.2, if applicable (without duplication of any Account Balances verified by the Collateral Agent under (b)(ii) above), (ii) the amount described in clause (c) of the definition of Net Lenders' Liabilities, and (iii) the total Net Lenders' Liabilities, together with written documentation sufficient to support such statement and a certification that such amounts are true and correct.

20.8.4 If as of the date the Owner tenders payment the Parties have not agreed upon the amount of Termination Compensation due, then:

1. The Owner shall proceed to make payment to Developer of the undisputed portion of the Termination Compensation;
2. Within 30 days after receiving such payment Developer shall deliver to the Owner written notice of the additional amount of Termination Compensation that Developer in good faith determines is still owing (the “**disputed portion**”); and
3. The Owner shall pay the disputed portion of the Termination Compensation to Developer in immediately available funds after the disputed portion is agreed to by the Parties or otherwise determined to be payable pursuant to Article 25, as the case may be.

## 20.9 Exclusive Termination Rights

This Article 20 contains the entire and exclusive provisions and rights of the Owner and Developer regarding termination of this Agreement, and any and all other rights to terminate under Law are waived to the maximum extent permitted by Law.

## ARTICLE 21. RESERVED RIGHTS

### 21.1 General

Without prejudice to Developer's rights to additional compensation, time extensions and other relief expressly provided in this Agreement, Developer's rights and interests in the Project and the Owner-Provided Work Site are and shall remain specifically limited only to such personal property rights and interests that are necessary and required for developing, permitting, designing, financing, constructing, installing, equipping, operating, maintaining, repairing, reconstructing, rehabilitating, restoring, renewing or replacing the Project. Developer's rights and interests specifically exclude any real property interest in the Project, the Owner-Provided Work Site, any and all Airspace and any and all improvements and personal property above, on or below the surface of the Owner-Provided Work Site .

### 21.2 Reserved Business Opportunities

21.2.1 The Owner reserves to itself, and Developer relinquishes, all right and opportunity to develop and pursue anywhere in the world entrepreneurial, commercial and business activities related to the Project, the Owner-Provided Work Site, and all improvements therein (including the Facilities) and the Bellevue Intersection Improvements, and all ancillary or collateral use, enjoyment and operation thereof, except to the extent such rights are expressly granted to Developer under this Agreement (“**Business Opportunities**”). Unless expressly authorized by the Owner, in its sole discretion, Developer will not grant permission for any Person to use or occupy the Project, the Owner-Provided Work Site or any improvements therein (including the Facilities) for any ancillary or collateral purpose. The foregoing reservation in no way precludes Developer or its Affiliates and Contractors from: (a) carrying out its financial plan reflected in its the Financial Model; (b) arranging and consummating Refinancings; (c) creating and using brochures and other marketing material that include descriptions, presentations and images of the Project or the Work for the purpose of promoting Developer's business of developing, financing and operating social infrastructure projects; or (d) competing on any request or solicitation for proposals or bids issued by the Owner in connection with Business Opportunities.



21.2.2 The Business Opportunities reserved to the Owner include all the following:

21.2.2.1 All rights to finance, design, construct, operate and maintain any academic or non-academic facilities and related infrastructure, systems and other improvements in the Airspace or within the Owner-Provided Work Site, and to grant to others such rights;

21.2.2.2 All rights to finance, design, construct, operate and maintain Project Enhancements in the Airspace or within the Owner-Provided Work Site, and to grant others such rights;

21.2.2.3 All rights to install, use, lease, grant indefeasible rights of use, sell and derive revenues from power generation and/or capacity (including traditional and renewable sources), and all rights to finance, install, design, construct, operate or maintain any associated infrastructure or equipment existing over, on, under or adjacent to any portion of the Owner-Provided Work Site, except for the capacity of any such improvement installed by Developer that is necessary for and devoted exclusively to the operation of the Project;

21.2.2.4 All rights to install, use, lease, grant indefeasible rights of use, sell and derive revenues from electrical and fiber optic conduit, cable, capacity and associated equipment or other telecommunications equipment and capacity, existing over, on, under or adjacent to any portion of the Owner-Provided Work Site, except for the capacity of any such improvement installed by Developer that is necessary for and devoted exclusively to the operation of the Project;

21.2.2.5 All rights to use, sell and derive revenues data generated from the operation of the Project;

21.2.2.6 All ownership, possession and control of, and all rights to develop, use, operate, lease, sell and derive revenues from, the Airspace, the Owner-Provided Work Site or the Facilities, other than operation of the Project;

21.2.2.7 All ownership, possession and control of, and all rights to develop, use, lease, sell and derive revenues from, carbon credits or other environmental benefits generated by or arising out of the development, use, operation or maintenance of the Project;

21.2.2.8 All rights to market, distribute, sell and derive revenues from any goods, products or merchandise depicting, utilizing or exploiting any name, image, logo, caricature or other representation, in any form or medium, of the Owner, the University of California, its Merced campus, or the Project;

21.2.2.9 All rights and opportunities to grant to others sponsorship, advertising and naming rights with respect to the Project or any portion thereof, provided that in any sponsorship or naming rights transaction the Owner shall cause to be granted to Developer a non-exclusive license to use the name in connection with Project operations; and

21.2.2.10 Any other commercial or noncommercial development or use of the Airspace, the Owner-Provided Work Site or the Facilities for other than operation of the Project.

21.2.3 Prior to deciding whether to pursue or implement a Business Opportunity, the Owner may require Developer to provide analysis of the impacts thereof on Developer's costs and schedule.

21.2.4 In the event a Developer Default concerns a breach of the provisions of this Section 21.2, in addition to any other remedies, the Owner shall be entitled to Developer's

disgorgement of all profits from the prohibited activity, together with interest thereon at the maximum rate permitted by Law, and to sole title to and ownership of the prohibited assets and improvements and revenues derived therefrom.

21.2.5 Developer shall not place or permit any outdoor advertising within the boundaries of the Work Site.

## **ARTICLE 22. RECORDS; INTELLECTUAL PROPERTY; D&C PRICING DOCUMENTS**

### **22.1 Maintenance and Inspection of Records**

22.1.1 Subject to, and in addition to, the delivery requirements for IP Materials and related obligations included in Section 22.4, Developer shall keep and maintain in Merced, California, or other location approved by the Owner in writing, all books, records and documents relating to the Project, the Work Site, the Facilities, the FF&E and the Work, including copies of all original documents delivered to the Owner, invoices, Tax records, and all books of account, supporting documents, and papers that the Owner deems necessary to ensure compliance with the Contract Documents (collectively, "**Project Records**") regardless of physical or digital medium, now known or hereinafter devised including transitory storage environments. Developer shall keep and maintain Project Records in accordance with applicable provisions of the Contract Documents and in accordance with Best Management Practice. Subject to Section 22.3, all Project Records produced, stored or recorded in a digital medium shall be kept and maintained in accordance with then-current data security Laws and data security storage standards in no event less than the standards outlined by ISO/IEC 27040:2015 (International Organization for Standardization). Developer shall notify the Owner where the Project Records are kept or maintained, including any cloud storage, server storage or hosting locations, or portable digital storage. Developer may delete, destroy or erase Project Records in any digital medium only when such Project Records (a) are reproduced completely in a physical medium and kept and maintained in accordance with this Section 22.1, or (b) the applicable retention period under Section 22.1.2 has expired.

22.1.2 Developer shall retain Project Records:

22.1.2.1 Related to the D&C Work until the later of: (a) ten (10) years after Substantial Completion; and (b) the last audit related to the D&C Work commenced within the period specified in clause (a) of this Section 22.1.2.1 is completed; and

22.1.2.2 Related to the O&M Services until the later of: (a) seven (7) years after the Termination Date; and (b) the last audit related to the O&M Services commenced within the period specified in clause (a) of this Section 22.1.2.2 is completed.

### **22.2 Audits**

22.2.1 The Owner reserves the right to conduct an audit of all Project Records at any time, provided that any such audit shall be commenced prior to the expiry of the period specified in Section 22.1.2.1(a), if related to the D&C Work, or prior to the expiry of the period specified in Section 22.1.2.2(b), if related to the O&M Services. Developer shall make all Project Records available for inspection and audit by the Owner or its representative at Developer's offices in Merced, California or other location approved by the Owner in writing, at all times during normal business hours, without charge. Developer shall provide to the Owner copies thereof, in any physical and/or digital medium, as and when reasonably requested by the Owner. The Owner may conduct any such inspection upon 48 hours' prior written notice, or unannounced and without prior notice where there is good faith suspicion of fraud or criminal activity. The right of inspection includes the right to make extracts and take notes. The Owner may also require

submittal of the records from Developer, its Contractors, or both. Without limiting the foregoing, the Owner or its representatives shall have such rights to review and audit Developer, its Contractors and their respective Project Records as the Owner deems necessary for purposes of verifying compliance with the Contract Documents and applicable Law. The Owner shall have the right to audit the Project Management Plan and compliance therewith, including the right to inspect Work and/or activities and to verify the accuracy and adequacy of the Project Management Plan and other relevant Contract Documents.

22.2.2 All Claims filed against the Owner shall be subject to audit in accordance with, and Developer and its Contractors shall comply with, the provisions in Section 10.7. Full compliance by Developer with the provisions of this Section 22.2 is a condition precedent to Developer's right to seek relief on a Claim under this Agreement.

22.2.3 If Developer fails to comply with the requirements set forth in this Section 22.2, the Owner may disqualify or suspend Developer from any opportunity in participating on future contracts with the Owner. Developer shall ensure that the Contractors provide access to their records pertaining to the Project upon request by the Owner.

22.2.4 The Owner's audit rights include the right to observe the business operations of Developer and its Contractors to confirm the accuracy of Project Records.

22.2.5 Developer shall include in the Project Management Plan internal procedures to facilitate review and audit by the Owner.

22.2.6 Developer represents and warrants the completeness and accuracy of all information it or its agents provides in connection with the Owner audits, and shall cause all Contractors to warrant the completeness and accuracy of all information such Contractors provide in connection with the Owner audits.

22.2.7 Developer's internal and third-party quality and compliance auditing responsibilities shall be set forth in the Project Management Plan.

## **22.3 Public Records Act**

22.3.1 Developer shall allow public access to all documents, papers, letters, or other material subject to the provisions of the Public Records Act, made or received by Developer solely in conjunction with the Contract Documents. Specifically, Developer shall:

22.3.1.1 Keep and maintain public records that ordinarily and necessarily would be required by the Owner in order to perform the services being performed by Developer;

22.3.1.2 Provide the public with access to public records on the same terms and conditions that the Owner would provide the records as provided by Law;

22.3.1.3 Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by Law; and

22.3.1.4 Meet all requirements for retaining public records and transfer, at no cost, to the Owner all public records in possession of Developer upon expiry or earlier termination of the Agreement and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the Owner in a format that is compatible with the information technology systems of the Owner.

Failure to grant such public access will be grounds for termination of the Agreement by the

Owner for a Developer Default under Section 19.1.1.17. Developer shall promptly provide the Owner with a copy of any request to inspect or copy public records in possession of Developer and shall promptly provide the Owner a copy of Developer's response to each such request.

22.3.2 Developer acknowledges and agrees that, except as provided by the Public Records Act, all Submittals, records, documents, drawings, plans, specifications and other materials in the Owner's possession, including the D&C Pricing Documents and other materials submitted by Developer to the Owner, are subject to the provisions of the Public Records Act. If Developer believes information or materials submitted to the Owner constitute trade secrets, proprietary information or other information excepted from disclosure, Developer shall be solely responsible for specifically and conspicuously designating that information by placing "CONFIDENTIAL" in the center header of each such page affected, as it determines to be appropriate, and placing the materials in a folder or binder clearly labeled with the citation to the specific provision of the Public Records Act that exempts the material from disclosure. Any specific proprietary information, trade secrets or confidential commercial and financial information shall be clearly identified as such, and shall be accompanied by a concise statement of reasons supporting the claim including the specific provision of the Public Records Act that authorizes the confidentiality and exempts the material from disclosure. Nothing contained in this provision shall modify or amend requirements and obligations imposed on the Owner by the Public Records Act or other applicable Law, and the provisions of the Public Records Act or other Laws shall control in the event of a conflict between the procedures described above and the applicable Law. Developer is advised to contact legal counsel concerning such Laws and its application to Developer.

22.3.3 If the Owner receives a request for public disclosure of materials marked "CONFIDENTIAL," the Owner will use reasonable efforts to notify Developer of the request and give Developer an opportunity to assert, in writing and at its sole expense, a claimed exception under the Public Records Act or other applicable Law within the time period specified in the notice issued by the Owner and allowed under the Public Records Act. Under no circumstances, however, will the Owner be responsible or liable to Developer or any other Person for the disclosure of any such labeled materials, whether the disclosure is required by Law, or court order, or occurs through inadvertence, mistake or negligence on the part of the Owner or its officers, employees, contractors or consultants.

22.3.4 If any legal action is filed against the Owner to enforce the provisions of the Public Records Act in relation to confidential information, the Owner agrees to promptly notify Developer of such action, and the Owner's sole involvement in such proceedings or litigation will be as the custodian retaining the material until otherwise ordered by a court or such other authority having jurisdiction with respect thereto, and Developer shall be fully responsible for otherwise prosecuting or defending any action concerning the materials at its sole cost and risk; provided, however, that the Owner reserves the right, in its sole discretion, to intervene or participate in the litigation in such manner as it deems necessary or desirable.

## **22.4 Intellectual Property**

### **22.4.1 Subject Intellectual Property**

22.4.1.1 Developer acknowledges and agrees that all Subject Intellectual Property, in any medium, is specially ordered or commissioned by the Owner, including works made for hire in accordance with Section 101 of the Copyright Act of the United States. Developer hereby assigns to the Owner all rights, title and interest in and to the Subject Intellectual Property including any and all software, work product and designs.

22.4.1.2 In addition to its obligations under Section 22.5, Developer shall deliver to the Owner all IP Materials, work product, documents, results and related materials created in the development of Subject Intellectual Property as soon as reasonably practicable after incorporation of the relevant Subject Intellectual Property into the Project, provided that: (a) such IP Materials, work product, documents, results and related materials for all Subject Intellectual Property incorporated into the Project prior to Occupancy Readiness, Substantial Completion, Facility Final Acceptance or Project Final Acceptance, respectively, shall have been delivered to the Owner as a condition precedent to the issuance of a Certificate of Occupancy Readiness, Certificate of Substantial Completion, Certificate of Facility Final Acceptance or Certificate of Project Final Acceptance, as applicable; and (b) such IP Materials, work product, documents, results and related materials for all other Subject Intellectual Property incorporated into the Project shall be delivered to the Owner by on or about the Termination Date.

22.4.1.3 The Owner hereby grants to Developer a limited, non-exclusive license to use, exploit, manufacture, distribute, reproduce, adapt and display the Subject Intellectual Property solely in connection with and limited to the Allowable Uses. "Allowable Uses" are: (a) incorporation into the Project; and (b) performance, provision, furnishing and discharge of the Work. No Intellectual Property rights of the Owner, including the University of California's name and other trademarks, are being licensed to Developer except as otherwise expressly provided in this Section and Section 1.2(a) of Appendix 16, and all other rights are reserved to the Owner. Developer agrees to comply with Section 92000 of California's Education Code.

#### **22.4.2 Developer Intellectual Property**

22.4.2.1 Developer hereby grants to the Owner an irrevocable, perpetual, non-exclusive, transferable (solely to a permitted Owner's assignee under Section 24.3), fully paid-up right and license to use, exploit, manufacture, distribute, reproduce, adapt and display the Developer Intellectual Property, including any Technology Enhancements that are Developer Intellectual Property, in connection with the Owner Uses.

22.4.2.2 Developer shall identify and disclose all Developer Intellectual Property contained, or included in, the Project Intellectual Property including (when reasonably available): full and specific information detailing Intellectual Property claimed, date of authorship, creation and/or invention, date of application(s), application number(s) and registering entity(ies), date of registration(s), registration number(s) and registering entity(ies), if any, and owner including person or entity name and address. Subject to the IP Materials deposit requirements of Section 22.5, Developer shall not be required to identify or disclose Developer Intellectual Property only to the extent that doing so would eliminate or substantially limit the legal protections for such Intellectual Property.

#### **22.4.3 Third Party Intellectual Property**

22.4.3.1 Developer shall secure perpetual, nonexclusive, transferable, irrevocable, unconditional, royalty-free license(s) in the name of the Owner to use, exploit, manufacture, distribute, reproduce, adapt and display the Third Party Intellectual Property in connection with the Owner Uses, and shall pay any and all royalties and license fees required to be paid for any Intellectual Property incorporated into the Project Intellectual Property. In no event shall Developer incorporate Third Party Intellectual Property into the Project without first securing such licenses.

22.4.3.2 Developer shall use reasonable efforts to:

1. Obtain the Owner's prior written approval of the terms and conditions of Third Party Intellectual Property licenses;
2. Identify and disclose to the Owner all Third Party Intellectual Property contained, or included, in the Project Intellectual Property, including (when reasonably available): full and specific information detailing Intellectual Property claimed; date of authorship, creation and/or invention; date of application(s); application number(s) and registering entity(ies); date of registration(s), registration number(s) and registering entity(ies), if any, and owner, including person or entity name and address; and
3. Obtain from each owner of the Third Party Intellectual Property consent to have the relevant Third Party Intellectual Property deposited into an Intellectual Property Escrow in accordance with Section 22.5, provided that no Third Party Intellectual Property shall be incorporated into the Project without the Owner's prior written approval to the extent the owner of the relevant Third Party Intellectual Property has not provided such consent.

22.4.3.3 In addition to the foregoing, Developer shall comply with its obligations under Appendix 16.

#### **22.4.4 Delivery of IP Materials**

Developer shall deliver to the Owner all IP Materials related to Developer Intellectual Property and Third Party Intellectual Property, or deposit such IP Materials into Intellectual Property Escrow(s) in accordance with Section 22.5, as soon as reasonably practicable following incorporation of the relevant Intellectual Property into the Project, provided that: (a) IP Materials for all such Intellectual Property incorporated into the Project prior to Occupancy Readiness, Substantial Completion, Facility Final Acceptance or Project Final Acceptance, respectively, shall have been delivered to the Owner or deposited into Intellectual Property Escrow(s) as a condition precedent to the issuance of a Certificate of Occupancy Readiness, Certificate of Substantial Completion, Certificate of Facility Final Acceptance or Certificate of Project Final Acceptance, as applicable; and (b) IP Materials for all other Developer Intellectual Property and Third Party Intellectual Property incorporated into the Project shall have been delivered to the Owner or deposited into Intellectual Property Escrow(s) by on or about the Termination Date.

#### **22.4.5 Payments Inclusive**

Developer acknowledges and agrees that the Payments include all royalties, fees, costs and expenses arising from or related to the Project Intellectual Property.

### **22.5 Intellectual Property Escrows**

22.5.1 The Owner and Developer acknowledge that Developer, a Person and/or Contractors that supply software, source code or other Intellectual Property may not wish to deliver the applicable IP Materials directly to the Owner, as public disclosure could deprive Developer and/or Contractors of commercial value. Developer further acknowledges that the Owner nevertheless must be ensured access to such IP Materials at any time, and must be assured that the IP Materials are delivered to the Owner pursuant to Section 22.4.

22.5.2 The IP Materials shall be released and delivered to the Owner in any of the following circumstances:

22.5.2.1 In the case of Developer Intellectual Property developed by Developer or an Affiliate of Developer other than a Contractor: (a) this Agreement is terminated

for Developer Default; (b) a voluntary or involuntary bankruptcy or insolvency of Developer occurs; (c) Developer is dissolved or liquidated; or (d) Developer fails or ceases to provide services as necessary to permit continued use of any such Developer Intellectual Property pursuant to the license or any sublicense thereof.

22.5.2.2 In the case of Developer Intellectual Property developed by a Contractor other than an Affiliate of Developer or Third Party Intellectual Property, this Agreement is terminated for any reason (including for Owner Default) and either: (a) voluntary or involuntary bankruptcy of the Contractor occurs; or (b) the Contractor is dissolved or liquidated or otherwise ceases to engage in the ordinary course of the business of manufacturing, supplying, maintaining and servicing the software, product, part or other item containing such Intellectual Property.

22.5.3 In lieu of delivering the IP Materials directly to the Owner, Developer may, from time to time, elect to deposit it with a neutral depository. In such event, the Owner and Developer shall: (a) mutually select one or more escrow companies or other neutral depositories (each an "**IP Escrow Agent**") engaged in the business of receiving and maintaining escrows of software source code or other Intellectual Property; (b) establish one or more escrows (each an "**Intellectual Property Escrow**") with the IP Escrow Agent on terms and conditions reasonably acceptable to the Owner and Developer for the deposit, retention, upkeep and release of IP Materials to the Owner pursuant to this Agreement; (c) determine a date for Developer's deposit of the IP Materials into the Intellectual Property Escrow; and (d) determine a process for releasing from escrow the IP Materials to be delivered to the Owner pursuant to this Agreement. Intellectual Property Escrows also may include Affiliates of Developer and Contractors as parties and may include deposit of their Intellectual Property. Developer shall be responsible for the fees and costs of the IP Escrow Agent.

22.5.4 The Intellectual Property Escrows shall survive expiration or earlier termination of this Agreement regardless of the reason.

## **22.6 D&C Pricing Documents**

22.6.1 Within ten (10) days following the Effective Date and as a condition precedent to NTP 1, Developer shall deliver to the Owner: (a) the D&C Pricing Documents; (b) a list identifying each document included in the submitted D&C Pricing Documents; and (c) the name and title of the individual(s) who is or are personally aware of the D&C Pricing Documents that were used by Developer in determining and formulating the pricing of the D&C Work for the purposes of its Proposal and who(, collectively,) personally examined all of the D&C Pricing Documents submitted under this Section 22.6.1. The Owner will retain possession of the D&C Pricing Documents and the list. The D&C Pricing Documents shall be sealed when delivered by Developer to the Owner and, subject to Section 22.6.2, shall remain sealed. The list of D&C Pricing Documents shall not be sealed.

22.6.2 The D&C Pricing Documents may be unsealed and reviewed, inspected, copied, produced or used by the Owner and the Owner's representatives:

22.6.2.1 At any time with the prior written consent of Developer, such consent not to be unreasonably withheld or delayed;

22.6.2.2 Upon written notice to Developer but without the consent of Developer in the event of any Claim, DRB hearing or litigation for which the D&C Pricing Documents or Developer's D&C Work estimating process, submittal process, costs, or decisions relating thereto, are relevant in the Owner's good faith determination; or

22.6.2.3 Without the consent of Developer in response to a Public Records Act request. In the event the Owner receives a Public Records Act request for the D&C Pricing Documents, or any part thereof, the Owner will promptly notify Developer so that Developer may seek a protective order or other appropriate remedy. If it wishes to protect the D&C Pricing Documents, or any part thereof, from disclosure, Developer shall seek court protection immediately (and in no event later than 5 days after notice from the Owner) on an emergency basis. In the event that such protective order or other remedy is not timely sought or obtained by Developer, the Owner will release the requested documents if the Owner concludes that such disclosure is required by the Public Records Act.

The Owner shall provide Developer with a reasonable opportunity to be present during any review or inspection of the D&C Pricing Documents by the Owner or the Owner representatives.

22.6.3 Developer represents and warrants that:

22.6.3.1 The D&C Pricing Documents delivered pursuant to Section 22.6.1 contain complete, accurate and legible copies of all of the D&C Pricing Documents used to determine pricing of the D&C Work for the purposes of the Proposal and that no other Proposal documents will be utilized by Developer in any Claim, DRB hearing or litigation brought by Developer arising out of this Agreement to the extent such Claim, hearing or litigation relates to pricing of the D&C Work;

22.6.3.2 All documents used by Developer in determining and formulating the pricing of the D&C Work for the purposes of its Proposal are in their original form and included in the D&C Pricing Documents submitted under Section 22.6.1; and

22.6.3.3 Each D&C Pricing Document submitted under Section 22.6.1(a) is accurately and completely identified in the list submitted under Section 22.6.1(b).

22.6.4 Providing timely and proper D&C Pricing Documents as required hereunder is a condition precedent to Developer bringing any action against the Owner arising out of this Agreement. These remedies are not exclusive and the Owner may take such other action as is lawfully available.

22.6.5 Developer shall not be entitled to any additional payment for compilation of the data or any other Developer expense for complying with this Section 22.6.

## **ARTICLE 23. LEGAL REQUIREMENTS**

### **23.1 Suspension and Debarment**

Developer shall deliver to the Owner, not later than January 31 of each year through Project Final Acceptance, and upon Project Final Acceptance, signed certifications regarding suspension, debarment, ineligibility, voluntary exclusion, convictions and civil judgments from Developer, from each Affiliate of Developer, and from each Contractor whose Contract amount equals or exceeds US\$25,000.

## **ARTICLE 24 ASSIGNMENT AND TRANSFER**

### **24.1 Restrictions on Assignment, Subletting and Other Transfers**

24.1.1 Developer shall not voluntarily or involuntarily sell, assign, convey, transfer, pledge, mortgage or otherwise encumber Developer's Interest or any portion thereof without the Owner's prior written approval, in its sole discretion, except:



24.1.1.1 To Lenders for security as permitted by this Agreement, provided Developer retains responsibility for the performance of Developer's obligations under the Contract Documents; or

24.1.1.2 To any Substituted Entity approved (or deemed approved) by the Owner in accordance with the Direct Agreement, provided that such Substituted Entity assumes in writing full responsibility for performance of the obligations of Developer under this Agreement, the other Contract Documents, and the Principal Developer Documents arising from and after the date of assignment.

24.1.2 Developer shall not grant any special right of entry onto, use of, or right to manage and control the Project to any other Person except as expressly contemplated in this Agreement without the Owner's prior written approval, in its sole discretion.

24.1.3 Any purported voluntary or involuntary sale, assignment, subletting, conveyance, transfer, pledge, mortgage, encumbrance or grant of other special use, management or control of the Project in violation of this provision shall be null and void *ab initio* and the Owner, at its option, may declare any such attempted action to be a material Developer Default.

## **24.2 Assignment by the Owner**

The Owner may assign all or any portion of its rights, title and interests in and to, and obligations and liabilities under (if applicable), the Contract Documents, Payment Bond, Performance Bond, guarantees, letters of credit and other security for payment or performance: (a) in its sole discretion and without Developer's consent, to any other Person that succeeds to the statutory powers and authority of the Owner; and (b) to others with the prior written consent of Developer, provided, however, that for any assignment under this Section 24.2, the Owner's assignee shall have a credit rating equal to or better than the Owner's rating at the time of the assignment as measured by a nationally recognized rating agency. Any assignment by the Owner in violation of this provision shall be null and void *ab initio*.

## **24.3 Notice and Assumption**

Except for any assignment of the Owner's interest pursuant to Section 24.2(a), assignments and transfers of Developer's Interest or the Owner's interest permitted under this Article 24 or otherwise approved in writing by the Owner or Developer, as applicable, shall be effective only upon receipt by the non-assigning Party of written notice of the assignment or transfer and a written instrument executed by the transferee, in form and substance reasonably acceptable to the non-assigning Party, in which the transferee, without condition or reservation, assumes all of Developer's or the Owner's (as the case may be) obligations, duties and liabilities under this Agreement and the other Contract Documents then in effect and agrees to perform and observe all provisions thereof applicable to Developer or the Owner. Each transferee of Developer's rights and obligations under this Agreement, including any Person who acquires Developer's Interest pursuant to foreclosure, transfer in lieu of foreclosure or similar proceeding, shall take Developer's Interest subject to, and shall be bound by, the Project Management Plan, the Quality Management Plan, the Key Contracts to which Developer is a party, the Utility Agreements, the Governmental Approvals, and all agreements between the transferor and Governmental Entities with jurisdiction over the Project or the Work, except to the extent otherwise approved by the Owner in writing in its good faith discretion. Except with respect to assignments and transfers to foreclosure, transfer in lieu of foreclosure or similar proceeding, the transferor and transferee shall give the Owner written notice of the assignment not less than 30 days prior to the effective date thereof.

## **24.4 Change of Organization or Name**

24.4.1 Developer shall not change the legal form of its organization without the prior written approval of the Owner, which consent may be granted or withheld in the Owner's sole discretion.

24.4.2 If either Party changes its name, such Party agrees to promptly furnish the other Party with written notice of change of name and appropriate supporting documentation.

## **ARTICLE 25. DISPUTE RESOLUTION PROCEDURES**

### **25.1 General**

25.1.1 All Disputes shall be subject to the Dispute Resolution Procedures, except:

25.1.1.1 With respect to any decision, determination, judgment or other action of the Owner that is expressly provided in the Contract Documents as being subject to the Owner's sole or absolute discretion, which decision, determination, judgment or other action shall be final, binding and not subject to dispute resolution and shall not constitute a basis for any claim for additional monetary compensation, time extension or any other relief; and

25.1.1.2 To the extent expressly otherwise provided in the Contract Documents.

25.1.2 To the extent that a Dispute is subject to the Dispute Resolution Procedures, the Owner's initial determination shall be binding upon the Parties pending any final determination of the Dispute under this Article 25, except as expressly otherwise provided in the Contract Documents.

25.1.3 Unless and until a decision, determination, judgment or other action by the Owner expressly provided in the Contract Documents as being subject to the Owner's good faith discretion is finally determined by clear and convincing evidence that it was arbitrary or capricious, such decision shall be binding and shall not constitute a basis for any claim for any additional monetary compensation, time extension or any other relief.

25.1.4 The Parties agree to use reasonable efforts to resolve any Disputes under this Article 25 as quickly as possible, taking into consideration the time required to prepare detailed documentation.

### **25.2 Disputes Review Board**

25.2.1 Except as otherwise provided in Section 25.1.1, all Disputes shall be submitted to the Disputes Review Board in accordance with this Section 25.2. Appendix 9-B establishes the authority and administrative procedures related to the submission of such Disputes to the Disputes Review Board. The Parties may agree to omit any of the steps or shorten the time periods in this Section 25.2 in order to hasten resolution. Except to the extent the accelerated procedures set forth in Section 25.2.2 or Section 25.2.3 apply, the Dispute Resolution Procedures are as follows:

1. If Developer objects to any Owner decision, action or order, Developer may file a written protest with the Owner, stating clearly and in detail the basis for the objection, within fifteen (15) days after the relevant decision, action or order.
2. The Owner will consider the written protest and make its decision on the basis of the relevant Contract Document, together with the facts and circumstances involved in the Dispute. The Owner's decision will be

furnished in writing to Developer within fifteen (15) days after receipt of the written protest.

3. Developer will have seven (7) days from the date it receives the Owner's written decision to submit a written rebuttal to the Owner's decision.
4. The Owner will review Developer's rebuttal and issue a final written decision to Developer within ten (10) days after receipt of the rebuttal.
5. The Owner's written decision in response to Developer's rebuttal is final and conclusive on the subject, unless Developer reserves the Dispute by filing a written appeal with the Owner within ten (10) days of receiving the final decision. If Developer files such an appeal with the Owner, either the Owner or Developer may refer the matter in writing to the Disputes Review Board, with a concurrent copy to the other Party.
6. Upon receipt by the Disputes Review Board of the Dispute from either Party, the Disputes Review Board will decide when to conduct the hearing, provided that the Disputes Review Board shall hold the hearing within twenty (20) days of receipt, unless the Parties mutually agree to a longer time period.
7. Either Party may furnish written evidence or documentation to the Disputes Review Board regarding the Dispute. If either Party furnishes such information to the Disputes Review Board, it will furnish copies of such information to the other Party a minimum of ten (10) days prior to the date the Disputes Review Board sets to convene the hearing for the Dispute. If the Disputes Review Board requests any additional documentation or evidence prior to, during, or after the hearing, the relevant Party will provide the requested information to the Disputes Review Board and to the other Party, in accordance with the deadlines set by the Disputes Review Board.
8. Developer and the Owner will each be afforded an opportunity to be heard by the Disputes Review Board and to offer evidence. Neither the Owner nor Developer may present information at the hearing that was not previously distributed to both the Disputes Review Board and the other Party.
9. A Dispute Review Board hearing shall not exceed thirty (30) days in duration, provided that in cases of extreme complexity, the Parties may agree in writing to allow additional time for completion of the hearing.
10. The Disputes Review Board's recommendations for resolution of the Dispute will be given in writing concurrently to the Owner and Developer within fifteen (15) days of completion of the hearings. In cases of extreme complexity, both Parties may agree in writing to allow additional time for the Disputes Review Board to formulate its recommendations.
11. Within fifteen (15) days of receiving the Disputes Review Board's recommendations, both the Owner and Developer will respond to the other and to the Disputes Review Board in writing, signifying either acceptance or rejection of the Disputes Review Board's recommendations. The failure of either Party to respond within the fifteen (15)-day period will be deemed an acceptance of the Disputes Review Board's recommendations by that Party. The recommendations of the Disputes Review Board shall be binding only to the extent the Parties accept such recommendations, either expressly or to

the extent deemed accepted by virtue of that Party's failure to respond within such fifteen (15)-day period.

12. Should the Dispute remain unresolved, either Party may seek reconsideration of the decision by the Disputes Review Board only when there is new evidence to present.

While both the Owner and Developer should place great weight on the Disputes Review Board's recommendation, it is not binding except to the extent provided in Section 25.2.1.11, 25.2.1.1.9 or 25.2.3.

25.2.2 Notwithstanding the foregoing, (a) any Dispute over an Owner determination regarding (i) failure by Developer to complete the Renewal Work in accordance with the then current Renewal Work Schedule and applicable Technical Requirements, (ii) the Renewal Amount pursuant to Section 5.5 of the Technical Requirements, or (iii) satisfaction of Handback Requirements, shall be subject to the following accelerated Dispute Resolution Procedures, and (b) any Dispute regarding the LTA under Section 13.2.4 shall be subject to the following accelerated Dispute Resolution Procedures except Sections 25.2.2.1 through 25.2.2.3:

1. If Developer objects to the Owner's determination, Developer may file a written protest with the Owner, stating clearly and in detail the basis for the objection, within seven (7) days after the relevant determination.
2. The Owner will consider the written protest and make its decision on the basis of the relevant Contract Document, together with the facts and circumstances involved in the Dispute. The Owner's decision will be furnished in writing to Developer within fourteen (14) days after receipt of the written protest.
3. The Owner's written decision under Section 25.2.2.2 is final and conclusive on the subject, unless Developer refers the matter in writing to the Disputes Review Board, with a concurrent copy to the Owner, within seven (7) days of receipt of such written decision.
4. Upon receipt by the Disputes Review Board of the Dispute from the disputing Party, the Disputes Review Board will decide when to conduct the hearing, provided that the Disputes Review Board shall hold the hearing within fourteen (14) days of receipt, unless the Parties mutually agree to a longer time period.
5. Either Party may furnish written evidence or documentation to the Disputes Review Board regarding the Dispute. If either Party furnishes such information to the Disputes Review Board, it will furnish copies of such information to the other Party a minimum of five (5) days prior to the date the Disputes Review Board sets to convene the hearing for the Dispute. If the Disputes Review Board requests any additional documentation or evidence prior to, during, or after the hearing, the relevant Party will provide the requested information to the Disputes Review Board and to the other Party, in accordance with the deadlines set by the Disputes Review Board.
6. Developer and the Owner will each be afforded an opportunity to be heard by the Disputes Review Board and to offer evidence. Neither the Owner nor Developer may present information at the hearing that was not previously distributed to both the Disputes Review Board and the other Party.

7. A Disputes Review Board hearing shall not exceed fifteen (15) days in duration, provided that in cases of extreme complexity, the Parties may agree in writing to allow additional time for completion of the hearing.
8. The Disputes Review Board's recommendations for resolution of the Dispute will be given in writing to both the Owner and Developer within fourteen (14) days of completion of the hearings. In cases of extreme complexity, both Parties may agree in writing to allow additional time for the Disputes Review Board to formulate its recommendations.
9. Within seven (7) days of receiving the Disputes Review Board's recommendations, both the Owner and Developer will respond to the other and to the Disputes Review Board in writing, signifying either acceptance or rejection of the Disputes Review Board's recommendations. The failure of either Party to respond within the seven-day period will be deemed an acceptance of the Disputes Review Board's recommendations by that Party. The recommendations of the Disputes Review Board shall be: (a) provisionally binding pending the results of any litigation filed by the Party disputing the Disputes Review Board's recommendation; and (b) finally binding only to the extent the Parties accept such recommendations, either expressly or to the extent deemed accepted by virtue of that Party's failure to respond within such seven (7)-day period.
10. Should the Dispute remain unresolved, either Party may seek reconsideration of the decision by the Disputes Review Board only when there is new evidence to present.

25.2.3 Developer shall provide the Disputes Review Board and the Owner with ninety (90) days' prior written notice of the anticipated date of each Key Completion Event. Within fourteen (14) days of receipt of any such notice, the Disputes Review Board shall retain an Independent Expert, who shall provide a written report to the DRB setting forth its assessment of whether the applicable conditions precedent to the Key Completion Event have been satisfied as of the anticipated date of completion. If Developer disagrees with any determination made by the Owner regarding the satisfaction of applicable conditions precedent to a Key Completion Event, Developer shall refer the matter in writing to the Disputes Review Board, with a concurrent copy to the Owner, within three (3) days of receipt of the Owner's determination or shall otherwise be deemed to have accepted the Owner's determination. The Disputes Review Board shall consider the Independent Expert's report in developing its recommendation as to whether the applicable conditions precedent to the Key Completion Event were satisfied. The Dispute Review Board shall provide its recommendation in writing concurrently to the Parties within twelve (12) days of receipt of Developer's written notice of Dispute, and its recommendation shall be provisionally binding pending the results of any litigation filed by the Party disputing the recommendation.

25.2.4 If the Disputes Review Board's recommendations do not resolve the Dispute, all records and written recommendations of the Disputes Review Board will be admissible as evidence in any subsequent proceedings.

### **25.3 Right to Litigate Dispute, Suits By and Against the Owner, Limitations of Actions, and Forum**

25.3.1 The Owner and Developer agree that the timely submission of any unresolved Dispute to the Disputes Review Board under this Article 25 is a condition precedent to the Owner or Developer having the right to proceed to litigation of such unresolved Dispute,

provided that a disputing Party may proceed directly to litigation if a failure by the other Party, or such other Party's selected DRB member, to select a replacement DRB member as required under Section 1.9 of Appendix 9-B delays by more than thirty (30) days the disputing Party's ability to advance the Dispute to the next stage within the applicable time period set forth in this Section 25.

25.3.2 Disputes arising out of the Work that remain unresolved after issuance by the DRB of its recommendations with respect to such Disputes may be resolved by litigation.

#### **25.4 Continuance of Work During Dispute**

During the course of any Dispute Resolution Procedures, Developer shall continue performing the Work, including any Work that is the subject of the Dispute, as directed by the Owner in accordance with the Contract Documents.

### **ARTICLE 26. MISCELLANEOUS**

#### **26.1 Amendments**

The Contract Documents may be amended only by a written instrument duly executed by the Parties or their respective successors or assigns.

#### **26.2 Waiver**

Either Party's waiver of any breach or to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way limit or waive that Party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision, any course of dealing or custom of the trade notwithstanding. Furthermore, if the Parties make and implement any interpretation of the Contract Documents without documenting such interpretation by an instrument in writing signed by both Parties, such interpretation and implementation thereof will not be binding in the event of any future Disputes.

#### **26.3 Independent Contractor**

26.3.1 Developer is an independent contractor, and nothing contained in the Contract Documents shall be construed as constituting any relationship with the Owner other than that of Project Developer and independent contractor. It is the express intent and agreement of the Parties that nothing in the Contract Documents is intended or shall be construed to create any landlord-tenant, lessor-lessee of real property, optionor-optionee, vendor-purchaser, mortgagor-mortgagee, or principal-agent relationship between the Owner and Developer; and in no event shall either Party take a position in any tax return, insurance application or questionnaire, financial statement, financial report, regulatory filing, securities filing, loan document, or other writing of any kind that any such relationship exists.

26.3.2 Nothing in the Contract Documents is intended or shall be construed to create any partnership, joint venture or similar relationship between the Owner and Developer; and in no event shall either Party take a position in any tax return or other writing of any kind that a partnership, joint venture or similar relationship exists. While the term "public-private partnership" may be used on occasion to refer to contractual relationships of the type created, the Parties do not thereby express any intention to form or hold themselves out as a *de jure* or *de facto* partnership, joint venture or similar relationship, to share net profits or net losses, or to give the Owner control or joint control over Developer's financial decisions or discretionary actions concerning the Project and Work.

26.3.3 In no event shall the relationship between the Owner and Developer be construed as creating any relationship whatsoever between the Owner and Developer's employees. Neither Developer nor any of its employees is or shall be deemed to be an employee of the Owner. Except as otherwise specified in the Contract Documents, Developer has sole authority and responsibility to employ, discharge and otherwise control its employees and has complete and sole responsibility as a principal for its agents, for all Contractors and for all other Persons that Developer or any Contractor hires to perform or assist in performing the Work.

## **26.4 Successors and Assigns**

The Contract Documents shall be binding upon and inure to the benefit of the Owner and Developer and their permitted successors, assigns and legal representatives.

## **26.5 Agents and Representatives**

26.5.1 The Owner and Developer shall each designate an individual or individuals who shall be authorized to make decisions and bind the Parties on matters relating to the Contract Documents ("**Authorized Representative**"). Appendix 10 to this Agreement provides the initial Authorized Representative designations. Such designations may be changed by a subsequent writing delivered to the other Party in accordance with Section 26.9.

26.5.2 In carrying out any of the provisions of the Contract Documents or in exercising any power or authority granted to the Owner or any of its employees or agents, there shall be no liability on behalf of any employee, officer or official of the Owner for which such individual is responsible, either personally or as officials or representatives of the Owner. It is understood that in all such matters such individuals act solely as agents and representatives of the Owner.

## **26.6 Survival**

Developer's representations and warranties, the Dispute Resolution Procedures contained in Article 25, the indemnifications and releases contained in Section 17.4, the limitations on remedies contained in Sections 19.2.10 and 19.4.3, the rights to compensation contained in Article 20 and any other obligation to pay amounts hereunder, and all other provisions which by their inherent character should survive expiration or earlier termination of this Agreement and/or completion of the Work under this Agreement, shall survive the expiration or earlier termination of this Agreement and/or the completion of the Work under this Agreement. The Owner's obligation to pay compensation to Developer upon the early termination of this Agreement as provided in Article 20 and any other payment obligations of the Owner arising prior to expiration or early termination of this Agreement shall survive the expiration or earlier termination of this Agreement.

## **26.7 Limitation on Third-Party Beneficiaries**

It is not intended by any of the provisions of the Contract Documents to create any third-party beneficiary hereunder or to authorize anyone not a Party to maintain a suit for personal injury or property damage pursuant to the terms or provisions hereof, except to the extent that specific provisions (such as the warranty and indemnity provisions and the Direct Agreement) identify third parties and state that they are entitled to benefits hereunder. Except as otherwise provided in this Section 26.7, the duties, obligations and responsibilities of the Parties to the Contract Documents with respect to third parties shall remain as imposed by Law. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Owner and a Contractor or any Person other than Developer.

## **26.8 Governing Law**

The Contract Documents shall be governed by and construed in accordance with the laws of the State of California. The venue for any litigation arising from a Dispute shall be a State court of competent jurisdiction in Alameda County, California.

## **26.9 Notices and Communications**

26.9.1 Notices under the Contract Documents shall be in writing and: (a) delivered personally; (b) sent by certified mail, return receipt requested; (c) sent by a recognized overnight mail or courier service, with delivery receipt requested; or (d) sent by email communication followed by a hard copy and with receipt confirmed by telephone, to the following addresses (or to such other address as may from time to time be specified in writing by such Person):

1. All notices, correspondence and other communications to Developer shall be delivered to the following address or as otherwise directed by Developer's Authorized Representative:

Plenary Properties Merced LLC  
10100 Santa Monica Blvd., Suite 410  
Los Angeles, California 90067

Attention: Josh Coulter

Telephone: (424) 278-2186

E-mail: [joshua.coulter@plenarygroup.com](mailto:joshua.coulter@plenarygroup.com)

In addition, copies of all notices to proceed, notices regarding Disputes, and suspension, termination and default notices shall be delivered to the following persons:

Plenary Properties Merced LLC  
10100 Santa Monica Blvd., Suite 410  
Los Angeles, California 90067

Attention: Mike Marasco

Telephone: (604) 897-6933

E-mail: [mike.marasco@plenarygroup.com](mailto:mike.marasco@plenarygroup.com)

2. All notices, correspondence and other communications to the Owner shall be marked as regarding the Project and shall be delivered to the following address or as otherwise directed by the Owner's Authorized Representative:

The Regents of the University of California  
5200 North Lake Road  
Merced, CA 95343

Attention: Veronica Mendez, Project Executive

Phone: (209) 228-2452

E-mail: [vmendez7@ucmerced.edu](mailto:vmendez7@ucmerced.edu)



In addition, copies of all notices regarding Disputes, and termination and default notices shall be delivered to the following:

University of California  
Office of the General Counsel  
1111 Franklin Street, 8<sup>th</sup> Floor Oakland, CA 94607-5200

Attention: Charles F. Robinson,  
General Counsel and Vice President

Phone: (510) 987-9800

E-mail: charles.robinson@ucop.edu

And to:

University of California, Merced  
Procurement and Contracting Services  
1715 Canal Street  
Merced, CA 95340

26.9.2 Notices shall be deemed received when actually received in the office of the addressee (or by the addressee if personally delivered) or when delivery is refused, as shown on the receipt of the U. S. Postal Service, private carrier or other Person making the delivery. Any technical or other communications pertaining to the Work shall be conducted by Developer's Authorized Representative and technical representatives designated by the Owner.

## **26.10 Integration of Contract Documents**

The Owner and Developer agree and expressly intend that this Agreement and other Contract Documents constitute a single, non-severable, integrated agreement whose terms are interdependent and non-divisible.

## **26.11 Severability**

If any clause, provision, section or part of the Contract Documents is ruled invalid by a court having proper jurisdiction, then the Parties shall: (a) promptly meet and negotiate a substitute for such clause, provision, section or part, which shall, to the greatest extent legally permissible, effect the original intent of the Parties, including an equitable adjustment to the Financial Model Update (or, if there has been no update, the Financial Model) and the Owner's compensation to account for any change in the Work resulting from such invalidated portion; and (b) if necessary or desirable, apply to the court or other decision maker (as applicable) which declared such invalidity for an interpretation of the invalidated portion to guide the negotiations. The invalidity or unenforceability of any such clause, provision, section or part shall not affect the validity or enforceability of the balance of the Contract Documents, which shall be construed and enforced as if the Contract Documents did not contain such invalid or unenforceable clause, provision, section or part.

## **26.12 Entire Agreement**

The Contract Documents contain the entire understanding of the Parties with respect to the subject matter thereof and supersede all prior agreements, understandings, statements, representations and negotiations between the Parties with respect to their subject matter.

### **26.13 Further Assurances**

Each Party shall do, execute and deliver, or shall cause to be done, executed and delivered, all such further acts, documents and things as the other Party may reasonably request for the purpose of giving effect to the Contract Documents.


### **26.14 Counterparts**

This instrument may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.


IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first written above.

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THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

By:   
Name: Janet Napolitano  
Title: President

PLENARY PROPERTIES MERCED LLC,  
by its sole member,  
PLENARY PROPERTIES MERCED HOLDCO LTD.

By:   
Name: Brian Budden  
Title: Authorized Signatory

By: \_\_\_\_\_  
Name: Paul Dunstan  
Title: Authorized Signatory

PLENARY PROPERTIES MERCED LLC,  
by its sole member,  
PLENARY PROPERTIES MERCED HOLDCO LTD.

By: \_\_\_\_\_  
Name: Brian Budden  
Title: Authorized Signatory

By: \_\_\_\_\_  
Name: Paul Dunstan  
Title: Authorized Signatory

## **APPENDIX 1**

### **ABBREVIATIONS AND DEFINITIONS**

#### **1. ABBREVIATIONS**

The following abbreviations, when used in the Contract Documents, represent the full text shown:

<b>AOR</b>	Architect of Record
<b>APC</b>	AP Capital
<b>APO</b>	AP O&M
<b>ASF</b>	Assigned Square Footage
<b>ATC</b>	Alternative Technical Concept
<b>CBC</b>	California Building Standards Code
<b>CDD</b>	Cooling Degree Day
<b>CEQA</b>	California Environmental Quality Act
<b>CSC</b>	Customer Service Center
<b>DRB</b>	Disputes Review Board
<b>DVBE</b>	Disabled Veteran Business Enterprise
<b>ECEC</b>	Early Childhood Education Center
<b>EEO</b>	Equal Employment Opportunity
<b>EOR</b>	Engineer of Record
<b>FAR</b>	Federal Acquisition Regulation
<b>FEMA</b>	Federal Emergency Management Agency
<b>FF&amp;E</b>	Furniture, Fixtures and Equipment
<b>HDD</b>	Heating Degree Day
<b>ITP</b>	Instruction to Proposers
<b>LCP</b>	Owner's Labor Compliance Program
<b>LEED</b>	Leadership in Energy and Environmental Design
<b>MAP</b>	Maximum Availability Payment
<b>MEP</b>	Mechanical, Electrical and Plumbing
<b>PBM<sub>m</sub></b>	Partial Base Monthly Disbursement
<b>PG&amp;E</b>	Pacific Gas and Electric Company
<b>PMAP</b>	Partial Maximum Availability Payment
<b>QMAP</b>	Quarterly Maximum Availability Payment
<b>QPMAP</b>	Quarterly Partial Maximum Availability Payment
<b>RFP</b>	Request for Proposals
<b>RFQ</b>	Request for Qualifications
<b>RFRP</b>	Request for Revised Proposal
<b>RR</b>	Repeat Failure Ratchet
<b>SBE</b>	Small Business
<b>SEI</b>	Special Event Increment
<b>SF</b>	Square Footage
<b>SRFQ</b>	Supplemental Request for Proposals
<b>USGBC</b>	United States Green Building Council

Each of the above abbreviations, when followed by a number or letter designation, or combination of numbers and letters, designates a specification, test method, or other code or recommendation of the particular authority or organization shown.

## 2. DEFINITIONS

The following capitalized terms, when used in the Contract Documents, have the meanings set forth below:

**90% Construction Documents** means all final Construction Documents with respect to the Facilities that are required by the Building Official and Designated Campus Fire Marshal to verify compliance of with the CBC.

**Academic Classroom Architect** means the individual identified as such in Appendix 2-P of the Agreement, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Academic Year** means an academic year at UC Merced, commencing on July 1 of each Calendar Year.

**Account Balances** means all amounts standing to the credit of any bank account held by or on behalf of Developer (including the Renewal Work Reserve Account but excluding the Handback Requirements Reserve Account), or the value of any letter of credit issued in lieu of any bank account held or required to be held by or on behalf of Developer (including the Renewal Work Reserve Account but excluding the Handback Requirements Reserve Account), at the Early Termination Date.

**Actual Energy Consumption** has the meaning set forth in Section 3.1 of Appendix 17 of the Agreement.

**Actual Peak Demand** means the peak energy consumed by the Project within a stated time frame as defined by the applicable Utility Owner.

**Actual Developer-Provided Insurance Policy(ies)** has the meaning set forth in subsection (b) of Section 17.1.2.13.1 of the Agreement.

**Additional Mandatory Standards** means all the standards, criteria, requirements, conditions, procedures, specifications and other provisions set forth in the manuals and documents identified in Section A of Volume III (Additional Project Requirements), as such provisions may (a) have been generally revised from time to time up to 30 days prior to the Proposal Due Date (or, where applicable, other date specifically set forth in the Agreement) or (b) be changed, added to or replaced pursuant to the Agreement.

**Adjacent Projects** has the meaning set forth in Section 3.1.3 of the Agreement.

**Advance Construction Activities** means Construction Work that the Owner authorizes Developer to perform prior to NTP 2.

**Adverse Weather** means the occurrence of one or more of the following conditions:

- (a) Precipitation (rain, snow or ice) in excess of one-quarter inch (0.25") liquid measure;
- (b) Solely with respect to foundation work or flat work on grade, sustained temperatures below 32 degrees Fahrenheit (32°F) that prevents excavation of soil or pouring of concrete, as applicable; or
- (c) Sustained wind in excess of twenty-five (25) miles per hour.

**Affiliate** means, with respect to any Person (the "**Subject Person**"):

- (a) Any Person in which the Subject Person holds directly or indirectly a Controlling Interest;
- (b) Any Person which holds directly or indirectly a Controlling Interest in the Subject Person;
- (c) Any Person in which the Person described in clause (b) of this definition holds directly or indirectly a Controlling Interest.

**Affiliated** means having the status of an Affiliate.

**Agreement** means that certain Project Agreement, to which this Appendix 1 is attached, executed by the Owner and Developer, including any and all Appendices and amendments thereto.

**Airspace** means any and all real property, including the surface of the ground: (a) that is within the vertical column extending above and below the surface boundaries of the Owner-Provided Work Site; (b) title of which is held in fee simple by the Owner; and (c) that is not necessary or required for the Project (including Upgrades) or for developing, permitting, designing, financing, constructing, installing, equipping, operating, maintaining, repairing, reconstructing, restoring, rehabilitating, renewing or replacing the Project (including Upgrades).

**ALTA Survey** means the ALTA/ACSM Land Titles Survey, dated July 10, 2015, included in Section B.2 of Volume III (Additional Project Requirements) of the Contract Documents.

**Alternative Technical Concept** or **ATC** means a concept that deviates from requirements set forth in the RFP form of Contract Documents and that: (i) has been included in the Proposal with the Owner's prior written approval in accordance with the Instructions to Proposers, based on a determination by the Owner that the proposed



end product based on the deviation is equal to or better than the end product absent the deviation; or (ii) was included in an unsuccessful proposer's proposal and was incorporated into the Contract Documents through pre-award negotiations.

**Ancillary Site** means the real property within the lines established by the Ancillary Site Map.

**Ancillary Site Map** refers to the graphic depiction of the Ancillary Site as set forth in Appendix 4-B of the Agreement.

**Annual Energy Analysis Report** means the annual report prepared by Developer and provided to the Owner in accordance with Section 3.2 of Appendix 17 of the Agreement.

**Annual Energy Review Meeting** has the meaning set forth in Section 3.3(a) of Appendix 17 of the Agreement.

**Annual Handback Evaluation Report** has the meaning set forth in Section 5.4.1 of the Technical Requirements.

**Annual Vandalism Deductible** has the meaning set forth in Section 6.3.2 of the Agreement.

**Anticipated Occupancy Readiness Date Notice** has the meaning set forth in Section 4.3.1.2 of the Agreement.

**AP Capital** or **APC** means the portion of the Availability Payment set forth in cell "16" on the "Summ tab" of the Financial Model.

**AP O&M** or **APO** means the portion of the Availability Payment set forth in cell "17" on the "Summ tab" of the Financial Model.

**APO Ratio A** means 38.70%.

**APO Ratio B** means 61.30%.

**APO-A** means an amount equal to APO multiplied by APO Ratio A.

**APO-B** means an amount equal to APO multiplied by APO Ratio B.

**Area Type** has the meaning set forth in Section 1.2.3 of the Technical Requirements.

**Architect(s) of Record** or **AORs** means one or more architects or architectural firms licensed in the State of California that performs services for Developer in connection with the design and construction of buildings.

**Architectural Team** means: Skidmore Owings & Merrill LLP (Research Laboratory Architect); WRNS Studio (Academic Classroom Architect); HOK (Student

Life Facility Architect); and Page Southerland Page, Inc. (Student Housing Architect); or any successor team approved by the Owner in accordance with Section 8.3.1 of the Agreement.

**Area** means an area as identified in Section 1.2.3 of the Technical Requirements.

**Area Data Sheet** means, with respect to an Area, the data sheet relating to such Area, as identified in Appendix 1-B of the Technical Requirements and included in Appendix 6 of the Technical Requirements.

**Area Energy Use Categories** means the categories identified in Table 1.1 of Appendix 17 to the Agreement, which organize Areas into categories based on the function and Energy Utility consumption of the Area. The Area Energy Use Category of each Area is specified on the applicable Area Data Sheet.

**Area Priority Category** means of the priority of an Area, as indicated in the Area Priority Category column in Appendix 1-B of the Technical Requirements.

**As-Built Plans** has the meaning set forth in Section 2.6.3.6.1 of the Technical Requirements.

**Aspirational Goals** has the meaning set forth in Section 8.11.3 of the Agreement.

**Associated Improvements** means, with respect to a Facility: all associated Facility Systems, Infrastructure, walkways, roadways, paving, Open Space/Landscaping Improvements and Associated Parking, as applicable, to be designed and constructed by Developer for the Project, as more particularly described in Section 3 of the Technical Requirements; and “Associated Improvement” means any of them.

**Associated Parking** means, with respect to a Facility, parking spaces adjacent to the Facility which are reasonably necessary to support the use of the Facility for the applicable Facility Activities and which shall include, at a minimum: (1) the number of parking spaces required by Law to be adjacent to the Facility; and (2) with respect to any First Delivery Facility or Second Delivery Facility, two parking spaces reserved for maintenance.

**Authorized Representative** has the meaning set forth in Section 26.5.1 of the Agreement.

**Availability Deduction** means a financial deduction from the Availability Payment resulting from an Availability Failure, as calculated in accordance with Section 2.2 of Appendix 6 of the Agreement.

**Availability Failure** means, with respect to an Area, Unavailability of the Area.

**Availability Failure Deduction Amount** means, with respect to an Availability Failure in an Area, the applicable deduction amount per Deduction Period as set forth in column 2 of Annex 4 to Appendix 6 of the Agreement and adjusted for inflation in accordance with Appendix 6 of the Agreement.

**Availability Failure Service Request** means a Project-Related Service Request that relates to an Availability Failure.

**Availability Payment** means the amount earned in each given year by Developer as determined in accordance with Section 1.2 of Appendix 6 of the Agreement.

**Availability Payment Step Up Factor** shall have the meaning and calculation as set out in Section 1.2.2 of Appendix 6 of the Agreement.

**Availability Standards** means the minimum requirements set forth in Annex 2 to Appendix 6 of the Agreement and corresponding Area Data Sheets so as to ensure that an Area is Available.

**Available** means, with respect to an Area, not Unavailable, and “Availability” has a corresponding meaning.

**Base Direct Costs** has the meaning set forth in Section 1.1 of Appendix 18 of the Agreement.

**Base Energy Consumption Targets** means the total annual consumption for each Energy Utility projected by Developer, as set forth in Attachments A-1, A-2, A-3 (Buildings) and A-4 (exterior Areas) to Appendix 17 of the Agreement, respectively, submitted with the 100% Construction Documents (CD) Work Submittal for each respective Building and for each exterior Area identified in Attachment A-4 to Appendix 17 of the Agreement in accordance with Section 1.2(d) of Appendix 17 of the Agreement.

**Base Monthly Disbursement** or **BM<sub>m</sub>** means the sum calculated in accordance with Section 1.2.2 of Appendix 6 of the Agreement.

**Base Project Property Insurance Cost** means the annual cost of the Owner-Provided Property Policy that is attributed to the Facilities pursuant to an independent actuarial analysis commissioned by the Owner, which analysis will compare such cost against the claims and loss experience for the Project.

**Baseline Contaminated Materials Reports** means the reports attached to the Agreement as Appendix 19 of the Agreement.

**Baseline First Delivery Facilities Occupancy Readiness Date** means July 1, 2018.

**Baseline Geotechnical Report** means the report by Kleinfelder dated January 8, 2016 attached to the Agreement as Appendix 26 of the Agreement.

**Baseline Project Final Acceptance Date** means the date which is 120 days after the Baseline Substantial Completion Date.

**Baseline Project Schedule** means the initial logic-based Critical Path schedule for all D&C Work as described in Section 2.4.2.2 of the Technical Requirements.

**Baseline Second Delivery Facilities Occupancy Readiness Date** means June 1, 2019, which is the number of days from the Effective Date proposed by Developer in the Proposal within which to achieve Occupancy Readiness of all Second Delivery Facilities.

**Baseline Substantial Completion Date** means June 1, 2020, which is the number of days from the Effective Date proposed by Developer in the Proposal within which to achieve Substantial Completion.

**Bellevue Intersection Improvements** means the improvements to the Bellevue Road/Lake Road intersection to be designed and constructed by Developer for the Project, as more particularly described in Section 3.4.15 of the Technical Requirements.

**Bellevue Intersection Improvements Site** means the portion of the Bellevue Intersection Site (Eastern Portion) on which the Bellevue Intersection Improvements will be located once completed.

**Bellevue Intersection Site** means the real property within the limits delineated in the Bellevue Intersection Site Map and labeled therein as “Bellevue Intersection Site.”

**Bellevue Intersection Site Map** means the map attached as Appendix 4-C of the Agreement.

**Bellevue Intersection Site (Eastern Portion)** means the eastern portion of the Bellevue Intersection Site labeled as such in the Bellevue Intersection Site Map.

**Bellevue Intersection Site (Western Portion)** means the western portion of the Bellevue Intersection Site labeled as such in the Bellevue Intersection Site Map.

**Benchmarking Date** has the meaning set forth in Section 17.1.2.13.1 of the Agreement.

**Best Management Practice** means the exercise of the standard of care and degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from time to time from a skilled and experienced designer, engineer, constructor, maintenance provider, operator or concessionaire, as applicable, who engages in the same type of undertaking under similar circumstances and conditions, including environmental conditions, and seeking in good faith to comply with its contractual obligations, complying with all applicable Laws and Governmental

Approvals, and using accepted standards and criteria with respect to design, construction, operation, maintenance, and Contaminated Materials and Undesirable Materials Management (including management, treatment, handling, storing, remediation, removal, transportation and disposal of such materials) normally used on similar projects.

**Betterment** has, with respect to a given Utility, the meaning (if any) set forth in the Utility Agreement(s) applicable to the Utility; in all other cases, “Betterment” means any upgrading of the Utility in the course of a Utility Adjustment that is not required as a result of the construction of the Project and is made solely for the benefit of and at the election of the Utility Owner, including an increase in the capacity, capability, efficiency or function of an adjusted Utility over that which was provided by the existing Utility. Betterment excludes any upgrading of an Owner-owned Utility required under the Contract Documents.

**Bid Financial Model** means the financial computer model submitted by Developer as part of the Proposal.

**Borrow Site** means the real property within the limits delineated in the Borrow Site Map.

**Borrow Site Map** means the map attached as Appendix 4-E of the Agreement.

**Building Energy Use Categories** means the categories identified in Table 1.1 of Appendix 17 to the Agreement.

**Building Official** means the individual designated to perform the “Building Official” functions with respect to this Project as required by the CBC who, for the purposes of the Agreement, is not acting in a capacity as representative of the Owner.

**Buildings** means, collectively, buildings containing academic, administrative, research, recreational and athletic, student residence and student services facilities to be designed and constructed by Developer for the Project, as more particularly described in Section 3 of the Technical Requirements, and all Associated Improvements; and “Building” means any one of them.

**Business Day** means any weekday except any weekday: (i) between December 24 and January 2, inclusive; and (ii) on which banks are not required or authorized by Law to be open in the State.

**Business Opportunities** has the meaning set forth in Section 21.2.1 of the Agreement.

**Calendar Year** means the consecutive 12-month period starting on January 1 and ending on December 31.

**California Building Standards Code** or **CBC** means the California Building Standards Code, Title 24 of the California Code of Regulations.

**California Environmental Quality Act** or **CEQA** means California Environmental Quality Act, Cal. Pub. Res. Code § 21000.

**Campus Activities** means academic study, teaching, research, student life, athletics, recreation, university management and administration, student residence, parking, dining, events, and all other activities that may reasonably be conducted at UC Merced.

**Campus Planner** means the individual identified as such in Appendix 2-P of the Agreement, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Campus Planning** means the development and completion of the Project Master Plan in accordance with Section 3.4.1.1 of the Technical Requirements.

**Campus-Related Call Request** means a Campus-Related Service Request that is communicated by phone call to the Customer Service Center.

**Campus-Related Service Request** means a communication by any Person by phone call to the Customer Service Center or via the Web Portal that relates to buildings and asset management issues on the Existing Campus or to the Excluded O&M Services.

**Campus-Related Web Request** means a Campus-Related Service Request that is communicated via the Web Portal.

**Canals** means the Fairfield Canal and the Le Grand Canal, each under the jurisdiction of Merced Irrigation District; and “Canal” means either of them.

**Category 1 Carbon Sources** means carbon associated with energy consumption.

**Central Plant** means the energy plant located on the Existing Campus at the corner of Ansel Adams Road and Mineral King Road.

**Central Plant Expansion** means, collectively, any expansions and upgrades made by Developer to the Central Plant, as contemplated by Section 3.5.7 of the Technical Requirements.

**Central Plant Expansion Site** means the portion of the Existing Campus, the outside limits of which are delineated on the Central Plant Expansion Site Map, to which access is provided by the Owner to Developer for purposes of performing the Central Plant Expansion Work.

**Central Plant Expansion Site Map** means the map attached as Appendix 4-D of the Agreement.

**Central Plant Expansion Work** means the D&C Work in respect of the Central Plant Expansion.

**Central Plant Invoiced Work** means the Central Plant Expansion Work described in Section 3.5.7.2, Sections 3.5.7.3.3(a) through (c) and (e), Section 3.5.7.3.6, Section 3.5.7.4.2 and Section 3.5.7.4.3 of the Technical Requirements.

**Central Plant Invoiced Work Cost** means the Base Direct Costs incurred by Developer or its Contractors, as applicable, to perform the Central Plant Invoiced Work, which costs are not included in the D&C Contract Amount.

**CEQA Documentation** means, collectively, the UCM 2009 Long Range Development Plan Final Environmental Impact Statement/Environmental Impact Report for the Project certified in March 2009, as amended, and all addenda, supplements and re-evaluations thereof pertaining to the Project completed as of 30 days prior to the Proposal Due Date.

**Certificate of Facility Final Acceptance** has the meaning given to such term in Section 5.3.1 of the Agreement.

**Certificate of Occupancy** means a certificate issued by the Building Official and co-signed by the Designated Campus Fire Marshal, certifying that a Building has met all applicable building code standards and requirements under the CBC.

**Certificate of Occupancy Readiness** has the meaning given to such term in Section 5.2.1 of the Agreement.

**Certificate of Project Final Acceptance** has the meaning given to such term in Section 4.9.4.1 of the Agreement.

**Certificate of Substantial Completion** has the meaning given to such term in Section 4.9.2.1 of the Agreement.

**Change in Law** means (a) the adoption of any federal, State or local Law at any point after the date that is 30 days prior to the Proposal Due Date, or (b) any change in any federal, State or local Law or in the interpretation or application thereof by any federal, State or local Governmental Entity, as applicable, after 30 days prior to the Proposal Due Date, in each case that is materially inconsistent with Laws in effect 30 days prior to the Proposal Due Date; excluding, however, (i) any change in or new federal, State or local Law passed or adopted but not yet effective as of 30 days prior to the Proposal Due Date, (ii) any change in federal, State or local labor Laws on or prior to the Substantial Completion Date; (iii) any change in federal, State or local tax Laws of general application (it being understood that any change in federal, State or local tax Laws shall not be deemed of general application if it is solely directed at, and the effect of which is solely borne by, Developer or concessionaires of university campus buildings comprising academic, athletic/recreational and housing facilities); and (iv) any change in the CBC that goes into effect as of January 1, 2017 as part of the California Building Standards Commission's 2015 Triennial Code Adoption Cycle.

**Change in Utilization** means an Owner change in use where the Owner ceases to utilize an Area(s), or begins utilization of a previously unused Area(s) where the Owner previously notified Developer that such Area had been taken out of use, provided that the Owner has provided notice of such change in use to Developer and such change in use affects a minimum of 1000 square feet within the affected Facility.

**Change of Control** means any Equity Transfer, transfer of an interest, direct or indirect, in an Equity Member, or other assignment, sale, financing, grant of security interest, hypothecation, conveyance, transfer of interest or transaction of any type or description, including by or through voting securities, asset transfer, contract, merger, acquisition, succession, dissolution, liquidation, bankruptcy or otherwise, that results, directly or indirectly, in a change in possession of the power to direct or control or cause the direction or control of the management of Developer or a material aspect of its business. A change in possession of the power to direct or control or cause the direction or control of the management of an Equity Member will constitute a Change of Control of Developer if such Equity Member possesses, immediately prior to such Change of Control, the power to direct or control or cause the direction or control of the management of Developer. Notwithstanding the foregoing, the following shall not constitute a Change of Control:

(a) A change in possession of the power to direct or control the management of Developer or a material aspect of its business due solely to bona fide open market transactions in securities effected on a recognized public stock exchange, including such transactions involving an initial public offering;

(b) An upstream reorganization or transfer of indirect interests in Developer so long as there occurs no change in the entity with ultimate power to direct or control or cause the direction or control of the management of Developer;

(c) A change in possession of the power to direct or control the management of Developer or a material aspect of its business due solely to a bona fide transaction involving beneficial interest in a parent organization of an Equity Member whose references, experience or financial statements, and any other Qualified Investor's references, experience or financial statements, were not considered or evaluated in the Statement of Qualifications or Proposal, provided, however, that this exception shall not apply if the transferee in such transaction is at the time of the transaction suspended or debarred or subject to a proceeding to suspend or debar from bidding, proposing or contracting with any federal or State department or agency;

(d) An Equity Transfer, where the transferring Equity Member and the transferee are under the same ultimate parent organization ownership, management and control before and after the transfer;

(e) The exercise of minority veto or voting rights (whether provided by applicable Law, by Developer's organizational documents or by related member or shareholder agreements or similar agreements) over major business decisions of Developer, provided that if such minority veto or voting rights are provided by shareholder or similar



agreements, the Owner received copies of such agreements as of the Effective Date; and

(f) The grant of Security Documents, including the Initial Security Documents, in strict compliance with Section 4 of the Direct Agreement or the exercise of Lender remedies thereunder, including foreclosure.

**Change Order** has the meaning set forth in Section 1.9(a) of Appendix 21 of the Agreement.

**Changed Geotechnical Conditions** means adverse geotechnical conditions that (i) are materially different from the conditions described in the Baseline Geotechnical Report or (ii) could not have been reasonably anticipated as potentially present by an experienced civil works contractor based on the information contained in the Baseline Geotechnical Report.

**Claim** means a written demand submitted by Developer pursuant to the Contract Documents, which is or potentially could be disputed by the Owner, for a time extension, payment of money or damages or other relief from the Owner to Developer, and includes any Relief Event Claim. Claim also means a written demand submitted by the Owner pursuant to the Contract Documents, which is or potentially could be disputed by Developer, for payment of money or damages from Developer to the Owner.

**Collateral Agent** means the financial institution listed or otherwise designated to act as trustee or agent on behalf of or at the direction of the Lenders in the Security Documents or intercreditor agreement or similar document with respect to the Project Debt, a copy of which shall be delivered by Developer to the Owner.

**Committed Equity Investment** means, in the aggregate and without double-counting: (a) any Equity Investment; and (b) any Deferred Equity Amounts.

**Committed Series A Equity Investment** means, in the aggregate and without double-counting: (a) the Series A Equity Investment; and (b) any Deferred Equity Amounts related to the Series A Equity Investment.

**Completion Deadline** means the Construction Commencement Deadline, the First Delivery Facilities Occupancy Readiness Deadline, the First Delivery Facilities LD Deadline, the First Delivery Facilities Long Stop Date, the Second Delivery Facilities Occupancy Readiness Deadline, the Second Delivery Facilities LD Deadline, the Scheduled Substantial Completion Date, the Facility Final Acceptance Deadline, the Project Final Acceptance Deadline, the Substantial Completion Long Stop Date, and the LEED Certification Deadline, as applicable.

**Compliance Work** means any Work required as a direct result of the Relief Events described in clauses (b), (c), (d), (e), (f), (k), (l) or (s) of the definition of Relief Event.

**Consequentially Unavailable Area** has the meaning set forth in Section 2.7 of Appendix 6 of the Agreement.

**Construction Commencement Deadline** means the date, subject to adjustment pursuant to Section 10.3.2 of the Agreement, occurring 150 days after the Effective Date.

**Construction Documents** means all shop drawings, working drawings, fabrication plans, material and hardware descriptions, specifications, construction quality control reports, quality control documents, construction quality assurance reports and samples necessary or desirable for construction of the Facilities in accordance with the Contract Documents.

**Construction Equity Ratio** means at any time the ratio between: (a) the Committed Equity Investment at the time; and (b) the sum of Committed Equity Investment at the time and the amount of Project Debt scheduled to be outstanding at the time.

**Construction Manager** means the individual identified as such in Appendix 2-P of the Agreement, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Construction Period** means the period starting on the Effective Date and ending on the Substantial Completion Date.

**Construction Quality Management Plan** means the portion of the Quality Management Plan relating to the Construction Work.

**Construction Work** means all Work to build or construct, make, form, manufacture, furnish, install, supply, deliver, landscape, equip and commission the Facilities, the Bellevue Intersection Improvements and all other improvements as provided in the Contract Documents, including the procurement, installation and commissioning of the FF&E.

**Consumer Price Index** or **CPI** means the “Consumer Price Index – U.S. City Averages for all Urban Consumers, All Items” (not seasonally adjusted) as published by the U.S. Department of Labor, Bureau of Labor Statistics; provided, however, that if the CPI is changed so that the base year of the CPI changes, the CPI shall be converted in accordance with the conversion factor published by the U.S. Department of Labor, Bureau of Labor Statistics. If the CPI is discontinued or substantially altered, the applicable substitute index will be that chosen by the Secretary of the Treasury for the Department of Treasury’s Inflation-Linked Treasuries as described at 62 Federal Register 846-847 (January 6, 1997), or if no such securities are outstanding, will be determined by the Parties in accordance with general market practice at the time.

**Consumption Data** includes, for each Energy Utility, the following information for each Facility: Actual Peak Demand, real time consumption, annual consumption and intensity metrics.

**Contaminated Materials** means any element, chemical, compound, mixture, material or substance, whether solid, liquid or gaseous, which at any time is present in sufficient concentration such that it is defined, listed, classified or otherwise regulated in any way under any Environmental Laws, or any other such substances or conditions (including mold and other mycotoxins, fungi or fecal material) which may create any unsafe or hazardous condition or pose any threat or harm to the environment or human health and safety. "Contaminated Materials" includes the following:

- (a) Hazardous wastes, hazardous material, hazardous substances, hazardous constituents, and toxic substances, ignitable, corrosive and reactive substances or related materials, whether solid, liquid, or gas, including substances defined as or included in the definition of "hazardous substance", "hazardous waste", "hazardous material", "extremely hazardous waste", "acutely hazardous waste", "radioactive waste", "radioactive materials", "bio-hazardous waste", "pollutant", "toxic pollutant", "contaminant", "restricted hazardous waste", "infectious waste", "toxic substance", "toxic waste", "toxic material", or any other term or expression intended to define, list or classify substances by reason of properties harmful to health, safety or the indoor or outdoor environment (including harmful properties such as ignitability, corrosivity, reactivity, carcinogenicity, toxicity, reproductive toxicity, "TCLP" toxicity" or "EP toxicity" or words of similar import under any applicable Environmental Laws);
- (b) Any petroleum product, including crude oil and any fraction thereof, and including any refined petroleum product or any additive thereto or fraction thereof; and any waste oil or waste petroleum byproduct or fraction thereof or additive thereto;
- (c) Any solvent, solvent waste, including any refined solvent product, and any waste solvent or waste solvent byproduct, including any additive, byproduct or fraction of any of the foregoing;
- (d) Any drilling fluids, produced waters and other wastes associated with the exploration, development or production of crude oil, natural gas or geothermal resources;
- (e) Any flammable substances or explosives;
- (f) Any radioactive materials;
- (g) Any asbestos or asbestos-containing materials;
- (h) Silica;
- (i) Any lead, cadmium, or lead-based paint or any other heavy metal-based paint or material, or any metal listed in or regulated by the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901 et seq.);

- (j) Any radon or radon gas;
- (k) Any methane gas or similar or regulated gaseous materials;
- (l) Any urea formaldehyde foam insulation;
- (m) Electrical equipment and components which contain any oil or dielectric fluid containing polychlorinated biphenyls;
- (n) Pesticides, herbicides or fungicides;
- (o) Any other chemical, material, substance or pollution, exposure to which is prohibited, limited or regulated by any Governmental Entity or which may or could pose a hazard to the health and safety of the owners, operators, Users or any Persons in the vicinity of the Project or to the indoor or outdoor Environment; and
- (p) Soil, or surface water or groundwater, containing any of the Contaminated Materials as defined above.

**Contaminated Materials Management** means procedures and requirements to address Contaminated Materials conditions and contamination encountered, impacted, caused by or occurring in connection with the Project, the Work Site or the Work, as well as investigation and remediation of such Contaminated Materials where required. Contaminated Materials Management may include sampling, stock-piling, storage, backfilling in place, asphalt batching, recycling, treatment, clean-up, remediation, transportation and/or off-site disposal of Contaminated Materials, whichever approach is effective, most cost-efficient and authorized under applicable Law and Governmental Approvals.

**Contract** means any agreement, and any supplement or amendment thereto, by Developer with any other Person, Contractor or Supplier to perform any part of the Work or provide any materials, equipment or supplies for any part of the Work, or any such agreement, supplement or amendment at a lower tier, between a Contractor and its lower tier Contractor or a Supplier and its lower tier Supplier, at all tiers. The term "Contract" excludes Utility Agreements.

**Contract Documents** means the Agreement, the Technical Volumes, including all Appendices and exhibits to the Agreement and Technical Volumes (and any executed originals of Appendices and exhibits), Plans, and the other documents listed in Section 1.4.1 of the Agreement, including all amendments to the foregoing.

**Contractor** means any Person with whom Developer has entered into any Contract to perform any part of the Work or provide any materials, equipment or supplies for the Project, on behalf of Developer, and any other Person with whom any Contractor has further subcontracted any part of the Work, at all tiers.

**Contractor Breakage Costs** means Losses that have been or will be reasonably and properly incurred by Developer under a Contract as a direct result of the termination of the Agreement (and which shall not include lost profit or lost opportunity), but only to the extent that:

- (a) the Losses are incurred in connection with the Project and in respect of the Work required to be provided or carried out, including:
  - (i) Any materials or goods ordered or subcontracts placed that cannot be cancelled without such Losses being incurred;
  - (ii) Any expenditure incurred in anticipation of the provision of services or the completion of Work in the future; and
  - (iii) The cost of demobilization including the cost of any relocation of equipment used in connection with the Project;
- (b) The Losses are incurred under arrangements and/or agreements that are consistent with terms that have been entered into in the ordinary course of business and on an arm's length basis; and
- (c) Developer and the relevant Contractor have each used their reasonable efforts to mitigate such Losses.

**Controlling Interest** means an interest held by a Person in another Person when:

- (a) Such Person holds, directly or indirectly, beneficially or of record, a majority of the voting rights in such other Person; or
- (b) Such Person possesses, directly or indirectly, the power to cause the direction of the management of such other Person, whether through voting securities, by contract, family relationship or otherwise.

**Cooling Day(s)** or **Cooling Degree Day(s) (CDD)** means a unit representing an increase of one (1) degree or more above an average outdoor temperature of 80°F for one day (as reported by the U.S. National Weather Service metrological data for Merced, California).

**Core Times** means those periods during a day when the Facilities are required to be made Available to the Owner, as set forth in Annex 1 to Appendix 6 of the Agreement.

**Cost to Complete** means (without double-counting):

- (a) Those costs (internal and external) that the Owner reasonably and properly projects that it will incur in carrying out any process to request tenders from any parties interested in entering into a contract with the

Owner to achieve Project Final Acceptance, including all costs related to the preparation of tender documentation, evaluation of tenders and negotiation and execution of relevant contracts; plus

- (b) Costs that the Owner reasonably and properly projects that it will incur in achieving Project Final Acceptance; plus
- (c) Any other Losses that the Owner would, but for the termination of the Agreement, not have incurred prior to Project Final Acceptance; minus
- (d) Any insurance proceeds available to the Owner for the purposes of achieving Project Final Acceptance.

**Critical Learning Area** means those Areas included in the Academic Program Category in Appendix 1-B (Program Elements) of the Technical Requirements, except for those Areas in the Office Program Subcategory.

**Critical Path** means the sequence of discrete work packages and planning packages in the Project Schedule that has the longest total duration through an end point where the discrete work packages and planning packages cannot be delayed without delaying the finish time of the end point effort.

**Cumulative SDF Ratio** means 40%, which is the approximate percentage of the total ASF of the Project to be delivered upon achievement of Occupancy Readiness of all Second Delivery Facilities, as reflected in Appendix 1-A of the Technical Requirements.

**Cure Period** means a Temporary Cure Period or a Permanent Cure Period.

**Customer Service Center (CSC)** means a building management system that is able to record, action, track and process requests for assistance from the Owner to Developer, provision of services, shortfalls in service performance or building faults or maintenance and repairs. Developer's obligations in respect of the provision and operation of the Customer Service Center are set forth in Section 4.3.1 of the Technical Requirements.

**D&C Contract Amount** means \$1,166,631,875.

**D&C Pricing Documents** means all documentation and data compilations, whether in hard copy or electronic format, which together contain or reflect all information, data, and calculations used by Developer to determine the final pricing of the D&C Work for the purposes of the Proposal, including how material prices and quotes were rolled up into the final price, all quantity take offs, Developer equipment rates, Developer, Lead Contractor and all other Contractor mark-ups and overhead rates, labor rates, efficiency or productivity factors, and quotations from subcontractors and material suppliers to the extent that such rates and quotations were used by Developer in formulating and determining the final pricing of the D&C Work for the purposes of the Proposal. "D&C Pricing Documents" also include any standard industry

manuals used by Developer in determining the pricing of the D&C Work for the purposes of the Proposal, which may be included in the D&C Pricing Documents by reference, but excludes documents provided by the Owner for use by Developer in submitting the Proposal.

**D&C Punch List** means an itemized list of Construction Work which remains to be completed after Substantial Completion has been achieved and before Project Final Acceptance, the existence, correction and completion of which will have no material or adverse effect on the normal, uninterrupted and safe use and operation of the Project, but excluding all such items included in Facility Punch Lists.

**D&C Work** means the Design Work and Construction Work, including those obligations of Developer identified in Section 3 of the Technical Requirements.

**D&C Work Value** means an amount equal to the D&C Contract Amount minus the Cost to Complete and minus the amount of any Monthly Progress Payments paid to Developer prior to the Early Termination Date.

**Day** or **day** means calendar days unless otherwise expressly specified as a Business Day.

**Deductible Relief Event** means any Relief Event other than any Uninsurable Relief Event or Owner-Caused Relief Event.

**Deduction Period** means, with respect to an Availability Failure or a Performance Failure in an Area: (a) the Temporary Cure Period (if any) that expires without Developer effecting a Temporary Cure; (b) the Permanent Cure Period that expires without Developer effecting a Permanent Cure; or (c) any Recurrence Period that expires without Developer effecting a Permanent Cure.

**Defect** means any Non-O&M Segment Work that is not completed in accordance with the requirements of the Contract Documents or is defective in its workmanship or material; ordinary wear and tear excepted.

**Deferral of Compensation** means the election of the Owner, in its sole discretion, to pay Direct Costs through either of the following or a combination thereof:

- (a) Adjustment of the MAP; or
- (b) Periodic payments over the Term.

**Deferred Equity Amounts** means, on any date, any amount of unfunded equity that has been committed to Developer (including commitments to provide an Equity Investment or Equity Member Debt) and is shown to be available for use in the Financial Model prior to the Project Final Acceptance Date, but only to the extent that the commitment to provide such amount is supported by an irrevocable on-demand letter of credit issued by an Eligible LC Issuer for the account of an Equity Member naming Developer and/or the Collateral Agent as beneficiary and guaranteeing the provision of the committed amount by a date which is not later than the Project Final Acceptance Date.

**Deferred FF&E** means furniture, fixtures and equipment, excluding IT Equipment, required for the Project but not specified in Appendix 7 to the Technical Requirements, to be specified by the Owner and procured, delivered and installed by Developer in accordance with Section 4.3.2 of the Agreement and Section 3.9 of the Technical Requirements.

**Delay** means any unanticipated event, action, force or factor during the performance of the D&C Work, which extends Developer's time of performance of any activity or work item on the critical path of the D&C Work beyond the applicable Completion Deadline after consumption of Float. The term "Delay" is intended to cover all such events, actions, forces or factors, whether styled "delay", "disruption", "interference", "impedance", "hindrance", or otherwise, which are beyond the control of and not caused by Developer or any Developer-Related Entity. The term "Delay" does not include "Extra Work."

**Delay Costs** has the meaning set forth in Section 1.1(k) of Appendix 18 of the Agreement.

**Demand Charges** means the total of all charges from PG&E associated with providing gas and electricity to the Owner, and includes any charges calculated within the PG&E rate schedule for the current year associated with capacity. This includes, but is not limited to, facility charges and demand charges and may include both a charge for the rolling 12 month max demand and the actual monthly demand.

**Demand Maintenance** means O&M Services that are not scheduled and that are required in response to Service Requests.

**Design and Construction Costs** means the cost for the D&C Work of the Project as set forth in the Schedule of Values, as may be amended in accordance with the Agreement.

**Design Documents** means all drawings (including plans, profiles, cross-sections, notes, elevations, typical sections, details and diagrams), specifications, reports, studies, calculations, electronic files, records and submittals necessary for, or related to, the design of the Project. Design Documents include the Final Design Documents.

**Design Quality Management Plan** means the portion of the Quality Management Plan relating to the Design Work.

**Design Work** means all Work related to the design (including Campus Planning), engineering and architecture for the Facilities.

**Designated Campus Fire Marshal** means the individual designated as the responsible enforcement authority for State Fire Marshal regulations under the CBC with respect to this Project who, for the purposes of the Agreement, is not acting in a capacity as representative of the Owner.



**Developer** means Plenary Properties Merced LLC, a limited liability company organized under the laws of California, and its permitted successors and assigns.

**Developer Change Proposal** means a written proposal submitted by Developer pursuant to Section 11.2 of the Agreement.

**Developer Default** has the meaning set forth in Section 19.1.1 of the Agreement.

**Developer Intellectual Property** means all Intellectual Property developed by Developer or its Affiliates or Contractors either (i) prior to the Effective Date, or (ii) independently of the Contract Documents, and incorporated into the Proposal or the Project.

**Developer's Web Portal** means a web interface created and managed by Developer to enable the Customer Service Center to receive Services Requests online by way of electronic submission of Web Forms.

**Developer-Acquired Real Property** means any real property, other than the Project Site, the Ancillary Site, the Bellevue Intersection Site, the Central Plant Expansion Site and the Borrow Site, in which Developer may acquire temporary rights or interests in connection with the Project, including for construction, staging, storage, lay down and borrow areas or parking for Developer and Developer-Related Entities.

**Developer-Provided Insurance Policy(ies)** means the insurance policies identified in Section 17.1 and Appendix 8 of the Agreement to be procured and maintained by Developer, including any replacement policy for the Owner-Provided Insurance Policy to the extent Developer is required to procure and maintain such policy pursuant to Section 17.1.1.1 of the Agreement.

**Developer-Related Entity(ies)** means (a) Qualified Investors; (b) Contractors (including Suppliers); (c) any other Persons performing any of the Work (except pursuant to the Owner's step-in rights under the Agreement); (d) any other Persons for whom Developer may be legally or contractually responsible; (e) Fincos; and (f) the employees, agents, officers, directors, shareholders (but excluding shareholders of publicly traded companies), representatives, consultants, successors, assigns and invitees of any of the foregoing.

**Developer's Interest** means all right, title, interest and property, of Developer in, to, under or derived from the Agreement and the other Contract Documents, including Developer's right, title and/or interest in and to the Project, the Work Site, the Facilities, Monthly Progress Payments, Partial Availability Payments and Availability Payments earned, Principal Developer Documents, Contracts, Submittals, Claims and Intellectual Property.

**Developer's Proposal Commitments** are those commitments made by Developer in its Proposal and attached as Appendix 2 to the Agreement.

**Deviation** has the meaning set forth in Section 11.3 of the Agreement.

**Direct Agreement** means the agreement in the form attached as Appendix 13 of the Agreement by and among the Owner, Developer, and the Lender (or if there is more than one Lender, the Collateral Agent on behalf of the Lenders) respecting the Lenders' rights to notice, step-in and cure Developer Defaults.

**Direct Costs** has the meaning given to such term in Appendix 18 of the Agreement.

**Disabled Veteran Business Enterprise (DVBE)** means a business that is at least 51% owned by one or more disabled veterans or, in the case of any publicly owned business, at least 51% of the stock of which is owned by such individuals and whose management and daily business operations are controlled by one or more of such individuals. For the purposes of this definition, "disabled veteran" means a veteran of the military, naval or air service of the United States with a service connected disability who is a resident of the State of California. To qualify as a veteran with a service connected disability, the person must be currently declared by the U.S. Department of Veteran Affairs to be 10% or more disabled as a result of service in the armed forces.

**Dispute** means any dispute, disagreement or controversy between the Owner and Developer concerning their respective rights and obligations under the Contract Documents, including concerning any Claim, alleged breach or failure to perform and remedies.

**Dispute Resolution Procedures** means the procedures for resolving Disputes set forth in Article 25 of the Agreement.

**Disputes Review Board** or **DRB** means the disputes review board established pursuant to Appendix 9-B of the Agreement to aid in the resolution of Disputes pursuant to Section 25.2 of the Agreement.

**Disputes Review Board Agreement** means the agreement in the form attached to the Agreement as Appendix 9-A of the Agreement.

**Distribution** means (a) whether in cash or in kind, any (i) dividend or other distribution in respect to share capital, (ii) reduction of capital, redemption or purchase of shares or any other reorganization or variation to share capital, (iii) payments under Equity Members Funding Agreements (whether of principal, interest, breakage costs or otherwise), (iv) payment, loan, contractual arrangement or transfer of assets or rights to the extent (in each case) it was put in place after Financial Close and was neither in the ordinary course of business nor on reasonable commercial terms, (v) the receipt of any other benefit which is not received in the ordinary course of business and not on commercially reasonable terms, or (b) the early release of any contingent debt or equity funding liabilities to Developer, the amount of such release being deemed to be a gain for the purposes of any calculation of Refinancing Gain.

**Early Completion Date** means June 1, 2020.

**Early Construction Work** has the meaning set forth in the Early Works Agreement.

**Early Design Work** has the meaning set forth in the Early Works Agreement.

**Early NTP 2** has the meaning set forth in the Early Works Agreement.

**Early Termination Date** means the effective date of termination of the Agreement for any reason prior to the stated expiration of the Term, as specified in the relevant provisions of Article 20 of the Agreement.

**Early Works** has the meaning set forth in the Early Works Agreement.

**Early Works Agreement** means the agreement, substantially in the form of Appendix 24, entered into by the Owner and Developer with respect to the performance of certain Work by Developer following selection of Developer as the successful proposer and prior to Financial Close.

**Early Works Term** means the period commencing on the effective date of the Early Works Agreement and ending on the Effective Date.

**Earthquake** means all land movement due to seismic activity, including shocks, tremors, volcanic action, tsunami and earth rising or shifting, including any aftershocks or other Earthquakes for a period of 168 hours after the initial event, which directly impacts the physical improvements of the Project, provided that direct physical loss or damage by fire or explosion resulting from any of the foregoing will not be considered loss by Earthquake.

**ECEC Addition** has the meaning set forth in Section 3.7.18.1(a) of the Technical Requirements.

**ECEC Site** means the real property within the limits delineated as the “ECEC Site” in the Project Site Map.

**Effective Date** means August 12, 2016, which is the date on which the Owner and Developer mutually executed and delivered the Agreement.

**Element** means an individual component, system or subsystem of the Project.

**Eligible Investments** means any security, obligation, bond, fund, instrument or other investment listed under California Government Code § 16430.

**Eligible LC Issuer** means a financial institution with long term unsecured debt ratings of at least the following, from at least two (2) of the listed major rating agencies:

(i) A- by Standard & Poor's Ratings Services; (ii) A3 by Moody's Investor Service, Inc.; or (iii) A- by Fitch Ratings.

**Emergency** means any unforeseen event affecting, directly or indirectly, the Project or the Existing Campus which (a) causes or has the potential to cause disruption to any Facilities, the Infrastructure, the Existing Campus or any Campus Activities or a threat to the safety of the public; (b) is an immediate or imminent threat to the integrity of any part of the Facilities or Infrastructure, to the Environment or to property adjacent to the Project, including the Existing Campus; or (c) is recognized or declared by the Owner or a Governmental Entity as an emergency.

**Emergency Management and Disaster Recovery Plan** means the emergency management and disaster recovery plan required to be developed and updated by Developer in accordance with Section 2.7.2.8 of the Technical Requirements.

**Energy Consumption Targets** means, for each Facility, the Base Energy Consumption Targets, as adjusted in accordance with Section 2.3 of Appendix 17 of the Agreement.

**Energy Simulation Assumptions** means the assumptions set forth in Attachment D to Appendix 17 to the Agreement.

**Energy Use Category** means the energy use category information for each Area specified in the applicable Area Data Sheet.

**Energy Use Intensity** or **EUI** means the average Energy Utility consumption per square foot within a Building.

**Energy Utilities** has the meaning set forth in Section 2.1(a) of Appendix 17 of the Agreement.

**Energy Utilities Monitoring System** means the equipment and processes to be installed, operated and maintained by Developer to achieve the requirements set forth in Section 2.2(a) of Appendix 17 of the Agreement.

**Engineer(s) of Record** or **EOR(s)** means one or more professional engineers or engineering firms registered in the State of California that develops the criteria and concept for the Project, performs the analysis, and is responsible for the preparation of Design Documents related to MEP and structural design.

**Environment** means air, soils, surface waters, groundwaters, land, stream sediments, surface or subsurface strata, biological resources, including endangered, threatened and sensitive species, natural systems, including ecosystems, and cultural, historic, archeological and paleontological resources.

**Environmental Approvals** means all Governmental Approvals arising from or required by any Environmental Law in connection with construction, use or operation of the Project.

**Environmental Law** means (a) any Law applicable to the Project or the Work regulating or imposing liability or standards of conduct that pertains to the Environment, Contaminated Materials, contamination of any type whatsoever, or health and safety matters, and (b) any requirements and standards that pertain to the protection of the Environment, or to the management or Release of Contaminated Materials, contamination of any type whatsoever, or health and safety matters with respect to Contaminated Materials, set forth in any agreements, permits, licenses, approvals, plans, rules, regulations or ordinances adopted, or other criteria and guidelines promulgated, pursuant to Laws applicable to the Project or the Work, as each of the foregoing have been or are amended, modified, or supplemented from time to time (including any present and future amendments thereto and reauthorizations thereof), including those relating to:

- (a) The manufacture, processing, use, distribution, existence, treatment, storage, disposal, generation and transportation of Contaminated Materials;
- (b) Air, soil, surface and subsurface strata, stream sediments, surface water, and groundwater;
- (c) Releases of Contaminated Materials;
- (d) Protection of wildlife, endangered, threatened, and sensitive species, wetlands, water courses and water bodies, cultural, historical, archeological, and paleontological resources and natural resources;
- (e) The operation and closure of underground or aboveground storage tanks;
- (f) Health and safety of employees and other persons with respect to Contaminated Materials; and
- (g) Notification, documentation and record keeping requirements relating to the foregoing.

Without limiting the above, the term “Environmental Laws” shall also include the following (all as amended):

- i. The National Environmental Policy Act (42 U.S.C. §§ 4321 et seq.);
- ii. The Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. §§ 9601 et seq.) and associated Superfund Amendments and Reauthorization Act (42 U.S.C. §§ 9601 et seq.);
- iii. The Solid Waste Disposal Act (42 U.S.C. §§ 6901 et seq.);
- iv. The Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. §§ 11001 et seq.);

- v. The Clean Air Act (42 U.S.C. §§ 7401 et seq.);
- vi. The Federal Water Pollution Control Act, as amended by the Clean Water Act (33 U.S.C. §§ 1251 et seq.);
- vii. The Resource Conservation and Recovery Act (42 U.S.C. §§ 6901, et seq.);
- viii. The Hazardous and Solid Waste Amendments of 1984 (42 U.S.C. §§ 6924 et seq.);
- ix. The Toxic Substances Control Act (15 U.S.C. §§ 2601 et seq.);
- x. The Hazardous Materials Transportation Act (49 U.S.C. §§ 5101 et seq.);
- xi. Section 404 of the Clean Water Act (33 U.S.C. § 1344);
- xii. The Oil Pollution Act (33 U.S.C. §§ 2701, et. seq.);
- xiii. The Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. §§ 136 et seq.);
- xiv. The Federal Safe Drinking Water Act (42 U.S.C. §§ 300 et seq.);
- xv. The Federal Radon and Indoor Air Quality Research Act (42 U.S.C. §§ 7401 et seq.);
- xvi. The Occupational Safety and Health Act (29 U.S.C. §§ 651 et seq.);
- xvii. The Endangered Species Act (16 U.S.C. §§ 1531 et seq.);
- xviii. The Fish and Wildlife Coordination Act (16 U.S.C. §§ 661 et seq.);
- xix. California Environmental Quality Act (§§ 21000 et seq. of the California Public Resources Code);
- xx. The California Clean Air Act of 1988 (§§ 39000 et seq. of the California Health and Safety Code);
- xxi. The California Occupational Safety and Health Act of 1973 (§§6300 et seq. of the California Labor Code);
- xxii. The Porter-Cologne Water Quality Act (§§ 13000 et seq. of the California Water Code);
- xxiii. The Integrated Waste Management Act of 1989 (§§ 40000 et seq. of the California Public Resources Code);

- xxiv. The Safe Drinking Water and Toxic Enforcement Act of 1986 (§§ 25249.5 et seq. of the California Health and Safety Code);
- xxv. Hazardous Waste Control (§§ 25100 et seq. of the California Health and Safety Code); and
- xxvi. Fish and Wildlife Protection and Conservation (§§ 1600 et seq. of the California Fish and Game Code).

**Environmental Management Plan** has the meaning set forth in Section 2.7.2.6 of the Technical Requirements.

**Equity Investment** means (a) any form of direct investment by Equity Members, including the purchase of newly issued equity shares in and/or the provision of Equity Member Debt to Developer, and (b) any draws by or on behalf of Developer of the letter(s) of credit described in the definition of Deferred Equity Amount.

**Equity IRR** means the nominal post-tax internal rate of return to the Series A Equity Investment over the full Term calculated as the discount rate that, when applied to Equity Investment cash flows (excluding the initial Series B Equity Investment), gives a zero net present value. Equity IRR can change when and if the Financial Model is updated pursuant to Article 15 of the Agreement and is initially equal to the Initial Equity IRR. For purposes of this definition:

- (a) The phrase “post-tax” refers to U.S. federal, state and local income only, and excludes any foreign income tax and other tax of any kind; and
- (b) The phrase “cash flows” refers to Distributions described in clause (a) of the definition of Distributions, minus Equity Investments.

**Equity Member** means any Person with a direct equity interest in Developer.

**Equity Members Debt** means bona fide indebtedness for funds borrowed that: (a) is held by any Equity Member and (b) is subordinated in priority of payment and security to all Project Debt held by Persons who are not Equity Members.

**Equity Members Funding Agreements** means any Funding Agreements relating to Equity Members Debt.

**Equity Transfer** means any assignment, mortgage, encumbrance, conveyance, sale, or other transfer of equity interest in Developer.

**Equity True-up Financial Model** has the meaning given to such term in Section 10.4.2.4.1 of the Agreement.

**Equity True-up Payment** means a payment calculated and paid in accordance with Section 10.4.2 of the Agreement.

**Escalated Benchmark Insurance Premiums** means the Starting Insurance Benchmarking Premiums, escalated in accordance with subsection (b) of Section 17.1.2.13.4 of the Agreement.

**Excess Campus-Related Call Requests** means Campus-Related Call Requests in excess of 100 per month.

**Excess Deduction Amount** means the absolute value of any negative Quarterly Settlement Amount calculated in accordance with Section 1.2.3 of Appendix 6 of the Agreement.

**Excluded O&M Services** means the operation and maintenance services to be provided by the Owner with respect to the Facilities and FF&E, as set forth in Section 4.1.3.1 of the Technical Requirements.

**Exempt Refinancing** means (a) any Refinancing that was fully and specifically identified and taken into account in the Initial Financial Model and calculation of the Availability Payment, (b) any amendment, modification, supplement, or consent to any Financing Document or the exercise by a Lender of rights, waivers, consents and similar actions in the ordinary course of day-to-day loan administration and supervision which does not provide a financial benefit to Developer, (c) any changes in taxation or Developer's accounting treatment or policies, and (d) any of the following acts by a Lender: (i) the syndication in the ordinary course of business of any of such Lender's rights and interests in the Funding Agreements related to Project Debt; (ii) the grant by such Lender of any rights of participation, or the disposition by such Lender of any of its rights or interests, in respect of the Funding Agreements related to Project Debt in favor of any other Lender or any investor; or (iii) the grant by such Lender of any other form of benefit or interest in either the Funding Agreements related to Project Debt or the revenues or assets of Developer, whether by way of security or otherwise, in favor of any other Lender or any investor.

**Existing Campus** means the area marked as "Existing Campus" on the Project Site Map.

**Extra Work** means any Work in the nature of additional work, altered work or deleted work which is directly attributable to the occurrence of a Relief Event and absent the Relief Event would not be required by the Contract Documents. The term "Extra Work" does not include "Delay."

**Facilities** means, collectively, the Buildings, the Outdoor Facilities and the Central Plant Expansion; and "Facility" means any of them.

**Facilities Activities** means the Campus Activities applicable to the Facilities.

**Facility Final Acceptance** means, with respect to a Facility, the occurrence of all the events and satisfaction of all the conditions set forth in Section 5.3 of the Agreement, as and when confirmed by the Owner's issuance of a certificate in



accordance with the procedures and within the time frame established in Section 5.3 of the Agreement.

**Facility Final Acceptance Date** means, with respect to a Facility, the date upon which Developer achieves Facility Final Acceptance.

**Facility Final Acceptance Deadline** means, with respect to a Facility, the date by which Developer must achieve Facility Final Acceptance, which is 120 days after the applicable Occupancy Readiness Date.

**Facility IT Equipment** means, with respect to a Facility, the IT Equipment to be procured, delivered and installed by Developer.

**Facility IT Equipment List** means, with respect to a Facility, a list of the Facility IT Equipment, including any mandatory specifications for such equipment, as such list may be revised by the Owner in accordance with Section 4.3.3.2 of the Agreement.

**Facility Notice of Completion** means, with respect to a Facility, a written notice, signed by the Owner, in form and substance sufficient for recordation of a notice of completion of the D&C Work with respect to the Facility in the office of the county recorder in Merced County.

**Facility O&M Services** means, with respect to a Facility, the O&M Services related to the Facility.

**Facility Punch List** means, with respect to a Facility, an itemized list of Construction Work which remains to be completed after Occupancy Readiness has been achieved and before Facility Final Acceptance, the existence, correction and completion of which will have no material or adverse effect on the normal, uninterrupted and safe use and operation of the Facility and applicable FF&E.

**Facility Systems** includes mechanical, electrical, plumbing, heating, ventilation, air conditioning, fire protection and life safety, security, building automation, energy management, electronic and communications systems, equipment and associated components of each Facility, as applicable, as more particularly described in Section 3 of the Technical Requirements.

**Facility Unavailability Event** means, with respect to a Facility, any of the following events:

- (a) In any day, the aggregate number of all Areas which are Unavailable within a Facility exceeds thirty per cent (30%) of the aggregate number of all the Areas within the relevant Facility;
- (b) In any day, the number of sanitary fittings or washbasins unavailable to Users of a Facility is more than thirty per cent (30%) of the number contained in Developer's Proposal Commitments;

- (c) The aggregate number of all Critical Learning Areas which are Unavailable in a Facility exceeds twenty five per cent (25%) of the aggregate number of all the Critical Learning Areas within the relevant Facility; or
- (d) The central informational technology server room, if any, is Unavailable.

**Fast Cure Period** has the meaning set forth in Section 7.3.1.5 of the Agreement.

**FDF Ratio** means 21%, which is the approximate percentage of the total ASF of the Project to be delivered upon achievement of Occupancy Readiness of all First Delivery Facilities, as reflected in Appendix 1-A of the Technical Requirements.

**Final Breach Notice** has the meaning given to such term in Section 19.2.8.2 of the Agreement.

**Final Change Estimate** has the meaning given to such term in Section 1.8(a) of Appendix 21 of the Agreement.

**Final Delivery AP O&M Amount** means \$5,878,898, which represents 60% of the Initial AP O&M Amount.

**Final Delivery Facilities** means Facilities other than the First Delivery Facilities and the Second Delivery Facilities; and “Final Delivery Facility” means any of them.

**Final Design Documents** means the complete final construction drawings, including plans, profiles, cross-sections, notes, elevations, typical sections, design exceptions and variations, details and diagrams, specifications, reports, studies, calculations, electronic files, records and submittals prepared by Developer, necessary or related to construction and maintenance of the Project.

**Financial Business Day** means any weekday except any weekday on which banks are not required or authorized by Law to be open in the State.

**Financial Close** means the satisfaction or waiver of all conditions precedent to the first utilization or issuance under the Initial Funding Agreements (other than the condition as to the effectiveness of the Agreement).

**Financial Escrow** has the meaning set forth in Section 15.4.1 of the Agreement.

**Financial Model** means the Initial Financial Model, as most recently updated pursuant to Article 15 of the Agreement.

**Financial Model Formulas** means all mathematical formulas contained in the Financial Model and each Financial Model Update for projecting revenues, expenses, the repayment of Project Debt and Distributions to Equity Members that result in achievement of the Equity IRR, without the hard-coded numerical data and information.

**Financial Model Update** means any update to the Financial Model prepared pursuant to Section 15.2 of the Agreement, including corresponding changes to the Financial Model Formulas.

**Financing Documents** means Funding Agreements and Security Documents.

**Fincos** means, collectively: (a) PPM Finco LP, a limited partnership duly organized under the laws of the State of Delaware; (b) Plenary Properties Merced Finco ULC, an unlimited liability company duly organized under the laws of the Province of British Columbia; (c) PPM Finco LLC, a limited liability company duly organized under the laws of the State of Delaware; and (d) and any successor to any entity described in clause (a), (b) or (c).

**Fire Clearance Notice** means a “fire clearance” notice issued by the Designated Campus Fire Marshal pursuant to the State Fire Marshal regulations under the CBC.

**First Delivery Facilities** means the Buildings or portions thereof containing the First Delivery Quantum of all First Delivery Space Types; and “First Delivery Facility” means any of them.

**First Delivery Facilities Deduction** means the aggregate amount of liquidated damages to be assessed for a failure by Developer to achieve Occupancy Readiness of First Delivery Facilities by the applicable First Delivery Facilities LD Deadlines, as calculated in accordance with Section 1 of Appendix 3 of the Agreement.

**First Delivery Facilities LD Deadline** means September 1, 2018, subject to adjustment pursuant to Section 10.3.2 of the Agreement.

**First Delivery Facilities Long Stop Date** means the date by which Developer must achieve Occupancy Readiness with respect to all First Delivery Facilities, which is April 1, 2019, subject to adjustment pursuant to Section 10.3.2 of the Agreement.

**First Delivery Facilities Occupancy Readiness Deadline** means July 1, 2018, subject to adjustment pursuant to Section 10.3.2 of the Agreement.

**First Delivery Quantum** means, with respect to a First Delivery Space Type, the number of ASF, beds, SF and/or spaces, as applicable, of the First Delivery Space Type specified in Column B of Appendix 20-A of the Agreement.

**First Delivery Space Type** means a type of space described in Column A of Appendix 20-A of the Agreement.

**Fiscal Year** means the consecutive 12-month period starting on July 1 and ending on June 30.

**Float** means the amount of time the completion of an activity can be delayed without impacting the ability of Developer to meet a Completion Deadline.

**Force Majeure Event** means the occurrence of any of the following events that materially and adversely affects performance of Developer's obligations, provided that such events (or the effects of such events) could not have been avoided by the exercise of caution, due diligence, or reasonable efforts, by Developer or any Developer-Related Entity: (a) war (including civil war and revolution), invasion, armed conflict, violent act of foreign enemy, military or armed blockade, or military or armed takeover of the Work, in each case occurring within the State of California; (b) any act of riot, insurrection, civil commotion or sabotage that causes direct physical damage to the Work or material disruption to the O&M Services; (c) nuclear explosion, radioactive or chemical contamination of the Work Site, unless the source of the explosion, contamination, radiation or Contaminated Material is brought to or near the Work Site by Developer or any Developer-Related Entity; (d) fire, explosion, floods caused by natural events, water spout, tornados, gradual inundation caused by natural events, sinkholes caused by natural events or landslides caused by natural events; (e) Earthquake; (f) Terrorism; or (g) any governor declared Emergency which includes the Work Site.

**Funding Agreements** means the Initial Funding Agreements and any other document jointly designated by the Parties in writing as a Funding Agreement, provided that such joint designation does not create an Owner approval right with respect to Refinancings in addition to what is expressly provided for in the Agreement.

**Furniture, Fixtures and Equipment (FF&E)** means the furniture, fixtures and equipment required for the Project, comprising the FF&E specified in Appendix 7 to the Technical Requirements and the Deferred FF&E, to be procured, delivered and installed by Developer for the Project in accordance with Section 3.9 of the Technical Requirements.

**Gainshare Adjustment** means, when the cost of Actual Energy Consumption for an Energy Utility is lower than the cost of the Energy Consumption Targets for an Energy Utility, 50% of the Energy Utility cost savings realized by the Owner in excess of 15% of the cost of the Energy Consumption Targets, as calculated in accordance with Section 4.1(c) of Appendix 17 of the Agreement.

**Governmental Approval** means any permit, license, consent, concession, grant, franchise, authorization, waiver, variance or other approval, guidance, protocol, mitigation agreement, or memoranda of agreement/understanding, and any amendment or modification of any of them, provided by Governmental Entities including State, local, or federal regulatory agencies, agents, or employees (including the Building Official and the Designated Campus Fire Marshal), which authorize or pertain to the Project or the Work.

**Governmental Approval Deadline** means, with respect to a Governmental Approval, the expected time necessary to secure the Governmental Approval as set forth in Appendix 25 of the Agreement, commencing from the date on which Developer submits a complete application and supporting documents therefor to the applicable Governmental Entity in accordance with the requirements of the applicable Governmental Entity and the Contract Documents.

**Governmental Approval Delay** means a Delay in obtaining a Governmental Approval, other than an Owner-Provided Approval, by the applicable Governmental Approval Deadline, provided that Developer has fulfilled all requirements for same, including submission of all required applications and documentation, and the Delay is otherwise beyond the reasonable control of Developer and the Developer-Related Entities.

**Governmental Entity** means any federal, State or local government and any political subdivision or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or entity other than the Owner.

**Guarantor** means any Person that is the obligor under any guaranty in favor of the Owner required under the Agreement.

**Handback Period** means the period beginning four (4) full years prior to the end of the Term and ending on the Termination Date.

**Handback Renewal Work** means the Renewal Work required in order for the Project to meet the Handback Requirements.

**Handback Renewal Work Plan** means the plan prepared in accordance with Section 5 of the Technical Requirements.

**Handback Requirements** means the terms, conditions, requirements and procedures governing the condition in which Developer is to deliver the Project assets to the Owner upon expiration or earlier termination of the Agreement, as set forth in Section 5 of the Technical Requirements.

**Handback Requirements Letter of Credit** means the letter of credit of that name described in Section 6.9.4.1 of the Agreement.

**Handback Requirements Reserve Account** means the account of that name established pursuant to Section 6.9.1 of the Agreement.

**Handback Requirements Reserve Balance** means: (a) if no Handback Requirements Letter of Credit is delivered pursuant to Section 6.9.4.1 of the Agreement, all amounts standing to the credit of the Handback Requirements Reserve Account on the Termination Date; or (b) if any Handback Requirements Letter of Credit is delivered pursuant to Section 6.9.4.1 of the Agreement, all amounts that would have been standing to the credit of the Handback Requirements Reserve Account on the Termination Date if no Handback Requirements Letter of Credit had been delivered pursuant to Section 6.9.4.1 of the Agreement.

**Health and Safety Plan** means the plans and procedures prepared by Developer, and approved by the Owner, in accordance with Section 2.7.2.7 of the Technical Requirements.

**Heating Day(s)** or **Heating Degree Day(s) (HDD)** means a unit representing a fall of one (1) degree or more below an average outdoor temperature of 65°F for one day (as reported by the U.S. National Weather Service metrological data for Merced, California).

**Incident** means a localized disruption to the Facilities Activities or safety of Users on the Project.

**Incident Response** means the actions taken by Developer, as described in Section 4.3.2 of the Technical Requirements, to respond to an Incident.

**Increased Oversight Threshold:**

- (a) During the Pre-First Delivery Construction Period means:
  - (i) Accumulation of assessed Noncompliance Points at or above:
    - (A) 50 points within 365 consecutive days; or
    - (B) 75 points within 730 days; or
  - (ii) Accumulation of a number of Noncompliance Instances at or above:
    - (A) 100 instances within 365 consecutive days; or
    - (B) 150 instances within 730 days.
- (b) During the Post-First Delivery Construction Period means:
  - (i) Accumulation of assessed Noncompliance Points at or above:
    - (A) 225 points within 365 consecutive days; or
    - (B) 400 points within 730 days; or
  - (ii) Accumulation of a number of Noncompliance Instances at or above:
    - (A) 950 instances within 365 consecutive days; or
    - (B) 1,700 instances within 730 days.
- (c) During the Operating Period means:
  - (i) Accumulation of assessed Noncompliance Points at or above:
    - (A) 450 points within 365 consecutive days; or

- (B) 1,200 points within 1,095 days; or
- (ii) Accumulation of a number of Noncompliance Instances at or above:
  - (A) 1,900 instances within 365 consecutive days; or
  - (B) 5,000 instances within 1,095 days.

**Indemnified Parties** means the Owner-Related Governmental Entities and their respective successors, assigns, agencies, divisions, officeholders, officers, directors, commissioners, agents, representatives, consultants and employees.

**Independent Expert** means an independent firm retained by the DRB in accordance with Section 25.2.3 of the Agreement and Section 4 of Appendix 9-B of the Agreement to provide its expert assessment as to whether conditions precedent to a Key Completion Event have been satisfied.

**Indicative Building** means a representative Building of a given Use Type for which a conceptual design was submitted in the Proposal and attached as Appendix 2-B of the Agreement.

**Indicative IT Equipment Package** means, with respect to an Area Type, the type and quantity of IT Equipment set forth in Appendix 18 of the Technical Requirements for such Area Type.

**Infrastructure** means all utility systems, including water supply, sewers, electrical grids and telecommunications, and roads, bridges, tunnels and other infrastructure to be designed and constructed by Developer to serve the Facilities, as provided in Section 3.5 of the Technical Requirements.

**Infrastructure Engineering Team** means Arup North America Ltd., or any successor entity approved by the Owner in accordance with Section 8.3.1 of the Agreement.

**Initial AP Capital Amount** means the AP Capital amount of \$36,859,754 included in the Initial Financial Model which shall be used in the calculation of MAP<sub>y</sub> in Section 1.2 of Appendix 6 of the Agreement.

**Initial AP O&M Amount** means the AP O&M amount of \$9,798,163 included in the Initial Financial Model which shall be used in the calculation of MAP<sub>y</sub> in Section 1.2 of Appendix 6 of the Agreement.

**Initial Breach Notice** has the meaning given to such term in Section 19.2.8.1 of the Agreement.

**Initial Equity IRR** means [REDACTED] percent (%), which is the Equity IRR projected in the Initial Financial Model.

**Initial Financial Model** means the financial computer model, including the Financial Model Formulas and the related output, audited by an independent model auditor reasonably acceptable to the Owner that is used to produce the financial forecasts that results in achievement of the Initial Equity IRR.

**Initial Financing Documents** means the Initial Funding Agreements and the Initial Security Documents.

**Initial Funding Agreements** means the documents identified in Part A of Appendix 7 of the Agreement.

**Initial Project Debt** means the Project Debt incurred by Developer to originally finance the Project and Work, in at least the total amount set forth in Appendix 7 to the Agreement. The Initial Project Debt is evidenced and secured by the Initial Financing Documents.

**Initial Security Documents** means the documents identified in Part B of Appendix 7 of the Agreement.

**Instructions to Proposers** or **ITP** means the instructions to proposers, including any addenda or riders, issued by the Owner as part of the RFP.

**Insurance Proceeds** means all proceeds from insurance payable to Developer (or that would have been payable to Developer but for Developer's breach of any obligation under the Agreement to procure or maintain said insurance) on or after the Early Termination Date.

**Insurance Review Report** means the report furnished in accordance with Section 17.1.2.13.1 of the Agreement.

**Intellectual Property** means all current and future legal and/or equitable rights and interests in know-how, patents (including applications), copyrights (including moral rights), trademarks (registered and unregistered), service marks, trade secrets, designs (registered and unregistered), utility models, circuit layouts, plant varieties, business and domain names, inventions, solutions embodied in technology, and other intellectual activity, and applications of or for any of the foregoing, subsisting in or relating to the Project or Project design data. Intellectual Property includes software used in connection with the Project and software source code. Intellectual Property is distinguished from physical embodiment of, and documentation disclosing, Intellectual Property.

**Intellectual Property Escrow** has the meaning set forth in Section 22.5.3 of the Agreement.

**IP Escrow Agent** has the meaning set forth in Section 22.5.3 of the Agreement.

**IP Materials** means, with respect to Intellectual Property, software, source code and other physical and electronic documentation related to the Intellectual Property, and



includes all relevant commentary, explanations and instructions to compile source code, and all modifications, additions or substitutions made to such source code.

**IT Equipment** means audio-visual terminal equipment and point of sale equipment of the types set forth in Appendix 18 of the Technical Requirements.

**IT Equipment Supplier Information** means information regarding the Owner's IT equipment suppliers from which Developer shall procure the Facility IT Equipment, including copies of the Owner's relevant supply contracts with such vendors, sufficient to enable Developer to price and procure the equipment set forth in the Facility IT Equipment List.

**Key Completion Event** means: (a) Occupancy Readiness of all First Delivery Facilities; (b) Occupancy Readiness of all Second Delivery Facilities; or (c) Substantial Completion.

**Key Contract** means any one, or an aggregate of more than one, of the following Contracts for Work Developer causes to be performed:

- (a) Contracts with each of the Lead Contractor, the Lead Campus Planner, any firm comprising the Architectural Team or the Infrastructure Engineering Team, and the Lead O&M Firm;
- (b) All prime design Contracts;
- (c) All prime construction Contracts;
- (d) All prime operations Contracts;
- (e) All prime project or program management services Contracts;
- (f) All prime maintenance Contracts, if any, unless with the Owner; and
- (g) All other prime Contracts with a single Contractor which individually or in the aggregate total in excess of US\$25,000,000.

For the purposes of this definition, a "prime" Contract means (i) a Contract to which Developer is a party; and (ii) for the purposes of clauses (b), (c), (d), (e) and (f) of the definition of Key Contract, any other Contract which subcontracts greater than 20% of the Design Work, the Construction Work, the operations Work, the project or program management services, or the maintenance Work, as applicable, for the Project.

**Key Contractor** means any Contractor that is party to any Key Contract.

**Key Personnel** means:

- (a) The Project Executive;
- (b) The Project Manager;

- (c) The Construction Manager for the Lead Contractor;
- (d) The Campus Planner;
- (e) The Research Laboratory Architect;
- (f) The Academic Classroom Architect;
- (g) The Student Life Facility Architect;
- (h) The Student Housing Architect;
- (i) The Lead Engineer from the Infrastructure Engineering Team;
- (j) The Lead O&M Representative from the Lead O&M Firm; and
- (k) Any other key members of Developer's management team or other individuals that were identified in the Proposal or in the Contract Documents.

**Key Qualified Investor** means any Equity Member or Plenary Group (Canada) Ltd.

**Known Contaminated Materials** means Contaminated Materials that exist in, on, under or near the Project Site or the Ancillary Site prior to 30 days prior to the Proposal Due Date, the presence of which: (a) are identified in any Baseline Contaminated Materials Report; or (b) is reasonably ascertainable from the Baseline Contaminated Materials Reports or from information made publicly available by Governmental Entities at least 30 days prior to the Proposal Due Date.

**Late First Delivery Ratio** means, with respect to a First Delivery Space Type, the percentage of the First Delivery Quantum (in ASF) for which Occupancy Readiness has not been achieved as of the applicable First Delivery Facilities LD Deadline(s); provided that such percentage shall be recalculated as of each and any subsequent date on which Occupancy Readiness is achieved for additional ASF of the First Delivery Space Type. For purposes of calculating the Late First Delivery Ratio, one SF shall be considered equivalent to one ASF.

**Late Payment Rate** means ten percent (10%) per annum or the maximum rate permitted by law, whichever is less.

**Late Second Delivery Ratio** means, with respect to a Second Delivery Space Type, the percentage of the Second Delivery Quantum (in ASF) for which Occupancy Readiness has not been achieved as of the applicable Second Delivery Facilities LD Deadline(s); provided that such percentage shall be recalculated as of each and any subsequent date on which Occupancy Readiness is achieved for additional ASF of the Second Delivery Space Type. For purposes of calculating the Late Second Delivery Ratio, one SF shall be considered equivalent to one ASF.

**Law** or **Laws** means any statute, law, code, regulation, ordinance, by-law, rule, common law, judgment, judicial or administrative order, decree, directive, or other governmental restriction (including those resulting from the initiative or referendum process) or any similar form of decision of or determination by, or any administration of any of the foregoing by, any Governmental Entity, which is applicable to or has an impact on the Project or the Work, whether taking effect before or after the Effective Date, including Environmental Laws. “Laws,” however, excludes Governmental Approvals.

**Lead Campus Planner** means Skidmore Owings & Merrill LLP, or any successor entity approved by the Owner in accordance with Section 8.3.1 of the Agreement.

**Lead Contractor** means Webcor Construction LP, dba Webcor Builders, or any successor entity approved by the Owner in accordance with Section 8.3.1 of the Agreement.

**Lead Engineer** means the individual identified as such in Appendix 2-P of the Agreement, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Lead O&M Firm** means Johnson Controls, Inc., or any successor entity approved by the Owner in accordance with Section 8.3.1 of the Agreement.

**Lead O&M Representative** means the individual identified as such in Appendix 2-P of the Agreement, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**LEED** means Leadership in Energy and Environmental Design, a green building certification program administered by the Green Building Certification Institute that recognizes best-in-class building strategies and practices.

**LEED Certification Deadline** means, with respect to a Building, the first anniversary of the applicable Occupancy Readiness Date.

**Lender** means any holder of a beneficial interest in a Security Document, including any financial guarantor, which is a provider of Project Debt or any guaranty or credit enhancement in respect thereof, and any participating parties, trustees and agents, including the Collateral Agent, together with their respective successors and assigns.

**Lenders’ Liabilities** means, at the relevant time, the aggregate of (without double counting), all principal, interest (including capitalized and default interest under the Financing Documents, but with respect to default interest, only to the extent that it arises as a result of the Owner making any payment later than the date that it is due under this Agreement or any other default by the Owner under this Agreement), banking fees, premiums or reimbursement obligations with respect to financial insurance policies, agent and trustee fees, costs and expenses properly incurred owing or

outstanding to the Lenders by Developer under or pursuant to the Financing Documents on the Early Termination Date, including any prepayment premiums or penalties, make-whole payments or other prepayment amounts, including costs of early termination of interest rate and inflation rate hedging, swap, collar or cap arrangements, that Developer must pay, or that may be payable or credited to Developer, under any Funding Agreement or Security Document or otherwise as a result of the payment, redemption or acceleration of all or any portion of the principal amount of Project Debt prior to its scheduled payment date that are determined to be reasonable by the Owner at the time the Owner reviews and approves the Funding Agreements, excluding, however, any such amounts included in the principal amount of any Refinancing in excess of the amount permitted pursuant to Section 16.3.3.1 of the Agreement and any interest, fees or other amounts to the extent that they relate to such excess principal amount.

**Lenders' Technical Advisor (LTA)** means the Lenders' technical advisor, BTY Group, and any replacement technical advisor engaged by Developer and the Lenders with respect to the Project.

**Logged Failure Time** means the time at which an Availability Failure or a Performance Failure (as the case may be) is notified to the Customer Service Center in accordance with Section 2.5 or 3.5 of Appendix 6 of the Agreement, as applicable.

**Logged Permanent Cure Time** means the time when Developer has effected, and recorded on the Customer Service Center, a Permanent Cure for an Availability Failure or a Performance Failure, as applicable.

**Logged Temporary Cure Time** means the time when Developer has effected, and recorded on the Customer Service Center, a Temporary Cure for an Availability Failure or a Performance Failure, as applicable.

**Losses** means any loss, damage, injury, liability, obligation, cost, response cost, expense (including attorneys', accountants' and expert witnesses' fees and expenses (including those incurred in connection with the enforcement of any indemnity or other provision of the Agreement)), fee, charge, judgment, penalty, or fine. Losses include injury to or death of persons, damage or loss of property, and harm or damage to natural resources.

**LTA Agreement** means the technical advisory agreement dated as of the Effective Date between Developer, the Lenders and BTY Group.

**Maintenance Capex** means any major maintenance expenditures required or desirable in connection with the O&M Services inclusive of maintenance, repair, renewal, reconstruction or replacement of any portion or component of the Project, as applicable, of a type which is not normally included as ordinary or routine maintenance, except to the extent such Maintenance Capex is furnished pursuant to the design-build contract between Developer and its design-build contractor, and specifically including the Handback Requirements to be performed pursuant to the Agreement.

**Maintenance Rectification Costs** means, in respect of any termination of the Agreement that occurs after Substantial Completion, all Losses that the Owner determines it is reasonably likely to incur as a direct result of the termination of the Agreement, including (without double counting):

- (a) Those costs (internal and external) that the Owner is reasonably likely to incur as a direct result of carrying out any process to request tenders from any parties interested in entering into a contract with the Owner to carry out the O&M Services, including all costs related to the preparation of tender documentation, evaluation of tenders and negotiation, and execution of relevant contracts; and
- (b) Those costs reasonably projected to be incurred by the Owner in relation to:
  - (i) Remediation or, if remediation is not possible or would cost more than renewal, renewal of any defective D&C Work or O&M Services;
  - (ii) Rectification or cure of any breach of the Agreement by Developer; and
  - (iii) Carrying out of all other matters necessary in order to ensure that within a reasonable period of the Early Termination Date, the Project complies with the requirements of the Contract Documents, and has a reasonable prospect of continuing to perform to the same standard and cost that it would have continued to perform at had the Agreement not been terminated and the Project been in compliance with all of the requirements of the Contract Documents.

**Manuals and Guidelines** has the meaning set forth in Section 2.3.1 of the Technical Requirements.

**Mark-up** has the meaning set forth in Section 1.3 of Appendix 18 of the Agreement.

**Maximum Availability Payment** or **MAP** means the maximum Availability Payment that Developer can earn in a given Fiscal Year during the Operating Period, as calculated in accordance with Appendix 6 of the Agreement, and as may be further adjusted in accordance with the Contract Documents.

**Maximum Peak Demand** means the maximum instantaneous energy demand in a rolling 12 month period, whether assessed at the system, Facility or Project level.

**MID Agreement** means the draft Construction and Easement Agreement between Merced Irrigation District and the Owner with respect to Canal-Related Work (as defined therein) included in Volume III of the RFP.

**MID Required Insurance** means the insurance requirements set forth in the MID Agreement in relation to the Canal-Related Work (as defined therein).

**Minimum Renewal Work Reserve Balance** means an amount calculated based on a look-forward of reasonably expected Maintenance Capex such that, from and after the Substantial Completion Date, at the end of year “N”, the minimum cash reserve standing on the account will be the sum of (excluding Maintenance Capex projected to be expended during the Handback Period):

- (a) 100% of expected Maintenance Capex for year N+1;
- (b) 50% of expected Maintenance Capex for year N+2; and
- (c) 25% of expected Maintenance Capex for year N+3.

**Monthly Disbursement** means a partial payment of the MAP (as calculated under Section 1.2.2 of Appendix 6 of the Agreement) payable to Developer in accordance with Appendix 6 of the Agreement.

**Monthly Handback Reserve Deposit** has the meaning set forth in Section 6.9.2.1 of the Agreement.

**Monthly O&M Report** has the meaning set forth in Section 4.1.6.2 of the Technical Requirements.

**Monthly Progress Payment Ratio** means a ratio equal to:  $\$585,000,000 / (\text{D\&C Contract Amount} - \text{Progress Payment Threshold})$ .

**Monthly Progress Payments** has the meaning set forth in Section 12.1.1 of the Agreement; and “**Monthly Progress Payment**” means any of them.

**Net Change Cost Impact** has the meaning set forth in Section 1.6 of Appendix 21 of the Agreement.

**Net Lenders’ Liabilities** means the amount calculated as at the Early Termination Date (without double counting) as follows:

- (a) Lenders’ Liabilities; minus
- (b) Account Balances; minus
- (c) Insurance Proceeds (excluding proceeds of personal injury, property damage or other third party liability insurance payable to or for the account of a third party).

**Nominal Refinancing** means a Refinancing resulting in a Refinancing Gain equivalent to less than a 5% reduction in the AP Capital portion of the Availability Payment.

**Non-O&M Segment Warranty Period** means, with respect to: (a) the Central Plant Expansion, the period commencing on the applicable Occupancy Readiness Date and ending on the second anniversary of the Substantial Completion Date; (b) the Bellevue Intersection Improvements, the period commencing on the Substantial Completion Date and ending on the first anniversary of the Substantial Completion Date; and (c) the ECEC Addition, the period commencing on the applicable Occupancy Readiness Date and ending on the first anniversary of the Occupancy Readiness Date.

**Non-O&M Segment Work** means the D&C Work with respect to the Non-O&M Segments, or any of them, as applicable.

**Non-O&M Segments** means the Central Plant Expansion, the Bellevue Intersection Improvements and the ECEC Addition; and “Non-O&M Segment” means either of them.

**Non-O&M Segments O&M Services** means operations and maintenance services with respect to: (a) the Central Plant Expansion following the applicable Occupancy Readiness Date; and (b) the Bellevue Intersection Improvements following the Substantial Completion Date.

**Noncompliance** has the meaning set forth in Section 7.1 of the Agreement.

**Noncompliance Instances** means instances of Noncompliance, irrespective of whether: (a) the Noncompliance is subsequently cured; or (b) Noncompliance points are actually assessed.

**Noncompliance Points** means the points that may be assessed for certain Noncompliance by Developer, as set forth in Appendix 5 of the Agreement.

**Notice of Termination for Convenience** means written notice issued by the Owner to Developer terminating the Agreement for convenience under Section 20.1.1 of the Agreement.

**NTP 1** means the written notice issued by the Owner to Developer authorizing Developer to proceed with Design Work.

**NTP 2** means the written notice issued by the Owner to Developer authorizing Developer to proceed with Construction Work for the Construction Period.

**O&M Interface Obligations** means all coordination and other obligations of Developer in connection with the interface of the O&M Services and the Excluded O&M Services, as set forth in Section 4.1.4 of the Technical Requirements.

**O&M Services** means all Work related to the operation, management, administration, maintenance, repair, preservation, modification, reconstruction, rehabilitation, restoration, renewal and replacement of the Facilities (or any portion thereof), including Operations Management Services, Renewal Work, Compliance Work, Demand Maintenance, Planned Maintenance and O&M Interface Obligations, but

excluding the Excluded O&M Services, Non-O&M Segments O&M Services and the D&C Work.

**O&M Sub-Plans** has the meaning set forth in Section 2.7.4 of the Technical Requirements.

**Occupancy Readiness** means, with respect to a Facility, the occurrence of all events and satisfaction of all conditions set forth in Section 5.2 of the Agreement, as and when confirmed by the Owner's issuance of a Certificate of Occupancy Readiness in accordance with the procedures and within the time frame established in Section 5.2 of the Agreement.

**Occupancy Readiness Date** means, with respect to a Facility, the date upon which Developer achieves Occupancy Readiness of the Facility.

**Open Space/Landscaping Improvements** means outdoor open space areas and landscaping, to be designed and constructed by Developer for the Project, as more particularly described in Section 3 of the Technical Requirements.

**Operating Final Delivery Facilities** means Final Delivery Facilities for which Occupancy Readiness has been achieved and O&M Services continue to be performed in full during Relief Event Delays.

**Operating Final Delivery Facilities Ratio** means a fraction, the numerator of which is the ASF of all Operating Final Delivery Facilities and the denominator of which is the ASF of all Final Delivery Facilities.

**Operating First Delivery Facilities Ratio** means the percentage of the total First Delivery Quantum (in ASF) of all First Delivery Space Types for which O&M Services continues to be performed in full during Relief Event Delays. For purposes of calculating the Operating First Delivery Facilities Ratio, one SF shall be considered equivalent to one ASF.

**Operating Cumulative Second Delivery Facilities Ratio** means the percentage of the total First Delivery Quantum and Second Delivery Quantum (in ASF) of all First Delivery Space Types and Second Delivery Space Types for which O&M Services continues to be performed in full during Relief Event Delays. For purposes of calculating the Operating Cumulative Second Delivery Facilities Ratio, one SF shall be considered equivalent to one ASF.

**Operating Period** means the period starting on the Substantial Completion Date and ending on the Termination Date.

**Operations and Maintenance Plan** means the plan prepared by Developer describing the plan, systems, approach, staffing and schedule to operate and maintain the Facilities during the Operating Period in accordance with the Contract Documents, as further described in Section 2.7.4.1 of the Technical Requirements.



**Operations Management Services** means the O&M Services described in Section 4.3 of the Technical Requirements.

**Original Proposal** means the proposal submitted by Developer in response to the Original Request for Proposals, and comprises Developer's (a) Administrative Submittals and Technical Proposal (as defined in the ITP) dated April 1, 2016, and (b) Financial Proposal (as defined in the ITP) dated April 22, 2016.

**Original Request for Proposals** or **Original RFP** has the meaning set forth in Recital E of the Agreement.

**Outdoor Athletic Courts** means the outdoor volleyball, basketball and tennis courts, and all Associated Improvements, to be designed and constructed by Developer for the Project, as more particularly described in Section 3 of the Technical Requirements.

**Outdoor Athletic/Recreational Fields** means the outdoor competition athletic and recreational fields, and all Associated Improvements, to be designed and constructed by Developer for the Project, as more particularly described in Section 3 of the Technical Requirements.

**Outdoor Facilities** means the Outdoor Athletic Courts, the Outdoor Athletic/Recreational Fields and the Outdoor Swimming Pool; and "Outdoor Facility" means any of them.

**Outdoor Swimming Pool** means the outdoor swimming pool, and all Associated Improvements, to be designed and constructed by Developer for the Project, as more particularly described in Section 3 of the Technical Requirements.

**Oversight** means monitoring, inspecting, sampling, measuring, auditing, attending, observing, testing, investigating and conducting any other oversight respecting any part or aspect of the Project or the Work, including all the activities described in Sections 6.4.1 and 7.5 of the Agreement.

**Owner** means The Regents of the University of California, a corporation consisting of an 18-member board that administers the University of California pursuant to Article IX, Section 9, of the California Constitution, and any entity succeeding to the powers, authorities and responsibilities of the Owner invoked by or under the Contract Documents. "Owner" excludes the Building Official and the Designated Campus Fire Marshal.

**Owner Additional Insureds** means the Indemnified Parties.

**Owner Change** has the meaning set forth in Section 11.1.1 of the Agreement.

**Owner Default** has the meaning set forth in Section 19.3.1 of the Agreement.

**Owner Uses** means use in connection with the Work, the Project, the Facilities and the Facility Systems, including any routine maintenance and repair, Renewal Work and Renovations thereof prior to or following the Termination Date.

**Owner-Caused Delays** means Delays directly attributable to the following matters and no others, but only to the extent that they (1) cannot be avoided by a work around or consumption of Float, and (2) are not due to the negligence, willful misconduct, breach of contract or violation of Law or Governmental Approval by Developer or any Developer-Related Entity:

- (a) Failure of the Owner to issue:
  - i. NTP 1 within fifteen (15) days after Developer satisfies the requirements in Section 4.6 of the Agreement;
  - ii. NTP 2 within fifteen (15) days after Developer satisfies the requirements in Section 4.7 of the Agreement;
  - iii. With respect to a Facility, a Certificate of Occupancy Readiness or notify Developer in writing of the reasons why Occupancy Readiness has not been achieved, in either case within the 14-day period set forth in Section 5.2.4 of the Agreement, if applicable;
  - iv. A Certificate of Substantial Completion or notify Developer in writing of the reasons why Substantial Completion has not been achieved, in either case within the 14-day period set forth in Section 4.9.2.4 of the Agreement; or
  - v. A Certificate of Project Final Acceptance or notify Developer in writing of the reasons why Project Final Acceptance has not been achieved, in either case within the 20-day period set forth in Section 4.9.4.4 of the Agreement;
- (b) Failure or inability of the Owner to provide to Developer the Project Right of Entry as of the Effective Date, or any commitments, limitations, easements, restrictions or other requirements in respect of the Owner-Provided Work Site that are not included in the Site Commitments or the Contract Documents and to which the Owner-Provided Work Site is subject materially interferes with the performance of the Work;
- (c) Failure of the Owner to provide the Owner-Provided Approvals as of the Effective Date or any lapse or revocation of same;
- (d) Failure of the Owner to provide responses to proposed schedules, plans, Design Documents, and other Submittals and matters for which a response is required as an express prerequisite to Developer's right to proceed or act, within the time periods (if any) indicated in the Contract Documents, or if no time period is indicated, within a reasonable time,

taking into consideration (i) the nature, importance, complexity, completeness and quality of the Submittal or matter and (ii) the number of Submittals then pending for the Owner's response, following delivery of written notice from Developer requesting such action in accordance with the terms and requirements of the Contract Documents;

- (e) Suspension of Work and/or Project Right of Entry orders issued by the Owner pursuant to Section 19.2.7.1 of the Agreement, to the extent that such suspension was not justified under the bases set forth in such Section;
- (f) Suspension of Work and/or Project Right of Entry orders issued by the Owner pursuant to Section 19.2.7.2 of the Agreement;
- (g) Request by the Owner to remove or uncover portions of finished D&C Work pursuant to Section 4.12.1.2 under the Agreement, to the extent the D&C Work and materials thus exposed are determined to be in accordance with the requirements of the Contract Documents; and
- (h) The Owner taking control and possession of the Project pursuant to Section 19.2.2 of the Agreement on the basis of a mistaken belief in the occurrence of a Developer Default.

For the purposes of the definition of "Owner-Caused Delays," "Owner" means Owner and its successors, assigns, members of the board of the Owner, officers, agents, representatives, contractors, consultants, and employees, in each case other than Developer or any Developer-Related Entity; provided that "Owner" does not include the Building Official or the Designated Campus Fire Marshal.

**Owner-Caused Relief Events** means the Relief Events described in the following clauses of the definition of Relief Event: (c); (e); (f); (g) as it relates to a violation of Law by the Owner; (h); (i) as it relates to work carried out by the Owner; (j); (n); and (p) as it relates to an act or omission of the Owner; and "Owner-Caused Relief Event" means any of them. For the purposes of the definition of "Owner-Caused Relief Event," "Owner" means Owner and its successors, assigns, members of the board of the Owner, officers, agents, representatives, contractors, consultants, and employees, in each case other than Developer or any Developer-Related Entity; provided that "Owner" does not include the Building Official or the Designated Campus Fire Marshal.

**Owner-Provided Approvals** means the Governmental Approvals for the Project obtained by the Owner as of the Effective Date and identified as such in Section B.3 of Volume III (Additional Project Requirements) of the Contract Documents.

**Owner-Provided Insurance Policy** means the insurance policy identified in Appendix 8 of this Agreement to be procured and maintained by the Owner.

**Owner-Provided Work Site** means the Work Site, excluding the Bellevue Intersection Site (Western Portion) and any Developer-Acquired Real Property.

**Owner-Related Governmental Entities** means the Owner, Merced County, City of Merced and Merced Irrigation District.

**Owner's Authorized Representative** means the individual in charge of the Project on behalf of the Owner, acting directly or through duly authorized representatives, such representatives acting within the scope of the duties and authority assigned to them.

**Owner's Recoverable Costs** means:

- (a) The reasonably required costs of any assistance, action, activity or Work undertaken by the Owner which Developer is liable for or is obligated to reimburse the Owner for under the terms of the Contract Documents, including the charges of third-party contractors and reasonably allocated wages, salaries, compensation and overhead of the Owner staff and employees performing such action, activity or Work; plus
- (b) Reasonably required out of pocket costs the Owner incurs to publicly procure any such third-party contractors; plus
- (c) Reasonable fees and costs of attorneys (including the reasonably allocable fees and costs of the Owner's Office of General Counsel), financial advisors, engineers, architects, insurance brokers and advisors, investigators, risk management consultants, other consultants, and expert witnesses, as well as court costs and other litigation costs, in connection with any such assistance, action, activity or Work, including in connection with defending claims by and resolving disputes with third-party contractors; plus
- (d) Interest on all the foregoing sums at the Late Payment Rate, commencing on the date due under the applicable terms of the Contract Documents and continuing until paid.

**Painshare Adjustment** means 100% of the Energy Utility costs incurred by the Owner in excess of the cost of the Energy Consumption Targets for an Energy Utility plus 15%, as calculated in accordance with Section 4.1(c) of Appendix 17 of the Agreement.

**Partial Availability Payment** means the amount earned in each given year by Developer following achievement of Occupancy Readiness of the First Delivery Facilities and prior to Substantial Completion, as determined in accordance with Section 1.1 of Appendix 6 of the Agreement.

**Partial Base Monthly Disbursement** or **PBM<sub>m</sub>** means the sum calculated in accordance with Section 1.1.2 of Appendix 6 of the Agreement.

**Partial Excess Deduction Amount** has the meaning set forth in Section 1.1.3 of Appendix 6 of the Agreement.

**Partial Maximum Availability Payment** or **PMAP** means the maximum Partial Availability Payment that Developer can earn in a given Fiscal Year between the date on which Occupancy Readiness is achieved for all First Delivery Facilities and the Substantial Completion Date or the Early Termination Date, whichever is earlier, as calculated in accordance with Section 1.1.1 of Appendix 6 of the Agreement, and as may be further adjusted in accordance with the Contract Documents.

**Partial Monthly Disbursement** means a partial payment of the PMAP (as calculated under Section 1.1.2 of Appendix 6 of the Agreement) payable to Developer in accordance with Appendix 6 of the Agreement.

**Partial Quarterly Settlement Amount** means, for a given Quarter, the sum payable by the Owner to Developer as calculated in accordance with Section 1.1.3 of Appendix 6 of the Agreement.

**Party** means Developer or the Owner, as the context may require, and “Parties” means Developer and the Owner, collectively.

**Payment Bond** means a payment bond in place as a condition to the commencement of Design Work and the Owner’s issuance of NTP 1, as set forth in Section 17.2.2 of the Agreement.

**Payments** means the Availability Payments, the Partial Availability Payments, the Monthly Progress Payments, and payments under Sections 4.3.3 and 5.5 of the Agreement.

**Performance Bond** means the performance bond in place as a condition to the commencement of Design Work and the Owner’s issuance of NTP 1, as set forth in Section 17.2.1 of the Agreement.

**Performance Deduction** means a financial deduction from the Availability Payment or the Partial Availability Payment resulting from a Performance Failure, as calculated in accordance with Section 3.2 of Appendix 6 of this Agreement.

**Performance Failure** means a failure to provide the O&M Services in accordance with the Performance Standards, except to the extent any such failure is caused by Permitted Planned Maintenance.

**Performance Failure Deduction Amount** means, with respect to a Performance Failure in an Area, the applicable deduction amount per Deduction Period as set forth in column 3 of Annex 4 to Appendix 6 of the Agreement and adjusted for inflation in accordance with Appendix 6 of the Agreement.

**Performance Failure Service Request** means a Project-Related Service Request that relates to a Performance Failure.

**Performance Standards** means the performance standards applicable to the O&M Services, as set forth in Annex 3 to Appendix 6 of the Agreement.

**Permanent Cure** means, with respect to:

- (a) An Availability Failure, completion of rectification measures such that the relevant Area meets all applicable Availability Standards and requirements of the Contract Documents; or
- (b) A Performance Failure, completion of rectification measures such that the relevant O&M Services for the relevant Area are being performed to the applicable Performance Standards and in accordance with the Contract Documents,

and “**Permanently Cured**” has a corresponding meaning.

**Permanent Cure Period** means:

- (a) With respect to an Availability Failure, the period set out in Annex 2 to Appendix 6 of the Agreement (commencing at the expiry of the Temporary Cure Period) during which Developer must effect a Permanent Cure in order to avoid incurring a corresponding Availability Deduction; or
- (b) With respect to a Performance Failure, the period set out in Annex 3 to Appendix 6 of the Agreement (commencing at the expiry of the Temporary Cure Period) during which Developer must effect a Permanent Cure in order to avoid incurring a corresponding Performance Deduction.

**Permanent Works** means all the permanent structures and parts thereof required of the completed Project.

**Permitted Planned Maintenance** means Planned Maintenance (a) with respect to an Area for which the applicable Core Time set forth in Annex 1 to Appendix 6 of the Agreement is 24 hours and the Planned Maintenance is properly scheduled in accordance with Section 5.2(a) of Appendix 6 of the Agreement, or (b) approved in writing by the Owner pursuant to Section 5.2(a)(ii) of Appendix 6 of the Agreement, and in each case the Planned Maintenance is executed in accordance with Section 4.4 of the Technical Requirements.

**Persistent Developer Breach** means a breach for which a Final Breach Notice has been issued, which has continued for more than thirty (30) consecutive days or recurred in three (3) or more months within the six (6) month period after the date on which such Final Breach Notice is served on Developer.

**Persistent Developer Noncompliance:**

- (a) During the Pre-First Delivery Construction Period means:
  - (i) Accumulation of assessed Noncompliance Points at or above any of the trigger points set forth in Section 19.2.6.2 of the Agreement; or

- (ii) Accumulation of a number of Noncompliance Instances at or above any of the trigger points set forth in Section 19.2.6.3 of the Agreement.
- (b) During the Post-First Delivery Construction Period means:
  - (i) Accumulation of assessed Noncompliance Points at or above any of the trigger points set forth in Section 19.2.6.4 of the Agreement; or
  - (ii) Accumulation of a number of Noncompliance Instances at or above any of the trigger points set forth in Section 19.2.6.5 of the Agreement.
- (c) During the Operating Period means:
  - (i) Accumulation of assessed Noncompliance Points at or above any of the trigger points set forth in Section 19.2.6.6 of the Agreement; or
  - (ii) Accumulation of a number of Noncompliance Instances at or above any of the trigger points set forth in Section 19.2.6.7 of the Agreement.

**Person** means any individual, corporation, joint venture, limited liability company, company, voluntary association, partnership, trust, unincorporated organization or Governmental Entity.

**PG&E Delay** means any failure or delay by PG&E to provide the increased service capacity of electricity and gas Utilities requested by Developer under Section 4.5.6 of the Agreement to the Project Site, to the extent such failure or delay prevents Developer from achieving Occupancy Readiness of a Facility by the applicable Completion Deadline, provided that Developer has fully complied with its obligations under Section 4.5.6 of the Agreement.

**Planned Maintenance** means O&M Services that have been properly scheduled and executed in accordance with Section 5 of Appendix 6 of the Agreement and Section 4.4 of the Technical Requirements.

**Planned Maintenance Schedule** means a schedule, prepared annually and updated by Developer and approved by the Owner, showing the times during which Planned Maintenance will be performed and the Area(s) in which such Planned Maintenance will be performed.

**Plans** means the signed and sealed plans prepared by the AOR and/or EOR, as applicable, and accepted by the Owner and stamped "Released for Construction" dated and initialed by the reviewer, including reproductions thereof, showing the location, character, dimensions, and details of the Work. Plans consist of general drawings showing such details as are necessary to give a comprehensive idea of the Work contemplated.

**Plug Load** means the amount of energy used for user convenience power and for user supplied and connected equipment, including laboratory equipment, AV and IT

equipment, user small appliances and vehicle charging stations. Plug load shall not include task lighting where task lighting is required to meet more than 20% of the specified lighting levels.

**Post-First Delivery Construction Period** means the period commencing on the first day immediately following the Pre-First Delivery Construction Period and ending on the Substantial Completion Date.

**Post-Refinancing Financial Model** has the meaning set forth in Section 2 of Appendix 11 of the Agreement.

**Pre-First Delivery Construction Period** means the period commencing on the Effective Date and ending on the date on which Occupancy Readiness is achieved for all First Delivery Facilities.

**Pre-Refinancing Equity IRR** has the meaning set forth in Section 2 of Appendix 11 of the Agreement.

**Pre-Refinancing Financial Model** has the meaning set forth in Section 2 of Appendix 11 of the Agreement.

**Preliminary Change Estimate** has the meaning set forth in Section 1.3 of Appendix 21 of the Agreement.

**Preliminary Change Order** has the meaning set forth in Section 1.2 of Appendix 21 of the Agreement.

**Preliminary Project Schedule** has the meaning set forth in Section 2.4.2.1 of the Technical Requirements.

**Principal Developer Documents** means the Key Contract with each of the Lead Campus Planner, the Lead Contractor, each firm comprising the Architectural Team and the Infrastructure Engineering Firm, and the Lead O&M Firm (if applicable), and the Financing Documents, each of which shall be approved by the Owner as to form and substance.

**Progress Payment Threshold** has the meaning set forth in Section 12.1.5 of the Agreement.

**Project** means the University of California, Merced 2020 Project, which is described in more detail in Section 1 of the Technical Requirements. "Project" includes any Upgrades thereto.

**Project Commitments** means, collectively, the commitments and agreements relating to the Project, as included in Section B of Volume III (Additional Project Requirements) of the Contract Documents as of 30 days prior to the Proposal Due Date, including any commitments made by the Owner in the Owner-Provided Approvals and the Site Commitments.



**Project Debt** means all amounts outstanding from time to time pursuant to the Financing Documents.

**Project Enhancement** means any extensions of, additions to, modifications or improvements to the Project that is not part of the Work.

**Project Executive** means the individual identified as such in Appendix 2-P of the Agreement, who has authority to make binding decisions on behalf of Developer during the Construction Period and who has overall responsibility for ensuring that the Project is delivered in accordance with the terms and conditions of the Contract Documents, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Project Final Acceptance** means the occurrence of all the events and satisfaction of all the conditions set forth in Section 4.9.4 of the Agreement, as and when confirmed by the Owner's issuance of a certificate in accordance with the procedures and within the time frame established in Section 4.9.4 of the Agreement.

**Project Final Acceptance Date** means the date upon which Developer achieves Project Final Acceptance.

**Project Final Acceptance Deadline** means the date by which Developer must achieve Project Final Acceptance, which is 120 days after the Substantial Completion Date.

**Project Intellectual Property** means all Developer Intellectual Property, Third Party Intellectual Property and Subject Intellectual Property incorporated into the Project.

**Project Management Plan** means the Project management plan developed and submitted by Developer and approved by the Owner in accordance with Section 2.7 of the Technical Requirements.

**Project Manager** means the individual identified as such in Appendix 2-P of the Agreement who has authority to make binding decisions on behalf of Developer during the Construction Period and who is responsible for managing and coordinating the D&C Work, including budgeting, scheduling, planning, design, construction, FF&E and such other processes related to the D&C Work, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Project Master Plan** has the meaning set forth in Section 3.4.1.1.1 of the Technical Requirements.

**Project Notice of Completion** means a written notice, signed by the Owner, in form and substance sufficient for recordation of a notice of completion of the D&C Work in the office of the county recorder in Merced County.

**Project Office** has the meaning set forth in Section 2.4.3.2.1 of the Technical Requirements.

**Project Records** has the meaning set forth in Section 22.1.1 of the Agreement.

**Project Right of Entry** has the meaning set forth in Section 2.1.2 of the Agreement.

**Project Schedule** means the initial logic-based critical path schedule for all D&C Work, as such schedule is prepared, revised, updated and submitted by Developer, and accepted by the Owner, in accordance with the Contract Documents.

**Project Site** means any real property (which term is inclusive of all estates, easements, leases and other interests in real property, whether temporary or permanent), improvements and fixtures within the lines established therefor on the Project Site Map to delineate the outside limits (both horizontal and, where specified, vertical) of the Project, as such limits may be adjusted from time to time in accordance with the Contract Documents. The Project Site includes the Bellevue Intersection Site (Eastern Portion) except the Bellevue Intersection Improvements Site, and excludes the Central Plant Expansion Site. The Project Site includes the ECEC Site during the period commencing on the Effective Date and ending on the Occupancy Readiness Date of the ECEC Addition, and excludes the ECEC Site thereafter. The term specifically includes all air space, surface rights and subsurface rights within the horizontal limits of the Project Site.

**Project Site Map** means the map attached as Appendix 4-A of the Agreement.

**Project-Related Call Request** means a Project-Related Service Request that is communicated by phone call to the Customer Service Center.

**Project-Related Service Request** means a communication by any Person, including any User, the Owner or Developer, (a) by phone call to the Customer Service Center, or (b) via the Web Portal, in either case that relates to the Facilities or the O&M Services.

**Project-Related Web Request** means a Project-Related Service Request that is communicated via the Web Portal.

**Proposal** means, collectively: (a) the Revised Proposal Submittals and Supplemental Revised Proposal Submittals (as such terms are defined in the RFRP) submitted by Developer in response to the Request for Revised Proposal; and (b) the Original Proposal, unamended except to the extent expressly amended or superseded, as applicable, by the Revised Proposal Submittals or the Supplemental Revised Proposal Submittals.

**Proposal Due Date** means April 1, 2016, which is the Administrative and Technical Proposal Due Date as defined in the ITP.

**Protection in Place** means any action taken to avoid damaging a Utility which does not involve removing or relocating that Utility, including staking the location of the Utility, exposing the Utility, avoidance of a Utility's location by construction equipment, installing steel plating or concrete slabs, encasement in concrete, temporarily de-energizing power lines, and installing physical barriers. The term includes both temporary measures and permanent installations meeting the foregoing definition.

**Public Records Act** means California Public Records Act, Cal. Gov't Code § 6250, as amended from time to time.

**Punch List** means the D&C Punch List or any Facility Punch List, as applicable.

**Qualified Investor** means any Equity Member, Plenary Group (Canada) Ltd., Plenary Group Concessions Ltd., PGC US Holdco Ltd., Plenary Group USA Concessions Ltd. (Delaware), Plenary Investments V America Ltd. (Delaware) and Plenary Properties Merced HoldCo Ltd. (Delaware).

**Quality Management** means the quality management-related obligations and requirements set forth in Section 2.5 of the Technical Requirements.

**Quality Management Plan** means the plan prepared for quality assurance and quality control of: (1) the Design Work in accordance with Section 2.5.1.3 of the Technical Requirements; and (2) the Construction Work in accordance with Section 2.5.1.4 of the Technical Requirements.

**Quarter** means a time period comprised of three calendar months. Each Calendar Year contains four Quarters: January – March; April – June; July – September; and October – December.

**Quarterly Energy Status Report** means the report to be prepared by Developer and provided to the Owner in accordance with Section 3.4(a) of Appendix 17 of the Agreement.

**Quarterly Maximum Availability Payment** or **QMAP** means the dollar amount of the portion of Availability Payment payable by the Owner to Developer for a given Quarter (q), calculated as:

- (a) Where the Availability Payment Step Up Factor (F) for any Month (m) in Quarter (q) is less than one, the aggregate of  $BM_m$  all Months in Quarter (q), however excluding the 90% factor in the calculation of  $BM_m$  for the purposes of calculating the QMAP; or
- (b) One fourth of the  $MAP_y$ .

**Quarterly Partial Maximum Availability Payment** or **QPMAP** means the dollar amount of the portion of Partial Availability Payment payable by the Owner to Developer for a given Quarter (q), calculated as:

- (a) Where the Partial Availability Payment Step Up Factor (PF) for any Month (m) in Quarter (q) is less than one, the aggregate of  $PBM_m$  all Months in Quarter (q), however excluding the 90% factor in the calculation of  $PBM_m$  for the purposes of calculating the QPMAP; or
- (b) One fourth of the  $PMAP_y$ .

**Quarterly Settlement Amount** means, for a given Quarter, the sum payable by the Owner to Developer as calculated in accordance with Section 1.2.3 of Appendix 6 of the Agreement.

**Recurrence Period** means:

- (a) With respect to an Availability Failure or a Performance Failure, a one-day period, as specified in Annex 2 or Annex 3, as applicable, to Appendix 6 of the Agreement, commencing when Developer has failed to Permanently Cure the Availability Failure or Performance Failure within the applicable Permanent Cure Period or prior to the expiry of the immediately preceding Recurrence Period, as applicable, and such Availability Failure or Performance Failure will be deemed to have occurred anew; provided, however, that there shall be no cure period for such new Availability Failure or Performance Failure; or
- (b) With respect to any Noncompliance, a period of time specified in the far right column of the table set forth in Appendix 5 of the Agreement, commencing when Developer has failed to cure the Noncompliance within the applicable full cure period or prior to the expiry of the immediately preceding Recurrence Period, as applicable, and such Noncompliance will be deemed to have occurred anew; provided however, that there shall be no cure period for such new Noncompliance.

**Redundancy Payments** means the payment of all wages earned, accrued unused vacation time, and any other payments required to be made by Developer to its employees under law, or under the terms and conditions of Developer's employment agreements with its employees, as a direct result of termination of the Agreement pursuant to Section 20.1 or 20.2 of the Agreement, as applicable.

**Reference Documents** means the collection of information, data, documents and other materials that the Owner has provided to Developer (including those contained in the RFP documents) for general or reference information only and without any warranty as to their accuracy, completeness or fitness for any particular purpose. The Reference Documents are not Contract Documents.

**Refinancing** means:

- (a) Any amendment, variation, novation or supplement of any Project Debt, Financing Documents, including the Initial Project Debt, and the Initial Financing Documents, that results in a reduced interest rate, an increase of such Project Debt, or a tangible financial benefit to Developer;
- (b) The issuance by Developer of any Project Debt other than the Initial Project Debt, secured or unsecured;
- (c) The disposition of any rights or interests in, or the creation of any rights of participation in respect of, the Project Debt of the Financing Documents, or the creation or granting of any other form of benefit or interest in either the Financing Documents or the Developer's Interest, whether by way of security or otherwise, by Developer; or
- (d) Any other arrangement put in place by Developer or another Person which has an effect similar to the arrangements discussed in clauses (a) through (c) above.

The term Refinancing excludes (i) Equity Transfer or (ii) any sale or transfer of the Equity Members Debt or Equity Members' existing rights and/or interest under the Equity Members Funding Agreements.

**Refinancing Gain** has the meaning set forth in Section 2 of Appendix 11 of the Agreement.

**Release of Contaminated Materials** means any spill, leak, emission, release, discharge, injection, escape, leaching, dumping or disposal of Contaminated Materials into the soil, air, surface water, groundwater or indoor or outdoor environment, including any exacerbation of an existing release or condition of Contaminated Materials contamination.

**Relief Event** means any of the following events, subject to other limitations, requirements and deductibles that may be set forth in the Agreement for such events:

- (a) Force Majeure Event;
- (b) Change in Law;
- (c) Owner Change;
- (d) Safety Compliance Orders;
- (e) The Owner's failure to perform or observe any of its material covenants or obligations under the Agreement or other Contract Documents;
- (f) Owner-Caused Delays;

- (g) Violation of Law by any Owner-Related Governmental Entity that adversely impacts Developer or the Work;
- (h) The development, use or operation by the Owner of, or the development or operation of a Business Opportunity in, the Owner-Provided Work Site (excluding the Central Plant Expansion Site) or corresponding Airspace that materially prevents Developer from performing its fundamental obligations under the Agreement or materially adversely affects its costs;
- (i) Performance of work by the Owner or any Governmental Entity in or adjacent to the Work Site (excluding the Central Plant Expansion Site), excluding any Utility Adjustment Work by a Utility Owner, that materially disrupts Developer's on-site Work;
- (j) Performance of work in or adjacent to, or use of, the Central Plant Expansion Site (if prior to the applicable Occupancy Readiness Date) by the Owner in a manner that materially prevents Developer from performing Central Plant Expansion Work (A) as contemplated in the applicable Central Plant Expansion Submittal(s) as approved by the Owner under Section 2.6.2.2(e) of the Technical Requirements, and (B) for which notice was given by Developer in accordance with Section 2.4.7.3.2(c) of the Technical Requirements;
- (k) Discovery of archeological, paleontological or cultural resources, or human remains, at or on the Work Site (excluding the Borrow Site and any Developer-Acquired Real Property);
- (l) Discovery at or on the Work Site (excluding the Borrow Site and any Developer-Acquired Real Property) of any species listed as threatened or endangered under the federal or State endangered species act (regardless of whether the species is listed as threatened or endangered as of the Effective Date), excluding: (i) any such presence of species, other than burrowing owls, kit foxes, salamanders or nesting raptors, that are known to Developer 30 days prior to the Proposal Due Date or that would have become known to Developer by undertaking reasonable investigation of publicly available information 30 days prior to the Proposal Due Date; and (ii) any presence of burrowing owls, kit foxes, salamanders or nesting raptors to the extent such presence arises from a failure by Developer to comply with applicable protocols and Developer obligations set forth in the Technical Volumes;
- (m) Release of Contaminated Materials by a third party who is not a Developer-Related Entity, but only to the extent such release (i) occurs after the Effective Date; (ii) is required to be reported to a Governmental Entity; and (iii) renders use of the Work Site (excluding the Borrow Site and any Developer-Acquired Real Property) unsafe or in breach of applicable Law absent assessment, containment and/or remediation;

- (n) Release of Contaminated Materials by the Owner, but only to the extent such release (i) occurs after the Effective Date; (ii) is required to be reported to a Governmental Entity; and (iii) renders use of the Work Site unsafe or in breach of applicable Law absent assessment, containment and/or remediation;
- (o) Unknown Contaminated Materials;
- (p) Issuance of a temporary restraining order or other form of injunction or legal order by a court that prohibits prosecution of any portion of the Work as a direct result of an act or omission of any Owner-Related Governmental Entity;
- (q) Issuance of a temporary restraining order or other form of injunction or legal order by a court that prohibits prosecution of any portion of the Work other than as a direct result of an act or omission of any Owner-Related Governmental Entity;
- (r) Utility Owner Delays;
- (s) Issuance of a rule, order or directive from the U.S. Department of Homeland Security or any Governmental Entity regarding specific security threats to the Project or the region in which the Project is located, to the extent such rule, order or directive requires specific changes in Developer's normal design, construction, operation or maintenance procedures in order to comply;
- (t) Vandalism;
- (u) Unknown Utilities;
- (v) Failure of a Utility, except to the extent attributable to the design or construction of the Utility by Developer, that materially disrupts Developer's on-site Work or causes Unavailability;
- (w) PG&E Delay;
- (x) Governmental Approval Delays;
- (y) Any strike, lockout, or similar labor-related action generally affecting the construction, building maintenance or facilities management industry in the State, but excluding any strike, lockout or similar labor-related action specific to the Project (other than a sympathy strike), Developer or any Contractor;
- (z) Weather Delay Days; and
- (aa) Changed Geotechnical Conditions.

Notwithstanding the foregoing, a “Relief Event” excludes any event or circumstance to the extent caused by the negligence, willful misconduct, or breach of applicable Law or contract by Developer or any Developer-Related Entity. For the purposes of the definition of “Relief Event,” “Owner” means Owner and its successors, assigns, members of the board of the Owner, officers, agents, representatives, contractors, consultants, and employees, in each case other than Developer or any Developer-Related Entity; provided that “Owner” does not include the Building Official or the Designated Campus Fire Marshal.

**Relief Event Claim** has the meaning set forth in Section 10.2.4 of the Agreement.

**Relief Event Costs Deductible** means the first US\$50,000 of Direct Costs.

**Relief Event Delay** means a Delay that is solely and directly attributable to a Relief Event and is not concurrent with any other delay which is not caused by a Relief Event.

**Relief Event Notice** has the meaning given to such term in Section 10.2.1 of the Agreement.

**Renewal Amount** means the cost of the Handback Renewal Work determined according to Section 5 of the Technical Requirements, which is required to be expended to ensure the Project meets the Handback Requirements.

**Renewal Work** means maintenance, repair, reconstruction, rehabilitation, restoration, renewal or replacement of any Element of a type which is not normally included as an annually recurring cost in facility maintenance and repair budgets, that requires a significant amount of time to accomplish and therefore must be coordinated, scheduled and planned well in advance of the work effort.

**Renewal Work Letter of Credit** has the meaning set forth in Section 6.7.6.1 of the Agreement.

**Renewal Work Reserve** has the meaning set forth in Section 6.7.1.1 of the Agreement.

**Renewal Work Schedule** means the schedule for Renewal Work to be prepared and updated by Developer in accordance with Section 6.6 of the Agreement and Section 4.2.2.3 of the Technical Requirements.

**Renovation** means an alteration of any Facility, or an addition, re-construction or demolition of a portion of any Facility, other than Renewal Work, undertaken at any time after the Substantial Completion Date.

**Repeat Failure Ratchet** or **RR** means the multiple applied to an Availability Deduction or Performance Deduction in accordance with Section 4.1 or 4.2 of Appendix 6 of the Agreement, as applicable.



**Request for Proposals** or **RFP** has the meaning set forth in Recital E of the Agreement.

**Request for Qualifications** or **RFQ** has the meaning set forth in Recital B of the Agreement.

**Request for Revised Proposal** or **RFRP** has the meaning set forth in Recital E of the Agreement.

**Required Minimum Developer-Provided Insurance Policy(ies)** has the meaning set forth in subsection (a) of Section 17.1.2.13.1 of the Agreement.

**Rescue Refinancing** means any Refinancing that:

- (a) Occurs due to the failure or imminent failure of Developer to comply with any material financial obligation under any Funding Agreement or Security Document;
- (b) Results in the cure of such failure or imminent failure;
- (c) Does not result in an increase in the Equity IRR beyond the Initial Equity IRR; and
- (d) Does not result in an actual or potential increase of Lenders' Liabilities by more than 10%.

**Research Laboratory Architect** means the individual identified as such in Appendix 2-P of the Agreement, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Response Period** means, with respect to an Availability Failure or a Performance Failure, the period specified in Annex 2 or Annex 3 to Appendix 6 of the Agreement, as applicable, commencing from the relevant Logged Failure Time, within which Developer must: (a) open a complete Response Ticket in the Customer Service Center; and (b) attend to the location of the Availability Failure or Performance Failure, as applicable, to assess the nature of the event, if the Availability Failure or Performance Failure is or may reasonably be expected to pose a hazard or threat to the health or safety of a User or University property.

**Response Ticket** means, with respect to an occurrence, a response ticket in the Customer Service Center containing the following information:

- (a) Timestamp: call received, call ended;
- (b) Requestor's name, contact information & location (building and floor, plus room if available);
- (c) Description of the occurrence;

- (d) ETA for attendance to the location of the occurrence by Developer;
- (e) Name and professional discipline/trade of individual(s) responding on behalf of Developer;
- (f) Contact name and cell number for responsible Developer representative (management level); and
- (g) Name and title of the Owner representative notified by Developer.

**Safety Compliance** means any and all improvements, repair, reconstruction, rehabilitation, restoration, renewal, replacement and changes in configuration or procedures respecting the Project to correct a specific safety condition of the Project that the Owner or a Governmental Entity has reasonably determined to exist by investigation or analysis (including if the condition exists despite prior compliance with Safety Standards but excluding a condition or risk directly and primarily caused by compliance with Safety Standards).

**Safety Compliance Order** means a written order or directive from the Owner to Developer to implement Safety Compliance.

**Safety Standards** means those provisions of the Technical Volumes that the Owner considers, in its good faith discretion, to be important measures to protect public safety or worker safety. As a matter of clarification, provisions of the Technical Volumes primarily directed at durability of materials or equipment, where the durability is primarily a matter of life cycle cost rather than protecting public or worker safety, are not Safety Standards.

**SBE Plan** has the meaning set forth in Section 8.11.5 of the Agreement.

**Schedule of Values** means the design and construction schedule of values included as Appendix 2-N of the Agreement.

**Scheduled First Delivery Facilities Occupancy Readiness Date** means the Baseline First Delivery Facilities Occupancy Readiness Date, as such date may be adjusted from time to time in accordance with the Contract Documents.

**Scheduled Second Delivery Facilities Occupancy Readiness Date** means the Baseline Second Delivery Facilities Occupancy Readiness Date, as such date may be adjusted from time to time in accordance with the Contract Documents.

**Scheduled Substantial Completion Date** means the Baseline Substantial Completion Date, as such date may be adjusted from time to time in accordance with the Contract Documents.

**Second Delivery Facilities** means the Building(s) or portions thereof containing the Second Delivery Quantum of all Second Delivery Space Types; and "Second Delivery Facility" means any of them.

**Second Delivery Facilities Deduction** means the aggregate amount of liquidated damages to be assessed for a failure by Developer to achieve Occupancy Readiness of Second Delivery Facilities by the applicable Second Delivery Facilities LD Deadlines, as calculated in accordance with Section 2 of Appendix 3 of the Agreement.

**Second Delivery Facilities LD Deadline** means August 1, 2019, subject to adjustment pursuant to Section 10.3.2 of the Agreement.

**Second Delivery Facilities Occupancy Readiness Deadline** means June 1, 2019, subject to adjustment pursuant to Section 10.3.2 of the Agreement.

**Second Delivery PMAP Increase** means the incremental increase in PMAP upon achievement of Occupancy Readiness of all Second Delivery Facilities, as calculated in accordance with Section 1.1.1 of Appendix 6 of the Agreement.

**Second Delivery Quantum** means, with respect to a Second Delivery Space Type, the number of ASF, beds and/or SF, as applicable, of the Second Delivery Space Type specified in Column B of Appendix 20-B of the Agreement.

**Second Delivery Space Type** means a type of space described in Column A of Appendix 20-B of the Agreement.

**Security Documents** means the Initial Security Documents and any other document jointly designated by the Parties in writing as a Security Document, provided that such joint designation does not create an Owner approval right with respect to Refinancings in addition to what is expressly provided for in the Agreement.

**Sequencing Plan** means the master sequencing plan included in the Project Master Plan attached as Appendix 2-A of the Agreement.

**Series A Equity Investment** means the portion of the Equity Investment identified as “Series A Equity” in the Financial Model.

**Series B Equity Investment** means the portion of the Equity Investment identified as “Series B Equity” in the Financial Model.

**Service Line** means (a) a Utility line, the function of which is to directly connect the improvements on an individual property to another Utility line located off such property, which other Utility line connects more than one such individual line to a larger system, or (b) any cable or conduit that supplies an active feed from a Utility Owner’s facilities to activate or energize the Owner’s or a local agency’s lighting and electrical systems, communications systems and/or irrigation systems.

**Site Commitments** means all commitments, limitations, restrictions or other requirements to which the Work Site (excluding any Developer-Acquired Real Property) is subject, as set forth in Section B.2 of Volume III (Additional Project Requirements) of the Contract Documents.

**Skilled Workforce Plan** has the meaning set forth in Section 8.10.4 of the Agreement.

**Small Business Enterprise** or **SBE** means an independently owned and operated concern certified, or certifiable, as a small business by the Federal Small Business Administration. Size standards by North American Industry Classification System may be found in FAR Section 19.102.

**Special Event** means, for each Academic Year during the Term:

- (a) The following events identified on the Owner's then current academic calendar:
  - (i) Bobcat day (one (1) day per Academic Year);
  - (ii) Preview weekend (two (2) days per Academic Year);
  - (iii) Commencement (two (2) days per Academic Year);
  - (iv) Examination periods (twelve (12) days per Academic Year); and
  - (v) Housing moving days (two (2) days per Academic Year); and
- (b) An additional five (5) event days per Academic Year determined by the Owner in its sole discretion and communicated to Developer at least thirty (30) days prior to the applicable event date.

**Special Event Increment** or **SEI** means the multiplier applied to an Availability Deduction in accordance with Section 2.2 of Appendix 6 of the Agreement.

**Starting Insurance Benchmarking Premiums** means those insurance premiums corresponding to the Required Minimum Insurance Policies, determined upon the first Benchmarking Date, used for the insurance premium benchmarking set forth in Section 17.1.2.13 of the Agreement.

**State** means the State of California.

**State-Eligible Costs** means design and construction costs related to academic instruction and research Facilities, including closely-related support activities and life safety, Infrastructure and Utilities, but excluding the cost of O&M Services.

**Statement of Qualifications** means the statement of qualifications dated October 24, 2014 submitted by Developer (or its consortium members) in response to the Request for Qualifications.

**Statutes** has the meaning set forth in Recital B of this Agreement.

**Student Housing Architect** means the individual identified as such in Appendix 2-P of the Agreement, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Student Life Facility Architect** means the individual identified as such in Appendix 2-P of the Agreement, or any successor individual approved by the Owner in accordance with Section 8.4.1 of the Agreement.

**Subject Intellectual Property** means all Intellectual Property created, authored and/or invented under or for the purposes of the Proposal, the Contract Documents and/or the Project.

**Submittal** means any document, work product or other written or electronic end product or item required under the Contract Documents to be delivered or submitted by Developer to the Owner. Notwithstanding the foregoing, an invoice submitted by Developer seeking payments pursuant to the Agreement is not a Submittal.

**Substantial Completion** means the occurrence of all events and satisfaction of all conditions set forth in Section 4.9.2 of the Agreement, as and when confirmed by the Owner's issuance of a Certificate of Substantial Completion in accordance with the procedures and within the time frame established in Section 4.9.2 of the Agreement.

**Substantial Completion Date** means the date upon which Developer achieves Substantial Completion.

**Substantial Completion Long Stop Date** means the date by which Developer must achieve Substantial Completion, which is twelve (12) months after the Scheduled Substantial Completion Date.

**Successful Proposer** means Developer, as party to the Early Works Agreement.

**Successful Proposer-Related Entities** has the meaning set forth in the Early Works Agreement.

**Supplemental Request for Qualifications** or **SRFQ** has the meaning set forth in Recital D of the Agreement.

**Supplemental Statement of Qualifications** means the supplemental statement of qualifications dated June 22, 2015 submitted by Developer (or its consortium members) in response to the Supplemental Request for Qualifications.

**Supplier** means any Person not performing work at or on the Work Site that supplies machinery, equipment, materials, hardware, software, systems or any other appurtenance to the Project to Developer or to any Contractor in connection with the performance of the Work. Persons who merely transport or deliver materials, parts or equipment or any other items or persons to or from the Work Site shall not be deemed to be performing Work at the Work Site.

**Surety** means each properly licensed surety company, insurance company or other Person, rated at least “A” or better and Class VIII or better by A.M. Best and Company and approved by the Owner, which has issued any Payment Bond or Performance Bond.

**Target Peak Demand** means the anticipated maximum consumption of an Energy Utility that occurs during the daytime peak period and is leveraged on a rolling twelve (12) month period.

**Targets per GSF** has the meaning set forth in Section 3.5(b) of Appendix 17 of the Agreement.

**Taxes** means federal, State, local or foreign income, gross receipts, sales, use, excise, transfer, consumer, license, payroll, employment, severance, stamp, business, occupation, premium, windfall profits, environmental (including taxes under Section 59A of the Internal Revenue Code of 1986, as amended), customs, permit, capital stock, franchise, profits, withholding, social security (or similar), unemployment, disability, real property, personal property, registration, value added, alternative or add-on minimum, estimated or other taxes, levies, imposts, duties, fees or charges imposed, levied, collected, withheld or assessed at any time, whether direct or indirect, relating to, or incurred in connection with, the Project, the performance of the Work or act, business, status or transaction of Developer, including any interest, penalty or addition thereto, in all cases whether disputed or undisputed.

**Technical Requirements** means Volume II of the Contract Documents, as such provisions may be changed, added to or replaced pursuant to the Agreement.

**Technical Volumes** are the Technical Requirements and the Additional Project Requirements which are contained in Volumes II and III, respectively, of the Contract Documents, together with such other documents as may be incorporated into Volumes II and III by reference therein.

**Technology Enhancements** means modifications, additions, refinements, substitutions, revisions, replacements and upgrades made to or in place of any computer systems or other technology used for the operation of the Project, or to any related documentation, that accomplish incidental, performance, structural, or functional improvements. The term specifically includes modifications, updates, revisions, replacements and upgrades made to or in place of software or any related documentation that correct errors or safety hazards or support new models of computer hardware with which the software is designed to operate. Technology Enhancements also include such new models of computer hardware.

**Temporary Cure** means completion of rectification measures sufficient to (a) bring an Area affected by an Availability Failure or Performance Failure into compliance with the applicable Availability Standards or Performance Standards, as the case may be, and (b) ensure that the Area can be used without risk to the health and safety of Users; and “Temporarily Cured” has a corresponding meaning.

**Temporary Cure Period** means the period from the relevant Logged Failure Time, as set out in Annex 2 to Appendix 6 of the Agreement or Annex 3 to Appendix 6 of the Agreement, as applicable, within which Developer must effect a Temporary Cure in order to avoid incurring a corresponding Availability Deduction or Performance Deduction, as applicable.

**Temporary Utilities Costs** means the costs of Developer's temporary power, gas and water usage and wastewater charges incurred for the performance of the Construction Work, but solely to the extent that Developer ties into the Owner's existing utility and wastewater infrastructure.

**Temporary Works** means any temporary construction work necessary for the construction of the Permanent Works, including bracing, falsework, formwork, scaffolding, shoring, temporary earthworks, sheeting, cofferdams, and launching gantries, beam and winch equipment, form travelers, stability towers, strong-backs, erection trusses, launching noses or similar items made purposely for construction of a structure, but excluding commonly available proprietary construction equipment such as cranes.

**Term** means the 39-year period commencing on the Effective Date.

**Termination by Court Ruling** has the meaning set forth in Section 20.4.3 of the Agreement.

**Termination Compensation** means the measure of compensation owing from the Owner to Developer upon termination of the Agreement prior to the stated expiration of the Term, as set forth in Article 20 of the Agreement.

**Termination Date** means: (a) the date of expiration of the Term; or (b) if applicable, the Early Termination Date.

**Termination Equity IRR** means the nominal post-tax internal rate of return to the Series A Equity Investment over the full Term calculated as the discount rate that, when applied to Equity Investment cash flows, gives a zero net present value. For purposes of this definition:

- (a) The phrase "post-tax" refers to U.S. federal, state and local income only, and excludes any foreign income tax and other tax of any kind; and
- (b) The phrase "cash flows" refers to Distributions described in clause (a) of the definition of Distributions, minus Equity Investments.

**Termination for Convenience** has the meaning set forth in Section 20.1.1 of the Agreement.

**Terrorism** means activities against Persons or property of any nature:

- (a) That involve the following or preparation for the following:

- i. Use or threat of force or violence; or
  - ii. Commission or threat of an act that interferes with or disrupts an electronic, communication, information, or mechanical system; and
- (b) When one or both of the following applies:
- i. The effect is to intimidate or coerce a Governmental Entity, the Owner or the civilian population or any segment thereof, or to disrupt any segment of the economy; or
  - ii. It appears that the intent is to intimidate or coerce a Governmental Entity or the Owner, or to further a political, ideological, religious, social or economic objective or to express (or express opposition to) a philosophy or ideology.

**Third Party Intellectual Property** means any Intellectual Property owned by any Person unrelated to Developer or its Affiliates or Contractors, and which is incorporated into the Project.

**Title 24 Energy Efficiency Standards** means the 2013 California Energy Code, Part 6 of Title 24 of the California Code of Regulations.

**Title 24 Energy Performance Model** refers to the energy simulation process utilizing modeling software approved by the California Energy Commission to demonstrate building energy performance against the Title 24 Energy Efficiency Standard.

**Title 24 Minus 20 Standard** has the meaning set forth in Section 1.1(a) of Appendix 17 of the Agreement.

**Total Base Energy Consumption Targets** means, for each Energy Utility, the Energy Consumption Targets for all Buildings together with the Energy Consumption Target - Exterior, as indicated in Attachment B of Appendix 17 of the Agreement.

**Transaction** has the meaning set forth in Section 14.2.1 of the Agreement.

**UC/CSU Benchmarks** means a calculated energy consumption for different building typologies based upon the document *Benchmark-based, Whole-Building Energy Performance Targets for UC Buildings, 1999*.

**UC Merced** means the University of California, Merced campus.

**Unavailable** means, with respect to an Area, failure to meet all applicable Availability Standards or an Area which is Consequentially Unavailable, or is otherwise deemed to be Unavailable, in accordance with Appendix 6 of the Agreement, except to the extent such circumstance is caused by Permitted Planned Maintenance; and **“Unavailability”** has a corresponding meaning.



**Undesirable Materials** means any excavated or buried materials that are not Contaminated Materials but which due to the lack of engineering or other desirable properties, have no inherent value, cannot be utilized or sold, and must be handled, transported, and disposed. Undesirable Materials include garbage, trash, or other discarded items, muck or organic material that are not Contaminated Materials. The term “Undesirable Materials” excludes archeological, paleontological or cultural resources.

**Undesirable Materials Management** means procedures and requirements to address Undesirable Materials conditions encountered, impacted, caused by or occurring in connection with the Project, Work Site or the Work, as well as investigation and removal of such Undesirable Materials where required. Undesirable Materials Management may include sampling, stock-piling, storage, backfilling in place, asphalt batching, recycling, treatment, clean-up, removal, transportation and/or off-site disposal of Undesirable Materials, whichever approach is effective, most cost-efficient and authorized under applicable Law and Governmental Approvals.

**Unilateral Change Order** has the meaning set forth in Section 1.11(a) of Appendix 21 of the Agreement.

**Uninsurable Relief Event** means any Relief Event which:

- (a) Does not result in property damage; or
- (b) Which results in property damage:
  - (i) That is not covered under the Builders Risk insurance policy or the Owner-Provided Insurance Policy (or any replacement Developer-Provided Insurance Policy) required under Appendix 8 of the Agreement; or
  - (ii) For which insurance coverage is unavailable, as described in Section 17.1.2.12 of the Agreement,

provided, that Developer has complied with all of its obligations under Section 17.1 and Appendix 8 of the Agreement.

Earthquakes and Terrorism are included in the definition of Uninsurable Relief Event, notwithstanding that they are self-insured by the Owner under Appendix 8 of the Agreement.

**University** means the University of California.

**Unknown Contaminated Materials** means all Contaminated Materials other than: (a) Known Contaminated Materials; (b) any Contaminated Materials that exist in, on, under or near (excluding the Project Site) the Borrow Site on or prior to the Effective Date; and (c) any Contaminated Materials released after the Effective Date by the Owner or a third party who is not a Developer-Related Entity.

**Unknown Utilities** means any main line Utilities not identified on the Utilities Survey or the location of which is misidentified on the Utilities Survey by more than ten (10) feet, as measured to the centerline of the subject Utility, provided that “Unknown Utilities” excludes (i) any secondary line Utilities and (ii) any non-identification or misidentification of the depth of any main line Utilities or the depth, size, nature or other specification of their connectivity points.

**Unsuccessful Proposer’s Work Product** means any technical or financial concepts (i) included in the proposal or any portion thereof submitted by an unsuccessful proposer in response to the RFP, (ii) submitted by such proposer for review by the Owner in accordance with the RFP, or (iii) raised by such proposer at one-on-one meetings or alternative technical concept meetings with the Owner prior to the Proposal Due Date, and in each case includes any alternative technical or financial concepts, ideas, innovation, technology, techniques, methods, processes, unique uses of commercial items, design concepts, solutions, construction means and methods, project execution approach, drawings, reports, plans and specifications and information that constitutes intellectual property in such proposal, any alternative technical concept submittal or technical or financial concepts raised by the proposer at one-on-one meetings or alternative technical concepts meetings with the Owner prior to the Proposal Due Date.

**Upgrades** means alterations, improvements, modifications, Technology Enhancements or changes that Developer makes to the Project, as originally designed and constructed, at any time after the Occupancy Readiness Date or Substantial Completion Date, as applicable, including as part of the Renewal Work.

**Use Types** means: (i) undergraduate residence hall; (ii) graduate apartment; (iii) wet laboratory; (iv) dry laboratory; (v) computational laboratory; (vi) academic classroom; (vii) academic office; and (viii) central dining; and “**Use Type**” means any of them.

**User(s)** means the current and any future students, faculty, management and administrative staff of the University of California, visitors and any others who can be reasonably expected to use the Facilities or FF&E or be present on campus from time to time, but excluding Developer and any Developer-Related Entity.

**Utilities Survey** means the Utilities survey attached as Appendix 12 of the Agreement.

**Utility(ies)** or **utility(ies)** means a privately, publicly, or cooperatively owned line, facility, or system for transmitting or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with the highway drainage, and other similar commodities, including wireless telecommunications, television transmission signals and publicly owned fire and police signal systems, which directly or indirectly serve the public. The necessary appurtenances to each Utility facility shall be considered part of such Utility. Without limitation, any Service Line connecting directly to a Utility shall be considered an

appurtenance to that Utility, regardless of the ownership of such Service Line. "Utility(ies)" includes the Central Plant Expansion.

**Utility Adjustment** means each relocation (temporary or permanent), abandonment, Protection in Place, removal (of previously abandoned Utilities as well as of newly abandoned Utilities), replacement, reinstallation, and/or modification of existing Utilities necessary to accommodate construction, operation, maintenance and/or use of the Project or the Work.

**Utility Adjustment Work** means all efforts necessary to accomplish the required Utility Adjustments during the Construction Period, including all coordination, design, design review, permitting, construction, inspection and maintenance of records, whether provided by Developer or by the Utility Owners. The term also includes any reimbursement of Utility Owners that is Developer's responsibility pursuant to Section 4.5 of the Agreement.

**Utility Agreement** means an agreement between Developer and a Utility Owner that provides information and terms affecting any Utility Adjustment.

**Utility Enhancements** has the meaning set forth in Section 4.5.4 of the Agreement.

**Utility Owner** means the owner or operator of any Utility (including both privately held and publicly held entities, cooperative utilities, and municipalities and other governmental agencies), but excluding the Owner.

**Utility Owner Delay** means a Delay directly attributable to a Utility Owner failing to perform its obligations under a Utility Agreement in accordance with its terms, provided that the Utility Owner is required to perform the Utility Adjustment with its own forces or through separate contractors that are not Developer or Developer-Related Entities.

**Utility Owner Project** means the design and construction by or at the direction of a Utility Owner (or by Developer) of a new Utility or the modification, upgrading, relocation or expansion of an existing Utility other than as part of a Utility Adjustment. Betterments are not Utility Owner Projects. Utility Owner Projects are entirely the financial obligation of the Utility Owner.

**Vandalism** means willful or malicious damage (including graffiti) to any Facility, or portion thereof, caused to such Facility after the earlier of: (i) the effective date of the applicable Certificate of Occupancy Readiness, if any; and (ii) the Substantial Completion Date, that:

- (a) Could not reasonably be expected to have been avoided by Developer as part of Developer's obligations under the Contract Documents; and
- (b) Does not arise from, or was not contributed to, directly or indirectly, by any act or omission of Developer or any Developer-Related Entity.

**Warranty Work** means all work necessary to correct a Defect, including repair or replacement of the defective Non-O&M Segment Work and any adjacent Work that may have been damaged or displaced in the course of such work.

**Weather Delay Day** means any day during the Construction Period in which Adverse Weather prevents construction activities on the Critical Path, as included in the Project Schedule, by fifty percent (50%) or more of Developer's scheduled work day, but only to the extent that the number of such days exceeds seventeen (17) days in the aggregate per Calendar Year (pro-rated for any partial Calendar Year), it being understood that Developer will incorporate seventeen (17) days of such delay per Calendar Year into the Baseline Project Schedule.

**Web Portal** means a web interface created and managed by Developer in accordance with Section 4.3.1.1(h)(2) of the Technical Requirements that provides for the on-line submission of Project-Related Web Requests and Campus-Related Web Requests.

**Work** means all of the work, services and obligations required to be furnished, performed, provided or discharged by Developer under the Contract Documents, including all administrative, campus planning, design, engineering, construction, financing, payment to third parties, support services, operations, maintenance and management services, except for those obligations which such Contract Documents expressly specify will be performed by Persons other than Developer or Developer-Related Entities. If Developer elects to use the Borrow Site, "Work" includes the performance of all work, services and obligations relating to the Borrow Site, including excavation, use, restoration and handback thereof, in accordance with the Contract Documents.

**Work Site** means:

- (a) During the Construction Period (except as otherwise specified herein): the Project Site, the Ancillary Site (until surrender thereof by Developer in accordance with Section 4.4.2 of the Agreement), the Central Plant Expansion Site (until the applicable Occupancy Readiness Date), the Bellevue Intersection Site, the Borrow Site, and any Developer-Acquired Real Property; and
- (b) During the Operating Period: the Project Site.

**[END OF DEFINITIONS]**

## **APPENDIX 2**

### **DEVELOPER'S PROPOSAL COMMITMENTS**

- App. 2-A Project Master Plan
- App. 2-B Conceptual Project Building Designs
- App. 2-C Use Type Architectural Drawings
- App. 2-D Project Management Plan
- App. 2-E Labor Strategy Narrative
- App. 2-F Operations and Maintenance Plan
- App. 2-G Sustainability Plan Narrative
- App. 2-H Alternative Technical Concepts
- App. 2-I Technical Proposal Errata Sheet
- App. 2-J Initial Financial Model
- App. 2-K State-Eligible Cost Summary Tables
- App. 2-L Financial Plan Summary Pro-Forma Tables
- App. 2-M Renewal Work Reserve
- App. 2-N Design & Construction Schedule of Values
- App. 2-O Key Personnel Statement of Availability
- App. 2-P Key Contractors and Key Personnel
- App. 2-Q Darfur Contracting Act Certifications
- App. 2-R Iran Contracting Certifications

## **APPENDIX 3**

### **FIRST AND SECOND DELIVERY FACILITIES DEDUCTIONS**

#### **1. First Delivery Facilities Deduction**

The First Delivery Facilities Deduction shall be calculated as follows:

$$FDFD = \sum (r_F \times n_F)$$

Where:

FDFD = First Delivery Facilities Deduction

F = each First Delivery Space Type for which Occupancy Readiness of the First Delivery Quantum is delayed beyond the applicable First Delivery Facilities LD Deadline(s)

$r_F$  = with respect to a First Delivery Space Type, the daily rate of liquidated damages set forth in Column C of Appendix 20-A of the Agreement for the First Delivery Space Type, multiplied by the Late First Delivery Ratio, if achievement of Occupancy Readiness of the First Delivery Quantum is delayed beyond the applicable First Delivery Facilities LD Deadline(s)

$n_F$  = number of days by which achievement of Occupancy Readiness of the First Delivery Quantum of a First Delivery Space Type is delayed beyond the applicable First Delivery Facilities LD Deadline(s)

#### **2. Second Delivery Facilities Deduction**

The Second Delivery Facilities Deduction shall be calculated as follows:

$$SDFD = \sum (r_S \times n_S)$$

Where:

SDFD = Second Delivery Facilities Deduction

S = each Second Delivery Space Type for which achievement of Occupancy Readiness of the Second Delivery Quantum is delayed beyond the applicable Second Delivery Facilities LD Deadline(s)

$r_S$  = with respect to a Second Delivery Space Type, the daily rate of liquidated damages set forth in Column C of Appendix 20-B of the Agreement for the Second Delivery

Space Type, multiplied by the Late Second Delivery Ratio, if achievement of Occupancy Readiness of the Second Delivery Quantum is delayed beyond the applicable Second Delivery Facilities LD Deadline(s)

$n_s$  = number of days by which achievement of Occupancy Readiness of the Second Delivery Quantum of a Second Delivery Space Type is delayed beyond the applicable Second Delivery Facilities LD Deadline(s)

## **APPENDIX 4**

### **SITE MAPS**

App. 4-A Project Site Map

App. 4-B Ancillary Site Map

App. 4-C Bellevue Intersection Site Map

App. 4-D Central Plant Expansion Site Map

App. 4-E Borrow Site Map

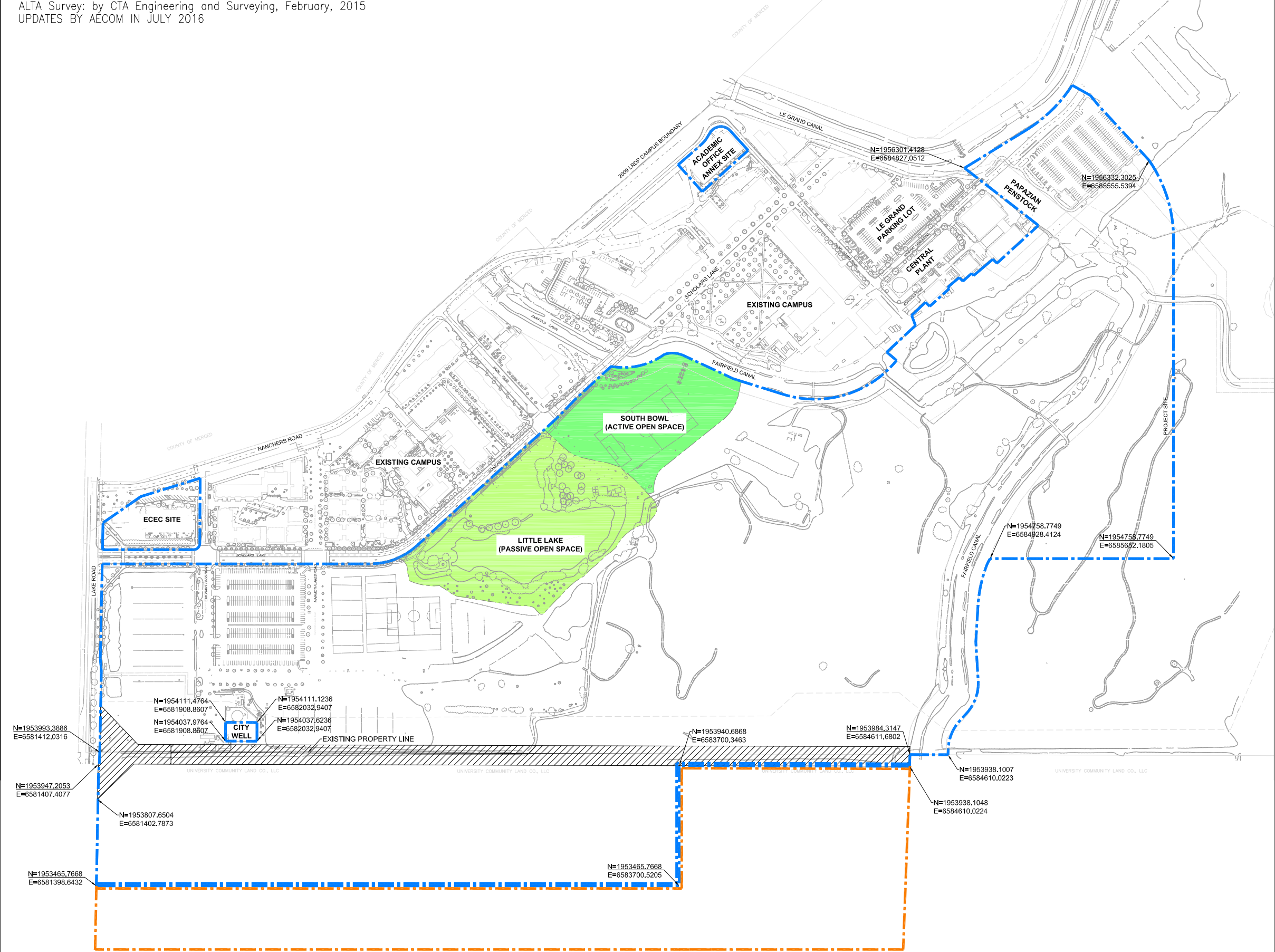


**APPENDIX 4-A**  
**PROJECT SITE MAP**

(See attached.)

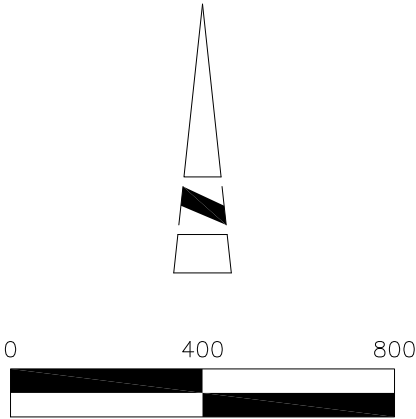
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
UC MERCED 2020 PROJECT

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
UPDATES BY AECOM IN JULY 2016



LEGEND:

- PROJECT SITE 2020 BOUNDARY
- TRANSPORTATION BUFFER BOUNDARY



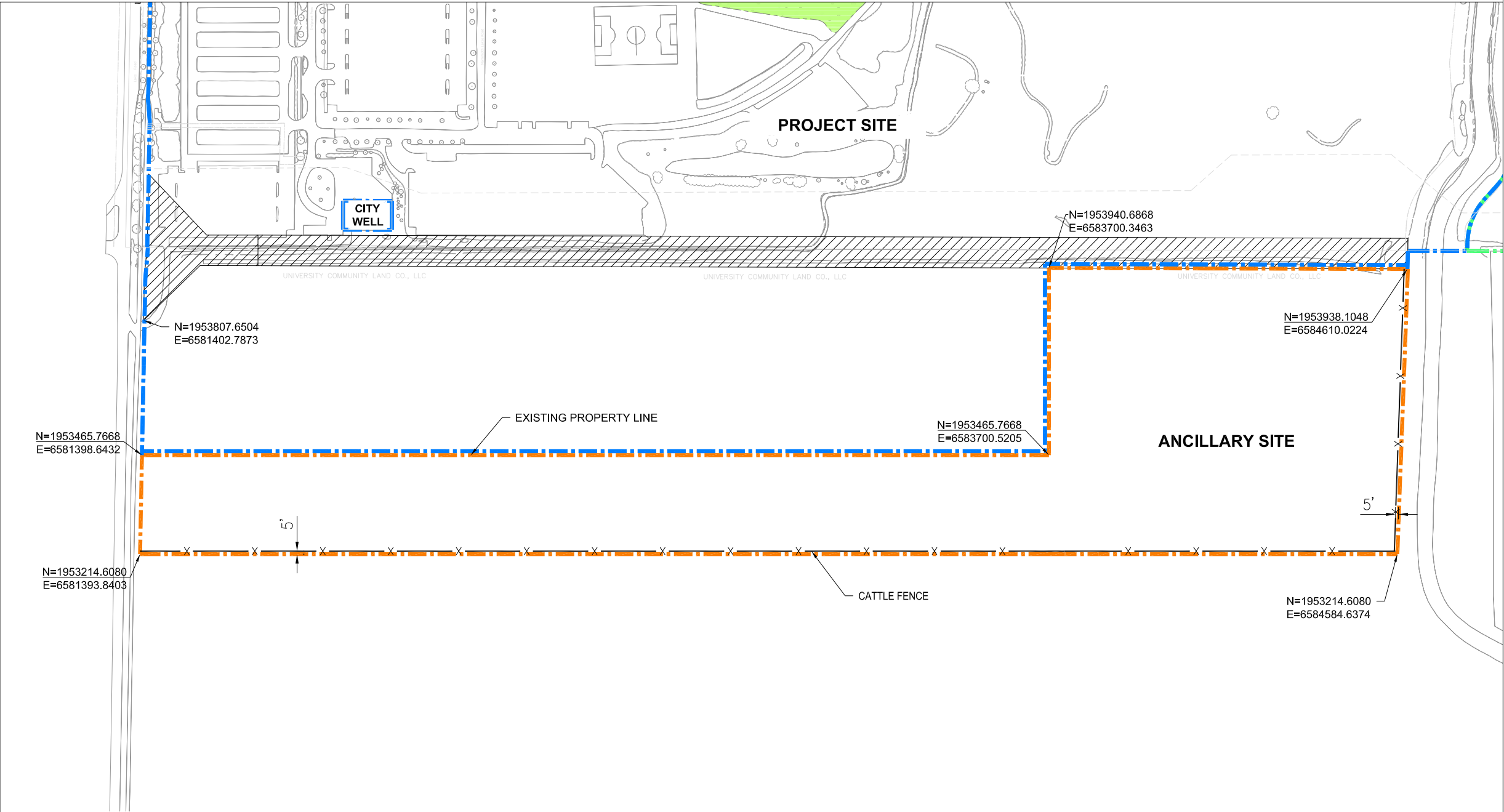
2020 PROJECT SITE MAP

**APPENDIX 4-B**  
**ANCILLARY SITE MAP**

(See attached.)

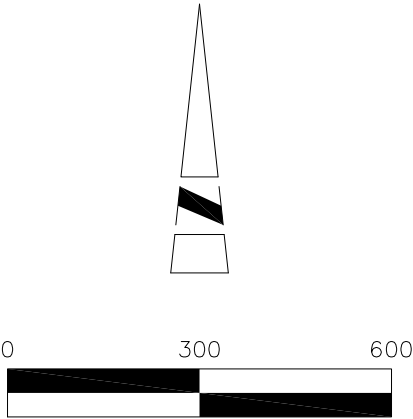
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
UC MERCED 2020 PROJECT

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
UPDATES BY AECOM IN JULY 2016



LEGEND:

- PROJECT SITE 2020 BOUNDARY
- CATTLE FENCE
- TRANSPORTATION BUFFER BOUNDARY
- ANCILLARY SITE LIMITS



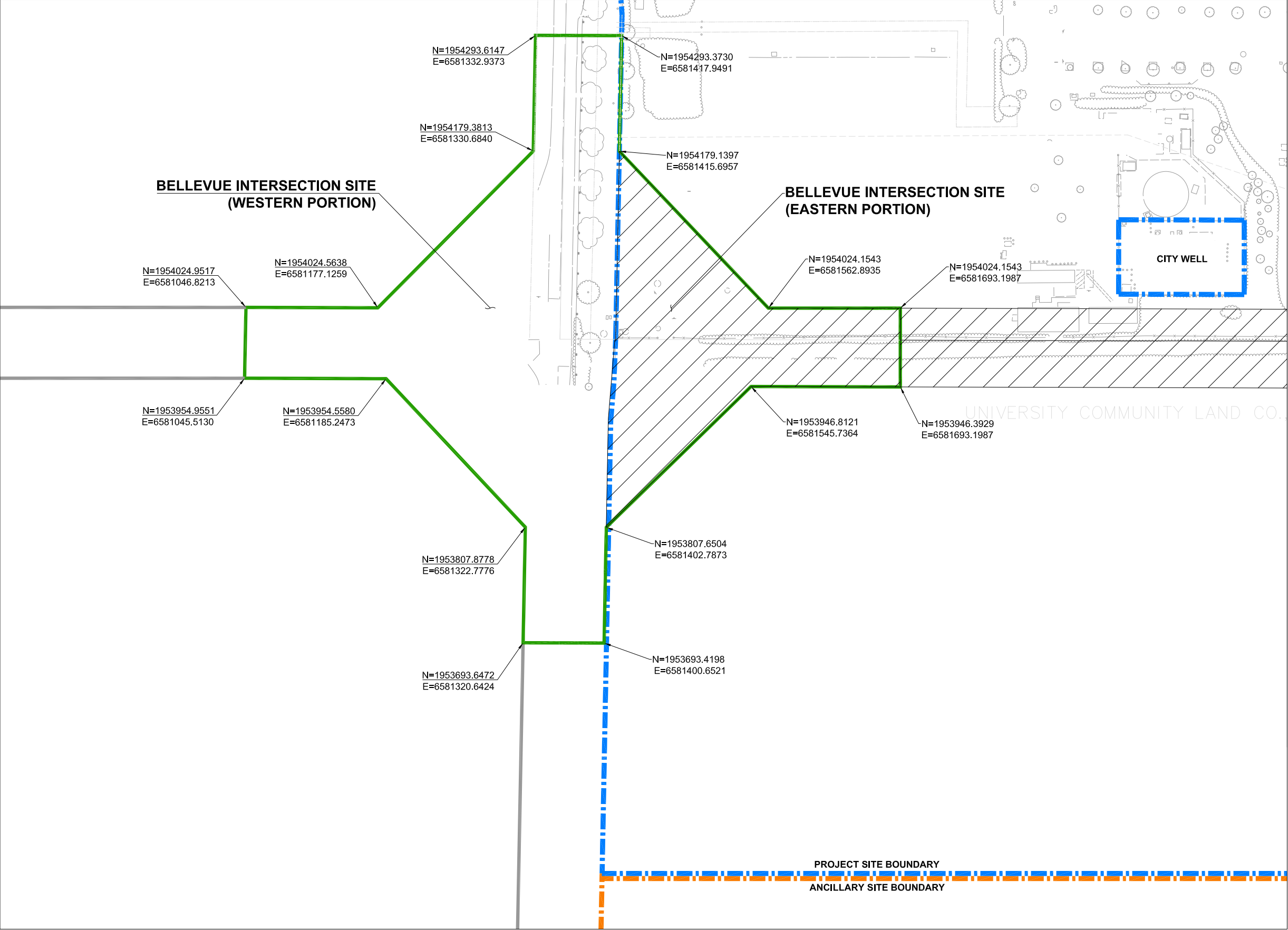
ANCILLARY SITE MAP  
SUPPORTING THE  
UC MERCED 2020 PROJECT

**APPENDIX 4-C**  
**BELLEVUE INTERSECTION SITE MAP**

(See attached.)

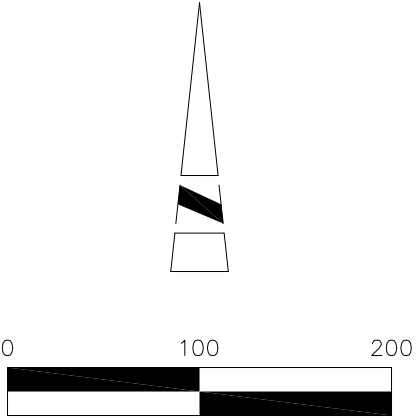
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
UC MERCED 2020 PROJECT

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
UPDATES BY AECOM IN JULY 2016



LEGEND:

- PROJECT SITE 2020 BOUNDARY
- BELLEVUE INTERSECTION SITE BOUNDARY
- TRANSPORTATION BUFFER BOUNDARY
- ANCILLARY SITE LIMITS

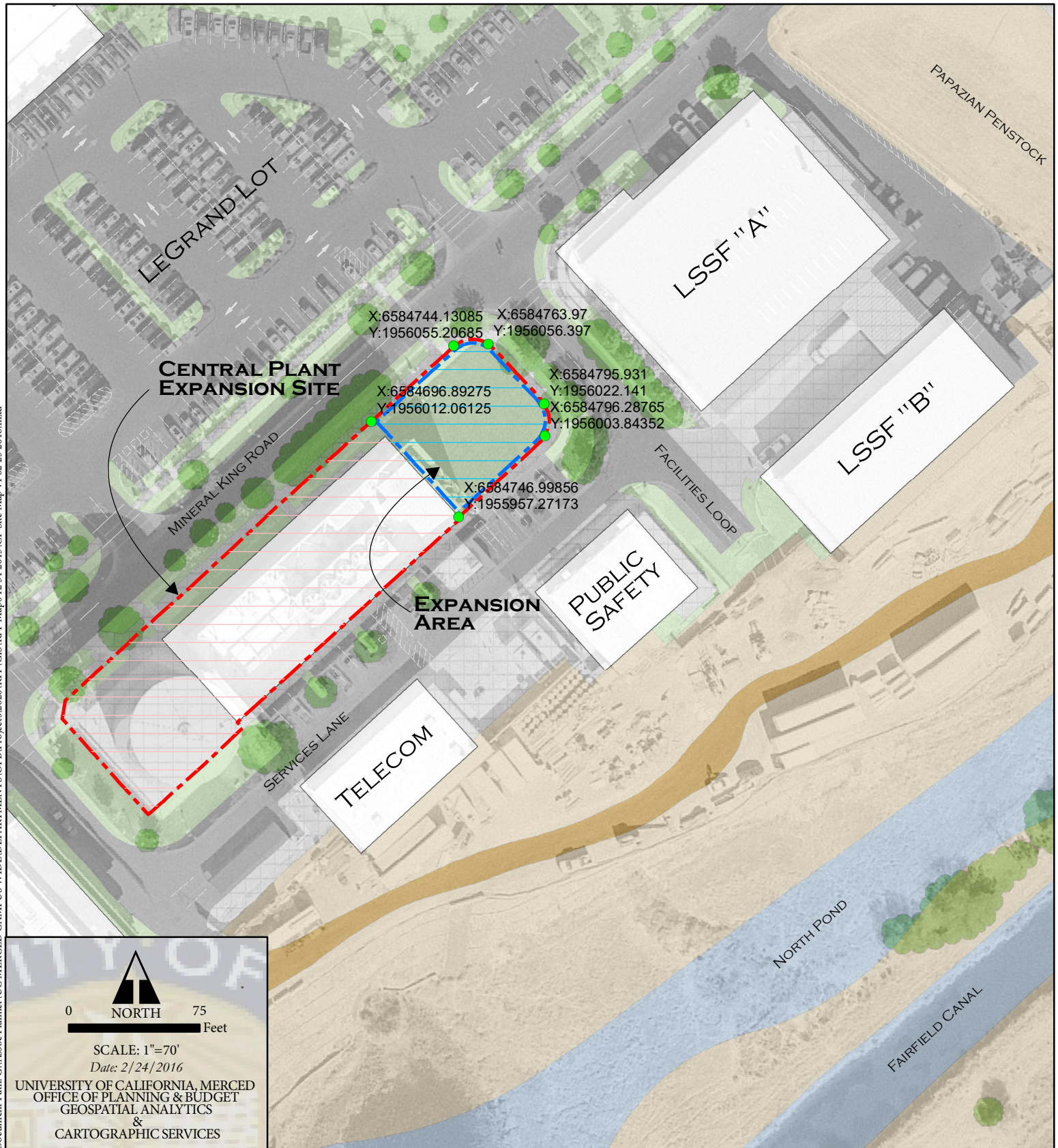


BELLEVUE INTERSECTION  
SITE MAP

**APPENDIX 4-D**  
**CENTRAL PLANT EXPANSION SITE MAP**

(See attached.)





## Central Plant Expansion Site Map

supporting the

**UC MERCED 2020 PROJECT**

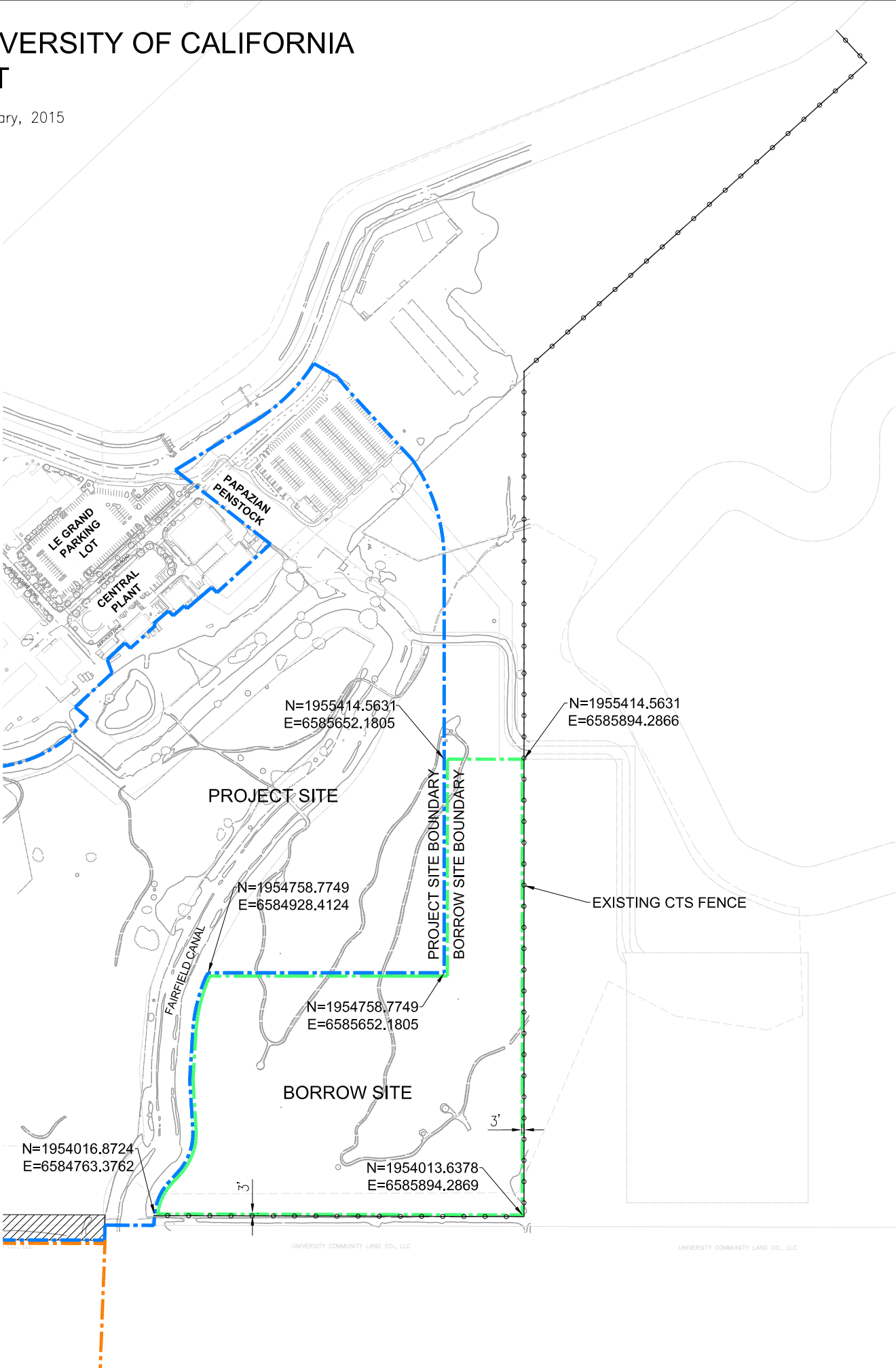


**APPENDIX 4-E**  
**BORROW SITE MAP**

(See attached.)

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
UC MERCED 2020 PROJECT

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
UPDATES BY AECOM IN JULY 2016



**LEGEND:**

- PROJECT SITE 2020 BOUNDARY
- EXISTING CTS FENCE
- BORROW SITE LIMITS
- ANCILLARY SITE LIMITS
- TRANSPORTATION BUFFER BOUNDARY

BORROW SITE MAP  
SUPPORTING THE  
UC MERCED 2020 PROJECT

**APPENDIX 5**  
**NONCOMPLIANCE POINTS TABLE**

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
1	<b>General</b>					
1.1		Owner access	Comply with any of the requirements of <u>Sections 4.12 and 6.4 (Oversight, Meeting and Reporting), Section 8.1 (Disclosure of Contracts and Contractors), Section 15.1 (Financial Model), and Article 22 (Records; Intellectual Property; D&amp;C Pricing Documents)</u> of the Agreement, with respect to access for the Owner to the Project, Developer's Project offices and operations buildings, and Developer's data.	3 days (1.5 days)	2	1 day
1.2		Compliance with Labor and Small Business Requirements	Comply with any of the requirements of <u>Sections 8.6 (Labor Standards) through 8.10 (Skilled Workforce) and Section 8.11.5</u> of the Agreement and applicable Laws related to labor, nondiscrimination, prevailing wages, Labor Compliance Program, apprenticeship program and SBE Plan.	3 days (1.5 days)	5	1 day

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<sup>1</sup> Noncompliance Points will be assessed in accordance with the percentages identified in Section 7.3.1.3 of the Agreement. Cure periods set forth in this column within parentheses represent the Fast Cure Period applicable to the failure per Section 7.3.1.5 of the Agreement.

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
1.3		Governmental Approvals	Comply with the requirements set forth in <u>Section 3.3 (Governmental Approvals)</u> of the Agreement.	3 days (1.5 days)	2	1 day
1.4		Supervision	Comply with the requirements set forth in <u>Section 8.4.2 (Supervision)</u> of the Agreement.	1 day (0.5 day)	2	0.5 day
1.5	Requirements for Management of the Work	Progress Meetings / Other Meetings	Comply with the requirements of <u>Sections 2.4.1.3 (Progress Meetings)</u> or <u>2.4.1.4 (Other Meetings)</u> of the Technical Requirements.	3 days (1.5 days)	1	1 day
1.6	Requirements for Management of the Work	Progress Reports	Comply with the requirements of <u>Section 2.4.1.5 (Progress Reports)</u> of the Technical Requirements.	5 days (2.5 days)	2	3 days
1.7	Campus Activities	Interruption of Campus Activities	Comply with the requirements of <u>Sections 2.4.5.2 (Special Events)</u> or <u>2.4.5.3 (Interruption of Campus Activities)</u> of the Technical Requirements.	1 day (0.5 day)	5	0.5 day
1.8	Work Site Requirements	Traffic Control	Comply with the requirements of <u>Section 2.4.7.6 (Traffic Control)</u> of the Technical Requirements.	1 day (0.5 day)	5	0.5 day
1.9	Requirements for the Management of Work	Fire Watch Procedures	Comply with the requirements of <u>Section 2.4.8 (Fire Watch Procedures)</u> of the Technical Requirements.	None	5	0.5 day
1.10	Requirements for the Management of Work	Waste Management	Comply with the requirements of <u>Section 2.4.12 (Waste Management)</u> of the Technical Requirements.	5 days (2.5 days)	3	3 days

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
1.11	Management Plans	Plan Requirements	Submit Project Management Plan components for Owner's review and approval within the time required under <u>Section 2.7 (Project Management Plan)</u> of the Technical Requirements. Each plan specified under <u>Section 2.7</u> will be treated individually when determining Noncompliance.	5 days	1 for each plan	3 days
1.12	Reporting Requirements	Reporting Requirements	Comply with the requirements of <u>Section 2.8 (Reporting Requirements)</u> of the Technical Requirements. Each report under <u>Section 2.8</u> will be treated individually when determining Noncompliance.	5 days	1 for each report	3 days
1.13	Developer Representations and Warranties	Accreditations	Maintain throughout the Term all required authority, license status, applicable licensing standards, certification standards, accrediting standards, professional ability, skills and capacity to perform the Work in accordance with <u>Section 18.1.4</u> of the Agreement.	5 days	1 per occurrence	3 days
1.14	Utilities Management Services	Large Utility Shutdowns	Notify the Owner at least 90 days prior to Large Utility Shutdowns in connection with Planned Maintenance or Renewal Work in accordance with <u>Section 2.4.7.3.2(b)</u> of the Technical Requirements.	None	5	N/A
1.15	Utilities Management Services	Minor Utility Shutdowns	Notify the Owner at least 30 days prior to Minor Utility Shutdowns in connection with Planned Maintenance or Renewal Work in accordance with <u>Section 2.4.7.3.2(b)</u> of the Technical Requirements.	None	4	N/A
1.16	Utilities Management Services	Utility locations	Follow "USA North 811" program in accordance with <u>Section 2.4.7.3.2(g)</u> of the Technical Requirements.	None	3	N/A

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
1.17	Site Infrastructure and Utilities	Temporary Utilities	Comply with the requirements of <u>Section 3.5.5.2(b)</u> of the Technical Requirements.	10 days (5 days)	4	5 days
1.18	Site Infrastructure and Utilities	Temporary Utilities	Comply with the requirements of <u>Section 3.5.5.2(c)</u> of the Technical Requirements.	10 days (5 days)	4	5 days
1.19	Site Infrastructure and Utilities	Temporary Fire Protection	Comply with the requirements of <u>Section 3.5.5.3 (Temporary Fire Protection)</u> of the Technical Requirements.	None	4	N/A
1.20	Staffing Requirements	Background Checks	Comply with the requirements of <u>Section 2.4.6.2 (Staffing Requirements)</u> or <u>Section 2.4.6.3 (Developer's Personnel Background Checks During Construction Period)</u> of the Technical Requirements.	None	3 per instance	N/A
<b>2</b>	<b>Environmental Compliance</b>					
2.1	Design and Construction	Notification	Promptly notify the Owner of Contaminated Materials as set forth in <u>Sections 4.10</u> and <u>4.11</u> of the Agreement.	1 day (0.5 day)	4	0.5 day
2.2	Requirements for Management of the Work	Environmental Requirements (Biological Resources)	Comply with the requirements of <u>Section 2.4.13.2 (Biological Resources)</u> of the Technical Requirements.	5 days (1.5 days)	4	3 days

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
2.3	Requirements for the Management of Work	Environmental Requirements	Comply with the requirements of any of <u>Sections 2.4.13.3 (Emissions) through to 2.4.13.10 (Environmental Workforce Training to Construction Personnel)</u> of the Technical Requirements.	3 days (1.5 days)	4	1 day
2.4	Operations Management Services	Environmental Protection (LEED EBOM)	Comply with the requirements of <u>Section 4.3.6(f)</u> of the Technical Requirements.	None	5	N/A
2.5	Operations Management Services	Environmental Protection	Comply with the requirements of <u>Section 4.10 (Contaminated Materials and Undesirable Materials Management)</u> of the Agreement.	3 days (1.5 days)	5	1 day
2.6	Environmental Management Services	Environmental Compliance	Comply with the requirements of <u>Section 4.3.6 (Environmental Management Services)</u> of the Technical Requirements regarding environmental reporting and monitoring.	5 days (2.5 days)	4	3 days
2.7	Construction Period and Operations Period	Environmental Compliance	Comply with the requirements set forth in <u>Section 4.11 (Environmental Compliance)</u> or <u>Section 6.2.5 (Environmental Compliance)</u> of the Agreement.	28 days (14 days)	5	14 days
<b>3</b>	<b>Design and Construction</b>					
3.1	Design Work Submittals	Work Submittals	Provide required Work Submittals for the Design Work, as set forth in <u>Appendix 4-B</u> of the Technical Requirements, to the Owner within the applicable time period prescribed in the Contract Documents.	3 days (1.5 days)	1 for each Work Submittal	1 day

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
3.2	Construction Work Submittals	Construction Submittals	Provide required Work Submittals for the Construction Work, as set forth in <u>Appendix 4-B</u> of the Technical Requirements, to the Owner within the applicable time period prescribed in the Contract Documents.	3 days (1.5 days)	1 for each Work Submittal	1 day
3.3	Construction Work Submittals	Construction Submittals	Not proceed with any Construction Work prior to having Submittals in respect of such Construction Work that meet the requirements of <u>Section 4.7 (Conditions to Commencement of Construction Work)</u> of the Agreement.	1 day (0.5 days)	1 for each Work Submittal	1 day
3.4	Construction Period	Project Schedule Submittals	Provide required Submittals related to the Project Schedule as set forth in <u>Section 2.4.2 (Project Schedule – Construction Period)</u> of the Technical Requirements and within the applicable time periods prescribed in the Contract Documents.	3 days (1.5 days)	1 for each Work Submittal	1 day
3.5	Construction Period	Identification and Coordination with Adjacent Projects	Identify and coordinate design and construction activities with Adjacent Projects in accordance with <u>Section 3.1.3 (Coordination with other Contractors on Adjacent Projects)</u> of the Agreement.	1 day (0.5 days)	1	1 day
3.6	Construction Period	Utility Shutdown Times	Comply with the requirements set forth in <u>Section 3.5.3 (Utility Shutdown Times)</u> of the Technical Requirements.	None	5	0.5 day
3.6	Developer's Responsibility for Work	Project Commitments	Comply with the requirements set forth in <u>Section 3.1.4 (Project Commitments)</u> of the Agreement.	1 day (0.5 days)	1	1 day



Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
3.7	Work Site Requirements	Surrounding Site Conditions Survey – Construction Period	Prepare and submit to Owner a surrounding site condition survey as required by <u>Section 2.4.7.8 (Surrounding Site Condition Survey – Construction Period)</u> of the Technical Requirements.	None	5	1 day
3.8	Occupancy Readiness	Test Results (Reporting)	Comply with the requirements of <u>Section 3.11.6.2 (Test Results)</u> of the Technical Requirements.	3 days (1.5 days)	1	1 day
<b>4</b>	<b>O&amp;M Services</b>					
4.1	Records; Intellectual Property; D&C Pricing Documents	Audits	Make O&M Work records available for inspection or audit purposes in accordance with <u>Section 22.2 (Audits)</u> of the Agreement.	3 days (1.5 days)	2	1 day
4.2	O&M Services Generally	Owner's Emergency Operations Committee	Assign one representative to the Owner's Emergency Operations Committee (EOC) in accordance with <u>Section 4.1.1.5</u> of the Technical Requirements.	None	3	N/A
4.3	O&M Interface Obligations	Coordination with Excluded O&M Services	Comply with the requirements of <u>Section 4.1.4.1(a)</u> of the Technical Requirements.	1 day (0.5 day)	2	1 day
4.4	O&M Interface Obligations	Notification of Renewal Work	Provide notice in accordance with <u>Section 4.1.4.4 (Renewal Work Notifications to Owner)</u> of the Technical Requirements.	5 days (2.5 days)	3	3 days

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
4.5	Facilities Activities and the Coordination of O&M Services	Core Times	Comply with the requirements of <u>Section 4.1.4.4.1 (Core Times)</u> of the Technical Requirements.	1 day (0.5 day)	5	1 day
4.6	Facilities Activities and the Coordination of O&M Services	Special Events	Comply with the requirements of <u>Section 4.1.4.4.2 (O&amp;M Services During Special Events)</u> of the Technical Requirements.	1 day (0.5 day)	5	1 day
4.7	Payment Mechanism	Availability Standards	Comply with the Availability Standards.	Applicable Permanent Cure Period set forth in <u>Annex 2</u> to <u>Appendix 6</u> of the Agreement	5	N/A
4.8	Payment Mechanism	Performance Standards	Comply with the Performance Standards.	Applicable Permanent Cure Period set forth in <u>Annex 3</u> to <u>Appendix 6</u> of the Agreement	1	N/A
4.9	Payment Mechanism	Availability Failure Service Requests	Submit Availability Failure Service Requests in accordance with <u>Section 2.5 (Notice of Unavailability)</u> of <u>Appendix 6 (Payment Mechanism)</u> to the Agreement.	3 days (1.5 days)	3	1 day

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
4.10	Payment Mechanism	Performance Failure Service Requests	Submit Performance Failure Service Requests in accordance with <u>Section 3.5 (Notice of Performance Failure)</u> of <u>Appendix 6 (Payment Mechanism)</u> to the Agreement.	3 days (1.5 days)	3	1 day
4.11	Payment Mechanism	Response Periods for Performance Failure or Availability Failure	Respond to Availability Failures or Performance Failures within the applicable Response Period set forth in <u>Annex 2 (Availability Standards)</u> and <u>Annex 3 (Performance Standards)</u> to <u>Appendix 6</u> of the Agreement.	None	3	N/A
4.12	Payment Mechanism	Availability Payment Documentation	Provide supporting documentation with the Quarterly Settlement Amount invoice as required by <u>Section 12.3.3.3</u> of the Agreement.	7 days (3.5 days)	2	3 days
4.13	Operations Management Services	Customer Service Center Services	Comply with the requirements of <u>Section 4.3.1.1(c)</u> of the Technical Requirements relating to Customer Service Center records.	None	3	1 day
4.14	Operations Management Services	Customer Service Center Services	Comply with the requirements set forth in <u>Section 4.3.1.1(i)</u> of the Technical Requirements relating to telephone calls received by the Customer Service Center.	None	1	1 day
4.16	Operations Management Services	Customer Service Center Services	Comply with the requirements set forth in <u>Section 4.3.1.2 (Campus Related Requests)</u> of the Technical Requirements.	1 day (0.5 day)	1	1 day

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
4.17	Emergency and Incident Management Services	Continuation of Essential O&M Services	Comply with the requirements of <u>Section 4.3.2(b)</u> of the Technical Requirements.	None	5	0.5 day
4.16	Emergency and Incident Management Services	Fire and life safety training	Comply with the requirements of <u>Section 4.3.2(d)</u> of the Technical Requirements.	5 days (2.5 days)	5	3 days
4.17	Emergency and Incident Management Services	Annual fire drill	Comply with the requirements of <u>Section 4.3.2(e)</u> of the Technical Requirements.	30 days (15 days)	4	15 days
4.18	Emergency and Incident Management Services	Participation in Owner disaster back-up and recovery program	Comply with the requirements of <u>Section 4.3.2(f)</u> of the Technical Requirements.	None	3	NA
<b>5</b>	<b>Energy Utilities Management</b>					
5.1	Energy Utilities Management	Development of Energy Consumption Targets	Comply with the requirements of <u>Section 1.2(c)</u> of <u>Appendix 17 (Energy Utilities Management)</u> to the Agreement	5 days (2.5 days)	2	3 days

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
5.2	Energy Utilities Management	Monitoring and Measurement of Energy Utilities Consumption	Comply with the requirements of <u>Section 2.2 (Monitoring and Measurement of Energy Utilities Consumption)</u> of <u>Appendix 17 (Energy Utilities Management)</u> to the Agreement.	5 days (2.5 days)	3	3 days
5.3	Energy Utilities Management	Annual Energy Analysis Report	Comply with the requirements of <u>Section 3.2(a) of Appendix 17 (Energy Utilities Management)</u> to the Agreement.	5 days (2.5 days)	3	3 days
5.4	Energy Utilities Management	Annual Energy Review Meeting	Comply with the requirements of <u>Section 3.3(b) of Appendix 17 (Energy Utilities Management)</u> to the Agreement.	5 days (2.5 days)	3	3 days
5.5	Energy Utilities Management	Quarterly Reporting and Corrective Action	Comply with the requirements of <u>Section 3.4(a) of Appendix 17 (Energy Utilities Management)</u> to the Agreement.	5 days (2.5 days)	3	3 days
5.6	Energy Utilities Management	Quarterly Reporting and Corrective Action	Comply with the requirements of <u>Section 3.4(c) of Appendix 17 (Energy Utilities Management)</u> to the Agreement.	5 days (2.5 days)	5	3 days
5.7	Energy Utilities Management	Quarterly Reporting and Corrective Action	Comply with the requirements of <u>Section 3.4(d) of Appendix 17 (Energy Utilities Management)</u> to the Agreement.	5 days (2.5 days)	3	3 days
5.8	Energy Utilities Management	Annual Carbon Footprint Analysis	Comply with the requirements of <u>Article 5 (Annual Carbon Analysis Report and Procedures)</u> of <u>Appendix 17 (Energy Utilities Management)</u> to the Agreement.	5 days (2.5 days)	3	3 days

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
6	<b>Quality Management</b>					
6.1	Quality Management Systems	Design Work	Comply with the requirements of <u>Section 2.5.2.3(a)</u> of the Technical Requirements.	2 days (1 day)	1 per instance	1 day
6.2	Quality Management Systems	Design Work	Comply with the requirements of <u>Section 2.5.2.3(d)</u> of the Technical Requirements.	3 days (1.5 day)	1 per record	1 day
6.3	Quality Management Systems	Design Work	Comply with the requirements of <u>Section 2.5.2.3(e)</u> of the Technical Requirements.	2 days (1 day)	1 per record	1 day
6.4	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(a)</u> of the Technical Requirements.	5 days (2.5 days)	1 per instance	3 days
6.5	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(c)</u> of the Technical Requirements.	1 day (0.5 day)	3	1 day
6.6	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(e)</u> of the Technical Requirements.	5 days (2.5 days)	2	3 days
6.7	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(j)</u> of the Technical Requirements.	3 days (1.5 day)	1 per record	1 day

Ref	Main Heading	Subheading	Failure to:	Noncompliance Cure Period (Fast Cure Period) <sup>1</sup>	Points	Recurrence Period
6.8	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(k)</u> of the Technical Requirements.	2 days (1 day)	2 per record	1 day
6.9	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(l)</u> of the Technical Requirements.	2 days (1 day)	1	1 day
6.11	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(o)</u> of the Technical Requirements.	2 days (1 day)	1	1 day
6.12	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(q)</u> of the Technical Requirements.	1 day (0.5 day)	3	1 day
6.13	Quality Management Systems	Construction Work	Comply with the requirements of <u>Section 2.5.2.4(t)</u> of the Technical Requirements.	2 days (1 day)	1	1 day

## **APPENDIX 6**

### **PAYMENT MECHANISM**

#### **SECTION 1. AVAILABILITY PAYMENTS**

##### **1.1 Partial Availability Payment**

###### **1.1.1 Partial Maximum Availability Payment**

PMAP<sub>y</sub> is the Partial Maximum Availability Payment for Fiscal Year (y) as calculated according to the following formula:

$$PMAP_y = MAP_y \times EDF$$

Where:

MAP<sub>y</sub> = Maximum Availability Payment for Fiscal Year (y), as calculated in accordance with Section 1.2.1 of this Appendix 6.

EDF = zero (0), if prior to Occupancy Readiness of all First Delivery Facilities; the FDF Ratio, following achievement of Occupancy Readiness of all First Delivery Facilities but prior to Occupancy Readiness of all Second Delivery Facilities; or the Cumulative SDF Ratio, following achievement of Occupancy Readiness of all Second Delivery Facilities and prior to Substantial Completion.

###### **1.1.2 Partial Monthly Disbursements**

Subject to the terms of the Agreement, from the date on which Occupancy Readiness is achieved for all First Delivery Facilities to the Substantial Completion Date or the Early Termination Date, whichever is earlier, the Owner will make Partial Monthly Disbursements of the PMAP<sub>y</sub> to Developer.

Partial Monthly Disbursements represent a partial payment of the PMAP<sub>y</sub> due for each month:

$$PMD_m = PBM_m - PEDA_{q,m}$$

Where:

PMD<sub>m</sub> = Partial Monthly Disbursement for Month (m)

PBM<sub>m</sub> = Partial Base Monthly Disbursement amount for Month (m):



$$PBM_m = \left( \frac{PMA_{P,y}}{12} \times PF \right) \times 90\%$$

$PEDA_{q,m}$  = If applicable, the Partial Excess Deduction Amount (which shall be a positive number) carried over from prior Quarter (q-1), as may be reduced through reduction to earlier Partial Monthly Disbursements in Quarter (q)

PF = Partial Availability Payment Step Up Factor for the First Delivery Facilities or the Second Delivery Facilities, as applicable, which shall be calculated as follows:

$$PF = dr_n / dm_n$$

Where:

$dr_n$  =

- (1) Total number of days in Month (n); or
- (2) If Occupancy Readiness of all First Delivery Facilities or all Second Delivery Facilities, as applicable, occurs part way through a Month, the number of days remaining in Month (n) as such date; or
- (3) If the Substantial Completion Date or the Early Termination Date, as applicable, does not occur on the last day of a Month, the number of days from the beginning of the Month up to and including the Substantial Completion Date or Early Termination Date, as applicable.

$dm_n$  = Total number of days in Month (n)

### 1.1.3 Partial Quarterly Settlement Amount

As final payment against  $PMA_{P,y}$  owing to Developer for each Quarter (q), between the date on which Occupancy Readiness is achieved for all First Delivery Facilities to the Substantial Completion Date or the Early Termination Date, whichever is earlier, the Owner will pay the Partial Quarterly Settlement Amount for the months of September, December, March, and June of each Fiscal Year, as applicable.

$$PQSA_{q,y} = QPMA_{P,q,y} - \sum PBM_{m,q,y} - D_{q,y} + / - OI - PEDA_{q,m}$$

Where:

$PQSA_{q,y}$  = Partial Quarterly Settlement Amount for Quarter (q) in Fiscal Year (y)

$\sum PBM_{m,q,y}$  = The sum of the Partial Base Monthly Disbursements in Quarter (q) of Fiscal Year (y) (excluding any deduction of any Partial Excess Deduction Amount and any PF adjustment)

$$D_{q,y} = \{ \text{Min}[(AD_{m1,q,y} + PD_{m1,q,y}); PBM_m] \} +$$

$$\{Min[(AD_{m2,q,y} + PD_{m2,q,y}); PBM_m]\} + \{Min[(AD_{m3,q,y} + PD_{m3,q,y}); PBM_m]\}$$

Where:

$AD_{m1,q,y}$  = Availability Deductions for the first month of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 2 of this Appendix 6

$PD_{m1,q,y}$  = Performance Deductions for the first month of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 3 of this Appendix 6

$AD_{m2,q,y}$  = Availability Deductions for the second month of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 2 of this Appendix 6

$PD_{m2,q,y}$  = Performance Deductions for the second month of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 3 of this Appendix 6

$AD_{m3,q,y}$  = Availability Deductions for the third month of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 2 of this Appendix 6

$PD_{m3,q,y}$  = Performance Deductions for the third month of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 3 of this Appendix 6

$QPMAP_{q,y}$  = Quarterly Partial Maximum Availability Payment for Quarter (q) of Fiscal Year (y), which equals  $PMAP_y$  divided by four (4)

OI = Any adjustments to reflect previous over-payments and/or under-payments, any interest payable in respect of any amounts owed, and any other amount due and payable from Developer to the Owner or from the Owner to Developer under the Agreement, including any amounts payable by the Owner in respect of any Excess Campus-Related Call Requests in each month of the Quarter

Where the Partial Quarterly Settlement Amount is a negative figure, its corresponding absolute value (the “**Partial Excess Deduction Amount**”) shall be deducted from (i) subsequent Partial Monthly Disbursements and any subsequent Partial Quarterly Settlement Amount, and (ii) if any amount remains to be deducted as at the Substantial Completion Date, the Monthly Disbursements and any Quarterly Settlement Amount, until the Partial Excess Deduction Amount has been deducted in full.

The foregoing shall not limit Developer’s responsibility to correctly calculate the Deductions due in any Quarter and to apply them to the Partial Quarterly Settlement Amount invoice.

To the extent that Substantial Completion is achieved in a month other than September, December, March or June, any accrued but unpaid amounts that would be otherwise paid as part of the next Partial Quarterly Settlement Amount will be paid to Developer as part of the first Quarterly Settlement Amount payment following Substantial Completion.

## 1.2 Availability Payment

### 1.2.1 Annual Maximum Availability Payment

MAP<sub>y</sub> is the Maximum Availability Payment for Fiscal Year (y) indexed for inflation according to the following formula:

$$MAP_y = (APC \times 1.01^n) + (APO \times \frac{CPI_y}{CPI_{Base}})$$

Where:

APC = Initial AP Capital Amount

n = Number of Fiscal Years since the Effective Date

APO = Initial AP O&M Amount

CPI<sub>Base</sub> = Consumer Price Index as of January 1, 2016

CPI<sub>y</sub> = Consumer Price Index as of the May reference month that is available in the year that is immediately prior to the commencement of Fiscal Year (y) (CPI<sub>y</sub> shall apply to all calculations relating to Fiscal Year (y))

y = Fiscal Year for which the inflation-adjusted MAP is being calculated

The Availability Payment in any Fiscal Year will never be less than zero or greater than the MAP for that given Fiscal Year.

### 1.2.2 Monthly Disbursements

Subject to the terms of the Agreement, from the Substantial Completion Date to the Termination Date, the Owner will make Monthly Disbursements of the MAP<sub>y</sub> to Developer.

Monthly Disbursements represent a partial payment of the MAP<sub>y</sub> due for each month:

$$MD_m = BM_m - EDA_{q,m}$$

Where:

MD<sub>m</sub> = Monthly Disbursement for Month (m)

BM<sub>m</sub> = Base Monthly Disbursement amount for Month (m):

$$BM_m = \frac{MAP_y}{12} \times 90\% \times F$$

F = Availability Payment Step Up Factor which shall be calculated as follows:

$$F = dr_n / dm_n$$

Where:

$dr_n =$

- (1) Total number of days in Month (n); or
- (2) If Substantial Completion occurs part way through a Month, the number of days remaining in Month (n) as at the Substantial Completion Date; or
- (3) If the Termination Date does not occur on the last day of a Month, the number of days from the beginning of the Month up to and including the Termination Date.

$dm_n =$  Total number of days in Month (n)

$EDA_{q,m}$  = If applicable, the Excess Deduction Amount (which shall be a positive number) carried over from prior Quarter (q-1), as may be reduced through reduction to earlier Monthly Disbursements in Quarter (q)

### 1.2.3 Quarterly Settlement Amount

As final payment against  $MAP_y$  owing to Developer for each Quarter (q), the Owner will pay the Quarterly Settlement Amount for the months of September, December, March, and June of each Fiscal Year, as applicable.

$$QSA_{q,y} = QMAP_{q,y} - \sum BM_{m,q,y} - D_{q,y} + / - OI - EDA_{q,m}$$

Where:

$QSA_{q,y}$  = Quarterly Settlement Amount for Quarter (q) in Fiscal Year (y)

$\sum BM_{m,q,y}$  = The sum of the Base Monthly Disbursements in Quarter (q) of Fiscal Year (y) (excluding any deduction of any Excess Deduction Amount and any F adjustment)

$D_{q,y} =$

$$\{Min[(AD_{m1,q,y} + PD_{m1,q,y}); BM_{m1,q,y}]\} + \\ \{Min[(AD_{m2,q,y} + PD_{m2,q,y}); BM_{m2,q,y}]\} + \\ \{Min[(AD_{m3,q,y} + PD_{m3,q,y}); BM_{m3,q,y}]\}$$

Where:

$AD_{m1,q,y}$  = Availability Deductions for the first month (m1) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 2 of this Appendix 6

$PD_{m1,q,y}$  = Performance Deductions for the first month (m1) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 3 of this Appendix 6

$BM_{m1,q,y}$  = Base Monthly Disbursement for the first month (m1) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 1.2.2 of this Appendix 6

$AD_{m2,q,y}$  = Availability Deductions for the second month (m2) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 2 of this Appendix 6

$PD_{m2,q,y}$  = Performance Deductions for the second month (m2) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 3 of this Appendix 6

$BM_{m2,q,y}$  = Base Monthly Disbursement for the second month (m2) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 1.2.2 of this Appendix 6

$AD_{m3,q,y}$  = Availability Deductions for the third month (m3) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 2 of this Appendix 6

$PD_{m3,q,y}$  = Performance Deductions for the third month (m3) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 3 of this Appendix 6

$BM_{m3,q,y}$  = Base Monthly Disbursement for the third month (m3) of Quarter (q) of Fiscal Year (y) as calculated in accordance with Section 1.2.2 of this Appendix 6

$QMAP_{q,y}$  = Quarterly Maximum Availability Payment for Quarter (q) of Fiscal Year (y)

OI = Any adjustments to reflect previous over-payments and/or under-payments, any interest payable in respect of any amounts owed, and any other amount due and payable from Developer to the Owner or from the Owner to Developer under the Agreement, including any amounts payable by the Owner in respect of any Excess Campus-Related Call Requests in each month of the Quarter.

$EDA_{q,m}$  = Excess Deduction Amount (if any) outstanding from the previous Quarter (q)

To the extent that the First Delivery Facilities Deduction and/or the Second Delivery Facilities has not been deducted in full at the time of calculation of the Quarterly Settlement Amount, any such remaining amount(s) shall be included as a deduction in the calculation of the Quarterly Settlement Amount.

Where the Quarterly Settlement Amount is a negative figure, its corresponding absolute value (the “**Excess Deduction Amount**”) shall be deducted from subsequent Monthly Disbursements and any subsequent Quarterly Settlement Amount until the Excess Deduction Amount has been deducted in full.

The foregoing shall not limit Developer’s responsibility to correctly calculate the Deductions due in any Quarter and to apply them to the Quarterly Settlement Amount invoice.

To the extent the Expiry Date occurs in a month other than September, December, March, or June, the month of the Expiry Date shall be treated as a month in which the Quarterly Settlement Amount is made to Developer for purposes of Developer receiving

any accrued but unpaid amounts that would be otherwise paid as part of a Quarterly Settlement Amount paid in September, December, March, or June.

### **1.3 Failure to Properly Report and Record Availability Failures and Performance Failures**

In the event Developer fails to report or describe the occurrence of, or to accurately describe the extent of, any Availability Failure or Performance Failure, the Owner will retroactively recalculate the applicable deductions for the relevant period, and the difference between the originally calculated deductions and the recalculated deductions will be included under “Other items” in the calculation of the next Partial Quarterly Settlement Amount or Quarterly Settlement Amount, as applicable. Such failure by Developer shall also trigger the assessment of Noncompliance Points, as set forth in the Agreement.

## **SECTION 2. AVAILABILITY**

### **2.1 Total Availability Deductions**

Total Availability Deductions for a month (m) of Fiscal Year (y) shall be calculated as follows:

$$AD_{m,y} = \sum AD_{a,m,y}$$

Where:

$AD_{m,y}$  = Aggregate of the Availability Deductions for month (m) of Fiscal Year (y)

$AD_{a,m,y}$  = Availability Deduction for the relevant Area (a) for month (m) of Fiscal Year (y)

### **2.2 Availability Deductions**

In the event that an Area becomes Unavailable, the Owner may make deductions from the Availability Payment or the Partial Availability Payment, as applicable, in accordance with this [Appendix 6](#). Any Availability Deduction relating to the performance of O&M Services of a Facility prior to commencement of Partial Availability Payments shall accrue and be deducted from the first and subsequent Partial Monthly Disbursements and the first and subsequent Partial Quarterly Settlement Amounts until such accrued amount has been deducted in full.

For the purposes of this [Section 2.2](#), references to “Area” include references to any “Consequentially Unavailable Area.”

If any Area is Unavailable during a Core Time, then the Area is Unavailable until the Availability Failure has been cured. The corresponding Availability Deduction for the Area shall be calculated as follows:

$$AD_{ay} = \{(AFDA_{ay} \times DP_t) + [AFDA_{ay} \times (1 + SEI) \times DP_s]\} \times (1 + RR)$$

Where:

$AD_{ay}$  = Availability Deduction for the relevant Area (a) in Fiscal Year (y)

$AFDA_{ay}$  = Availability Failure Deduction Amount for the Area (a) for Fiscal Year (y)

$DP_s$  = Aggregate number of Deduction Periods in respect of which Section 4.3 of this Appendix 6 applies

$DP_t$  = Aggregate number of Deduction Periods

$RR$  = Repeat Failure Ratchet, equal to 0.5 when Section 4.1 of this Appendix 6 applies, and equal to zero (0) when Section 4.1 of this Appendix 6 does not apply

$SEI$  = Special Event Increment, equal to 2.0

No Availability Deduction shall be assessed with respect to any Unavailability of an Area during any non-Core Time for such Area.

## 2.3 Indexation of the Availability Failure Deduction Amount

On the first day of each Fiscal Year (y), each Availability Failure Deduction Amount set out in Annex 4 to this Appendix 6 shall be indexed as follows:

$$AFDA_{ay} = AFDA_a \times CPI_y / CPI_{dd}$$

Where:

$AFDA_{ay}$  = Availability Failure Deduction Amount per Deduction Period for an Area (a) for the current Fiscal Year (y)

$AFDA_a$  = Availability Failure Deduction Amount per Deduction Period for an Area (a) as of the Effective Date

$CPI_{dd}$  = Consumer Price Index as of January 1, 2016

$CPI_y$  = Consumer Price Index as of the May reference month that is available in the year that is immediately prior to the commencement of Fiscal Year “y” ( $CPI_y$  shall apply to all calculations relating to Fiscal Year “y”)

$y$  = Fiscal Year for which the inflation-adjusted MAP is being calculated

## 2.4 Facility Unavailability Events

Developer shall notify the Owner of any anticipated or actual Facility Unavailability Event as soon as reasonably practical, regardless of whether it occurs within a Core Time.

While a Facility Unavailability Event subsists, the Owner may elect, in its sole discretion, to close the Facility, provided that any such closure does not restrict Developer's ability to effect Temporary and Permanent Cures of the underlying Unavailability.

Irrespective of whether the Owner elects to close the Facility, if a Facility Unavailability Event occurs during any Core Time, then every Area within the Facility shall be deemed to be Unavailable for purposes of calculating the applicable Availability Deductions until Developer effects a Permanent Cure for Unavailability sufficient such that the definition of Facility Unavailability Event is no longer met.

## **2.5 Notice of Availability Failure**

If either Party becomes aware of an Availability Failure, the Party shall promptly submit an Availability Failure Service Request to the Customer Service Center or the Web Portal with respect to such Availability Failure, including the following information:

- (a) Details of the relevant Availability Failure;
- (b) The Area that is Unavailable; and
- (c) The reasons, to the extent known, why such Area is Unavailable.

The Logged Failure Time in relation to any Availability Failure shall be the time at which the relevant Project-Related Call Request is received by the Customer Service Center or the relevant Project-Related Web Request is submitted to the Web Portal, as applicable, provided that if a User mischaracterizes a Project-Related Service Request as a Campus-Related Service Request, the time at which the Owner redirects the Project-Related Service Request to the Customer Service Center or the Web Portal, as applicable, as a Project-Related Service Request shall be deemed the applicable Logged Failure Time.

The Owner's determination regarding any Unavailability shall prevail for the purposes of calculating Availability Deductions under this Appendix 6 pending any final determination pursuant to the Dispute Resolution Procedures.

## **2.6 Responding to Notice of Unavailability**

2.6.1 Following receipt by the Customer Service Center or submission to the Web Portal, as applicable, of an Availability Failure Service Request, Developer shall, within a reasonable period of time, not to exceed four (4) hours, assess the Availability Failure which has been notified to the Customer Service Center or Web Portal, as applicable, and provide to the Owner in writing the following information to the extent possible using all reasonable efforts:

- (a) The cause of the Unavailability;



- (b) Developer's plans for curing any Unavailability and the estimated time period in which the Unavailability will be Temporarily Cured and Permanently Cured; and
- (c) The extent, if any, to which the relevant Unavailability is caused by a Relief Event.

2.6.2 For so long as such Area remains Unavailable, Developer shall provide to the Owner:

- (a) A daily update on the progress made in curing such Unavailability, together with any revised estimate as to when such Unavailability will be temporarily cured and permanently cured;
- (b) Promptly on becoming aware of any change to information previously provided to the Owner regarding the Unavailability, with details of all such changes; and
- (c) On a monthly basis, accompanying the Monthly Disbursement invoice, a Monthly O&M Report that sets forth details of each event of Unavailability reported in the preceding calendar month together with confirmation of the time period between the Logged Failure Time and the Logged Permanent Cure Time and the time period between the Logged Failure Time and the Logged Temporary Cure Time for each event of Unavailability.

## 2.7 Consequential Unavailability

Where an Area is or at any time becomes Unavailable, and as a direct consequence of such Unavailability Users are unable to access, use safely or occupy for its intended purpose any other Area (the "**Consequentially Unavailable Area**"), then the Consequentially Unavailable Area shall be deemed to be Unavailable for any Core Time during which the original Unavailability subsists. The Logged Failure Time in respect of the Consequentially Unavailable Area will be deemed to be the same as that for the original Area that caused the Unavailability of the Consequentially Unavailable Area.

## 2.8 Commencement and Duration of Unavailability

For the purposes of this Section 2.8, a Temporary Cure or a Permanent Cure is only effective when the cure has both been effected and also been notified to the Customer Service Center as set out in Section 2.9 of this Appendix 6.

With respect to any Unavailability:

- (a) If the Unavailability notified to the Customer Service Center has been Temporarily Cured or Permanently Cured by the end of the Temporary Cure Period and Permanently Cured by the end of the Permanent Cure Period, then it will be deemed that no Unavailability of that Area occurred on that occasion for the purpose of calculating Availability Deductions.

- (b) If the Unavailability notified to the Customer Service Center has not been either Permanently Cured or Temporarily Cured by the end of the Temporary Cure Period but has been Permanently Cured by the end of the Permanent Cure Period, then it will be deemed that Unavailability of that Area occurred from the Logged Failure Time for the duration of the Temporary Cure Period and an Availability Deduction shall be made in respect thereof.
- (c) If the Unavailability notified to the Customer Service Center has been Temporarily Cured by the end of the Temporary Cure Period but has not been Permanently Cured by the end of the Permanent Cure Period, then it will be deemed that Unavailability of that Area occurred from the end of the Temporary Cure Period and an Availability Deduction shall be made in respect of the Permanent Cure Period and each Recurrence Period up to and including the Recurrence Period in which the relevant Unavailability is Permanently Cured.
- (d) If the Unavailability notified to the Customer Service Center has not been Temporarily Cured by the end of the Temporary Cure Period and has not been Permanently Cured by the end of the Permanent Cure Period, then it will be deemed that Unavailability of that Area occurred from the Logged Failure Time and an Availability Deduction shall be made in respect of each of the Temporary Cure Period, the Permanent Cure Period, and each Recurrence Period up to and including the Recurrence Period in which the Permanent Cure occurred.
- (e) If the Unavailability notified to the Customer Service Center occurs during a non-Core Time of the relevant Area, for purposes of calculating Availability Deduction(s), the Logged Failure Time shall be deemed to be the commencement of the Core Time immediately following the occurrence of the Unavailability.

With respect to an Area that is Unavailable, the Temporary Cure Period, Permanent Cure Period and/or Recurrence Period, as applicable, will be stayed to the extent use by the Owner of an Area materially prevents Developer from effecting a Temporary Cure or Permanent Cure, as determined by the Owner, acting reasonably; provided that no such stay shall be granted if Developer fails to (i) make all reasonable efforts to effect the cure, notwithstanding the Owner's use of the Area, or (ii) respond to the Unavailability within the applicable Response Period.

## **2.9 Cessation of Unavailability**

Developer shall immediately notify the Customer Service Center in writing when any Unavailability has been Temporarily Cured or Permanently Cured. The time of such notification will, subject to the other provisions of this Section 2.9, constitute the Logged Temporary Cure Time or the Logged Permanent Cure Time respectively in relation to such Unavailability and Developer shall cause the Customer Service Center to, as soon

as is reasonably practicable after such notification by Developer, and in any event within twenty-four (24) hours, notify the Owner in writing that the relevant Unavailability has been cured.

If, upon inspection, the Owner determines that such Unavailability has not been so cured, it shall notify Developer in writing and it shall be deemed that the Logged Temporary Cure Time or Logged Permanent Cure Time in respect of the incident has not yet occurred. The Owner's decision will prevail for the purposes of determining whether the relevant Unavailability has been cured, subject to the right of Developer to refer the matter to the Dispute Resolution Procedures.

## **2.10 Written Notices**

All notices required to be provided in writing under this Section 2 shall be deemed to have been provided in writing if provided by (a) email, (b) phone call, in the case of a Project-Related Call Request, or (c) notification via the Web Portal, in the case of a Project-Related Web Request. Developer shall convert any such phone call to an electronic message or electronic record in the Customer Service Center to which the Parties are concurrently notified, in each case containing the applicable requisite information under this Section 2.

## **SECTION 3. PERFORMANCE**

### **3.1 Total Performance Deductions**

Total Performance Deductions for a month (m) of Fiscal Year (y) shall be calculated as follows:

$$PD_{m,y} = \sum PD_{a,m,y}$$

Where:

$PD_{m,y}$  = The aggregate of the Performance Deductions for month (m) of Fiscal Year (y)

$PD_{a,m,y}$  = Performance Deduction for the relevant Area (a) for month (m) of Fiscal Year (y)

### **3.2 Performance Deductions**

In the event of a Performance Failure, the Owner may make deductions from the Availability Payment or the Partial Availability Payment, as applicable, in accordance with this Appendix 6. Any Performance Deduction relating to the performance of O&M Services of a Facility prior to commencement of Partial Availability Payments shall accrue and be deducted from the first and subsequent Partial Monthly Disbursements and the first and subsequent Partial Quarterly Settlement Amounts until such accrued amount has been deducted in full.

If there is a Performance Failure in an Area during a Core Time, the Performance Deduction shall be calculated as follows:

$$PD_{ay} = PFDA_{ay} \times (1 + RR) \times DP$$

Where:

$PD_{ay}$  = Performance Deduction for the relevant Area (a) in Fiscal Year (y)

$PFDA_{ay}$  = Performance Failure Deduction Amount for a Performance Failure in Area (a) for Fiscal Year (y)

$DP$  = Aggregate number of Deduction Periods

$RR$  = Repeat Failure Ratchet, equal to 0.5 when Section 4.2 of this Appendix 6 applies, and equal to zero (0) when Section 4.2 of this Appendix 6 does not apply.

No Performance Deduction shall be assessed with respect to a Performance Failure occurring in an Area during any non-Core Time for such Area.

### 3.3 Indexation of the Performance Failure Deduction Amount

On the first day of each Fiscal Year (y), each Performance Failure Deduction Amount set out in Annex 4 of this Appendix 6 shall be indexed as follows:

$$PFDA_{ay} = PFDA_a \times CPI_y / CPI_{dd}$$

Where:

$PFDA_{ay}$  = Performance Failure Deduction Amount for an Area (a) for the current Fiscal Year (y)

$PFDA_a$  = Performance Failure Deduction Amount for an Area (a) as of the Effective Date

$CPI_{dd}$  = Consumer Price Index as of January 1, 2016

$CPI_y$  = Consumer Price Index as of the May reference month that is available in the year that is immediately prior to the commencement of Fiscal Year (y) ( $CPI_y$  shall apply to all calculations relating to Fiscal Year (y))

$y$  = Fiscal Year for which the inflation-adjusted MAP is being calculated.

### 3.4 Limitations on Performance Deductions

Where a Performance Failure is such that it can be classified as a failure to meet more than one (1) Performance Standard in an Area then the Owner shall only be entitled to make Performance Deductions in respect of that failure by reference to one (1) such

Performance Standard and not to each such Performance Standard but shall be entitled to make Performance Deductions by reference to such Performance Standard as attracts the greatest Performance Deduction.

No Performance Deduction may be made in respect of any Area if an Availability Deduction is made by the Owner in respect of the Area affected by the Performance Failure for the same period of time that the Performance Failure subsists.

### **3.5 Notice of Performance Failure**

If either Party becomes aware of a Performance Failure in any Area, the Party shall promptly submit a Performance Failure Service Request to the Customer Service Center or the Web Portal with respect to such Performance Failure, including the following information:

- (a) Details of the Area where the Performance Failure occurred;
- (b) Details of the relevant fault including, where applicable, the relevant Cure Period believed to be applicable to the relevant Performance Standard; and
- (c) The reasons, to the extent known, why the Performance Failure has occurred.

The Logged Failure Time in relation to any Performance Failure shall be the time at which the relevant Project-Related Call Request is received by the Customer Service Center or the relevant Project-Related Web Request is submitted to the Developer's Web Portal, as applicable, provided that if a User mischaracterizes a Project-Related Service Request as a Campus-Related Service Request, the time at which the Owner redirects the Project-Related Service Request to the Customer Service Center or the Web Portal, as applicable, as a Project-Related Service Request shall be deemed the applicable Logged Failure Time.

The Owner's determination regarding any Performance Failure shall prevail for the purposes of calculating Performance Deductions under this Appendix 6 pending any final determination pursuant to the Dispute Resolution Procedures.

### **3.6 Responding to Notice of Performance Failure**

3.6.1 Following receipt by the Customer Service Center or submission to the Developer's Web Portal, as applicable, of a Performance Failure Service Request, Developer shall, within a reasonable period of time, not to exceed four (4) hours, assess the Performance Failure which has been notified to the Customer Service Center or Developer's Web Portal, as applicable, and provide to the Owner in writing the following information to the extent possible using all reasonable efforts:

- (a) The cause of the Performance Failure;

- (b) Whether the Performance Failure qualifies for a Cure Period in accordance with the Performance Standards and, where a Cure Period is allowed, the Cure Period applicable to the relevant Performance Standard;
- (c) Developer's plans for curing any Performance Failure and the estimated period in which the Performance Failure will be temporarily and/or permanently cured; and
- (d) The extent, if any, to which the relevant Performance Failure is caused by a Relief Event.

3.6.2 For so long as the Performance Failure remains uncured, Developer shall provide to the Owner:

- (a) A daily update on the progress made in curing such Performance Failure, together with any revised estimate as to when such Performance Failure will be made safe, temporarily cured and permanently cured;
- (b) Promptly on becoming aware of any change to information previously provided to the Owner regarding the Performance Failure, with details of all such changes; and
- (c) On a monthly basis, accompanying the Monthly Disbursement invoice, a Monthly O&M Report that sets forth details of each event of Performance Failure reported in the preceding calendar month together with confirmation of the time period between the Logged Failure Time and the Logged Permanent Cure Time and the time period between the Logged Failure Time and the Logged Temporary Cure Time for each event of Performance Failure.

### **3.7 Commencement and Duration of Performance Failure**

For the purposes of this Section 3.7, a Temporary Cure or a Permanent Cure is only effective when the cure has both been effected and also been notified to the Customer Service Center as set out in Section 3.8 of this Appendix 6.

With respect to any Performance Failure:

- (a) If the Performance Failure notified to the Customer Service Center has been Temporarily Cured or Permanently Cured by the end of the Temporary Cure Period and Permanently Cured by the end of the Permanent Cure Period, then it will be deemed that no Performance Failure occurred in that Area on that occasion for the purpose of calculating Performance Deductions.
- (b) If the Performance Failure notified to the Customer Service Center has not been either Permanently Cured or Temporarily Cured by the end of the Temporary Cure Period but has been Permanently Cured by the end of

the Permanent Cure Period, then it will be deemed that the Performance Failure occurred from the Logged Failure Time for the duration of the Temporary Cure Period and a Performance Deduction shall be made in respect thereof.

- (c) If the Performance Failure notified to the Customer Service Center has been Temporarily Cured by the end of the Temporary Cure Period but has not been Permanently Cured by the end of the Permanent Cure Period, then it will be deemed that Performance Failure of that Area occurred from the end of the Temporary Cure Period and a Performance Deduction shall be made in respect of the Permanent Cure Period and each Recurrence Period up to and including the Recurrence Period in which the Performance Failure is Permanently Cured.
- (d) If the Performance Failure notified to the Customer Service Center has not been Temporarily Cured by the end of the Temporary Cure Period and has not been Permanently Cured by the end of the Permanent Cure Period, then it will be deemed that Performance Failure occurred from the Logged Failure Time and a Performance Deduction shall be made in respect of each of the Temporary Cure Period, the Permanent Cure Period, and each Recurrence Period up to and including the Recurrence Period encompassing the Logged Permanent Cure Time.
- (e) If the Performance Failure notified to the Customer Service Center occurs during a non-Core Time of the relevant Area, for purposes of calculating Performance Deduction(s), the Logged Failure Time shall be deemed to be the commencement of the Core Time immediately following the occurrence of the Performance Failure.

### **3.8 Cessation of a Performance Failure**

Developer shall immediately notify the Customer Service Center in writing when any Performance Failure has been Temporarily Cured or Permanently Cured. The time of such notification will, subject to the other provisions of Section 3.8 of this Appendix 6, constitute the Logged Temporary Cure Time or the Logged Permanent Cure Time respectively in relation to such Performance Failure and Developer shall cause the Customer Service Center, as soon as is reasonably practicable after such notification by Developer, and in any event within twenty-four (24) hours, to notify the Owner in writing that the relevant Performance Failure has been cured.

If, upon inspection, the Owner determines that such Performance Failure has not been so cured, it shall notify Developer in writing and it shall be deemed that the Logged Temporary Cure Time or Logged Permanent Cure Time in respect of the incident has not yet occurred. The Owner's decision will prevail for the purposes of determining whether the relevant Performance Failure has been cured, subject to the right of Developer to refer the matter to the Dispute Resolution Procedures.

### **3.9 Written Notices**

All notices required to be provided in writing under this Section 3 shall be deemed to have been provided in writing if provided by (a) email, (b) phone call, in the case of a Project-Related Call Request, or (c) notification via the Web Portal, in the case of a Project-Related Web Request. Developer shall convert any such phone call to an electronic message or electronic record in the Customer Service Center to which the Parties are concurrently notified, in each case containing the applicable requisite information under this Section 3.

## **SECTION 4. DEDUCTION RATCHETS, REDUCTIONS AND TEMPORARY RELIEF FROM DEDUCTIONS**

### **4.1 Repeat Failure Ratchet - Unavailability**

Where three (3) or more Availability Failures occur with respect to the same Availability Standard in the same Area during any rolling period of twenty (20) days, then a Repeat Failure Ratchet of 1.5 shall be applied to the third and every subsequent Availability Deduction for each Availability Failure related to the same Availability Standard in such Area during such twenty (20)-day period.

There shall be no Cure Period for any Unavailability which occurs within three (3) days of the cure of an Availability Failure in respect of the same Availability Standard in the same Area caused by a re-occurrence of the same failure event.

### **4.2 Repeat Failure Ratchet – Performance Failures**

Where three (3) or more Performance Failures occur with respect to the same Performance Standard in any rolling period of twenty (20) days, then a Repeat Failure Ratchet of 1.5 shall be applied to the third and every subsequent Performance Deduction for each Performance Failure related to the same Performance Standard in such twenty (20)-day period.

There shall be no Cure Period (where applicable) for a Performance Failure which occurs within three (3) days of the rectification of a Performance Failure in respect of the same Performance Standard caused by a re-occurrence of the same failure event.

### **4.3 Special Event Increment**

If a Special Event cannot be performed in an Area due to an Availability Failure, for each Deduction Period so affected the Special Event Increment shall apply to the relevant Availability Deductions for the Area.

### **4.4 Temporary Relief from Deductions**

If an Availability Failure or Performance Failure occurs and is of such a nature that a Permanent Cure cannot reasonably be expected to be effected within the applicable



Permanent Cure Period despite Developer's best efforts to effect such cure in accordance with Best Management Practice:

- (a) Developer shall provide prompt written notice to the Owner, setting forth:
  - (i) a detailed description of the relevant Availability Failure or Performance Failure, as applicable; (ii) a detailed explanation of why a Permanent Cure cannot reasonably be expected to be effected within the applicable Permanent Cure Period; (iii) the measures that Developer is taking, and proposes to take, to effect a Temporary Cure (if not already effected) and Permanent Cure as quickly as reasonably practicable; and (iv) any additional time period requested by Developer within which to effect a Permanent Cure for such Availability Failure or Performance Failure, as applicable; and
- (b) The Owner may, in its reasonable discretion, approve in writing relief from assessment of Availability Deductions or Performance Deductions, as applicable, for a specified number of Recurrence Periods following expiry of the applicable Permanent Cure Period, provided that Developer is continuing to use its best and diligent efforts in accordance with Best Management Practice to effect the relevant Temporary Cure (if not yet effected by the end of the applicable Permanent Cure Period) and Permanent Cure.

## **SECTION 5. PLANNED MAINTENANCE**

### **5.1 Compliance Work**

If Developer is required to perform Compliance Work, Developer shall exercise commercially reasonable efforts to perform such work concurrently with previously scheduled Planned Maintenance. If Compliance Work cannot be performed concurrently, then Developer may schedule additional Planned Maintenance for Compliance Work in consultation with the Owner and subject to the requirements for Planned Maintenance Scheduling set forth in Section 5.2 of this Appendix 6.

### **5.2 Planned Maintenance Schedules**

- (a) Developer shall, as required in Sections 4.1.6.2 and 4.1.6.3 of the Technical Requirements, prepare and submit annual and monthly Planned Maintenance Schedules to the Owner for review and approval, which approval shall not be unreasonably withheld. Developer shall include Planned Maintenance for each Area, including all routine maintenance, Renewal Work and Compliance Work, if any, on the annual and monthly Planned Maintenance Schedules it submits to the Owner. Planned Maintenance may be scheduled only during non-Core Times, except:
  - (i) With respect to any Area for which the applicable Core Time set forth in Annex 1 of this Appendix 6 is 24 hours, provided that Planned Maintenance for any such Area shall be in accordance with Section 4.4 of the Technical Requirements; or

- (ii) To the extent otherwise approved in writing by the Owner, in its sole discretion.
- (b) In the event that Compliance Work is required, Developer shall submit a revised annual and monthly Planned Maintenance Schedule as soon as commercially practicable to the Owner for review and approval, which approval shall not be unreasonably withheld or delayed.
- (c) During each year of the Operating Period, Developer shall submit a Renewal Work Schedule in accordance with Section 6.6 of the Agreement and Section 4.2.2.3 of the Technical Requirements.

## Annex 1 to Appendix 6

### Core Times

<b>Program Category: Program Subcategory: Program Unit (if applicable)</b> <i>[in each case including interior non-assignable space]</i>	7am – 7pm	7am - Midnight	24 Hour Operations
<b>Academic: Classroom</b>		✓	
<b>Academic: Colloquy Spaces</b>		✓	
<b>Academic: Classroom: Class Laboratory</b>		✓	
<b>Academic: Office</b>	✓		
<b>Academic: Research</b>			✓
<b>Housing: Residence Hall</b>			✓
<b>Housing: Apartment</b>			✓
<b>Housing: Support &amp; Maintenance</b>		✓	
<b>Student Life: Central Dining</b>		✓	
<b>Student Life: Student Activity</b>	✓		
<b>Student Life: Wellness Center</b>	✓		
<b>Student Life: Enrollment Center</b>	✓		
<b>Student Life: Early Childhood</b>	✓		
<b>Student Life: Athletics</b>		✓	
<b>Campus Operations: Public Safety</b>			✓
<b>Campus Operations: Environmental Health &amp; Safety</b>	✓		

<b>Program Category: Program Subcategory: Program Unit (if applicable)</b>  <i>[in each case including interior non-assignable space]</i>	7am – 7pm	7am - Midnight	24 Hour Operations
<b>Campus Operations: Environmental Health &amp; Safety: Hazmat</b>			✓
<b>Nonassignable Spaces: Interior</b>			✓
<b>Nonassignable Spaces: Exterior</b>			✓

## **Annex 2 to Appendix 6**

### **Availability Standards**

<b>Availability Failure Area</b>	<b>Response Period</b>	<b>Temporary Cure Period</b>	<b>Permanent Cure Period</b>	<b>Recurrence Period</b>
Area Priority Categories 1-4	45 Minutes	2 Hours	1 Day	1 Day
Area Priority Categories 5-7	60 Minutes	4 Hours	2 Days	2 Days
Area Priority Categories 8-9	60 Minutes	6 Hours	3 Days	2 Days

The Response Period, Temporary Cure Period, Permanent Cure Period, and Recurrence Period for an Availability Failure shall be based on the Area Priority Category of the Area in which the Availability Failure occurs.

<b>Ref</b>	<b>Availability Standard</b>
*1	The Area is in compliance with applicable Laws relating to health and safety and the requirements of the Health and Safety Plan.
**2	The fire suppression and detection systems in the Area are operational 24 hours per day / 7 days per week.
**3	The security components in the Area are operational 24 hours per day / 7 days per week.
***4	The Area has no elevator entrapments.
5	The Area is accessible by means that are safe and free from obstruction.
6	The Area is served by a safe and continuous supply of gas, electricity and water as specified in the Technical Requirements and the applicable Area Data Sheet.
7	The Area is wind and water tight, free from pooling water, leaks, flooding and free of odor associated with non-functioning plumbing and sewage systems.
8	The Area is served by a constant supply of potable water to service the requirements of the Area as specified in the Technical Requirements and the applicable Area Data Sheet, and in accordance with applicable Laws.
9	The Area is served by a continuous supply of hot and cold water to service the requirements of the Area as specified in the Technical Requirements and the applicable Area Data Sheet, and in accordance with applicable Laws.

Ref	Availability Standard
10	The Area is served by the number of functional fixtures needed to meet the requirements outlined in Chapter 29 (Plumbing Systems) of the California Building Code and the Area meets the accessibility requirements outlined in Chapters 11.a and 11.b (Accessibility Requirements) of the California Building Code.
11	The temperature in the Area is maintained in accordance with the Technical Requirements and the applicable Area Data Sheet.
12	The Area has a continuous supply of conditioned air as specified in the Technical Requirements and the applicable Area Data Sheet, and the interior air quality meets the performance requirements outlined in <u>Section 3.8.3.4</u> of the Technical Requirements.
13	Ventilation in the Area meets the requirements outlined in Section <u>3.8.3.4</u> of the Technical Requirements and the applicable Area Data Sheet.
14	Lighting in the Area meets the lighting levels specified in the Technical Requirements and the applicable Area Data Sheet.
15	All systems and devices, including the passive system components, PoS systems, building management systems, network active electronics and the audio-visual active electronics, in the Area are functioning in accordance with the Technical Requirements and support the intended use of the Area.
16	Elevators and vertical transportation systems allow for safe use and occupation of all Areas, in accordance with Chapters 11.a and 11.b (Accessibility Requirements) of the California Building Code.
17	All pedestrian, bicycle, vehicular and transit Areas are maintained in a condition that allows for safe ingress, egress and unobstructed circulation throughout the Project Site.
18	All parking Areas are maintained in a manner that allows for safe use and unobstructed ingress and egress.
19	All external Areas, including competition fields, recreational fields, courts and designed sport spaces, are safe, unobstructed, adequately drained, meet traffic loading requirements and are equipped to allow use for their intended purpose.
20	The following conditions are met at all times in the swimming pools Areas: water filtration, circulation and disinfection systems are functioning in accordance with the Technical Requirements and the Area is equipped to allow use for the intended purpose.
21	All exterior Areas are supplied with Exterior Furnishings as specified in the applicable Area Data Sheets and all Exterior Furnishings can be safely used for their intended purpose.
22	The built-in equipment specified in the applicable Area Data Sheet is functional and supports the intended use of the Area.

Ref	Availability Standard
23	Pests are controlled in a manner that allows safe use of interior and exterior Areas. Pest control methods shall be consistent with all applicable Laws.
24	The indoor ambient noise levels within the Area meet the requirements outlined in the Technical Requirements and the applicable Area Data Sheet.

\*For this Availability Standard, each of the Response Period, the Temporary Cure Period and the Permanent Cure Period is 0:00 minutes and the Recurrence Period is 2 hours.

\*\*For each of these Availability Standards, the Response Period is 45 minutes, the Temporary Cure Period is 1 hour, the Permanent Cure Period is 1 hour, and the Recurrence Period is 8 hours.

\*\*\*For this Availability Standard, the Response Period is 20 minutes, and each of the Temporary Cure Period, the Permanent Cure Period and the Recurrence Period is 1 hour. The “Area” means the applicable Elevator Lobby.

**Annex 3 to Appendix 6**

**Performance Standards**

<b>Performance Failure Category</b>	<b>Description</b>	<b>Response Period</b>	<b>Temporary Cure Period</b>	<b>Permanent Cure Period</b>	<b>Recurrence Period</b>
Urgent	Any Performance Failure that: (i) impacts the operational function of a Facility, any Facility System or Element or any part thereof, or the Facility Activities; (ii) may develop into an Availability Failure if not promptly repaired; or (iii) occurs in the Chancellor's Suite, is deemed to be an Urgent Performance Failure.	1 Hour	4 Hours	2 Days	1 Day
Routine	Any Performance Failure affecting the Users' enjoyment of the Facilities or otherwise of an administrative or routine nature is deemed to be a Routine Performance Failure.	2 Days	N/A	30 Days	1 Day
Pavement	Any Performance Failure affecting concrete or	2 Days	N/A	3 months	1 month



	bituminous pavement surfaces including sidewalks, planter strips, bicycle paths, roadways, parking lots, bridge riding surfaces and parking structure riding surfaces.				
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Ref	Performance Standard
1	Interior Areas shall be kept free of pests.
2	Exterior Areas shall have no infestation of pests.
3	All graffiti and vandalism shall be remediated.
4	The envelope and structure of each Facility shall be free of leaks and seepage and all associated structural elements shall be free of rust, rot or other deterioration.
5	All doors, gates and fencing to include the associated access and locking systems shall function as intended and provide the required level of security.
6	All interior and exterior architectural finishes (paint, wall coverings, carpet, tile, hardware or other elements associated with walls, ceilings, hard and soft floors, raised floors or doors) including brass and other exterior metal finishes shall be maintained to ensure safety is not compromised and the finishes retain a clean appearance and uniform finish quality and coloration.
7	All trash chutes shall allow for unobstructed passage of waste to the waste collection point.
8	All plumbing systems and equipment shall be kept in normal operating condition in accordance with the Contract Documents including <u>Section 4.4.5.1</u> (Plumbing System) of the Technical Requirements.
9	All HVAC systems shall operate to prevent the transmission of discernable vibration.
10	All HVAC systems shall be kept in normal operating condition in accordance with the Contract Documents including <u>Section 4.4.5.2</u> (Heating, Ventilation and Air Conditioning Systems (HVAC)) of the Technical Requirements.
11	All electrical and lighting systems shall be kept in normal operating condition in accordance with the Contract Documents including <u>Section 4.4.5.3</u> (Electrical and Lighting Systems) of the Technical Requirements.

Ref	Performance Standard
12	All Fire Protection and Life Safety System elements shall be kept in normal operating condition in accordance with the Contract Documents including <u>Section 4.4.5.5</u> (Fire Protection and Life Safety Systems) of the Technical Requirements.
13	All IT Infrastructure including the passive system components outlined in <u>Appendix 17</u> to the Technical Requirements (IT Responsibility Matrix), shall be maintained to ensure that all associated systems or devices identified in <u>Appendix 17</u> to the Technical Requirements function in accordance with Owner and manufacturer requirements.
14	All vertical circulation systems shall operate in accordance with the Contract Documents and be available for use at all times; elevators cars shall move smoothly and level properly at each floor; all parts and components shall function properly; and all applicable signage and permits shall be properly displayed.
15	Sidewalks and planter strips shall be free of heaving, trip hazards, potholes and cracks of more than 1/8 inch.
16	Bicycle paths shall be free of potholes and cracks or raised pavement of more than 1/8 inch; pavement markings, prismatic reflectors and bicycle path delineators shall be clearly identifiable and free from obstruction.
17	Traffic control signs shall be legible and free from obstruction, rust, corrosion, peeling and fading with all posts maintained plumb.
18	Roadways used for vehicular traffic shall be free of depressions, humps, voids, potholes, erosion, ruts, scaling and spalling. Pavement shall be free of cracks greater than 1/2 inch and pavement joints shall not have gaps greater than 1/2 inch. Striping and markings shall be well defined, clear, legible and reflective.
19	Roadways where vehicular traffic is restricted to emergency ingress and egress, shall be free of depressions, humps, voids, potholes, erosion, ruts, scaling and spalling. Pavement shall be free of cracks greater than 1/8 inch and pavement joints shall not have gaps greater than 1/4 inch. Striping and markings shall be well defined, clear, legible and reflective.
20	Bridge riding surfaces shall be free of pits, chips, scaling or spalling.
21	Bridge railings or parapets shall not be rusted, bent, loose, damaged or missing.
22	Bridge joints shall be maintained to specification in accordance with the Contract Documents.
23	Transit hub facilities and transit shelters shall be safe and free of damage.
24	Electrical charging stations shall operate in accordance with the Contract Documents.
25	Surface parking lots shall be free of depressions, humps, voids, potholes, erosion, ruts, scaling and spalling. Pavement shall be free of cracks greater than 1/2 inch and pavement joints shall not have gaps greater than 1/2 inch. Striping and markings shall be well defined, clear and legible.

Ref	Performance Standard
26	Parking structures shall be maintained in accordance with the Contract Documents. Pavement surfaces shall be free of depressions and humps with no separation in pavement joints; skid resistant pavement or treatment shall be maintained to prevent hazardous conditions; and striping and markings shall be well defined, clear and legible.
27	All competition fields shall be maintained in accordance with the Contract Documents including <u>Section 4.4.8.1</u> (Fields: Competition Area) of the Technical Requirements.
28	All recreational fields shall be maintained in accordance with the Contract Documents including <u>Section 4.4.8.2</u> (Fields: Recreation Area) of the Technical Requirements.
29	All courts and designed sport spaces shall be maintained in accordance with the Contract Documents including <u>Section 4.4.8.3</u> (Courts) of the Technical Requirements.
30	The pool shall be maintained in accordance with the Contract Documents including <u>Section 4.4.8.4</u> (Pool: Competition Area) of the Technical Requirements.
31	All built-in equipment specified in the Area Data Sheets shall operate in accordance with the Contract Documents.

## **Annex 4 to Appendix 6**

### **Availability and Performance Failure Deduction Amounts**

<b>Area Priority Category</b>	<b>Availability Failure Deduction Amount (\$)*</b>	<b>Performance Failure Deduction Amount (\$)*</b>
1	\$12,750	\$1,280
2	\$2,420	\$480
3	\$2,200	\$440
4	\$1,890	\$380
5	\$930	\$280
6	\$460	\$140
7	\$320	\$100
8	\$310	\$90
9	\$150	\$50

\* For each Facility, the Availability Failure Deduction Amounts and Performance Failure Deduction Amounts set forth above shall be reduced by 50% for a 90-day period commencing on the applicable Occupancy Readiness Date.

## **APPENDIX 7**

### **LIST OF INITIAL FUNDING AGREEMENTS AND INITIAL SECURITY DOCUMENTS**

#### **PART A: INITIAL FUNDING AGREEMENTS**

- Note Purchase Agreement, dated as of the Effective Date, between PPM Finco LP, the Lenders, and the Collateral Agent
- Finco 1 Loan Agreement, dated as of the Effective Date, between Plenary Properties Merced Finco ULC, as borrower, and PPM Finco LP, as lender
- Finco 2 Loan Agreement, dated as of the Effective Date, between PPM Finco LLC, as borrower, and Plenary Properties Merced Finco ULC, as lender
- Developer Loan Agreement, dated as of the Effective Date, between Developer, as borrower, and PPM Finco LLC, as lender
- Equity Contribution Agreement, dated as of the Effective Date, Plenary Properties Merced HoldCo Ltd. (“**Holdco**”), Developer, and the Collateral Agent

#### **PART B: INITIAL SECURITY DOCUMENTS**

- Collateral Agency Agreement, dated as of the Effective Date, between Developer, PPM Finco LLC, Plenary Properties Merced Finco ULC, and PPM Finco LP (collectively, the “**Obligors**”), the Collateral Agent, and the Lenders
- Direct Agreement
- DB Contract Lenders’ Direct Agreement, dated as of the Effective Date, between the Lead Contractor (as design-builder), the Collateral Agent, Obayashi Corporation (as guarantor) and Developer
- FM Contractor Lenders’ Direct Agreement, dated as of the Effective Date, by and among the Lead O&M Provider, the Collateral Agent and Developer
- Security Agreement, dated as of the Effective Date, between the Collateral Agent and the Obligors
- Pledge Agreement, dated as of the Effective Date, between the Collateral Agent and HoldCo

**APPENDIX 8**

**INSURANCE REQUIREMENTS**

**1. Developer-Provided Insurance Policies**

<b>COVERAGE</b>	<b>WORKERS' COMPENSATION / EMPLOYERS' LIABILITY COMPLIANT WITH CALIFORNIA STATUTE</b> Required during the Term of the Agreement
<b>Named Insured:</b>	Policies required of Developer and Contractors of every tier
<b>Limits:</b>	Workers' Compensation: Statutory Employers' Liability: US\$1 million per occurrence US\$1 million disease per employee US\$1 million disease policy limit  Limits not required to apply per project.
<b>Deductible/Self-Insured Retention:</b>	Not to exceed \$250,000 per occurrence (does not apply to Controlled Insurance Program)
<b>Additional Terms:</b>	Voluntary compensation endorsement Waiver of subrogation as required by the Agreement Where applicable, endorsed to cover US Longshore and Harbor Workers Act, and Jones Act 60 days' notice of cancellation (except 10 days for non-payment of premium)
<b>Insurer:</b>	Admitted/authorized in the State of California, AM Best rating of AX or better
<b>COVERAGE</b>	<b>COMMERCIAL GENERAL LIABILITY, ISO FORM CG 00 01 04 OR EQUIVALENT</b> Required during the Term of the Agreement
<b>Named Insured:</b>	Developer; Lead Contractor; Lead O&M Firm; Owner, but only with respect to liability arising out of the Project
<b>Additional Insured:</b>	Merced Irrigation District, Solar Star California XII, LLC (if any potential of Work impacting its systems)
<b>Policy Limits:</b>	US\$2 million per occurrence US\$4 million general aggregate

	<p>US\$4 million completed operations aggregate</p> <p>Policy limits may be met through a combination of primary and excess liability coverage, provided that no gap in coverage exists</p>
<b>Deductible/Self-Insured Retention:</b>	Not to exceed US\$1 million per occurrence
<b>Additional Terms:</b>	<ul style="list-style-type: none"> <li>• Primary to any insurance or self-insurance otherwise available to insured parties</li> <li>• All limits dedicated to the Project</li> <li>• No exclusions for explosion, collapse, or underground (XCU)</li> <li>• No exclusions for cross-liability between named insureds and/or additional named insureds</li> <li>• Each of the Indemnified Parties as additional insureds under Contractors' liability insurance policies</li> <li>• Additional insureds covered for completed operations to the same extent as the Named Insured(s)</li> <li>• Waiver of subrogation provided in favor of additional insureds</li> <li>• Additional insureds endorsements contain no limitations, conditions, restrictions or exceptions to coverage beyond those that apply under the policy generally and state that interests and protections of each additional insured shall not be affected by any misrepresentation, act or omission of a named insured or any breach by a named insured of policy provisions</li> <li>• Liability covers acts or omissions of Developer's employees engaged in the work and employees of Contractors</li> <li>• 60 days' notice of cancellation (except 10 days for non-payment of premium)</li> <li>• Policy will respond in priority to Developer's rights to recover under the Agreement</li> </ul>
<b>Insurer:</b>	Admitted/authorized in the State of California, AM Best rating of AX or better

<b>COVERAGE</b>	<b>BUILDERS RISK</b> Required when performing Construction Work
<b>Form:</b>	Builders All Risk (BAR) Completed Value Form
<b>Named Insured:</b>	Developer and Contractors of every tier
<b>Policy Term:</b>	Commencing on the Effective Date and, for any Facility, ending on the applicable Occupancy Readiness Date
<b>Policy Limit:</b>	\$500 million per occurrence
<b>Sub Limits:</b>	<ul style="list-style-type: none"> <li>▪ Inland transit \$10 million</li> <li>▪ Offsite storage \$10 million</li> <li>▪ Expediting expenses/extra expense \$10 million</li> <li>▪ Demolition, increased cost of construction including undamaged property \$50 million</li> <li>▪ Debris Removal \$50 million</li> <li>▪ Professional fees \$5 million</li> </ul>
<b>Coverage Extensions / Conditions:</b>	<ul style="list-style-type: none"> <li>▪ Soft cost coverage covering increased expense incurred as a result of covered damage</li> <li>▪ Civil authority or ingress/egress clauses</li> <li>▪ Blanket waiver of subrogation as required by contract</li> <li>▪ Design error/faulty workmanship exclusion, except ensuing loss not otherwise excluded is covered (LEG 2/96)</li> <li>▪ Hot testing included</li> <li>▪ Policy will respond in priority to Developer's rights to recover under the Agreement</li> </ul>
<b>Insured Perils:</b>	All risk of direct physical loss or damage including fire, lightning, explosion, collapse, flood and sinkhole. No requirement to duplicate coverage for perils covered by Owner self-insurance (see below).
<b>Owner Self Insurance</b>	Owner will accept the risk of tangible property loss to the Work and Temporary Works caused by Earthquake or Terrorism to the extent provided in <u>Section 17.1.6</u> of the Agreement.
<b>Insured Property:</b>	All real and personal property in the course of construction (including materials to be incorporated therein) including footings, foundations, and



	excavations costs, installation, testing and/or commissioning related to the Project.
<b>Deductible/Self-Insured Retention:</b>	Physical damage: Not to exceed \$1,000,000 per occurrence  Owner self-insured perils: See “Owner Self-Insurance” above.
<b>Coinsurance:</b>	Waived
<b>Valuation:</b>	Replacement cost for property damage
<b>Insurer:</b>	Admitted/authorized or eligible surplus lines insurer in the State of California; AM Best rating AX or better.
<b>COVERAGE</b>	<b>COMMERCIAL AUTOMOBILE LIABILITY</b> Required during the Term of the Agreement
<b>Form:</b>	ISO Business Automobile Policy or equivalent
<b>Named Insured:</b>	Developer and/or Contractors of every tier to maintain individual policies
<b>Additional Insured:</b>	Owner, Merced Irrigation District, Solar Star California XII, LLC (if any potential of Work impacting its systems)
<b>Policy Limits:</b>	US\$5 million combined single limit.  Policy limits may be met through a combination of primary and excess liability coverage, provided that no gap in coverage exists and Excess Liability coverage applies to non-owned auto so that no operated auto has less than US\$5 million.  Limits not required to apply per project.
<b>Deductible/Self-Insured Retention:</b>	Developer/Lead Contractor/Lead O&M Firm: Not to exceed US\$1 million per occurrence  Other Contractors: Not to exceed US\$250,000 per occurrence
<b>Additional Terms:</b>	<ul style="list-style-type: none"> <li>• 60 days’ notice of cancellation (except 10 days for non-payment of premium)</li> <li>• Indemnified Parties as additional insureds</li> <li>• Waivers of subrogation where required by the Agreement</li> <li>• Interests and protections of each additional insured will not be affected by any misrepresentation, act or omission of a named</li> </ul>

	<p>insured or any breach by a named insured</p> <ul style="list-style-type: none"> <li>• Endorsement – Motor Carrier Act Endorsement-Hazardous materials clean up (MCS-90) for any Contractor who will at any time transport Contaminated Materials</li> <li>• Policy will respond in priority to Developer's rights to recover under the Agreement</li> </ul>
<b>Insurer:</b>	Admitted/authorized in the State of California, AM Best rating of AX or better
<b>COVERAGE</b>	<p><b>PROFESSIONAL LIABILITY COVERAGE</b></p> <p>Required when performing Design Work or other professional services in connection with the Project.</p> <p>May be satisfied via a Contractor's Protective Professional Liability ("CPPL") policy covering all Contractors/professionals performing Design Work or rendering professional services in connection with the Project.</p> <p>If a CPPL policy is not used, separate Project-specific policies shall be provided by, or Project-dedicated limits within a corporate policy shall be provided for, each of the following:</p> <ol style="list-style-type: none"> <li>(1) Lead Campus Planner;</li> <li>(2) Each member firm of Architectural Team;</li> <li>(3) Each member of Infrastructure Engineering Team; and</li> <li>(4) Any other required Named Insured (see below) who is not covered by another required Named Insured's compliant policy.</li> </ol>
<b>Named Insured:</b>	<ol style="list-style-type: none"> <li>(1) Lead Campus Planner;</li> <li>(2) Each member firm of Architectural Team;</li> <li>(3) Each member of Infrastructure Engineering Team; and</li> <li>(4) Any other professional/Contractor performing Design Work or rendering professional services in connection with the Project.</li> </ol>
<b>Form:</b>	Claims-Made
<b>Retroactive Date:</b>	Full retroactive coverage
<b>Policy Term / Extended</b>	Construction Period plus extended reporting period

<b>Reporting Period:</b>	totaling not less than ten (10) years in the aggregate
<b>Policy Limits:</b>	<p>If a CPPL policy is used, US\$25 million per claim / \$25 million in the aggregate (with a one-time reinstatement of the limit).</p> <p>If a CPPL policy is not used, US\$25 million each claim/policy aggregate for each required Named Insured (see above).</p>
<b>Key Coverages:</b>	<ul style="list-style-type: none"> <li>• Includes the Owner's Indemnification Endorsement</li> <li>• No exclusions or limitations for consequential or delay damages or exceeded cost estimate</li> <li>• No exclusion for environmental claims (environmental consultants – may be provided under pollution policy)</li> <li>• Policy will respond in priority to Developer's rights to recover under the Agreement</li> </ul>
<b>Deductible/Self-Insured Retention:</b>	Not to exceed US\$1 million per occurrence
<b>Insurer:</b>	Admitted/authorized or eligible surplus lines insurer in the State of California; AM Best rating of AX or better
<b>COVERAGE</b>	<b>CONTRACTORS POLLUTION LIABILITY</b> Required when performing Construction Work
<b>Form:</b>	Occurrence form preferred / claims-made acceptable
<b>Named Insured:</b>	Developer and Contractors of every tier
<b>Policy Term:</b>	6 years with 4 year extended reporting period (ERP) or term of construction plus ERP to equal a total of 10 years
<b>Project Policy Limits:</b>	US\$25,000,000 minimum specific to the Project only
<b>Deductible/Self-Insured Retention</b>	Not to exceed US\$1 million per occurrence
<b>Specific Terms and Conditions:</b>	<ul style="list-style-type: none"> <li>▪ 60 days' notice of cancellation (except 10 days for non-payment of premium)</li> <li>▪ Coverage must be primary</li> <li>▪ Project site includes temporary storage yards associated with the Project</li> <li>▪ Natural resource damages must be covered</li> <li>▪ Sediment and silt included in definition of</li> </ul>

	<p>covered pollutants</p> <ul style="list-style-type: none"> <li>▪ Coverage includes illicit abandonment at project site</li> <li>▪ Waiver of subrogation in favor of Owner</li> <li>▪ Covered Operations – all those performed by or on behalf of the Named Insured</li> <li>▪ Bodily Injury definition – deemed to include mental anguish, shock, mental injury or illness and medical monitoring costs whether or not accompanied by physical injury or illness by any person or persons</li> <li>▪ Property Damage definition – deemed to include diminution in value of third party property whether or not accompanied by physical damage</li> <li>▪ Blanket Contractual – for all written contracts (including third-party-over claims)</li> <li>▪ Named Insured interest in joint ventures to be included/delete joint venture exclusion</li> <li>▪ Coverage for transportation (in transit, loading and unloading exposure) to or from a jobsite</li> <li>▪ Non-owned disposal site coverage – for treatment, storage or disposal facilities which receive hazardous materials from the Project</li> <li>▪ No exclusions for radioactive matter/naturally occurring radioactive materials</li> <li>▪ No exclusions for asbestos and lead/lead paint</li> <li>▪ Coverage for punitive/exemplary damages, civil fines and penalties, where insurable by law</li> <li>▪ Policy will respond in priority to Developer's rights to recover under the Agreement</li> </ul>
<b>Insurer:</b>	Admitted/authorized or eligible surplus lines insurer in the State of California; AM Best rating of AX or better
<b>COVERAGE</b>	<b>POLLUTION LEGAL LIABILITY</b>
<b>Form:</b>	Claims-made
<b>Named Insured:</b>	Developer and Owner
<b>Policy Term:</b>	3 years, to be renewed until expiration of the Term

<b>Policy Limit:</b>	US\$25 million per claim
<b>Deductible/Self-Insured Retention:</b>	Not to exceed US\$1 million per occurrence
<b>Insurer:</b>	Admitted/authorized or eligible surplus lines insurer in the State of California; AM Best rating of AX or better
<b>Specific Terms and Conditions:</b>	<ul style="list-style-type: none"> <li>• 60 days' notice of cancellation (except 10 days for non-payment of premium)</li> <li>▪ Coverage primary</li> <li>▪ Coverage for third-party claims for bodily injury, property damage and cleanup of unknown pre-existing and new pollution conditions</li> <li>▪ Coverage must extend to protect Developer and Owner as the result of pollution conditions arising from third party transportation while in the course of utilizing the covered location. Coverage cannot be limited to only accidental upset/overturn or loading/ unloading.</li> <li>▪ Coverage must also be extended to protect Developer and Owner as the result of pollution conditions resulting from normal maintenance activities associated with operating the Express Lanes.</li> <li>▪ Natural resource damages must be covered</li> <li>▪ Waiver of subrogation on behalf of Owner</li> <li>▪ Covered site – Work Site</li> <li>▪ Bodily Injury definition – deemed to include mental anguish, shock, mental injury or illness whether or not accompanied by physical injury or illness by any person or persons</li> <li>▪ Property Damage definition – deemed to include diminution in value of third party property whether or not accompanied by physical damage</li> <li>▪ Coverage for transportation (in transit, loading and unloading exposure) to or from a jobsite</li> <li>▪ Non-owned disposal site coverage – for treatment, storage or disposal facilities which receive hazardous materials from the insured</li> <li>▪ No exclusions for radioactive matter/naturally occurring radioactive materials</li> </ul>

	<ul style="list-style-type: none"> <li>▪ No exclusions for third-party claims for bodily injury, defense costs or cleanup of soil or groundwater arising from asbestos and/or lead paint</li> <li>▪ No exclusion for removal and disposal of unknown buried containers (including drums and tanks) and their contents.</li> <li>▪ Coverage for punitive/exemplary damages, civil fines and penalties, where insurable by law</li> <li>▪ Policy will respond in priority to Developer's rights to recover under the Agreement</li> </ul>
<b>COVERAGE</b>	<b>EXCESS LIABILITY</b> Required during the Term of the Agreement
<b>Named Insured:</b>	Owner; Developer; Lead Contractor; Lead O&M Firm
<b>Policy Limits:</b>	US\$200 million per occurrence and in the aggregate
<b>Additional Terms:</b>	<ul style="list-style-type: none"> <li>• Occurrence form</li> <li>• Follows form of Employers Liability, Commercial General Liability</li> <li>• Annual reinstatement of limit</li> <li>• 60 days' notice of cancellation (except 10 days for non-payment of premium)</li> <li>• Waiver of subrogation as required by the Agreement</li> <li>• Policy will respond in priority to Developer's rights to recover under the Agreement</li> </ul>
<b>Insurer:</b>	Admitted/authorized or eligible surplus lines insurer in the State of California; AM Best rating of AX or better

## 2. Owner-Provided Insurance Policy

<b>COVERAGE</b>	<b>PROPERTY INSURANCE FOR O&amp;M</b> With respect to each Facility, commencing on the applicable Occupancy Readiness Date and ending on the Termination Date
<b>Form:</b>	All Risk
<b>Named Insured:</b>	Owner

<b>Additional Insured with respect to each Facility:</b>	Developer and/or Lead O&M Firm
<b>Policy Term:</b>	Annual/Renewable
<b>Policy Limit:</b>	Replacement value
<b>Sub Limits:</b>	<ul style="list-style-type: none"> <li>▪ Offsite storage \$10 million</li> <li>▪ Expediting expenses/extra expense \$10 million</li> <li>▪ Demolition, increased cost of construction including undamaged property \$25 million</li> <li>▪ Debris removal \$25 million</li> <li>▪ Professional fees \$5 million</li> </ul>
<b>Coverage Extensions / Conditions:</b>	<ul style="list-style-type: none"> <li>▪ Civil authority or ingress/egress clauses</li> <li>▪ Insurance company cancellation 60 days' notice (except 10 days for non-payment of premium)</li> <li>▪ Design error/faulty workmanship exclusion, except ensuing loss not otherwise excluded is covered (LEG 2/96)</li> <li>▪ Policy will respond in priority to Developer's rights to recover under the Agreement (only applicable if policy is required to be procured by Developer pursuant to <u>Section 17.1.1.2</u> of the Agreement)</li> </ul>
<b>Insured Perils:</b>	All risk of direct physical loss or damage including fire, lightning, explosion, collapse, flood, sinkhole, boiler & machinery, etc., business interruption. No requirement to duplicate coverage for perils covered by Owner self-insurance (see below).
<b>Owner Self-Insurance:</b>	Owner will accept the risk of loss to tangible Project property caused by an Earthquake or Terrorism to the extent provided in <u>Section 17.1.6</u> of the Agreement.
<b>Insured Property:</b>	All real and personal property of every description
<b>Deductible/Self-Insured Retention</b>	<p>Physical damage: Not to exceed \$25,000 per occurrence (applicable only to any Developer-provided replacement property policy under <u>Section 17.1.1.2</u> of the Agreement)</p> <p>Business interruption: 24 hours</p> <p>Owner self-insured perils: See "Owner Self-Insurance" above.</p>
<b>Coinsurance:</b>	Waived

<b>Valuation:</b>	Replacement cost for property damage Actual loss sustained for time element resulting in loss of Availability Payment
<b>Insurer:</b>	Admitted/authorized or eligible surplus lines insurer in the State of California; AM Best rating AX or better



**APPENDIX 9**  
**DISPUTES**

App. 9-A Form of Disputes Review Board Agreement

App. 9-B Disputes Review Board Procedures

**APPENDIX 9-A**  
**FORM OF DISPUTES REVIEW BOARD AGREEMENT**

This Disputes Review Board Agreement ("DRB Agreement") is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 201\_\_\_\_, among The Regents of the University of California (the "Owner"), Plenary Properties Merced LLC ("Developer"), and \_\_\_\_\_ (collectively, the "Board Members"), with reference to the following facts:

A. The Owner and Developer have entered into that certain Project Agreement dated August 12, 2016 (the "Agreement"). Pursuant to the Agreement, Developer has agreed to develop, design, construct, finance, operate and maintain the UC Merced 2020 Project ("Project") through a public-private partnership.

B. Section 25.2 of the Agreement provides for the establishment and operation of a Disputes Review Board ("Board") to assist in resolving disputes and claims among the Owner, Developer and others in respect to the Project.

NOW, THEREFORE, in consideration of the terms, conditions, covenants and agreements contained herein, the parties agree as follows:

**SECTION 1. ESTABLISHMENT OF BOARD**

**1.1** The Board shall begin operation upon execution of this DRB Agreement by the Owner, Developer and all three Board Members, and shall terminate upon completion of all work required to be performed by the Board hereunder unless sooner terminated in accordance with this DRB Agreement or applicable law.

**1.2** Each member of the Board represents, warrants and covenants on his/her behalf that he/she complies with the criteria and limitations for membership described in Appendix 9-B to the Agreement.

**1.3** All three Board Members must have submitted and received approval of disclosure statements according to the requirements of Section 1.5 of Appendix 9-B to the Agreement.

**1.4** If during the term of this DRB Agreement, a Board Member has a discussion regarding employment or enters into any agreement for employment with the Owner, Developer or a Developer-Related Entity, the Board Member shall immediately disclose such discussion or agreement to both the Owner and Developer and the Board Member shall be disqualified from serving on the Board.

**SECTION 2. BOARD RESPONSIBILITIES**

**2.1** The Board shall fairly and impartially consider and provide written decisions for resolution of disputes in accordance with Article 25 of the Agreement. The Board Members shall perform the services necessary to participate in the Board's actions in accordance with this DRB Agreement.

**2.2** Board Members will be kept informed of Project-related activities and other developments by means of regular progress reports, minutes of progress meetings, and other relevant information prepared by the Owner and Developer.

**2.3** The Board shall visit the Work Site and meet with representatives of both the Owner and Developer in accordance with Section 3 of Appendix 9-B to the Agreement.

**2.4** All Board Members are to act independently in the consideration of facts and conditions surrounding any Dispute. Seeking the Board Members' advice or consultation, ex parte, is expressly prohibited; provided, however, that either the Owner or Developer may seek such advice or consultation from the entire Board, at a Board meeting, after first giving notice to all interested parties. A Board Member who has ex parte contact with the Owner or Developer or a representative of either party shall be subject to removal from the Board for cause.

**2.5** Board Members may withdraw from the Board upon delivery of written notice of withdrawal to the Owner, Developer and the other Board Members, which notice shall specify a withdrawal date at least 30 days following the date of delivery of the notice. In addition, a Board Member may be terminated by the Owner or Developer if at any time that Board Member fails to meet the relevant qualifications set forth in Sections 1.2 through 1.4 of Appendix 9-B to the Agreement. Should the need arise to appoint a replacement Board Member, the replacement member shall be appointed in the same manner as provided by the Agreement for appointment of the original member. The selection of a replacement Board Member shall begin promptly upon notification of the necessity for a replacement and shall be completed within 30 days thereafter. The change in Board membership shall be evidenced by the new member's signature on this DRB Agreement.

**2.6** The personal services of the Board Member are a condition to receiving payment hereunder. No Board Member shall assign any of his or her work pursuant to this DRB Agreement without the prior written consent of both the Owner and Developer.

**2.7** Each Board Member, in the performance of his or her duties on the Board, is acting as an independent contractor and not as an employee of either the Owner or Developer. No Board Member will be entitled to any employee benefits.

### **SECTION 3. HEARINGS AND DECISIONS**

**3.1** Each Dispute under the Agreement shall be heard and decided by the Board in accordance with the procedures and timelines established in Section 25.2 of the Agreement.

**3.2** Within the limits set by Section 25.2 of the Agreement, the Board shall have the right to establish its own procedures and time limits, including the right to establish or to waive evidentiary rules and procedures. Each party involved in the Dispute shall retain the right to discovery, within the parameters set by the Board.

## **SECTION 4. PROVISION OF DOCUMENTS TO BOARD**

**4.1** The Owner shall furnish each Board Member one copy of Project-related documents in accordance with Section 2.2 of Appendix 9-B to the Agreement.

**4.2** Developer shall furnish to each Board Member one copy of all Project-related documents it might have, other than those furnished by the Owner, in accordance with Section 2.1 of Appendix 9-B to the Agreement.

## **SECTION 5. PAYMENT**

**5.1** The Owner and Developer shall each pay its portion of the costs related to the services rendered by each Board Member in accordance with Section 5 of Appendix 9-B to the Agreement.

**5.2** Invoices for payment for Board Member work completed under this DRB Agreement shall be submitted no more often than once per month. Such invoices shall be in a format approved by the Owner and Developer and accompanied by a general description of activities performed during the relevant period. The value of work accomplished for payment shall be established from the billing rate and hours expended by the Board Member together with direct, non-salary expenses. Billings for expenses shall include an itemized listing supported by copies of the original bills, invoices, expense accounts and miscellaneous supporting data.

**5.3** Each Board Member shall keep available for inspection, for a period of five years after final payment, the cost records and accounts pertaining to this DRB Agreement.

## **SECTION 6. MISCELLANEOUS**

**6.1** This DRB Agreement shall commence upon execution hereof by Developer, the Owner and the first two Board Members. The foregoing is subject to the right of the Owner and Developer to terminate the services of Board Members as specified herein.

**6.2** Capitalized terms used but not defined herein shall have the meanings set forth in the Agreement.

**6.3** The parties to this DRB Agreement intend for Article 25 and Appendix 9-B to the Agreement and the other terms of this DRB Agreement to be complementary. Except as otherwise specifically provided herein, in the event of any conflict between this DRB Agreement and said Article 25 and Appendix 9-B to the Agreement, Article 25 and Appendix 9-B to the Agreement shall control.

**6.4** Notices hereunder shall be sent as provided in Section 26.9 of the Agreement. The addresses for the Board Members are set forth on the signature pages hereof.

**6.5** This DRB Agreement shall be governed by and construed in accordance with the laws of the State of California.

IN WITNESS WHEREOF, the parties have executed this DRB Agreement as of the day and year first above written.

**BOARD MEMBERS**

Member #1

---

Signature

Name/Address:

---

---

---

Member #2

---

Signature

Name/Address:

---

---

---

Member #3

---

Signature

Name/Address:

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---

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**DEVELOPER**

**PLENARY PROPERTIES MERCED LLC,  
by its sole member,  
PLENARY PROPERTIES MERCED  
HOLDCO LTD.**

By:\_\_\_\_\_

Name: Paul Dunstan

Title: Authorized Signatory

By:\_\_\_\_\_

Name: Brian Budden

Title: Authorized Signatory

**OWNER**

**THE REGENTS OF THE UNIVERSITY  
OF CALIFORNIA**

By:\_\_\_\_\_

Name:\_\_\_\_\_

Title:\_\_\_\_\_

**APPENDIX 9-B**  
**DISPUTES REVIEW BOARD PROCEDURES**

**SECTION 1. Establishment of Disputes Review Board**

**1.1 Purpose**

The Parties shall establish the DRB to provide special expertise and assist in and facilitate the timely and equitable resolution of Disputes between the Owner and Developer as set forth under Section 25.2 of the Agreement and the DRB Agreement.

**1.2 Board Membership**

The DRB will consist of one member selected by the Owner, one member selected by Developer, and a third member selected by the first two members from a jointly developed list of five (5) potential members approved by both the Owner and Developer. The third member will act as chairman. Once established, the DRB will remain active and in full force and effect until all Disputes submitted to the DRB have been decided by the DRB.

**1.3 Neutral and Impartial**

It is imperative that the DRB members be neutral, act impartially, and not have any conflict of interest.

**1.4 Criteria for Membership**

For purposes of determining conflicts of interests and disqualification, the term "member" also includes the member's current primary or full-time employer, and "involved" means having a contractual relationship with the Owner or Developer at any tier.

**1.4.1 Experience Criteria for DRB Members**

Each DRB member must have:

- (a) Substantial experience in interpreting and/or implementing public-private partnership projects in North America and/or:
  - i. Public construction contracts in the State of California, if serving prior to the Replacement Date (as defined in Section 1.9(b) of this Appendix 9-B); or
  - ii. Public facilities management contracts in the State of California, if serving after the Replacement Date; and
- (b) The ability to master a thorough understanding of the Contract Documents promptly upon selection.

### **1.4.2 Additional Criteria Applicable to DRB Members**

In addition to the criteria set forth in Section 1.4.1 of this Appendix 9-B, the criteria for membership for all members of the DRB include the following:

- (a) No member shall have an ownership interest in any party involved in the Agreement, or a financial interest in the Agreement, except for payment for services on the DRB.
- (b) Except for fee-based consulting services on other projects, no member shall have been previously employed by, or have had financial ties to, any party involved in the Agreement within a period of eight (8) years prior to award of the Agreement.
- (c) No member shall have provided to either Party fee based consulting services within the two (2) years prior to award of the Agreement, where the consulting fees paid by that Party have exceeded 20% of that member's total consulting revenue in either year.
- (d) No member shall have had a close professional or personal relationship with any key member of any party involved in the Agreement which, in the judgment of either Party, could suggest partiality, or give an appearance of impropriety.
- (e) No member shall have had prior involvement in the Project, of a nature which could compromise his or her ability to participate impartially in the activities of either board.
- (f) Each member shall have completed the DRB training course provided by the Owner for the Project.
- (g) During his or her tenure as a member of the DRB, no member shall be employed, including fee-based consulting services, by any party involved in this Agreement except with express approval of both Parties.
- (h) During his or her tenure as a member of the DRB, no member shall engage in a discussion or make an agreement, with any party involved in this Agreement, regarding employment after this Agreement is completed.

### **1.5 Disclosure Statement**

Before their appointments are final, the first two prospective members of the DRB shall submit complete disclosure statements for the approval of both the Owner and Developer. Each statement shall include a resume of experience, together with a declaration describing all past, present and anticipated or planned future relationships, including indirect relationships through the prospective member's primary or full-time employer, to this Project and with all parties involved in this Agreement. This disclosure shall also include any financial relationship relative to the criteria in Section 1.4 of this



Appendix 9-B, and disclosure of close relationships, either professional or personal, with all key members of all parties to this Agreement. The third member of the DRB shall supply such a statement to the first two members and to the Owner and Developer before his or her appointment is final.

## **1.6 Selection of First Two Members**

The Owner and Developer shall each select a proposed member for the DRB and convey the selected member's name and reference information to the other Party within two weeks after execution of the Agreement. If either Party believes that the member appointed by the other Party does not meet the criteria for membership as set forth in this Appendix 9-B, that Party may notify the other Party of such failure and the reason therefore. If either Party's member fails to meet the criteria, the other Party may require substitution for that member.

## **1.7 Nomination and Approval of Third Member**

Immediately after the Owner and Developer selections for the DRB are final, the Owner will provide a list of five (5) proposed members acceptable to both Parties and will notify the first two members of the DRB to begin the process of selecting the third member from this list. The first two members shall select the third member from the list provided by the Owner and shall ensure that the third member meets all of the relevant criteria listed above. The first two members shall select the third member within two weeks after they receive the notice from the Owner to begin the selection process.

If the first two members of the DRB do not select a third member within the prescribed time period, the Owner and Developer shall promptly select the third member by mutual agreement. In so doing, the Parties may, but are not required to, consider other nominees offered by the first two members of the DRB.

## **1.8 Execution of Three Party Agreement**

The Owner, Developer and all three members of the DRB shall execute the Disputes Review Board Agreement in the form attached as Appendix 9-A within two weeks after the selection of the third member.

## **1.9 Disqualification and Replacement of Board Members**

- (a) If (i) any member of the DRB has a discussion regarding employment or enters into any employment agreement with Developer, the Owner or any Contractor on the Project during his or her tenure on the DRB or (ii) any member of the DRB is discovered to not meet the relevant qualifications set forth in this Appendix 9-B, that member shall be disqualified from serving on the DRB. In the event of such a disqualification, a replacement member meeting the qualifications in this Appendix 9-B will be selected within 30 days thereof (A) by the Owner if the disqualified member was originally selected by the Owner, (B) by Developer if the disqualified member was originally selected by Developer, or (C) by both the Owner

and Developer-selected DRB member if the disqualified member was the third member.

- (b) On or about thirty (30) days following the Project Final Acceptance Date, the Owner and Developer shall commence selection of replacement DRB members in accordance with the process set forth in Sections 1.6 through 1.8 of this Appendix 9-B, provided that, for such purpose, reference to “execution of the Agreement” in Section 1.6 of this Appendix 9-B shall be deemed to be replaced with “the date which is thirty (30) days following the Project Final Acceptance Date” and each reference to “two weeks” in Sections 1.6 through 1.8 of this Appendix 9-B shall be deemed to be replaced with “four weeks.” The date on which the Disputes Review Board Agreement is fully executed by the replacement members in accordance with Section 1.8 of this Appendix 9-B is the “**Replacement Date.**”

## **SECTION 2. Owner and Developer Responsibilities**

### **2.1 Developer Responsibilities**

Developer shall furnish to each DRB member a set of all pertinent documents which are or may become necessary for the DRB to perform their function, except documents furnished by the Owner. Pertinent documents are any drawings or sketches, calculations, procedures, schedules, estimates, or other documents used in the performance of the Work or in justifying or substantiating Developer’s position regarding a particular Dispute. Developer shall furnish a copy of such documents to the Owner.

Except for its participation in the DRB’s activities as provided in the Disputes Review Board Agreement, Developer will not solicit advice or consultation from the DRB or any member on matters dealing in any way with the Project, the conduct of the Work or resolution of problems.

### **2.2 Owner Responsibilities**

Except for its participation in the DRB’s activities as provided in the Disputes Review Board Agreement, the Owner will not solicit advice or consultation from the DRB or any members on matters dealing in any way with the Project, the conduct of the Work or resolution of problems.

The Owner shall furnish the following services and items:

- (a) Contract Related Documents: The Owner shall furnish each DRB member a copy of all Contract Documents, written amendments of same, written instructions issued by the Owner to Developer, or other documents pertinent to the performance of the Agreement and necessary for either board to perform its function. The Owner shall furnish a copy of such documents to Developer.

- (b) Coordination and Services: The Owner, in cooperation with Developer, shall coordinate the operations of the DRB. The Owner shall arrange or provide conference facilities at or near the Work Site, provide a DRB training course for the Project, and provide secretarial and copying services for the DRB.

## **2.3 Reports to the DRB**

The Owner and Developer shall provide the DRB members with regular progress reports, minutes of progress meetings, and other relevant information they each prepare in order to keep the DRB informed of Project-related activity and other developments.

## **2.4 Continuance of Work During Dispute**

During the course of the dispute resolution process, Developer will continue with the Work as directed by the Owner in a diligent manner and without delay or otherwise conform to the Owner's decision or order, and will be governed by all applicable provisions of the Agreement. Throughout any disputed Work, Developer will keep complete records of extra costs and time incurred. Developer will permit the Owner and DRB members access to these and any other records needed for evaluating the Dispute.

## **SECTION 3. Regular Meetings and Site Visits By DRB**

The DRB shall visit the Work Site and meet with representatives of both the Owner and Developer once a month for the first six (6) months after NTP 2, and subsequently once every two (2) months until all Disputes submitted to the DRB pursuant to Section 25.2 of the Agreement have been decided by the DRB, or as otherwise needed. The Owner, Developer and the DRB shall collectively determine the frequency and scheduling of these visits, depending on the progress of the Work. In case of failure to agree, the Owner and Developer shall schedule the visits.

The regular meetings shall occur at the Work Site. Each meeting shall consist of an informal round table discussion followed by field observation of the Work. Selected personnel from the Owner and Developer shall attend the round table discussion. The agenda shall generally include the following:

- (a) Meeting convened by the Chairman of the DRB.
- (b) Opening remarks by the Owner's representative.
- (c) A description by Developer of:
  - i. Work accomplished since the last meeting,
  - ii. Current status of the Work schedule,
  - iii. Schedule for future Work,
  - iv. Potential or anticipated problems and proposed solutions, and

- v. Current and potential Disputes and other controversies.
- (d) Discussion by the Owner's representative of:
  - i. The Work schedule as he views it,
  - ii. Potential Disputes and other controversies, and
  - iii. Status of past Disputes.
- (e) Such other items as the Parties may wish to discuss with the DRB.
- (f) Set tentative date for next meeting(s).

The Owner shall prepare minutes of regular meetings and circulate them for comments, revisions and/or approval of Developer and the DRB.

The field observations shall cover all active segments of the Work. Representatives of both the Owner and Developer shall accompany the DRB during these observations.

#### **SECTION 4. Independent Expert**

The DRB shall retain a qualified Independent Expert within fourteen (14) days of receipt of any written notice from Developer of an anticipated date of a Key Completion Event pursuant to Section 25.2.3 of the Agreement.

The Independent Expert must have:

- (a) Substantial experience in acting as an independent engineer or independent certifier on public-private partnership projects in North America and/or public construction contracts in the State of California; and
- (b) The ability to master a thorough understanding of the requirements of the Contract Documents as they relate to conditions precedent to the relevant Key Completion Event promptly upon engagement by the DRB as an Independent Expert.

#### **SECTION 5. Payment of Fees**

The Owner and Developer are each responsible to pay the fees and expenses of the DRB member it selected without recourse to the other Party. Each Party is responsible for 50% of the fees and expenses of the third DRB member, payable as follows:

- (a) Developer shall pay the full amount of fees and expenses invoiced by the third member of the DRB, after approval by both Parties;
- (b) Developer will then invoice the Owner for 50% of the payment it made to the third member of the DRB; and

- (c) The Owner will review and process payment of the invoice within 30 days of receipt.

The Owner is responsible for paying the fees and expenses of any Independent Expert retained by the DRB pursuant to Section 4 of this Appendix 9-B.

The Owner will prepare and mail minutes and progress reports, will provide administrative services, such as conference facilities and secretarial services for meetings with the DRB for any Dispute hearing, and will bear the cost of these services. If the DRB desires special services, such as, but not limited to, legal consultation, accounting, and data research, both Parties must agree, and the costs will be shared by them as mutually agreed.

## **APPENDIX 10**

### **INITIAL DESIGNATION OF AUTHORIZED REPRESENTATIVES**

**Owner:** Veronica Mendez, Project Executive  
  
The Regents of the University of California  
5200 North Lake Road  
Merced, CA 95343  
  
Telephone: (209) 228-2452  
Email: vmendez7@ucmerced.edu

**Developer:** Mike Marasco  
  
Plenary Properties Merced LLC  
10100 Santa Monica Blvd., Suite 410  
Los Angeles, California 90067  
  
Telephone: (604) 897-6933  
Email: mike.marasco@plenarygroup.com

## **APPENDIX 11**

### **CALCULATION AND PAYMENT OF REFINANCING GAINS**

#### **SECTION 1. Data and Projections Required for the Calculation of the Refinancing Gain**

Developer must notify the Owner as soon as practicable of its interest in proceeding with a Refinancing and the proposed schedule for documenting and closing the proposed Refinancing.

Developer shall provide the following information at least 60 days in advance of the estimated Refinancing date:

- (a) The Financial Model;
- (b) Details of the actual timing and amounts of Committed Equity Investment from the Effective Date to the estimated Refinancing date;
- (c) Details of the actual timing and amounts of Distributions to Equity Members or any of their Affiliates from the Effective Date to the estimated Refinancing date;
- (d) Information on the actual cash flow of Developer from the Effective Date to the estimated Refinancing date, set out under the same headings as the Financial Model;
- (e) Macroeconomic, revenue and cost projections from the estimated Refinancing date to the end of the Term, assuming the planned Refinancing does not occur;
- (f) Macroeconomic, revenue and cost projections from the estimated Refinancing date to the end of the Term, assuming the planned Refinancing occurs; and
- (g) Term sheet, draft Financing Agreements and other relevant information on the terms of the Refinancing;

Developer shall demonstrate to the Owner's satisfaction (not to be unreasonably withheld) that all project information is, with respect to items (a) through (d) is true and correct, and with respect to (e) and (f), reasonable and the basis upon which new Lenders will agree to participate in the planned Refinancing. When the Parties are unable to agree on actual amounts and timing related to information provided under items (a) through (f) above, relevant projections from the current Financial Model shall be used.

#### **SECTION 2. Calculation of the Refinancing Gain**

Developer shall provide the following information at least 60 days in advance of the estimated Refinancing date:

- (a) A pre-Refinancing Financial Model, which does not take into account the effects of the Refinancing ("**Pre-Refinancing Financial Model**"), as updated by Developer for the data provided under Section 1 of this Appendix 11, and which projects the cash flow of Developer from the estimated Refinancing date to the end of the Term, including projected Distributions;
- (b) A post-Refinancing Financial Model which fully takes into account the effects of the Refinancing including all costs incurred in connection with the Refinancing, but excluding the payment to the Owner of its portion of the Refinancing Gain ("**Post-Refinancing Financial Model**") as updated by Developer for the data provided under Section 1 of this Appendix 11, and which projects the cash flow of Developer from the estimated Refinancing date to the end of the Term, including projected Distributions;

**"Refinancing Gain"** means, with respect to any Refinancing other than an Exempt Refinancing (in respect of which the Refinancing Gain shall be deemed to be zero), the greater of zero and  $[(A-B)-C]$  where:

A = net present value of the Distributions to be made from the estimated Refinancing date to the end of the Term as projected in the Post-Refinancing Financial Model, discounted using the Equity IRR to the estimated date of the Refinancing;

B = net present value of the Distributions to be made from the estimated Refinancing date to the end of the Term as projected in the Pre-Refinancing Financial Model, discounted using the Equity IRR to the estimated date of the Refinancing; and

C = any adjustment required to raise the Pre-Refinancing Equity IRR to the Initial Equity IRR as described in Section 3 below.

**"Pre-Refinancing Equity IRR"** means the Equity IRR calculated in the Pre-Refinancing Financial Model, and calculated for the entire Term taking into account:

- (a) Timing and amounts of the investment by Equity Members;
- (b) Actual Distributions received by Equity Members up to the estimated Refinancing date; and
- (c) Projected Distributions as shown in the Pre-Refinancing Financial Model.

### **SECTION 3. Adjustment to Raise the Pre-Refinancing Equity IRR to the Initial Equity IRR**

If the Pre-Refinancing Equity IRR is lower than the Initial Equity IRR, a calculation will be done to determine the Distribution amount which, if received by Equity Members at the estimated Refinancing date, would increase the Pre-Refinancing Financial Model's Pre-Refinancing Equity IRR to the Initial Equity IRR. This Distribution amount will be deducted as factor C in Section 2 of this Appendix 11.



#### **SECTION 4. Payment of Owner's Portion of Refinancing Gain**

The Owner will receive payment of its portion of the Refinancing Gain as a reduction in the Availability Payments over all or a portion of the Term (such future Availability Payment reductions after the estimated Refinancing date shall be compounded annually using the Pre-Refinancing Equity IRR), on a schedule chosen by the Owner, subject to the following provisions:

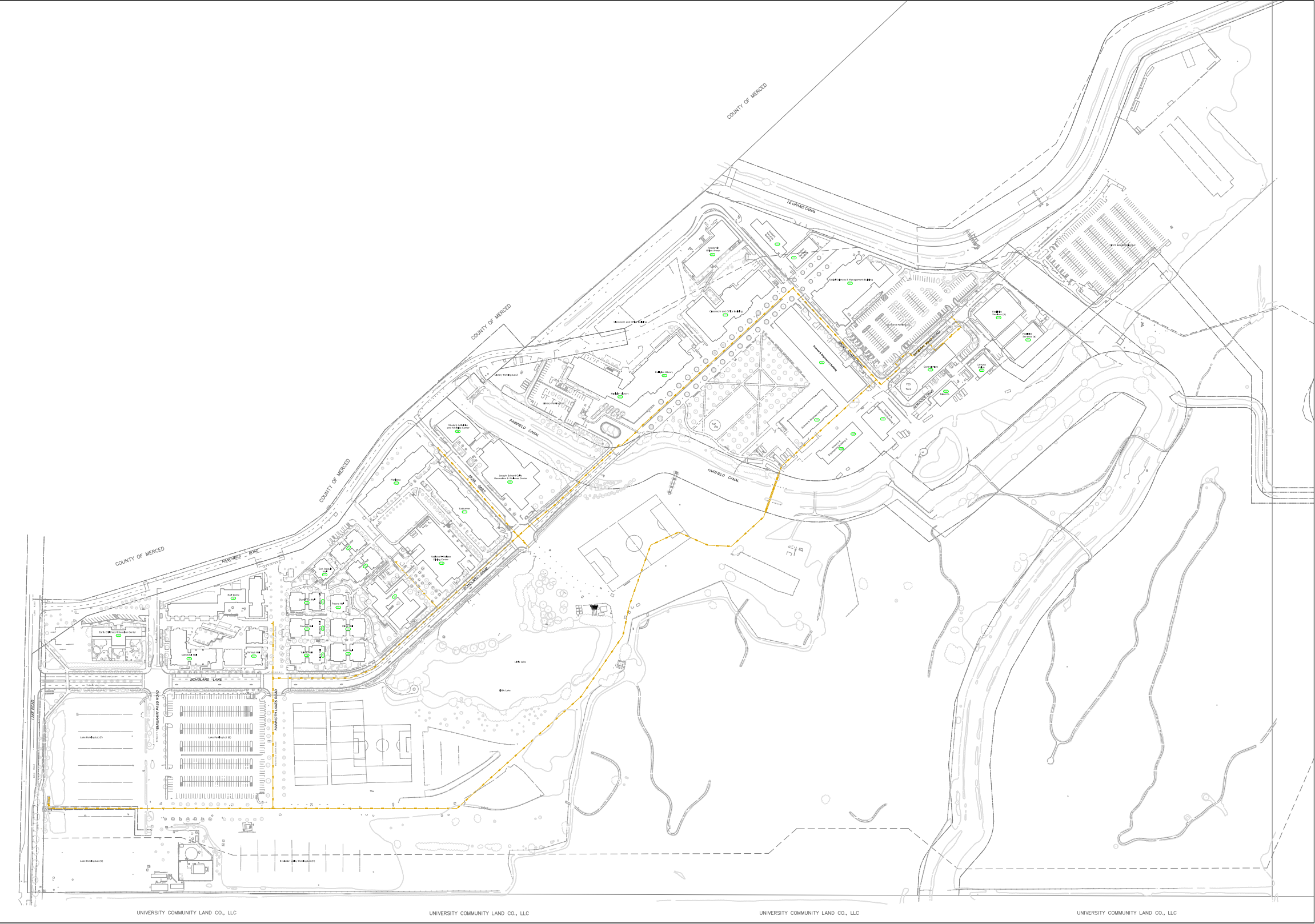
- (a) The Owner will not receive its portion of the Refinancing Gain faster than the Equity Members or Developer;
- (b) The minimum prevailing debt covenants established in the Funding Agreements would not be violated; and
- (b) If the Refinancing involves raising new debt or otherwise increasing the amount of outstanding Project Debt anticipated in any Fiscal Year of the Financial Model, the Owner may elect to receive its portion as a lump sum payment concurrently with the close of the Refinancing.

#### **SECTION 5. Final Calculation and Payment**

Developer shall perform a final calculation of the Refinancing Gain and deliver the results to the Owner at the close of the Refinancing.

**APPENDIX 12**  
**UTILITIES SURVEY**

(See attached.)

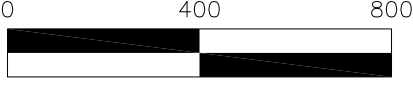


**UTILITY LINES**

— NATURAL GAS LINE

**UTILITY SYMBOLS**

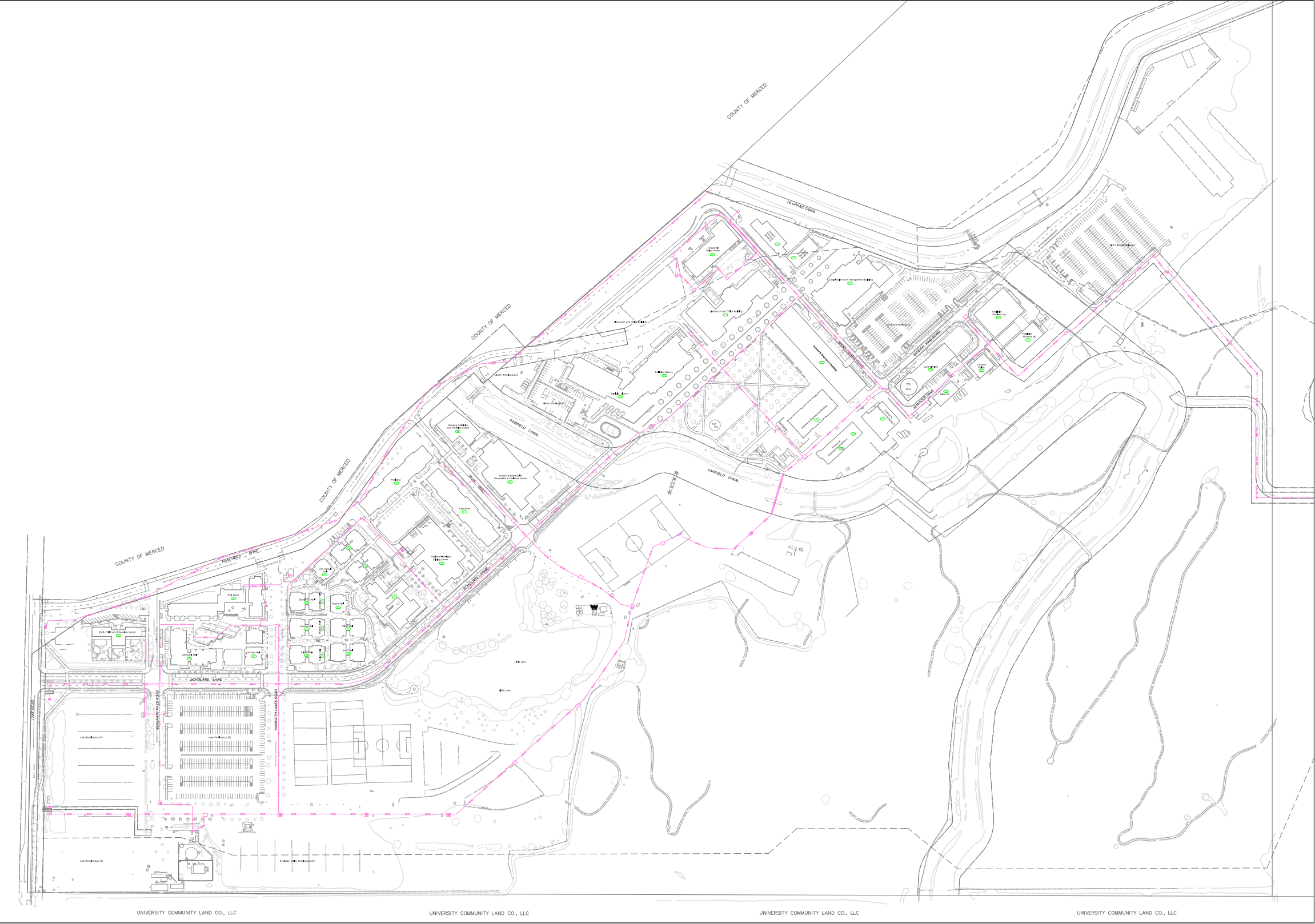
- GAS METER
- GAS VALVE



THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
UC MERCED 2020 PROJECT  
MAIN LINE UTILITY CORRIDORS — GAS

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
UPDATES BY AECOM IN OCTOBER 2015





**UTILITY LINES**

- UNDERGROUND ELECTRICAL LINE
- OVERHEAD ELECTRICAL LINE

**UTILITY SYMBOLS**

- ELECTRICAL VAULT
- ELECTRICAL JUNCTION BOX
- ELECTRICAL MANHOLE
- PG&E VAULT
- UTILITY POLE

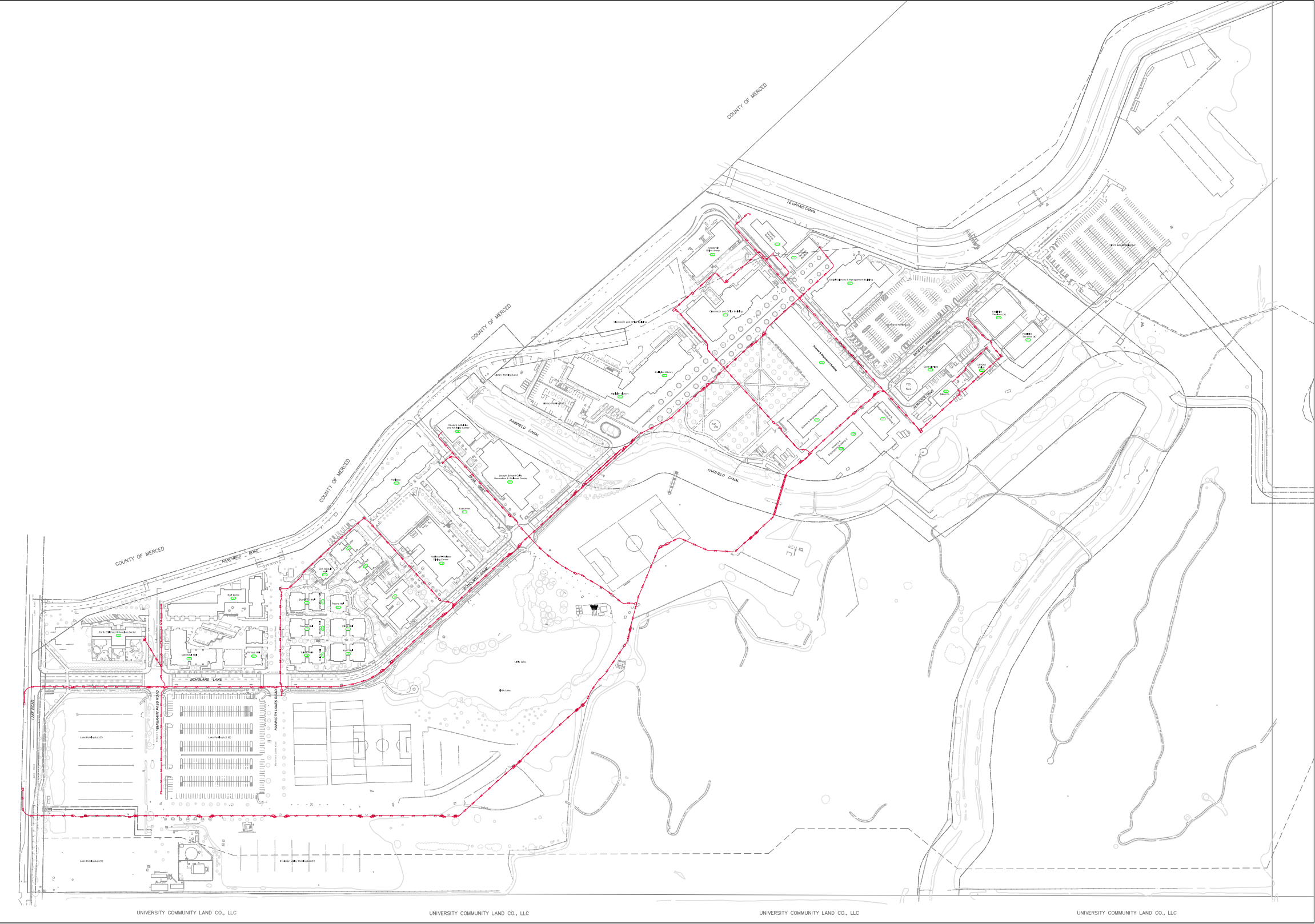


THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
UC MERCED 2020 PROJECT  
MAIN LINE UTILITY CORRIDORS — POWER

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
UPDATES BY AECOM IN OCTOBER 2015







**UTILITY LINES**

—●—●—●—●—●— UNDERGROUND COMMUNICATION CONDUIT

**UTILITY SYMBOLS**

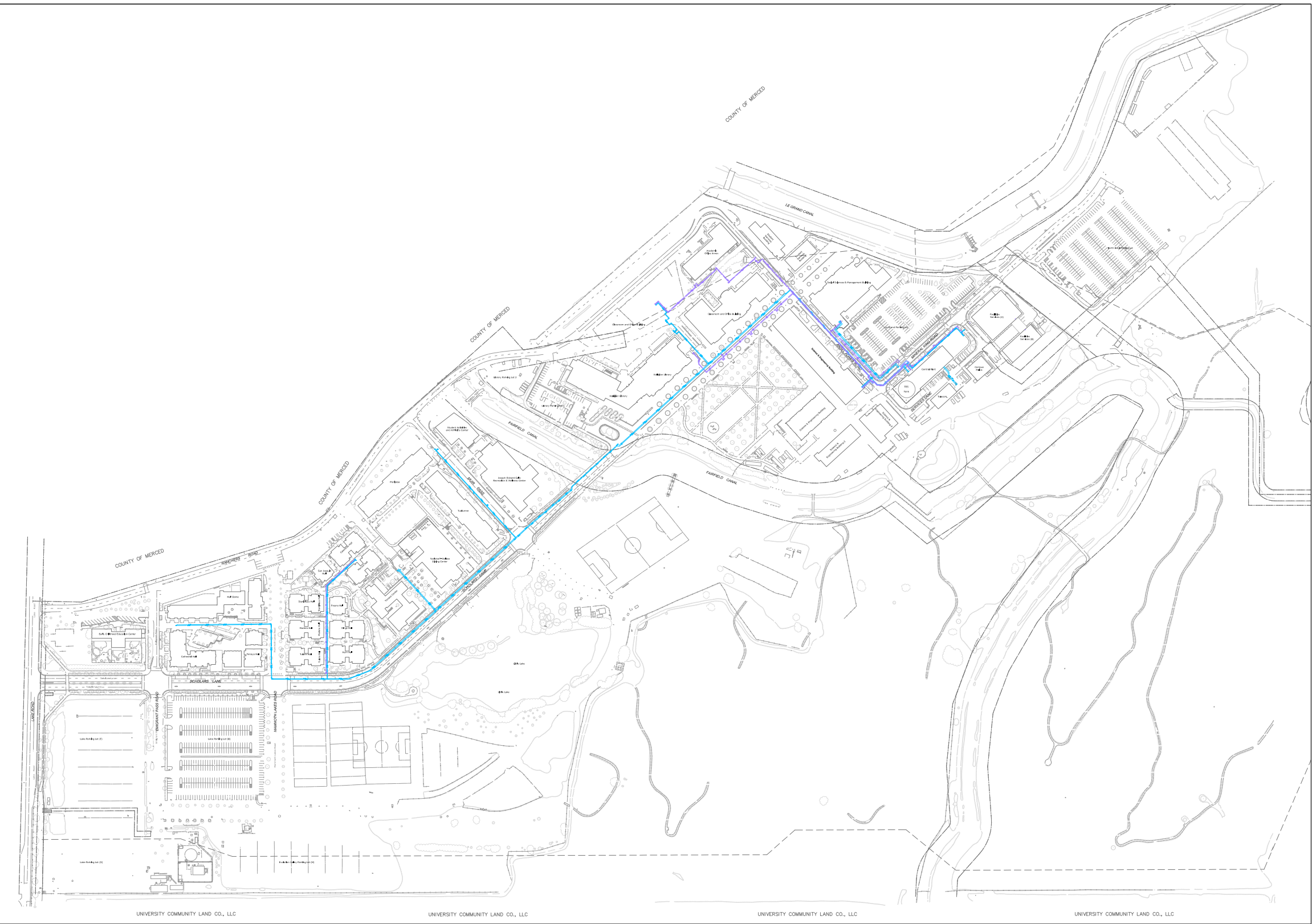
- COMMUNICATION PULL BOX
- ⊙ COMMUNICATION MANHOLE
- LE LOCAL EXCHANGE (IT/C)
- TELEPHONE PULL BOX



THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
UC MERCED 2020 PROJECT  
MAIN LINE UTILITY CORRIDORS — COMMUNICATIONS

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
UPDATES BY AECOM IN OCTOBER 2015



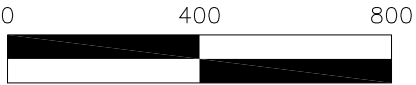


# UTILITY LINES

- CHILLED WATER PIPE
- HOT WATER PIPE

# UTILITY SYMBOLS

- WATER VALVE



THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
 UC MERCED 2020 PROJECT  
 MAIN LINE UTILITY CORRIDORS — CHILLED WATER

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
 UPDATES BY AECOM IN OCTOBER 2015





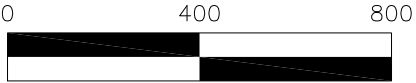


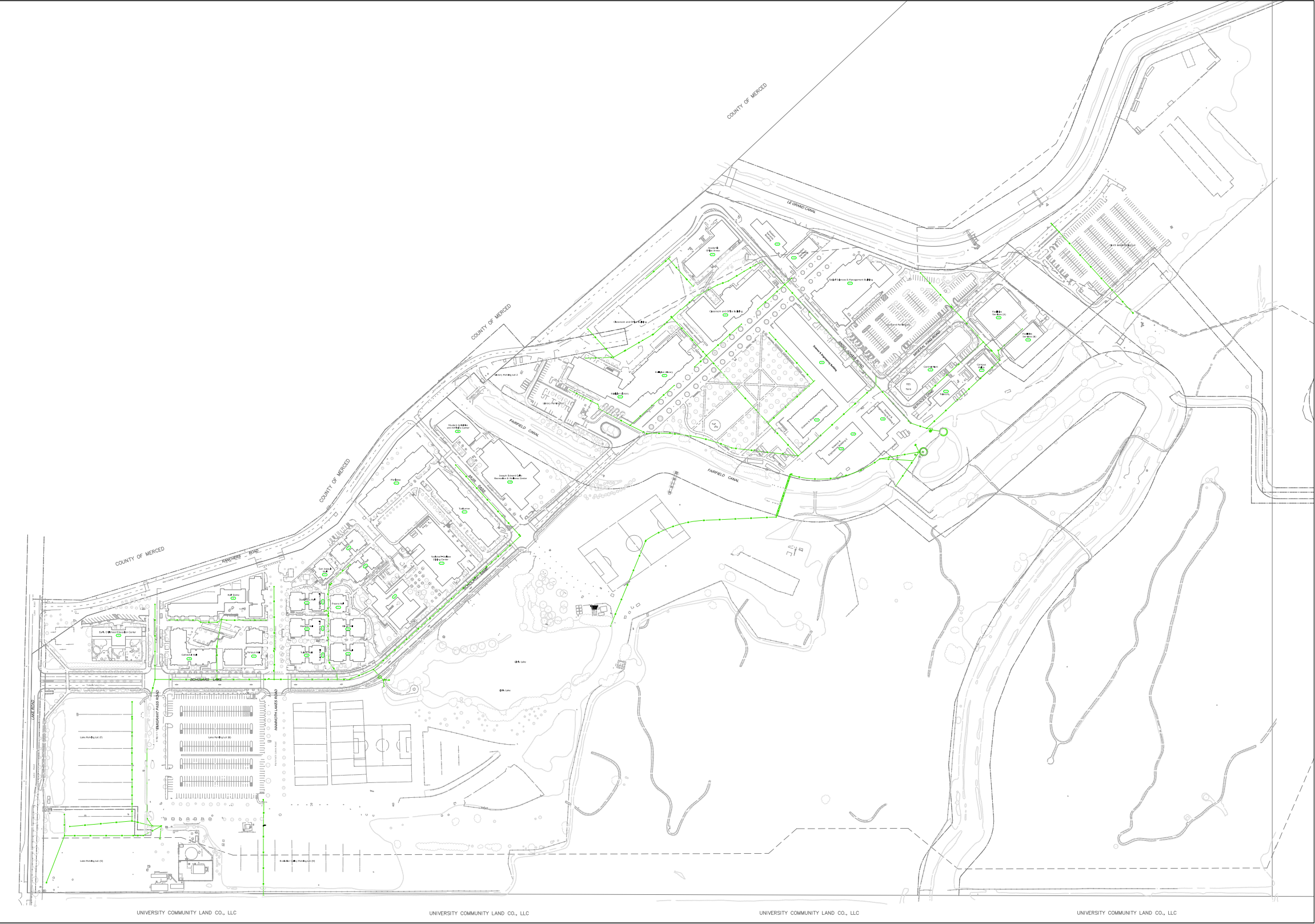
UTILITY LINES

- CHILLED WATER PIPE
- IRRIGATION PIPE

UTILITY SYMBOLS

- BACKFLOW PREVENTER
- FIRE HYDRANT
- IRRIGATION CONTROL BOX
- IRRIGATION VALVE
- WATER VAULT
- WATER VALVE



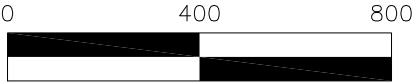


**UTILITY LINES**

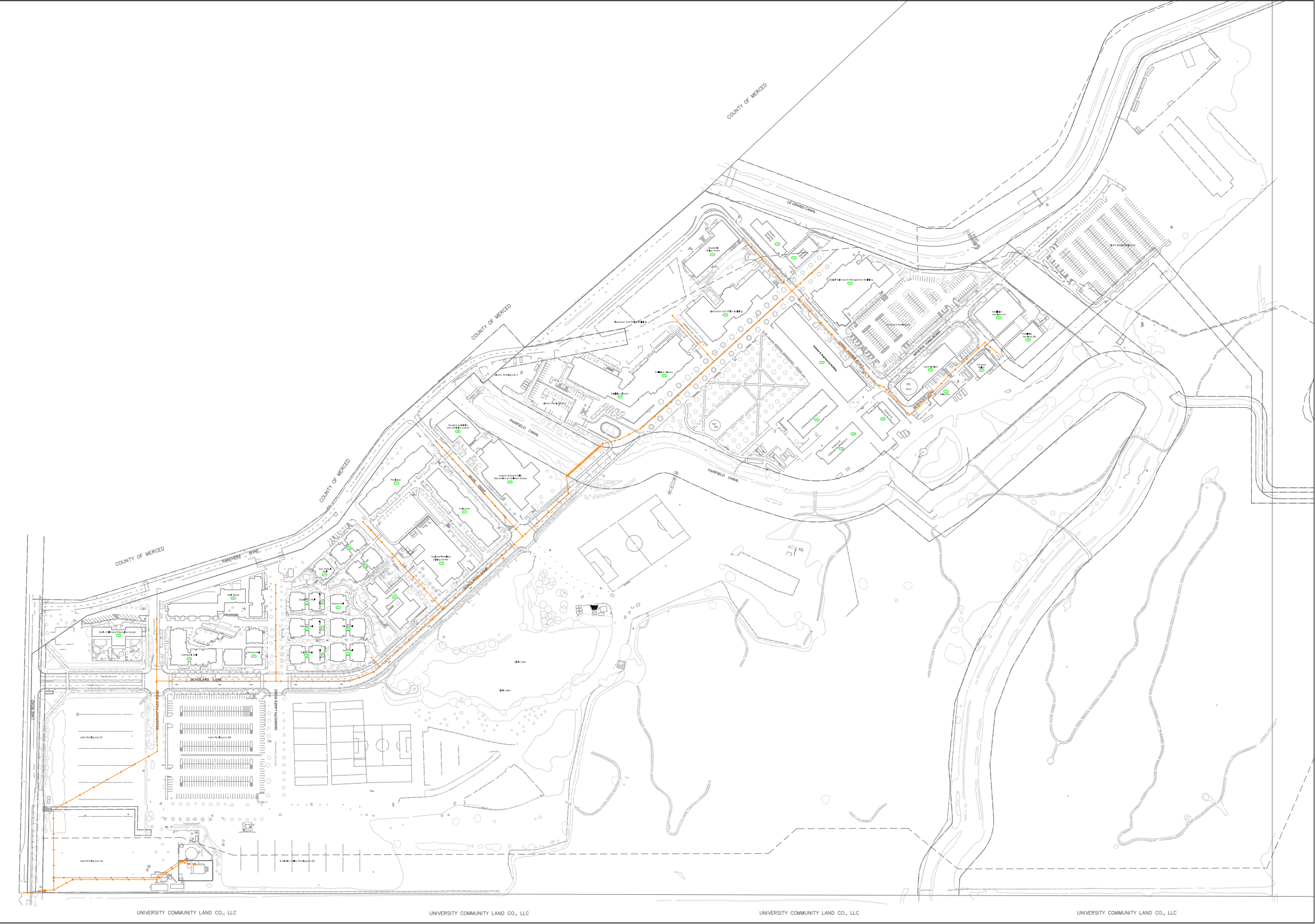
STORM DRAIN LINE

**UTILITY SYMBOLS**

- STORM DRAIN CLEANOUT
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN INLET







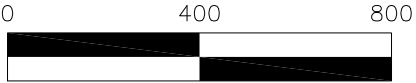
UTILITY LINES

—●— SANITARY SEWER LINE

UTILITY SYMBOLS

□ SANITARY SEWER CLEANOUT

SS SANITARY SEWER MANHOLE



THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
UC MERCED 2020 PROJECT  
MAIN LINE UTILITY CORRIDORS — SEWER

ALTA Survey: by CTA Engineering and Surveying, February, 2015  
UPDATES BY AECOM IN OCTOBER 2015



## **APPENDIX 13**

### **FORM OF DIRECT AGREEMENT**

**THIS DIRECT AGREEMENT** dated as of August 12, 2016 (this “**Direct Agreement**”) among: The Regents of the University of California (the “**Owner**”); Plenary Properties Merced LLC, a limited liability company organized under the law of California (“**Developer**”); and U.S. Bank National Association, as collateral agent on behalf of the Senior Secured Parties (together with its successors, designees and assigns in such capacity, the “**Collateral Agent**”).

#### **WHEREAS**

(A) The Owner and the Developer have entered into that certain Project Agreement dated as of the date hereof (as amended, restated, supplemented or otherwise modified from time to time in accordance with the terms thereof, the “**Project Agreement**”), pursuant to which the Developer has agreed to perform the Work.

(B) Pursuant to that certain note purchase agreement, dated as of the date hereof (as amended, restated, supplemented or otherwise modified from time to time in accordance with the terms thereof, the “**Note Purchase Agreement**”) among Borrower Finco, the Lenders and the Collateral Agent, the Lenders have agreed to purchase the PPM Finco LP, Series 2016 Senior Notes (the “**Senior Notes**”) in accordance with the terms and conditions set forth therein.

(C) Pursuant to the Intercompany Loan Agreements, Borrower Finco will on-lend the Senior Notes Proceeds to Finco 1, which will on-lend such proceeds to Finco 2, which will on-lend such proceeds to the Developer, who will use such proceeds to finance a portion of the Project Costs.

(D) Pursuant to the Collateral Agency Agreement dated as of the date hereof (as amended, restated, supplemented or otherwise modified from time to time in accordance with the provisions thereof, the “**Collateral Agency Agreement**”), by and among Borrower Finco, Finco 1, Finco 2 and Developer (collectively, the “**Obligors**”), the Collateral Agent, and the senior noteholders party thereto, the Senior Secured Parties have appointed the Collateral Agent to act on their behalf with respect to security interests and other rights and remedies granted pursuant to the Security Documents.

(E) Pursuant to that certain Security Agreement, dated as of the date hereof (as amended, restated, supplemented or otherwise modified from time to time in accordance with the provisions thereof, the “**Security Agreement**”), by and among the Obligors and the Collateral Agent and certain other Initial Security Documents, the Obligors have granted a first-priority security interest in, to and under the Collateral (as defined therein and subject to certain permitted security interests, including the Owner’s second priority security interest in the Renewal Work Reserve Account) as security for the payment and performance of all Senior Secured Obligations.

(F) Pursuant to the Pledge Agreement dated as of the date hereof (as amended, restated, supplemented or otherwise modified from time to time in accordance with the provisions thereof, the “**Pledge Agreement**”), between Plenary Properties Merced

HoldCo Ltd., a Delaware corporation (“**Holdco**”), and the Collateral Agent, Holdco has granted a first-priority security interest in, to and under the Collateral (as defined therein) as security for the payment and performance of all Senior Secured Obligations.

(G) It is a condition precedent to the obligations of the Lenders under the Note Purchase Agreement that this Direct Agreement be executed and delivered by the Owner, Developer and Collateral Agent.

**NOW, THEREFORE**, in consideration of the foregoing and the mutual terms and covenants contained herein, the parties to this Direct Agreement agree as follows:

## **1. DEFINITIONS AND INTERPRETATION**

Capitalized terms used but not otherwise defined in this Direct Agreement and references used but not construed in this Direct Agreement have the respective meanings and constructions assigned to such terms in the Project Agreement. In addition, the following terms have the meanings specified below:

***Borrower Finco*** means PPM Finco LP, a limited partnership established and legally organized under the laws of the State of Delaware.

***Control Agreement*** means the Control Agreement, dated as of the date hereof, by and among Developer, the Owner and Custodian.

***Cure Period*** means the period starting on the date of the receipt of the Owner Notice and ending on the earlier of the Step-in Date or 90 days after the expiration of any cure periods provided to Developer under the Project Agreement; provided, however, if the Collateral Agent is prohibited from curing any non-monetary default or from substituting Developer with the Substituted Entity by any process, stay or injunction issued by any governmental authority or pursuant to any bankruptcy or insolvency proceeding or other similar proceeding involving Developer, then the time period specified herein for curing a default shall be extended for the period of such prohibition.

***Custodian*** means U.S. Bank National Association, a national banking association, as custodian under the Control Agreement.

***Default*** means an Event of Default as defined in any Funding Agreement or any event or circumstance specified in any Funding Agreement which would (with the expiration of a grace period, the giving of notice, the lapse of time, the making of any determination under the Financing Documents or any combination of any of the foregoing) be an Event of Default.

***Developer Loan Agreement*** means the loan agreement dated the Pricing Date between Finco 2, as lender, and Developer, as borrower, pursuant to which Finco 2 on-lends the proceeds of the Senior Notes.

**Discharge Date** means the date on which all of the obligations of Developer under the Financing Documents have been irrevocably discharged in full to the satisfaction of the Collateral Agent.

**Event of Default** means an Event of Default as defined in any Funding Agreement.

**Finco 1** means Plenary Properties Merced Finco ULC, an unlimited liability company duly organized under the laws of the Province of British Columbia.

**Finco 1 Loan Agreement** means the loan agreement dated the Pricing Date between Borrower Finco as lender and Finco 1 as borrower, pursuant to which Borrower Finco on-lends the proceeds of the Senior Notes to Finco 1.

**Finco 2** means PPM Finco LLC, a limited liability company established under the laws of the State of Delaware, and any successors thereto.

**Finco 2 Loan Agreement** means the loan agreement dated the Pricing Date between Finco 1 as lender and Finco 2 as borrower, pursuant to which Finco 1 on-lends the proceeds of the Senior Notes to Finco 2.

**Intercompany Loan Agreements** means the Finco 1 Loan Agreement, the Finco 2 Loan Agreement, the Developer Loan Agreement and any loan agreements between the Obligor pursuant to which the proceeds of any Permitted Subordinated Debt which are incurred in accordance with the terms of the Funding Agreements are made available directly or indirectly to the Developer.

**Lenders** means any financial institutions from time to time parties to the Note Purchase Agreement as senior noteholders and any successors or replacements of such financial institutions pursuant to Section 16.04 of the Collateral Agency Agreement.

**Lender Notice** has the meaning given to it in Section 8.1.

**Owner Notice** has the meaning given to it in Section 6.1.

**Permitted Subordinated Debt** has the meaning given to it Schedule 1 to the Collateral Agency Agreement.

**Pricing Date** means the date that all conditions listed in Section 8.01 in the Note Purchase Agreement are satisfied or waived and all Transaction Documents (as defined in Schedule 1 to the Collateral Agency Agreement) are executed.

**Proceeds Account** means a deposit account with the Collateral Agent, bearing U.S. Bank Account No. 216243004, created by and designated as the "Proceeds Account" in Section 12.01 (Establishment of Project Accounts) of the Collateral Agency Agreement.

**Project** has the meaning given to it in the Recitals.

**Project Account** has the meaning given to such term in Schedule 1 to the Collateral Agency Agreement.

**Project Agreement** has the meaning given to it in the Recitals.

**Project Costs** has the meaning given to such term in Schedule 1 to the Collateral Agency Agreement.

**Property** means any right or interest in or to property of any kind whatsoever, whether real, personal or mixed and whether tangible or intangible.

**Revival Date** has the meaning given to it in Section 15.1.

**Senior Notes Proceeds** means the aggregate amount paid by the Lenders to Borrower Finco in connection with the issuance of the Senior Notes.

**Senior Secured Obligations** has the meaning given to such term in Schedule 1 to the Collateral Agency Agreement.

**Senior Secured Party** means any of the Lenders and Collateral Agent and any successors and assignees, and “Senior Secured Parties” means all of them collectively, in each case subject to the provisions of the Collateral Agency Agreement providing for the application of proceeds for the purposes with such priority and on the terms and conditions and subject to such limitations as are set forth in the Collateral Agency Agreement.

**Step-in Date** has the meaning given to it in Section 11.

**Step-in Notice** has the meaning given to it in Section 10.1.

**Step-in Party** has the meaning given to it in Section 10.2.

**Step-in Period** means the period from and including the Step-in Date until the earliest of:

- (a) The Substitution Effective Date;
- (b) The Step-out Date;
- (c) The date of termination of the Project Agreement by the Owner in accordance with this Direct Agreement and the Project Agreement;
- (d) The date of the expiration or early termination of the Term under the Project Agreement; and
- (e) If the Step-in Date occurs (i) prior to Occupancy Readiness of all First Delivery Facilities, six (6) months after the First Delivery Facilities Long Stop Date, (ii) after Occupancy Readiness of all First Delivery Facilities but prior to Substantial Completion, six (6) months after the Substantial

Completion Long Stop Date, or (iii) after the Substantial Completion Date, nine (9) months after the Step-in Date,

provided, however, that if the Collateral Agent is prohibited from curing any nonmonetary default after the Step-in Date or from substituting Developer with the Substituted Entity by any process, stay or injunction issued by any governmental authority or pursuant to any bankruptcy or insolvency proceeding or other similar proceeding involving Developer, then the time periods specified herein for curing a default shall be extended for the period of such prohibition.

**Step-out Date** means the date upon which the notice period set forth in any Step-out Notice expires.

**Step-out Notice** has the meaning given to it in Section 12.

**Substitute Accession Agreement** means the agreement to be entered into by a Substituted Entity pursuant to Section 14.1.

**Substituted Entity** means any Person selected by Lenders and approved by the Owner in accordance with Section 13 of the Agreement to perform all or a portion of Developer's obligations and succeed to the applicable Developer's rights under the Contract Documents.

**Substitution Effective Date** has the meaning given to it in Section 14.1.

**Substitution Notice** has the meaning given to it in Section 13.2.

**Termination Option** has the meaning set forth in Section 18.1.

### 1.1. Interpretation

Unless the context otherwise clearly requires:

- (a) The definitions of terms herein shall apply equally to the singular and plural forms of the terms defined;
- (b) Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms;
- (c) The words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation";
- (d) The word "will" shall be construed to have the same meaning and effect as the word "shall";

- (e) Any definition of or reference to any agreement, instrument or other document herein shall be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein);
- (f) Any reference herein to any Person, or to any Person in a specified capacity, shall be construed to include such Person's successors and assigns or such Person's successors in such capacity, as the case may be;
- (g) The words "herein", "hereof" and "hereunder", and words of similar import, shall be construed to refer to this Direct Agreement in its entirety and not to any particular provision hereof;
- (h) All references herein to Sections and Schedules shall be construed to refer to Sections of and Schedules to this Direct Agreement. Any Schedules to this Direct Agreement are an integral part hereof. The provisions of this Direct Agreement shall prevail over the provisions of any Schedules to the extent of any inconsistency;
- (i) The headings used in this Direct Agreement are for convenience of reference only and are not to affect the construction of or to be taken into consideration in interpreting this Direct Agreement; and
- (j) "Winding-up", "liquidation", "dissolution", "insolvency", "adjustment" or "reorganization" of a Person and references to the "liquidator", "assignee", "administrator", "receiver", "custodian", "conservator" "sequestrator" or "trustee" of a Person shall be construed so as to include any equivalent or analogous proceedings or, as the case may be, insolvency representatives or officers under the law of the jurisdiction in which such Person is incorporated, organized or constituted or any jurisdiction in which such Person or, as the case may be, insolvency representative or officer carries on business including the seeking of winding up, liquidation, dissolution, reorganization, administration, arrangement, adjustment or relief of debtors.

## 2. REPRESENTATIONS AND WARRANTIES

2.1. The Owner represents and warrants to the Collateral Agent that:

- (a) **Organization; Power and Authority.** The Owner is a corporation, duly formed and validly existing pursuant to Article IX, Section 9, of the California Constitution and has the power and authority to transact the

business it transacts and proposes to transact, to execute this Direct Agreement and the Project Agreement and to perform the provisions hereof and thereof.

- (b) **Authorizations, Enforceability.** This Direct Agreement and the Project Agreement have been duly authorized by the Owner, and this Direct Agreement and the Project Agreement constitute legal, valid and binding obligations of the Owner, enforceable against the Owner in accordance with their terms, except as such enforceability may be limited by (i) applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting the enforcement of creditors' rights generally and (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).
- (c) **No Default.** There is no Developer Default or Owner Default, there exists no event or condition that would, with the giving of notice or passage of time or both, constitute such a Developer Default or Owner Default, and no such Developer Default or Owner Default has occurred prior to the date hereof.

2.2. The Collateral Agent represents and warrants to the Owner that:

- (a) **Organization; Power and Authority.** The Collateral Agent is a national banking association, duly formed and validly existing under the laws of the United States and has the power and authority to transact the business it transacts and proposes to transact, to execute this Direct Agreement and to perform the provisions hereof.
- (b) **Authorizations, Enforceability.** This Direct Agreement has been duly authorized by the Collateral Agent, and this Direct Agreement constitutes a legal, valid and binding obligation of the Collateral Agent, enforceable against the Collateral Agent in accordance with its terms, except as such enforceability may be limited by (i) applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting the enforcement of creditors' rights generally and (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law). The Collateral Agent is duly authorized by the Lenders to enter into this Direct Agreement on behalf of the Lenders and to validly bind the Lenders to the terms and conditions hereof.

### 3. CONDITIONS AND LIMITATIONS RESPECTING LENDERS' RIGHTS

3.1. No Funding Agreement or related Security Document shall be valid or effective, and no Lender shall be entitled to the rights, benefits and protections of this Direct Agreement, unless the Funding Agreement and related Security Document are in compliance with Section 4.



3.2. No Funding Agreement or Security Document relating to any Refinancing shall be valid or effective, and no Lender shall be entitled to the rights, benefits and protections of this Direct Agreement, unless the Refinancing is in compliance with Section 16.3 of the Project Agreement.

3.3. No Funding Agreement or Security Document shall be binding upon the Owner in the enforcement of its rights and remedies as provided herein and by Law, and no Lender shall be entitled to the rights, benefits and protections of this Direct Agreement, unless and until the Owner has received a copy (certified as true and correct by the Collateral Agent) of the original thereof bearing, if applicable, the date and instrument number or book and page of recordation or filing thereof, including a copy of a specimen bond, note or other obligation (certified as true and correct by the Collateral Agent) secured by such Security Document, together with written notice of the address of the Collateral Agent to which notices may be sent. In the event of an assignment of any such Funding Agreement or Security Document, such assignment shall not be binding upon the Owner unless and until the Owner has received prior written notice and a certified copy thereof, which copy shall, if required to be recorded, bear the date and instrument number or book and page of recordation thereof, together with written notice of the assignee thereof to which notices may be sent. In the event of any change in the identity of the Collateral Agent, such change shall not be binding upon the Owner unless and until the Owner has received a written notice thereof signed by the replaced and substitute Collateral Agent and setting forth the address of the substitute Collateral Agent to which notices may be sent.

3.4. No Lender shall be entitled to the rights, benefits and protections of this Direct Agreement unless the Funding Agreements in favor of the Lender are secured by senior or first priority Security Documents.

#### **4. MANDATORY TERMS OF PROJECT DEBT, FUNDING AGREEMENTS AND SECURITY DOCUMENTS**

Project Debt, Funding Agreements and Security Documents, and any amendments or supplements thereto, shall comply with the following terms and conditions:

4.1. The Security Document may only secure Project Debt the proceeds of which are used exclusively for the purpose of (a) performing the Work, including designing, permitting, building, constructing, improving, equipping, modifying, operating, maintaining, reconstructing, restoring, rehabilitating, renewing or replacing the Project, (b) making Distributions, but only from the proceeds of refinancings permitted under the Project Agreement, (c) Rescue Refinancing, including making protective advances intended to prevent or remedy a default under this Agreement or a Funding Agreement or both, (d) refinancing any Project Debt described in subsections (a), (b), or (c) above, including paying the reasonable costs of closing the Refinancing (including Lender fees, advisor fees and the fees of legal counsel), (e) to fund reserves relating to the Project, (f) paying closing costs, financing costs and fees with respect to Project Debt, (g) paying principal or interest on existing Project Debt, (h) paying reasonable development fees to

Developer-Related Entities or to a Lead Contractor or its Affiliates for services related to the Project, (i) making payments due under the Contract Documents to the Owner or any other Person, and (j) making payment of Taxes owed by Developer;

4.2. The Security Document may only secure Project Debt and Funding Agreements issued and executed by (a) Developer or a Developer-Related Entity, (b) its permitted successors and assigns, (c) a special purpose entity that owns Developer but no other material assets and has purposes and powers limited to the Project and the Work, or (d) any special purpose subsidiary wholly owned by such entity;

4.3. No Security Document or other instrument purporting to mortgage, pledge, encumber, or create a lien, charge or security interest on or against Developer's Interest shall extend to or affect the fee simple interest of the Owner in the Project, the Owner-Provided Work Site or the Facilities or the Owner's rights or interests under the Contract Documents;

4.4. The Owner shall not have any obligation to any Lender pursuant to the Project Agreement, except for the express obligations to Lenders set forth in this Direct Agreement or any other instrument or agreement signed by the Owner in favor of such Lender or Collateral Agent, provided that the Collateral Agent has notified the Owner of the existence of its Security Documents;

4.5. Each Funding Agreement shall contain an agreement of the Lender to be bound by the provisions of Section 18;

4.6. Each Funding Agreement and Security Document shall require that the Collateral Agent deliver to the Owner, concurrently with delivery to Developer or any other Person, any notice of default or notice of election or enforcement of remedies, including an election to sell or foreclose, notice of sale or foreclosure or other notice required by Law or by the Security Document in connection with the exercise of remedies under the Funding Agreement or Security Document; and

4.7. No Financing Documents shall grant to the Lender any right to apply funds in the Handback Requirements Reserve Account or to apply proceeds from any Handback Requirements Letter of Credit to the repayment of Project Debt, to any other obligation owing the Lender or to any other use except the uses set forth in Section 6.9.3 of the Project Agreement, and any provision purporting to grant such right shall be null and void; provided, however, that the foregoing shall not preclude any Lender or Substituted Entity from, following foreclosure or transfer in lieu of foreclosure, automatically succeeding to all rights, claims and interests of Developer in and to the Handback Requirements Reserve Account.

## **5. AGREEMENTS, CONSENT TO SECURITY AND SUBORDINATION OF SECURITY**

5.1. The Owner acknowledges notice and receipt of copies of the Initial Financing Documents. Notwithstanding anything in the Project Agreement to the contrary, but subject to Sections 3 and 4 of this Direct Agreement, the Owner:

- (a) Consents to (i) the assignment by Developer to the Collateral Agent of all of Developer's right, title and interest in, and under the Project Agreement and the Contracts to which Developer is a party, and (ii) the granting by each Equity Member to the Collateral Agent of a security interest in such Equity Member's equity interest in Developer, in each case pursuant to the terms and provisions of the applicable Initial Security Documents; and
- (b) Agrees that such assignment and grant of security interests, and the execution by Developer and the Owner of this Direct Agreement and the performance of their respective obligations hereunder, in each case, does not (i) constitute a Developer Default or any other breach by Developer of the Project Agreement, (ii) with the giving of notice or lapse of time, or both, constitute a Developer Default or any other breach by Developer of the Project Agreement, or (iii) require the consent of the Owner except as provided herein.

5.2. Except as expressly contemplated in the Project Agreement, while any Security Document is in effect, no agreement between the Owner and Developer for the modification or amendment of the Project Agreement that in any way could reasonably be expected to have a material adverse effect on the rights or interests of the Lender(s) shall be binding on the Lender(s) under such Security Document without the Collateral Agent's consent.

5.3. As long as any Project Debt secured by any Security Document shall remain outstanding, the Owner shall promptly provide the Collateral Agent with a copy of any notice it sends to Developer concerning an actual or potential Developer Default, including any Initial Breach Notice or Final Breach Notice.

5.4. Except as set forth in this Direct Agreement, the Owner shall not be precluded from or delayed in exercising any remedies, including termination of the Project Agreement due to the accumulation of Noncompliance Points or Noncompliance Instances during the Step-in Period and the Owner's rights to cure Developer Default at Developer's expense; provided, however, the Owner shall not be entitled to exercise its right of termination due to Noncompliance Points or Noncompliance Instances accumulated prior to such step in.

5.5. Neither the Owner nor any member of the board of Owner, officer, employee, agent or representative of the Owner, shall have any liability whatsoever for payment of the principal sum of any Project Debt, any other obligations issued or incurred by Developer or a Developer-Related Entity in connection with the Project Agreement or the Project, or any interest accrued thereon or any other sum secured by or accruing under any Financing Document. Except for a violation by the Owner of its express obligations to Lenders under this Direct Agreement, no Lender is entitled to seek any damages or other amounts from the Owner, whether for Project Debt or any other amount. The Owner's review of any Financing Documents or other Project financing documents is not a guarantee or endorsement of the Project Debt, any other obligations issued or incurred by Developer or a Developer-Related Entity in connection with the

Project Agreement or the Project, and is not a representation, warranty or other assurance as to the ability of Developer or a Developer-Related Entity to perform its obligations with respect to the Project Debt or any other obligations issued or incurred by Developer or a Developer-Related Entity in connection with the Project Agreement or the Project, or as to the adequacy of the Payments to provide for payment of the Project Debt or any other obligations issued or incurred by Developer in connection with the Project Agreement or the Project. The foregoing does not affect the Owner's liability to Developer under Article 20 of the Project Agreement for Termination Compensation that is measured in whole or in part by outstanding Project Debt.

5.6. The Collateral Agent consents to the grant of security by Developer to the Owner of (a) a second priority security interest in the Renewal Work Reserve (or any Renewal Work Letter of Credit delivered by Developer in accordance with Section 6.7.6 of the Project Agreement in lieu of establishing a Renewal Work Reserve), and (b) a first priority security interest in the Handback Requirements Reserve Account (or any Handback Requirements Letter of Credit delivered by Developer in accordance with Section 6.9.4 of the Project Agreement in lieu of establishing a Handback Requirements Reserve Account).

## **6. OWNER NOTICE OF TERMINATION AND EXERCISE OF REMEDIES**

6.1. The Owner shall give the Collateral Agent written notice (an **"Owner Notice"**):

- (a) Promptly upon becoming aware of the occurrence of any event giving rise to a Developer Default, the Owner's right to terminate or give notice terminating the Project Agreement pursuant to Section 20.3.1 of the Project Agreement, or exercise any rights under Section 19.2.3, 19.2.4 or 19.2.7.1 of the Project Agreement; or
- (b) Promptly upon becoming aware of the occurrence of any event giving rise to the Owner's right to suspend its performance (including in connection with any insolvency or bankruptcy proceeding in relation to Developer) under the Project Agreement.

6.2. An Owner Notice shall specify:

- (a) The unperformed obligations of Developer under the Project Agreement and grounds for termination of, or suspension of performance or the other rights all as referred to in Sections 20.3.1, 19.2.3, 19.2.4 or 19.2.7.1 under the Project Agreement, in detail sufficient to enable the Collateral Agent to assess the scope and amount of any liability of Developer resulting therefrom;
- (b) Any other unperformed obligations of Developer of which the Owner is aware as of the date of such Owner Notice;

- (c) All amounts due and payable by Developer to the Owner under the Project Agreement on or before the date of such Owner Notice and which remain unpaid at such date and the nature of Developer's obligation to pay such amounts; and
- (d) The amount of Developer's payment obligation to the Owner that the Owner reasonably foresees will arise during the applicable Cure Period.

6.3. The Owner shall update its Owner Notice to reflect unperformed obligations of Developer under the Project Agreement that have been identified or that have arisen and amounts payable by Developer to the Owner that become due, in each case, after the date of the Owner Notice but prior to the proposed Step-in Date.

## 7. PROCEEDS ACCOUNT

Subject to the provisions of Section 8, Developer irrevocably directs the Owner to remit all amounts due and owing to the Developer under the Project Agreement directly to the Proceeds Account.

## 8. LENDER NOTICE

8.1. The Collateral Agent shall give the Owner written notice (a "**Lender Notice**"), with a copy to Developer, promptly upon becoming aware of the occurrence of any Default or Event of Default (whether or not an Owner Notice has been served relating to the same event). The Lender Notice shall be sent to the Owner via certified or registered mail, return receipt requested.

8.2. The Collateral Agent shall specify in any Lender Notice the circumstances and nature of the Default or Event of Default to which Lender Notice relates.

8.3. Subject to Section 8.5, the Owner shall, following receipt of a Lender Notice of the occurrence of any Event of Default and until further notice from the Collateral Agent pursuant to Section 8.9, make any payments required to be made by the Owner to Developer under the Project Agreement to a Project Account designated by the Collateral Agent.

8.4. Subject to Section 8.5, the Owner shall, following receipt of a Lender Notice of the occurrence of any Event of Default and until further notice from the Collateral Agent pursuant to Section 8.9, make any payment of any termination sum calculated in accordance with Article 20 of the Project Agreement required to be made to Developer under the Project Agreement to a Project Account designated by the Collateral Agent.

8.5. The Owner's obligations under Sections 8.3 and 8.4 are subject to the following:

**8.5.1.** The Collateral Agent shall provide to the Owner the following information: (a) the individual responsible for administering the account designated by the Collateral

Agent, including his or her position; (b) the mailing address of such individual; and (c) the telephone, fax and e-mail address of such individual.

**8.5.2.** To the extent that any payment is required to be made by the Owner to Developer under the Project Agreement within a 20-day period immediately following the Owner's receipt of any Lender Notice referred to in Section 8.3 or 8.4, such payment shall not be made to the Project Account designated by the Collateral Agent until the expiry of such 20-day period.

8.6. All sums paid as provided in Sections 8.3 and 8.4 shall be deemed paid to Developer under the Project Agreement and shall constitute a complete discharge of the Owner's relevant payment obligations to Developer. The Owner shall have no liability, whatsoever, for any delay in processing any payment request pursuant to Sections 8.3 or 8.4, provided that such delay does not extend 20 days beyond the date of the Owner's certified, return-receipt or registered mail receipt of the Lender Notice.

8.7. The Collateral Agent shall promptly notify the Owner in writing of any decision to accelerate amounts outstanding under the Financing Documents or to exercise any enforcement remedies under the Financing Documents.

8.8. Neither the Collateral Agent nor the Lender shall exercise any right it may have pursuant to the Security Documents to assign, transfer or otherwise dispose of any right, title or interest it may have in, or obligations it may have pursuant to, the Security Documents to the extent the exercise of such rights would constitute a Refinancing and Developer has failed to comply with the requirements of Section 16.3 of the Project Agreement.

8.9. The Collateral Agent shall promptly notify the Owner in writing, with a copy to Developer, of a full cure of an Event of Default that is the subject of a Lender Notice.

8.10. Following receipt of a Lender Notice of the occurrence of an Event of Default until delivery of a further notice under Section 8.9 with respect to any full cure of such Event of Default, the Collateral Agent shall have the right to deliver to the Owner a Step-in Notice as provided in Section 10.

## **9. NO TERMINATION DURING CURE PERIOD**

9.1. The Owner agrees not to take any of the following actions prior to the expiration of any applicable Cure Period:

- (a) Terminate or give notice terminating the Project Agreement or exercise any rights under Sections 20.3.1, 19.2.3, 19.2.4 or 19.2.7.1 of the Project Agreement;
- (b) Suspend its performance (including in connection with any insolvency or bankruptcy proceeding in relation to Developer) under the Project Agreement; or

- (c) Take or support any action for the liquidation, bankruptcy, administration, receivership, reorganization, dissolution or winding up of Developer or for the composition or readjustment of Developer's debts, or any similar insolvency procedure in relation to Developer, or for the appointment of a receiver, trustee, custodian, sequestrator, conservator, liquidator, administrator or similar official for Developer or for any part of Developer's property;

provided that such agreement of the Owner shall not prevent the Owner from taking actions which are permitted under this Direct Agreement on a Revival Date in respect of any other prior Developer Default or other breach by Developer of the Project Agreement which has occurred and has not been remedied or waived.

9.2. During any Cure Period, without giving a Step-in Notice, the Collateral Agent shall have the right (but shall have no obligation), at its sole option and discretion, to perform or arrange for the performance of any act, duty, or obligation required of Developer under the Project Agreement, or to cure any default of Developer thereunder, which performance by the Collateral Agent shall be accepted by the Owner in lieu of performance by Developer and in satisfaction of Developer's obligations under the Project Agreement. To the extent that any default of Developer under the Project Agreement is cured and/or any payment liabilities or performance obligations of Developer are performed by the Collateral Agent during the Cure Period, such action shall discharge the relevant liabilities or obligations of Developer to the Owner. Subject to the terms of this Direct Agreement, the Collateral Agent's right to cure any default of Developer as provided in this Section 9.2 may be exercised after the expiration of relevant cure period granted to Developer in Section 19.1.2 of the Project Agreement.

## 10. STEP-IN NOTICE

10.1. Upon the issuance of an Owner Notice or a Lender Notice of the occurrence of any Event of Default, the Collateral Agent may give a written notice (a "**Step-in Notice**") under this Section 10 to the Owner at any time during the Cure Period in the case of the issuance of an Owner Notice or at any time following the receipt by the Owner of a Lender Notice, provided that the Event of Default to which Lender Notice relates is continuing.

10.2. The Collateral Agent shall nominate, in the Step-in Notice: (a) the Collateral Agent, a Lender or any of their respective Affiliates; or (b) any Person, subject to approval by the Owner in accordance with Section 13, and the person so nominated being referred to as the "**Step-in Party**."

## 11. RIGHTS AND OBLIGATIONS ON STEP-IN

On and from the date of the receipt of the Step-in Notice and the approval of the Owner to the appointment of the Step-in Party if required by Section 10.2 ("**Step-in Date**") and during the Step-in Period, the Step-in Party shall be:

- (a) Entitled to exercise and enjoy the rights and powers expressed to be assumed by or granted to Developer under the Project Agreement and this Direct Agreement;
- (b) Entitled to exercise and enjoy the rights and powers expressed to be assumed by or granted to a Step-in Party under this Direct Agreement; and
- (c) Liable for the performance of all of Developer's obligations under the Project Agreement and this Direct Agreement arising on or after the Step-in Date.

11.1. Without prejudice to Section 15 (Revival of Remedies), during the Step-in Period, the Owner shall:

- (a) Not terminate or give notice terminating the Project Agreement pursuant to Section 20.3.1 of the Project Agreement or exercise its rights under Section 19.2.3, 19.2.4 or 19.2.7.1 of the Project Agreement, unless the grounds for termination or giving notice of termination pursuant to Section 20.3.1 of the Project Agreement or exercising its rights under Section 19.2.3, 19.2.4 or 19.2.7.1 of the Project Agreement are failure by the Step-in Party to perform Developer's obligations under the Project Agreement;
- (b) Not suspend its performance (including in connection with any insolvency or bankruptcy proceeding in relation to Developer) under the Project Agreement, unless the grounds for suspension of performance are failure by the Step-in Party to perform Developer's obligations under the Project Agreement;
- (c) Not take or support any action for the liquidation, bankruptcy, administration, receivership, reorganization, dissolution or winding up of Developer or for the composition or readjustment of Developer's debts, or any similar insolvency procedure in relation to Developer, or for the appointment of a receiver, trustee, custodian, sequestrator, conservator, liquidator, administrator or similar official for Developer or for any part of Developer's Property;
- (d) Continue to make payments required to be made to Developer under the Project Agreement to a Project Account designated by the Collateral Agent; and
- (e) Endorse or pay over, as directed by the Collateral Agent, any checks received by the Owner with respect to, or funds drawn by the Owner under, the Performance Bond; provided that the Collateral Agent reimburse the Owner for any Losses incurred by the Owner in attempting to cure the Developer Default as and to the extent: (i) the Owner is entitled to such reimbursement pursuant to the Project Agreement; (ii) the Owner has promptly notified the Collateral Agent of such Losses at or prior to the



time of endorsement or payment and (iii) the Collateral Agent's obligation to reimburse the Owner for such Losses do not exceed the proceeds from any such security.

11.2. The Owner shall owe its obligations under the Project Agreement and this Direct Agreement to Developer and the Step-in Party jointly; provided that:

- (a) The receipt of, or performance by the Owner in favor of, either such Step-in Party or Developer shall be a good and effective discharge of the Owner's obligations under this Direct Agreement and the Project Agreement;
- (b) The Collateral Agent shall be entitled at any time by notice in writing to the Owner to direct (such direction being binding on the Collateral Agent, the Owner and Developer) that, at all times during the Step-in Period, the Step-in Party shall be solely entitled to make any decisions, to give any directions, approvals or consents, to receive any payments or otherwise to deal with the Owner under the Project Agreement and this Direct Agreement; and
- (c) Any amount due from Developer to the Owner under the Project Agreement or this Direct Agreement as of the Step-in Date and notified to such Step-in Party prior to the Step-in Date shall be paid to the Owner on the Step-in Date, failing which the Owner shall be entitled to exercise its rights under the Project Agreement in respect of the amount so due and unpaid.

11.3. Developer shall not be relieved from any of its obligations under the Project Agreement or this Direct Agreement, whether arising before or after the Step-in Date, by reason of the Step-in Party exercising the rights provided herein, except to the extent provided in Section 9.2 and Section 12.

## 12. STEP-OUT

A Step-in Party may, at any time, by giving not less than 30 days' prior written notice ("**Step-out Notice**") to the Owner terminate its obligations to the Owner under this Direct Agreement, in which event such Step-in Party shall be released from all obligations under this Direct Agreement, except for any obligation or liability of the Step-in Party arising during the Step-in Period. The obligations of the Owner to the Step-in Party under this Direct Agreement shall also terminate on the Step-Out Date. Notwithstanding the foregoing, this Direct Agreement shall continue to remain effective according to its terms after the Step-Out Date if the Step-in Party is the Collateral Agent or a Lender.

## 13. SUBSTITUTION ENTITIES AND SUBSTITUTION PROPOSALS

13.1. Any payment to be made or action to be taken by the Collateral Agent as a prerequisite to keeping the Project Agreement in effect shall be deemed properly to

have been made or taken by the Collateral Agent if such payment is made or action is taken by a Substituted Entity proposed by the Collateral Agent and reasonably approved by the Owner. The Owner shall have no obligation to recognize any claim to Developer's Interest by any person or entity that has acquired Developer's Interest by, through, or under any Security Document or whose acquisition shall have been derived immediately from any holder thereof, unless such person or entity is a Substituted Entity reasonably approved by the Owner in accordance with this Section 13.

13.2. The Collateral Agent may give a notice ("**Substitution Notice**") under this Section 13 in writing to the Owner at any time:

- (a) During any Cure Period;
- (b) During any Step-in Period; or
- (c) After delivery of a Lender Notice of the occurrence of any Event of Default and prior to delivery by the Collateral Agent to the Owner of a further notice under Section 8.9.

13.3. In any Substitution Notice, the Collateral Agent shall notify the Owner that it intends to designate a Substituted Entity.

13.4. The Collateral Agent shall, as soon as practicable, provide to the Owner the information regarding the proposed Substituted Entity and any third party entering into a material subcontract with such Substituted Entity as required by Section 13, including:

- (a) The name and address of the proposed Substituted Entity;
- (b) The names of the proposed Substituted Entity's shareholders or members and the share capital or partnership or membership interests, as the case may be, held by each of them;
- (c) The manner in which it is proposed to finance the proposed Substituted Entity and the extent to which such financing is committed;
- (d) Copies of the proposed Substituted Entity's most recent financial statements (and if available such financial statements shall be for the last three financial years) or in the case of a newly-formed special purpose company its opening balance sheet;
- (e) A copy of the proposed Substituted Entity's formation documents;
- (f) Details of the resources available to the proposed Substituted Entity and the proposed Substituted Entity's appropriate qualifications, experience and technical competence available to the proposed Substituted Entity to enable it to perform the obligations of Developer under the Project Agreement;

- (g) The names of the proposed Substituted Entity's directors and any key personnel who will have responsibility for the day-to-day management of its participation in the Project;
- (h) A rectification plan providing details of the plan to rectify Developer's breaches with respect to the breaches which are capable of being rectified by the Substituted Entity;
- (i) Such other information, evidence and supporting documentation concerning the identity, financial resources, pre-qualifications, experience and potential conflicts of interest of the proposed Substituted Entity and its contractors as the Owner may reasonably request; and
- (j) Such evidence of organization, authority, incumbency certificates, certificates regarding debarment or suspension, and other certificates, representations and warranties as the Owner may reasonably request.

13.5. The Owner will approve or disapprove a proposed Substituted Entity within 45 days after it confirms receipt from the Collateral Agent of a request for approval together with the information required under Section 13.4. The Owner will evaluate the financial resources, qualifications, experience and potential conflicts of interest of the proposed Substituted Entity and its contractors using the same standards and criteria that it is then currently applying, or if there is no current application, then the same standards and criteria it most recently applied, to the evaluation of Persons responding to the Owner's requests for qualifications for concession or similar agreements for comparable projects and facilities.

13.6. The Owner shall have no obligation to approve the proposed Substituted Entity:

- (a) Unless the Collateral Agent demonstrates to the Owner's reasonable satisfaction that: (i) the proposed Substituted Entity and its contractors collectively have the financial resources, qualifications and experience to timely perform Developer's obligations under the Contract Documents and Key Contracts to which Developer is a party; (ii) the proposed Substituted Entity and its contractors, each of their respective direct and indirect beneficial owners, any proposed key personnel, each of their respective officers and directors and each of their respective affiliates have a good and sound background and reputation (including the absence of criminal, civil or regulatory claims or actions against any such Person, and each such Person's adherence to Best Management Practice, contract terms and applicable standards regarding past or present performance on other Owner projects); and (iii) the proposed Substituted Entity and its contractors are in compliance with the Owner's rules, regulations and adopted written policies regarding pre-qualification and organizational conflicts of interest;

- (b) If there are unremedied breaches under the Project Agreement and there is no rectification plan reasonably acceptable to the Owner with respect to the breaches which are capable of being rectified by the Substituted Entity;
- (c) If any proposed security interests to be granted by the proposed Substituted Entity to the Collateral Agent and/or the Lender in addition to (or substantially different from) the security interests granted to the Collateral Agent and/or the Lender under the Initial Funding Agreements or Initial Security Documents materially and adversely affect the ability of the Substituted Entity to perform Developer's obligations under the Contract Documents or have the effect of increasing any liability of the Owner, whether actual or potential (unless a Rescue Refinancing is concurrently proposed, in which case the Lenders' Liabilities may increase by up to 10%);

13.7. If the Owner fails to give its approval or disapproval within 60 days of the date on which the Owner has confirmed it has received the information specified in Section 13.4 in respect of any proposed Substituted Entity, or any extension thereof by mutual agreement of the Owner and the Collateral Agent, the approval of the Owner shall be deemed to have been given.

13.8. The Collateral Agent may request approval of more than one Substituted Entity. The Collateral Agent may request approval at any time or times. Any approval by the Owner of a Substituted Entity shall expire (unless otherwise agreed in writing by the Owner) one year after the approval is issued if the Substituted Entity has not succeeded to Developer's Interest within that period of time. The Owner may revoke an approval if at any time prior to succeeding to Developer's Interest the Substituted Entity ceases to be in compliance with the Owner's rules and regulations regarding organizational conflicts of interest. If the Substituted Entity succeeds to Developer's Interest, then the Owner shall not be entitled to terminate due to Noncompliance Points accumulated by Developer prior to its replacement by the Substituted Entity, provided the Noncompliance that resulted in such Noncompliance Points are being cured by the Substituted Entity as quickly as practicable using commercially reasonable efforts. Once all Noncompliance Instances have been cured, the Owner shall cancel any Noncompliance Points accrued prior to succession.

13.9. Notwithstanding the foregoing, any entity that is wholly owned by a Lender or group of Lenders shall be deemed a Substituted Entity, without necessity for the Owner approval, upon delivery to the Owner of documentation proving that the entity is duly formed, validly existing and wholly owned by the Lender, including a certificate signed by a duly authorized officer of each Lender in favor of the Owner certifying, representing and warranting such ownership.

## 14. SUBSTITUTION

14.1. If the Owner approves (or is deemed to have approved) a Substitution Notice pursuant to Section 13, the Substituted Entity named therein shall execute a duly completed Substitute Accession Agreement substantially in the form attached to this Direct Agreement as Schedule A and submit it to the Owner (with a copy thereof to the other parties to this Direct Agreement) and such assignment shall become effective on and from the date on which the Owner countersigns the Substitute Accession Agreement (the “**Substitution Effective Date**”) or the date that is 10 days after the date the Owner receives the completed Substitute Accession Agreement if the Owner fails to sign the Substitute Accession Agreement.

14.2. As of the Substitution Effective Date:

- (a) Such Substituted Entity shall become a party to the Project Agreement and this Direct Agreement in place of Developer who shall be immediately released from its obligations arising under, and cease to be a party to, the Project Agreement and this Direct Agreement from and after Substitution Effective Date;
- (b) All of Developer's obligations and liabilities under the Project Agreement and under this Direct Agreement arising from and after the Substitution Effective Date shall be immediately and automatically transferred to the Substituted Entity;
- (c) Such Substituted Entity shall exercise and enjoy the rights and perform the obligations of Developer under the Project Agreement and this Direct Agreement; and
- (d) The Owner shall owe its obligations (including any undischarged liability with respect to any loss or damage suffered or incurred by Developer prior to the Substitution Effective Date) under the Project Agreement and this Direct Agreement to such Substituted Entity in place of Developer, subject to the Owner's right to offset any losses or damages suffered or incurred by the Owner as provided under the Project Agreement and this Direct Agreement.

14.3. The Owner shall use its reasonable efforts to facilitate the transfer to the Substituted Entity of Developer's obligations under the Project Agreement and this Direct Agreement.

14.4. The Substituted Entity shall pay to the Owner on the Substitution Effective Date any amount due to the Owner under the Project Agreement and this Direct Agreement, including the Owner's reasonable costs and expenses incurred in connection with (a) Developer's default and termination, (b) the Owner's activities with respect to the Project during any period the Owner was in possession of the Project, and (c) the approval of the Substituted Entity, all as of the Substitution Effective Date and notified to

such Substituted Entity prior to the Substitution Effective Date. The Owner's receipt of the payment pursuant to this Section 14.4 shall be a condition precedent to the Substitution Effective Date.

14.5. As of the Substitution Effective Date:

- (a) Any right of termination suspended by virtue of Section 9.1 shall be of no further effect and the Owner shall not be entitled to terminate or suspend performance of the Project Agreement and this Direct Agreement by virtue of any act, omission or circumstance that occurred prior to such Substitution Effective Date; and
- (b) The Owner shall enter into an equivalent direct agreement on substantially the same terms as this Direct Agreement, save that Developer shall be replaced as a party by the Substituted Entity.

## 15. REVIVAL OF REMEDIES

15.1. If an Owner Notice has been given, the grounds for that notice are continuing and have not been remedied or waived and:

- (a) As of the end of the Cure Period, no Step-in Notice has been given and no Substituted Entity becomes a party to the Project Agreement and this Direct Agreement; or
- (b) The Step-in Period ends without a Substituted Entity becoming a party thereto,

Then, from and after the date such Cure Period or such Step-in Period, as the case may be, expires (the "**Revival Date**"), the Owner shall be entitled to:

- (i) Act upon any and all grounds for termination or suspension available to it in relation to the Project Agreement in respect of defaults under the Project Agreement not remedied or waived;
- (ii) Pursue any and all claims and exercise any and all remedies against Developer; and
- (iii) If and to the extent that it is then entitled to do so under the Project Agreement, take or support any action of the type referred to in Section 19.2 of the Project Agreement.

## 16. NEW PROJECT AGREEMENT

### 16.1. If:

(a) The Project Agreement is rejected by a trustee or debtor-in-possession in, or terminated as a result of, any bankruptcy or insolvency proceeding involving Developer, or

(b) A Developer Default under Sections 19.1.1.12 or 19.1.1.13 of the Project Agreement occurs with respect to any Guarantor of material Developer obligations owed to the Owner under the Contract Documents or any Equity Member with a material financial obligation owing to Developer for Committed Equity Investment, and such Guarantor's or Equity Members' obligations relating to Developer or the Project are rejected by a trustee or debtor-in-possession in, or terminated as a result of any bankruptcy or insolvency proceeding involving such Guarantor or Equity Member and, within 90 days after such rejection or termination, the Collateral Agent shall so request and shall certify in writing to the Owner that it intends to perform the obligations of Developer as and to the extent required under the Project Agreement,

The Owner will execute and deliver to the Collateral Agent (or any Substituted Entity satisfying the requirements of this Direct Agreement if directed to do so by the Collateral Agent) a new project agreement. Such new project agreement shall contain conditions, agreements, terms, provisions and limitations which are the same as those of the Project Agreement, except for any obligations that have been fulfilled by Developer, any party acting on behalf of or stepping-in for Developer or the Owner prior to such rejection or termination. References in this Direct Agreement to the "Project Agreement" shall be deemed also to refer to any such new project agreement.

## 17. RECEIVERS

17.1. The appointment of a receiver at the behest of Developer shall be subject to the Owner's prior written approval in its sole discretion. The appointment of a receiver at the behest of any Lender shall be subject to the following terms and conditions:

- (a) The Owner's prior approval shall not be required for the appointment of the receiver or the selection of the Person to serve as receiver;
- (b) Whenever any Lender commences any proceeding for the appointment of a receiver, the Collateral Agent shall serve on the Owner not less than ten (10) days' prior written notice of the hearing for appointment and of the Lender's pleadings and briefs in the proceeding;
- (c) The Owner may appear in any such proceeding to challenge the selection of the Person to serve as receiver, but waives any other right to oppose the appointment of the receiver; and

- (d) The Owner may at any time seek an order for replacement of the receiver by a different receiver.

17.2. No receiver appointed at the behest of Developer or any Lender shall have any power or authority to replace the Lead Contractor or the Lead O&M Firm except by reason of default or unless the replacement is a Substituted Entity reasonably approved or deemed approved by the Owner.

## **18. OWNER RIGHT TO PURCHASE PROJECT DEBT IN DEFAULT**

18.1. The Owner shall have the option (“**Termination Option**”) pursuant to this Section 18.1 if: (a) any default by Developer has occurred under any Financing Document, or any act, condition or event has occurred which would permit a Lender to declare all or part of the indebtedness secured by a Security Document to be immediately due and payable (or, in the case of a Lender that is a lessor, to terminate the lease); (b) any cure period with respect to such default, act, condition or event has expired; and (c) the Owner has received a written notice that a Lender or the bondholders’ trustee intends to commence proceedings to foreclose or otherwise enforce rights under any Financing Document as a result of such default, act, condition or event. The Collateral Agent shall provide the Owner with the written notice referred to in paragraph (c) of the preceding sentence promptly upon becoming aware of the occurrence of the events described in paragraphs (a) and (b) of the preceding sentence and determination by the Lenders or bondholders’ trustee to commence proceedings to foreclose or otherwise enforce rights under any Financing Document as a result of such default, act, condition or event. Under the Termination Option, the Owner shall have the right and option to purchase from such Lender its rights under the Financing Documents. In the case of bonds, the Termination Option shall give the Owner the right and option to a mandatory purchase of any or all outstanding bonds from bondholders in lieu of redemption or acceleration triggered by any default set forth in the underlying indenture agreement. The Termination Option shall continue for a period of 60 days after the date on which such Lender or the bondholders’ trustee serves notice upon the Owner in writing stating that such Lender or the bondholders’ trustee intends to commence proceedings to foreclose or otherwise enforce rights under a Financing Document or, in the case of a Lender that is a lessor to terminate the lease, and stating the calculation of the purchase price pursuant to Section 18.3.

18.2. The Owner may exercise the Termination Option by delivering written notice of exercise to Developer and the Collateral Agent within such 60-day period. Time shall be of the essence as to the exercise of the Termination Option. If the Termination Option is duly and timely exercised, then the Owner shall purchase and all applicable Lenders shall assign their rights, title and interest in and to the Financing Documents or, in the case of a mandatory purchase of bonds, bondholders or their trustee shall surrender bonds to the Owner (or its designee) on the date that is 40 days after the date on which the Owner delivers its notice of exercise or such other period to the extent required to comply with applicable Law. The closing shall take place at a mutually convenient time and place.



18.3. The purchase price payable by the Owner shall be the aggregate amounts secured by such Security Documents (including principal, interest, breakage costs, make-whole payments and other costs and expenses (including attorneys' fees) to the extent such amounts relate to Developer's Interest payable by Developer upon an event of default thereunder) as of the closing date of the purchase. The Owner shall pay the purchase price in full and in cash at closing by wire transfer or other immediately available funds. The Owner shall pay the purchase price to the Collateral Agent, Lender or bondholders' trustee, as may be applicable, included in the Owner's notice.

18.4. At the closing and upon payment in full of the purchase price, each Lender shall assign its Financing Documents, or the bondholders or their trustee shall surrender any outstanding bonds, to the Owner, together with any security in Developer's Interest held by each Lender without recourse, representations, covenants or warranties of any kind, except warranty of title to the Financing Documents, and warranty that the assignment is free and clear of any prior transfer, assignment, pledge, lien or encumbrance of the Lender's security interest except as to transfers, assignments or pledges to other Lenders or liens or encumbrances of other Lenders. Each such assignment or surrender shall be in form for recordation, filing or delivery, as the case may be. At closing, the Lenders, or the bondholders or their trustee, shall also deliver to the Owner the original note, bond or other evidence of Project Debt secured by the Security Document, duly endorsed, and the original of each other Funding Agreement and each Security Document, as applicable. The Owner shall be responsible for paying any excise or transfer taxes payable to any Governmental Entity upon such assignment or surrender. Such assignment or surrender shall be made subject to such state of title of the Project as shall exist at the date of exercise of the Termination Option. Upon such assignment or surrender, the Lenders or the trustee of the bondholders, as applicable, shall be released from all further obligations under the Financing Documents; provided, however, that such release shall not relieve the Lenders or the trustee of the bondholders from liability for their actions occurring prior to the date of such assignment or surrender. In the case of a mandatory purchase and upon the bondholders' or bondholders' trustee's surrender of bonds, the bondholders' trustee will release Developer from further liability to bondholders and deliver a notice of mandatory purchase to Developer.

18.5. The Owner shall have the right to act as a bidder or purchaser at any foreclosure or other sale of Developer's Interest under any Security Document, even if the Owner elects not to exercise the Termination Option or other remedies available under the Contract Documents or applicable Law.

## **19. ESTOPPEL CERTIFICATES**

19.1. At any time and from time to time, within 30 days after written request of any Lender or proposed Lender, the Owner, without charge, shall certify by written instrument duly executed and acknowledged, to any Lender or proposed Lender as follows:

- (a) As to whether the Project Agreement has been supplemented or amended, and if so, attaching a copy of such supplement or amendment to such certificate;
- (b) As to the validity and force and effect of the Project Agreement against the Owner, in accordance with its terms, subject to applicable bankruptcy, insolvency and similar laws affecting the enforceability of creditors' rights generally and the general principles of equity;
- (c) As to the existence of any Developer Default of which it has actual knowledge;
- (d) As to the existence of events which, by the passage of time or notice or both, would constitute a Developer Default, to the Owner's actual knowledge;
- (e) As to the then accumulated amount of Noncompliance Points;
- (f) As to the existence of any Claims by the Owner regarding the Project Agreement; and
- (g) As to the Effective Date and the expiration date of the Term.

19.2. The Owner shall deliver the same certified, written instrument to a Substituted Entity or proposed Substituted Entity within fifteen (15) days after receiving its written request, provided that the request is delivered to the Owner either before the proposed Substituted Entity succeeds to Developer's Interest or within sixty (60) days after the Substituted Entity has succeeded to Developer's Interest.

19.3. Any such certificate may be relied upon by, and only by, the Lender, proposed Lender, Substituted Entity or proposed Substituted Entity to whom the same may be delivered, and the contents of such certificate shall be binding on the Owner.

## **20. GENERAL**

20.1. Neither the Lender nor the Collateral Agent shall have any obligation hereunder to extend credit to the Owner or any contractor to the Owner at any time, for any purpose.

20.2. For so long as any amount under the Financing Documents is outstanding, the Owner shall not, without the prior written consent of the Collateral Agent, consent to any assignment, transfer, pledge or hypothecation of the Project Agreement or any interest therein by Developer, other than as specified in the Project Agreement or this Direct Agreement.

## **21. TERMINATION**

This Direct Agreement shall remain in effect until the earlier to occur of (a) the Discharge Date; (b) the time at which all of the Owner's obligations and liabilities have

expired or have been satisfied in accordance with the terms of the Project Agreement and this Direct Agreement; (c) any assignment to a Substituted Entity has occurred under Section 14 and the Owner shall have entered into an equivalent direct agreement on substantially the same terms as this Direct Agreement, save that Developer has been replaced as a party by the Substituted Entity; and (d) upon consummation of the transactions described in Section 18.4 if the Owner exercises the Termination Option.

## **22. EFFECT OF BREACH**

Without prejudice to any rights a party may otherwise have, a breach of this Direct Agreement shall not of itself give rise to a right to terminate the Project Agreement.

## **23. NO PARTNERSHIP**

Nothing contained in this Direct Agreement shall be deemed to constitute a partnership between the parties to this Direct Agreement. None of the parties shall hold itself out contrary to the terms of this Section 23.

## **24. REMEDIES CUMULATIVE; NO WAIVER**

No failure or delay by the Owner, the Lenders or the Collateral Agent (or their designee) in exercising any right or power hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or the exercise of any other right or power. The remedies provided herein are cumulative and not exclusive of any remedies provided by law and may be exercised by the Lenders, the Collateral Agent or any designee, transferee or assignee thereof from time to time. In no event shall any provision of this Direct Agreement or any consent to any departure by any party therefrom be effective unless such waiver is permitted by Section 25, and then such waiver or consent shall be effective only in the specific instance and for the purpose for which given.

## **25. AMENDMENT**

No amendment, modification or waiver of any provision of this Direct Agreement, or consent to any departure herefrom by any party to this Direct Agreement, shall be effective against any party to this Direct Agreement unless the same shall be in writing and signed by the party against whom enforcement is sought, and then such amendment or waiver shall be effective only in the specific instance and for the specific purpose for which it was given.

## **26. SUCCESSORS AND ASSIGNS**

26.1. No party to this Direct Agreement may assign or transfer any part of its rights or obligations hereunder without the consent of the other parties, save that the Collateral Agent may assign or transfer its rights and obligations hereunder to a successor Collateral Agent in accordance with the Financing Documents. In connection with any such assignment or transfer, the Owner agrees to enter into a new Direct Agreement

with the successor Collateral Agent on terms that are substantially the same as those of this Direct Agreement.

26.2. This Direct Agreement shall be binding upon and inure to the benefit of the parties to this Direct Agreement and their respective successors and permitted assigns.

## **27. COUNTERPARTS**

This Direct Agreement may be executed in any number of counterparts, each of which shall be identical and all of which, taken together, shall constitute one and the same instrument, and the parties may execute this Direct Agreement by signing any such counterpart. Transmission by facsimile of an executed counterpart of this Direct Agreement shall be deemed to constitute due and sufficient delivery of such counterpart, to be followed thereafter by an original of such counterpart.

## **28. SEVERABILITY**

If, at any time, any provision of this Direct Agreement is or becomes illegal, invalid or unenforceable in any respect under any law of any jurisdiction, neither the legality, validity or enforceability of the remaining provisions nor the legality, validity or enforceability of such provision under the law of any other jurisdiction will in any way be affected or impaired.

## **29. NOTICES**

29.1. Any notice, approval, election, demand, direction, consent, designation, request, agreement, instrument, certificate, report or other communication required or permitted to be given or made under this Direct Agreement (each, a notice) to a party must be given in writing (including by fax or electronic mail). All notices will be validly given if on a Business Day to each party at the following address:

To the Owner:

The Regents of the University of California  
5200 North Lake Road  
Merced, CA 95343  
Attention: Veronica Mendez, Project  
Executive  
E-Mail: vmendez7@ucmerced.edu

With a copy to:

University of California  
Office of the General Counsel  
1111 Franklin Street, 8<sup>th</sup> Floor  
Oakland, CA 94607-5200  
Attention: Charles F. Robinson, General  
Counsel and Vice President  
E-Mail: charles.robinson@ucop.edu

And a copy to:

University of California, Merced  
Procurement and Contracting Services  
1715 Canal Street  
Merced, CA 95340

To Developer:

Plenary Properties Merced LLC  
c/o PPM Finco LP  
10100 Santa Monica Blvd., Suite 410  
Los Angeles, CA 90067  
Attention: Rajan Bains  
E-Mail: rajan.bains@plenarygroup.com

To the Collateral Agent:

U.S. Bank National Association  
1 California Street Suite 1000  
San Francisco, CA 94111  
Attention: David Jason  
Email: david.jason@usbank.com

29.2. A notice shall be deemed to have been given:

- (a) Upon receipt, if delivered in person;
- (b) Upon receipt (confirmed by automatic answer back or equivalent evidence of receipt), if validly transmitted electronically before 3:00 p.m. (local time at the place of receipt) on a Business Day;
- (c) One Business Day after delivery to the courier properly addressed, if delivered by overnight courier; or
- (d) Four Business Days after deposit with postage prepaid and properly addressed, if delivered by United States certified or registered mail.

29.3. Each of the parties will notify each other in writing of any change of address, such notification to become effective 15 days after notification.

### **30. GOVERNING LAW AND JURISDICTION**

30.1. This Direct Agreement shall be governed by, and construed in accordance with, the law of the State of California. The Parties consent to jurisdiction in the State courts of Alameda County, California.

30.2. Each of Developer, the Owner and the Collateral Agent irrevocably consents to service of process by personal delivery, certified mail, postage prepaid or overnight courier. Nothing in this Direct Agreement will affect the right of any party to serve process in any other manner permitted by law.

30.3. Each of the Owner, Developer and the Collateral Agent (a) certifies that no representative, agent or attorney of another party has represented, expressly or otherwise, that such party would not, in the event of a proceeding, seek to enforce the mutual waivers in this Section 30 and (b) acknowledges that it has been induced to sign, or change its position in reliance upon the benefits of, this Direct Agreement by, among other things, the mutual waivers and certifications in this Section 30.

### **31. CONFLICT WITH PROJECT AGREEMENT**

In the event of any conflict or inconsistency between the provisions of this Direct Agreement and the Project Agreement, the provisions of this Direct Agreement shall prevail.

**IN WITNESS WHEREOF**, each of the parties to this Direct Agreement has caused this Direct Agreement to be duly executed by its duly authorized officer as of the date first written above.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

**THE REGENTS OF THE UNIVERSITY OF  
CALIFORNIA**

By: \_\_\_\_\_  
Name: Janet Napolitano  
Title: President

**U.S. BANK NATIONAL ASSOCIATION, as Collateral  
Agent**

By: \_\_\_\_\_  
Name: David Jason  
Title: Vice President

**PLENARY PROPERTIES MERCED LLC, by its sole  
member, PLENARY PROPERTIES MERCED  
HOLDCO LTD.**

By: \_\_\_\_\_  
Name: Brian Budden  
Title: Authorized Signatory

By: \_\_\_\_\_  
Name: Paul Dunstan  
Title: Authorized Signatory

**SCHEDULE A**  
**Form of Substitute Accession Agreement**

*[Date]*

To:           The Regents of the University of California  
              For the attention of: [\_\_\_\_\_]  
              [Lenders and other parties to Financing Documents to be listed]  
              [insert address]  
              For the attention of: [•]

From:        *[Substituted Entity]*

**UC MERCED 2020 PROJECT:  
SUBSTITUTE ACCESSION AGREEMENT**

Ladies and Gentlemen:

Reference is made to the Project Agreement, dated as of August 12, 2016 (as amended, amended and restated, supplemented or otherwise modified from time to time, the **Project Agreement**) between The Regents of the University of California (the Owner) and Plenary Properties Merced LLC (Developer) and the Direct Agreement, dated as of August 12, 2016 (as amended, amended and restated, supplemented or otherwise modified from time to time, the **Direct Agreement**) among the Owner, Developer and U.S. Bank National Association, as Collateral Agent. Terms defined in the Direct Agreement and not otherwise defined herein are used herein as defined in the Direct Agreement.

1. We confirm that we are a Substituted Entity pursuant to Section 14 of the Direct Agreement.

2. We acknowledge and agree that, upon and by reason of our execution of this Substitute Accession Agreement, we will become a party to the Project Agreement and the Direct Agreement as a Substituted Entity and, accordingly, shall have the rights, powers and obligations of Developer under the Project Agreement and the Direct Agreement.

3. Our address, telephone number and address for electronic mail for the purpose of receiving notices are as follows:

[contact details of Substituted Entity]

4. This Substitute Accession Agreement shall be governed by, and construed in accordance with, the laws of the State of California.



The terms set forth herein are agreed to:

[Substituted Entity]

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Agreed for and on behalf of:  
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

**APPENDIX 14**

**FORM OF LETTER OF CREDIT**

**IRREVOCABLE STANDBY LETTER OF CREDIT**

**ISSUER:**

**PLACE FOR PRESENTATION OF DRAFT:** (Name and Address of Bank/Branch -- MUST be United States address)

**APPLICANT:**

**BENEFICIARY:** THE REGENTS OF THE UNIVERSITY OF CALIFORNIA

University of California, Merced  
Procurement and Contracting Services  
5200 North Lake Road  
Merced, CA 95343

**LETTER OF CREDIT NUMBER:**

**PLACE AND DATE OF ISSUE:**

**AMOUNT:** [\_\_\_\_\_] United States Dollars (US\$[\_\_\_\_\_] )

**EXPIRATION DATE:**

The Issuer issues this Irrevocable Standby Letter of Credit in favor of The Regents of the University of California (the “**Owner**”), for any sum or sums up to the aggregate amount of [\_\_\_\_\_] United States Dollars (US\$[\_\_\_\_\_] ), available by draft at sight drawn on the Issuer. Any draft under this Letter of Credit shall:

1. Identify this Irrevocable Standby Letter of Credit by the name of the Issuer, and the Letter of Credit number, amount, and place and date of issue; and
2. State one of the following:

“This drawing is due to Plenary Properties Merced LLC’s (Developer) failure to perform certain obligations under an agreement (Contract # \_\_\_\_\_) between Developer and The Regents of the University of California.”

or

“This drawing is being made because the Issuer of the Letter of Credit upon which draft is made has failed to remain an Eligible LC Issuer (as defined in the agreement (Contract # \_\_\_\_\_) between Plenary Properties

Merced LLC (Developer) and The Regents of the University of California (the Owner)) and Developer has failed to provide an acceptable substitute letter of credit issued by an Eligible LC Issuer or other acceptable security within 30 days of the Owner's notice."

or

"This drawing is being made because we have been notified that the Letter of Credit will not be extended beyond the current expiration date and a satisfactory replacement has not been provided as of 14 days prior to the current expiration date."

All drafts will be honored if presented to \_\_\_\_\_ (Name & United States Address) on or before \_\_\_\_\_ (Expiration Date) or any extended expiration date.

Drawings by facsimile to facsimile number ( ) \_\_\_\_\_ are acceptable (each such drawing, a "Fax Drawing") provided, however, that a Fax Drawing will not be effectively presented until Beneficiary confirms, by telephone, Issuer's receipt of such Fax Drawing by calling Issuer at telephone number ( ) \_\_\_\_\_. Issuer will acknowledge Beneficiary's presentment by e-mail to the e-mail address provided to Issuer in the Fax Drawing.

This Letter of Credit shall be automatically extended for successive periods of one year, without amendment, from the stated expiration date and each extended expiration date unless we send the Owner written notice of our intent not to extend the credit; which notice must be sent at least 30 days prior to the expiration date of the original term hereof or any extended one year term, by registered or certified mail or overnight courier, to the University of California, Merced, Procurement and Contracting Services, 5200 North Lake Road, Merced, CA 95343, Attention: Chief Procurement Officer, or any other address specified in writing to the Issuer at the above address by the Owner. Notice to the Owner that this Letter of Credit will not be extended shall be deemed a default.

This Letter of Credit is subject to the rules of the "International Standby Practices" ISP98. If a conflict between ISP98 and California law should arise, California law shall prevail.

Issuer:

By: \_\_\_\_\_ (Authorized signature of Issuer)

## **APPENDIX 15**

### **FORMS OF PERFORMANCE BOND, PAYMENT BOND AND MULTIPLE OBLIGEE RIDER**

App. 15-A Form of Performance Bond

App. 15-B Form of Payment Bond

App. 15-C.1 Form of Multiple Obligee Rider – Performance Bond

App. 15-C.2 Form of Multiple Obligee Rider – Payment Bond

## **APPENDIX 15-A**

### **FORM OF PERFORMANCE BOND**

#### **KNOW ALL MEN BY THESE PRESENTS:**

That Plenary Properties Merced LLC (the "Developer") has entered into a contract with The Regents of the University of California (the "Owner") bearing the date of August 12, 2016, for developing, designing, financing, operating and maintaining the UC Merced 2020 Project (the "Project"), bearing Contract #Z830PUA026 (the "Project Agreement"); and

That we \_\_\_\_\_ (Design-Build Contractor Name), an entity duly authorized to do business in the State of California (the "State") and having its principal place of business at \_\_\_\_\_ ([Street Address, City, State, Zip and Phone #]) (the "Principal" or "Contractor"), have entered into a contract (the "Contract") with Developer bearing the date of \_\_\_\_\_ related to the performance of master planning, design and construction work for the Project; and

That the Principal and \_\_\_\_\_ (the "Surety"), duly authorized to do business in the State, having its principal place of business at \_\_\_\_\_ (Home Office Address) are held and firmly bound unto Developer in the full and just sum of **ONE BILLION ONE HUNDRED AND SIXTY-SIX MILLION SIX HUNDRED AND THIRTY-ONE THOUSAND EIGHT HUNDRED AND SEVENTY-FIVE DOLLARS** lawful money of the United States of America (**US\$1,166,631,875**), to whom payment well and truly will be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents;

**WHEREAS**, it was one of the conditions of the Contract and the Project Agreement that these presents shall be executed;

**NOW, THEREFORE**, the conditions of this obligation are such that if Principal shall faithfully, promptly, efficiently and fully perform in accordance with the obligations of the Contract and shall indemnify and save harmless Developer from all cost and damage by reason of Principal's failure to do so, and further if the Principal shall promptly pay all State Workers' Compensation and Unemployment Compensation taxes incurred in the performance of the Contract obligations and shall be liable to the Owner in a civil action instituted by the Owner or any officer of the Owner authorized in such cases for double any amount in money or property the Owner may lose or be overcharged or otherwise defrauded of, by reason of any wrongful or criminal act, if any, of the Principal, its agents, and employees, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Should the Principal be declared to be in default of its obligations under the Contract, the Surety shall pay Developer all costs assessed against the Principal because of the default(s) which were not withheld from Contract proceeds, and upon Developer's demand, the Surety shall take over performance of the Contract obligations; provided,

however, that in the event Developer elects to have the Surety take over performance of the Contract obligations, the Surety may not select the Principal or any affiliate of the Principal to perform the Contract obligations for and on behalf of the Surety without Developer's express written consent.

The Surety shall be fully liable under this bond up to the full penal sum hereof, regardless of any modifications (of whatever amount) to the Contract amount. The obligations covered by this bond specifically include liability for liquidated damages and warranties as specified in the Contract, as well as any Design Work performed prior to the effective date of the Contract, but in any event shall not exceed the penal sum of this Bond.

WITNESS the signature of the Principal and the signature of the Surety by \_\_\_\_\_ its \_\_\_\_\_ (Agent or Attorney-in-Fact) with the seals of said Principal and Surety hereunto affixed this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

Complete the following as appropriate

_____
Principal (Entity Name)*
Authorized Signature: _____
*Signature: _____
Printed Name: _____
* _____
Title: _____
(Seal)

\*Include the signature and printed name of each partner required to be affixed per partnership agreement.

Principal shall record this bond in the official records of the Clerk of Court of the county where the improvement is located prior to commencing the work.

Organized and existing under the laws of the State of _____ and authorized to do business in the State of California, pursuant to the laws of the State of California.	
<p>Countersigned: _____</p> <p>California Licensed Insurance Agent</p> <p>Print information below (California Licensed Insurance Agent; whether in Attorney-in-Fact or Countersignature role):</p> <p>Name: _____</p> <p>Business Address: _____</p> <p>Telephone: _____</p>	<p>_____</p> <p>Surety Company Name (Print) (Seal)</p> <p>By: _____</p> <p>California Licensed Insurance Agent or Attorney-in-Fact (Surety)</p> <p><input type="checkbox"/> Above Signatory is also a California Licensed Insurance Agent (check if applicable and complete business name, address and telephone number block; if not, have such an agent countersign and complete block).</p> <p>NOTE: Power of Attorney showing authority of Surety's Agent or Attorney-in-Fact is to be attached.</p>

Send "Notices to Owner" to:

**APPENDIX 15-B**

**FORM OF PAYMENT BOND**  
**(Bond No. \_\_\_\_\_)**

**KNOW ALL MEN BY THESE PRESENTS:**

That Plenary Properties Merced LLC (the "Developer") has entered into a contract with The Regents of the University of California (the "Owner") bearing the date of August 12, 2016, for developing, designing, financing, operating and maintaining the UC Merced 2020 Project (the "Project"), bearing Contract #Z830PUA026 (the "Project Agreement"); and

That \_\_\_\_\_ (Design-Build Contractor Name), an entity duly authorized to do business in the State of California (the "State") and having its principal place of business at \_\_\_\_\_ [Street Address, City, State, Zip and Phone #] (the "Principal" or "Contractor"), has entered into a contract (the "Contract") with Developer bearing the date of \_\_\_\_\_, for the performance of master planning, design and construction work in connection with the Project; and

That the Principal and \_\_\_\_\_ (the "Surety"), duly authorized to do business in the State, having its principal place of business at \_\_\_\_\_ (Home Office Address) are held and firmly bound unto Developer, in the full and just sum of **ONE BILLION ONE HUNDRED AND SIXTY-SIX MILLION SIX HUNDRED AND THIRTY-ONE THOUSAND EIGHT HUNDRED AND SEVENTY-FIVE DOLLARS** lawful money of the United States of America (**US\$1,166,631,875**), to whom payment well and truly will be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally;

**CONDITIONS OF THIS BOND ARE AS FOLLOWS:**

- A. Principal shall promptly make all payments owing when due to all persons who furnish labor, services, or materials for the prosecution of the work provided for in the Contract.
- B. Each said claimant shall have a right of action against the Principal and Surety for the amount due him or her, including unpaid finance charges due under the claimant's contract.



- C. A claimant, except a laborer, who is not in privity with the Principal shall, before commencing or not later than 90 days after commencing to furnish labor, materials, or supplies for the prosecution of the work, furnish the Principal with a notice that he or she intends to look to this Bond for protection. A claimant who is not in privity with the Principal and who has not received payment for his or her labor, materials, or supplies shall deliver to the Principal and to the Surety written notice of the performance of the labor or delivery of the materials, or supplies and of the nonpayment. The notice of nonpayment may be served at any time during the progress of the work or thereafter but not before 45 days after the first furnishing of labor, services, or materials, and not later than 90 days after the final furnishing of the labor, services, or materials by the claimant or, with respect to rental equipment, not later than 90 days after the date that the rental equipment was last on the job site available for use. No action for the labor, materials, or supplies may be instituted against the Principal or the Surety unless both notices have been given. Notices required or permitted may be served in accordance with Section 8106, California Civil Code. An action, except for an action exclusively for recovery of retainage, must be instituted against the Principal or the Surety on this Bond within 1 year after the performance of the labor or completion of delivery of the materials or supplies, or within 90 days after receipt of final payment (or the payment estimate containing Developer's final reconciliation of quantities if no further payment is earned and due as a result of deductive adjustments) by the Principal or Surety, whichever comes last. The time periods for service of a notice of nonpayment or for bringing an action against a Principal or a Surety shall be measured from the last day of furnishing labor, services, or materials by the claimant.
- D. An action must be instituted by a claimant, whether in privity with the Principal or not, against the Principal or the Surety on this Bond within 365 days after the final acceptance of the Contract work by the Owner (pursuant to the Project Agreement). A claimant may not waive in advance his or her right to bring an action under this Bond against the Surety. In any action brought to enforce a claim against this Bond under this section, the prevailing party is entitled to recover a reasonable fee for the services of his or her attorney for trial and appeal, in an amount to be determined by the court, which fee must be taxed as part of the prevailing party's costs, as allowed in equitable actions.
- E. The amount of this Bond is a fixed amount and shall not be changed.
- F. Neither any change in or under the Contract, nor any compliance or noncompliance with any formalities provided in the Contract nor the change shall relieve the Surety of its obligations under this Bond.

IN WITNESS WHEREOF, Principal and Surety have executed these presents and the Surety has affixed its seal, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**PRINCIPAL:** \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_

Print Name & Title: \_\_\_\_\_

**NAME OF SURETY:** \_\_\_\_\_

Date: \_\_\_\_\_

Signature (Attorney-in-Fact): \_\_\_\_\_

(Affix Seal)

Print Full Name, Address and Telephone No.

\_\_\_\_\_

## **NOTES CONCERNING SURETY AND EXECUTION:**

### **A. SURETY COMPANY REQUIREMENTS**

To be acceptable to the Owner, the Surety shall meet all of the requirements of the Project Agreement, laws of California and the regulations of the Owner, and has the Owner's approval.

### **B. EXECUTION OF BOND**

1. Enter the Surety's name and address on each copy of this Bond in the space provided.
2. Have each copy of this Bond signed by the same person that signed the Contract on behalf of the Principal (affix Corporate Seal, if appropriate).
3. Have each copy of this Bond signed by the person authorized to sign on behalf of the Surety. Put the date the signature was affixed in the space provided. Print that person's name in the place provided on each copy of this Bond. Also,

have the Surety's Corporate Seal affixed to each copy of this Bond beside that person's signature (no facsimiles are acceptable).

4. Each copy of this Bond must have a Power of Attorney attached indicating that the person in item B.3 above is authorized to sign on behalf of the Surety.
5. Each copy of the Power of Attorney must have the Surety's Corporate Seal manually affixed unless facsimile seal is authorized.
6. The date of execution of the Power of Attorney is the same as the date shown on the signature line for the Surety Attorney-In-Fact.

## **APPENDIX 15-C.1**

### **FORM OF MULTIPLE OBLIGEE RIDER – PERFORMANCE BOND**

MULTIPLE OBLIGEE

RIDER

This Rider is executed concurrently with and shall be attached to and form a part of Performance Bond No. \_\_\_\_ (the "Performance Bond").

WHEREAS, on or about the \_\_\_\_ day of \_\_\_\_, 20\_\_\_\_, \_\_\_\_\_, (hereinafter called the "Principal"), entered into a written agreement (hereinafter called the "Contract") with \_\_\_\_\_, (hereinafter called the "Primary Obligee") for \_\_\_\_\_ (hereinafter called the "Project"); and

WHEREAS, the Primary Obligee requires that Principal provide the Performance Bond and that \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ be named as additional obligees under the Performance Bond; and

WHEREAS, Principal and the Surety have agreed to execute and deliver this Rider currently with the execution of the Performance Bond upon the conditions herein stated.

NOW, THEREFORE, the undersigned agree and stipulate that \_\_\_\_\_, and \_\_\_\_\_, and \_\_\_\_\_ shall be added to the Performance Bond as named obligees (hereinafter referred to as "Additional Obligees").

PROVIDED, HOWEVER, that the Surety shall not be liable under the Performance Bond to the Primary Obligee, the Additional Obligees, or any of them, unless the Primary Obligee, the Additional Obligees, or any of them, shall make payments to the Principal (or in the case the Surety arranges for completion of the Contract, to the Surety) strictly in accordance with the terms of said Contract as to payments and shall perform all other obligations to be performed under said Contract in all material respects at the time and in the manner therein set forth; and

PROVIDED, FURTHER that the aggregate liability of the Surety under this Performance Bond, to any or all of the obligees, as their interests may appear, is limited to the penal sum of said Performance Bond, that the Additional Obligees' rights hereunder are subject to the same defenses Principal and/or Surety have against the Primary Obligee, and that the total liability of the Surety shall in no event exceed the amount recoverable from the Principal by the Primary Obligee under the Contract; and

PROVIDED, FURTHER that the Surety may, at its option, make any payments under said Performance Bond by check issued jointly to all of the obligees.

Except as herein modified, said Performance Bond No. \_\_\_\_ shall be and remains in full force and effect.

Signed, sealed and dated this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
(Principal)

\_\_\_\_\_  
(Seal)

By:

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Surety)

\_\_\_\_\_  
(Seal)

By:

\_\_\_\_\_  
, Attorney-in-Fact

## **APPENDIX 15-C.2**

### **FORM OF MULTIPLE OBLIGEE RIDER – PAYMENT BOND**

MULTIPLE OBLIGEE

RIDER

This Rider is executed concurrently with and shall be attached to and form a part of Payment Bond No. \_\_\_\_ (the "Payment Bond").

WHEREAS, on or about the \_\_\_\_ day of \_\_\_\_, 20\_\_\_\_, (hereinafter called the "Principal"), entered into a written agreement (hereinafter called the "Contract") with \_\_\_\_\_, (hereinafter called the "Primary Obligee") for \_\_\_\_\_ (hereinafter called the "Project"); and

WHEREAS, the Primary Obligee requires that Principal provide the Payment Bond and that \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ be named as additional obligees under the Payment Bond; and

WHEREAS, Principal and the Surety have agreed to execute and deliver this Rider currently with the execution of the Payment Bond upon the conditions herein stated.

NOW, THEREFORE, the undersigned agree and stipulate that \_\_\_\_\_, and \_\_\_\_\_, and \_\_\_\_\_ shall be added to the Payment Bond as named obligees (hereinafter referred to as "Additional Obligees").

PROVIDED, HOWEVER, that the Surety shall not be liable under the Payment Bond to the Primary Obligee, the Additional Obligees, or any of them, unless the Primary Obligee, the Additional Obligees, or any of them, shall make payments to the Principal (or in the case the Surety arranges for completion of the Contract, to the Surety) strictly in accordance with the terms of said Contract as to payments and shall perform all other obligations to be performed under said Contract in all material respects at the time and in the manner therein set forth; and

PROVIDED, FURTHER that the aggregate liability of the Surety under this Payment Bond, to any or all of the obligees, as their interests may appear, is limited to the penal sum of said Payment Bond, that the Additional Obligees' rights hereunder are subject to the same defenses Principal and/or Surety have against the Primary Obligee, and that the total liability of the Surety shall in no event exceed the amount recoverable from the Principal by the Primary Obligee under the Contract; and

Except as herein modified, said Payment Bond No. \_\_\_\_ shall be and remains in full force and effect.

Signed, sealed and dated this \_\_ day of \_\_\_\_\_, 20\_\_.

---

(Principal)

(Seal)

By:

---

(Title)

---

(Surety)

(Seal)

By:

---

, Attorney-in-Fact

## **APPENDIX 16**

### **INTELLECTUAL PROPERTY LICENSE**

#### **1.1. SOFTWARE LICENSES**

The provisions of this Section 1.1 are in addition to, and shall not limit, the provisions of Sections 22.4 and 22.5 of the Agreement.

The Owner and Developer acknowledge that Developer or its Contractors will obtain licenses in respect of Software (as defined below) from third party providers to ensure that the Work is performed in accordance with the terms of this Agreement (the “**Third Party Licenses**”).

To the extent that Developer or a Contractor is able, without breaching any terms and conditions of the Third Party Licenses, Developer grants (or shall cause its Contractor to grant) to the Owner a perpetual, non-exclusive, transferable, irrevocable, unconditional, royalty-free license to use, reproduce, modify, adapt and disclose any and all software in both source and object code form, used for the integration and operation and maintenance of the hardware and software systems installed in relation to the Project (the “**Software**”), as described in the Contract Documents and Developer's Proposal Commitments (including all extensions, modifications or replacements to these systems), by Developer or its Contractors in performing the Work (the “**Developer License**”).

To the extent that the Developer License does not entitle the Owner to use the necessary Software due to provisions of the Third Party Licenses, Developer will either directly or through its Contractor secure direct licenses in respect of the remaining necessary Software from the relevant third party for the benefit of the Owner, at Developer's cost.

Developer and its Contractors shall execute and deliver all necessary documents requested by the Owner to effect the license of these rights to the Owner.

The Owner's and Developer's rights and obligations with respect to the Software pursuant to the Developer License include the following but in relation to each, the rights only extend to the extent Developer or its Contractors are able to grant rights without breaching any terms and conditions of the Third Party Licenses:

- (a) All modifications, improvements and enhancements made to the Software by Developer or its Contractors in performing the Work shall be licensed to the Owner without any additional charge to the Owner;
- (b) Sixty (60) days prior to the commencement of the Operating Period, Developer shall deposit in an Intellectual Property Escrow, without cost to the Owner and under terms agreed between the Owner and Developer, all source code and related documentation, together with the source code and related documentation for all modifications, improvements and enhancements made by Developer or its Contractors to the Software in performing the Work;
- (c) The Owner shall be entitled to make its own modifications, improvements and enhancements to the Software or to contract with others to make such modifications and improvements (subject to the confidentiality rights of Developer or its Contractors)



except where said modifications, improvements and enhancements will void the warranty if not executed by Developer;

- (d) The Owner has the right to make copies of the Software;
- (e) The Owner has the right to use documentation relating to the Software;
- (f) Developer shall supply the Owner with any new software products that may be useful in the operation of the Software or Project-related hardware systems installed under the Agreement on a most favored customer basis;
- (g) Developer shall provide a warranty that the Software complies with the Contract Documents, and Developer's Proposal Commitments; and
- (h) Consistent with the requirements of this Appendix 16, Developer shall provide to the Owner, on a pass-through basis, those Software licenses provided by a third party.

## 1.2. OWNER PROPRIETARY INFORMATION AND PROPRIETARY RIGHTS

- (a) The Owner retains all right, title and interest in and to all the Owner proprietary data, documentation and copies thereof furnished by it to Developer hereunder, including all copyright and other proprietary rights therein (collectively, the “**Owner Proprietary Information**”). Developer shall, and shall cause its employees and Contractors and their respective employees to, hold all the Owner Proprietary Information confidential and not use or disclose such information without the prior written consent of the Owner, which consent may be withheld in its sole discretion. Notwithstanding the foregoing, Developer may disclose the Owner Proprietary Information solely to the extent required by court order or applicable Law, provided that Developer shall have provided prior written notice to the Owner of any such disclosure requirement and provided the Owner with an opportunity to challenge such disclosure, to the extent legally available, prior to Developer making any disclosure of same.
- (b) The Owner grants to Developer a nonexclusive, royalty-free license that is irrevocable until the Termination Date to use and sublicense the Owner Proprietary Information solely to the extent necessary to perform the Work in accordance with the Contract Documents.
- (c) The Owner and Developer shall advise their respective employees, subcontractors, consultants, agents and suppliers of the other's proprietary information and shall treat such proprietary information in the same manner as it treats its own proprietary and confidential information.
- (d) On or about the Termination Date, Developer shall return to the Owner all the Owner Proprietary Information and all copies thereof.
- (e) Upon request of the Owner, Developer shall promptly execute, and shall cause its employees and Contractors to execute, a transfer of rights to the Owner of any Owner-owned inventions or any other proprietary information owned by the Owner in a form that is mutually agreeable.
- (f) Developer shall include the provisions of this Appendix 16 in all of its Contracts.

- (g) To the extent of any conflict between this Appendix 16 and Sections 22.4 and 22.5 of the Agreement, Sections 22.4 and 22.5 of the Agreement shall govern with respect to Project Intellectual Property.

## **APPENDIX 17**

### **ENERGY UTILITIES MANAGEMENT**

#### **ARTICLE 1 DESIGN WORK, TITLE 24 AND BASE ENERGY CONSUMPTION TARGETS**

##### **1.1 Title 24 Minus 20 Standard**

- (a) Developer shall design each Building and each exterior Area identified in Attachment A-4 to this Appendix 17 to achieve a minimum energy performance level that is a 20% energy reduction from the Title 24 Energy Efficiency Standard the ("**Title 24 Minus 20 Standard**"). This requirement does not apply to: Academic: Research: Core Lab: Research Laboratory 15: Greenhouse or to Student Life: Athletics: Aquatic Center: Pool Pump/Filtration Room (only if located in a standalone building).
- (b) For each Building and each exterior Area identified in Attachment A-4 to this Appendix 17, Developer shall demonstrate compliance with the Title 24 Minus 20 Standard by using the Title 24 Energy Performance Model or an energy simulation software approved by USGBC or the California Energy Commission and submitting to the Owner, concurrently with the 100% construction documents Work Submittal (specified in Appendix 4-B of the Technical Requirements) for such Building or exterior Area, the following information and documentation:
  - (i) identification of the energy simulation software used;
  - (ii) a completed Title-24 UTIL-1 form or equivalent documentation, as applicable;
  - (iii) updated form set out in Attachment A to this Appendix 17;
  - (iv) a working electronic copy of each of the following: (A) an energy model representing compliance with the Title 24 Energy Efficiency Standards, and (B) an energy model representing the building design reflected in the 100% construction documents;
  - (v) copies of the documentation submitted to, and approved by, the Building Official reflecting compliance with the Title 24 Energy Efficiency Standards; and
  - (vi) a narrative summarizing any differences between the performance reflected in (A) the approved Title 24 documentation referred to in clause (v) above, and (B) the building design energy model submitted under clause (iv) above, and the reasons for same.

##### **1.2 Development of Base Energy Consumption Targets**

- (a) As part of the Design Work, Developer shall determine baseline consumption targets for each Energy Utility for each Building and each exterior Area identified in Attachment A-4 to this Appendix 17 in accordance with the ASHRAE 90.1 Appendix G modeling protocol, and having taken into account the Energy

Simulation Assumptions, all requirements of the Technical Requirements and the Program, standard HVAC and lighting loads, Plug Loads and any systems and equipment installed by Developer as part of the Work and that will be maintained by Developer as part of the O&M Services.

- (b) The ASHRAE 90.1 model for each Building and each exterior Area identified in Attachment A-4 to this Appendix 17 shall be based on Developer's Title 24 Minus 20 Standard compliant design solution for that Building or exterior Area, as applicable. ASHRAE 90.1-2013 shall be used for purposes of determining baseline consumption targets in accordance with Section 1.2(a) of this Appendix 17.
- (c) Developer shall submit the completed ASHRAE 90.1 report including assumptions, model inputs, model outputs, a copy of the LEED submittal information including prerequisite and optimized energy performance credit templates and a copy of the LEED reviewer comments from the formal Green Building Certification Inc. review, together with updated forms set forth in Attachments A-1 through C to this Appendix 17, as applicable, concurrently with submission of the 100% construction documents Work Submittal (specified in Appendix 4-B of the Technical Requirements) for each respective Building and each exterior Area identified in Attachment A-4 to this Appendix 17.
- (d) Upon review and acceptance by the Owner of the submittal described in Section 1.2(c) of this Appendix 17 for each consecutive Building or exterior Area to reach the 100% construction documents Work Submittal stage, the updated forms set forth in Attachments A-1 through C to this Appendix 17 included in the submittal shall become the Base Energy Consumption Targets for the Buildings and exterior Areas identified in the updated forms, the Total Base Energy Consumption Targets and the carbon performance commitment for the Project, respectively.
- (e) The Base Energy Consumption Targets shall be aligned with the LEED BD+CEAc1 strategy implemented by the Developer in connection with Section 3.2.6 (LEED® Certification Requirements) of the Technical Requirements and accepted by USGBC as part of the LEED design submittal in respect of the applicable Facility.

## **ARTICLE 2 COMMENCEMENT OF O&M SERVICES**

### **2.1 Energy Utilities Supply, Cost and Management**

From the Occupancy Readiness Date of the first Facility to achieve Occupancy Readiness:

- (a) the Owner will arrange for the supply of the following Utilities as requested by Developer to the Project's point of connection for each of these Utilities:
  - (i) electricity;
  - (ii) thermal (natural gas); and
  - (iii) chilled water.

(collectively, the “**Energy Utilities**”).

- (b) the Owner will be fully responsible for the cost of Energy Utilities consumption at the Facilities, except as otherwise provided in this Appendix 17; and
- (c) Developer shall manage and maintain the Energy Utilities in each Facility in accordance with Sections 2.4.7.3 (Utilities Management Services) and 4.3.3 (Utilities Maintenance Services) of the Technical Requirements.

## **2.2 Monitoring and Measurement of Energy Utilities Consumption**

- (a) From the Occupancy Readiness Date of each Facility, Developer shall monitor and measure Energy Utilities consumption of each Facility using monitoring equipment and a system suitable to enable the following (the “**Energy Utilities Monitoring System**”):
  - (i) detailed monitoring of Energy Utilities trends and consumption in accordance with the International Performance Measurement & Verification Protocol (IPMVP) Volume III: Concepts and Options for Determining Energy and Water Savings in New Construction, April 2003 and, in compliance with, the requirements of LEED Credit 5: Measurement and Verification, including separate metering of Plug Load;
  - (ii) collection of the information required in the Quarterly Energy Status Report and Annual Energy Analysis Report, as set forth in Sections 3.4 and 3.2 of this Appendix 17, respectively;
  - (iii) comparisons among Energy Consumption Targets and related adjustments, as applicable;
  - (iv) early warning of malfunctions and deviations from norms;
  - (v) the capture and analysis of Consumption Data;
  - (vi) detailed monitoring, at the circuit level, of changes in Plug Loads resulting from changes described in Section 2.3(b)(i), (ii) and (iii) of this Appendix 17;
  - (vii) detailed monitoring, recording and calculation of Energy Consumption Targets adjustments associated with changes described in Section 2.3(b)(i), (ii) and (iii) of this Appendix 17 in accordance with the times and frequencies set forth in Sections 2.3(e), (f), (g) and (h);
  - (viii) automatic calculation of the metrics identified in Section 3.2(d)(x) of this Appendix 17; and
  - (ix) automatic generation of the reports in Attachments E through G of this Appendix 17 to allow for efficient and accurate preparation of the Quarterly Energy Status Report and Annual Energy Analysis Report described in Sections 3.4 and 3.2 of this Appendix 17, respectively.
- (b) Developer shall submit to the Owner for review and comment, in accordance with Section 2.6 (Work Submittal Review Process) of the Technical Requirements, a

description of the Energy Utilities Monitoring System, including all inputs, outputs and calculations, three (3) months prior to the target Occupancy Readiness Date for the First Delivery Facilities, and each time thereafter that a material change is made to the Energy Utilities Monitoring System.

- (c) Developer shall maintain Energy Utility metering equipment in accordance with the manufacturer's recommended calibration service schedule.

## **2.3 Adjustments to the Base Energy Consumption Targets**

- (a) In all cases, adjustments to the Base Energy Consumption Targets must be consistent with the principles outlined in the IPMVP and the methodology set forth in Attachments E-1 through E-4 of this Appendix 17 and made in accordance with this Section 2.3.
- (b) After O&M Services commence at a Facility, Developer and the Owner shall agree to make adjustments to the Base Energy Consumption Targets for that Facility only if:
  - (i) Changes in Utilization cause a deviation in Energy Utility consumption other than Plug Loads;
  - (ii) Owner Changes result in an increase or decrease in consumption, excluding Plug Load consumption, of any Energy Utility; or
  - (iii) weather change, as reflected by the number of Heating Days and Cooling Days for the applicable Calendar Year compared to the average number of Heating Days and Cooling Days over the previous 30 years, occurs and results in an increase or decrease in consumption, excluding Plug Load consumption, of any Energy Utility.
- (c) Either Party may initiate a re-baselining of the Base Energy Consumption Targets if the number of FTE students at UC Merced (not including students classified as on-line FTE students), exceeds or falls below 10,000 by 10% or more, and thereafter each time that UC Merced FTE students (not including students classified as on-line FTE students) increases or decreases by 10%. Re-baselining of the Base Energy Consumption Targets shall be permitted only for the following the Area Types, and shall be determined on a per Facility basis.
  - (i) Housing: Residence Hall and Housing: Apartments; and
  - (ii) Academic; Classrooms; Laboratory and Office Spaces.
- (d) In the event that re-baselining is initiated:
  - (i) the Owner shall provide updated density assumptions in the form set forth in Section C of Attachment D (Energy Simulation Assumptions) to this Appendix 17;
  - (ii) Developer shall recalculate the Base Energy Consumption Targets for each Facility with the only change being the updated density assumptions

provided by the Owner pursuant to Section 2.3(d)(i) of this Appendix 17; and

- (iii) Developer shall regenerate Attachments A-1, A-2 and A-3 for each Building, A-4 for the exterior Areas, and Attachments B and C for the Project, which attachments shall become the Base Energy Consumption Targets for the Facilities, the Total Base Energy Consumption Targets and the carbon performance commitment for the Project.
- (e) Changes in Energy Utilities consumption relating to a Change in Utilization shall be determined and documented at the time that the Owner provides written notice to Developer of a Change in Utilization.
- (f) Changes in Energy Utilities consumption resulting from Owner Changes shall be determined and documented at the time that the overall costs of the Owner Change are determined in accordance with Appendix 21 (Owner Change Procedure) of the Agreement. The Owner may require, in connection with an Owner Change, that Developer resubmit Attachments A-1 through A-4 for a particular Facility together with an updated Attachment B to this Appendix 17 to re-baseline the Energy Consumption Targets and simplify the annual adjustment process.
- (g) Changes in Energy Utilities consumption resulting from weather changes as contemplated in Section 2.3(b)(iii) of this Appendix 17 shall be determined and documented as soon as practicable after the applicable U.S. National Weather Service data is published for the relevant Calendar Year.
- (h) Adjustments to Base Energy Consumption Targets shall be made in accordance with the following requirements:
  - (i) adjustments shall be made once per year at the completion of the Calendar Year as part of the preparation of the Annual Energy Analysis Report;
  - (ii) the anticipated annual change in Energy Utilities consumption relating to Changes in Utilization and Owner Changes that occur during the relevant Calendar Year shall be pro-rated based upon when the change occurred during the relevant Calendar Year;
  - (iii) Changes in Utilization and Owner Changes that occurred prior to the relevant Calendar Year and that are still in effect during the relevant Calendar Year shall be accounted for in the adjustment;
  - (iv) the calculation method defined in Attachments E-1 through E-4 to this Appendix 17 shall be used to determine adjustments, if any, to the Base Energy Consumption Targets for the relevant Calendar Year.
- (i) In the event that an Owner Change or a Change in Utilization significantly impacts the anticipated peak demand of an Energy Utility, either Party may request an alteration to the Target Peak Demand used to calculate the Demand Charges associated with the Energy Consumption Targets in Tables F-1a and

F-1b of Attachment F-1 to this Appendix 17. In the event that there is disagreement relating to a request to alter the Target Peak Demand, then either Party may refer the matter to Dispute Resolution Procedure in accordance with Article 25 (Dispute Resolution Procedures) of the Agreement. The Owner's determination of the matter in dispute shall prevail pending any final determination pursuant to the Dispute Resolution Procedures.

- (j) Either Party may request, in connection with adjustments to the Base Energy Consumption Targets made pursuant to Section 2.3(b)(i), (ii) or (iii) of this Appendix 17 and in order to more accurately account for the impact of Changes in Utilization, Owner Changes and weather changes on Energy Utilities consumption, that the adjustments be made by regenerating the Base Energy Consumption Targets using actual data instead of application of the adjustment factors set forth in Attachments E-1 through E-4. The Party making the request shall bear the cost of regenerating the Base Energy Consumption Targets.
- (k) All adjustments to Base Energy Consumption Targets made in accordance with this Section 2.3 shall be recorded in the Energy Utilities Monitoring System.

### ARTICLE 3 ANNUAL ENERGY ANALYSIS

#### 3.1 Actual Energy Consumption

From the commencement of O&M Services at a Facility, Developer shall initiate a continuous measurement and verification process, utilizing the IPMVP process as accepted by LEED, to measure the annual consumption of each Energy Utility at the Facility (the "**Actual Energy Consumption**").

#### 3.2 Annual Energy Analysis Report

- (a) Developer shall provide a draft Annual Energy Analysis Report to the Owner for review and approval within 60 days following the end of each Calendar Year throughout the Term, together with copies of all working documents required to fully support the draft Annual Energy Analysis Report.
- (b) The draft Annual Energy Analysis Report shall be prepared in accordance with the requirements of the IPMVP and shall include completed Attachments F-1 and F-2 to this Appendix 17.
- (c) The Actual Energy Consumption and Energy Consumption Target for each Energy Utility at each Facility that has not yet achieved Occupancy Readiness at the time that the analyses are required to be reported in the Annual Energy Analysis Report will be assumed to be zero.
- (d) The Annual Energy Analysis Report shall include:
  - (i) Developer's estimate of the Gainshare Adjustment or the Painshare Adjustment, as appropriate, for the relevant Calendar Year calculated in accordance with Article 4 of this Appendix 17;
  - (ii) Energy Consumption Target and Target Peak Demand during the relevant Calendar Year for each separate Energy Utility on both a per



Facility basis and an aggregate basis for all Facilities, together with the Actual Energy Consumption and Actual Peak Demand for all Energy Utilities on both a per Facility basis and an aggregate basis for all Facilities;

- (iii) a summary of Actual Energy Consumption, and a breakdown by Energy Utility in corresponding units for each Energy Utility, or other utility rate units, identifying changes of plus or minus 10% in consumption or pattern of use, compared to the Energy Consumption Targets based on accurate and precise Consumption Data as provided by Energy Utility metering;
- (iv) a predictive annual Energy Utilities profile, which shall reflect:
  - 1. the projected annual Energy Utilities consumption for each Energy Utility in kBTU/gsf/yr and max kBTUhr/gsf and also the total annual Energy Utilities consumption in the same units, in both cases; and
  - 2. the projected Maximum Peak Demand for each Energy Utility in MMBTUs and also the total projected Maximum Peak Demand in the same units;
- (v) a summary of potential cost savings in respect of Energy Utilities usage at the Facilities, in accordance with Article 6 of this Appendix 17;
- (vi) presentation of Heating Days and Cooling Days data for the relevant Calendar Year as reported by the U.S. National Weather Service;
- (vii) detailed analysis of all sub-metered end-uses that provides comparative analytics between Facilities and end uses;
- (viii) an updated projection of the Energy Utilities usage for the Facilities taken as a whole for the next 5 years and cost projections in respect of such projected Energy Utilities usage along with pricing trends and potential risks associated with each;
- (ix) table showing the percentage variation in Actual Energy Consumption against the Energy Consumption Targets for each Facility; summary tables from all previous Annual Energy Analysis Reports identifying trends;
- (x) the following Energy Utilities consumption metrics, calculated in each case for each individual Facility and for all Facilities combined:
  - 1. (Actual Energy Consumption)/sqft
  - 2. (Actual Energy Consumption )/sqft]/(total hours operated)
  - 3. (Actual Energy Consumption)/student
  - 4. (Actual Energy Consumption)/student/(total hours operated); and
- (xi) an executive summary including the Energy Utilities consumption metrics set forth in Section 3.2(d)(x) of this Appendix 17, increases and reductions in Energy Utilities consumption, target and actual Energy

Utility costs, savings achievements, cost saving opportunities and carbon footprint.

### **3.3 Annual Energy Review Meeting**

- (a) As soon as practicable, and in any event within 80 days following the end of each Calendar Year, Developer's Authorized Representative and the Owner's Authorized Representative shall meet to review the Annual Energy Analysis Report (the "Annual Energy Review Meeting").
- (b) Developer acknowledges that the Owner owns the Energy Utilities data. Developer shall provide the Owner with such Energy Utilities data and access to the Facilities Systems, CMMS, Utility meters, Customer Service Center records and other information and access as may be requested by the Owner from time to time, including as required for the Owner to audit the analysis undertaken by Developer and set forth in the Annual Energy Analysis Report.
- (c) Following the Annual Energy Review Meeting, the Owner will either accept the Annual Energy Analysis Report or notify Developer of the Owner's disagreement with all or any aspect of the Annual Energy Analysis Report. In the event that there is disagreement, the Parties shall then seek to agree to any matters in dispute. Where the matters in dispute cannot be resolved within 20 days of the Owner's notice to Developer of disagreement, either party may refer the matter to Dispute Resolution Procedure in accordance with Article 25 (Dispute Resolution Procedures) of the Agreement. The Owner's determination of the matter in dispute shall prevail pending any final determination pursuant to the Dispute Resolution Procedures.

### **3.4 Quarterly Reporting and Corrective Action**

- (a) Developer shall submit to the Owner a Quarterly Energy Status Report no later than the third Monday in the months of January, April, July and October in respect of the three calendar months ending with the month prior to the submission date of the Quarterly Energy Status Report. The Quarterly Energy Status Report shall compare the Actual Energy Consumption for each Facility for the relevant quarter with the Energy Consumption Targets pro-rated for the same quarter based upon the anticipated energy profile developed from the Energy Consumption Targets.
- (b) In the event of a variance greater than 10% between the Energy Consumption Targets and the Actual Energy Consumption for any Facility in the preceding quarter, Developer shall provide data showing the cause of the variance and any corrective action required to address an adverse variance. Developer shall, within 30 days of the end of the preceding quarter, implement corrective action and run tests in accordance with Best Management Practices to determine whether the corrective action has addressed the adverse variance.
- (c) Should an adverse variance greater than 10% between the Energy Consumption Targets and the Actual Energy Consumption for any Facility in the preceding quarter continue for a second consecutive quarter, Developer shall implement

corrective action within 30 days of the end of the previous quarter and run tests in accordance with Best Management Practices to determine whether the corrective action has addressed the adverse variance. If the variance persists for subsequent consecutive quarters, Developer shall continue to implement corrective action within 30 days of the end of the previous quarter and to run tests to determine whether the corrective action has addressed the adverse variance. Developer must implement alternative corrective action where corrective actions previously implemented to correct a persistent variance have proven ineffective. Re-implementation of corrective actions that have previously proven to be ineffective in correcting a persistent variance will constitute Noncompliance.

- (d) Developer shall perform quarterly data verification at each Facility during the first year of O&M Services at the Facility to ensure that Energy Utilities data is being correctly captured, that calculation of all adjustments is occurring appropriately and that the reports are being generated accurately. Such quarterly data verification shall be submitted to the Owner for review and comment. If such data is not being correctly captured, adjustments are not occurring appropriately, or reports are not being generated accurately, Developer shall submit to the Owner for review and comment, proof of the implementation of corrections to the Energy Utilities Monitoring System, along with the reason for such inaccuracy and implemented solution.

### 3.5 UC/CSU Benchmark Reporting

- (a) Developer shall indicate the Building Energy Use Category for each Building, identified by determining the predominant Energy Use Category of the Areas within the Building as a percentage of the total Building SF, with the exception of Buildings that include Academic: Classroom: Classroom Laboratory Areas or Academic: Research Areas, which Buildings shall be designated Lab / Complex space Building Energy Use Category.
- (b) Table 1.1 of this Appendix 17 sets forth guidance targets for each Energy Utility on a per gross square foot basis based on three Building Energy Use Categories (the “**Targets per GSF**”). The Targets per GSF include Plug Loads at a connected power density by space as indicated on the Area Data Sheets. The Targets per GSF are based upon a percentage reduction from the UC/CSU Benchmark.

Targets per GSF					
Building Energy Use Category	Maximum Power ***	Maximum Chilled Water *	Annual Electrical **	Maximum Thermal (natural gas)	Annual Thermal (natural gas)
	W/GSF	tons/GSF	kWh/GSF/Yr	Th/h/kGSF	Th/GSF/Yr
Academic/Administrative Non-complex Space	1.73	1.30	7.20	0.10	0.10
Housing Non-complex	1.21	0.91	5.00	0.14	0.14
Lab/Complex Space	3.20	2.40	19.30	0.34	0.91

**Table 1.1: Targets per GSF**

\* Load on Central Plant (tons/kgsf) Maximum 15-minute average anticipated load w/o safety factors.

\*\* Including prorated part of Central Plant use (when Building is on the distribution system).

\*\*\* In cases where a specific Building has a chiller and is not served by Central Plant, multiply the maximum power per square foot by 1.43 to account for the chiller's electric load.

- (c) Developer shall provide an annual report that compares the actual performance of each Building to the calculated performance based upon the Targets per GSF. Where a Building does not achieve the Targets per GSF, Developer shall provide a narrative explanation to the Owner setting forth the cause of the excess energy demand and / or annual consumption. This information is provided solely for comparative purposes.

#### **ARTICLE 4 ENERGY PERFORMANCE – PAINSHARE, GAINSHARE**

##### **4.1 Calculation of Gainshare Adjustment or Painshare Adjustment and Allocation of Variance Responsibility**

For purposes of this Section 4.1, any reference to “Facility” or “Facilities” excludes the Student Life: Athletics: Aquatic Center: Pool Pump/Filtration Room (only if located in a standalone building), the Competition Field and the Competition Pool referenced in Appendix 1-A (Program Summary) of the Technical Requirements.

- (a) Painshare Adjustment and / or Gainshare Adjustment shall be assessed in respect of each Energy Utility for all Facilities by evaluating, in accordance with

this Article 4, Actual Energy Consumption against the Energy Consumption Target for such Energy Utility.

- (b) If the end of the relevant Calendar Year is prior to the second anniversary of the Occupancy Readiness Date of a Facility, the Actual Energy Consumption and the Energy Consumption Targets of the Facility shall be deemed to be zero for purposes of calculating the Painshare Adjustment and / or Gainshare Adjustment.
- (c) The Painshare Adjustment for the relevant Calendar Year shall be calculated in accordance with Attachments F-1 and F-2 of this Appendix 17. The Gainshare Adjustment for the relevant Calendar Year shall be calculated in accordance with Attachments F-1 and F-2 of this Appendix 17.
- (d) Developer shall only receive the Gainshare Adjustment if each Facility is achieving Actual Energy Consumption that is no greater than 15% higher than the Energy Consumption Targets for such Facility for the relevant Calendar Year.
- (e) There shall be no limit to the Painshare Adjustment amount or Gainshare Adjustment amount.
- (f) Developer shall report its estimate of the Gainshare Adjustment and / or the Painshare Adjustment for the relevant Calendar Year in its draft Annual Energy Analysis Report in accordance with Section 3.2(d)(i) of this Appendix 17. If the Parties agree, or it is determined that, as a result of the Annual Energy Review Meeting, changes are to be made to the Energy Consumption Targets or to the Actual Energy Consumption for an Energy Utility at a Facility for the relevant Calendar Year, Developer shall recalculate the Gainshare Adjustment and / or the Painshare Adjustment for the relevant Calendar Year and include the revised figures in the final Annual Energy Analysis Report.
- (g) Painshare Adjustments shall be credited to the Owner. Gainshare Adjustments shall be credited to Developer. Developer shall include the relevant Gainshare Adjustment and / or Painshare Adjustment as an Other Item within the next following Quarterly Settlement Amount invoice prepared in accordance with Appendix 6 of the Agreement.
- (h) If either Developer or the Owner wishes to dispute any aspect of a Painshare Adjustment and / or Gainshare Adjustment , it must do so through Article 25 (Dispute Resolution Procedures) of the Agreement. The Owner's determination shall prevail for the purposes of calculating Painshare Adjustment and / or Gainshare Adjustment pending any final determination pursuant to the Dispute Resolution Procedures.

## **ARTICLE 5 ANNUAL CARBON ANALYSIS REPORT AND PROCEDURES**

From the commencement of O&M Services at the first Facility to achieve Occupancy Readiness, Developer shall, within 60 days following the end of each Calendar Year, submit a carbon footprint analysis for the Facilities that includes all Category 1 Carbon Sources in the form presented in Attachment G (Annual Carbon Footprint Analysis) of this Appendix 17.

## **ARTICLE 6 UTILITY COST SAVINGS**

### **6.1 Identification of Cost Saving Opportunities**

Developer shall identify potential cost savings in respect of Energy Utilities consumption at the Facilities and propose such potential cost saving opportunities to the Owner in each Annual Energy Consumption Report. The annual energy costs savings proposal shall include, for each Facility, an estimate of potential Energy Utility consumption savings broken down by Utility type and identifying implementation costs, period of time to recover implementation costs, projected savings and potential risks associated with each potential cost savings measure. Developer shall categorize these cost savings measures in the following categories: no cost measures, low cost measures and high cost measures. The Owner may elect to implement such measures as an Owner Change.

### **6.2 Savings by Design**

Developer shall enroll each Facility in PG&E's Savings by Design program at the commencement of Design Work for the Facility. Developer shall coordinate with PG&E and manage the Savings by Design process, and shall ensure that the Owner is identified as the owner within the "Owner Agreement" required by PG&E. Developer shall ensure that the design strategies used within the final design solution for each Facility are accurately incorporated into the Title 24 Energy Efficiency Standards models used by PG&E for purposes of the Savings by Design program. Developer shall complete all requirements necessary to ensure that the Owner receives, in respect of each Facility, the incentives available under PG&E's Savings by Design program.

**ATTACHMENT A**  
**ENERGY PERFORMANCE COMPLIANCE CHECK – TITLE 24**

Date: \_\_\_\_\_

[illegible]

# **ATTACHMENT A-1** **CONSUMPTION TARGET - ELECTRICITY**

Date: \_\_\_\_\_

Building Reference	Building Name	Program (ASF)	Base Energy Consumption Targets – Electricity				Building Energy Use Category
			Maximum Electricity Demand Density (W/gsf)	Electricity Demand (kW)	Annual Electricity Use (kWh/gsf/yr)	Annual Electricity Use	
<b>Total Base Energy Consumption Target</b>							

- 1) To calculate maximum power budgets/targets at the Project level multiply by a concurrence factor of 0.84.
- 2) Maximum demand are 15-minute averages (not samples or shorter averaging periods).
- 3) Maximum demand are “most likely maximum” loads without safety factors (not design values that include safety factors)



## ATTACHMENT A-2 CONSUMPTION TARGET - COOLING

Date: \_\_\_\_\_

Building Reference	Building Name	Program (ASF)	Base Energy Consumption Targets - Chilled water			Building Energy Use Category
			Maximum Cooling Demand (tons/kgsf)	Peak Cooling Demand (tons)	Maximum 24hour cooling demand (tons)	
Total Base Energy Consumption Target						

1. To calculate maximum chilled water budgets/targets at the Project level multiply by a concurrence factor of 0.84.
2. Maximum demand are 15-minute averages (not samples or shorter averaging periods).
3. Maximum demand are "most likely maximum" loads without safety factors (not design values that include safety factors).

**ATTACHMENT A-3  
CONSUMPTION TARGET – THERMAL (NATURAL GAS)**

Date: \_\_\_\_\_

Building Reference	Building Name	Program (ASF)	Base Energy Consumption Targets – Thermal (Natural Gas)				Building Energy Use Category
			Maximum Heating Demand Therms/hr/kgsf	Thermal (Natural Gas) Demand (Therms)	Maximum Annual Heating Therms/gsf/yr	Annual Heating (Therms/yr)	
Total Base Energy Consumption Target							

- 1) Maximum demand are 15-minute averages (not samples or shorter averaging periods)
- 2) Maximum demand are “most likely maximum” loads without safety factors (not design values that include safety factors).

**ATTACHMENT A-4  
CONSUMPTION TARGET – EXTERIOR ENERGY**

DATE: \_\_\_\_\_

Area Type or external Energy Utility consumption type	Proposed Program (sf)	Base Energy Consumption Targets - Exterior	
		Electrical	Thermal (Natural Gas)
		(kWhr / yr)	(Therms / yr)
General outdoor lighting			
Parking lot lighting in the following Areas: Non-assignable Spaces: Exterior: Parking: South of Bellevue Non-assignable Spaces: Exterior: Parking: Offstreet-Central Non-assignable Spaces: Exterior: Parking: Onstreet Non-assignable Spaces: Exterior: Parking: Offstreet-Peripheral			
Playing field lighting in the following Area: Non-assignable Spaces: Exterior: Fields: Competition			
Non-assignable Spaces: Exterior: Pool: Competition			
Other Controlled External Energy			
<b>Total Exterior Energy</b>			

## ATTACHMENT B TOTAL BASE ENERGY CONSUMPTION TARGETS

DATE: \_\_\_\_\_

Building Ref	Program (sf)	Base Energy Consumption Targets			Key Metrics	
		Electrical (kWhr / yr)	Thermal (Natural Gas) (Therms / yr)	Chilled Water (Ton/hrs / yr)	Assumed Plug Load (kWhr)	EUI (kBtu/sf)
Energy Consumption Target – Exterior (from A4)						
<b>Total Base Energy Consumption Targets</b>						
<b>Target Peak Demand</b>		<b>MW</b>		<b>Ton/hr/day</b>		

- 1) Form to be completed based upon the Building level information documented in Attachments A-1 through A-3.
- 2) Form to be completed based upon the exterior Energy Utility consumption information documented in Attachment A-4.
- 3) Calculated EUI metrics shall include Plug Loads.

## ATTACHMENT C CARBON PERFORMANCE COMMITMENT

Date: \_\_\_\_\_

Energy Source	Program (ksf)	Units	Emission Factor (kgCO <sub>2</sub> e / unit)	Base Energy Consumption Target	
				Energy	Carbon
Purchased Electricity		kWh			
Purchased Natural Gas		Therms			
Purchased Chilled Water (provided by Central Plant)		Tonhrs			
Exported Electricity					
Exported Other					

1. Developer to obtain emission factors annually from applicable Utility provider. Owner will provide annual carbon factor for chilled water from Central Plant.
2. Annual energy for Base Energy Consumption Targets shall be calculated through the use of Attachments A-1 through A-4.
3. Annual energy associated with the Energy Consumption Targets of the proposed design shall be taken from Attachment B.

## ATTACHMENT D ENERGY SIMULATION ASSUMPTIONS

### A. Weather

California Climate Zone	12
Summer Design Conditions (1%)	100 deg F, MCWB 75 deg F*
Winter Design Conditions (99%)	38 deg F
HDD	2430
CDD	995
Average Annual Rainfall	13.08 inches

\* Summer design wetbulb temperature has been increased from standard design temperatures to account for rising ambient humidity in recent years.

### B. Internal Space Temperatures

Design Condition	Heating	Cooling
100% Outdoor Air Systems: Outside air drybulb temperature	21°F	103°F
100% Outdoor Air Systems: Outside air wetbulb temperature	–	75°F
Recirculating Air Systems: Outside air drybulb temperature	27°F	100°F
Recirculating Air Systems: Outside air wetbulb temperature	–	75°F
Evaporative Cooling Systems: Outside air wetbulb temperature	–	74°F

<b>Design Condition</b>	<b>Heating</b>	<b>Cooling</b>
Room drybulb temperature, interior offices (Note 1)	70°F	73°F
Room drybulb temperature, all other spaces (Note 1)	70°F	75°F
Room relative humidity, all spaces	Note 2	Note 2
IDF/MDF room drybulb temperature	–	75°F
Computer Room drybulb temperature	–	Note 4
IDF/MDF/ Computer Room relative humidity	Note 3	Note 3
Rooms with batteries where required by battery manufacturer	–	77°F
Electrical and telephone room drybulb temperature	–	85°F
Hydraulic elevator machine room drybulb temperature	65°F	85°F
MRL elevator controller room drybulb temperature	50°F	100°F

Notes:

1. Indoor drybulb temperatures may be adjusted from the values listed provided they comply with ASHRAE Standard 55.
2. Humidity (high or low) shall not be directly controlled in any space unless a specific process or material requires it, in which case the room shall be isolated from other areas with full height partitions, sealed doors with closers, and vapor barriers to allow only this space humidity to be controlled.
3. Data centers with enclosed hot aisles shall be designed for 80°F supply air to “cold” aisles and minimum 100°F return air temperature from hot aisles. Those without enclosed aisles shall be designed as per IDF/MDF rooms.
4. IDF, MDF, and Computer Rooms do not require any humidity control; humidifiers and reheat coils shall not be used.

### C. Internal Loads

Density Assumptions				
	Plug Load	Density	Sensible	Latent
Area Type	W/GSF	SF/Person	Btu/hr/Person	Btu/hr/Person
Lab/Complex Space	7.00	80.00	275.00	275.00
Academic/Administrative Non-complex Space	1.25	20.00	250.00	200.00
Housing Non-complex	0.75	80	250	200

### D. Operating Times Assumptions

The operating times for each Area Type are assumed to be the Core Times for each Area Type set forth in Annex 1 (Core Times) to Appendix 6 (Payment Mechanism) of the Project Agreement.



## ATTACHMENT E-1

### ADJUSTMENTS TO BASE ENERGY CONSUMPTION TARGETS - ADJUSTMENT FACTORS

Change in Utilization (Section 2.3(b)(i)) - Adjustment Factor						
Building #	Total Building Area (sf)	Available Building Area (sf)	Energy Use Intensity (EUI)	Baseline Total Hours of Use per year (hrs)	Actual Total Hours of Use per year (hrs)	Adjustment Factor
	A	B	C	D	E	$F = (B \times E) / (A \times D)$
Example: Lab 100	100,000	90,000	50	2080	2500	1.08

Owner Change (Section 2.3(b)(ii)) - Adjustment Factor						
Building #	Energy Source Affected	Total Building Area (sf)	Affected Building Area (sf)	Energy Use Intensity (EUI)	Affected Area EUI based upon Owner Change	Adjustment Factor
		H	I	J	K	$L = (J + ((I/H) \times (K-J))) / J$
Example: Lab 100	Electricity	100,000	20,000	50	75	1.1
Example: Lab 100	Thermal (Natural Gas)	100,000	20,000	5	7.5	1.1

Weather Change (Section 2.3(b)(iii)) - Adjustment Factor					
Average Annual Heating Degree Days (as provided by the U.S. Weather Service):	Contract Year Heating Degree Days (as provided by the U.S. Weather Service):	Average Annual Cooling Degree Days (as provided by the U.S. Weather Service):	Contract Year Cooling Degree Days (as provided by the U.S. Weather Service):	Adjustment Factor	
				Electricity/Chilled Water	Thermal (Heating)
M	N	O	P	$R1 = 1 + ((P-O) / O)$	$R2 = 1 + ((N-M) / M)$
Example: 1000	900	1000	1200	1.2	0.9

Plug Load - Adjustment Factor				
Building #	Metered Total Electricity Consumption (kWhr)	Metered Plug Electricity Consumption (kWhr)	Total Metered Non-Plug Load Energy Consumption (kWhr)	Plug Load Adjustment Factor
	S	T	$U = S - T$	$U = (T / S)$
Example: Lab 100	10,000	2,000	8,000	0.8

## ATTACHMENT E-2

### ADJUSTMENT SUMMARY FOR BASE ENERGY CONSUMPTION TARGET – ELECTRICITY

OVERALL PAINSHARE / GAINSHARE ADJUSTMENT CALCULATION							
Building #	Change in Utilization (Section 2.3(b)(i)) Adjustment Factor	Owner Change (Section 2.3(b)(ii)) Adjustment Factor	Plug Load Adjustment Factor	Weather Change (Section 2.3(b)(iii)) Adjustment Factor	Total Adjustment Factor	Energy Consumption Target - Electricity from Attachment B (kWhr/yr)	Energy Consumption Target - Electricity (kWhr/yr)
	AA	BB	CC	DD	EE= (AA x BB x CC x DD)	FF	GG= FF x EE
Example: Lab 100	1.08	1.1	0.8	1.2	1.14	5,000	5,702
<b>Total Base Energy Consumption Target - Electricity (kWhr/yr)</b>						HH= [SUM OF FF]	
<b>Total Energy Consumption Target - Electricity (kWhr/yr)</b>						KK = [SUM OF GG]	
<b>Total Electrical Process Load (kWhr/yr)</b>						LL	
<b>Total Energy Consumption Target (excluding Process Loads) – Electricity (kWhr/yr)</b>						MM = KK - LL	
<b>Electricity Adjustment Factor</b>						<b>NN = KK/HH</b>	

- Individual adjustment factors shall be derived using the calculation method on Attachment E-1.
- Base Energy Consumption Target - Electricity shall be taken from Attachment B.
- Weather Change (Section 2.3(b)(iii)) Adjustment Factor: R1 from Attachment E-1 for Electricity/Chilled Water; R2 from Attachment E-1 for Thermal (Heating).
- A Plug Load factor is used in lieu of simply deducting the actual meter in order to account for the secondary impact of Plug Load on the cooling loads within the Building.

## ATTACHMENT E-3

### ADJUSTMENT SUMMARY FOR BASE ENERGY CONSUMPTION TARGET – THERMAL (NATURAL GAS)

OVERALL PAINSHARE / GAINSHARE ADJUSTMENT CALCULATION						
Building #	Change in Utilization (Section 2.3(b)(i)) Adjustment Factor	Owner Change (Section 2.3(b)(ii)) Adjustment Factor	Weather Change (Section 2.3(b)(iii)) Adjustment Factor	Total Adjustment Factor	Energy Consumption Target – Thermal (Natural Gas) from Attachment B (Therms/yr)	Energy Consumption Target – Thermal (Natural Gas) (Therms/yr)
	AA	BB	CC	FF = (AA x BB x CC)	GG	HH = FF x GG
Example: Lab 100	1.08	1.05	1.1	1.274	500	637
<b>Total Base Energy Consumption Target – Thermal (Natural Gas) (Therms/yr)</b>					JJ = [SUM OF GG]	
<b>Total Energy Consumption Target – Thermal (Natural Gas) (Therms/yr)</b>						KK = [SUM OF HH]
<b>Total Thermal Process Load (Therms/yr)</b>						LL
<b>Total Energy Consumption Target (excluding Process Loads) - Thermal (Therms/yr)</b>						MM = KK - LL
<b>Thermal (Natural Gas) Adjustment Factor</b>						NN = KK / JJ

- Individual adjustment factors shall be derived using the calculation method on Attachment E-1.
- Base Energy Consumption Target – Natural Gas shall be taken from Attachment B.
- Weather Change (Section 2.3(b)(iii)) Adjustment Factor: R1 from Attachment E-1 for Electricity/Chilled Water; R2 from Attachment E-1 for Thermal (Heating).
- Thermal process loads is defined as metered cooking and laboratory natural gas consumption.

## ATTACHMENT E-4

### ADJUSTMENT SUMMARY FOR BASE ENERGY CONSUMPTION TARGET – CHILLED WATER

OVERALL PAINSHARE / GAINSHARE ADJUSTMENT CALCULATION						
Building #	Change in Utilization (Section 2.3(b)(i)) Adjustment Factor	Owner Change (Section 2.3(b)(ii)) Adjustment Factor	Weather Change (Section 2.3(b)(iii)) Adjustment Factor	Total Adjustment Factor	Energy Consumption Target – Chilled Water from Attachment B (tonhrs/yr)	Energy Consumption Target – Chilled Water (tonshrs/yr)
	AA	BB	CC	FF = (AA x BB CC)	GG	HH = FF x GG
Example: Lab 100	1.08	1.05	1.1	1.274	500	637
<b>Total Base Energy Consumption Target – Chilled Water (tonshrs/yr)</b>					JJ = [SUM OF GG]	
<b>Total Energy Consumption Target – Chilled Water (tonhrs/yr)</b>						KK = [SUM OF HH]
Total Chilled Water Process Load (tonhrs/yr)						LL
Total Energy Consumption Target (excluding Process Loads) – Chilled Water (tonhrs/yr)						MM = KK - LL
Chilled Water Adjustment Factor						NN = KK / JJ

- Individual adjustment factors shall be derived using the calculation method on Attachment E-1.
- Base Energy Consumption Target – Chilled Water shall be taken from Attachment B.
- Weather Change (Section 2.3(b)(iii)) Adjustment Factor: R1 from Attachment E-1 for Electricity/Chilled Water; R2 from Attachment E-1 for Thermal (Heating).
- Chilled Water process loads are defined as metered chilled water use associated with the direct cooling of laboratory equipment.

## ATTACHMENT F-1 PAINSHARE / GAINSHARE: RATE CALCULATION

**Table F-1a**

Total Energy Consumption Summary	Unit	Base Energy Consumption Target							
		Allowable Consumption (kWhr)	Allowable Consumption (excluding process)(kWhr)	Allowable Peak Demand (kW)	Allowable Demand Charge(\$)	Demand Charge (\$/unit)	Consumption Charges (\$/unit)	Misc Charges (\$/ unit) (taxes etc)	Target Blended Utility Rate (\$/unit)
		A	B	C	D	E=D/B	F	G	H=(E+F+G)
<b>Electricity</b>	<b>kWhr</b>								
<b>Thermal (Natural Gas)</b>	<b>Therms</b>								
<b>Chilled Water</b>	<b>Ton-hrs</b>								

- Utility rates shall be calculated based upon the PG&E rate schedule utilized by the Owner applicable to the applicable Calendar Year.
- Blended Utility Rate based upon Base Energy Consumption Targets shall be based upon the consumption and peak demand information included in Attachment B.
- Blended Utility Rate based upon Actual Energy Consumption shall be based upon the actual measured consumption and demand reported by Developer in the draft Annual Energy Analysis Report in accordance with Section 3.2 of this Appendix 17.

**Table F-1b**

Total Energy Consumption Summary	Unit	Actual Energy Consumption							
		Actual Consumption (kWhr)	Actual Consumption (excluding process) (kWhr)	Actual Peak Demand (kW)	Actual Demand Charge (\$)	Demand Charge (\$/unit)	Consumption Charges (\$/unit)	Misc Charges (\$/ unit) (taxes etc)	Actual Blended Utility Rate (\$/unit)
		A	B	C	D	E = D/B	F	G	H = (E+F+G)
<b>Electricity</b>	<b>kWhr</b>								
<b>Thermal (Natural Gas)</b>	<b>Therms</b>								
<b>Chilled Water</b>	<b>Ton-hrs</b>								

- Utility rates shall be calculated based upon the PG&E rate schedule utilized by the Owner applicable to the applicable Calendar Year.
- Blended Utility Rate based upon Base Energy Consumption Targets shall be based upon the consumption and peak demand information included in Attachment B.
- Blended Utility Rate based upon Actual Energy Consumption shall be based upon the actual measured consumption and demand reported by Developer in the draft Annual Energy Analysis Report in accordance with Section 3.2 of this Appendix 17.
- The rates at E, F and G will differ from the actual PG&E utility rates due to the allocation of the peak demand charge.
- Allowable and actual demand charge noted in D is calculated as the annual charge (12 x peak month).

## ATTACHMENT F-2 PAINSHARE / GAINSHARE CALCULATION

**Table F-2**

CALCULATION OF PAINSHARE ADJUSTMENT AND GAINSHARE ADJUSTMENT												
Energy Utility	Energy Consumption Target (excluding process load) (A)	Target Blended Utility Rate (\$) (B)	Target Energy Cost (\$) (C)	Actual Consumption (excluding process load)(D)	Actual Blended Utility Rate (\$) (E)	Actual Energy Cost (\$) (F)	% Usage Variance (G)	Energy Cost Delta (\$) (H)	Painshare Threshold (J)	Gainshare Threshold (K)	Painshare Payment (\$) <sup>2</sup> (L)	Gainshare Payment (\$) <sup>2</sup> (M)
	A from Attachment E	From Table F-1a	A x B		From Table F-1b	D x E	(D-A)/A	F - C	C x 1.15	C x 0.85	If: F > J Then: (F-J) x 100%	If: F < K Then: (F-K) x 50%
Electricity	100,000	0.20	\$20,000	200,000	0.20	\$40,000	100%	\$20,000	\$23,000	\$17,000	\$17,000	\$0
Thermal (Natural Gas)												
Chilled Water (if provided by Central Plant)												
Total												

1. Energy Consumption Targets (A) taken from Attachments E-2 (Electricity), E-3 (Thermal (Natural Gas)) or E-4 (Chilled Water) and Actual Energy Consumption taken from the Annual Energy Analysis Report prepared in accordance with Section 3.2 of this Appendix 17.
2. For each Energy Utility only one of column (H) or column (I) of Table F-2 shall be completed.
3. Total costs calculated by multiplying the Energy Consumption Targets by the blended rates defined in Attachment F-1.
4. The painshare / gainshare calculation process is initiated based upon energy consumption. The calculation of painshare payment or gainshare payment is based on energy cost. Energy consumption below the Energy Consumption Target may result in a painshare payment, and energy consumption above the Energy Consumption Target may result in a gainshare payment, based upon the payment calculation, where the variance in effective utility rate is sufficient to counteract any delta in use. Example calculation included in table above.

# **ATTACHMENT G** **ANNUAL CARBON FOOTPRINT ANALYSIS**

Total Energy Summary	Units	Actual Consumption	Emission Factor (kgCO <sub>2</sub> e / unit) <sup>1</sup>	Current Year Carbon (kgCO <sub>2</sub> e)	Previous Year Carbon (kgCO <sub>2</sub> e)	Variance (%)
<b>Imported Power / Utilities</b>						
Purchased Electricity	kWh					
Purchased Natural Gas	Therms					
Purchased Chilled Water	Tonhrs					
<b>Exported Energy</b>						
Exported Electricity	kWhr					
<b>Total Level<sub>1</sub> Emissions</b>						
<b>Carbon Offsets</b>					<b>kgCO<sub>2</sub>e</b>	

<sup>1</sup> Emission Factors provided annual from utility company. UCM shall provide annual carbon factor for Central Plant CHW.

**APPENDIX 18**  
**DIRECT COSTS**

In connection with a Relief Event, “**Direct Costs**” means the sum of (a) the Base Direct Costs and (b) the Mark-up permitted in respect of certain Base Direct Costs.

1.1 Subject to Section 1.2 of this Appendix 18, “**Base Direct Cost**” means the cumulative total, without duplication, of only the following amounts, as paid or incurred by Developer or Contractors, as applicable, to the extent that they specifically relate to, and are solely attributable to, a Relief Event:

- (a) Straight-time wages or salaries for personnel of Developer and/or Contractors for the performance of the Extra Work at the Work Site or at fabrication sites off the Work Site;
- (b) Fringe benefits and payroll taxes for personnel of Developer and/or Contractors for the performance of the Extra Work at the Work Site, or at fabrication sites off the Work Site;
- (c) Overtime wages or salaries specifically authorized in writing by the Owner's Authorized Representative for personnel of Developer and/or Contractors for the performance of the Extra Work at the Work Site, or at fabrication sites off the Work Site;
- (d) Fringe benefits and payroll taxes for overtime work specifically authorized in writing by the Owner's Authorized Representative for personnel of Developer and/or Contractors for the performance of the Extra Work at the Work Site, or at fabrication sites off the Work Site;
- (e) Costs of materials and consumable items which are furnished and incorporated into the Extra Work, including transportation and maintenance thereof, as approved by the Owner's Authorized Representative. Such costs shall be charged at the lowest price available to Developer or Contractors, as applicable, but in no event shall such costs exceed competitive costs obtainable from other subcontractors, suppliers, manufacturers, and distributors in the area of the Work Site. All discounts, rebates, and refunds and all returns from sale of surplus materials and consumable items shall accrue to the Owner and Developer shall, or shall cause the applicable Contractors to, make provisions so that they may be obtained;
- (f) Sales taxes on the costs of materials and consumable items which are incorporated into and used in the performance of the Extra Work pursuant to clause (e) above;



- (g) Rental charges for necessary machinery and equipment, whether owned or hired, as authorized in writing by the Owner's Authorized Representative, exclusive of hand tools, used directly in the performance of the Extra Work. Such rental charges shall not exceed the current Equipment Rental Rates published by the California Department of Transportation for the area in which the work is performed. Such rental rates are found at <http://www.dot.ca.gov/hq/construc/equipmnt.html>. The charges for any machinery and equipment shall cease when the use thereof is no longer necessary for the Extra Work;
- (h) The actual cost of professional design/engineering services necessary to perform the Extra Work;
- (i) The cost of obtaining all permits, licenses and approvals required as a direct result of the Extra Work;
- (j) The cost of any additional insurance or performance security required as a direct result of the Extra Work or otherwise approved by the Owner in writing;
- (k) (i) The direct cost of actual idle labor and equipment incurred by Developer or its Contractors, as applicable, during any applicable Relief Event Delay or as a result of a non-critical path delay directly attributable to a Relief Event, and (ii) to the extent any Relief Event Delay is directly attributable to an Owner Change or an Owner-Caused Delay, the direct cost of items described in Sections 1.2(e) and 1.2(i) of this Appendix 18, in each case which could not have been reasonably mitigated by Developer or its Contractors (collectively, the "**Delay Costs**");
- (l) The actual cost of third party quality assurance services necessary to perform the Extra Work;
- (m) Reasonable travel and subsistence expenses of employees of Developer and/or Contractors incurred as a result of the performance of Extra Work, to the extent such Extra Work relates to Renovation work during the Operating Period;
- (n) The cost of competitively tendering any contract in relation to the Extra Work, to the extent such competitive tendering is required pursuant to the Agreement; and
- (o) Without duplication of amounts described in clauses (a) through (n) of this Section 1.1, the net increase or decrease in costs of performing the O&M Services, provided that with respect to any such net increase or decrease in costs due to a Relief Event Delay that delays Developer's receipt of Availability Payments and/or Partial Availability Payments, the provisions of Section 10.4.1.2 of the Agreement shall apply.

- 1.2 The Base Direct Costs shall not include any of the following (except to the extent expressly permitted in Section 1.1(k) of this Appendix 18):
- (a) Small tools (Replacement value does not exceed \$300);
  - (b) Office expenses including staff, materials and supplies;
  - (c) On-site or off-site trailer and storage rental and expenses;
  - (d) Site fencing;
  - (e) Utilities including gas, electric, sewer, water, telephone, facsimile, copier equipment;
  - (f) Data processing personnel and equipment;
  - (g) Federal, state, or local business income and franchise taxes;
  - (h) Overhead and profit;
  - (i) Costs of supervision, superintendent(s), assistant superintendent(s), the Project Manager, scheduler(s) and/or estimator(s); and
  - (j) Costs and expenses of any kind or item not specifically and expressly included in Section 1.1 of this Appendix 18.
- 1.3 The total mark-up for overhead and profit as a percentage of the Base Direct Costs (the “**Mark-up**”) described in Sections 1.1(a) through (e) of this Appendix 18 shall not exceed the limits set forth below:
- (a) Fifteen percent (15%) of the cost of that portion of the Extra Work to be performed by Developer with its own forces.
  - (b) Fifteen percent (15%) of the cost of that portion of the Extra Work to be performed by a first-tier Contractor with its own forces, plus 5% for Developer. Total combined Developer and Contractor fee shall not exceed 20%.
  - (c) Fifteen percent (15%) of the cost of that portion of the Extra Work to be performed by a Contractor of second-tier or lower with its own forces, plus 5% for the first-tier Contractor, plus 5% for Developer. Total combined Developer and Contractors fee shall not exceed 25%.

The Mark-up for Base Direct Costs described in Sections 1.1(h), (l) and (n) of this Appendix 18 shall not exceed five percent (5%).

The Mark-up for Base Direct Costs described in Section 1.1(o) of this Appendix 18 shall not exceed twenty percent (20%). Such Mark-up shall apply with respect to the cost of performing the additional O&M Services, prior to netting against any savings in costs of performing the O&M Services.

No Mark-up is permitted for any Base Direct Costs described in Sections 1.1(f), (g), (i) through (k), and (m) of this Appendix 18.

In support of any claim by Developer for Direct Costs under the Agreement, Developer shall specify the applicable Mark-up (in the aggregate and per tier) in relation to each category of Base Direct Costs.

**APPENDIX 19**  
**BASELINE CONTAMINATED MATERIALS REPORTS**

(See attached.)

Phase 1 Preliminary Site Assessment Due Diligence Reports:

- 4800 North Lake Road, Merced, CA, 95343
- 5200 North Lake Road, Merced, CA, 95343
- 5320 North Lake Road, Merced, CA, 95340
- Flying M Ranch – Lake Road, Merced, CA, 95340

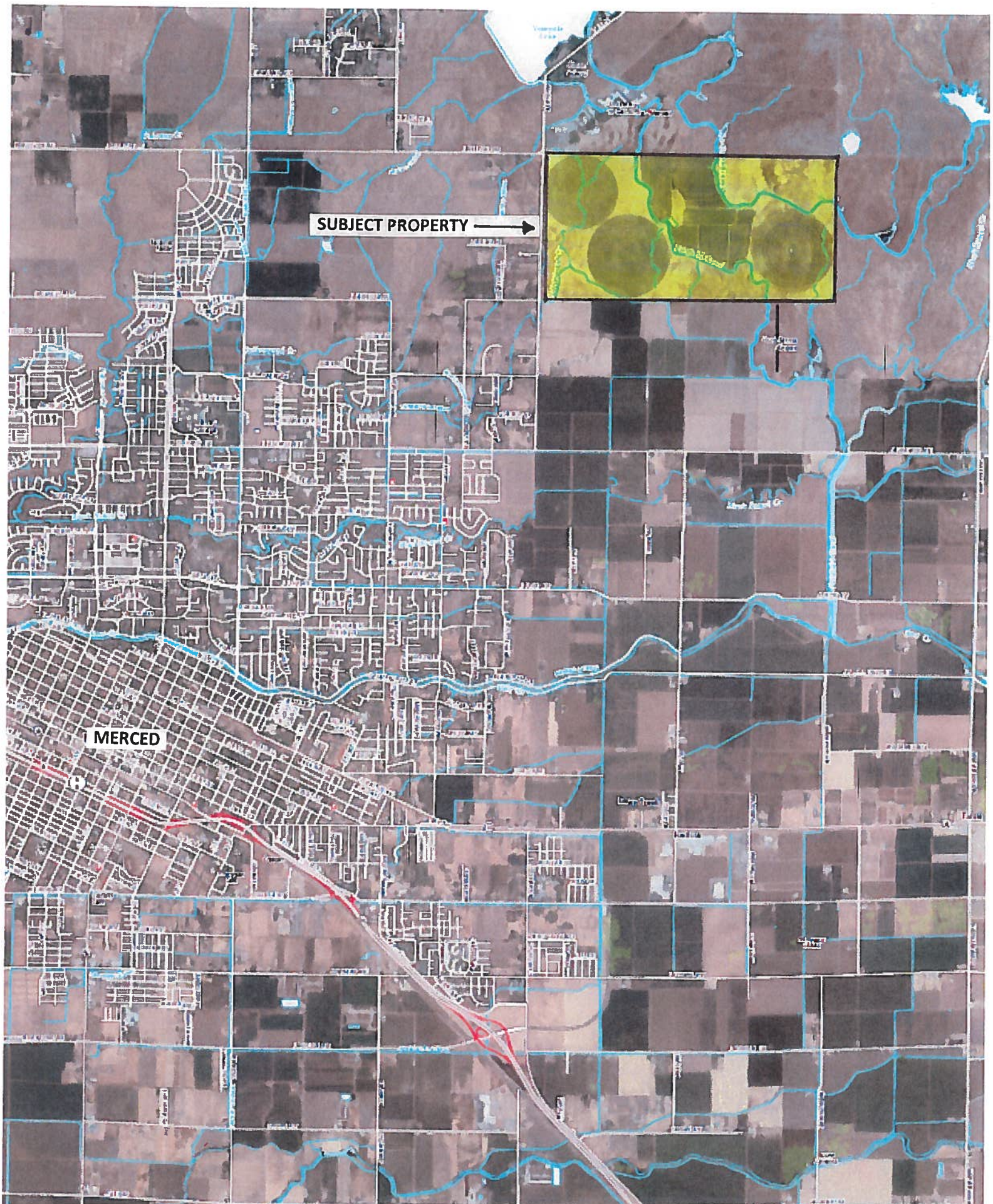
## **I. SITE OWNERSHIP AND LOCATION**

## II. SUMMARY DESCRIPTION OF SITE

- The rectangular property is bisected by two irrigation canals – the Le Grand and Fairfield Canals, that run in a SE direction. The area west of the Fairfield Canal is known as the “Lowlands,” the area between the two canals is known as the “Midlands,” and the area east of the Le Grand Canal is known as the “Uplands.” The property is undeveloped leased irrigated pastureland. Approximately 96 acres across the property were graded in 2011. Figure 1 shows the site locus.



# FIGURE 1. SITE LOCUS





### III. SITE HISTORY AND USE

1. Title History Researched: Yes \_\_\_\_\_ No  X

- ## 2. Zoning Classification:

The subject property is located in unincorporated Merced County. The County's 2030 General Plan Land Use Policy Diagram identifies the majority of the site as being within the University Community Plan area boundary, except for the far eastern side of the property: ~222 acres on the SE side of the property known as the "third pivot" and the 97 acres on the NE side of the property known as "Myers Easterly." The portion of the property within the University Community Urban Community is designated as MU – Multiple Use Urban Development. The eastern portion of the property not in the University Community Plan area is designated as Agricultural land use.

The property is also within the City of Merced's SOI/SUDP, and designated in the City of Merced's General Plan as "School"/"Future School."

- ### 3. Institutional Controls/Restrictions:

Development of the site must conform to (previously obtained) permits and related conditions from state and federal agencies that regulate endangered species and their habitats, including a conversation easement on the NE corner of the site (97 ac).

4. Current Uses of Site
- \_\_\_\_\_ Industrial
- \_\_\_\_\_ Commercial
- Pastureland/cattle grazing Agricultural
- \_\_\_\_\_ Residential
- \_\_\_\_\_ Other

5. Brief Description of Current Uses (Describe in terms of product line/crop, processes, chemicals and materials used, wastes generated, waste management and disposal, etc.):

The property is fenced pastureland that is leased for dairy cattle grazing. Three center-pivot irrigated areas are located on site; two on the west side (in the “lowlands” area between Lake Rd and Fairfield Canal), and one in the southeast “midlands” area between the Fairfield and Le Grand Canals). Both of these irrigation canals pass through the property, entering from the north side and flowing off-site towards the southeast corner. Pastureland between the two canals is also flood irrigated; the remainder of the property is dry grassland.

6. Brief Description of Former Uses of Site (Give dates and available information as requested above based on reasonably ascertainable information as far back in time as to when property was first developed or intensively used):

1917 – Crocker-Hoffman Canal bisects site; Lake Rd. runs along west side of site with access road entering site mid-Section 3 and terminating at canal where several structures are located. A single structure is also located at the end of dirt road in SW part of Section 2. 1948 – Crocker Canal now named Fairfield Canal. Le Grand Canal now also in place in Section 2. Two structures still present from 1917. 1961 – One structure remaining E of Fairfield Canal, but no bridge. Well located next to Le Grand Canal. Dirt access road runs S in middle of Section 2. In 1987, the site appears similar to 1961. In 2002, the UCLC took ownership of the land and has continued cattle grazing on the majority of the site since that time. In 2011, 96 acres across the site were graded as part of future development of a UC Merced-related community.

Appendix I contains copies of historic topographic maps.

7. Current and Prior Uses of Adjacent Properties (based on reasonably ascertainable info):

North: 1917 – canal leading to Yosemite Lake; Lake Road running NE in Section 34.  
1948 – second (Le Grand) canal leading to Yosemite Lake; some additional dirt roads.  
1961 – similar to 1948 except some structures around Yosemite Lake park.  
1987 – additional development around lake; otherwise similar to 1961.  
2001 – Merced Hills Golf Course (built 1993-95); rangeland.  
2014 – UC Merced campus.

South: 1917 – Dunn Rd. runs E to canal; generally undeveloped lands (ag?); one building.  
1948 – additional dirt road with one additional structure in Section 10.  
1961 – additional structures off Dunn Rd; airstrip NE part of Section 11.  
1987 – additional structures off Dunn Rd.; otherwise similar to 1961.  
2001 – agricultural lands.  
2014 – Hunt Farms agricultural lands including private airplane landing strip.

East: 1917 – undeveloped (agricultural?) lands.  
1948 – Le Grand canal; some dirt roads but mainly undeveloped (ag?) lands.  
1961 – similar to 1948.  
1987 – similar to 1961.  
2001 – agricultural lands (pastureland).  
2014 – agricultural lands (pastureland).

West: 1917 – Lakeside School to NW. Several structures W of Lake Rd.  
1948 – Several structures W of Lake Rd.  
1961 – additional structures off Los Olivos Rd.; orchards to SW.  
1987 – numerous structures (houses) W of Lake Rd.  
2001 – rural residential along Lake Rd.; new subdivision to SW.  
2014 – rural residential along Lake Rd.



8. List of Regulatory Agency Permits/Violations/Liens for the Site (storage tanks; wastewater discharge; hazardous/flammable/radioactive material storage/use/disposal agricultural chemical application/mixing/disposal and other applicable permits):

None known.

9. References used in preparing this report and persons interviewed relative to site history and use (must include current owner and/or current operator(s) or major occupant(s) and past owners/operators if necessary):

<u>Name</u>	<u>Address</u>	<u>Tel. No.</u>
Gene Barrera, Associate Planner - UC Merced		(209) 228-4460
David Ott, EH&S Director – UC Merced		(209) 228-4234
USGS topographic maps	(1917 – 1948 – 1962 – 1987 - 2012)	
Flying M Ranch Phase 1 Preliminary Site Assessment Report		
UCOP Environmental Services, Oakland CA – May 9, 2001		
UC Merced “2020 Project” Phase 1 Preliminary Site Assessment Report		
UCOP Environmental Services, Oakland CA – July 25, 2014		
UC Merced 2009 Long Range Development Plan Environmental Impact Report		
Prepared by Impact Sciences Inc., Oakland, CA – March 17, 2009		
Merced County 2030 General Plan – December 10, 2013		

#### **IV. SITE ENVIRONMENTAL CHARACTERISTICS**

##### **1. Site Layout Information (see Figure 2 - Site Plan)**

###### *A. approximate property boundaries:*

North – UC Merced/Bellevue Rd alignment/fence      South – Cardella Rd. alignment/fence  
East – fenceline      West – Lake Rd./fenceline

###### *B. building and parking area locations:*

Abandoned above-ground concrete water storage cistern (10' tall; 15' diameter) and associated old concrete pumphouse located near south property line south of the Fairfield Canal and east of Dunn Lateral. No parking areas on site.

###### *C. site utilities (types and locations):*

Power lines (12 KV) run north-south onto the property from Yosemite Ave to several wellheads on site. No other utilities on site. Power lines also run along eastern side of Lake Rd. No water or sewer lines along Lake Rd. frontage.

###### *D. easements:*

Normal and customary easements (see Title Report), as well as rights of way for existing roads, canals, ditches, drain ditches, pipe, pole, or transmission lines, and public utilities. Easements cover two Merced Irrigation District canals that traverse the property, and Dunn Lateral. A conservation easement (held by The Nature Conservancy) covers a 97-acre area on the NE corner of property. Another easement for ditches and canals across the property – granted to the Crocker-Huffman Land and Water Company was recorded 8/10/1919.

###### *E. fencing:*

Perimeter and some interior cross barbed wire fencing.

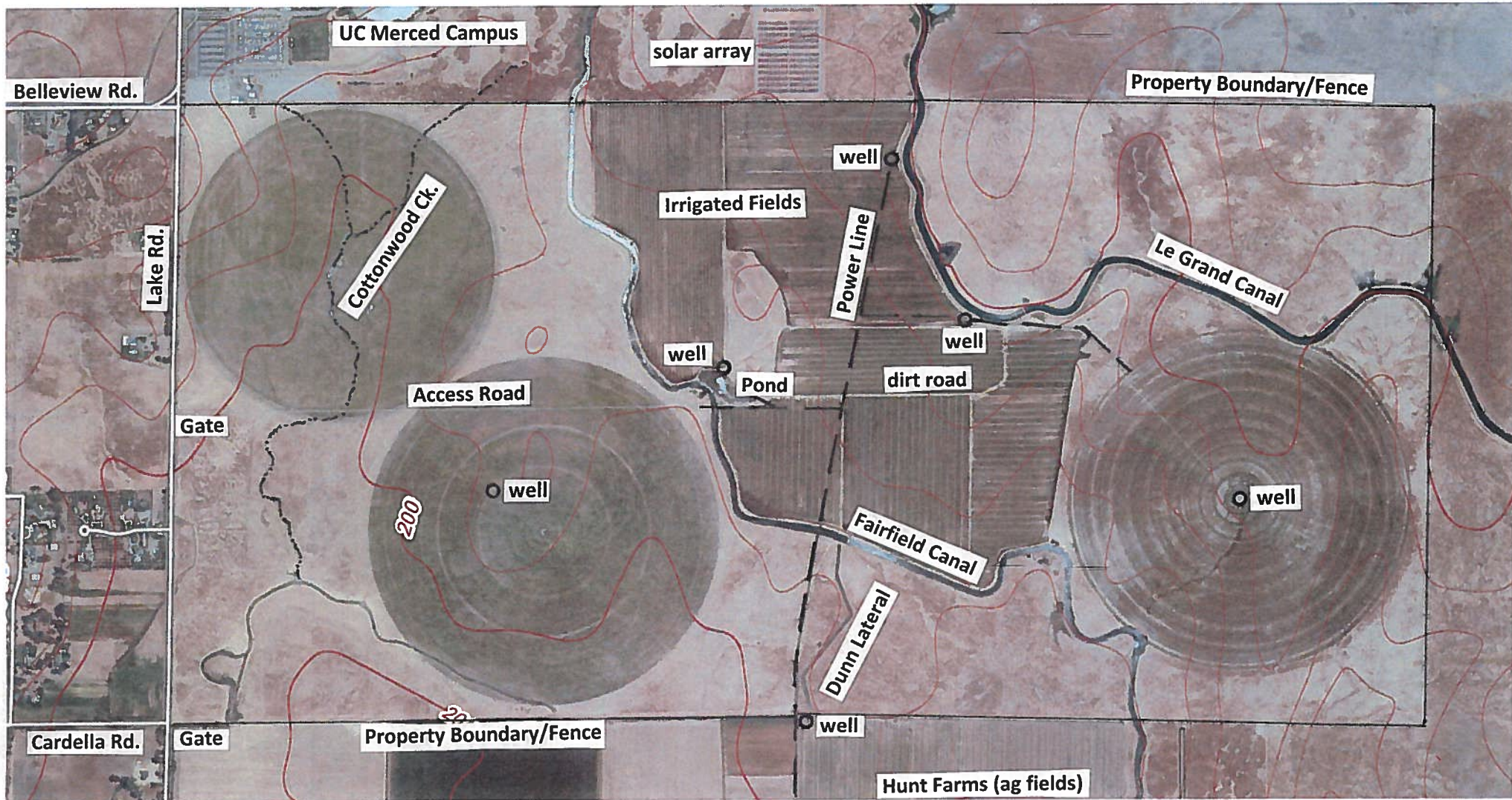
###### *F. high voltage power lines:*

None on site. Distribution lines from off-site run to the wellhead pumps.

###### *G. ponds and floodplains:*

FIRM Flood Zone X (outside 500-yr floodplain). A stock pond exists immediately east of Fairfield Canal near the center of the property. Seasonal ponds associated with wetland areas exist elsewhere on the site: one along Lake Rd, and two others on the upgradient side of Le Grand Canal levees crossing the property.

# FIGURE 2. SITE PLAN



**H. streams:**

Cottonwood Creek running southerly across the west side of site is the primary intermittent local drainage with seasonal flow; it feeds an intermittent stream on the SW corner of the property that also receives water from an off-site irrigation ditch immediately south of the property. Intermittent streams/wetlands also flow southerly in the NE "upland" portion of the property, ending at Le Grand Canal; in the SE corner of the property; south from the Fairfield Canal from the stock pond area; and just east of Lake Rd. in the SW part of the property.

**I. marshes or wetlands including any evidence of fill material:**

Cottonwood Creek and a seasonal pond exist on the west side of site, as does an intermittent stream fed by both Cottonwood Creek and an off-site irrigation ditch immediately south of the property. Other seasonal wetlands areas exist on the property associated with the canal levees. An intermittent stream/wetland exists in the northeast "upland" portion of the property; it ends at Le Grand Canal. Various wetland areas (~96 ac) formerly located on site were graded and filled in 2011.

**J. wells:**

Irrigation well (Section 3 W of canal) - reportedly 700' bgs (1800 gpm)  
Irrigation well (NW corner Section 2 W of canal) - reportedly 300' bgs (900 gpm)  
Irrigation well (Section 2 W of canal) - reportedly 300' bgs (600 gpm)  
Two additional irrigation wells exist in the "midland" area between Le Grand Canal and Fairfield Canals.

**2. Site Specific Waste/Wastewater Information:**

**A. catch basins:**

None located on site.

**B. septic tanks/cesspools/leaching fields:**

None located on site.

**C. sanitary sewers:**

The property is not currently served by sewer infrastructure. Sewer lines are located in Bellevue Road, however.

**D. underground storage tanks and supply lines:**

None known or observed to be located on site.

*E. above ground storage tanks:*

Abandoned concrete water cistern in southern area. No fuel tanks.

*F. pits/ponds/lagoons:*

A stock pond exists immediately east of Fairfield Canal near the center of the property. Seasonal ponds associated with wetland areas exist elsewhere on the site: one along Lake Rd, and two others on the upgradient side of Le Grand Canal levees crossing the property. A shallow borrow pit exists on the south side of the property in the vicinity of the abandoned water cistern and former pumphouse.

*G. drainage lines:*

None on site.

*H. sumps:*

None on site.

*I. ditches:*

Two parallel Merced Irrigation District (MID) canals - Fairfield Canal and Le Grand Canal traverse the site, running in SE direction. Dunn Lateral off Fairfield Canal runs to south in SW corner of Section 2. Another ditch/intermittent wetland exists in the NE portion of the property, near the western edge of the area referred to as Myers Easterly.

*J. wells (capped or uncapped) and dry wells:*

No dry wells.

*K. fill connections/vent pipes (suspected or identified):*

Vent pipes for underground irrigation system lines in "midlands" area between the Fairfield and Le Grand canals.

*L. unidentified cover plates/pipes; mounds of soil/fill; or depressions/subsidence:*

None significant noted.

*M. other miscellaneous:*

Two "temporary" bridge structures: bent/sagging steel railroad flatcar with concrete deck is located over the Fairfield Canal (passable); older wooden bridge over Le Grand Canal (does not appear to be stable).

### 3. Site Specific Characteristics (see Figure 2 - Site Plan)

#### A. *topography and surface water drainage patterns:*

Gently rolling with some level pasture area. Drainage varies locally, but generally in southerly direction.

The two on-site canals (Fairfield and Le Grand) interrupt the flow of stormwater runoff in various locations. Stormwater ponds on the upgradient side of the Le Grand Canal in two primary locations in the “upland” portion of the site. Some water may seep into or underneath the canals and continue to flow in a downgradient direction.

#### B. *hydrogeological conditions (soil type; depth to groundwater; probable gradient)*

Soils on site reportedly consist of the following types (per NRCS soil survey):

- Redding gravelly loam, 0-8% slopes: ~555 acres (45% of site area)
- Corning gravelly loam, 0-8% slopes: ~156 acres (12.5%)
- Rocklin loam: ~128 acres (10%)
- Montpellier coarse sandy loam, 3-8% slopes: ~90 acres (7%)
- Hopeton clay loam, 3-8% slopes: ~38 acres (3%)
- Montpellier coarse sandy loam, 0-3% slopes: ~36 acres (3%)
- Corning gravelly sandy loam, 0-8% slopes: ~34 acres (3%)
- Anderson gravelly soils, channeled, 0-3% slopes: ~33 acres (3%)
- Hopeton clay: ~42 acres (3%)
- Burchell silty clay loam, 0-1% slopes: ~25 acres (2%)
- Water: ~22 acres (2%)
- Peters cobbly clay, 0-8% slopes: ~20 acres (2%)
- Whitney fine sandy loam, 3-8% slopes: ~15 acres (1%)
- Raynor cobbly clay, 0-3% slopes: ~11 acres (<1%)
- Honcut silt loam, 0-1% slopes: ~10 acres (<1%)
- San Joaquin loam, 0-3% slopes: ~10 acres (<1%)
- Peters clay, 0-8% slopes: ~7 acres (<1%)
- Raynor clay: ~13 acres (1%)
- Wyman clay loam, 0-3% slopes: ~2 acres (<1%)
- Wyman clay loam, deep over hardpan, 0-1% slopes: ~0.8 acre (<1%)

Groundwater lies within the Merced sub-basin of the San Joaquin Valley basin. Shallow perched groundwater is reportedly generally found at 60'—200' bgs (locally reported at 75'- 80' bgs) with deeper confined aquifer at ~900' bgs. Gradient in the immediate vicinity is in a southerly direction. Shallower perched groundwater reportedly exists on site around the immediate areas of the Fairfield and Le Grand Canals.

#### C. *surface soil or pavement staining/discoloration or disruption/texture change:*

Vernal pools formerly on site were filled in 2011; fill material is present in those areas.



*D. vegetation condition and signs of stress:*

Grazed pastureland appeared in good natural condition.

*E. drums or other chemical storage areas:*

None located on site.

*F. maintenance or shop/service areas:*

None on site.

*G. odors:*

None unusual noted.

*H. dead-end roads/paths or unexplained vehicle tracks (signs of illegal dumping):*

No dumping noted. Gated access off Lake Rd., but potential vehicular access along canal levee roads onto site from SE.

**4. Building Inspection**

*A. number of buildings and their age, construction, and general condition:*

A small wooden shed is located at a corral in the middle of the site.  
A small abandoned concrete pumphouse and above-ground cistern are located in the SW part of Section 2, south of Fairfield Canal near south property line.

*B. previous disclosure of hazardous materials in building(s):* Yes\_\_\_No\_\_\_x

*C. visible signs of corrosion or other evidence of solvent action:*

None noted.

*D. visible signs of any spillage or residues:*

None noted.

*E. solid waste or trash:*

None noted. No dumps known or observed on site. A shallow borrow pit located between the Fairfield Canal and Dunn Lateral had several dead cow carcasses.

F. *visible signs of polychlorinated biphenyls [PCBs]* (i.e. - check for transformers, capacitors, electrical switchgear, hydraulics, etc. and any signs of leakage):

Pole-mounted transformers located at end of service drops (to pumps/wellheads). No spillage or leakage noted.

G. *visible signs of asbestos* (check for thermal/electrical/acoustical insulation, sprayed-on fireproofing and plaster, asphalt roofing material, various tiles, transite panels, pipes/lagging, duct wrapping, hoods, drains, etc.):

None noted. No building materials located on site.

## **5. Neighborhood observations** (0.5 mile radius drive-by survey)

A. *land use:*

North – UC Merced campus and Lake Yosemite Recreation Area

South – agricultural crops under private ownership

East – undeveloped pastureland under private ownership

West – rural residential

B. *hazardous waste generation or treatment/storage/disposal (TSD) facilities:*

None on site. The UC Merced campus to the north generates, stores, and disposes of (offsite) biohazardous, chemical, and radiological wastes associated with academic research.

C. *known or suspected hazmat release sites* (refer to Appendix III for complete regulatory agency records search results):

Cal-EPA SWRCB LUST: No active sites within 1-mile radius. Closed cases: Zizza (2632 La Loma Rd) – gasoline/diesel soil contamination excavated and bioremediated; County DPH Div Environmental Health granted closure in 2011; Lake Yosemite County Park (5714 N Lake Rd) – gasoline soil contamination excavated; County DEH granted closure in 1996.

SWRCB Cleanup Programs: UC Merced Campus – diesel spill reported in January 2005; limited soil contamination hand excavated and drummed for disposal; County DEH granted closure in July 2006.

Cal-EPA DTSC (all programs): No sites listed within 1-mile radius.

Federal-EPA CERCLIS: No sites listed within 1-mile radius.

D. *existing monitoring wells:*

None in vicinity.



E. *landfills/junkyards*:

None in vicinity.

F. *gas or service stations/automotive repair shops*:

None in vicinity.

G. *drinking water supplies* (surface or underground within 0.5 mile of site):

Generally private well water supplies. Merced well #17 is located near the UC Merced campus entrance just north of the subject property.

## **V. FINDINGS AND CONCLUSIONS & RECOMMENDATIONS**

### **1. Findings**

No Recognized Environmental Conditions (RECs) were identified.  
No Historical RECs were identified.

### **2. Conclusions & Recommendations:**

I have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 of the property. This assessment has revealed no evidence of Recognized Environmental Conditions in connection with the property.

The property appears free from any significant contamination. No physical or visible evidence or regulatory agency/campus records of any spills, leaks, or releases of any hazmats or petroleum products were found. No dumps or illegal dumping was observed. The property is fenced with vehicular access generally controlled. No significant structures exist on the property.

Current and historical uses of the subject property do not pose any significant risk. Historical and current uses are limited to grazing pastureland/ranchland. No intensive agricultural uses involving pesticides such as row crops or orchards were ever located on the site. Surrounding properties including the UC campus, rural residential, and agricultural lands pose little risk to the subject property.

No further investigation is warranted at this time.

### **3. Limitations:**

The contents of this Phase I report are based on review of University and publicly available records, and limited site reconnaissance. The University makes no warranty that the records reviewed were accurate or complete, or that all records pertaining to the subject property were reviewed. Maps of the property included in this report are for general information purposes only. Any conclusions and recommendations expressed in this report are not to be relied upon.

There may be hidden subsurface conditions, or other environmental or physical conditions not readily obvious through visual inspection that may impact the subject property. The University assumes no liability for misrepresentation of information contained in this report or otherwise for conditions at the property.

This report is not intended to replace buyer's own due diligence or other appropriate inquiry into the property. No warranties or representations, expressed or implied, are made for any

of the contents, findings, or statements made in this report. The University takes no responsibility for any errors or omissions that may be contained in this report.

**4. Identification of environmental professional:**

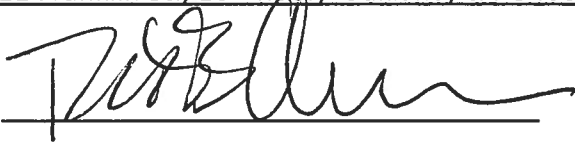
I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10 and have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Robert Charbonneau Director, Environmental Services

University of California Office of the President – Risk Services

1111 Franklin St., 10<sup>th</sup> floor, Oakland, CA 94607-5200 (510) 987-9594

Signature: \_\_\_\_\_



Date: 14 November 2014

Alicia Jensen Specialist, Environmental Services

University of California Office of the President – Risk Services (Contractor)

1111 Franklin St., 10<sup>th</sup> floor, Oakland, CA 94607-5200 (925)788-6353

Signature: \_\_\_\_\_



Date: 14 November 2014

# **APPENDIX I**

**USGS TOPOGRAPHIC MAPS  
1917 – 1948 – 1961 – 1987 – 2012**

1917

Greendale School

CHOCOMA HORN

CANAL

Creek

Bear Creek

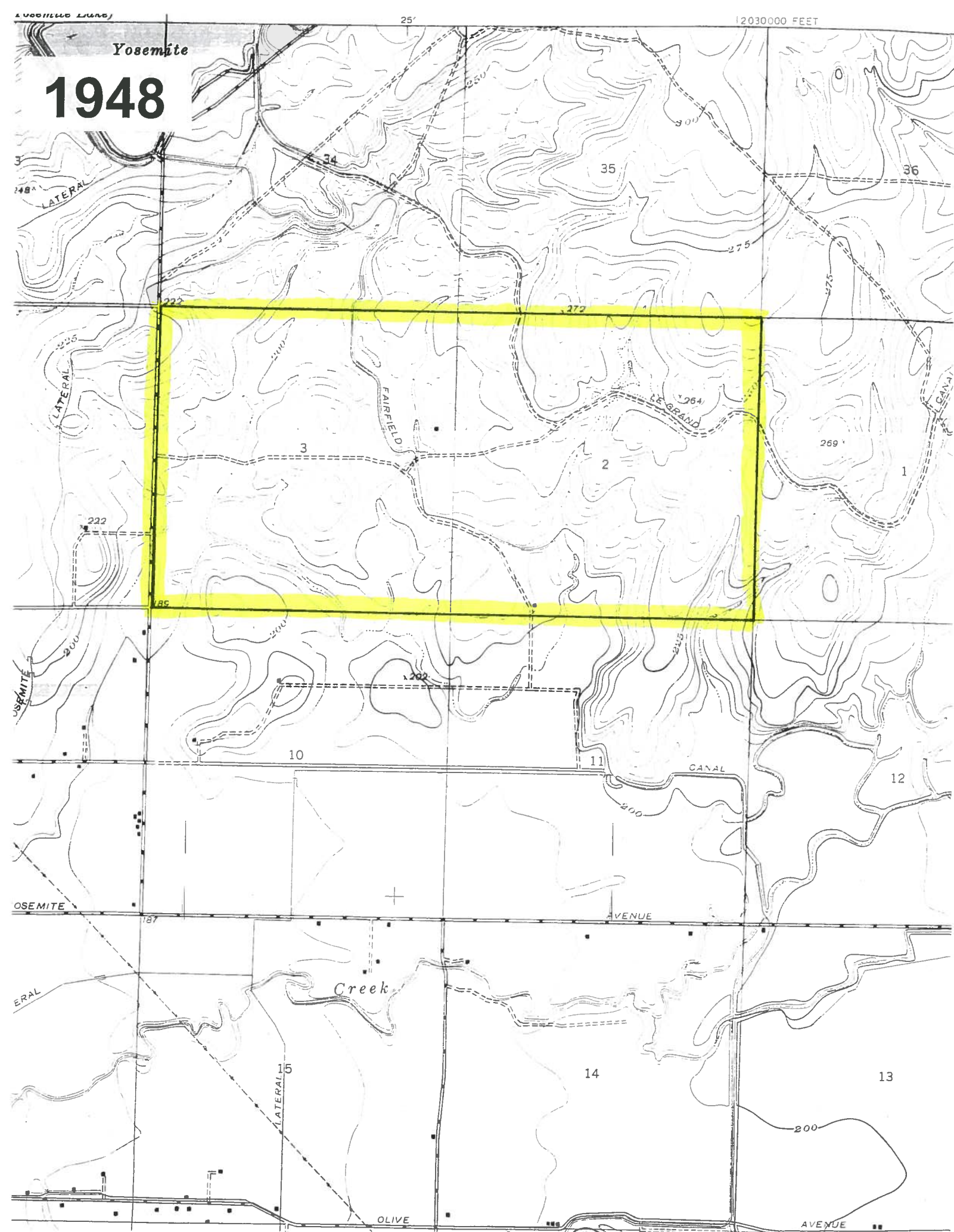
Tuttle Grammar School

Tuttle 203 30



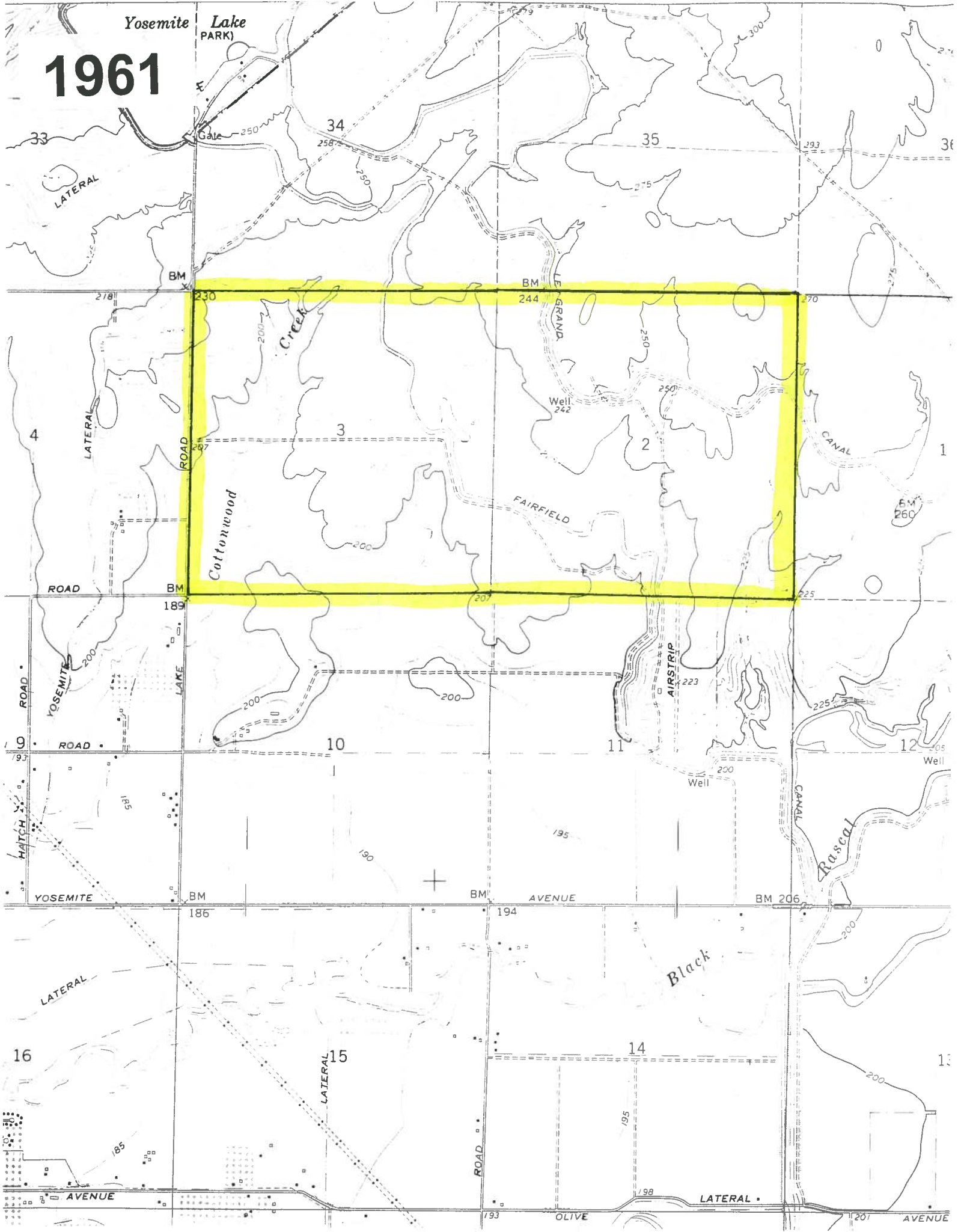
## Yosemite

# 1948



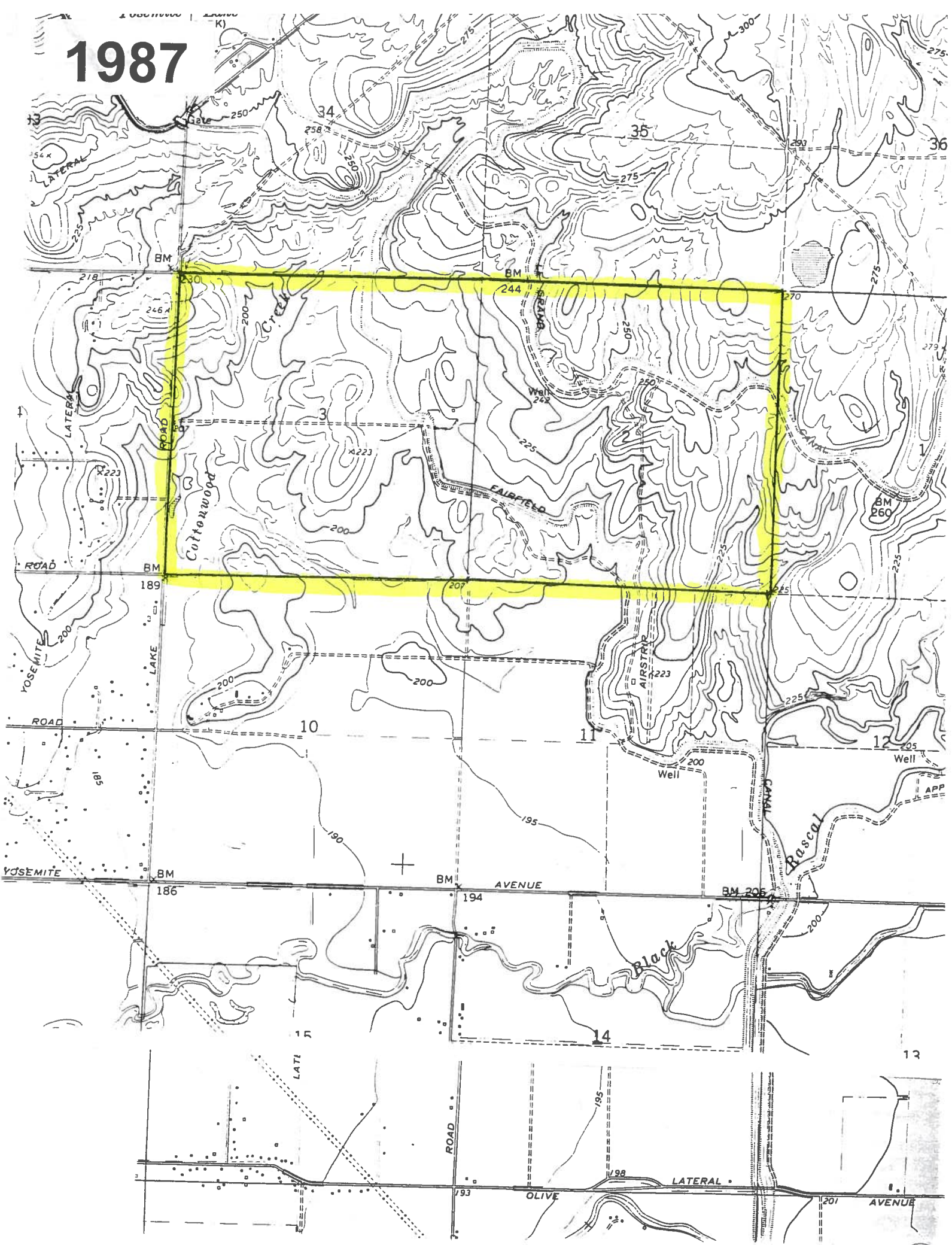
1961

Yosemite Lake  
PARK)



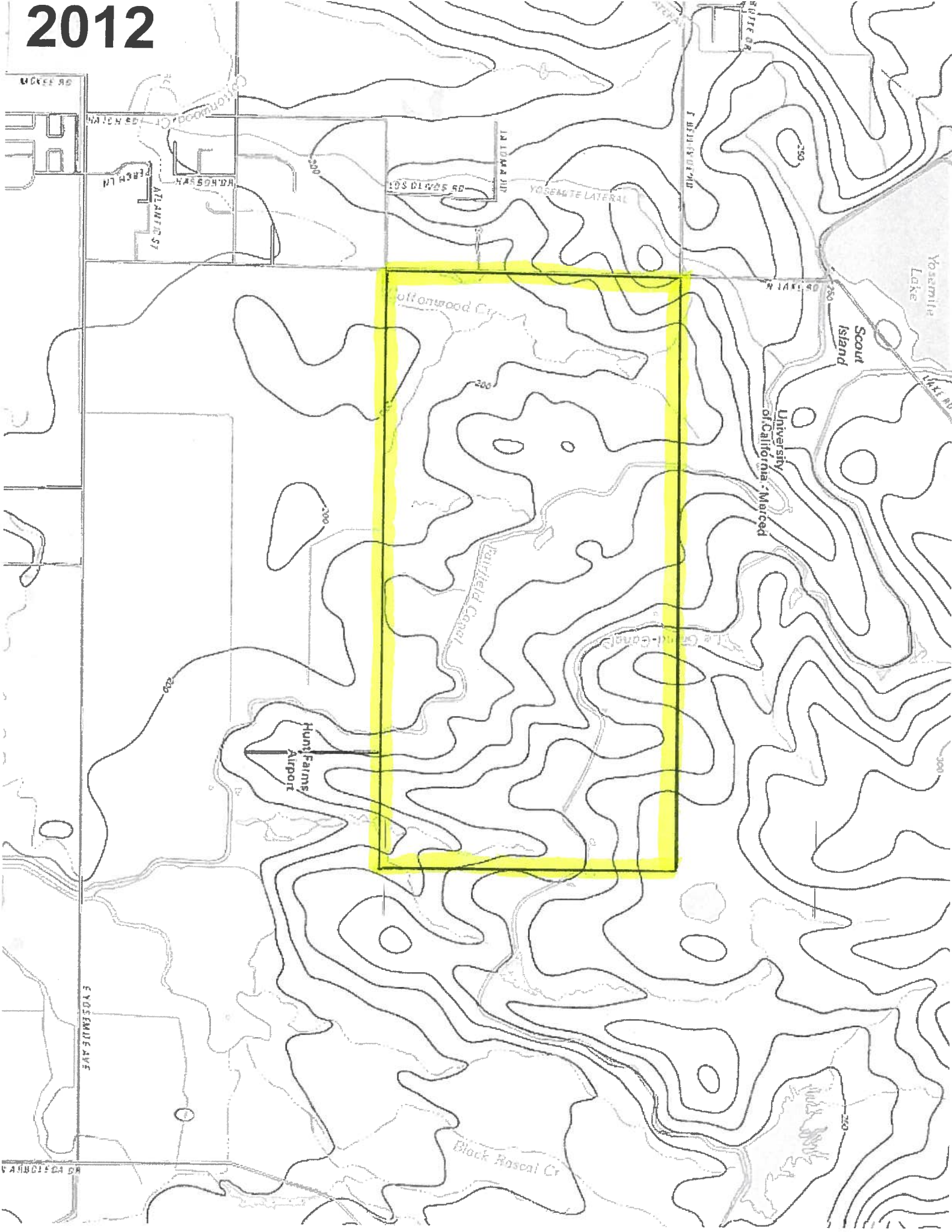


1987





2012



## **APPENDIX II**

# **REGULATORY AGENCY RECORDS SEARCH INFORMATION**



# GEOTRACKER

## LAYERS

☒ SIGNIFIES A CLOSED SITE

- ☒ ■ Leaking Underground Tank (LUST) Cleanup Sites
- ☒ ■ Other Cleanup Sites
- ☒ ■ Land Disposal Sites
- ☒ ■ Military Sites
- ☒ ■ WDR Sites
- ☒ ■ Irrigated Lands Regulatory Program
- ☐ ■ Permitted Underground Storage Tank (UST) Facilities
- ☒ ○ Monitoring Wells\*

\* ZOOM IN TO SEE MWS

- ☒ ▲ DTSC Cleanup Sites
- ☒ ▲ DTSC Haz Waste Permit

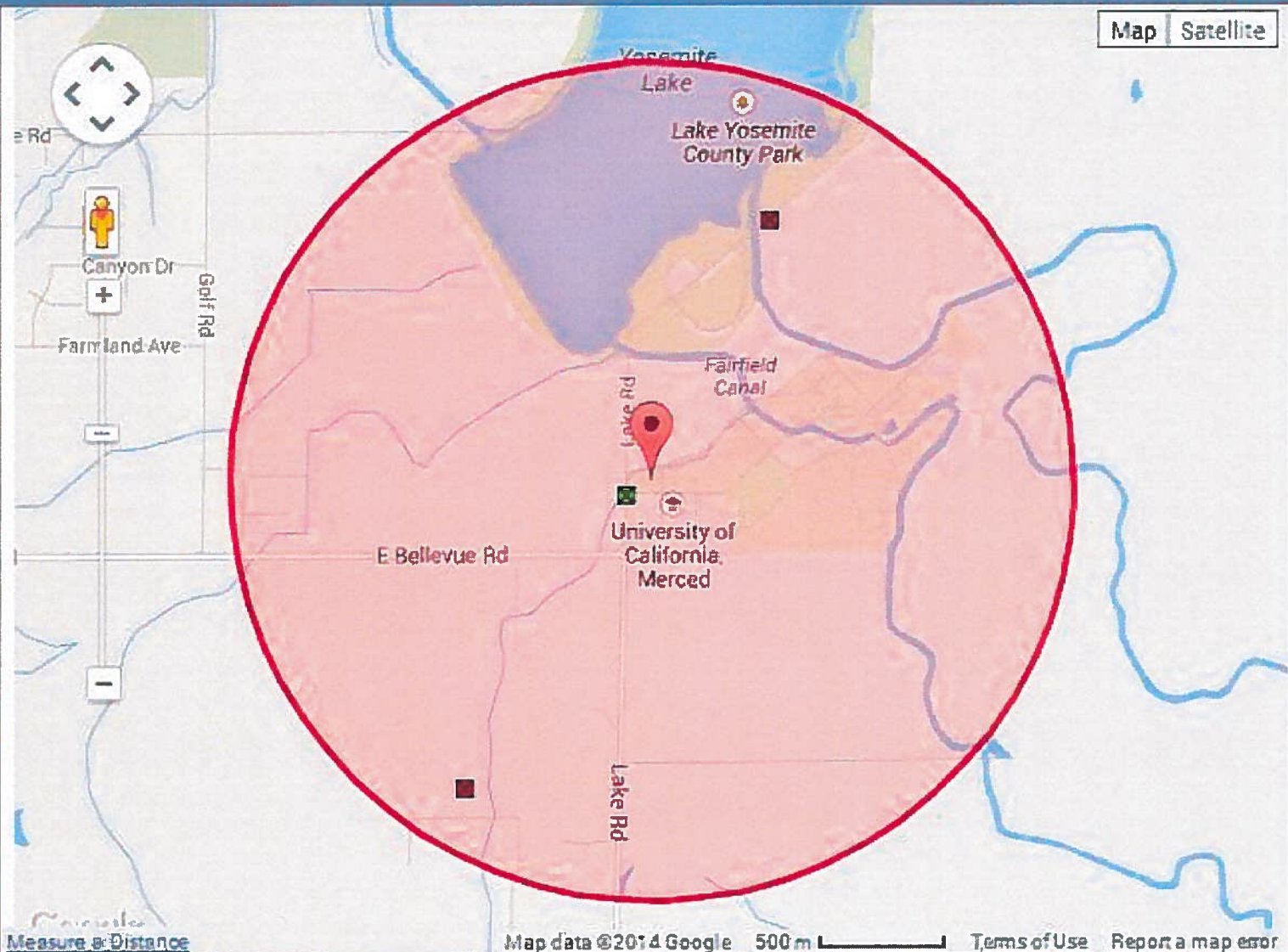
## MAP SIZE

640x480

## OPTIONS

- ☒ Site List - [EXPORT TO EXCEL](#)

3 Sites



☒ SHOW SITES WITHIN  FEET OF THE FOLLOWING ADDRESS:



## SITE LIST

SITE NAME	GLOBAL ID	STATUS	ADDRESS	CITY
<span style="color: red;">■</span> LAKE YOSEMITE PARK	T0604700121	COMPLETED - CASE CLOSED	5714 LAKE RD N	MERCED
<span style="color: green;">■</span> UNIVERSITY OF CALIFORNIA MERCED	SL0604722749	COMPLETED - CASE CLOSED	5200 NORTH LAKE ROAD	MERCED
<span style="color: red;">■</span> ZIZZA SITE	T10000000058	COMPLETED - CASE CLOSED	2632 LA LOMA ROAD	MERCED

**DUE DILIGENCE RECORDS SEARCH:**  
**UCLC Property (1,242-acre UCLC-Owned Area)**  
**November 12, 2014**

**CAL-EPA Databases:**

**State WRCB Leaking Underground Storage Tank (LUST) Cleanup Sites**

	GLOBAL ID	SITE / FACILITY NAME	SITE / FACILITY TYPE	STATUS	ADDRESS	CLEANUP REPORT
1.	T10000000058	ZIZZA SITE	LUST CLEANUP SITE  DIESEL, GASOLINE, TWO UNDERGROUND FUEL STORAGE TANKS (REMOVED)	COMPLETED - CASE CLOSED AS OF 9/7/2011	2632 LA LOMA ROAD, MERCED	EXCAVATION Begin 11/13/2008 End 7/27/2011
2.	T0604700121	LAKE YOSEMITE PARK	LUST CLEANUP SITE	COMPLETED - CASE CLOSED AS OF 4/23/1996	5714 LAKE RD N, MERCED	650 Gallon UST was removed in 1989. Soil excavated and spread over parking lot.

**Miscellaneous State Water Resources Control Board (SWRCB) Cleanup Sites (Spills – Leaks – Above Ground Storage Tanks – Other Discharges)**

	GLOBAL ID	SITE / FACILITY NAME	SITE / FACILITY TYPE	STATUS	ADDRESS	CLEANUP REPORT
1.	SL0604722749	UNIVERSITY OF CALIFORNIA MERCED	CLEANUP PROGRAM SITE  DIESEL IN SOIL	COMPLETED - CASE CLOSED AS OF 7/3/2006	5200 NORTH LAKE ROAD, MERCED	EXCAVATION 1/25/2005 OBVIOUSLY CONTAMINATED SOIL HAND EXCAVATED AND DRUMMED.

**Land Disposal/Landfill Sites**

- None proximate to the subject property.

**Military Sites (Active or Closed Military Bases)**

- None proximate to the subject property.

**WDR (Waste Discharge Requirements) Sites**

- None proximate to the subject property.

**Irrigated Lands Regulatory Program Sites**

- None proximate to the subject property.

**Permitted Underground Storage Tank (UST) Facilities**

- None proximate to the subject property.

**CAL-EPA DTSC (Dept Toxic Substances Control) Deed/Land Use Restrictions Sites**

- No sites with deed/land use restrictions are located on or proximate to the subject property.

**(DTSC) Military Cleanup Sites**

- None proximate to the subject property.

**(DTSC) Military Evaluation Sites**

- None proximate to the subject property.

**(DTSC) Orphan Funded Sites**

- None proximate to the subject property.

**(DTSC) Responsible Party Funded Sites**

- None proximate to the subject property.

**(DTSC) Other Funded Sites**

- None proximate to the subject property.

**(DTSC) Voluntary Cleanup Sites**

- None proximate to the subject property.

**(DTSC) Statewide Evaluation Sites**

- None proximate to the subject property.

**(DTSC) School Cleanup Sites**

- None proximate to the subject property.

**(DTSC) School Evaluation Sites**

- DTSC SITE CLEANUP PROGRAM (LEAD) – at the PROPOSED BELLEVUE ROAD HIGH SCHOOL, located at G STREET/FARMLAND AVENUE, >1 mile west of the subject property. Contamination associated with past use of the site for row crops. NO FURTHER ACTION REQUIRED AS OF 9/28/2007.
- DTSC SITE CLEANUP PROGRAM (LEAD) – at PAULSON ROAD PROPERTY, located on Paulson Rd, > 1 mile SW of the subject property. Contamination associated with past use of the site for livestock. NO FURTHER ACTION REQUIRED AS OF 9/12/2005.

**(DTSC) Border Zone / Haz Waste Evaluation Sites**

- None proximate to the subject property.

**(DTSC) Calmortgage Sites**

- None proximate to the subject property.

**(DTSC) Historical Sites**

- None proximate to the subject property.

**(DTSC) Corrective Action Sites**

- None proximate to the subject property.

**(DTSC) Permitted Facilities**

- None proximate to the subject property.

**(DTSC) Enforcement Report**

- None proximate to the subject property.

**(DTSC) Inspection Report**

- None proximate to the subject property.

**(DTSC) Meth Lab Cleanups/Emergency Removal Actions**

- No meth cleanup lab sites are identified in the vicinity of the property.

**Integrated Waste Management Board**

- No SWIS solid waste disposal sites in the immediate vicinity of the property.

**Federal EPA Databases:**

**ACRES - Office of Brownfields and Land Revitalization, Brownfields Properties**

- None proximate to the subject property.

**AIRS/AFS AIRS Facility Subsystem**

- None proximate to the subject property.

**BR Biennial Reporters**

- None proximate to the subject property.





**BRAC Base Realignment and Closure**

- None proximate to the subject property.

**CAMDBS Clean Air Markets Division Business System**

- None proximate to the subject property.

## CERCLIS Superfund System

FACILITY NAME	Mapped	LOCATION ADDRESS	CITY NAME	COUNTY NAME	
U.S. AIR FORCE CASTLE AFB CA		BUHACH ROAD & SANTA FE HIGHWAY	ATWATER	MERCED	C
EAGLE ARMY AIRFIELD	Not Mapped	11000 PRINCE RD	DOS PALOS	MERCED	C
INTERSTATE-5 BASF SPILL		INTERSTATE 5 @ HIGHWAY 152 OVERPASS	LOS BANOS	MERCED	C
PARKWAY CLEANERS		1530 YOSEMITE PARKWAY	MERCED	MERCED	C
SIMPSON'S CLEANERS		618 W MAIN STREET	MERCED	MERCED	C

## CWNS Clean Watersheds Needs Survey

- None proximate to the subject property.

## E-GGRT Electronic Greenhouse Gas Reporting Tool

- None proximate to the subject property.

## EGRID Emissions & Generation Resource Database

- None proximate to the subject property.

## EIA-860 Energy Information Administration-860 Database

- None proximate to the subject property.

## EIS Emission Inventory System

- UNIVERSITY OF CALIFORNIA MERCED  
5200 N. LAKE ROAD  
MERCED, CA 00000  
EPA Registry Id: 110041123192

## FTTS/NCDB National Compliance Data Base

- None proximate to the subject property.

## ICIS Integrated Compliance Information System

- None proximate to the subject property.

## LUST-ARRA Leaking Underground Storage Tank - American Recovery and Reinvestment Act

- None proximate to the subject property.

## NPDES National Pollutant Discharge Elimination System

- None proximate to the subject property.

**OIL Database**

- None proximate to the subject property.

**OSHA-OIS Occupational Safety and Health Administration Information System**

- None proximate to the subject property.

**OTAQREG Office of Transportation and Air Quality Fuels Registration**

- None proximate to the subject property.

**RBLC RACT/BACT/LAER Clearinghouse**

- None proximate to the subject property.

**RCRA Info Resource Conservation and Recovery Act Info**

- UC Merced Campus is a SQG (Small Quantity Generator).

**RFS Renewable Fuel Standard**

- None proximate to the subject property.

**SDWIS Safe Drinking Water Information System**

- None proximate to the subject property.

**SSTS Section Seven Tracking System**

- None proximate to the subject property.

**STATE State Environmental Programs**

- None proximate to the subject property.

**TRI Toxics Release Inventory**

- None proximate to the subject property.

**TSCA Toxics Substances Control Act**

- None proximate to the subject property.

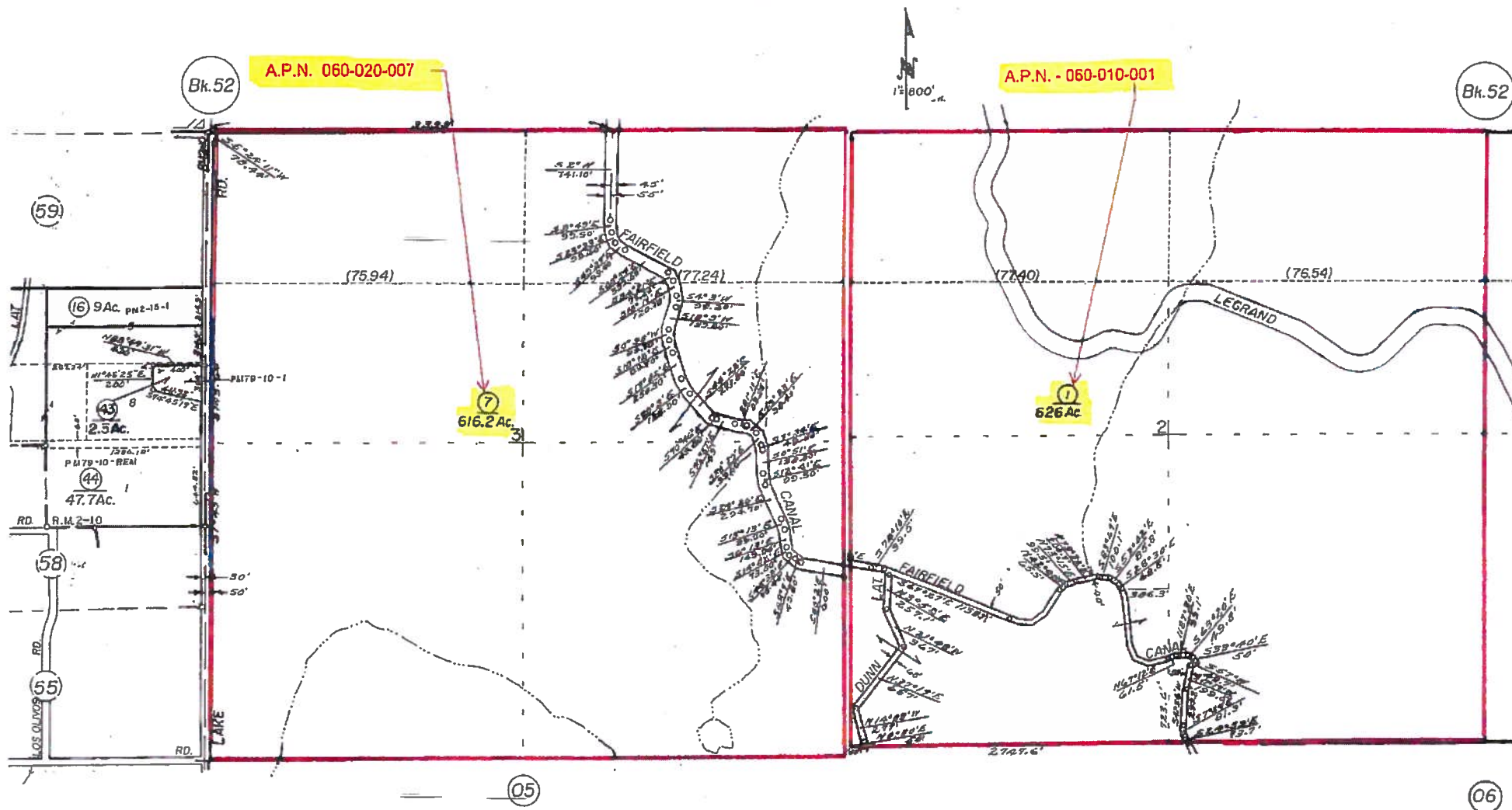
**Drug Enforcement Administration (DEA) Meth Lab Registry**

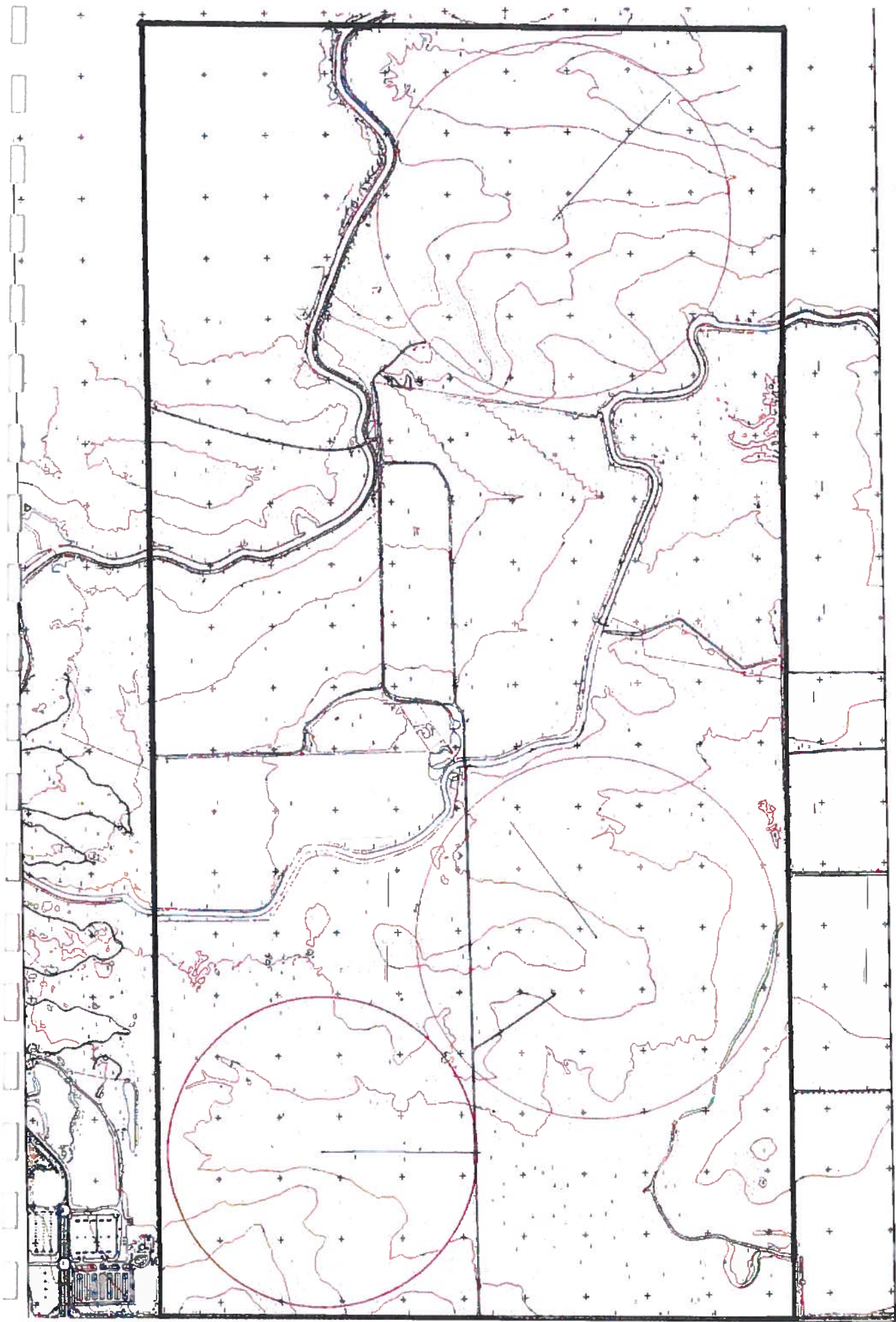
No meth lab sites are registered in the vicinity of the property.

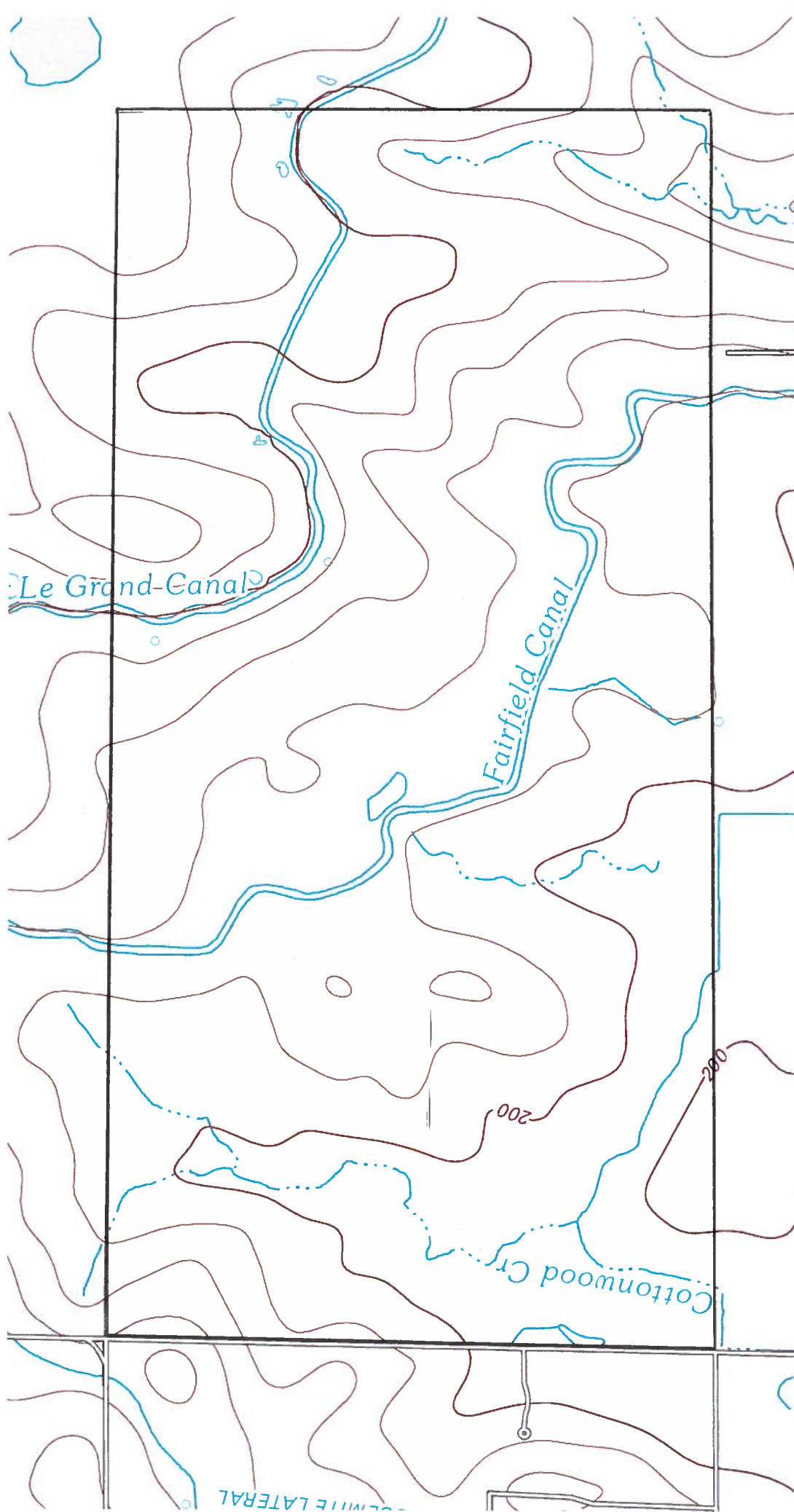


## **APPENDIX III**

### **VARIOUS MAPS/AERIAL PHOTOS**









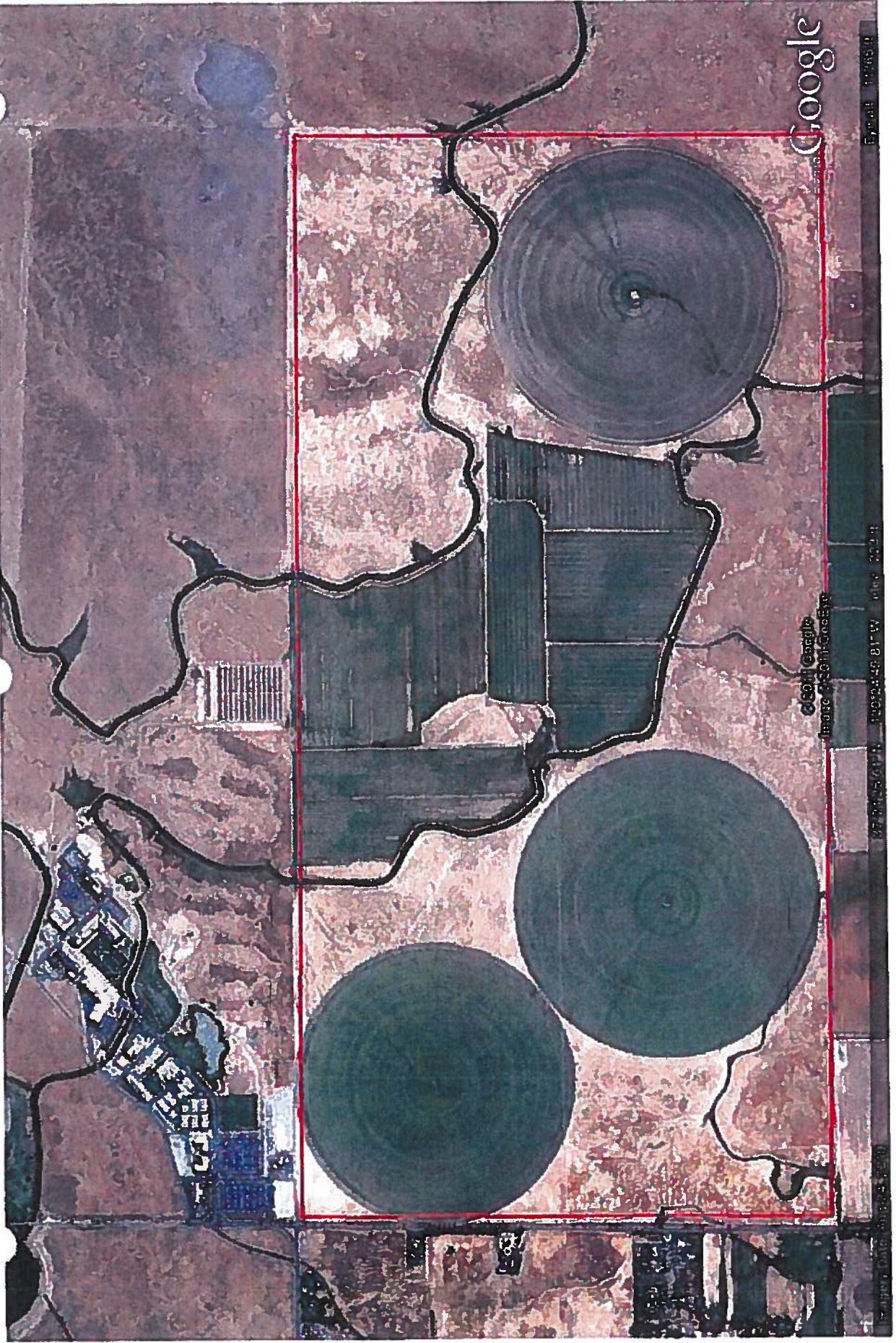
Google

©2011 Google  
Imagery ©2011 GeoEye

April 11, 2011

27° 15' 50" N 102° 40' 01" W

Imagery ©2011 GeoEye



## **ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS**

### **ROBERT CHARBONNEAU**

University of California  
Office of the President – Risk Services  
1111 Franklin Street  
Oakland, CA 94607  
(510) 987-9594

### **Work Experience**

#### **Environmental Services Director (1989-Present)**

*University of California - Office of the President (Systemwide Headquarters)*

*Risk Services Office - Environmental Protection Services*

- Manage UC systemwide environmental due diligence program and policies, procedures, and protocols for site assessments for all UC real estate transactions including acquisitions, sales, gifts and bequests, and leases
- Conduct environmental site assessments on over *five hundred (500+)* properties, including a wide range of commercial, industrial, agricultural, medical, institutional, multi-residential, and undeveloped/wildlands properties across the United States (primarily in California)
- Served on original ASTM E-50 Committee that developed Standard Practice for Environmental Site Assessments (E-1527)
- Long-time certification as Registered Environmental Assessor (R.E.A. #01876) by Cal-EPA (state certification program disbanded in 2012)
- Provide expert advice to UC systemwide real estate personnel and General Counsel on technical and risk assessment and management aspects of due diligence investigations
- Manage and coordinate use of environmental consultants
- Coordinate and direct environmental contractor site characterization and site remediation contracts and activities
- Managed UC systemwide underground storage tank compliance program

#### **Associate EH&S Technologist / Consultant (1987-1989)**

*UC Berkeley Office of Environmental Health & Safety*

*UC Berkeley Department of Facilities Management*

Perform Phase I site assessments of campus-related properties. Respond to hazardous materials incidents. Conduct comprehensive environmental assessment of Strawberry Creek and its upper watershed. Design, implement, and manage both watershed and stream restoration strategies. Assist in engineering studies of campus water and sanitary/storm sewer systems.



**Hydrologist - Biologist (1984-1986)**

*IEP Incorporated, Northborough MA*

Perform groundwater and surface water quality monitoring and assessment. Assist in groundwater protection and contamination studies. Conduct Phase I site assessments. Perform surface water hydrology studies. Work as part of an interdisciplinary team on publicly and privately funded lakes and watershed diagnostic/feasibility studies.

**Senior Sanitary Engineer's Aide (1981)**

*Massachusetts Department of Environmental Quality Engineering  
Division of Water Pollution Control - Technical Services Branch*

As part of River Basin Planning Section, conducted water quality surveys and effluent compliance monitoring of selected industries and POTWs in eight major watersheds. Sample New Bedford Harbor to determine extent of sediment PCB contamination.

**Fire Marshal (1981-1983)**

*University of Massachusetts - Amherst Office of Environmental Health and Safety*

Conduct facility inspections to enforce fire regulations. Perform investigations of fire-related incidents on campus property. Serve as on-duty emergency responder.

**Firefighter – Emergency Medical Technician/Ambulance (NREMT)**

*Northborough MA Fire Department (1978-1986, Acting Lieutenant - Engine Co. 6)  
Amherst MA Fire Department (1981-1983, Lieutenant – Engine Co. 3)*

Respond to hazardous materials incidents. Perform fire safety inspections and fire investigations. Assess and mitigate wide range of hazardous conditions/situations.

**Higher Education Degrees**

University of California at Berkeley:

Masters Degree (M.C.P. - Environmental Planning - 1988)

University of Massachusetts at Amherst:

Bachelor of Science Cum Laude (Environmental Sciences - 1983)

**PHASE 1  
PRELIMINARY SITE ASSESSMENT DUE DILIGENCE REPORT  
FOR CAMPUS-RELATED PROPERTY**

**I. SITE OWNERSHIP AND LOCATION**

1. Site Owner:      Name Regents of University of California  
                                 Address 1111 Franklin St.  
   Oakland, CA 94607  
                                 Tel. No. (510) 987-0100  
                                 Date of Ownership March 2002 to Present

2. Site Location:    Address 5200 North Lake Rd.  
   Merced, CA 95343  
                                 County Merced  
                                 Assessor's Map IDs 052-030-21, 052-030-24, 052-030-026  
                                 USGS quadrangles Merced & Yosemite Lake

**II. SUMMARY DESCRIPTION OF SITE**

**1. Brief Description of Subject Site:**

The subject property consists of 609 acres owned by UC located about six miles NE of downtown Merced, including the 104-acre existing developed UC Merced campus. The site is generally located southeast of Lake Yosemite County Recreation Area and north of the Bellevue Road alignment east of North Lake Road in unincorporated Merced County.

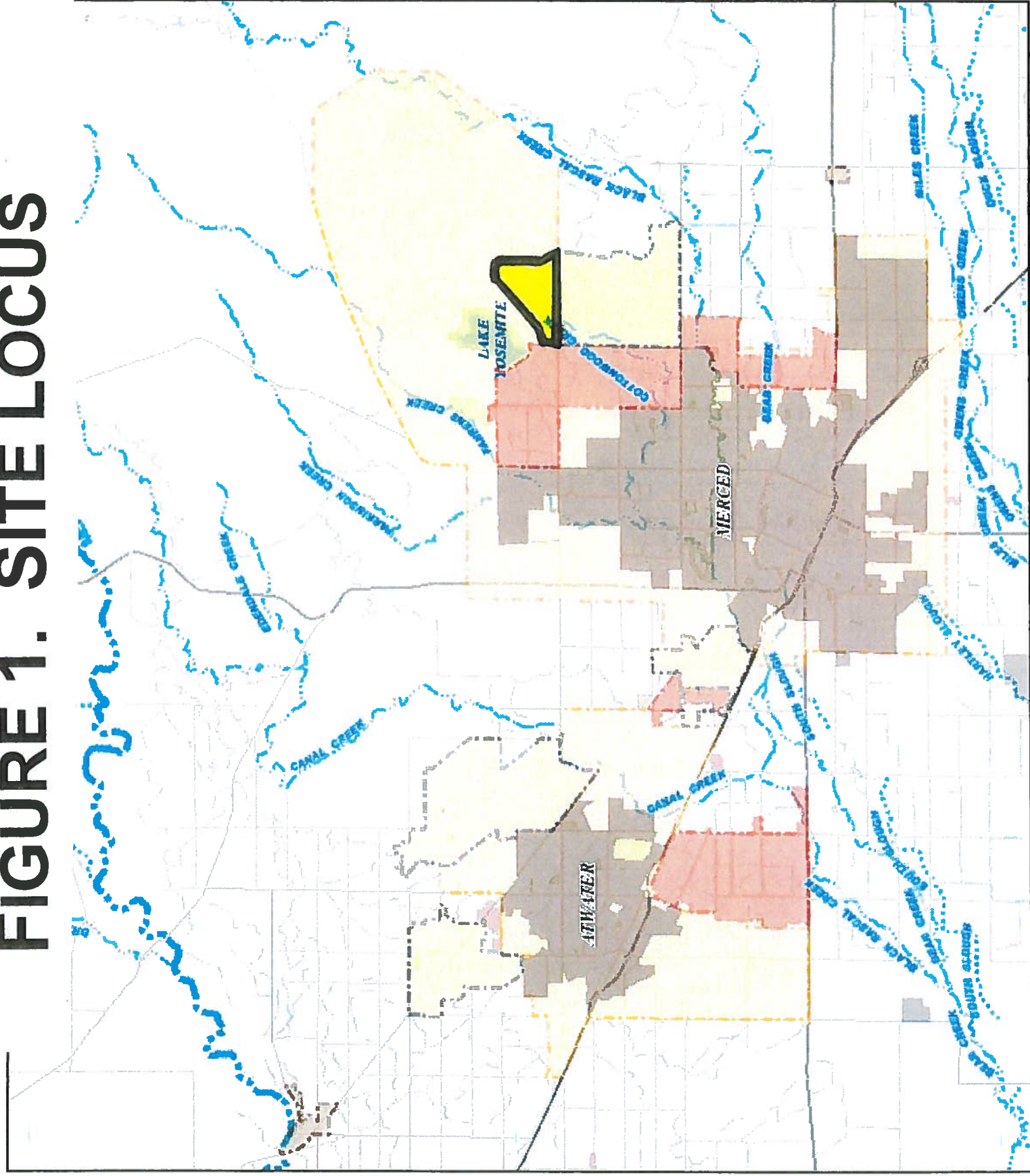
The property is composed of parts of Sections 26, 27, 34, and 35 in T6S R14E.

The existing developed UC Merced campus is located in the SW portion of the property. The remainder of the property is a former golf course (93 acres) and former grazing pastureland (402 acres), 158 acres of which were graded in 2011. Additionally, a 10-acre solar array is located on the south-central edge of the property.

Figure 1 shows the site locus.



**FIGURE 1. SITE LOCUS**



### III. SITE HISTORY AND USE

1. Title History Researched: Yes \_\_\_\_\_ No X

2. Zoning Classification:

The subject property is located in unincorporated Merced County. The Merced County General Plan land use designation for the site is "UC Merced." The property is also within the City of Merced's SOI/SUDP, and designated in the City of Merced's General Plan as "School/Future School."

3. Institutional Controls/Restrictions:

Development of the site must conform to (previously obtained) permits and related conditions from state and federal agencies that regulate endangered species and their habitats.

4. Current Uses of Site

_____	Industrial
_____	Commercial
<u>Cattle grazing</u>	<u>Agricultural</u>
<u>UCM student housing</u>	<u>Residential</u>
<u>UCM campus</u>	<u>Other</u>

5. Brief Description of Current Uses (Describe in terms of product line/crop, processes, chemicals and materials used, wastes generated, waste management and disposal, etc.):

The existing UC Merced campus is located on the SW portion of the property. A 10-acre solar array is located on the S side of the property. One old large barn is located in the NW portion of the property. Otherwise, the site is undeveloped dry pastureland that is leased for dairy cattle grazing.

The existing University campus includes research and instructional laboratories which generate small quantities of a wide range of hazardous and biohazardous waste (about 1.9 tons and 4.5 tons annually respectively). The campus also generates about 0.6 tons of Universal Waste (U-waste) per year, including batteries, fluorescent bulbs, and electronics. Campus hazardous waste is regularly collected and centrally stored for periodic pick up by a licensed hazardous waste contractor.

The solar array and other undeveloped portions of the property do not utilize chemicals or generate any waste materials.

6. Brief Description of Former Uses of Site (Give dates and available information as requested above based on reasonably ascertainable information as far back in time as to when property was first developed or intensively used):

In 1918, the site is undeveloped except for the main dirt access road leading NE from Lake Rd., with one structure shown around the area of the existing barn (NE corner of Section 34), possibly associated with a former home site (that no longer exists). The dirt road continues E across the property then NE, ending at a pond north of the property in Section 18. In 1948, the site appears generally similar to 1918, with the addition of the Le Grand Canal passing through the property and several ranch roads in the S part of the site. By 1962, the Le Grand Canal has been rerouted further NE, forming a loop within the property. In 1987, the site appears similar to 1962. Construction of the Merced Hills golf course began in 1993 on the SW portion of the site, and the course opened later in 1995. Construction of the UC Merced campus began on a portion of the golf course site in 2001. The first campus buildings opened for classes in September 2005. Around 2009, a 10-acre solar array was constructed on the south-central portion of the property (primarily off the golf course footprint), and in 2011 much of the remainder of the undeveloped project area (approximately 158 acres) was graded for future development of university facilities under a Section 404 permit.

Appendix I contains historic topographic maps.

7. Current and Prior Uses of Adjacent Properties (based on reasonably ascertainable info):

*North:* 1918 – undeveloped ranch lands; the direct road that traverses the north side of the property continues NE, ending at a pond north of the property in Section 18 south of Hornitos Rd. (now known as Paloma Rd.).

1948 – similar to 1918; the dirt road near the barn is realigned to continue N from the on-site barn and then NE, ending at a pond in Section 18 south of Hornitos Rd.; new dirt road traverses E from the barn then SE, forking into two roads that continue E and SE respectively.

1962 – similar to 1948; additional dirt roads.

1987 – similar to 1962.

2001 – generally undeveloped ranchland.

2014 – undeveloped pastureland associated with the UC Natural Reserve System.

*South:* 1918 – “Crocker-Hoffman” Canal in place; scattered individual structures but mostly undeveloped (ranch) lands.

1948 – Le Grand Canal now also in place; additional ranch roads and buildings 1 mi S.

1962 - Le Grand Canal completed to the SE; airstrip located about 1 mile S of subject.

1987 - similar to 1962.

2001 – ‘Flying M’ Ranch pastureland (Lake Rd. Ranch).

2014 – undeveloped pastureland associated with the University Community Land Company, LLC (UCLC).

*East:* 1918 – undeveloped (ranch) lands.

1948 – ranch roads and several stock ponds now in place.

1962 - similar to 1948.

1987 - similar to 1962.

2001 – ‘Flying M’ Ranch pastureland.

2014 – undeveloped pastureland under private ownership.

*West:* 1918 – Yosemite Lake with canal; several structures W of lake; mostly undeveloped (ranch) lands.

1948 – similar to 1918; additional structures around Yosemite Lake.

1962 - additional development around Yosemite Lake (now County park).

1987 - similar to 1962.

2001 – Yosemite Lake County park; Cyril Smith Trust ranchland.

2014 – Yosemite Lake County park; privately owned pastureland.

Appendix I contains copies of historic topographic maps.

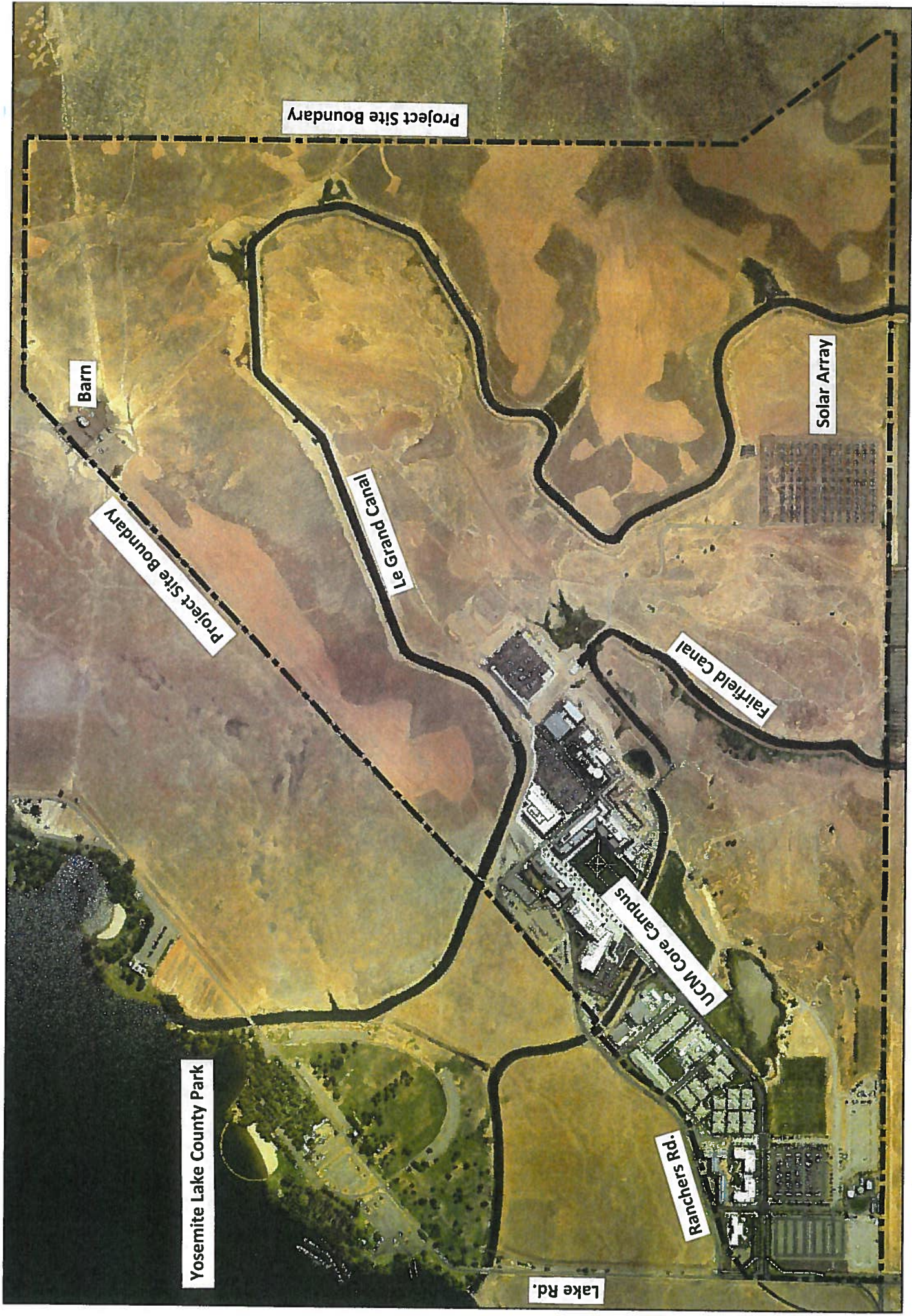
8. List of Regulatory Agency Permits/Violations/Liens for the Site (storage tanks; wastewater discharge; hazardous/flammable/radioactive material storage/use/disposal agricultural chemical application/mixing/disposal and other applicable permits):

UCM is registered with the EPA under RCRA as a Small Quantity Generator (SQG) of hazardous waste, and has a number of air emissions permits with the San Joaquin Valley Air Pollution Control District. A list of campus permits is contained in Appendix II.

9. References used in preparing this report and persons interviewed relative to site history and use:

<u>Name</u>	<u>Address</u>	<u>Tel. No.</u>
David Ott, EH&S Director - UC Merced		(209) 228-4234
Gene Barrera, Associate Planner - UC Merced		(209) 228-4460
USGS topographic maps (1918 – 1948 – 1962 – 1987)		
Virginia Smith Trust Phase I Preliminary Site Assessment report – UCOP		
Environmental Protection Services, Oakland CA – May 10, 2001		
UC Merced 2009 LRDP Environmental Impact Report - prepared by Impact		
Sciences Inc., (Oakland, CA – March 17, 2009)		





**FIGURE 2. SITE PLAN**



#### **IV. SITE ENVIRONMENTAL CHARACTERISTICS**

##### **1. Site Layout Information (see Figure 2 - Site Plan)**

###### *A. approximate property boundaries:*

North – fenceline  
East – fenceline

South – Bellevue Road alignment  
West – Lake Rd.

###### *B. building and parking area locations:*

Access to existing developed UC Merced is via a series of parking lots in the vicinity of N Lake Rd. and Bellevue Rd. Access to the barn on the north side of the property is controlled via a locked gate at a bridge over Le Grand Canal. Access to the undeveloped south side of the property is via gated dirt roads.

###### *C. site utilities (types and locations):*

On-site utilities including water, wastewater, electricity and natural gas serve the UC Merced campus and solar array, but not the undeveloped portion of the site. A hydro-electric plant currently operates on the Fairfield Canal under a lease from Merced Irrigation District to Turlock Irrigation District.

The City of Merced provides potable water to the existing UCM campus, primarily via a 16-inch water line buried under the roadway alignment of Bellevue Road. Additionally, Well #17 is located on the SW portion of the property near the campus entrance as a secondary source of water. Well #17 is a City-owned facility located on UC property deeded to the City. This well is capable of pumping 3,000 gallons per minute. A large above-ground 250,000-gallon water storage tank is located near the well. An on-campus distribution system delivers potable water to each building within the existing campus.

In addition to the potable water well on the campus, wells are also located adjacent to the barn site in the NW corner of the site (for cattle watering), and adjacent to Little Lake (to fill the lake when needed).

###### *D. easements:*

Normal and customary easements (see title report). Easements cover two Merced Irrigation District canals that traverse the property. An easement Quitclaim Deed for the Yosemite Lateral (formerly connecting Fairfield Canal to Lake Yosemite) was also recorded 7/25/2006.

###### *E. fencing:*

The entire boundary of the 609-acre site is enclosed with metal fencing.

*F. high voltage power lines:*

None on site.

*G. ponds and floodplains:*

There are three ponds on the existing UC Merced developed campus: North Pond, Little Lake, and Lower Pond. A few large stormwater detention ponds and several smaller stormwater detention ponds are also present elsewhere on the property on the upgradient sides of canal levees crossing the property.

*H. streams:*

None on site.

*I. marshes or wetlands including any evidence of fill material:*

Vernal pools formerly located on the site were filled in 2011 under a USACE Section 404 permit; graded fill material is present in those areas. Other wetlands areas exist on the property. Appendix III contains a map showing wetlands areas.

*J. wells:*

Refer to preceding Section (1)(C) for information on various water supply wells.

**2. Site Specific Waste/Wastewater Information** (Site Plan to show known or suspected conveyance, storage, or disposal areas):

*A. catch basins:*

Stormwater catch basins exist around the UC Merced campus as part of the storm drain system. A storm drain system map is contained in Appendix IV.

*B. septic tanks/cesspools/leaching fields:*

None known on site. Possibly legacy septic systems related to former home site and golf course.

*C. sanitary sewers:*

The existing UC Merced campus is served by a sanitary sewer system that discharges to the City of Merced sewer line in Bellevue Rd. The rest of the property is not currently served by sewer infrastructure.



*D. underground storage tanks and supply lines:*

A single 20,000-gallon steel/fiberglass UST containing diesel fuel is located near the UCM Central Utility Plant. It was installed in 2003. No leaks or spills have been reported.

*E. above ground storage tanks:*

Three AGSTs are located on the existing UCM campus:

- 3000-gallon steel/polyethylene tank containing diesel fuel, located near the pumphouse in the SW portion of the campus, installed in 2003.
- 1000-gallon steel/polyethylene tank containing diesel and gasoline (split), located on north edge of the campus, near North Bowl Parking Lot, installed in 2013.
- 250-gallon steel tank containing propane, located near Valley Terraces student housing, installed in 2013.

*F. pits/ponds/lagoons:*

See Section IV (1)(G) for information on ponds. No pits or lagoons present.

*G. drainage lines:*

Stormwater runoff on the existing developed UC Merced campus is captured and routed into two on-site ponds. North Pond can discharge into Fairfield Canal, and Little Lake and Lower Pond could discharge into Cottonwood Creek. All other areas of the property are not served by a storm drain system.

*H. sumps:*

None on site.

*I. ditches:*

Two Merced Irrigation District (MID) canals (Fairfield Canal and Le Grand Canal) traverse the site north/south flowing in a southerly direction.

*J. wells (capped or uncapped) and dry wells:*

See Section IV(1)(C) for well information.

*K. fill connections/vent pipes (suspected or identified):*

The only fill connection/vent pipe noted on the property is associated with the UST previously noted in Section IV(2)(D).

*L. unidentified cover plates/pipes; mounds of soil/fill; or depressions/subsidence:*

None noted.

**3. Site Specific Characteristics** (see Figure 2 - Site Plan)

*A. topography and surface water drainage patterns:*

The general topography of the property is gently rolling hills, with the highest points located on the north side of the property.

Stormwater runoff on the existing developed UC Merced campus is captured and routed into two on-site ponds. All other areas of the property are overland drainage not served by a storm drain system.

Stormwater within the western portion of the campus that does not percolate or get captured by the on-campus detention ponds drains in a S-SW direction offsite toward Cottonwood Creek, which continues in a S-SW direction on the east side of Lake Road, crosses under Lake Road in a culvert near Cardella Road, and continues flowing east to its confluence with Fahrens Creek. Ponding occurs on the east side of Lake Road due to a capacity constraint in the culvert under Lake Road. The runoff from the east side of the campus site generally sheet flows in a SE direction onto adjacent lands where it evaporates or percolates.

The two on-site canals, Fairfield and Le Grand Canals, interrupt the flow of stormwater runoff in various locations, causing stormwater to pond on the upgradient side of the canal levees. Occasionally, the stormwater overtops the levees and enters the canals. A substantial amount of stormwater also seeps underneath the canals and continues to flow in a downgradient direction.

*B. hydrogeological conditions (soil type; depth to groundwater; probable gradient)*

Soils on site reportedly consist of the following types (per NRCS Soil Survey):

- Corning gravelly loam 0-8% slopes: ~195 acres (32% of site area)
- Redding gravelly loam 0-8% slopes: ~165 acres (27%)
- Hopeton clay 0-8% slopes: ~47 acres (8%)
- Hopeton clay loam 0-3% slopes: ~40 acres (7%)
- Corning gravelly loam 0-8% slopes: ~39 acres (7%)
- Water: ~40 acres (6.5%)
- Hopeton clay loam 3-8% slopes: ~35 acres (6%)
- Raynor cobbly clay 0-3% slopes: ~26 acres (4%)
- Montpelier coarse sandy loam 3-8% slopes: ~11 acres (2%)
- Pentz gravelly loam 8-30% slopes: ~5 acres (1%)
- Montpelier coarse sandy loam 0-3% slopes: ~4 acres (<1%)
- Rocklin loam 0-3% slopes: ~0.5 acre (<1%)

Groundwater lies within the Merced sub-basin of the San Joaquin Valley basin. Shallow perched groundwater is generally found at 60' – 200' bgs (locally reported at 75' – 80' bgs) with deeper confined aquifer at ~900' bgs. Gradient in the immediate vicinity is in a westerly (SW-NW) direction. Shallower perched groundwater exists on site around the immediate areas of the Fairfield Canal and Le Grand Canals.

*C. surface soil or pavement staining/discoloration or disruption/texture change:*

None unusual noted.

*D. vegetation condition and signs of stress:*

The existing developed UC Merced campus is landscaped. The remainder of the property is primarily grassland in natural condition.

*E. drums or other chemical storage areas:*

Biohazardous waste associated with academic research use is collected by EH&S on an ongoing basis and stored in a caged area of the Science & Engineering 1 (SE1) loading dock (in the academic core of the currently developed campus) and picked up weekly. Chemical waste is collected regularly and stored in a trailer in the Lake Parking Lot (in the SW portion of the developed campus) and picked up about every 6 months. Radiological waste is collected as needed and stored in a cargo container behind the Facilities Services Building B (in the NE portion of the currently developed campus). Starting in Fall 2014 chemical waste will be stored in a new hazardous waste storage room located in the new Science & Engineering 2 (SE2) Building (on the E side of the academic core of the currently developed campus), and biohazardous waste will be held at a new space in the SE2 loading dock area.

*F. maintenance or shop/service areas:*

UC Merced physical plant buildings located in the NE corner of campus.

*G. odors:*

None unusual noted.

*H. dead-end roads/paths or unexplained vehicle tracks (signs of illegal dumping):*

Dirt access roads provide gated controlled access to the undeveloped portion of the site, and the entire site is fenced. No signs of any illegal dumping.

#### 4. Building Inspection

*A. number of buildings and their age, construction, and general condition:*

Existing UC Merced campus is comprised of approximately 20 buildings built since 2005 that are in excellent condition. The old wooden barn in the NW portion of the property is >50 years old and in poor condition.

*B. previous disclosure of hazardous materials in building(s):* Yes\_\_\_No\_\_\_X

*C. visible signs of corrosion or other evidence of solvent action:*

None noted.

*D. visible signs of any spillage or residues:*

None noted.

*E. solid waste or trash:*

None significant noted.

*F. visible signs of polychlorinated biphenyls [PCBs] (i.e. - check for transformers, capacitors, electrical switchgear, hydraulics, etc. and any signs of leakage):*

There are nineteen (19) large non-PCB oil-filled transformers on the UCM campus with all but one located above ground. All were manufactured since 2003, except for one built in 1993. No leakage has been observed. A transformer inspection report is contained in Appendix V.

*G. visible signs of asbestos (check for thermal/electrical/acoustical insulation, sprayed-on fireproofing and plaster, asphalt roofing material, various tiles, transite panels, pipes/lagging, duct wrapping, hoods, drains, etc.):*

None. All structures have been built since 2005.

#### 5. Neighborhood observations (0.5 mile radius drive-by survey)

*A. land use:*

Rural residential and agricultural (undeveloped pastureland associated with the UC Natural Reserve System, UCLC, or private ownership. Yosemite Lake County Park located to the north-northwest of campus.

*B. hazardous waste generation or treatment/storage/disposal (TSD) facilities:*

No TSDs located in vicinity. See Section IV(3)(E) for specific campus waste accumulation/storage location information.

*C. known or suspected hazmat release sites (see Appendix VI for complete regulatory agency records search listing):*

Cal-EPA SWRCB LUST: No active sites within 1-mile radius. Closed cases: Zizza (2632 La Loma Rd) – gasoline/diesel soil contamination excavated and bioremediated; County DPH Div Environmental Health granted closure in 2011; Lake Yosemite County Park (5714 N Lake Rd) – gasoline soil contamination excavated; County DEH granted closure in 1996.  
SWRCB Cleanup Programs: UC Merced Campus – diesel spill reported in January 2005; limited soil contamination hand excavated and drummed for disposal; County DEH granted closure in July 2006.  
Cal-EPA DTSC (all programs): No sites listed within 1-mile radius.  
Federal-EPA CERCLIS: No sites listed within 1-mile radius.

*D. existing monitoring wells:*

None known or reported in vicinity.

*E. landfills/junkyards:*

None in vicinity.

*F. gas or service stations/automotive repair shops:*

None in vicinity.

*G. drinking water supplies (surface or underground within 0.5 mile of site):*

See Section IV(1)(C) for water supply information.

## **V. FINDINGS AND CONCLUSIONS & RECOMMENDATIONS**

### **1. Findings**

No Recognized Environmental Conditions (RECs) were identified.

One Historically Recognized Environmental Condition was identified. In January 2005, UC Merced reported a small spill of diesel fuel to surficial soil (assumed related to construction activity on campus). A limited amount of contaminated soil was hand excavated and drummed for off-site disposal. Merced County Division of Environmental Health granted case closure/no further action in July 2006.

### **2. Conclusions & Recommendations:**

I have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 of the property. This assessment has revealed no evidence of Recognized Environmental Conditions in connection with the property.

The property appears free from any significant contamination. No physical or visible evidence or regulatory agency/campus records of any spills, leaks, or releases of any hazmats or petroleum products were found except for a small spill of diesel fuel that occurred during construction activity on the new campus in 2005 that was immediately cleaned up and subsequently granted regulatory agency closure/no further action.

Current and historical uses of the subject property do not pose any significant risk. Historical uses include grazing rangeland and a newer golf course. No intensive agricultural uses involving pesticides such as row crops or orchards were located on the site. Current uses include a university campus and undeveloped former grazing pastureland. The campus generates small quantities of hazardous waste that are regularly collected for disposal. Several newer fuel storage tanks are located on campus and no spills, leaks, or releases have occurred.

No further investigation is warranted at this time.

### **3. Limitations:**

The contents of this Phase I report are based on review of University and publicly available records, and limited site reconnaissance. The University makes no warranty that the records reviewed were accurate or complete, or that all records pertaining to the subject property were reviewed. Maps of the property included in this report are for general information purposes only. Any conclusions and recommendations expressed in this report are not to be relied upon.

There may be hidden subsurface conditions, or other environmental or physical conditions not readily obvious through visual inspection that may impact the subject property. The University assumes no liability for misrepresentation of information contained in this report or otherwise for conditions at the property.

This report is not intended to replace any third party's own due diligence or other appropriate inquiry into the property. No warranties or representations, expressed or implied, are made for any of the contents, findings, or statements made in this report. The University takes no responsibility for any errors or omissions that may be contained in this report.

**4. Identification of environmental professional:**

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10 and have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Robert Charbonneau Director, Environmental Services

University of California Office of the President – Risk Services

1111 Franklin St., 10<sup>th</sup> floor, Oakland, CA 94607-5200 (510) 987-9594

Signature: \_\_\_\_\_



Date: July 25, 2014

Alicia Jensen Specialist, Environmental Services

University of California Office of the President – Risk Services (Contractor)

1111 Franklin St., 10<sup>th</sup> floor, Oakland, CA 94607-5200 (925)788-6353

Signature: \_\_\_\_\_



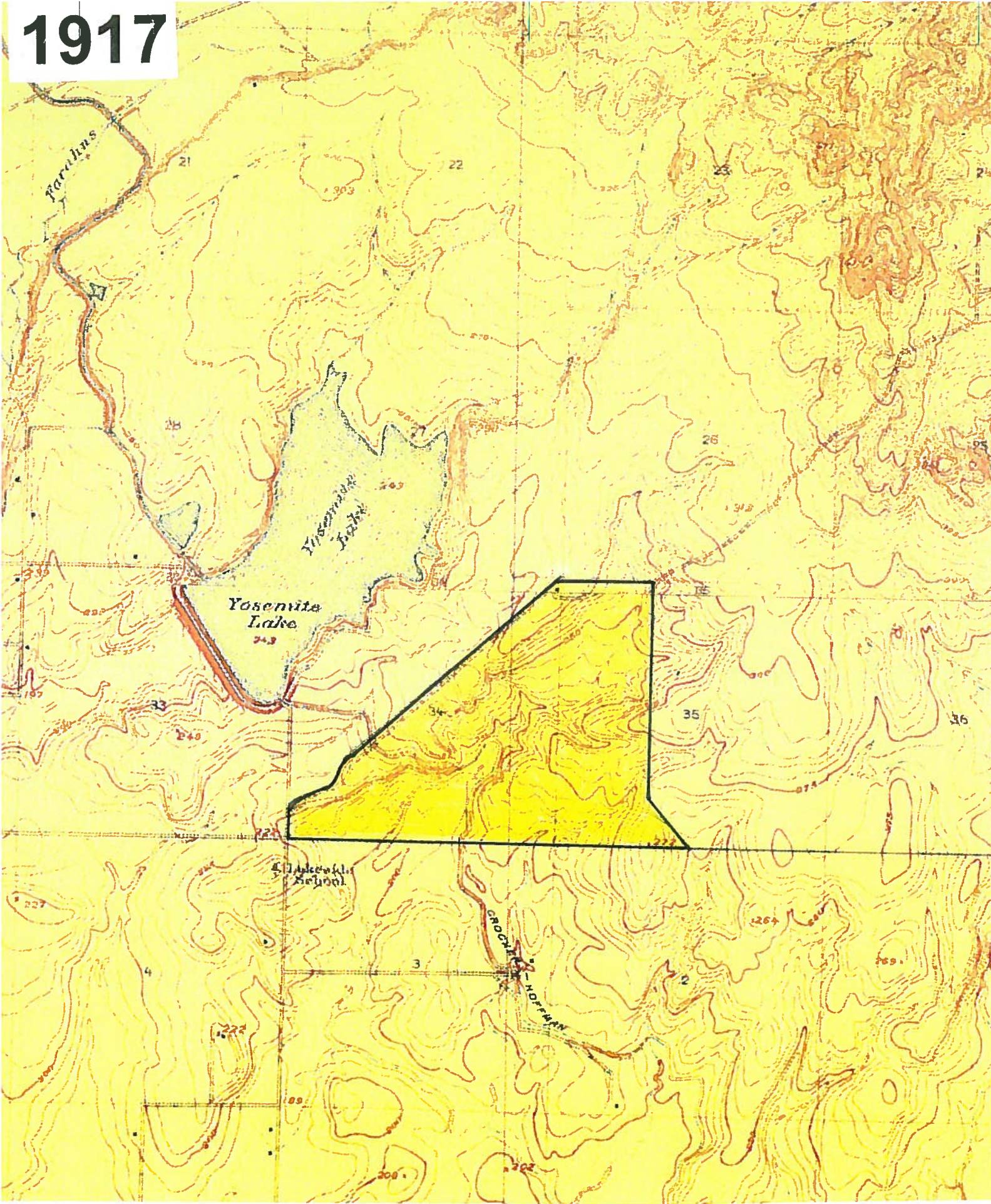
Date: July 25, 2014

## **APPENDIX I**

### **USGS TOPOGRAPHIC MAPS 1918 – 1948 – 1962 – 1987**

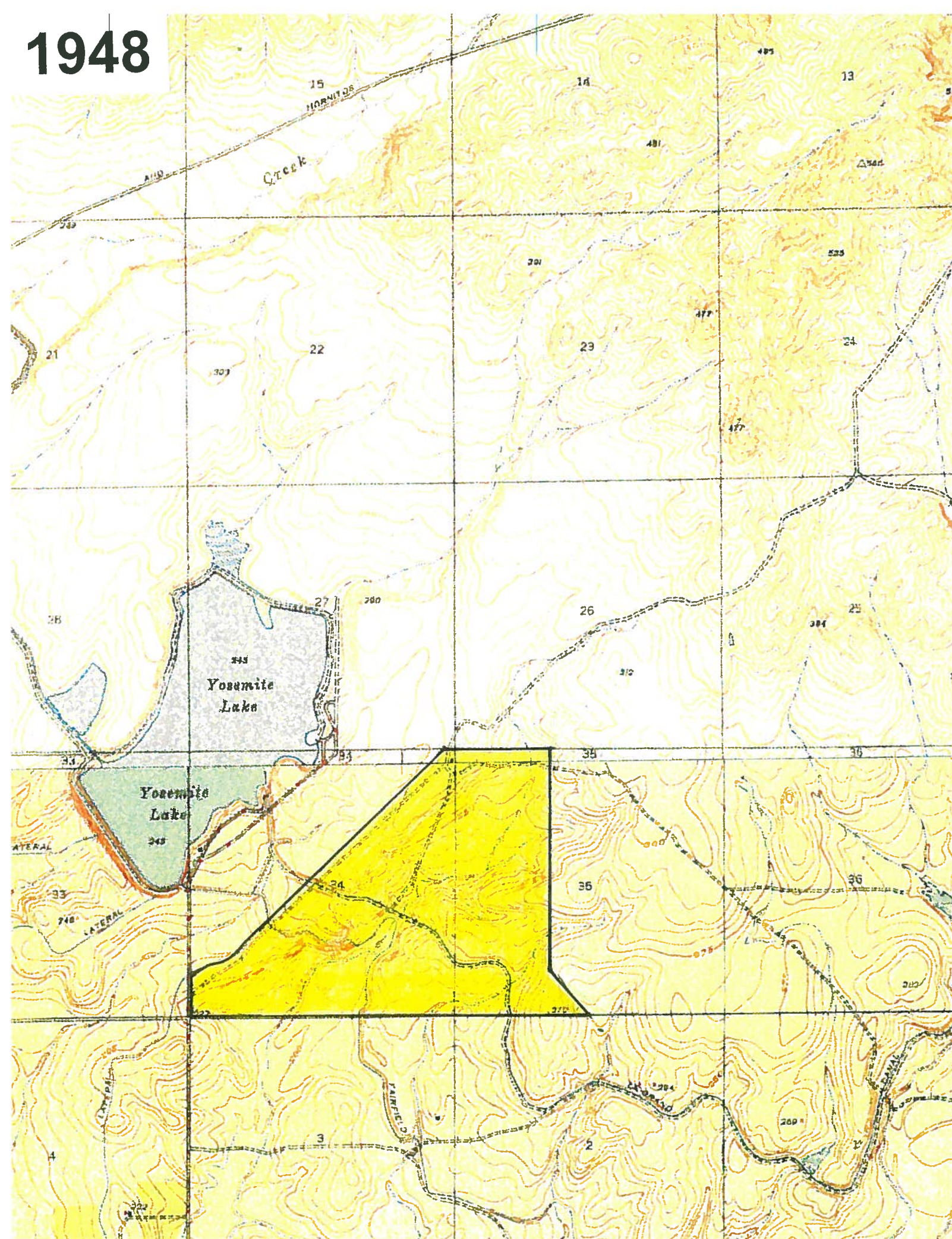


1917





1948

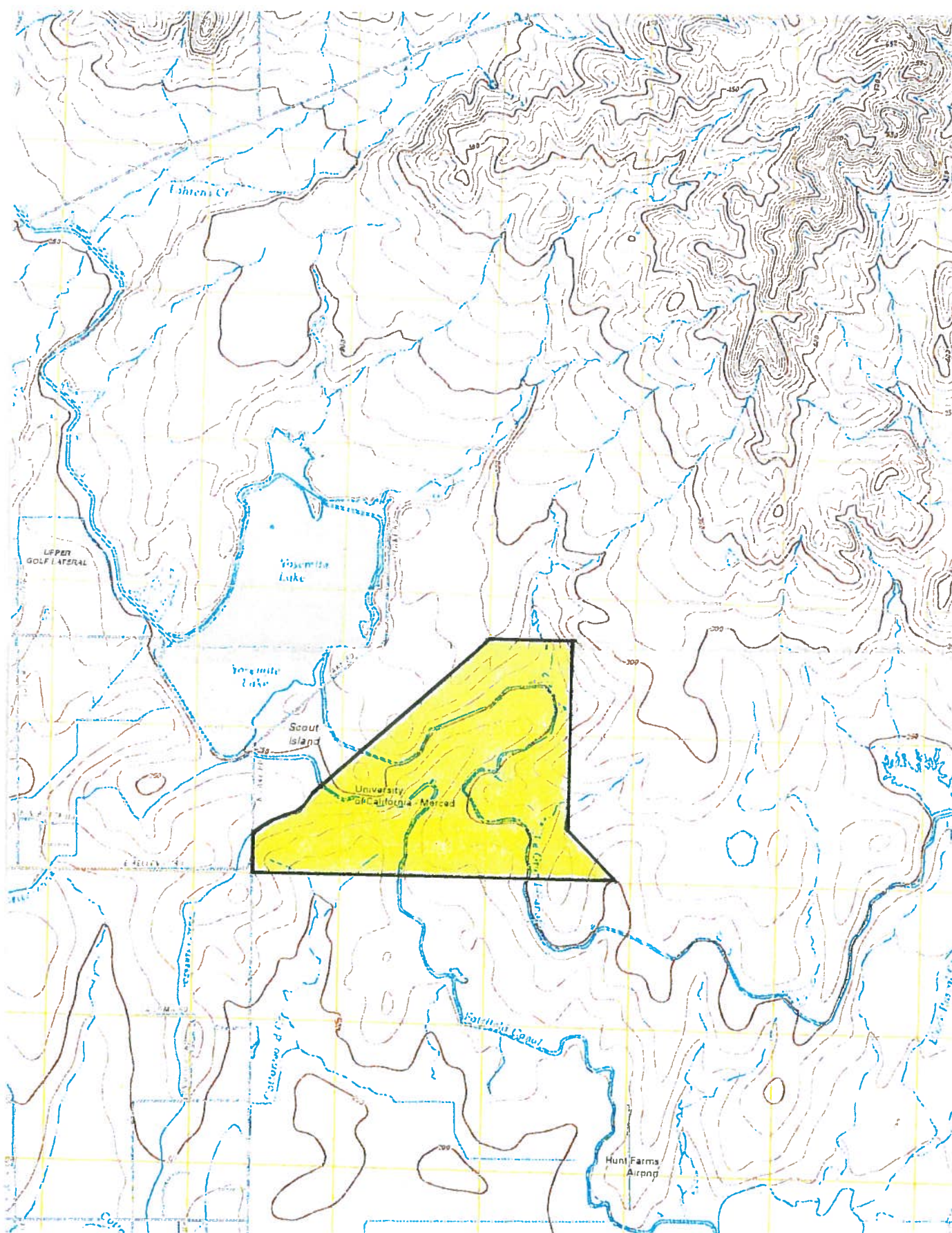




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2012



## **APPENDIX II**

# **CAMPUS REGULATORY AGENCY PERMITS**

revision date 6/13/14		List of SJVAPCD Permits					UC Merced	
Facility #	Location		Permit #	Type	Description	Renewal Date	CURRENT PERMIT	
Air District Permits, San Joaquin Valley Air Pollution Control District, 4800 Enterprise Way, Mocesto, CA 95356, (209) 557-6400								
campus								
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP (central Plant)	N-5055-1-0	ICE	1,480 HP Caterpillar Model 3508 BTA Diesel-Fired Emergency Standby IC Engine (EAST SIDE) Powering a 1000 KW Electrical Generator		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-1-1	ICE	1,480 BHP Caterpillar Model 3508 BTA Diesel-Fired Emergency Standby IC Engine Powering an Electrical Generator	5/31/2015	Y
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-2-0	ICE	1,480 HP Caterpillar Model 3508 BTA Diesel-Fired Emergency Standby IC Engine (WEST SIDE) Powering a 1000 KW Electrical Generator		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-2-1	ICE	1,480 BHP Caterpillar Model 3508 BTA Diesel-Fired Emergency Standby IC Engine Powering an Electrical Generator	5/31/2015	Y
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	water pump house	N-5055-3-0	ICE	610 HP Caterpillar Model 3456 Diesel-Fired Standby Emergency IC Engine Powering a 400 KW Electrical Generator		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	water pump house	N-5055-3-1	ICE	610 BHP Caterpillar Model 3456 Diesel-Fired Emergency Standby IC Engine Powering an Electrical Generator	5/31/2015	Y

N-5055	University of California, Merced	5320 N. Lake Road Merced, CA 95340	CP	N-5055-4-0	B	Natural Gas-Fired UBW Model UFH200-160 Boiler Equipped with a Gordon Piatt Model RMB-GO-200 8.4 MMBTU/HR Burner and Induced Flue Gas Recirculation		N
N-5055	University of California, Merced	5320 N. Lake Road Merced, CA 95340	CP	N-5055-4-2	B	Modification of: 8.4 MMBTU/HR UBW Model UFH200-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-200 Burner and Induced Flue Gas Recirculation to Extend the Initial Source Test Date to 160 Days From the Date of Initial Operation.		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-4-5	B	8.4 MMBTU/HR UBW Model UFH200-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-200 Burner and Induced Flue Gas Recirculation		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-4-6	B	8.4 MMBTU/HR UBW Model UFH200-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-200 Burner and Induced Flue Gas Recirculation	5/31/2015	Y
N-5055	University of California, Merced	5320 N. Lake Road Merced, CA 95340	CP	N-5055-5-0	B	Natural Gas-Fired UBW Model UFH350-160 Boiler Equipped with a Gordon Piatt Model RMB-GO-350 14.7 MMBTU/HR Burner and Induced Flue Gas Recirculation		N

N-5055	University of California, Merced	5320 N. Lake Road Merced, CA 95340	CP	N-5055-5-2	B	Modification of: 14.7 MMBTU/HR UBW Model UFH350-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-350 Burner and Induced Flue Gas Recirculation to Extend the Initial Source Test Date to 160 Days From the Date of Initial Operation.		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-5-5	B	14.7 MMBTU/HR UBW Model UFH350-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-350 Burner and Induced Flue Gas Recirculation		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-5-6	B	14.7 MMBTU/HR UBW Model UFH350-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-350 Burner and Induced Flue Gas Recirculation	5/31/2015	Y
N-5055	University of California, Merced	5320 N. Lake Road Merced, CA 95340	CP	N-5055-6-0	B	Natural Gas-Fired UBW Model UFH350-160 Boiler Equipped with a Gordon Piatt Model RMB-GO-350 14.7 MMBTU/HR Burner and Induced Flue Gas Recirculation		N
N-5055	University of California, Merced	5320 N. Lake Road Merced, CA 95340	CP	N-5055-6-2	B	Modification of: 14.7 MMBTU/HR UBW Model UFH350-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-350 Burner and Induced Flue Gas Recirculation to Extend the Initial Source Test Date to 160 Days From the Date of Initial Operation.		N



N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-6-5	B	14.7 MMBTU/HR UBW Model UFH350-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-350 Burner and Induced Flue Gas Recirculation		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-6-6	B	14.7 MMBTU/HR UBW Model UFH350-160 Boiler, Equipped with a Gordon Piatt Model RMB-GO-350 Burner and Induced Flue Gas Recirculation	5/31/2015	Y
N-5055	University of California, Merced	5320 N. Lake Road Merced, CA 95340	CP	N-5055-7-0	B	Natural Gas-Fired UBW Model UFS175150 Boiler Equipped with a Gordon Piatt Model RMB-GO-175 7.0 MMBTU/HR Burner and Induced Flue Gas Recirculation		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-7-1	B	7.0 MMBTU/HR Natural Gas-Fired UBW Model UFS175150 Boiler Equipped with a Gordon Piatt Model RMB-GO-175 7.0 MMBTU/HR Burner and Induced Flue Gas Recirculation		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-7-4	B	7.0 MMBTU/HR Natural Gas-Fired UBW Model UFS175150 Boiler Equipped with a Gordon Piatt Model RMB-GO-175 7.0 MMBTU/HR Burner and Induced Flue Gas Recirculation	5/31/2015	Y
N-5055	University of California, Merced	5320 N. Lake Road Merced, CA 95340	CP	N-5055-8-0	B	Natural Gas-Fired UBW Model UFS175150 Boiler Equipped with a Gordon Piatt Model RMB-GO-175 7.0 MMBTU/HR Burner and Induced Flue Gas Recirculation		N

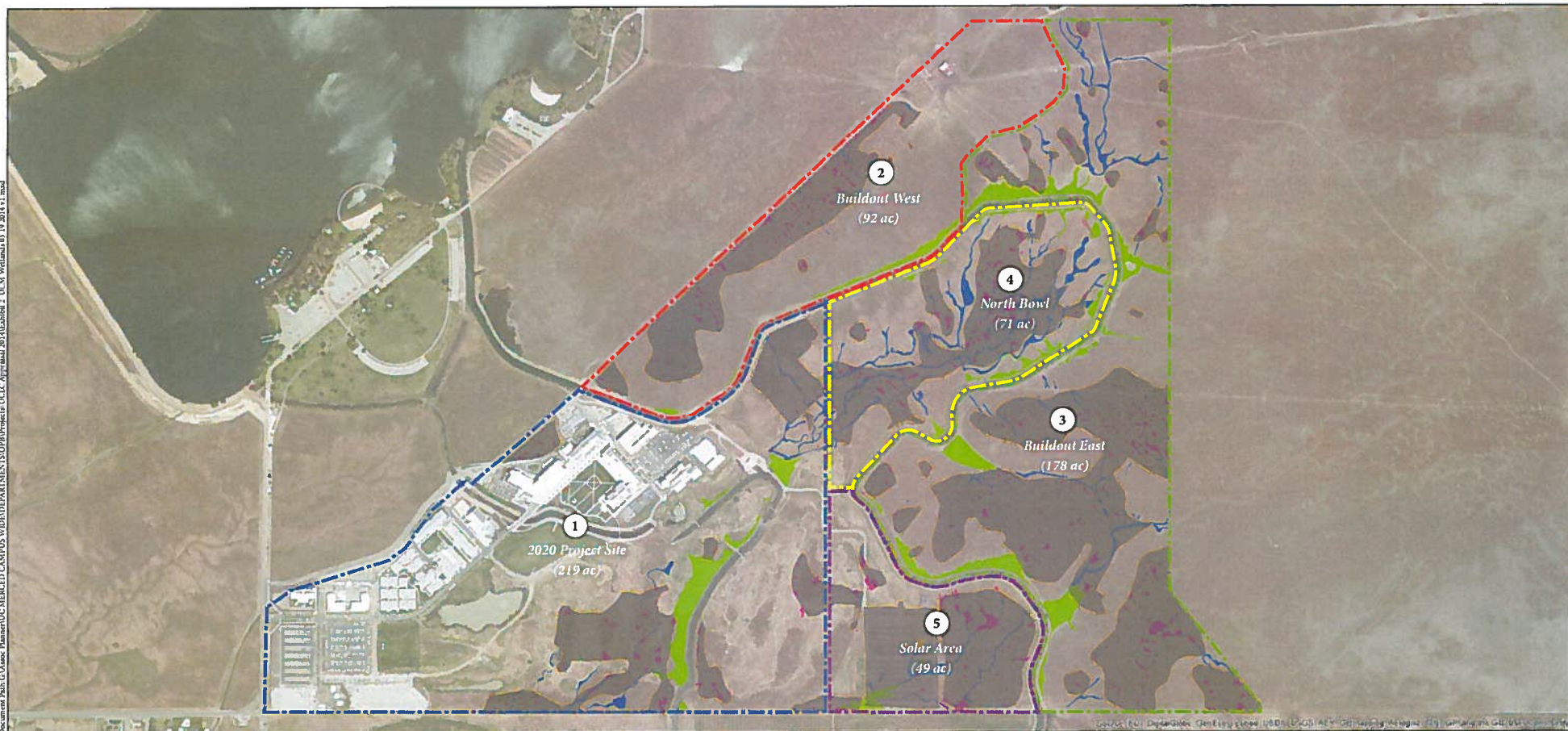
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-8-1	B	7.0 MMBTU/HR Natural Gas-Fired UBW Model UFS175150 Boiler Equipped with a Gordon Piatt Model RMB-GO-175 7.0 MMBTU/HR Burner and Induced Flue Gas Recirculation		N
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	CP	N-5055-8-4	B	7.0 MMBTU/HR Natural Gas-Fired UBW Model UFS175150 Boiler Equipped with a Gordon Piatt Model RMB-GO-175 7.0 MMBTU/HR Burner and Induced Flue Gas Recirculation	5/31/2015	Y
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	Facilities Yard	N-5055-9-0	GD	Gasoline dispensing	5/31/2015	Y
N-5055	University of California Merced	5200 N Lake Rd Merced, CA 95343	Housing 4	N-5055-10-0	ICE	153.5 BHP Cummins Model WSG-1068-nat gas fired emergency generator engine	5/31/2015	Y
Castle								
N-4946	University of California, Merced	4225 N. Hospital Road Atwater, CA		N-3489-20-0	ICE	58 HP Onan Model #300DDA-15R Diesel Fired Emergency IC Engine Powering a 30 KW Electric Generator (Installed July 1982)		Y
N-4946	University of California, Merced	4225 N. Hospital Road Atwater, CA		N-4946-1-0	ICE	207 HP Cummins, Model GBTA5.9-G3, Diesel Fired Emergency Internal Combustion Engine Powering a 125 KW Onan Electric Generator.		Y
Air Resources Control Board								

			Serial Number	Registration Number	ARB Tracking #	Description		
			PE4045T20086	121025	20040668	Certified non-road portable internal combustion engine, compression ignition, John Deere, model 4045TF150, rated at 100 bhp, diesel fueled and equipped with turbocharger.		Y

revision date: 6/12/14		CUPA permit summary			UC Merced	
Environmental Health Permits Merced County Environmental Health · 260 E. 15th Street · Merced, CA 95340 · Phone: (209) 381-1100 · Fax: (209) 384-1593						
Permit Type	Facility ID:	Account ID:	Regulated Facility:	Program Element and Description	Record ID	Issue Date
Environmental Health	FA0005120	AR0008435	Castle -University of CA - Merced 4225 N. Hospital Road Atwater, CA 95301	<ul style="list-style-type: none"><li>• 1222 BioMed Sm. Quan Gen No on Site Treatment</li><li>• 2301 Small Qty. Generator &lt; 2,199 lbs/month</li><li>• 2504 Haz Mat Stor 6 or more HG Risk/LG Vol</li></ul>	<ul style="list-style-type: none"><li>• PR0009306</li><li>• PR0008881</li><li>• PR0008880</li></ul>	1/24/2012
Environmental Health	FA0002673	AR0003379	Main Campus -UC Merced 5200 N. Lake Road Merced, CA 95340	<ul style="list-style-type: none"><li>• 1218 BioMed Health Care Plan Fac.</li><li>• 2201 UST Greater than 3,000 Gal. Volume Total</li><li>• 2301 Small Qty. Generator &lt; 2,199 lbs/month</li><li>• 2504 Haz Mat Stor 6 or more HG Risk/LG Vol</li></ul>	<ul style="list-style-type: none"><li>• PR0011463</li><li>• PR0008883</li><li>• PR0006878</li><li>• PR0004748</li></ul>	12/12/2011

**APPENDIX III**

**CAMPUS WETLANDS AREAS**



## WETLANDS AREAS

within the

UNIVERSITY of CALIFORNIA  
MERCED CAMPUS

## WETLAND SECTORS

- 101 2020 Project Site - 219 ac
- 102 Buildout West - 92 ac
- 103 Buildout East - 178 ac
- 104 North Bowl - 71 ac
- 105 Solar Area - 49 ac
- TOTAL - 608 ac**

## GROUND DISTURBANCE

Fill Area

## WETLAND TYPES

- Canal
- Clay Slope
- Irrigation
- Swale
- Vernal Pool

SECTOR(S)	WETLAND AREAS	UCM WETLAND ACREAGE TOTALS					TOTAL		
		CANAL	CLAY SLOPE	IRRIGATION	SWALE	VERNAL POOL			
	Base Data								
	USACE Permitted Take	25.15	0.33	12.23	25.05	15.03	77.79		
	GIS Acreage Totals	24.804	0.105	12.231	25.215	15.146	77.501		
	Difference	0.346	0.225	0.001	0.165	0.116	0.289		
1 thru 5	UCM Current Take								
	2020 Filled	0.168	0.000	0.000	0.769	1.047	1.984		
	Build Out West Filled	0.000	0.000	0.000	0.147	1.076	1.223		
	Build Out East Filled	0.492	0.000	0.000	1.487	3.183	5.162		
	North Bowl Filled	0.049	0.000	0.000	2.333	1.517	4.099		
	Solar Area Filled	0.679	0.105	0.000	0.835	1.154	2.773		
	Total	1.388	0.105	0.000	5.771	7.977	15.241		
1,2,4,5	UCM Future Take								
	Build Out West to be Filled	1.657	0	0	0.021	0.026	1.704		
	2020 to be Filled	4.954	0.000	0.000	1.207	0.088	6.249		
	North Bowl to be Filled	2.116	0.000	0.000	2.848	0.047	5.011		
	Solar Area to be Filled	0.238	0.000	0.000	0.052	0.213	0.503		
Total	7.368	0	0	4.107	0.348	11.763			
3	Reversion Land								
	Filled	0.492	0.000	0.000	1.487	3.183	5.162		
	Unfilled	8.232	0.000	0.014	3.236	0.026	11.508		
Total	8.724	0	0.014	4.723	3.209	16.670			
							Turn Key Per Acre Cost	Total UCM Cost by Type	
1 thru 5	UCM Wetlands Filled by SG Turn Key Opportunity	0.000	0.105	0.000	6.978	8.065	15.148	\$320,722.14	\$4,838,296.90
	SG VP Swales & Clay Flat (25.48 ac. Available)								
	SG Seasonal (Restored Canal Marshes) (10.8 ac. Available)	6.342	0.000	0.000	0.000	0.000	6.342	\$135,365.28	\$857,852.39
	SG Riparian (5 ac. Available)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Total	6.342	0.105	0	6.978	8.065	21.49		\$5,716,151.29

# **APPENDIX IV**

## **CAMPUS STORM DRAIN SYSTEM**







## **APPENDIX V**

# **CAMPUS TRANSFORMER INSPECTION REPORT**

## **APPENDIX VI**

# **REGULATORY AGENCY RECORDS SEARCH INFORMATION**

# GEOTRACKER

## LAYERS

☒ SIGNIFIES A CLOSED SITE

☒ ■ Leaking Underground Tank (LUST) Cleanup Sites

☒ ■ Other Cleanup Sites

☒ ■ Land Disposal Sites

☒ ■ Military Sites

☒ ■ WDR Sites

☒ ■ Irrigated Lands Regulatory Program

☐ ■ Permitted Underground Storage Tank (UST) Facilities

☒ ○ Monitoring Wells\*

\* ZOOM IN TO SEE MWS

☒ ▲ DTSC Cleanup Sites

☒ ▲ DTSC Haz Waste Permit

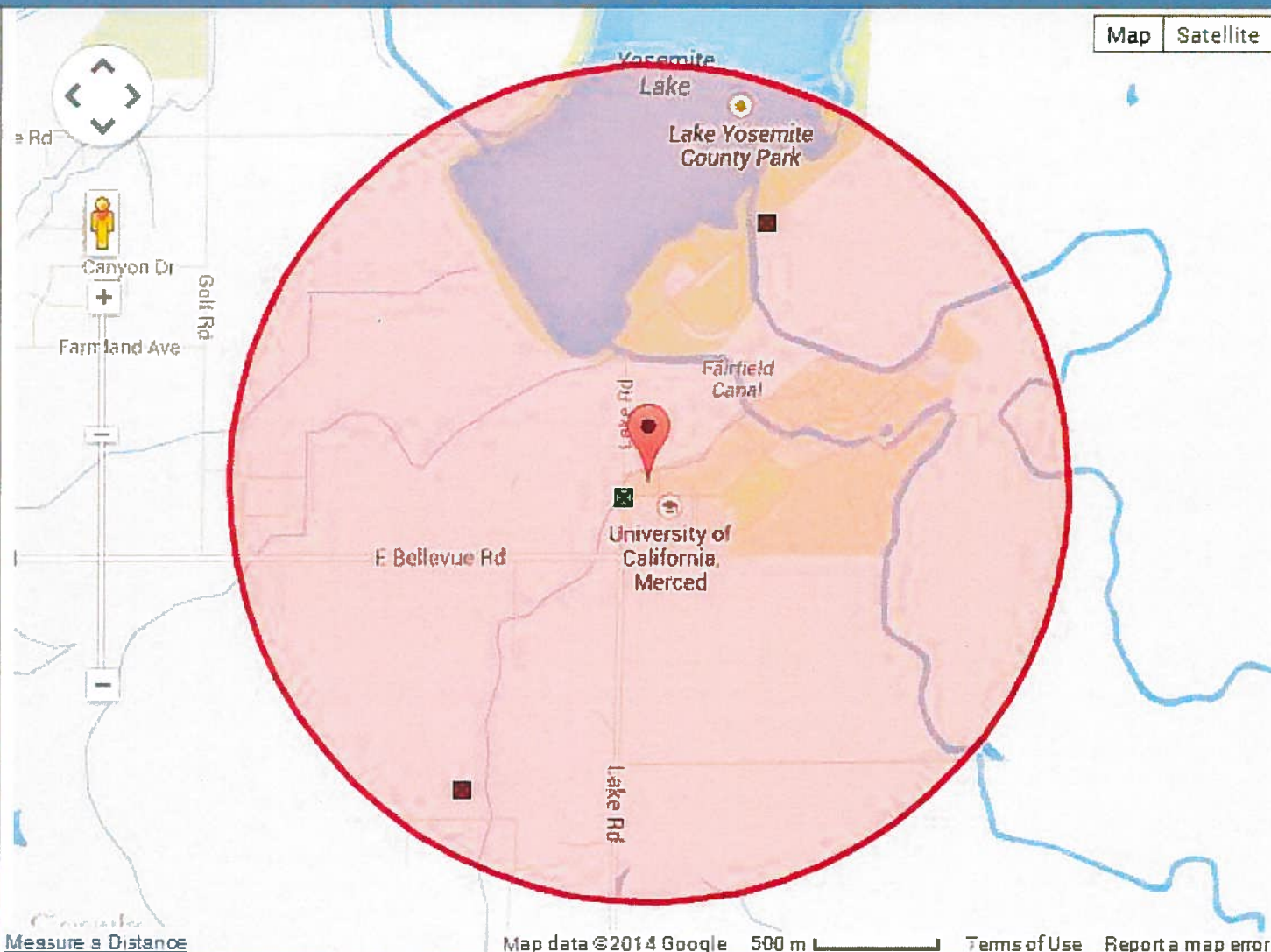
## MAP SIZE

640x480

## OPTIONS

☒ Site List - [EXPORT TO EXCEL](#)

3 Sites


☒ SHOW SITES WITHIN 5280 FEET OF THE FOLLOWING ADDRESS: 5200 north lake rd, merced ca

Go

## SITE LIST

SITE NAME	GLOBAL ID	STATUS	ADDRESS	CITY
<span style="color: red;">■</span> LAKE YOSEMITE PARK	T0604700121	COMPLETED - CASE CLOSED	5714 LAKE RD N	MERCED
<span style="color: green;">■</span> UNIVERSITY OF CALIFORNIA MERCED	SL0604722749	COMPLETED - CASE CLOSED	5200 NORTH LAKE ROAD	MERCED
<span style="color: red;">■</span> ZIZZA SITE	T10000000058	COMPLETED - CASE CLOSED	2632 LA LOMA ROAD	MERCED

## **REGULATORY AGENCY RECORDS DATABASE SEARCH RESULTS**

UC Merced Campus (609-acre Regents-Owned Area)

July 22, 2014

### **CAL-EPA Databases:**

#### **State WRCB Leaking Underground Storage Tank (LUST) Cleanup Sites**

	GLOBAL ID	SITE / FACILITY NAME	SITE / FACILITY TYPE	STATUS	ADDRESS	CLEANUP REPORT
1.	T10000000058	ZIZZA SITE	LUST CLEANUP SITE  DIESEL, GASOLINE, TWO UNDERGROUND FUEL STORAGE TANKS (REMOVED)	COMPLETED - CASE CLOSED AS OF 9/7/2011	2632 LA LOMA ROAD, MERCED	EXCAVATION Begin 11/13/2008 End 7/27/2011
2.	T0604700121	LAKE YOSEMITE PARK	LUST CLEANUP SITE	COMPLETED - CASE CLOSED AS OF 4/23/1996	5714 LAKE RD N, MERCED	650 Gallon UST was removed in 1989. Soil excavated and spread over parking lot.

#### **Miscellaneous State Water Resources Control Board (SWRCB) Cleanup Sites (Spills – Leaks – Above Ground Storage Tanks – Other Discharges)**

	GLOBAL ID	SITE / FACILITY NAME	SITE / FACILITY TYPE	STATUS	ADDRESS	CLEANUP REPORT
1.	SL0604722749	UNIVERSITY OF CALIFORNIA MERCED	CLEANUP PROGRAM SITE  DIESEL IN SOIL	COMPLETED - CASE CLOSED AS OF 7/3/2006	5200 NORTH LAKE ROAD, MERCED	EXCAVATION 1/25/2005 OBVIOUSLY CONTAMINATED SOIL HAND EXCAVATED AND DRUMMED.

#### **Land Disposal/Landfill Sites**

- None proximate to the subject property.

#### **Military Sites (Active and/or Closed Military Bases)**

- None proximate to the subject property.

#### **WDR (Waste Discharge Requirements) Sites**

- None proximate to the subject property.

**Irrigated Lands Regulatory Program Sites**

- None proximate to the subject property.

**Permitted Underground Storage Tank (UST) Facilities**

- None proximate to the subject property.

**Cal-EPA DTSC (Dept Toxic Substances Control) Deed/Land Use Restrictions Sites**

- No sites with deed/land use restrictions are located on or proximate to the subject property.

**(DTSC) Military Cleanup Sites**

- None proximate to the subject property.

**(DTSC) Military Evaluation Sites**

- None proximate to the subject property.

**(DTSC) Orphan Funded Sites**

- None proximate to the subject property.

**(DTSC) Responsible Party Funded Sites**

- None proximate to the subject property.

**(DTSC) Other Funded Sites**

- None proximate to the subject property.

**(DTSC) Voluntary Cleanup Sites**

- None proximate to the subject property.

**(DTSC) Statewide Evaluation Sites**

- None proximate to the subject property.

**(DTSC) School Cleanup Sites**

- None proximate to the subject property.

**(DTSC) School Evaluation Sites**

- DTSC SITE CLEANUP PROGRAM (LEAD) – at the PROPOSED BELLEVUE ROAD HIGH SCHOOL, located at G STREET/FARMLAND AVENUE, >1 mile west of the subject property. Contamination associated with past use of the site for row crops. NO FURTHER ACTION REQUIRED AS OF 9/28/2007.
- DTSC SITE CLEANUP PROGRAM (LEAD) – at PAULSON ROAD PROPERTY, located on Paulson Rd, > 1 mile SW of the subject property. Contamination associated with past use of the site for livestock. NO FURTHER ACTION REQUIRED AS OF 9/12/2005.

**(DTSC) Border Zone / Haz Waste Evaluation Sites**

- None proximate to the subject property.

**(DTSC) Calmortgage Sites**

- None proximate to the subject property.

**(DTSC) Historical Sites**

- None proximate to the subject property.

**(DTSC) Corrective Action Sites**

- None proximate to the subject property

**(DTSC) Permitted Facilities**

- None proximate to the subject property

**(DTSC) Enforcement Report**

- None proximate to the subject property

**(DTSC) Inspection Report**

- None proximate to the subject property

**(DTSC) Cortese Site List**

- None proximate to the subject property

**(DTSC) Meth Lab Cleanups/Emergency Removal Actions**

- No meth cleanup lab sites are identified in the vicinity of the property.

**Integrated Waste Management Board**

No SWIS solid waste disposal sites in the immediate vicinity of the property.

**Federal EPA Databases:**

**ACRES - Office of Brownfields and Land Revitalization, Brownfields Properties**

- None proximate to the subject property.

**AIRS/AFS AIRS Facility Subsystem**

- None proximate to the subject property.

**BR Biennial Reporters**

- None proximate to the subject property.





**BRAC Base Realignment and Closure**

- None proximate to the subject property.

**CAMDBS Clean Air Markets Division Business System**

- None proximate to the subject property.

**CERCLIS Superfund System**

FACILITY NAME	Mapped	LOCATION ADDRESS	CITY NAME	COUNTY NAME	S
U.S. AIR FORCE CASTLE AFB CA		BUHACH ROAD & SANTA FE HIGHWAY	ATWATER	MERCED	C
EAGLE ARMY AIRFIELD	Not Mapped	11000 PRINCE RD	DOS PALOS	MERCED	C
INTERSTATE-5 BASF SPILL		INTERSTATE 5 @ HIGHWAY 152 OVERPASS	LOS BANOS	MERCED	C
PARKWAY CLEANERS		1530 YOSEMITE PARKWAY	MERCED	MERCED	C
SIMPSON'S CLEANERS		618 W MAIN STREET	MERCED	MERCED	C

**CWNS Clean Watersheds Needs Survey**

- None proximate to the subject property.

**E-GGRT Electronic Greenhouse Gas Reporting Tool**

- None proximate to the subject property.

**EGRID Emissions & Generation Resource Database**

- None proximate to the subject property.

**EIA-860 Energy Information Administration-860 Database**

- None proximate to the subject property.

**EIS Emission Inventory System**

- UNIVERSITY OF CALIFORNIA MERCED  
5200 N. LAKE ROAD  
MERCED, CA 00000  
EPA Registry Id: 110041123192

**FTTS/NCDB National Compliance Data Base**

- None proximate to the subject property.

**ICIS Integrated Compliance Information System**

- None proximate to the subject property.

**LUST-ARRA Leaking Underground Storage Tank - American Recovery and Reinvestment Act**

- None proximate to the subject property.

**NPDES National Pollutant Discharge Elimination System**

- None proximate to the subject property.

**OIL OIL Database**

- None proximate to the subject property.

**OSHA-OIS Occupational Safety and Health Administration Information System**

- None proximate to the subject property.

**OTAQREG Office of Transportation and Air Quality Fuels Registration**

- None proximate to the subject property.

**RBLC RACT/BACT/LAER Clearinghouse**

- None proximate to the subject property.

**RCRA Info Resource Conservation and Recovery Act Info**

- While UCM did not appear in this database search as a SQG, UCM is a SQG.

**RFS Renewable Fuel Standard**

- None proximate to the subject property.

**SDWIS Safe Drinking Water Information System**

- None proximate to the subject property.

**SSTS Section Seven Tracking System**

- None proximate to the subject property.

**STATE State Environmental Programs**

- None proximate to the subject property.

**TRI Toxics Release Inventory**

- None proximate to the subject property.

**TSCA Toxics Substances Control Act**

- None proximate to the subject property.

**Meth Lab Registry (DEA):**

No meth lab sites are registered in the vicinity of the property.



## **ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS**

### **ROBERT CHARBONNEAU**

University of California  
Office of the President – Risk Services  
1111 Franklin Street  
Oakland, CA 94607  
(510) 987-9594

### **Work Experience**

#### **Environmental Services Director (1989-Present)**

*University of California - Office of the President (Systemwide Headquarters)  
Risk Services - Environmental Protection Services*

- Manage UC systemwide environmental due diligence program and policies, procedures, and protocols for site assessments for all UC real estate transactions including acquisitions, sales, gifts and bequests, and leases
- Conduct environmental site assessments on over *five hundred (500+)* properties, including a wide range of commercial, industrial, agricultural, medical, institutional, multi-residential, and undeveloped/wildlands properties across the United States (primarily in California)
- Served on original ASTM E-50 Committee that developed Standard Practice for Environmental Site Assessments (E-1527)
- Long-time certification as Registered Environmental Assessor (R.E.A. #01876) by Cal-EPA (state certification program disbanded in 2012)
- Provide expert advice to UC systemwide real estate personnel and General Counsel on technical and risk assessment and management aspects of due diligence investigations
- Manage and coordinate use of environmental consultants
- Coordinate and direct environmental contractor site characterization and site remediation contracts and activities
- Managed UC systemwide underground storage tank compliance program

#### **Associate EH&S Technologist / Consultant (1987-1989)**

*UC Berkeley Office of Environmental Health & Safety  
UC Berkeley Department of Facilities Management*

Perform Phase I site assessments of campus-related properties. Respond to hazardous materials incidents. Conduct comprehensive environmental assessment of Strawberry Creek and its upper watershed. Design, implement, and manage both watershed and stream restoration strategies. Assist in engineering studies of campus water and sanitary/storm sewer systems.

**Hydrologist - Biologist (1984-1986)**

*IEP Incorporated, Northborough MA*

Perform groundwater and surface water quality monitoring and assessment. Assist in groundwater protection and Federal Superfund site contamination studies. Conduct Phase I site assessments Perform surface water hydrology studies. Work as part of an interdisciplinary team on publicly and privately funded lakes and watershed diagnostic/feasibility studies.

**Senior Sanitary Engineer's Aide (1981)**

*Massachusetts Department of Environmental Quality Engineering  
Division of Water Pollution Control - Technical Services Branch*

As part of River Basin Planning Section, conducted water quality surveys and effluent compliance monitoring of selected industries and POTWs in eight major watersheds. Sample New Bedford Harbor to determine extent of sediment PCB contamination.

**Fire Marshal (1981-1983)**

*University of Massachusetts - Amherst Office of Environmental Health and Safety*

Conduct facility inspections to enforce fire regulations. Perform investigations of fire-related incidents on campus property. Serve as on-duty emergency responder.

**Lieutenant/Firefighter – Emergency Medical Technician/Ambulance (NREMT)**

*Northborough MA Fire Department (1978-1986, Acting Lieutenant - Engine Co. 6)  
Amherst MA Fire Department (1981-1983, Lieutenant – Engine Co. 3)*

Respond to fires, hazardous materials incidents, medical emergencies, hazardous conditions, and other emergencies. Perform fire suppression and rescue. Conduct fire safety inspections and fire investigations. Assess and mitigate wide range of hazardous conditions/situations. Oversee engine company crew and operations.

**Higher Education Degrees**

University of California at Berkeley:

Masters Degree (M.C.P. - Environmental Planning - 1988)

University of Massachusetts at Amherst:

Bachelor of Science Cum Laude (Environmental Sciences - 1983)

## I. SITE OWNERSHIP AND LOCATION

## II. SUMMARY DESCRIPTION OF SITE

- Figure 1 shows the site locus.

# FIGURE 1. SITE LOCUS

The map displays the following details:

- Counties:** Stanislaus Co., Tuolumne Co., Merced Co., and Madera Co.
- Cities and Towns:** Modesto, Waterford, Turlock, Merced, Madera, and various smaller communities like Manteca, Lodi, and Yuba City.
- Highways:** Major routes such as SR 99, SR 152, SR 151, SR 153, SR 154, SR 155, SR 156, SR 157, SR 158, SR 159, SR 160, SR 161, SR 162, SR 163, SR 164, SR 165, SR 166, SR 167, SR 168, SR 169, SR 170, SR 171, SR 172, SR 173, SR 174, SR 175, SR 176, SR 177, SR 178, SR 179, SR 180, SR 181, SR 182, SR 183, SR 184, SR 185, SR 186, SR 187, SR 188, SR 189, SR 190, SR 191, SR 192, SR 193, SR 194, SR 195, SR 196, SR 197, SR 198, SR 199, SR 200, SR 201, SR 202, SR 203, SR 204, SR 205, SR 206, SR 207, SR 208, SR 209, SR 210, SR 211, SR 212, SR 213, SR 214, SR 215, SR 216, SR 217, SR 218, SR 219, SR 220, SR 221, SR 222, SR 223, SR 224, SR 225, SR 226, SR 227, SR 228, SR 229, SR 230, SR 231, SR 232, SR 233, SR 234, SR 235, SR 236, SR 237, SR 238, SR 239, SR 240, SR 241, SR 242, SR 243, SR 244, SR 245, SR 246, SR 247, SR 248, SR 249, SR 250, SR 251, SR 252, SR 253, SR 254, SR 255, SR 256, SR 257, SR 258, SR 259, SR 260, SR 261, SR 262, SR 263, SR 264, SR 265, SR 266, SR 267, SR 268, SR 269, SR 270, SR 271, SR 272, SR 273, SR 274, SR 275, SR 276, SR 277, SR 278, SR 279, SR 280, SR 281, SR 282, SR 283, SR 284, SR 285, SR 286, SR 287, SR 288, SR 289, SR 290, SR 291, SR 292, SR 293, SR 294, SR 295, SR 296, SR 297, SR 298, SR 299, SR 300, SR 301, SR 302, SR 303, SR 304, SR 305, SR 306, SR 307, SR 308, SR 309, SR 310, SR 311, SR 312, SR 313, SR 314, SR 315, SR 316, SR 317, SR 318, SR 319, SR 320, SR 321, SR 322, SR 323, SR 324, SR 325, SR 326, SR 327, SR 328, SR 329, SR 330, SR 331, SR 332, SR 333, SR 334, SR 335, SR 336, SR 337, SR 338, SR 339, SR 340, SR 341, SR 342, SR 343, SR 344, SR 345, SR 346, SR 347, SR 348, SR 349, SR 350, SR 351, SR 352, SR 353, SR 354, SR 355, SR 356, SR 357, SR 358, SR 359, SR 360, SR 361, SR 362, SR 363, SR 364, SR 365, SR 366, SR 367, SR 368, SR 369, SR 370, SR 371, SR 372, SR 373, SR 374, SR 375, SR 376, SR 377, SR 378, SR 379, SR 380, SR 381, SR 382, SR 383, SR 384, SR 385, SR 386, SR 387, SR 388, SR 389, SR 390, SR 391, SR 392, SR 393, SR 394, SR 395, SR 396, SR 397, SR 398, SR 399, SR 400, SR 401, SR 402, SR 403, SR 404, SR 405, SR 406, SR 407, SR 408, SR 409, SR 410, SR 411, SR 412, SR 413, SR 414, SR 415, SR 416, SR 417, SR 418, SR 419, SR 420, SR 421, SR 422, SR 423, SR 424, SR 425, SR 426, SR 427, SR 428, SR 429, SR 430, SR 431, SR 432, SR 433, SR 434, SR 435, SR 436, SR 437, SR 438, SR 439, SR 440, SR 441, SR 442, SR 443, SR 444, SR 445, SR 446, SR 447, SR 448, SR 449, SR 450, SR 451, SR 452, SR 453, SR 454, SR 455, SR 456, SR 457, SR 458, SR 459, SR 460, SR 461, SR 462, SR 463, SR 464, SR 465, SR 466, SR 467, SR 468, SR 469, SR 470, SR 471, SR 472, SR 473, SR 474, SR 475, SR 476, SR 477, SR 478, SR 479, SR 480, SR 481, SR 482, SR 483, SR 484, SR 485, SR 486, SR 487, SR 488, SR 489, SR 490, SR 491, SR 492, SR 493, SR 494, SR 495, SR 496, SR 497, SR 498, SR 499, SR 500, SR 501, SR 502, SR 503, SR 504, SR 505, SR 506, SR 507, SR 508, SR 509, SR 510, SR 511, SR 512, SR 513, SR 514, SR 515, SR 516, SR 517, SR 518, SR 519, SR 520, SR 521, SR 522, SR 523, SR 524, SR 525, SR 526, SR 527, SR 528, SR 529, SR 530, SR 531, SR 532, SR 533, SR 534, SR 535, SR 536, SR 537, SR 538, SR 539, SR 540, SR 541, SR 542, SR 543, SR 544, SR 545, SR 546, SR 547, SR 548, SR 549, SR 550, SR 551, SR 552, SR 553, SR 554, SR 555, SR 556, SR 557, SR 558, SR 559, SR 560, SR 561, SR 562, SR 563, SR 564, SR 565, SR 566, SR 567, SR 568, SR 569, SR 570, SR 571, SR 572, SR 573, SR 574, SR 575, SR 576, SR 577, SR 578, SR 579, SR 580, SR 581, SR 582, SR 583, SR 584, SR 585, SR 586, SR 587, SR 588, SR 589, SR 590, SR 591, SR 592, SR 593, SR 594, SR 595, SR 596, SR 597, SR 598, SR 599, SR 600, SR 601, SR 602, SR 603, SR 604, SR 605, SR 606, SR 607, SR 608, SR 609, SR 610, SR 611, SR 612, SR 613, SR 614, SR 615, SR 616, SR 617, SR 618, SR 619, SR 620, SR 621, SR 622, SR 623, SR 624, SR 625, SR 626, SR 627, SR 628, SR 629, SR 630, SR 631, SR 632, SR 633, SR 634, SR 635, SR 636, SR 637, SR 638, SR 639, SR 640, SR 641, SR 642, SR 643, SR 644, SR 645, SR 646, SR 647, SR 648, SR 649, SR 650, SR 651, SR 652, SR 653, SR 654, SR 655, SR 656, SR 657, SR 658, SR 659, SR 660, SR 661, SR 662, SR 663, SR 664, SR 665, SR 666, SR 667, SR 668, SR 669, SR 670, SR 671, SR 672, SR 673, SR 674, SR 675, SR 676, SR 677, SR 678, SR 679, SR 680, SR 681, SR 682, SR 683, SR 684, SR 685, SR 686, SR 687, SR 688, SR 689, SR 690, SR 691, SR 692, SR 693, SR 694, SR 695, SR 696, SR 697, SR 698, SR 699, SR 700, SR 701, SR 702, SR 703, SR 704, SR 705, SR 706, SR 707, SR 708, SR 709, SR 710, SR 711, SR 712, SR 713, SR 714, SR 715, SR 716, SR 717, SR 718, SR 719, SR 720, SR 721, SR 722, SR 723, SR 724, SR 725, SR 726, SR 727, SR 728, SR 729, SR 730, SR 731, SR 732, SR 733, SR 734, SR 735, SR 736, SR 737, SR 738, SR 739, SR 740, SR 741, SR 742, SR 743, SR 744, SR 745, SR 746, SR 747, SR 748, SR 749, SR 750, SR 751, SR 752, SR 753, SR 754, SR 755, SR 756, SR 757, SR 758, SR 759, SR 760, SR 761, SR 762, SR 763, SR 764, SR 765, SR 766, SR 767, SR 768, SR 769, SR 770, SR 771, SR 772, SR 773, SR 774, SR 775, SR 776, SR 777, SR 778, SR 779, SR 780, SR 781, SR 782, SR 783, SR 784, SR 785, SR 786, SR 787, SR 788, SR 789, SR 790, SR 791, SR 792, SR 793, SR 794, SR 795, SR 796, SR 797, SR 798, SR 799, SR 800, SR 80

### III. SITE HISTORY AND USE

1. Title History Researched: Yes \_\_\_\_\_ No X
2. Zoning: Present classification and dates \_\_\_\_\_

3. Current Uses of Site \_\_\_\_\_ Industrial  
\_\_\_\_\_ golf course \_\_\_\_\_ Commercial  
\_\_\_\_\_ pastureland \_\_\_\_\_ Agricultural  
\_\_\_\_\_ Residential

4. Brief Description of Current Uses (Describe in terms of product line/crop, processes, chemicals and materials used, wastes generated, waste management and disposal, etc.):

The vast majority of the site is dry native pastureland. The ranchland is leased to a cattle rancher on a 3-yr lease (renewed 6 months ago). One large barn is located in the SW part of the ranchland, otherwise the site is undeveloped except for the golf course located in the SW corner of the property. The Merced Hills golf course is fully irrigated and includes a clubhouse and cart storage/maintenance shed. The course uses organic fertilizer and also ammonium fulfate, urea, lime, humates, and calcium nitrate. The only selective herbicide used is Pronamide (Kerb), an organic amide. Its field half-life in soil is generally about 30-90 days. It is somewhat volatile with relatively low soil sorption properties. The only waste material generated by the golf course is used oil, stored in a 55-gallon drum.

5. Brief Description of Former Uses of Site:

In 1918, the site is undeveloped except for the main dirt access road leading NE from Lake Rd., with one structure shown around the area of the present barn (NE corner of Section 34). The dirt road continues NE, ending at a pond in Section 18. In 1948, the site appears generally similar to 1918, with the addition of several ranch roads in the S part of the site and the Le Grand Canal passing thru the SW corner of the property. A small (stock) pond is located on the W side of Section 25, and a large pond has formed on the N side of the Le Grand Canal in Sections 31-36. By 1962, the Le Grand Canal has been rerouted further NE, forming a loop into the property. Additional ranch roads are located in the SW part of the property (Sections 26-27); in the N-central area (Sections 19-24). Existing dirt roads in Sections 18 and 30 have been extended to the property boundaries. Windmills are shown in Sections 34, 24, 19, and 13. A structure (barn?) is shown next to the windmill in Section 13 (NW part of property S of Hornitos Rd.). In 1987, the site appears similar to 1962. Construction of the Merced Hills golf course began in 1993, and the course opened in 1995.

Appendix I contains historic topographic maps.

6. Current and Prior Uses of Adjacent Properties (based on reasonably ascertainable info):

*North:* 1918 – Merced-Hornitos Rd. in place; undeveloped (ranch) lands.

1948 – similar to 1918, with the addition of a ranch road and pond N of Hornitos Rd. and a windmill and water tank to the NE along Hornitos Rd.

1962 – similar to 1948; ranch road now located N of windmill N of Hornitos Rd.

1987 – similar to 1962; additional road in Section 11.

2001 – generally undeveloped ranchland.

*South:* 1918 – “Crocker-Hoffman” Canal in place; scattered individual structures but mostly undeveloped (ranch) lands.

1948 – Le Grand Canal now also in place; additional ranch roads and buildings 1 mi S.

1962 - Le Grand Canal completed to the SE; airstrip located about 1 mile S of subject.

1987 - similar to 1962.

2001 – Flying M Ranch pastureland (Lake Rd. Ranch).

*East:* 1918 – undeveloped (ranch) lands.

1948 – ranch roads and several stock ponds now in place.

1962 - similar to 1948.

1987 - similar to 1962.

2001 – Flying M Ranch pastureland.

*West:* 1918 – Yosemite Lake with canal; several structures W of lake; mostly undeveloped (ranch) lands.

1948 – similar to 1918; additional structures around Yosemite Lake.

1962 - additional development around Yosemite Lake (now County park); ranch road and windmill in adjacent Section 23; ranch roads in Sections 22-27.

1987 - similar to 1962.

2001 – Yosemite Lake County park; Cyril Smith Trust ranchland.

Appendix I contains copies of historic topographic maps.

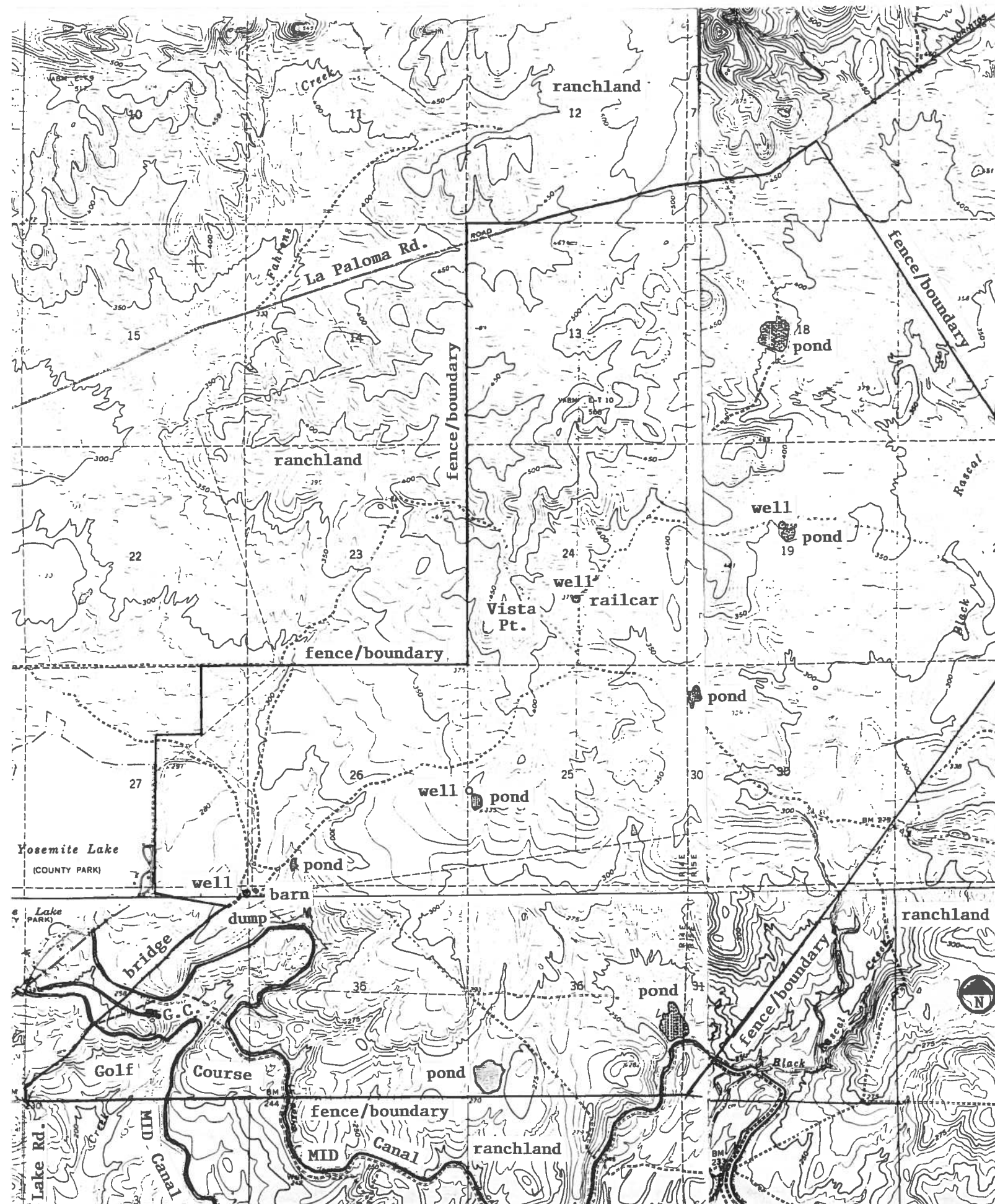
7. List of Regulatory Agency Permits/Violations for the Site:

Golf Course AGST fuel storage permit. No violations known or reported.

8. Persons interviewed relative to site history and use:

Terry Bates, Director VST	632 W. 13 <sup>th</sup> St. Merced CA	209-381-6731
USGS topographic maps		
Merced Irrigation District		209-722-5761
Merced County Environmental Health Dept.		209-381-1082
Bob Erickson, rancher (lessee)		
Candy Ortega, Golf Course grounds superintendent		

# FIGURE 2. SITE PLAN



#### **IV. SITE ENVIRONMENTAL CHARACTERISTICS**

##### **1. Site Layout Information** (see Figure 2 - Site Plan)

###### *A. approximate property boundaries:*

*North:* La Paloma Rd.

*South:* fenceline S of golf course

*East:* fenceline

*West:* fenceline/Lake Rd.

###### *B. building and parking area locations:*

Golf Course: clubhouse and parking area at end of access road.

Ranch: one large barn; no formal parking areas.

###### *C. site utilities* (types and locations):

Power lines to golf course from Lake Rd. No other public utilities.

###### *D. easements:*

Unknown. Irrigation canals fee title?

###### *E. fencing:*

Perimeter and interior cross barb wire fencing. Note that the fenceline running N/S along the W side of Sections 13/24 is not on the correct property boundary – it is too far east and should be placed about 160' west of its present location (due to previous land swap with County).

###### *F. high voltage power lines:*

None on site. MID power lines lead to small hydroelectric power plant located along Fairfield Canal in golf course area.

###### *G. ponds and floodplains:*

Seven stock ponds located around ranch. Golf course also has a pond.

###### *H. streams:*

Black Rascal Ck. seasonally flows southerly thru E part of ranchland.

###### *I. marshes or wetlands including any evidence of fill material:*

Vernal pools in low-lying areas. No wetlands delineations conducted.

###### *J. wells:* Seven (7) wells: one potable; four irrigation; two abandoned wells:

Irrigation well and one potable water supply well located on golf course.

Irrigation well located at barn (~100' bgs); also old abandoned wellhead here.

Irrigation well located next to stock pond (W edge of Section 25).

Irrigation well located next to rail tankcar (S part of Section 24).

Irrigation well (abandoned) located next to stock pond (N part of Section 19).



**2. Site Specific Waste/Wastewater Information** (Site Plan to show known or suspected conveyance, storage, or disposal areas):

*A. catch basins:*

None on site. Several "temporary" corrugated metal pipe culverts laid into drainage swales along ranch dirt roads.

*B. septic tanks/cesspools/leaching fields:*

Golf course clubhouse and two separate bathrooms all on septic systems.

*C. sanitary sewers:*

None on site or in vicinity.

*D. underground storage tanks and supply lines:*

None known or observed.

*E. above ground storage tanks:*

Golf course has 1000-gallon AGST convault (500 gal diesel and gas) adjacent to maintenance building. An old railroad tank car is used for water storage in the middle of the ranch (Section 24 next to wellhead).

*F. pits/ponds/lagoons:*

See 1(G). No pits noted.

*G. drainage lines:*

Golf course subdrain system partially drains into on-site pond.

*H. sumps:*

None.

*I. ditches:*

Two Merced Irrigation District canals run southeasterly thru the SW corner of the property thru or around the golf course area. The golf course has an electric irrigation pump on the Fairfield Canal adjacent to the MID hydroelectric plant.

*J. wells (capped or uncapped) and dry wells:*

No dry wells.

*K. fill connections/vent pipes (suspected or identified):*

None noted.

*L. unidentified cover plates/pipes; mounds of soil/fill; or depressions/subsidence:*

None significant noted.

*M. other miscellaneous:*

Concrete bridge over Le Grand Canal along main entry road into ranch.

### **3. Site Specific Characteristics (see Figure 2 - Site Plan)**

*A. topography and surface water drainage patterns:*

Gently rolling hills. Higher hills in NW part of site (max. elevation 568').  
Drainage varies locally, but generally S-SE.

*B. hydrogeological conditions (soil type; depth to groundwater; probable gradient)*

Static groundwater levels consistent with Valley – 70' bgs in lowest areas,  
ranging up to 100+' bgs in higher elevations. Gradient towards SW.

*C. surface soil or pavement staining/discoloration or disruption/texture change:*

Stabilized gravel spread around vista point area in hills.

*D. vegetation condition and changes:*

Grassland appeared in good natural condition (dry).

*E. drums or other chemical storage areas:*

None on site other than golf course maintenance shed. Herbicide and oil stored.

*F. maintenance or shop/service areas:*

Golf course maintenance shed.

*G. odors:*

None unusual.

*H. dead-end roads/paths or unexplained vehicle tracks (signs of illegal dumping):*

No illegal dumping noted on site. Potential access along canal levee roads from off-site.

*I. other notable observations:*

N/A.

**4. Building Inspection**

*A. number of buildings and their age, construction, and general condition:*

Golf course: one story wood frame clubhouse; one story metal maintenance shed.  
Ranch: one large wood frame barn with tin roof (old).

*B. previous disclosure of hazardous materials in building(s):* Yes\_\_No\_\_X

*C. visible signs of corrosion or other evidence of solvent action:*

None noted.

*D. visible signs of any spillage or residues:*

None noted.

*E. solid waste or trash:*

Miscellaneous materials stored behind golf course maintenance shed.  
Solid waste materials located in field S of barn (NW corner Section 35) included wood/lumber; metal; old drums (empty); tires; miscellaneous trash – no hazardous materials noted. Area covered approximately 100' x 50'.

*F. visible signs of polychlorinated biphenyls [PCBs] (i.e. - check for transformers, capacitors, electrical switchgear, hydraulics, etc. and any signs of leakage):*

None noted on site.

G. *visible signs of asbestos* (check for thermal/electrical/acoustical insulation, sprayed-on fireproofing and plaster, asphalt roofing material, various tiles, transite panels, pipes/lagging, duct wrapping, hoods, drains, etc.):

None noted on site (golf course buildings built about 1994 contain no ACMs).

**5. Neighborhood observations (0.5 mile radius drive-by survey)**

A. *land use:*

Ranchland – pastureland to N/S/E (Flying M Ranch).  
Lake Yosemite County Recreation Area to W.

B. *hazardous waste generation/treatment/storage/disposal areas:*

None in immediate vicinity. RCRIS (small quantity generators) located along Hwy 59-North (5 miles W); Merced Golf Club – 6333 N. Golf Rd. (2 mi. W).

C. *known or suspected hazmat release sites* (refer to regulatory agency lists):

None in immediate vicinity. CERCLIS/DTSC: None in vicinity.  
Cal-EPA: several closed LUST sites along Hwy 59-North (5 miles W);  
5714 Lake Rd. North (closed LUST site – gasoline – soils only).  
Merced County Environmental Health – no sites in vicinity.

D. *existing monitoring wells:*

None noted in vicinity.

E. *landfills/junkyards:*

None in immediate vicinity. Nearest is closed County dump site on Hwy 59 – North (5 miles W of subject property).

F. *gas or service stations/automotive repair shops:*

None in immediate vicinity. Nearest gas station is Yosemite Chevron (3584 G St – three miles SW of subject property.)

G. *drinking water supplies* (surface or underground within 0.5 mile of site):

No public water supplies. Private well water supplies in vicinity.

## **V. CONCLUSIONS AND RECOMMENDATIONS**

- 1. Conclusions** (including likelihood of past or present on-site hazardous material contamination [or threatened release], possible sources and pathways of the contamination and whether off-site problems may affect the subject site or personnel).

There appears to be little likelihood of any on-site environmental problems related to hazardous materials. Historically, the site has been used for agricultural purposes as dry pastureland. Ranch structures have been confined to the existing barn area, with no significant development on site. The Merced Hills Golf Course in the SW part of the site began construction in 1993, and opened in 1995. No chemicals are used or stored on the ranchlands. The golf course uses a number of fertilizers, but only one selective herbicide is used (Pronamide). Its field half-life in soil is generally about 30-90 days. It is somewhat volatile with relatively low soil sorption properties. The only waste material generated by the golf course is used oil, stored in a 55-gallon drum in the maintenance shed. The use of chemicals at the golf course does not pose a significant risk to the property.

One above-ground fuel storage tank is located at the golf course. It contains 500 gallons of both diesel and gasoline. The tank is relatively new, and no leaks or significant spills have been reported. The tank does not pose any significant risk to the property.

A number of active and abandoned wells are located on the property. Most are older irrigation wells that are not regulated and are likely not built to current standards. One potable well supplies water to the golf course clubhouse. No water quality problems have been reported. Nitrate groundwater contamination in Merced County is most problematic along the Hwy 99 corridor, but reportedly does not extend into the vicinity of the subject property (SWRCB Report 88-11WQ, 1988). Although several pesticides (mainly DBCP) have been detected in Merced County groundwater, none have been detected in the vicinity of the subject property (Cal-EPA DPR Report EH00-04, 1999).

No significant dumps were observed on the subject property. Solid waste materials were located in a surficial 100' x 50' area in the field S of the barn (NW corner Section 35), including wood/lumber; metal; old drums (empty); tires; and miscellaneous trash. However, no hazardous materials were noted amongst this old ranch-related debris.

There were no records or knowledge of any hazardous materials-related problems or sites on the subject property or in the immediate vicinity. Surrounding properties were generally similar ranchland, with the exception of the Lake Yosemite Recreation Area to the west. Adjacent properties pose little risk to the subject property.

### **2. Recommendations:**

No further investigation appears warranted at this time. Vehicular access along the canal levee roads should be evaluated and controlled. Solid waste materials should be removed from the ranchland south of the barn. Irrigation wells should be evaluated and properly abandoned if no longer needed.

**3. Identification of persons conducting the Phase 1 site inspection and investigation:**

<u>Name</u>	<u>Address/Affiliation</u>	<u>Title</u>
<u>Robert Charbonneau, R.E.A. #01876</u>	<u>Coord., Environmental Assessment</u>	
<u>U.C. Office of the President</u>	<u>Environmental Protection Services</u>	
<u>1111 Franklin St., 6th floor</u>	<u>Oakland, CA 94607-5200</u>	
<u>(510) 987-9594</u>		

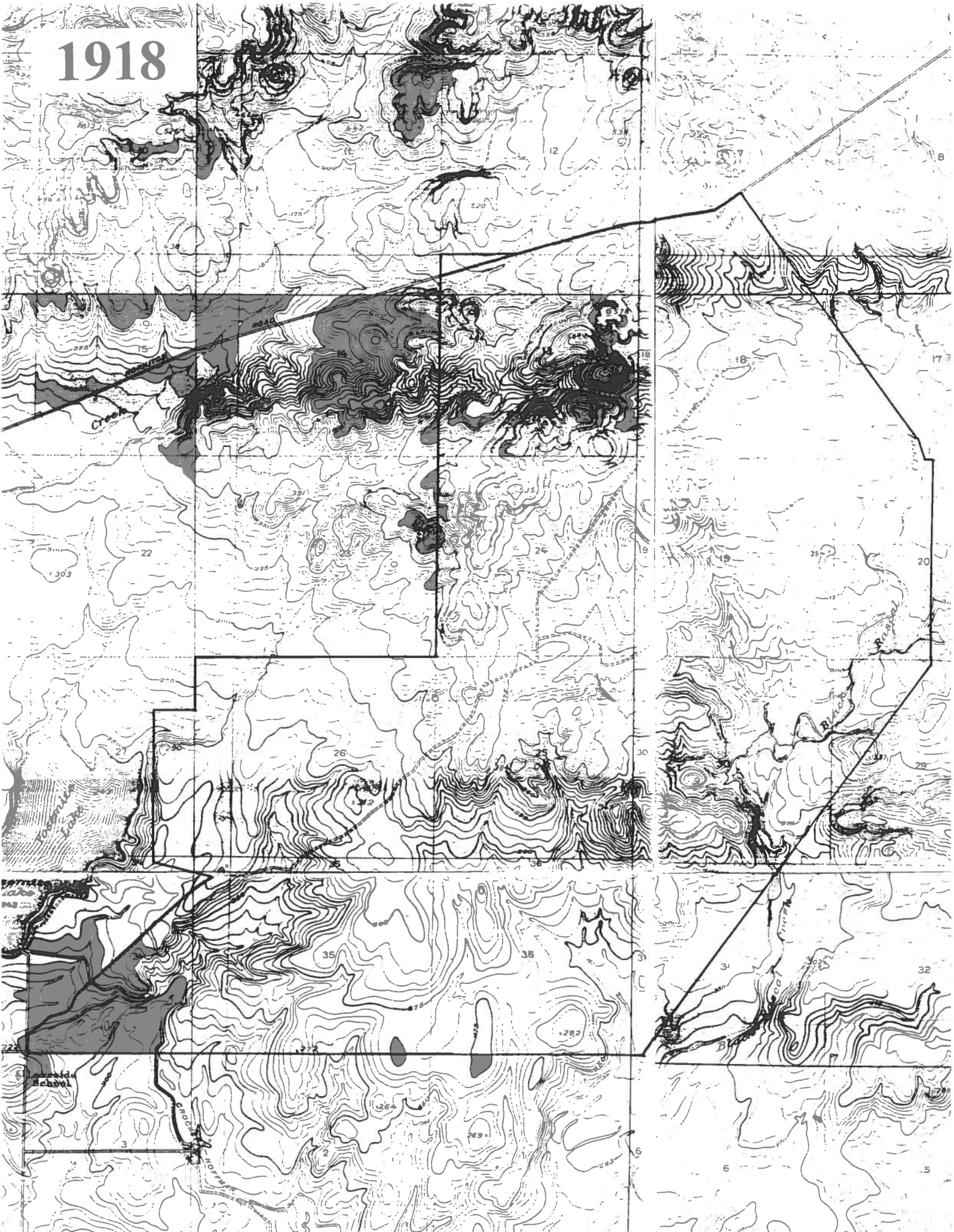
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Date: May 10, 2001

# **APPENDIX I**

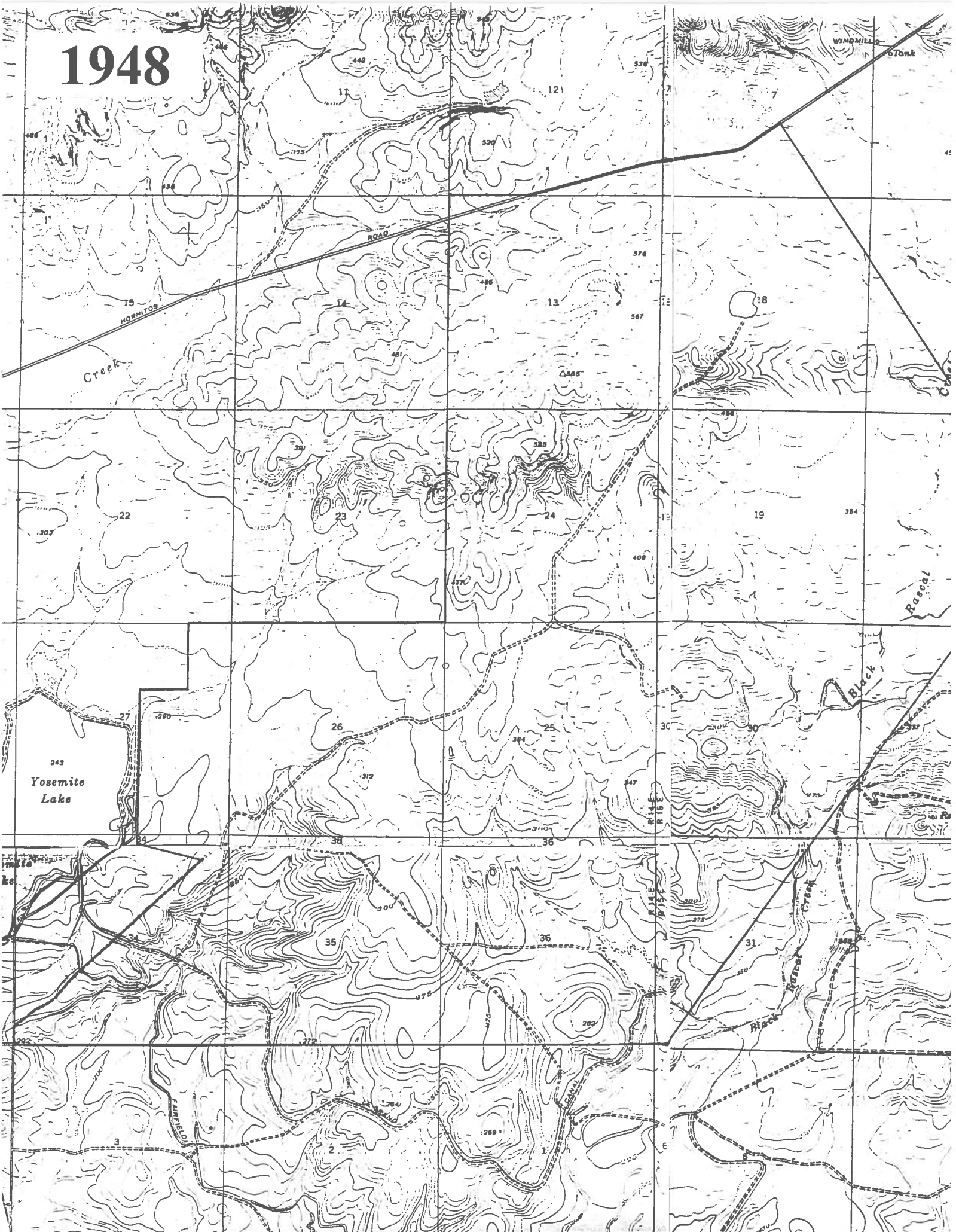
## **USGS TOPOGRAPHIC MAPS 1918 – 1948 – 1962 - 1987**

1918

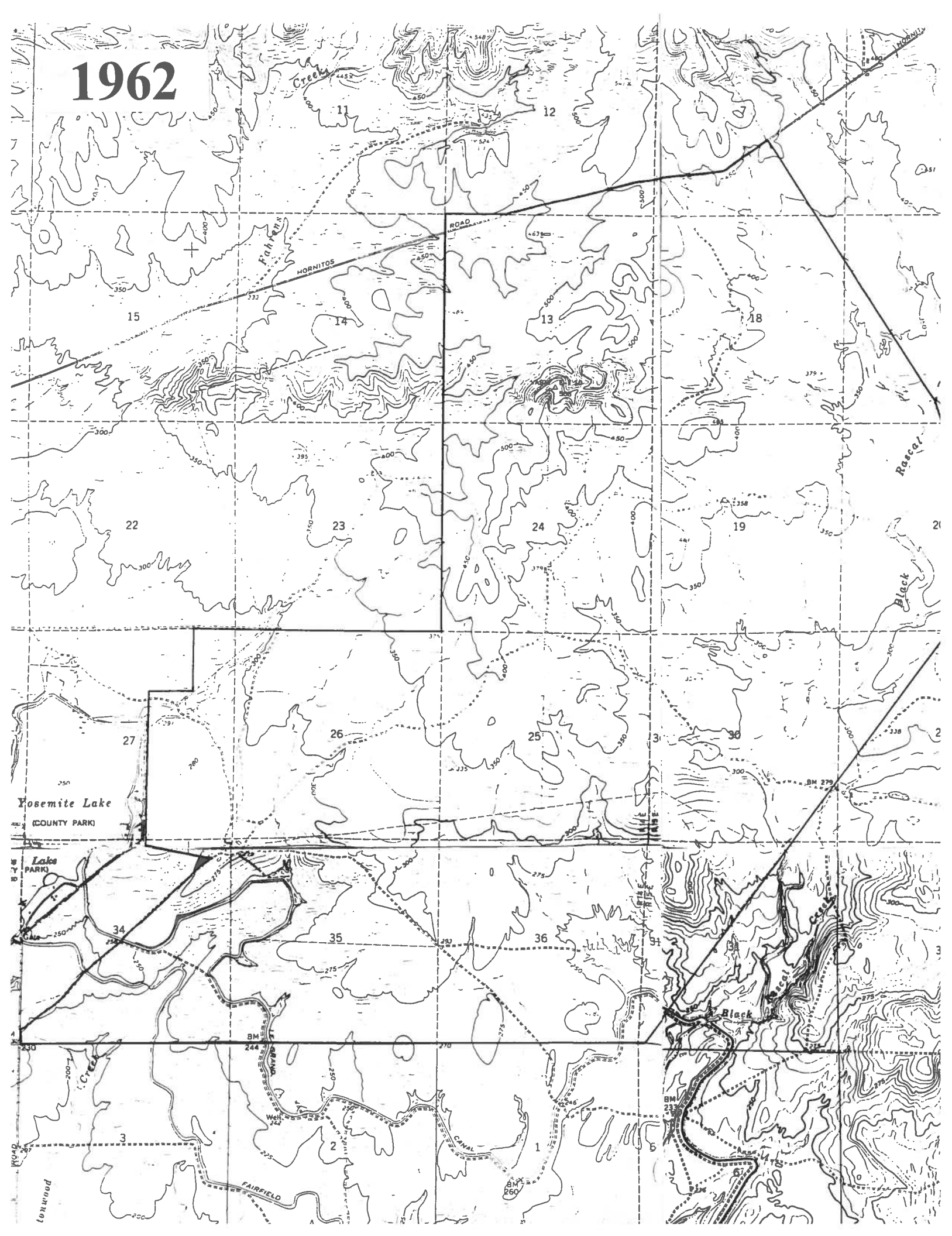




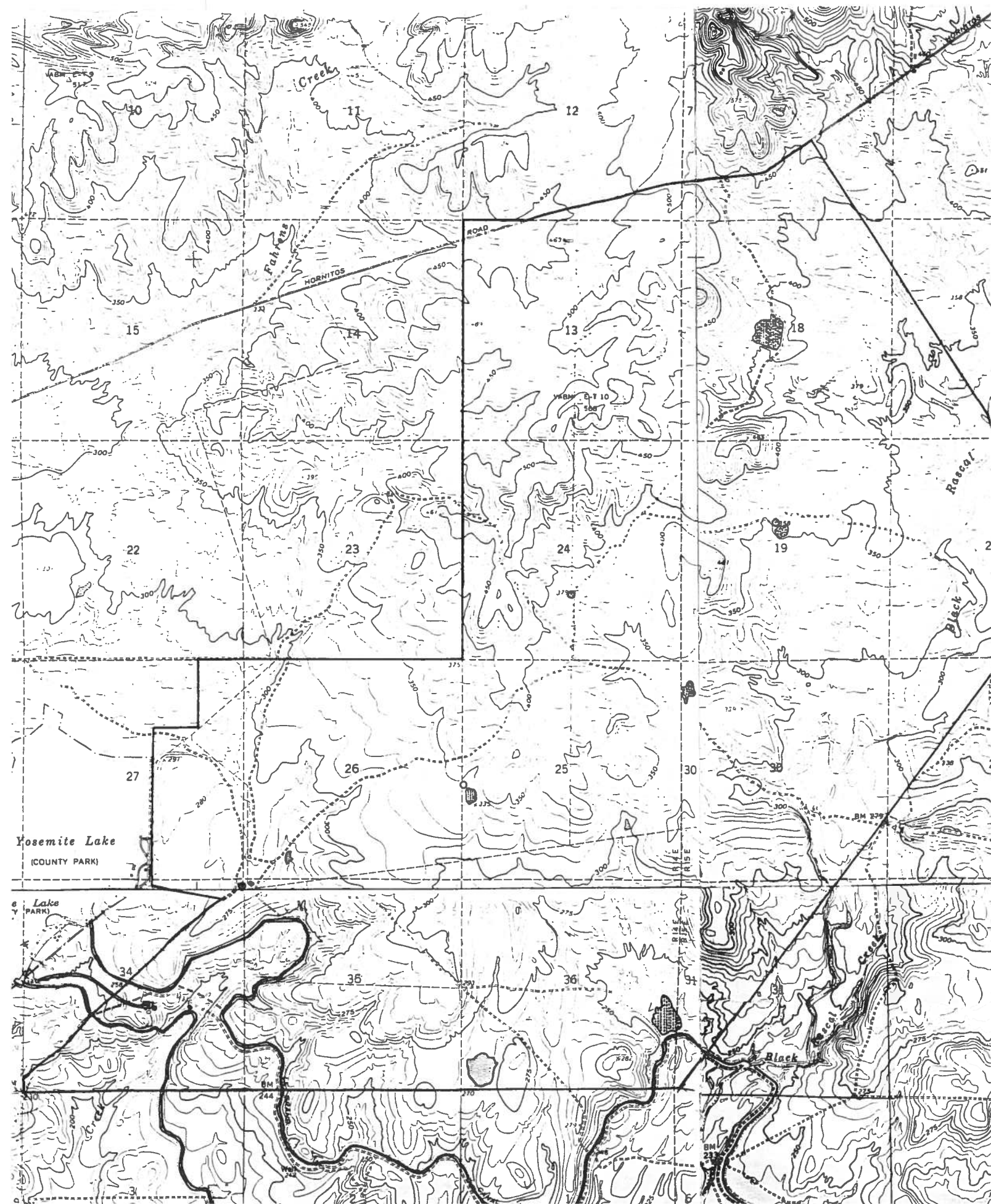
1948



1962



1987



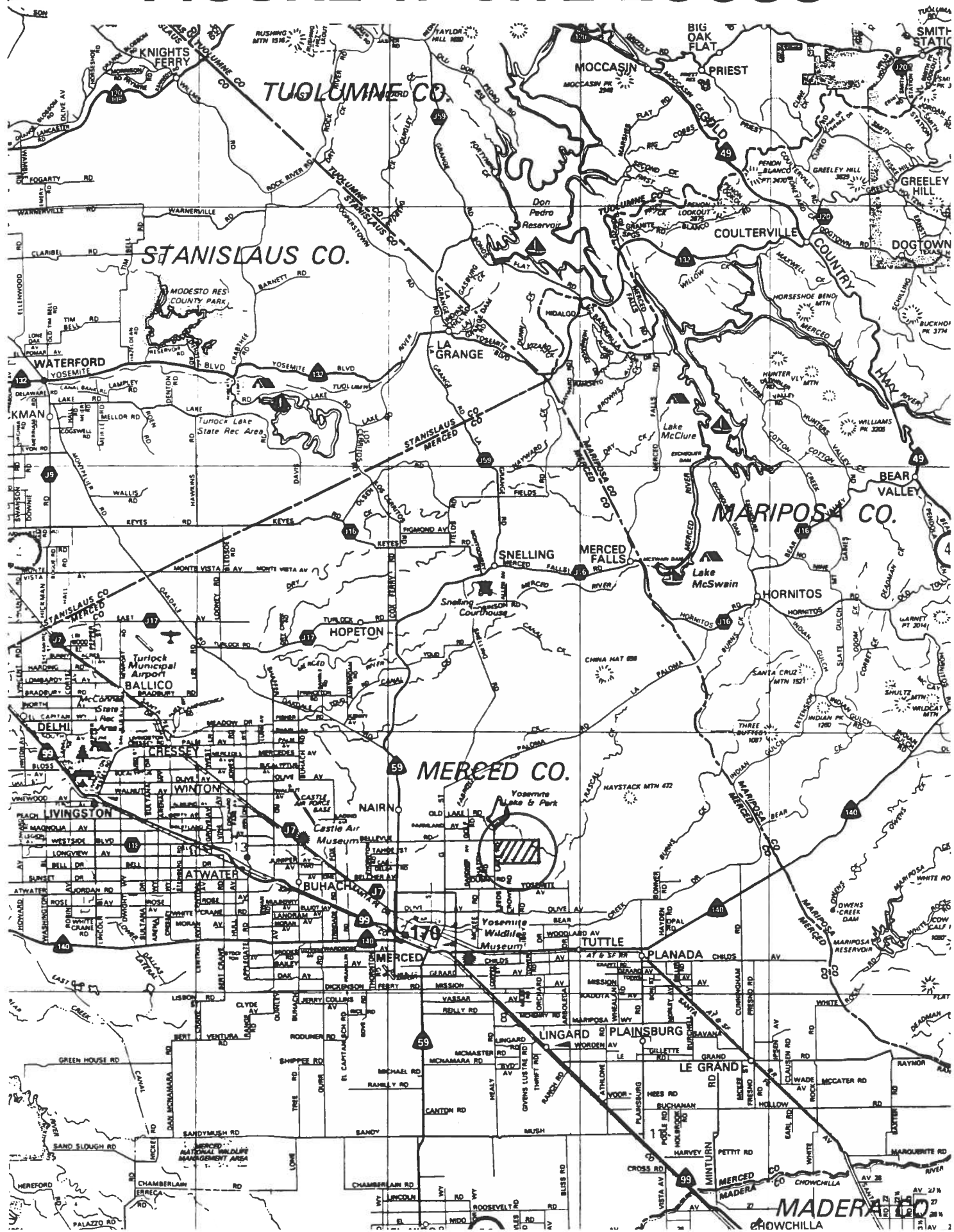
## **I. SITE OWNERSHIP AND LOCATION**

## II. SUMMARY DESCRIPTION OF SITE

- Figure 1 shows the site locus.



# FIGURE 1. SITE LOCUS



### III. SITE HISTORY AND USE

1. Title History Researched: Yes \_\_\_\_\_ No \_\_\_\_\_ N.A. \_\_\_\_\_
2. Zoning: Present classification and dates \_\_\_\_\_ A-1 (General Agriculture) and \_\_\_\_\_  
\_\_\_\_\_ A-2 (Exclusive Agriculture) \_\_\_\_\_

Prior classification and dates \_\_\_\_\_  
\_\_\_\_\_

3. Current Uses of Site \_\_\_\_\_ Industrial  
\_\_\_\_\_ Commercial  
\_\_\_\_\_ pastureland \_\_\_\_\_ Agricultural  
\_\_\_\_\_ Residential  
\_\_\_\_\_ Other

4. Brief Description of Current Uses (Describe in terms of product line/crop, processes, chemicals and materials used, wastes generated, waste management and disposal, etc.):

Approximately 700 acres of the ranch is irrigated pastureland. Three central pivot Valley sprinklers installed in 1979 cover about 470 acres (two pivots in Section 3 and one pivot in SE part of Section 2). An additional 222 acres are level irrigated pastureland on five fields located between the irrigation canals. The remainder of the site is dry native pastureland. Appendix I contains an aerial photograph of the site.

5. Brief Description of Former Uses of Site (Give dates and available information as requested above based on reasonably ascertainable information):

1917 – Crocker-Hoffman Canal bisects site; Lake Rd. runs along west side of site with access road entering site mid-Section 3 and terminating at canal where several structures are located. A single structure is also located at the end of dirt road in SW part of Section 2. 1948 – Crocker Canal now named Fairfield Canal. Le Grand Canal now also in place in Section 2. Two structures still present from 1917. 1961 – One structure remaining E of Fairfield Canal, but no bridge. Well located next to Le Grand Canal. Dirt access road runs S in middle of Section 2. 1987 – Similar to 1961.

Appendix II contains copies of historic topographic maps.

6. Current and Prior Uses of Adjacent Properties (based on reasonably ascertainable info):

*North:* 1917 – canal leading to Yosemite Lake; Lake Road running NE in Section 34.  
1948 – second (Le Grand) canal leading to Yosemite Lake; some additional dirt roads.  
1961 – similar to 1948 except some structures around Yosemite Lake park.  
1987 – additional development around lake; otherwise similar to 1961.  
2001 - Merced Hills Golf Course (built 1993-95); rangeland.

*South:* 1917 – Dunn Rd. runs E to canal; generally undeveloped lands (ag?); one building.  
1948 – additional dirt road with one additional structure in Section 10.  
1961 – additional structures off Dunn Rd; airstrip NE part of Section 11.  
1987 – additional structures off Dunn Rd.; otherwise similar to 1961.  
2001 – agricultural lands.

*East:* 1917 – undeveloped (agricultural?) lands.  
1948 – Le Grand canal; some dirt roads but mainly undeveloped (ag?) lands.  
1961 – similar to 1948.  
1987 – similar to 1961.  
2001 – agricultural lands (pastureland).

*West:* 1917 – Lakeside School to NW. Several structures W of Lake Rd.  
1948 – Several structures W of Lake Rd.  
1961 – additional structures off Los Olivos Rd.; orchards to SW.  
1987 – numerous structures (houses) W of Lake Rd.  
2001 – rural residential along Lake Rd.; new subdivision to SW.

Appendix I has an aerial photo of the site. Appendix II has copies of topographic maps.

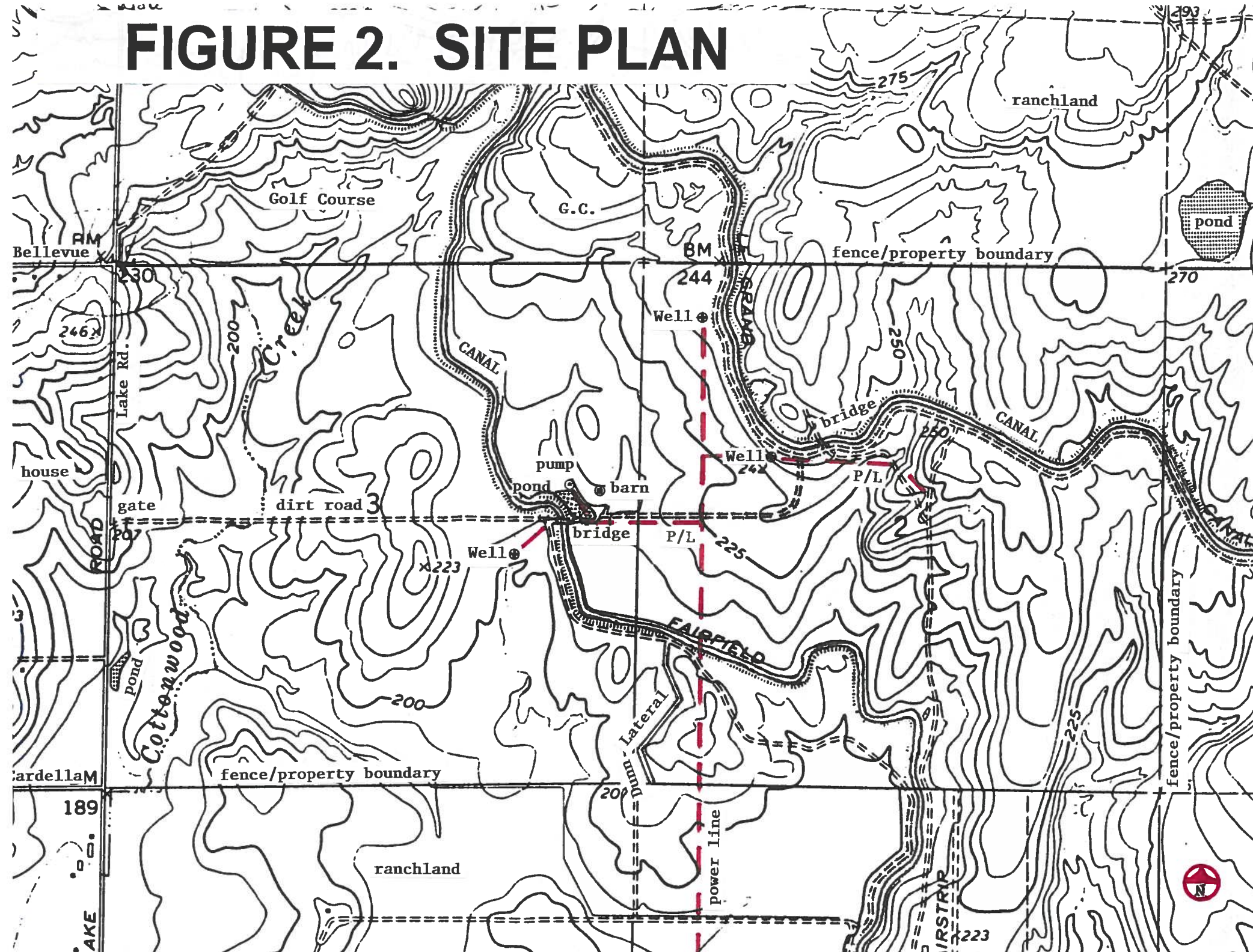
7. List of Regulatory Agency Permits/Violations for the Site:

None.

8. Persons interviewed relative to site history and use:

<u>Name</u>	<u>Address</u>	<u>Tel. No.</u>
Jack Collins	505 West 20 <sup>th</sup> St., Suite 5, Merced CA	(209) 384-1111
Dr. Jim Byerly	Flying M Ranch Supervisor	(209) 769-0042
Property Appraisal – Thomas Wilkins MAI, Merced 11/7/00		
Merced Irrigation District		209-722-5761
Merced County Environmental Health Dept		209-381-1082

# FIGURE 2. SITE PLAN





#### **IV. SITE ENVIRONMENTAL CHARACTERISTICS**

##### **1. Site Layout Information (see Figure 2 - Site Plan and Appendix I – Aerial Photo)**

*A. approximate property boundaries:*

*North:* Merced Hills Golf Club

*East:* fence/fields

*South:* fence/fields

*West:* Lake Road

*B. building and parking area locations:*

One small outbuilding E of Fairfield Canal. No parking areas.

*C. site utilities (types and locations):*

Power lines (12 KV) run south to Yosemite Ave @ Kibby Rd.

No other utilities on site. Lake Rd. power lines stop near Boardwalk Dr.

No water or sewer lines along Lake Rd. frontage.

*D. easements:*

Unknown. Irrigation canal RoWs fee title?

*E. fencing:*

Perimeter and interior cross barbed wire fencing.

*F. high voltage power lines:*

None on site. High voltage lines located SW of Yosemite Ave. @ Lake Rd.

*G. ponds and floodplains:*

FIRM Flood Zone X (outside 500-yr floodplain).

*H. streams:*

Cottonwood Creek on W side of site intermittent local drainage only.

No significant flow.

*I. marshes or wetlands including any evidence of fill material:*

Cottonwood Ck. area and seasonal pond W side of site.

*J. wells:*

Irrigation well (Section 3 W of canal): 700' bgs (1800 gpm)

Irrigation well (NW cnr Section 2 W of canal): 300' bgs (900 gpm)

Irrigation well (Section 2 W of canal): 300' bgs (600 gpm)

**2. Site Specific Waste/Wastewater Information** (Site Plan to show known or suspected conveyance, storage, or disposal areas):

*A. catch basins:*

N/A.

*B. septic tanks/cesspools/leaching fields:*

None on site. Houses in vicinity on septic systems.

*C. sanitary sewers:*

None on site or in vicinity.

*D. underground storage tanks and supply lines:*

None.

*E. above ground storage tanks:*

None.

*F. pits/ponds/lagoons:*

Stock pond adjacent to Fairfield Canal. Seasonal pond W side of site near Lake Rd.

*G. drainage lines:*

None.

*H. sumps:*

None.

*I. ditches:*

Two parallel Merced Irrigation District canals – Le Grand and Fairfield Canals run from Lake Yosemite in a southeasterly direction through the property. Dunn Lateral off Fairfield Canal runs to south in SW corner of Section 2.

*J. wells (capped or uncapped) and dry wells:*

No dry wells.

*K. fill connections/vent pipes (suspected or identified):*

Vent pipes for irrigation system lines.

*L. unidentified cover plates/pipes; mounds of soil/fill; or depressions/subsidence:*

None significant noted.

*M. other miscellaneous:*

Two “temporary” bridge structures: steel railroad flatcar with concrete deck is located over the Fairfield Canal (passable); older wooden bridge over Le Grand Canal did not appear to be stable.

### **3. Site Specific Characteristics (see Figure 2 - Site Plan and Appendix I – Aerial Photo)**

*A. topography and surface water drainage patterns:*

Gently rolling with some level pasture area. Drainage varies locally, but generally in southerly direction.

*B. hydrogeological conditions (soil type; depth to groundwater; probable gradient)*

Hopeton clay loam/Corning gravelly loam/Rocklin loam/Redding gravelly loam. Soils have claypan or hardpan profiles with low permeability. Groundwater depth approximately 60-70' bgs with gradient towards SW.

*C. surface soil or pavement staining/discoloration or disruption/texture change:*

None noted.

*D. vegetation condition and changes:*

Grazed pastureland appeared in good natural condition.

*E. drums or other chemical storage areas:*

None located on site.

*F. maintenance or shop/service areas:*

None on site.

*G. odors:*

None unusual noted.

*H. dead-end roads/paths or unexplained vehicle tracks (signs of illegal dumping):*

No dumping noted. Gated access off Lake Rd., but potential vehicular access along canal levee roads onto site from SE.

*I. other notable observations:*

**4. Building Inspection**

*A. number of buildings and their age, construction, and general condition:*

One small wood frame shed (ATV storage) located just E of Fairfield Canal.  
One abandoned concrete structure located in SW part of Section 2 S of canal.

*B. previous disclosure of hazardous materials in building(s):* Yes\_\_No X

*C. visible signs of corrosion or other evidence of solvent action:*

N/A.

*D. visible signs of any spillage or residues:*

None.

*E. solid waste or trash:*

None noted. No dumps known or observed on site.

*F. visible signs of polychlorinated biphenyls [PCBs] (i.e. - check for transformers, capacitors, electrical switchgear, hydraulics, etc. and any signs of leakage):*

Pole-mounted transformers located at end of service drops (to pumps/wellheads).  
No spillage or leakage noted.

G. *visible signs of asbestos* (check for thermal/electrical/acoustical insulation, sprayed-on fireproofing and plaster, asphalt roofing material, various tiles, transite panels, pipes/lagging, duct wrapping, hoods, drains, etc.):

None noted in outbuilding.

**5. Neighborhood observations** (0.5 mile radius drive-by survey)

A. *land use*:

Merced Hills Golf Club and Lake Yosemite Recreation Area to N; rural residential to W; residential to SW; agricultural fields (pasture) to E/S/SE/NE.

B. *hazardous waste generation/treatment/storage/disposal areas*:

None in immediate vicinity. RCRIS (small quantity generators) located along Hwy 59-North (5 miles W); Merced Golf Club – 6333 N. Golf Rd. (2 mi. W). Merced Hills Golf Club (adjacent to N).

C. *known or suspected hazmat release sites* (refer to regulatory agency lists):

None in immediate vicinity. CERCLIS/DTSC: None in vicinity.  
Cal-EPA: several closed LUST sites along Hwy 59-North (5 miles W); 5714 Lake Rd – North (closed LUST site – gasoline – soils only).  
County Environmental Health: no known sites in vicinity.

D. *existing monitoring wells*:

None in vicinity.

E. *landfills/junkyards*:

None in immediate vicinity. Nearest is closed County dump site on Hwy 59 – North (5 miles W of subject property).

F. *gas or service stations/automotive repair shops*:

None in immediate vicinity. Nearest gas station is Yosemite Chevron (3584 G St. – 3 miles SW of subject property)

G. *drinking water supplies* (surface or underground within 0.5 mile of site):

No public systems in vicinity. Private well water supplies.

## **V. CONCLUSIONS AND RECOMMENDATIONS**

- 1. Conclusions** (including likelihood of past or present on-site hazardous material contamination [or threatened release], possible sources and pathways of the contamination and whether off-site problems may affect the subject site or personnel).

There does not appear to be a significant likelihood of any on-site problems related to hazardous materials. The site has been used exclusively for agricultural purposes for many decades. An old farmstead or group of ranch buildings was once located along the main access road at the intersection of the Fairfield Canal. No structures exist there today other than a small storage outbuilding. No signs of any of the old structures were visible.

The ranch is both irrigated and native dry pastureland. Three irrigation wells (300' – 700' bgs) and two lift pumps are located on site. All wells/pumps are electric-powered. No diesel or gas powered equipment or pumps are located on the site. No fuel storage tanks are located on site. A 12-kv power line service drop runs south to Yosemite Avenue. No other utilities are located on site.

No agricultural chemicals (pesticides/herbicides) are used or stored on site. No farm dumps were reported or observed on site. Access to the site is controlled by a locked gate on Lake Road and perimeter barb wire fencing. However, vehicular access appears to be possible along the irrigation canal levee roads from off-site. No illegal dumping was observed on site.

There were no records of any hazardous materials-related problems on site or in the immediate vicinity. Surrounding properties were either similar agricultural lands, rural residential, or the Merced Hills golf course, and do not pose any significant risk to the subject property.

- 2. Recommendations** for further assessment [or remediation, if applicable] including cost estimates and time requirements):

No further investigation appears warranted at this time. Irrigation canal levee road access to the site should be evaluated and controlled.

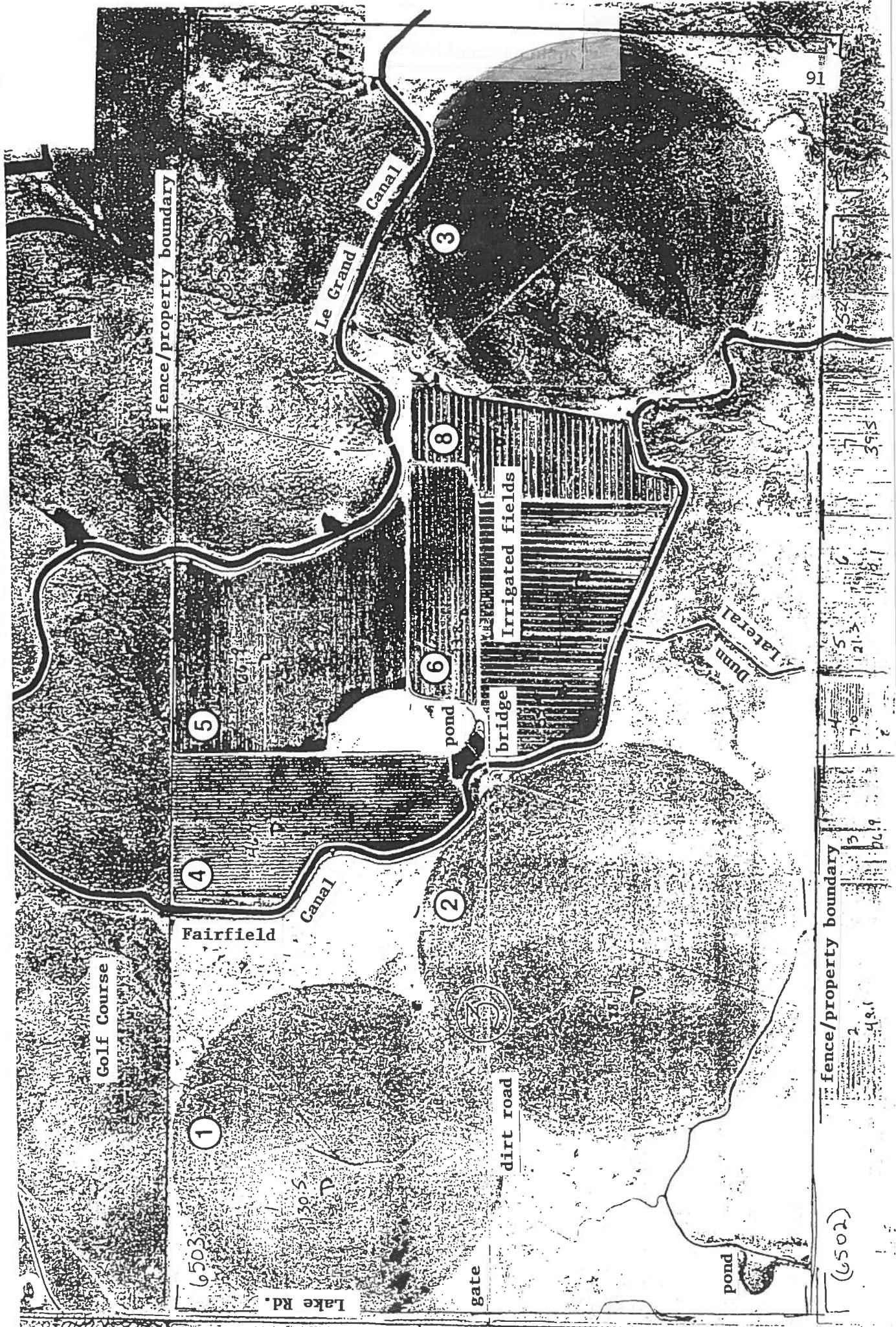
- 3. Identification** of persons conducting the Phase 1 site inspection and investigation:

<u>Name</u>	<u>Address/Affiliation</u>	<u>Title</u>
Robert Charbonneau, R.E.A. #01876	Coord., Environmental Assessment	
U.C. Office of the President	Environmental Protection Services	
1111 Franklin St., 6th floor	Oakland, CA 94607-5200	
(510) 987-9594		

# **APPENDIX I**

## **SITE AERIAL PHOTOGRAPH**

# SITE AERIAL PHOTOGRAPH





## **APPENDIX II**

### **USGS TOPOGRAPHIC MAPS 1917 – 1948 – 1961 - 1987**

1917

Los Angeles River

Bear Creek

Little Bear Creek

Los Angeles Grammar School

Section numbers: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

Contour lines: 2000, 2020, 2040, 2060, 2080, 2100, 2120, 2140, 2160, 2180, 2200, 2220, 2240, 2260, 2280, 2300, 2320, 2340, 2360, 2380, 2400, 2420, 2440, 2460, 2480, 2500, 2520, 2540, 2560, 2580, 2600, 2620, 2640, 2660, 2680, 2700, 2720, 2740, 2760, 2780, 2800, 2820, 2840, 2860, 2880, 2900, 2920, 2940, 2960, 2980, 3000, 3020, 3040, 3060, 3080, 3100, 3120, 3140, 3160, 3180, 3200, 3220, 3240, 3260, 3280, 3300, 3320, 3340, 3360, 3380, 3400, 3420, 3440, 3460, 3480, 3500, 3520, 3540, 3560, 3580, 3600, 3620, 3640, 3660, 3680, 3700, 3720, 3740, 3760, 3780, 3800, 3820, 3840, 3860, 3880, 3900, 3920, 3940, 3960, 3980, 4000, 4020, 4040, 4060, 4080, 4100, 4120, 4140, 4160, 4180, 4200, 4220, 4240, 4260, 4280, 4300, 4320, 4340, 4360, 4380, 4400, 4420, 4440, 4460, 4480, 4500, 4520, 4540, 4560, 4580, 4600, 4620, 4640, 4660, 4680, 4700, 4720, 4740, 4760, 4780, 4800, 4820, 4840, 4860, 4880, 4900, 4920, 4940, 4960, 4980, 5000, 5020, 5040, 5060, 5080, 5100, 5120, 5140, 5160, 5180, 5200, 5220, 5240, 5260, 5280, 5300, 5320, 5340, 5360, 5380, 5400, 5420, 5440, 5460, 5480, 5500, 5520, 5540, 5560, 5580, 5600, 5620, 5640, 5660, 5680, 5700, 5720, 5740, 5760, 5780, 5800, 5820, 5840, 5860, 5880, 5900, 5920, 5940, 5960, 5980, 6000, 6020, 6040, 6060, 6080, 6100, 6120, 6140, 6160, 6180, 6200, 6220, 6240, 6260, 6280, 6300, 6320, 6340, 6360, 6380, 6400, 6420, 6440, 6460, 6480, 6500, 6520, 6540, 6560, 6580, 6600, 6620, 6640, 6660, 6680, 6700, 6720, 6740, 6760, 6780, 6800, 6820, 6840, 6860, 6880, 6900, 6920, 6940, 6960, 6980, 7000, 7020, 7040, 7060, 7080, 7100, 7120, 7140, 7160, 7180, 7200, 7220, 7240, 7260, 7280, 7300, 7320, 7340, 7360, 7380, 7400, 7420, 7440, 7460, 7480, 7500, 7520, 7540, 7560, 7580, 7600, 7620, 7640, 7660, 7680, 7700, 7720, 7740, 7760, 7780, 7800, 7820, 7840, 7860, 7880, 7900, 7920, 7940, 7960, 7980, 8000, 8020, 8040, 8060, 8080, 8100, 8120, 8140, 8160, 8180, 8200, 8220, 8240, 8260, 8280, 8300, 8320, 8340, 8360, 8380, 8400, 8420, 8440, 8460, 8480, 8500, 8520, 8540, 8560, 8580, 8600, 8620, 8640, 8660, 8680, 8700, 8720, 8740, 8760, 8780, 8800, 8820, 8840, 8860, 8880, 8900, 8920, 8940, 8960, 8980, 9000, 9020, 9040, 9060, 9080, 9100, 9120, 9140, 9160, 9180, 9200, 9220, 9240, 9260, 9280, 9300, 9320, 9340, 9360, 9380, 9400, 9420, 9440, 9460, 9480, 9500, 9520, 9540, 9560, 9580, 9600, 9620, 9640, 9660, 9680, 9700, 9720, 9740, 9760, 9780, 9800, 9820, 9840, 9860, 9880, 9900, 9920, 9940, 9960, 9980, 10000

Tuttle 203.30

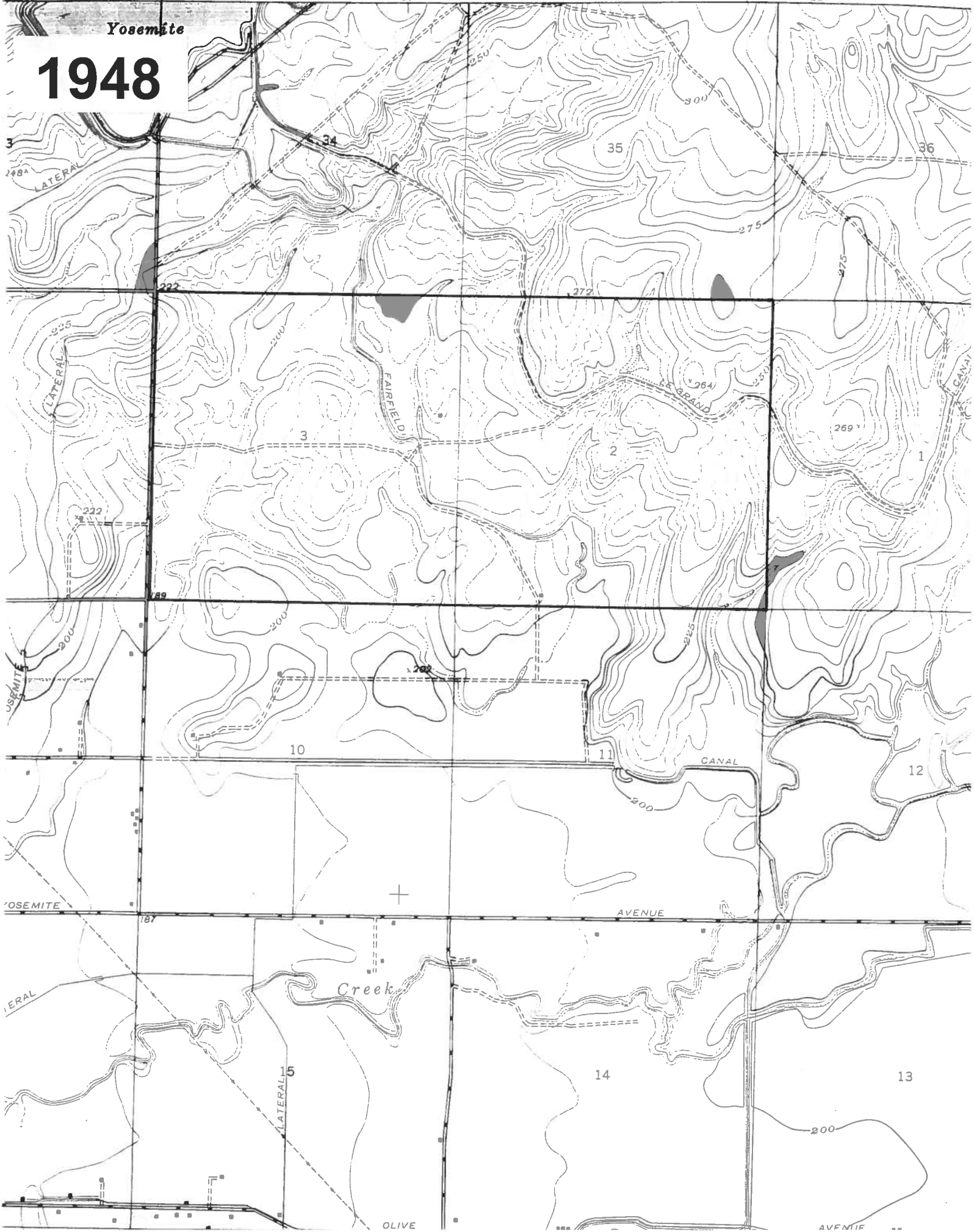
Yosemite Lake)

25'

12030000 FEET

Yosemite

1948



1961

Yosemite

Lake  
PARK)

33

LATERAL

Gate 250

34

250

35

293

36

BM

BM

244

270

278

230

200

Creek

4

LATERAL

ROAD

3

Cottonwood

Well 242

FAIRFIELD

CANAL

1

BM 260

ROAD

BM

189

ROAD

YOSEMITE

200

LAKE

ROAD

9

ROAD

10

11

12

Well

185

190

+

BM

AVENUE

BM 206

Rascal

CANAL

200

205

LATERAL

16

15

LATERAL

14

Black

17

200

AVENUE

ROAD

193

OLIVE

198

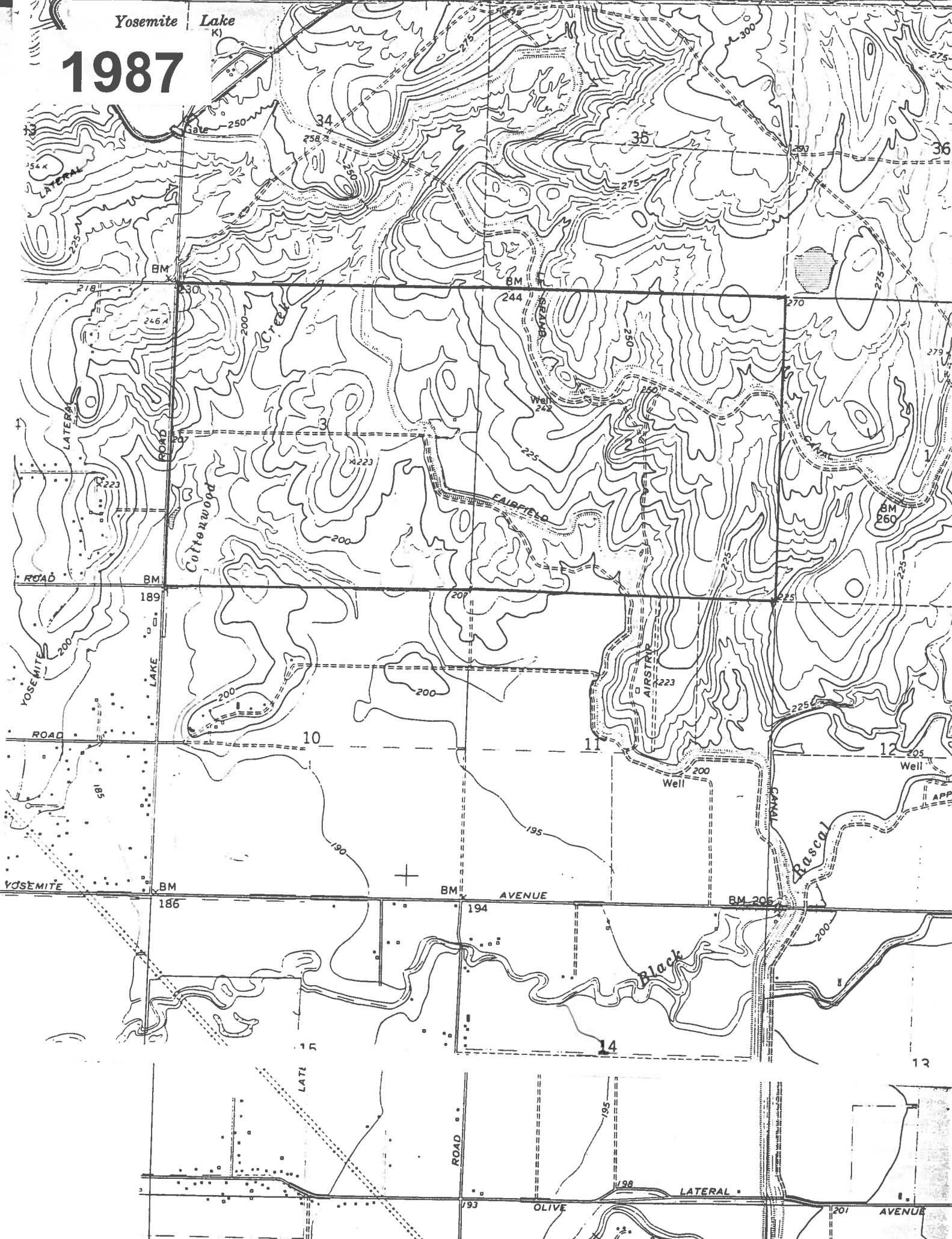
LATERAL

201

AVENUE

Yosemite Lake

1987



**APPENDIX 20**  
**FIRST AND SECOND DELIVERY FACILITIES**

Appendix 20-A First Delivery Facilities

Appendix 20-B Second Delivery Facilities

**APPENDIX 20-A**  
**FIRST DELIVERY FACILITIES**

	First Delivery Space Type (Column A)	ASF (Column B)	First Delivery Facility LD Amount (\$) (per day) (Column C)
<b>(a)</b>	<b>Academic</b>	<b>14,600</b>	<b>\$2,500</b>
	Classroom	14,600	
<b>(b)</b>	<b>Housing and Dining</b>	<b>146,435</b>	<b>\$10,000</b>
	Housing: Residence Hall	98,947 (712 beds)	
	Housing: Residence Hall: Admin/Community	15,338	
	Housing: Support & Maintenance	4,165	
	Student Life: Central Dining	27,985	
<b>(c)</b>	<b>Parking</b>	<b>329,000 (SF)</b>	<b>\$1,000</b>
	Parking (net new)	329,000 (SF) (940 spaces)	

**APPENDIX 20-B**

**SECOND DELIVERY FACILITIES**

	<b>Second Delivery Space Type (Column A)</b>	<b>ASF (Column B)</b>	<b>Second Delivery Facility LD Amount (\$ (per day) (Column C)</b>
<b>(a)</b>	<b>Academic: Research</b>	<b>67,480</b>	<b>\$10,000</b>
	Wet	24,750	
	Dry	20,460	
	Computational	9,240	
	Performance	3,300	
	Lab Support and Maintenance	8,705	
	Core Lab	1,025	
<b>(b)</b>	<b>Academic: Office</b>	<b>62,355</b>	<b>\$2,500</b>
	Academic Office	62,355	
<b>(c)</b>	<b>Academic: Classroom</b>	<b>15,885</b>	<b>\$2,500</b>
	Class Laboratory	15,885	
<b>(d)</b>	<b>Academic: Colloquy Spaces</b>	<b>5,100</b>	<b>\$2,500</b>
<b>(e)</b>	<b>Fields: Competition</b>	<b>100,000 (SF)</b>	<b>\$1,000</b>



## **APPENDIX 21**

### **OWNER CHANGE PROCEDURE**

#### **1.1 Owner Changes**

The provisions of this Appendix 21 shall apply with respect to any Owner Change.

#### **1.2 Preliminary Change Order**

The Owner may, at any time during the Term, issue to Developer a narrative (a **“Preliminary Change Order”**) describing a contemplated Owner Change.

#### **1.3 Delivery of Preliminary Change Estimate**

As soon as practicable and in any event, within thirty (30) days after receipt of a Preliminary Change Order, or such longer period as the Parties agree acting reasonably, Developer shall prepare and deliver to the Owner a preliminary change estimate (each, a **“Preliminary Change Estimate”**) for the contemplated Owner Change described in the Preliminary Change Order. The obligation of Developer to provide a Preliminary Change Estimate is not Extra Work and shall not entitle Developer to any additional monetary compensation, time extension or other relief, provided that the Owner will reimburse Developer, within 30 days of receipt of a detailed invoice and supporting documentation for same, for the monetary cost of preparing Preliminary Change Estimates for contemplated Owner Changes that the Owner elects not to pursue, as follows: (a) any amount in excess of \$1,000,000 in the aggregate during the Construction Period; and (b) any amount in excess of \$1,000,000 (indexed to CPI) in the aggregate during the Operating Period.

#### **1.4 Content of Preliminary Change Estimate**

A Preliminary Change Estimate shall include:

- (a) A description of the contemplated Owner Change;
- (b) A comparison of the scope of the Work as a result of the contemplated Owner Change as compared to the scope prior to the Owner Change, including detailed description of the impacts on the D&C Work and the O&M Services;
- (c) A detailed description of any proposed adjustments to the Project Schedule, including to any Completion Deadline, required as a result of any Relief Event Delay that would be caused by the implementation of the contemplated Owner Change;

- (d) If compensation is sought under Section 10.4 of the Agreement, any impact of the Relief Event Delay on: (a) the Project Debt draw down schedule (if applicable), funding and release of reserves, financing costs and debt service profile (including debt interest payments due and accrual of interest); and (b) the Committed Series A Equity Investment draw down schedule, Developer's dividend profile and Equity IRR, in each case to the minimum extent required for Developer to avoid breaching its minimum debt covenants under the Funding Agreements as a result of the Relief Event Delay while maximizing Equity IRR, taking into account the compensation sought under Section 10.4.1 (excluding Sections 10.4.1.2.1(b) and Sections 10.4.1.2.2 and 10.4.1.2.3) and excluding the impact described in Section 10.2.4.4.3;
- (e) A detailed, itemized estimate of all Base Direct Costs, the applicable Mark-ups, and, if applicable, any amounts claimed under Sections 10.3.3.2 and 10.4 of the Agreement, necessary for and directly associated with the contemplated Owner Change;
- (f) An estimate of the cost savings (inclusive of Mark-ups), if any, resulting from the contemplated Owner Change, including reductions in direct labor, material and equipment, site overhead and home office overhead, operations and maintenance, and financing costs associated with the contemplated Owner Change;
- (g) Where relief is sought under Section 10.3.1 of the Agreement, the effect of the contemplated Owner Change on Developer's ability to perform any of its obligations under the Contract Documents that would otherwise result in accrual of Noncompliance Point(s), Noncompliance Instances, assessment of monetary deductions under Appendix 6 of the Agreement or other liquidated damages under the Agreement, as applicable, or occurrence of a Developer Default, in each case including details of the relevant obligations, the effect on each such obligation, the likely duration of that effect and the specific relief sought;
- (h) A description of any additional consents or approvals required, including amendments, if any, of any Governmental Approvals required to implement the contemplated Owner Change;
- (i) A detailed description of the steps Developer will take to implement the contemplated Owner Change, including measures that Developer will take to mitigate the costs, delay and other consequences of the contemplated Owner Change; and
- (j) A proposed revised Financial Model reflecting the information described in this Section 1.4.

## 1.5 Mandatory Records

As a condition to Developer's rights to any additional compensation, time extension or other relief with respect to an Owner Change, Developer shall keep daily detailed and accurate records itemizing each element of cost and shall provide substantiating records and documentation, including time cards, purchase orders, invoices and other customary industry documentation.

## 1.6 Net Cost Impact of Owner Change

The net cost impact of an Owner Change will equal the aggregate net cost (or saving) of implementing the Owner Change, as set forth in the Final Change Estimate and supported by substantiating records and documentation, provided that any additional monetary compensation to which Developer may be entitled in connection with an Owner Change shall be limited to the compensation described in Sections 5.5.3, 10.3.3.1, 10.3.3.2 and 10.6, as applicable, of the Agreement (the "**Net Change Cost Impact**").

## 1.7 Method of Payment for Owner Change

- (a) If an Owner Change results in a positive Net Change Cost Impact, the Owner will pay Developer in accordance with Section 10.5 of the Agreement and, if applicable, Section 10.6 of the Agreement. To the extent Developer is entitled to additional monetary compensation under Section 10.4 of the Agreement as a result of an Owner Change, the Owner will pay Developer in accordance with such Section.
- (b) If an Owner Change results in a negative Net Change Cost Impact, then Developer will pay the Owner the Net Change Cost Impact by way of reduction of payments otherwise payable by the Owner to Developer under the Agreement.

## 1.8 Agreement on Owner Change

Following receipt by the Owner of a Preliminary Change Estimate prepared in accordance with Section 1.4 of this Appendix:

- (a) As soon as practicable, and in any event within 15 Business Days after the Owner receives a Preliminary Change Estimate, or such longer period as the Parties agree acting reasonably, the Owner will deliver to Developer any requests for clarifications or amendments, and the Parties' Authorized Representatives will meet and use all reasonable efforts to agree to a final change estimate ("**Final Change Estimate**"), including valuation of the Owner Change, any time extension or any other relief, the revised Financial Model, and any other information required to be included in the Preliminary Change Estimate.

- (b) If the Owner is required by applicable Law to require Developer, or the Lead Contractor or Lead O&M Firm, as applicable, to competitively bid any contract in relation to a contemplated Owner Change, and/or if Developer is required to solicit competitive bids pursuant to Section 11.1.3 of the Agreement, Developer will seek and evaluate competitive bids for the proposed Owner Change in accordance with applicable Law.
- (c) The Owner may by notice in writing modify or abandon a Preliminary Change Order at any time prior to the Parties reaching an agreement on the Preliminary Change Estimate for any matter relating to the Preliminary Change Estimate or arising from the discussions in relation thereto, in which case Developer will, as soon as practicable and in any event not more than 10 Business Days after receipt of such modification (or such longer period as the parties may agree acting reasonably), notify the Owner of any consequential changes to the Preliminary Change Estimate.

## 1.9 Change Order

- (a) An Owner Change will become effective upon mutual execution of a written change order (the “**Change Order**”). The Change Order shall be in a form provided by the Owner, and shall set forth:
  - (i) The Net Change Cost Impact;
  - (ii) Any time extension to which Developer is entitled under Section 10.3.2 of the Agreement; and (iii) Any relief to which Developer is entitled under Section 10.3.1 of the Agreement.
- (b) Subject to Section 1.11 of this Appendix 21, Developer shall not proceed with an Owner Change prior to receiving a signed Change Order from the Owner.
- (c) A Change Order issued in accordance with this Section 1.9 will be binding upon the Owner and Developer. Subject to Section 1.10(b) of this Appendix 21, upon receipt of a Change Order, Developer shall implement the Owner Change.

## 1.10 Disagreement on Final Change Estimate

If the Parties do not agree on a Final Change Estimate, then the Owner may:

- (a) Elect not to proceed with the Owner Change described in the Preliminary Change Order; or
- (b) Issue a Unilateral Change Order.

## 1.11 Unilateral Change Order

- (a) Notwithstanding any other provision of the Agreement or this Appendix 21, the Owner may at any time issue a unilateral change order (the “**Unilateral Change Order**”) to Developer, signed by the Owner’s Authorized Representative, directing Developer to implement an Owner Change.
- (b) The Owner may issue a Unilateral Change Order at any time, in its sole discretion, including: (i) in the absence of a Preliminary Change Order; (ii) at any time following issuance of a Preliminary Change Order; (iii) if Developer fails to provide a Preliminary Change Estimate; (iv) if a Final Change Estimate or Change Order is not promptly agreed upon by the Parties; or (v) if there is a Dispute in relation to a Preliminary Change Order, Preliminary or Final Change Estimate or Change Order (including a Dispute as to whether there is an Owner Change).
- (c) Upon receipt of a Unilateral Change Order:
  - (i) Developer shall promptly implement the Owner Change in accordance with the Unilateral Change Order and, except as otherwise provided in the Unilateral Change Order, in accordance with the Contract Documents;
  - (ii) If Developer has not previously done so, Developer shall, within 30 days after the issuance of the Unilateral Change Order, deliver to the Owner a Preliminary Change Estimate in accordance with Sections 1.3 and 1.4 of this Appendix 21, and the Parties shall subsequently follow the procedures and provisions set forth in Sections 1.5 through Section 1.9 of this Appendix 21;
- (d) Following issuance of a Unilateral Change Order and pending issuance by the Owner of a Change Order, the Owner will make progress payments to Developer for its Direct Costs incurred in implementing the Owner Change, as reasonably demonstrated by Developer in writing from time to time, or upon the Owner’s request, with the substantiating records and documentation referred to in Section 1.5 of this Appendix 21. If Developer disagrees with all or any of the determinations set out in the Change Order, then Developer may refer the matter to the Dispute Resolution Procedures, and Developer shall, without prejudice to its rights with respect to such Dispute, continue to implement the Owner Change as directed in the Unilateral Change Order.

## APPENDIX 22

### SBE/DVBE SELF-CERTIFICATION FORM

**UNIVERSITY OF CALIFORNIA 2020 PROJECT  
SMALL BUSINESS ENTERPRISES / DISABLED VETERAN BUSINESS ENTERPRISES  
SELF-CERTIFICATION FORM**

COMPANY NAME:		CONTACT PERSON: (Indicate Ms., Mr., etc.)	
STREET ADDRESS:			
MAILING ADDRESS (if different from street address):			
TELEPHONE NO.: (     )	TOLL FREE NO.: (     )	FAX NO.: (     )	
E-MAIL:		HOME PAGE ADDRESS:	
<b>Are any of the owners or owners' relatives currently employed by the University of California?</b> <b>YES _____ NO _____ If yes, please provide details on an attached sheet of paper.</b>			
FEDERAL IDENTIFICATION NO.:			
PRIMARY TYPE OF BUSINESS:    BROKER _____    DEALER _____    DISTRIBUTOR _____ FABRICATOR _____    MANUFACTURER _____    MANUFACTURERS AGENT _____ RETAIL _____    SERVICE _____    WHOLESALE _____ OTHER _____			
PRINCIPAL OWNERS:		Percent Ownership	
Name	Title	%	
		%	
AVERAGE ANNUAL SALES (PRIOR 3 YEARS)		NUMBER OF EMPLOYEES	
OWNERSHIP OF BUSINESS: (Check One)    Corporation _____    Individual/Sole Proprietorship _____    Joint Venture _____ Partnership _____    Foreign Ownership _____    Not for Profit _____    Other _____			

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

**Initial the Business Categories That Apply:**

\_\_\_\_\_ **SMALL BUSINESS ENTERPRISE (SBE)** - an independently owned and operated concern certified, or certifiable, as a small business by the Federal Small Business Administration. Size standards by North American Industrial Classification system may be found in the Federal Acquisition Regulations Section 19.102.

\_\_\_\_\_ **DISABLED VETERAN BUSINESS ENTERPRISE (DVBE)** - a business that is at least 51% owned by one or more disabled veterans or, in the case of any publicly owned business, at least 51% of the stock of which is owned by such individuals and whose management and daily business operations are controlled by one or more of such individuals. A Disabled Veteran is a veteran of the military, naval, or air service of the United States with a service connected disability who is a **resident of the State of California**. To qualify as a veteran with a service connected disability, the person must be currently declared by the U.S Department of Veterans Affairs to be 10% or more disabled as a result of service in the armed forces.

\_\_\_\_\_ **LOCAL BUSINESS** - an enterprise headquartered within the Counties comprising the San Joaquin Valley, including the Counties of Merced, Fresno, Kern, Stanislaus, Madera, Tulare and the portions of San Luis Obispo County east of the Coast Ranges.

**PRIVACY NOTIFICATIONS**

I hereby certify under penalty of perjury under the laws of the State of California that I have read this application and know the contents thereof, and that the business category(ies) indicated above reflect the true and correct status of the business. I understand that falsely certifying the status of this business, obstructing, impeding or otherwise inhibiting any University of California official who is attempting to verify the information on this form may result in suspension from participation in University of California business contracts for a period up to 5 years and the imposition of any civil penalties allowed by law. In addition, I understand that this business must notify the University of California in writing 30 days in advance of any changes in size, ownership, control, operation, or location which may affect this business's continued eligibility in any business category indicated above.

INFORMATION FURNISHED BY: (Print or Type Name of Owner and/or Principal)

NAME OF BUSINESS: \_\_\_\_\_

NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

FOR U.C. USE ONLY (do not write in this area)		
Reviewed by:	Date	Comments

## **APPENDIX 23**

### **MODIFICATIONS TO PROJECT COMMITMENTS**

(See attached.)



For the purposes of Developer's obligations under the Contract Documents, the following provisions of the Project Commitments included in Volume III – Additional Project Requirements shall be deemed to be modified as provided below:

<b>1</b>	<b>Agreement Between The Regents of the University of California and Pacific Gas And Electric Company to Provide Electric Service to the UC Merced Campus (October 9, 2003)</b>	
	Section 3.0 ("Supply of Utility Services")	The following provision is not applicable: "Upon request by PG&E, UC Merced shall provide an easement for PG&E's facilities to be located on the UC Merced Campus substantially in the form attached hereto as Exhibit F."
	Section 5.0 ("Compensation and Payment Terms")	This section is not applicable.
	Section 7.3 ("On-Site Generation")	The following portion of this section is not applicable: "UC Merced shall, however, continue to be responsible for all applicable obligations specified in PG&E's Tariffs as they currently exist and as they are amended for the duration of this Agreement."
	Section 8.3 ("Facility Termination Charge")	This section is not applicable.
	Section 14.0 ("Land Rights")	This section is not applicable.
	Section 19.0 ("Enforceability")	The following portion of this section is not applicable: "In the event that any of the provisions, or application of any of the provisions, of this Agreement are held to be illegal or invalid by a court of competent jurisdiction or otherwise changed by a regulatory agency, PG&E and UC Merced shall negotiate an equitable adjustment in the provisions of this Agreement with a view toward effectuating the purpose of the Agreement."
	Section 27.0 ("Contacts")	This section is not applicable.
	Agreement for Installation or Allocation of Special Facilities (certain facilities consisting of capacity reservation charge for alternate feeder capacity)	This agreement is not applicable.
	Agreement for Installation	This agreement is not applicable.

	or Allocation of Special Facilities (certain facilities consisting of metering associated with second service)	
<b>2</b>	<b>Power Purchase Agreement between Solar Star California XII, LLC and The Regents of the University of California (December 23, 2008)</b>	
	Section 3.1 ("Installation")	This section is not applicable.
	Section 4.1.2 ("Phone/Data Line")	The portion of the sentence "pay for" is not applicable.
	Section 5.1 ("Purchase Requirement")	The following provision is not applicable: "Customer agrees to purchase one hundred percent (100%) of the Energy delivered by such System during the Term of this Agreement."
	Section 5.2 ("Environmental Attributes; Environmental Financial Incentives")	This section is not applicable.
	Section 6 ("Price and Payment")	This section is not applicable, with the exception of Section 5.2.4.
	Section 7.2 ("Customer's Covenants")	This section is not applicable, with the exception of Sections 7.2.3 ("Notice of Damage"), 7.2.6 ("Maintenance of Interconnection"), and 7.2.7 ("Solar Access").
	Section 8.2 ("Customer's Insurance")	This section is not applicable.
	Section 10.5 ("Payment of Termination Value on Termination Date")	This section is not applicable.
	Section 14.17 ("Cooperation with Financing")	This section is not applicable.

<b>3</b>	<b>Drainage Contract between Merced Irrigation District (MID) and The Regents of the University of California (July 20, 2005)</b>	
	Section 5 ("Work of University")	This section is not applicable.
	Section 6 ("Contract Fee")	This section is not applicable.
	Section 7 ("Capital Fees")	This section is not applicable.
	Section 8 ("Annual Maintenance Fees")	Subsection (a) is not applicable.  The following provision in subsection (c) is not applicable: "All fees as specified in sections 7 and 8 of this agreement shall be payable by University to the District at the rates in effect at the time of the request."  Subsection (d) is not applicable.
	Section 10 ("Improvements")	This section is not applicable.
	Section 15 ("Pumping Charges and Costs")	The portion of the sentence "any and all costs of installing any necessary pump" is not applicable.
<b>4</b>	<b>Joint Use and Maintenance Agreement between Merced Irrigation District (MID) and The Regents of the University of California (April 15, 2003)</b>	
	Section 3.0 ("Facilities Construction and Maintenance")	In Section 3,4, the following provision is not applicable: "University will appoint a specific University representative as a primary contact point for purposes of this agreement."
	Section 5.0 ("Insurance Requirements")	This section is not applicable.
<b>5</b>	<b>Roadway Repair Agreement between The Regents of the University of California and the County of Merced</b>	
	Section 1 ("Road Condition Surveys")	Subsection (a) is not applicable.

<b>6</b>	<b>Non-exclusive Pipeline License Agreement between Merced Irrigation District (MID) and The Regents of the University of California (MID) (October 7, 2009)</b>	
	Section 9 (regarding insurance requirements)	This section is not applicable.
	Section 12 (regarding payment to MID)	This section is not applicable.
<b>7</b>	<b>Non-exclusive Crossing Agreement between Merced Irrigation District (MID) and The Regents of the University of California (MID) (February 18, 2011)</b>	
	Section 8 (regarding payment to MID)	This section is not applicable.
<b>8</b>	<b>General Permit For Waste Discharge Requirements (WDRs) for Storm Water Discharges From Small Municipal Separate Storm Sewer Systems (MS4s) Order No. 2013-0001-DWQ NPDES No. Cas000004 (February 5, 2013)</b>	
	Section F.5.a ("Program Management Element")	This section is not applicable.
	Section F.5.b ("Education and Outreach Program")	Sections F.5.b.1, F.5.b.2, F.5.b.3(iii), and F.5.b.4(iii) are not applicable.
	Section F.5.c ("Public Involvement and Participation Program")	This section, with the exception of Section F.5.c(ii)(a), is not applicable.
	Section F.5.d ("Illicit Discharge Detection And Elimination Program")	Sections F.5.d.1(iii), F.5.d.2(iii), F.5.d.3(iii) are not applicable.
	Section F.5.e ("Construction Site Runoff	Section F.5.e(iii) is not applicable.

	Control Program")	
	Section F.5.f ("Pollution Prevention/Good Housekeeping For Permittee Operations Program")	Sections F.5.f.1(iii), F.5.f.2(iii), F.5.f.3(iii), F.5.f.4(iii), F.5.f.5(iii), F.5.f.6(iii), F.5.f.7(iii), F.5.f.8(iii), F.5.f.9(iii) are not applicable.
	Section F.5.g ("Post Construction Storm Water Management Program")	Sections F.5.g.1(iii), F.5.g.2(iii), F.5.g.4(iii) are not applicable.
	Section F.5.h ("Program Effectiveness Assessment And Improvement")	Sections F.5.h.1(iii), F.5.h.2(iii) are not applicable.
	Section F.5.j ("Online Annual Reporting")	This section is not applicable.
<b>9</b>	<b>Clean Water Act Section 404 Permit for the fill of waters of the United States resulting from the UC Merced Campus and Community North (SPK-1999-00203) (April 29, 2009 as extended March 15, 2012)</b>	
	General Condition 4	This section is not applicable: "If you sell the property associated with this property..."
	Special Condition 3	This section is not applicable: "You shall implement the off-site wetland restoration and creation component..."
<b>10</b>	<b>California Department of Fish and Game Incidental Take Permit No. 2081-2009-010-04 (April 6, 2011)</b>	
	Section 5.1 ("Designated Representative")	This section is not applicable.
	Section 5.2 ("Designated Biologist")	This section is not applicable.
	Section 5.5	The following portion of this section is not applicable: "The Permittee shall also maintain a continuous public education program to inform the students, residents, and staff of sensitive resource protection needs."

	("Education Program")	
	Section 5.6 ("Construction Monitoring Notebook")	This section is not applicable.
	Section 5.11 ("Delineation of Property Boundaries")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 5.9 ("Animal Control Program")	This section is not applicable.
	Section 6.3 ("Compliance Monitoring")	This section is not applicable.
	Section 6.4 ("CNDDB Observations")	This section is not applicable.
	Section 6.5 ("Monthly Compliance Report")	This section is not applicable.
	Section 6.6 ("Annual Status Report")	This section is not applicable.
	Section 6.7 ("Final Mitigation Report")	This section is not applicable.
	Section 7.1 ("California Tiger Salamander Surveys")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 7.2 ("California Tiger Salamander Relocation Plan")	This section is not applicable for the Project Site and the Ancillary Site.

	Section 7.4 ("Small Mammal Burrow Excavation")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 7.5 ("California Tiger Salamander Exclusion Fencing")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 7.6 ("Rain Forecast")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 7.19 ("San Joaquin Kit Fox Survey")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 7.21 ("Replacement San Joaquin Kit Fox Dens")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 7.23 ("Salvage Plan")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 7.24 ("Botanical Surveys")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 7.25 ("Placement of Exclusion Fencing")	This section is not applicable for the Project Site and the Ancillary Site.
	Section 8 ("Habitat Management Land Acquisition")	This section is not applicable.
	Section 9 ("Performance Security")	This section is not applicable.
<b>11</b>	<b>Amendment No. 2 to California Department of Fish and Game Incidental Take Permit No. 20812009-010-04 (December 17, 2015)</b>	

	Section 1 (related to “Project Location” section)	This section is not applicable.
	Section 2 (related to “Project Description” section)	This section is not applicable.
	Section 3 (related to “Impacts of the Taking on Covered Species” section)	This section is not applicable.
	Section 4 (related to “Impacts of the Taking on Covered Species” section)	This section is not applicable.
	Section 10 (related to “Habitat Management Land Acquisition” section)	This section is not applicable.
<b>12</b>	<b>Final Biological Opinion on the Proposed University of California Merced Campus, Phase 1 and Campus Buildout (Corps # 199900203) and Infrastructure Project (Corps # 200100570) (August 19, 2002)</b>	
	Campus Operations and Maintenance Measures	<p>The following sections are not applicable:</p> <ul style="list-style-type: none"> <li>▪ “Implement a continuous public education program. The University will implement a continuous public education program to inform students, staff, and faculty of the sensitive resources within undeveloped areas of the Campus and on lands adjacent to the Campus to promote the need to protect these resources. The program will be implemented through media and direct contact methods, outreach, signage, and interpretive exhibits.</li> <li>▪ Establish Campus-wide leash rules and an animal control program. The University will adopt rules requiring that pets be leashed and develop an animal control enforcement program to discourage movement of free ranging dogs onto adjacent lands that are occupied or suitable for listed species.</li> <li>▪ Minimize use of herbicides and other pesticides. The University will incorporate procedures into its management of developed ornamental landscapes and undeveloped lands to minimize pesticide use and to avoid and minimize potential for effects on listed species from movement of herbicides and other</li> </ul>



		<p>pesticides (e.g., through drift or runoff). This program will include development of a pesticide use plan as part of an overall Integrated Pest Management (IPM) plan for the Main Campus that specifies restrictions and conditions of pesticide application. Control of runoff was addressed previously in Campus Design Measures.</p> <ul style="list-style-type: none"> <li>▪ Develop an invasive species control program. The University will control invasive weeds that may pose threats to sensitive resources on surrounding lands by restricting landscape use of species that may pose threats, establishing an ongoing IPM program for weed control on developed lands, and controlling weed populations that establish on the Campus during construction activities or on vacant Campus lands prior to development activities.</li> <li>▪ Develop a management plan for the management of conservation lands. The University will prepare a Management Plan to establish the management measures and maintenance of preserve lands and to protect listed species on all lands that will be controlled by the University through ownership or acquisition of conservation easements and for lands under Wildlife Conservation Board (WCB) easements. Lands under University ownership include the Campus Natural Reserve and the Virginia Smith Trust Remainder Property that will be placed under conservation easement, and any other lands for which title or easements are acquired by the University itself as part of the UC Merced Project. Under the Management Plan, these lands will be actively managed. Lands which have been or will be acquired by the WCB also will be covered by the Management Plan, although they may be managed differently from University-owner easement lands and their management will not be the University's responsibility. The Management Plan will be prepared in consultation with the Service and CDFG as specified in the Parameters, and will provide an umbrella strategy for the management of the preserve lands as a whole, taking into account the different levels of management and methods of financing that may apply to various properties. The Management Plan will specify management policies and practices to limit and control human access, approve and manage research and educational uses, control pets and nonnative animal and plant species, conduct livestock grazing, prevent and control wildfire, and enhance habitat conditions."</li> </ul>
	Compensation Measures for the Proposed Actions	<p>The following sections are not applicable:</p> <ul style="list-style-type: none"> <li>▪ "Identify Appropriate Ownership of Preserve Lands. For conservation lands currently owned in fee by the University, the University will identify the appropriate conservation entity (e.g., NRS, UC, or other conservation entity) to hold fee title and/or conservation easements to the preserve lands in perpetuity. For WCB acquired conservation lands, the WCB will identify the appropriate conservation entity. All conservation easements for future Preserve Land acquisitions will be reviewed and approved by the Service to ensure that (1) the lands sought for protection are appropriate to serve as mitigation; and (2) the easements themselves contain, among other things, appropriate use restrictions, management requirements and provisions for monitoring by the Service and the Corps.</li> <li>▪ Identify Management Budgets and Funding. The University will establish appropriate funding mechanisms and a budget for the perpetual management and monitoring of the CNR and Virginia Smith Trust (VST)</li> </ul>

		<p>Remainder Property lands. Additional funding will be identified for the management of preserve lands acquired after issuance of the BO, depending on the level of management necessary to meet the compensation requirements of the project. As specified in the Parameters, the University will ensure the availability of adequate financing to implement the Management Plans.</p> <ul style="list-style-type: none"> <li>▪ Identify Wetland Habitat Restoration Actions. The Plan will describe all lands and wetland areas to be preserved, enhanced, restored, or created. It will also clearly describe all conservation measures to be implemented. The Project Compensation Plan will define the applicable preserve criteria, habitat restoration protocol, and success criteria for special-status species on the conservation lands.</li> <li>▪ Identify Management Programs. The Project Compensation Plan will establish a long-term protocol for management and maintenance of habitats for special-status species occurring in CNR and VST Remainder Property lands and will identify management practices which could be implemented on future WCB preserve lands. Funding assurances to support management on the CNR and VST Remainder Property will be reviewed and approved by the Service, CDFG, and the Corps.</li> <li>▪ Prepare a Comprehensive Monitoring Program. A monitoring program will be developed that described the monitoring requirements for each compensation area. The monitoring program will identify specific methods and performance standards that must be achieved for conservation applied to each species. Monitoring will address basic compliance (e.g., were required action performed?), and effectiveness questions (i.e., were the actions successful in accomplishing the compensation goals of the plans?).</li> <li>▪ Surveys will be conducted by qualified specialists to monitor the status of listed species on compensation lands. The surveys will monitor progress over a 10-year period (or as otherwise required in the plan) in meeting the success criteria specified in the Project Compensation Plan for each site. The monitoring plan also will identify needs for adaptive management. Access will be specified for the Service, CDFG, and the Corps to verify management and monitoring results and compliance with the BO and Section 404 permit.</li> <li>▪ Identify Adaptive Management Protocols. The Plan will contain adaptive management components that will describe the process by which monitoring results will be used to evaluate the effectiveness of management activities, how the management program or species practices may be modified to achieve the compensation objectives of the site, and when and how approvals for such changes will be acquired.</li> <li>▪ In order to fulfill the above requirements and as specified in the Parameters, the Compensation Plan will incorporate: <ul style="list-style-type: none"> <li>○ a review by the Service and CDFG of existing and pending easements to evaluate their applicability for conservation of protected species in the Study Area;</li> <li>○ measures to provide funding for management and monitoring of the CND and VST Remainder and preserve lands secure for wetland creation or restoration;</li> </ul> </li> </ul>
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		<ul style="list-style-type: none"> <li>○ establishment of a kit fox movement corridor to the north and east of the Applicants' Proposed Projects;</li> <li>○ other possible actions (e.g., passage over canals) to enhance kit fox movement;</li> <li>○ compensation of any unavoidable effects on Conservancy fairy shrimp by preservation of Service-approved habitats;</li> <li>○ for effects on San Joaquin Orcutt grass, Colusa grass, fleshy owl's-clover, hairy Orcutt grass, Greene's tuctoria, Hoover's spurge, Bogg's Lake hedge-hyssop, or Hartweg's golden sunburst, preservation of habitat occupied by these species;</li> <li>○ preservation of occupied habitat for effects on all special status plant species evaluated in the Supplement Biological Assessment; and,</li> <li>○ development and implementation of a restoration/creation plan for effects on vernal pools and associated habitats that focuses on areas supporting vernal pool "signatures" or other suitable sites and that includes an appropriate monitoring plan and financial assurances."</li> </ul>
	Adopted Conservation Measures for Phase 1 Campus Project Construction Measures	<p>The following sections are not applicable:</p> <ul style="list-style-type: none"> <li>▪ "Designate an environmental monitor."</li> <li>▪ "Reports will be submitted to the Service and CDFG."</li> <li>▪ "The following measures will be coordinated with CDFG and the Service. <ul style="list-style-type: none"> <li>○ Winter surveys will be conducted at vernal pools and ponds on the project site and in areas within 0.6 mile of the project site from which tiger salamanders could access the site.</li> <li>○ For construction activities within 0.6 mile of occupied breeding ponds, drift fences (or other effective salamander barriers) will be erected around the construction area before February 1 in the winter prior to the start of construction to exclude breeding salamanders from the construction site."</li> </ul> </li> <li>▪ "Monitor vernal pools adjacent to Phase I. The University will undertake monitoring of vernal pools adjacent to Phase I to evaluate whether conservation measures were effective in avoiding and minimizing effects on vernal pools and associated species. The monitoring program will be conducted for 5 years unless and until a subsequent permit is issued that authorizes the loss of the subject vernal pools."</li> <li>▪ "A total of seven vernal pools that are within 250 feet of the Phase 1 boundary (subject pools) will be monitored for effects of Phase I development. In addition, a similar number of vernal pools of similar characteristics (i.e. depths and plant communities) located clearly outside of any area of potential effect also will be monitored in a similar manner (reference pools). A comparison of monitoring results from the subject and reference vernal pools will be provided a basis of determining whether any observed changes in the character of subject pools are more likely to be a result of normal annual or seasonal</li> </ul>

		<p>variations or an indirect impact from adjacent development.”</p> <ul style="list-style-type: none"> <li>▪ “Monitoring will be conducted to characterize the duration and extent of inundation and turbidity in pools. To conduct monitoring, a staff gage (graduated in inches or 0.1 feet) will be installed in each subject and reference vernal pool. Water depths will be monitored on a biweekly basis throughout the rainy season until the vernal pools desiccate in the spring. Turbidity will be monitored by estimating visibility within pools and recording any other indications of suspended sediment. This type of vernal pool naturally has relatively low turbidity; higher turbidity would be considered as an indication of erosion or sedimentation upstream in the watershed.”</li> <li>▪ “Vegetation in each of the monitored vernal pool will be surveyed each spring during the height of the flowering period after the pools dry out. The relative abundance or cover of each species occurring in the pools will be identified. Each plant species observed in the vernal pool will be classified as a vernal pool endemic, vernal pool associate, other wetland species, or upland species. Vernal pool endemics are those species found almost exclusively in vernal pools. Vernal pool associates are those species that may be commonly found in vernal pools but are also commonly found in other types of seasonal wetlands. Other wetland species are those species that normally occur in wetlands but very rarely, if ever, are found in vernal pools. Subject and reference vernal pools will be compared on the basis of abundance or cover of individual species and by species categories. This monitoring by a qualified botanist.”</li> <li>▪ “In addition to the monitoring described above, the immediate perimeter of the Phase I site will be monitored on a monthly basis to determine if any trash, debris, or other materials have been disposed of outside the perimeter fence. This survey will also include monitoring to evaluate if any surface runoff from within Phase 1 is being released to adjacent lands. If any problems are identified, they will be immediately reported to the Service and the Corps and corrected.”</li> </ul> <p>The following section is not applicable for the Project Site and the Ancillary Site:</p> <p>“Preconstruction surveys will be conducted in construction area in accordance with the kit fox protocol described in the Service’s (1999a) Standardized Recommendations for Protection of the San Joaquin Kit Fox prior to or During Ground Disturbance. These surveys will be conducted in areas of suitable annual grassland habitat to be disturbed on the Phase I Campus site and within a 250-foot buffer around such areas. Surveys will be completed prior to any ground disturbance to eliminate or minimize any possibility of injuring or harassing this kit foxes. Preconstruction surveys for kit fox dens will be conducted no more than 30 days prior to any construction-related activities. Dens found to be inactive within the site or buffer will be hand excavated by a biologist to a depth at which the den becomes fewer than 4 inches in diameter.”</p>
	Adopted Environmental Commitments for the Infrastructure Project	<p>The following section is not applicable:</p> <ul style="list-style-type: none"> <li>▪ “Compensation Element: The Compensation Element provides for the development of compensation measures based on compensatory mitigation standards which require that all impacts to wetland habitat and species be mitigated fully by achieving no net loss of wetland functions and values within the region</li> </ul>

		over the life of the Infrastructure Project. The mitigation standards will be based upon an evaluation of site-specific habitat functions and values. No fewer than 3 acres of wetlands will be preserved, enhanced, restored and/or created for each acre of wetlands preserved. Associated upland habitats will be preserved at no fewer than 9 acres of upland for each acre of wetland preserved.”
	Incidental Take Statement	<p>The following section is not applicable.</p> <ul style="list-style-type: none"> <li>▪ “The Applicants must provide the Service with annual reports to describe the progress of implementation of all the commitments in the Conservation Measures of this biological opinion. The first report is due January 31, the first year after groundbreaking, and annually thereafter, until performance criteria are met.”</li> </ul>
	Conservation Recommendations	<p>The following sections are not applicable:</p> <ul style="list-style-type: none"> <li>▪ “The University and County should assist in the Service in implementing recovery actions identified in the Valley Elderberry Longhorn Beetle Recovery Plan, Recovery Plan for Upland Species of the San Joaquin Valley, California, the Pacific Bald Eagle Recovery Plan, and the Recovery Plan for Vernal Pool Species (in preparation).</li> <li>▪ Conduct scientific studies on the California tiger salamander and midvalley fairy shrimp to support conservation activities.</li> <li>▪ Evaluate species of concern, particularly the midvalley fairy shrimp and the California tiger salamander, and their associated habitats to assess possible adverse effects of the UC Merced campus and community and implement Conservation Measures that could protect these species.</li> <li>▪ Implement actions to conserve the California tiger salamander and midvalley fairy shrimp in eastern Merced County.</li> <li>▪ Provide outreach to the public and to schools on protecting listed species, establishing safe harbors, forming partnership that foster conservation, and habitat conservation planning.</li> <li>▪ The University of California should review current management on lands it holds conservation easements for, to determine compatibility with wildlife use, and adjust if appropriate and feasible.</li> <li>▪ The University should coordinate with the Service, CDF, the County and private landowners to continue to participate in the development of an NCCP/HCP consistent with the planning agreement.”</li> </ul>

13	<b>Amendment to Formal Section 7 Consultation on the University of California, Merced Campus and Community North Project (Corps # 199900203), Merced County, California (April 28, 2009)</b>	
	Conservation Measures	<p>The following sections are not applicable:</p> <p>“This section describes conservation measures that the University and the County have agreed to apply in order to avoid, minimize, and compensate for potential effects that the Proposed Actions could have on listed species. The following contains a summary of the general conservation measures for the Proposed Action.</p> <ul style="list-style-type: none"> <li>• Protection and conservation management for 6,430 acres of UC-owned mitigation lands adjacent to the UC Merced Campus (including the VST, CNR, and UCLC-owned Myers Easterly property), the adjacent 3,070-acre CST lands, and the 91-acre Myers Easterly parcel (Tier 1 mitigation lands) (Figure 3; Table 2).</li> <li>• Acquisition of conservation easements on an additional 17,141 acres of high-value private lands in eastern Merced County (Tier 2 lands).</li> </ul> <p>Acquisition and enhancement or creation of an additional, currently unquantified area of land to mitigate for losses of jurisdictional wetlands and other waters of the U. S. (Gibson and Skordal 2008).”</p>

## APPENDIX 24

### FORM OF EARLY WORKS AGREEMENT

#### THE REGENTS OF THE UNIVERSITY OF CALIFORNIA UC Merced 2020 Project

#### EARLY WORKS AGREEMENT

THIS EARLY WORKS AGREEMENT is made and entered into as of this \_\_\_\_\_ day of \_\_\_\_\_ 2016, by and between The Regents of the University of California (the “**Owner**”) and Plenary Properties Merced LLC (“**Successful Proposer**”), with reference to the following facts:

A. The Owner issued a Request for Proposals for the UC Merced 2020 Project on January 11, 2016, as amended by addenda (as amended, the “**Original RFP**”), as further amended by a Request for Revised Proposal issued on June 7, 2016, as amended by addenda (as amended, the “**RFRP**”). The Original RFP, as amended by the RFRP, is hereinafter referred to as the “**RFP**.”

B. On June 17, 2016, the Owner notified Successful Proposer that it has been selected as the Successful Proposer for the Project.

C. The Instructions to Proposers contained in the RFP provides for the execution and delivery of the Early Works Agreement between the Owner and Successful Proposer upon selection of Successful Proposer.

D. The purposes of this Early Works Agreement are to (1) permit Successful Proposer to commence the Early Works prior to execution of the Project Agreement, (2) compensate Successful Proposer for the Early Works performed if Financial Close is not achieved, and (3) provide for reimbursement of amounts paid by the Owner to Successful Proposer for the Early Works if Financial Close is achieved.

NOW, THEREFORE, Successful Proposer hereby agrees as follows:

#### SECTION 1. DEFINITIONS

(a) Initially capitalized terms not otherwise defined herein shall have the meanings set forth in Volume I or Volume II, as applicable, of the RFP. The following capitalized terms, when used in this Early Works Agreement, have the meanings set forth below:

“**Claim**” means any claim, loss, liability, damage, cost, judgment, fee, penalty, charge, or expenses (including attorneys’ fees and costs).

“**Contract**” means any agreement, and any supplement or amendment thereto, by Successful Proposer with any other Person, Contractor or Supplier to perform any part of the Early Works or provide any materials, equipment or supplies for any part of the Early Works, or any such agreement, supplement or amendment at a lower tier, between a Contractor and its lower tier Contractor or a Supplier and its lower tier Supplier, at all tiers. The term “Contract” excludes Utility Agreements.

**“Contractor”** means any Person with whom Successful Proposer has entered into any Contract to perform any part of the Early Works or provide any materials, equipment or supplies for the Early Works, on behalf of Successful Proposer, and any other Person with whom any Contractor has further subcontracted any part of the Early Works, at all tiers.

**“Design Development Commencement Date”** has the meaning set forth in Section 3(a)(iii)(D) of Appendix 1 of this Early Works Agreement.

**“Early Construction Work”** has the meaning set forth in Section 2(a) of Appendix 1 of this Early Works Agreement.

**“Early Design Work”** has the meaning set forth in Section 1(a) of Appendix 1 of this Early Works Agreement.

**“Early NTP 2”** means a written notice issued by the Owner to Successful Proposer authorizing Successful Proposer to proceed with the Early Construction Work.

**“Early Submittal Development”** means the development of Submittals, as more particularly described in Section 3 of Appendix 1 of this Early Works Agreement

**“Early Works”** means, collectively, the Early Submittal Development, the Early Design Work and the Early Construction Work, and related progress meeting and reporting obligations described in Section 4 of Appendix 1 of this Early Works Agreement.

**“Early Works Cap Amount”** means Thirty-five Million United States Dollars (US\$35,000,000).

**“Early Works Insurance Policies”** means the insurance policies to be procured by Successful Proposer on the terms and conditions set forth in Appendix 3 of this Early Works Agreement.

**“Early Works Payment Bond”** means a payment bond in an amount equal to 100% of the value of the Early Works, securing the design-build contractor’s obligation to pay for labor and materials in connection with the Early Works, which bond shall be in the form set forth in Appendix 15-B of Volume I of the RFP, except: (a) references to “Project Agreement” shall be replaced with this Early Works Agreement; (b) references to “Developer” shall be replaced with Successful Proposer; and (c) references to “Project” shall be replaced with Early Works.

**“Early Works Performance Bond”** means a performance bond in an amount equal to 100% of the value of the Early Works, securing performance of the Early Works, which bond shall be in the form set forth in Appendix 15-A of Volume I of the RFP, except: (a) references to “Project Agreement” shall be replaced with this Early Works Agreement; (b) references to “Developer” shall be replaced with Successful Proposer; and (c) references to “Project” shall be replaced with Early Works.

**“Early Works Records”** has the meaning set forth in Section 5.1 of this Early Works Agreement.

**“Early Works Site”** means the Project Site, the Ancillary Site and the Bellevue Intersection Site.



**“Early Works Termination Date”** means the earlier of: (a) the date of Financial Close; and (b) the date of termination of this Early Works Agreement pursuant to Section 9 of this Early Works Agreement.

**“Equity Member”** means any Person with a direct equity interest in Successful Proposer.

**“Monthly Report”** has the meaning set forth in Section 6.2 of this Early Works Agreement.

**“Owner Default”** has the meaning set forth in Section 8.3 of this Early Works Agreement.

**“Project Agreement”** means the execution version of Volume I of the RFP executed and delivered by the Owner and Successful Proposer as of the Effective Date.

**“Proposer Default”** has the meaning set forth in Section 8.1 of this Early Works Agreement.

**“Qualified Investor”** means any Equity Member, Plenary Group (Canada) Ltd., Plenary Group Concessions Ltd., PGC US Holdco Ltd., Plenary Group USA Concessions Ltd. (Delaware), Plenary Investments V America Ltd. (Delaware), or Plenary Properties Merced HoldCo Ltd. (Delaware).

**“Revised Proposal”** means the revised proposal submitted by Successful Proposer in response to the RFRP.

**“Successful Proposer”** means Plenary Properties Merced LLC, and its permitted successors and assigns.

**“Successful Proposer-Related Entities”** means: (a) Qualified Investors; (b) Contractors (including Suppliers); (c) any other Persons performing any of the Early Works; (e) any other Persons for whom Successful Proposer may be legally or contractually responsible; and (f) the employees, agents, officers, directors, shareholders (but excluding shareholders of publicly traded companies), representatives, consultants, successors, assigns and invitees of any of the foregoing.

**“Supplier”** means any Person not performing work at or on the Early Works Site that supplies machinery, equipment, materials, hardware, software, systems or any other appurtenance to the Project to Successful Proposer or to any Contractor in connection with the performance of the Early Works. Persons who merely transport or deliver materials, parts or equipment or any other items or persons to or from the Early Works Site shall not be deemed to be performing Early Works at the Early Works Site.

**“Termination for Convenience”** has the meaning set forth in Section 9.1(a) of this Early Works Agreement.

**“Work Product”** means all work product (including written and electronic correspondence, exhibits, photographs, reports, printed material, tapes, disks, designs, concepts, ideas, technology, techniques, methods, processes, drawings, reports, plans, specifications, and other graphic and visual aids) generated or developed by or on behalf of Successful Proposer in connection with this Early Works Agreement.

(b) For purposes of this Early Works Agreement, references in the RFP to “Work Site” shall mean the “Early Works Site.”

## **SECTION 2. PURPOSE AND INTENT OF EARLY WORKS AGREEMENT**

The purpose of this Early Works Agreement is to allow Successful Proposer to commence the Early Works pending Financial Close on the Project and execution of the Project Agreement.

## **SECTION 3. EARLY WORKS**

(a) The scope of work to be performed under this Early Works Agreement shall be limited to the Early Works.

(b) Successful Proposer shall perform the Early Works in accordance with (i) Best Management Practice, (ii) all requirements, terms and conditions set forth in Volumes I through III of the RFP, (iii) all applicable Laws, and (iv) the requirements, terms and conditions set forth in all Governmental Approvals required for the Early Works.

(c) Successful Proposer shall commence (or continue, as applicable) the Early Design Work promptly upon execution and delivery of this Early Works Agreement by the Owner and Successful Proposer.

(d) Successful Proposer shall not commence or permit commencement of the Early Construction Work, or any portion thereof, until the Owner's issuance of Early NTP 2 for the Early Construction Work. The Owner shall issue Early NTP 2 when all of the conditions of this Section 3(d) have been satisfied, provided that in no event shall Early NTP 2 be issued prior to August 1, 2016:

- i. The Early Works Performance Bond and the Early Works Payment Bond have been obtained and are in full force and effect, and Successful Proposer has delivered to the Owner the originals of the bonds;
- ii. The Early Works Insurance Policies have been obtained and are in full force and effect, and Successful Proposer has delivered to the Owner written binders of insurance verifying coverage from the relevant insurers of such policies;
- iii. All Governmental Approvals (other than Owner-Provided Approvals) necessary to begin the applicable portions of the Early Construction Work have been obtained and Developer has furnished to the Owner fully executed copies of such Governmental Approvals other than the Owner-Provided Approvals;
- iv. All applicable pre-construction requirements contained in the Governmental Approvals for the Early Construction Work have been satisfied; and
- v. Successful Proposer has caused to be developed and delivered to the Owner, and the Owner has approved, (A) the Preliminary Project Schedule meeting the requirements of Section 3(a)(iii) of Appendix 1 to this Early Works Agreement, and (B) the Project Management Plan meeting the requirements of Section 3(a)(ii) of Appendix 1 to this Early Works Agreement.

(e) Upon issuance of Early NTP 2 but in any event no earlier than August 1, 2016, the Owner will grant to Successful Proposer and its Contractors the right to enter onto the Early Works Site until the Early Works Termination Date for purposes of carrying out the Early Construction Work, subject to and in accordance with the terms and conditions of this Early Works Agreement and Volumes I through III of the RFP and in compliance with the provisions of

all agreements, easements, rights of entry, Governmental Approvals and other instruments under which the Owner has received title, rights of entry or rights of access on or to lands within the Early Works Site. The Owner may, in its sole discretion, grant limited access to Successful Proposer to portions of the Early Works Site and authorize performance of limited investigative work (e.g., potholing, investigating manholes) therein prior to issuance of Early NTP 2, subject to such terms and conditions as may be specified by the Owner in its sole discretion.

(f) Successful Proposer shall comply, and shall ensure that its applicable Contractors comply, with the requirements set forth in Sections 8.9 and 8.12 of Volume I of the RFP in connection with the Early Construction Work.

(g) Following execution of the Early Works Agreement, the Owner and Successful Proposer will cooperate in good faith to finalize the detailed contract language in Volume II (Technical Requirements) to reflect the changes agreed upon between the parties, as described in Attachment 1, Section 2 of the RFRP.

## **SECTION 4. ACHIEVEMENT OF FINANCIAL CLOSE**

If the Owner and Successful Proposer achieve Financial Close on the Project:

(a) Concurrently with achievement of Financial Close, Successful Proposer shall reimburse the Owner for all amounts paid by the Owner to Successful Proposer pursuant to Section 6 of this Early Works Agreement;

(b) This Early Works Agreement shall terminate, and all Early Works performed under this Early Works Agreement shall be deemed Work performed under the Project Agreement (and, without limiting the foregoing, references in Section 17.4 of the Project Agreement to (i) "Developer" shall be deemed to include "Successful Proposer," (ii) "Developer-Related Entities" shall be deemed to include "Successful Proposer-Related Entities," and (iii) "Contract Documents" shall be deemed to include this Early Works Agreement and provisions of Volumes I through III of the RFP applicable to the Early Works);

(c) If a Relief Event occurs during the performance of the Early Works under this Early Works Agreement, Successful Proposer will be entitled to submit a Relief Event Claim for such Relief Event under Article 10 of the Project Agreement following Financial Close, subject to the limitations and exceptions expressly provided in the Project Agreement, provided that Successful Proposer shall have delivered to the Owner a corresponding Relief Event Notice in accordance with Section 10.2.1 of Volume I of the RFP and shall have complied with Sections 10.2.2 and 10.2.3 of Volume I of the RFP. Without limiting the foregoing, for purposes of Relief Events occurring during the performance of the Early Works under this Early Works Agreement, the provisions of Section 10.1.2 of Volume I of the RFP shall apply; and

(d) Successful Proposer shall not be entitled to any compensation for Early Works performed under this Early Works Agreement beyond what is contemplated in the Project Agreement.

## **SECTION 5. RECORDS AND MONTHLY REPORTS**

### **5.1 Records**

During the performance of the Early Works, Successful Proposer shall keep and maintain in Merced, California, or other location approved by the Owner in writing, all books, records and documents relating to Early Works, including copies of all original documents delivered to the

Owner, Tax records, and all books of account, supporting documents, and papers that the Owner deems necessary to ensure compliance with Volumes I through III of the RFP (collectively, “**Early Works Records**”).

## **5.2 Audits**

The Owner reserves the right to conduct an audit of all Early Works Records at any time. Successful Proposer shall make all Early Works Records available for inspection and audit by the Owner or its representative at a location reasonably approved by the Owner in writing, at all times during normal business hours, without charge. Successful Proposer shall provide to the Owner copies thereof as and when reasonably requested by the Owner. The Owner may conduct any such inspection upon 48 hours’ prior written notice, or unannounced and without prior notice where there is good faith suspicion of fraud or criminal activity. The right of inspection includes the right to make extracts and take notes. The Owner may also require submittal of the records from Successful Proposer. Without limiting the foregoing, the Owner or its representatives shall have such rights to review and audit Successful Proposer and its Early Works Records as the Owner deems necessary for purposes of verifying compliance with Volumes I through III of the RFP and applicable Law.

## **SECTION 6. COMPENSATION FOR EARLY WORKS**

### **6.1 Compensation**

(a) Subject to Section 6.2 of this Early Works Agreement and the other provisions of this Section 6.1, Successful Proposer shall be compensated for performance of the Early Works as follows:

- i. With respect to Early Design Work, an amount equal the number of hours of Early Design Work performed multiplied by the applicable hourly rates set forth in Appendix 2 of this Early Works Agreement; and
- ii. With respect to the Early Construction Work, the amount of Direct Costs incurred by Developer or its Contractors, as applicable, (as determined in accordance with Appendix 18 of Volume I of the RFP) to perform the Early Construction Work.

(b) The Owner shall have no responsibility to pay Successful Proposer for any Early Works performed by Successful Proposer that is beyond the scope of the Early Works set forth in Appendix 1 of this Early Works Agreement.

(c) Notwithstanding any other provision of this Early Works Agreement, Successful Proposer’s compensation for Early Works performed under this Early Works Agreement shall not exceed the Early Works Cap Amount. Successful Proposer is not entitled to compensation for any Early Works or other Work performed prior to June 17, 2016.

### **6.2 Monthly Payments**

(a) On the tenth (10<sup>th</sup>) day of each month following the effective date of this Early Works Agreement, up to and including the month of the Early Works Termination Date, Successful Proposer shall furnish to the Owner:

- i. A report, on a form approved by the Owner and certified by Successful Proposer’s Authorized Representative (each, a “**Monthly Report**”), (1) the following information regarding the Early Works performed in the immediately preceding

month, and (2) the total value of Early Works performed from the effective date of this Early Works Agreement to the end of the immediately preceding month:

1. A detailed description of the progress of the Early Works, broken down by Early Design Work and Early Construction Work;
  2. With respect to the Early Design Work:
    - A. Documentation indicating the number of hours of Early Design Work performed;
    - B. The names, classifications, and hourly rates of individuals who have performed the Early Design Work; and
    - C. The total value of Early Design Work performed by Successful Proposer in the immediately preceding month, as determined by multiplying the number of hours of Early Design Work performed in such month by the applicable hourly rates set forth in Appendix 2 of this Early Works Agreement;
  3. With respect to the Early Construction Work, a detailed breakdown of Direct Costs incurred by Developer or its Contractors, as applicable, (as determined in accordance with Appendix 18 of Volume I of the RFP) to perform such Early Construction Work.
- ii. An invoice, in a format acceptable to the Owner, for the total value of Early Works performed in the immediately preceding month, as described in the corresponding Monthly Report.

(b) Within 30 days of receipt of an invoice and corresponding Monthly Report, the Owner will pay the undisputed amount of the invoice, and if such amount is less than the full amount of the invoice submitted by Successful Proposer, Successful Proposer reserves the right to dispute the Owner's determination.

## **SECTION 7. REPRESENTATIONS, WARRANTIES AND COVENANTS**

### **7.1 Successful Proposer Representations, Warranties and Covenants**

(a) Successful Proposer has maintained and shall maintain, all required authority, license status, applicable licensing standards, certification standards, accrediting standards, professional ability, skills and capacity to perform the Early Works.

(b) Successful Proposer has evaluated the constraints affecting design of the Project and has reasonable grounds for believing and does believe that the Project can be designed within such constraints.

(c) Successful Proposer has familiarized itself with the requirements of any and all applicable Laws and the conditions of any required Governmental Approvals prior to entering into this Early Works Agreement.

(d) Successful Proposer shall be responsible for complying with all applicable Laws and conditions of any required Governmental Approvals at its sole cost and without any increase in compensation on account of such compliance.

(e) All Early Works furnished by Successful Proposer will be performed by or under the supervision of Persons who hold all necessary, valid licenses to practice in the State, by personnel who are skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the Early Works in accordance with Volumes I through III of the RFP and who shall assume professional responsibility for the accuracy and completeness of the Work Product and other documents prepared or checked by them.

(f) Successful Proposer is a limited liability company duly organized and validly existing under the laws of Delaware, has the requisite power and all required licenses to carry on its present and proposed activities, and has full power, right and authority to execute and deliver this Early Works Agreement and to perform each and all of the obligations of Successful Proposer provided for herein. Successful Proposer is duly qualified to do business, and is in good standing, in the State, and will remain in good standing for as long as any obligations remain outstanding under this Early Works Agreement.

(g) The execution, delivery and performance of this Early Works Agreement has been (or will be) duly authorized by all necessary corporate action of Successful Proposer; each person executing this Early Works Agreement has been (or at the time of execution will be) duly authorized to execute and deliver each such document on Successful Proposer's behalf; and this Early Works Agreement has been (or will be) duly executed and delivered by Successful Proposer.

(h) Neither the execution and delivery by Successful Proposer of this Early Works Agreement nor the consummation of the transactions contemplated hereby, is (or at the time of execution will be) in conflict with or has resulted or will result in a default under or a violation of the governing instruments of Successful Proposer or any other agreements or instruments to which it is a party or by which it is bound.

(i) This Early Works Agreement constitutes (or at the time of execution and delivery will constitute) the legal, valid, and binding obligation of Successful Proposer, enforceable against Successful Proposer in accordance with its terms, subject only to applicable bankruptcy, insolvency, and similar laws affecting the enforceability of the rights of creditors generally and the general principles of equity.

(j) There is no action, suit, proceeding, investigation or litigation pending and served on Successful Proposer which challenges Successful Proposer's authority to execute, deliver or perform, or the validity or enforceability against Successful Proposer of this Early Works Agreement, or which challenges the authority of Successful Proposer's representative executing this Early Works Agreement; and Successful Proposer has disclosed to the Owner any pending and un-served or threatened action, suit, proceeding, investigation or litigation with respect to such matters of which Successful Proposer is aware.

(k) To the extent the Lead Campus Planner, the Architectural Team, and/or the Infrastructure Engineering Team is not Successful Proposer, Successful Proposer represents and warrants as follows: (a) each of the Lead Campus Planner, each firm comprising the Architectural Team and the Infrastructure Engineering Team is duly organized, validly existing and in good standing under the laws of the state of its organization; (b) each of them has the power and authority to do all acts and things and execute and deliver all other documents as are required to be done, observed or performed by it in connection with its engagement by Successful Proposer; (c) each of them has all necessary expertise, qualifications, experience, competence, skills and know-how to perform the applicable portion of the Early Work of the Project in accordance with Volumes I through III of the RFP; and (d) each of them is not in

breach of any applicable Law that would have a material adverse effect on the Early Works or the Project.

(l) Successful Proposer certifies, by entering into this Early Works Agreement, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from entering into this Early Works Agreement by any federal agency or by any department, agency or political subdivision of the State. For purposes of this Section 7.1(l), the term "principal" means an officer, director, owner, partner, Key Personnel, employee, or other person with primary management or supervisory responsibilities, or a person who has a critical influence on or substantive control over the operations of Successful Proposer.

## **7.2 Owner Representations and Warranties**

The Owner represents and warrants to Successful Proposer as follows:

(a) The Owner is a California public corporation, duly formed and validly existing pursuant to Article IX, Section 9, of the California Constitution, and has full status, power, right and authority to execute, deliver and perform this Early Works Agreement and to perform each and all of the obligations of the Owner provided for herein and therein.

(b) This Early Works Agreement has been duly authorized by the Owner and constitutes a legal, valid, and binding obligation of the Owner enforceable against the Owner in accordance with its terms, subject only to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors and the general principles of equity.

(c) Each person executing this Early Works Agreement has been (or at the time of execution will be) duly authorized to execute and deliver each such document on behalf of the Owner; and this Early Works Agreement has been (or will be) duly executed and delivered by the Owner.

(d) Neither the execution and delivery by the Owner of this Early Works Agreement nor the consummation of the transaction contemplated hereby, is (or at the time of execution will be) in conflict with or will result in a default under or violation of Article IX, Section 9, of the California Constitution or any other agreements or instruments to which it is a party or by which it is bound.

(e) There is no action, suit, proceeding, investigation or litigation pending and served on the Owner which challenges the Owner's authority to execute, deliver, or perform, or the validity or enforceability against the Owner of this Early Works Agreement, or which challenges the authority of the Owner official executing this Early Works Agreement; and the Owner has disclosed to Successful Proposer any pending and un-served or threatened action, suit, proceeding, investigation or litigation with respect to such matters of which the Owner is aware.

## **7.3 Survival of Representations, Warranties and Covenants**

The representations, warranties and covenants of Successful Proposer and the Owner contained in this Section 7 shall survive the Early Works Termination Date, provided that if this Early Works Agreement is terminated due to achievement of Financial Close, the representations, warranties and covenants shall terminate in accordance with Section 4 of this Early Works Agreement.

## SECTION 8. DEFAULT

### 8.1 Default by Successful Proposer

Successful Proposer shall be in default of its obligations under this Early Works Agreement upon the occurrence of any one or more of the following events or conditions (each a “**Proposer Default**”):

(a) Successful Proposer fails to begin Early Design Work within ten (10) days following the Effective Date;

(b) Successful Proposer fails to comply with applicable Governmental Approvals and Laws in any material respect;

(c) Successful Proposer fails to perform the Early Works in accordance with this Early Works Agreement and applicable provisions of Volumes I through III of the RFP in any material respect;

(d) The circumstances described in Section 12(b) of this Early Works Agreement have occurred.

### 8.2 Initial Notice and Cure Period for Proposer Default

The Owner shall provide written notice to Successful Proposer of the occurrence of a Proposer Default. Upon receipt of the Owner’s notice, Successful Proposer shall have ten (10) days within which to cure the Proposer Default.

### 8.3 Default by Owner

The Owner shall be in breach of this Early Works Agreement if any representation or warranty made by the Owner under Section 7.2 of this Early Works Agreement is false or materially misleading or inaccurate when made in any material respect or omits material information when made (an “**Owner Default**”).

### 8.4 Initial Notice for Owner Default

Successful Proposer shall provide written notice to the Owner of the occurrence of an Owner Default.

## SECTION 9. TERMINATION

### 9.1 Termination for Convenience

(a) The Owner may, in its sole discretion, terminate this Early Works Agreement in whole if the Owner determines that a termination is in the Owner’s best interest (a “**Termination for Convenience**”). The Owner will deliver to Successful Proposer a written Notice of Termination for Convenience specifying the election to terminate and its effective date, which shall not be less than three (3) days following the date of delivery of such notice.

(b) In the event of a Termination for Convenience, the Owner shall pay compensation to Successful Proposer for Early Works performed by Successful Proposer prior to receiving the Notice of Termination for Convenience, subject to the limitations contained in Section 6.1 of this Early Works Agreement.



## **9.2 Termination for Proposer Default**

(a) If any Proposer Default occurs and has not been cured within the cure period set out in Section 8.2 of this Early Works Agreement, the Owner may terminate this Early Works Agreement with immediate effect upon written notice to Successful Proposer. The Owner will deliver to Successful Proposer a written Notice of Termination for Proposer Default specifying the election to terminate and its effective date, which shall not be less than three (3) days following the date of delivery of such notice.

(b) In the event of a Termination for Proposer Default, the Owner shall pay compensation to Successful Proposer for Early Works performed by Successful Proposer prior to receiving the Notice of Termination for Proposer Default, subject to the limitations contained in Section 6.1 of this Early Works Agreement.

## **9.3 Termination for Owner Default**

(a) In the event of a material Owner Default under Section 8.3 of this Early Works Agreement, Successful Proposer shall have the right to terminate this Early Works Agreement, effective immediately upon delivery of written notice of termination to the Owner.

(b) In the event of a Termination for Owner Default, the Owner shall pay compensation to Successful Proposer for Early Works performed by Successful Proposer prior to receiving the Notice of Termination for Owner Default.

## **9.4 Claims Arising Prior to Termination**

Termination of this Early Works Agreement under this Section 9 shall not relieve Successful Proposer or any guarantor or surety of its obligation for any Claims arising from the Early Works performed prior to such termination.

## **SECTION 10. INDEMNITIES AND SURETYSHIP**

(a) Successful Proposer shall indemnify, defend, and hold harmless the Owner and all of the Owner's officers, agents, representatives, employees, successors and assigns from any Claim asserted, incurred, suffered or awarded as a result of or that relate to any third party claims, suits, actions, allegations or proceedings arising out of or caused by any acts, actions, negligence, omissions, fault, willful misconduct, violation of law or breach of contract by Successful Proposer or any Successful Proposer-Related Entity arising out of or relating to services performed hereunder or the Work Product, whether direct or indirect, and whether to any person or property to which the Owner or said parties may be subject, except that Successful Proposer shall not be liable under this section for damages arising out of injury or damage to persons or property directly caused or resulting from the active negligence or willful misconduct of the Owner or any of its officers, agents, representatives or employees or the Owner's breach of its obligations under this Early Works Agreement. The foregoing indemnity shall survive any termination of this Early Works Agreement pursuant to Section 9 of this Early Works Agreement and shall expressly apply to and include all third party claims, suits, actions or allegations of infringement, confidential information, domestic or foreign patent rights, copyrights, intellectual property rights, moral rights, trade secrets, proprietary rights, licensing rights and unauthorized use.

(b) Successful Proposer's obligation to indemnify, defend, and pay for the defense or at the Owner's option, to participate and associate with the Owner in defense of any Claim and any related settlement negotiations, shall be triggered by the Owner's notice of claim for

indemnification to Successful Proposer. Only a final and unappealable adjudication or judgment specifically finding active negligence or willful misconduct of the Owner or any of its officers, agents, representatives or employees shall excuse performance of this provision. Successful Proposer shall pay all costs and fees related to this obligation and its enforcement by the Owner. The Owner's failure to notify Successful Proposer of a Claim shall not release Successful Proposer of the above duty to defend.

## **SECTION 11. NON-DISCRIMINATION**

In accordance with California Government Code § 12900 et seq., Successful Proposer shall not discriminate against any employee or applicant available for employment, to be employed in the performance of this Early Works Agreement, with respect to hire, tenure, terms, conditions or privileges of employment, because of his or her race, color, religion, sex, disability, national origin, or ancestry. Any violation of this covenant may result in the institution of penalties prescribed by law and may be regarded as a material breach of this Early Works Agreement. Successful Proposer's execution of this Early Works Agreement also signifies compliance with applicable local, state and federal laws, regulations, and executive orders prohibiting discrimination in the provision of services based on race, color, national origin, age, sex, disability or status as a veteran.

## **SECTION 12. NO FORCED LABOR**

(a) By executing this Early Works Agreement, Successful Proposer hereby certifies that no foreign-made equipment, materials or supplies furnished to the Owner pursuant to this Early Works Agreement will be produced in whole or in part by forced labor, convict labor or indentured labor under penal sanction.

(b) If Successful Proposer knew or should have known that the foreign-made equipment, materials or supplies furnished to the Owner were produced in whole or in part by forced labor, convict labor or indentured labor under penal sanction when entering into this Early Works Agreement, any or all of the following sanctions may be imposed:

- i. This Early Works Agreement may be terminated at the option of the Owner in accordance with Section 8.1(d) of this Early Works Agreement; and
- ii. Successful Proposer and any applicable Contractor may be removed from consideration for Owner contracts for a period not to exceed 360 days.

(c) Successful Proposer may protest any sanction imposed under Section 12(b) of this Early Works Agreement in accordance with the procedures set forth in Section III of the Administrative Guidelines on the Procurement of Foreign-Made Equipment, Materials, or Supplies Produced by Forced Labor, Convict, or Indentured Labor, issued on April 7, 1998, pursuant to the Owner's action of March 1977 instituting a University Policy on the Procurement of Foreign-Made Equipment, Materials or Supplies Produced by Forced Labor, Convict, or Indentured Labor.

## **SECTION 13. ASSIGNMENT**

(a) Successful Proposer shall not assign, transfer, pledge, sell, or otherwise convey this Early Works Agreement without the Owner's prior written consent, in its sole discretion. Any assignment of this Early Works Agreement without the required consent of the Owner shall be null and void and may, in the Owner's sole discretion, disqualify Successful Proposer from subsequent execution of the Project Agreement.

(b) The Owner may assign, transfer, pledge, sell, or otherwise convey this Early Works Agreement: (a) without Successful Proposer's consent, to any Person that succeeds to the governmental powers and authority of the Owner, and (b) to others with the prior written consent of Successful Proposer. Where consent is required but not given, any assignment of this Early Works Agreement shall be null and void.

#### **SECTION 14. MISCELLANEOUS**

(a) Successful Proposer acknowledges that all Work Product developed under this Early Works Agreement, whether completed or not, is property of the Owner.

(b) Successful Proposer agrees that the Work Product has been specially ordered and commissioned by the Owner, and that such Work Product shall be considered "work-made-for-hire," as that term is defined in Section 101 of Title 17 of the U.S. Code. To the extent that the Work Product, is determined by a court of competent jurisdiction, or the U.S. Copyright Office, not to be work-made-for-hire, Successful Proposer hereby agrees to assign to the Owner all right, title and interest in and to all designs, artwork, work product, copyrights, trade secret rights, trademarks, service marks, patents and other intellectual property used in the Work Product. Neither Successful Proposer nor any of its team members shall claim, retain, apply for, and/or register any U.S. or international intellectual property rights in the Work Product including, without limiting the generality of the foregoing, copyright or patent rights.

(c) Successful Proposer and the Owner agree that Successful Proposer, its Equity Members, Major Non-Equity Members, and other team members and their respective employees are not agents or representatives of the Owner as a result of this Early Works Agreement.

(d) All words used herein in the singular form shall extend to and include the plural. All words used in the plural form shall extend to and include the singular. All words used in any gender shall extend to and include all genders.

(e) This Early Works Agreement embodies the entire agreement of the parties with respect to the subject matter hereof. There are no promises, terms, conditions, or obligations other than those contained herein, and this Early Works Agreement shall supersede all previous communications, representation, or agreements, either verbal or written, between the parties hereto.

(f) It is understood and agreed by the parties hereto that if any part, term, or provision of this Early Works Agreement is by the courts held to be illegal or in conflict with any law of the State of California: (i) the parties shall promptly meet and negotiate a substitute for such clause, provision, section or part, which shall, to the greatest extent legally permissible, effect the original intent of the parties; and (ii) the validity of the remaining portions or provisions shall not be affected.

(g) This Early Works Agreement shall be governed by and construed in accordance with the laws of the State of California.

(h) This instrument may be executed in one or more counterparts, each of which shall be deemed an original, but all of which, together, shall constitute one and the same instrument.

(i) The parties agree that the exclusive original jurisdiction and venue for any legal action or proceeding, at law or in equity, arising out of this Early Works Agreement shall be a state court of competent jurisdiction in Alameda County, California.

IN WITNESS WHEREOF, this Early Works Agreement has been executed and delivered as of the day and year first above written.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

**“SUCCESSFUL PROPOSER”**

**PLENARY PROPERTIES MERCED LLC**  
**By its Sole Member,**  
**Plenary Group USA Concessions Ltd.:**

By: \_\_\_\_\_  
Name: Stuart Marks  
Title: Assistant Secretary

**“OWNER”**

**THE REGENTS OF THE UNIVERSITY OF CALIFORNIA**

By: \_\_\_\_\_  
Name: Nathan Brostrom  
Title: Executive Vice President –  
Chief Financial Officer

## **APPENDIX 1 TO EARLY WORKS AGREEMENT**

### **SCOPE OF EARLY WORKS**

#### **1. Early Design Work**

(a) Successful Proposer shall perform Design Work directly related to master planning, the Early Construction Work, the First Delivery Facilities and the Second Delivery Facilities (collectively, the “**Early Design Work**”).

(b) Except as otherwise expressly provided in this Early Works Agreement, Successful Proposer shall perform the Early Design Work in accordance with requirements set forth in Volumes I through III of the RFP that would be applicable to such Design Work if performed under the Contract Documents.

#### **2. Early Construction Work**

(a) Upon issuance by the Owner of Early NTP 2, Successful Proposer may perform the following Construction Work as required to meet the Preliminary Project Schedule (collectively, the “**Early Construction Work**”):

- (i) Clear and grub the site in preparation for mobilization;
- (ii) Temporary Utility installation;
- (iii) Site fencing;
- (iv) Site trailer installation;
- (v) Construction access modifications;
- (vi) Grading;
- (vii) Underground Utilities; and
- (viii) Earthwork.

(b) To the extent Successful Proposer performs Early Construction Work under this Early Works Agreement, Successful Proposer shall comply, and shall cause its Contractors to comply, with the requirements set forth in Volumes I through III of the RFP that would be applicable to such Construction Work if performed under the Contract Documents, except as otherwise expressly provided in this Early Works Agreement. Without limiting the foregoing, the provisions of Sections 3, 4.10 and 4.11 of Volume I of the RFP and Sections 2.4 and 3.5 of Volume II of the RFP shall apply to the Early Construction Work.

#### **3. Early Works Submittals**

##### **(a) Plans and Preliminary Project Schedule**

Within 30 days following the effective date of this Early Works Agreement, Successful Proposer shall develop and submit to the Owner for approval the following in accordance with this Section 3(a):

- (i) Design Quality Management Plan;
- (ii) Project Management Plan;
- (iii) Preliminary Project Schedule;
- (iv) Project Master Plan;
- (v) Conceptual Design for “Building 3-M”; and
- (vi) Selected software platform for the PMCS.

**(i) Design Quality Management Plan**

Successful Proposer shall develop the Design Quality Management Plan in accordance with Section 2.5.1.3 of Volume II of the RFP.

**(ii) Project Management Plan**

Successful Proposer shall develop the Project Management Plan in accordance with Section 2.7.1.3 and Sections 2.7.2.1 through 2.7.2.4 of Volume II of the RFP, provided that Section 2.7.2.2 of Volume II of the RFP shall not apply.

**(iii) Preliminary Project Schedule**

Successful Proposer shall submit a Preliminary Project Schedule based on the preliminary project schedule and construction logistics/sequencing approach included with Successful Proposer’s Revised Proposal. The Preliminary Project Schedule shall include a Work Breakdown Structure (WBS) that:

- (A) Includes, for WBS levels 1.1 (Master Planning), 1.2 (Master Site Development) and 1.3 (Offsite Improvements), the scope of information and the levels of detail specified in Appendix 2 (Work Breakdown Structure) of Volume II of the RFP, at a minimum;
- (B) Includes, for WBS levels showing the development of program elements, commencing with WBS level 1.4 indicated in Appendix 2 (Work Breakdown Structure) of Volume II of the RFP, information and details that are specifically relevant to the Early Works;
- (C) Excludes WBS levels 1.7 (Substantial Completion) and 1.8 (Project Final Acceptance) indicated in Appendix 2 (Work Breakdown Structure) of Volume II of the RFP; and
- (D) Specifies the date on which Successful Proposer will commence design development work (the “**Design Development Commencement Date**”).

The WBS may be presented in an alternative format to that indicated in Appendix 2 (Work Breakdown Structure) of Volume II of the RFP, provided that Successful Proposer has included the scope of information and levels of detail required by this Section 3(a)(iii), and the alternative format is acceptable to the Owner and is consistent with Best Management Practice.

#### **(iv) Project Master Plan**

Successful Proposer shall develop the Project Master Plan in accordance with Sections 3.4.1 through 3.4.3 of Volume II of the RFP.

#### **(v) Conceptual Design for Building 3-M**

Successful Proposer shall develop and submit a conceptual “blocking and stacking” design for “Building 3-M” (as shown on the master sequencing plan submitted by Successful Proposer as part of its Revised Proposal) for review and comment by the Owner.

#### **(vi) Selected Software Platform**

Successful Proposer shall submit its selected software platform for the PMCS in accordance with Section 2.4.10.1.2 of Volume II of the RFP.

### **(b) Early Design Submittals**

Except as otherwise expressly provided in this Early Works Agreement, Successful Proposer shall comply with the requirements set forth in Appendix 4-B (Facilities Submittals) and Appendix 4-D (Utility Submittals) of Volume II of the RFP that would be applicable to the Early Works if performed under the Contract Documents, provided that Successful Proposer is not required to submit the Signage Master Plan, and provided further that references in such Appendices to the “Project Schedule” shall be deemed to mean the Preliminary Project Schedule.

The design submittal review provisions set forth in Section 3.4 of Volume I and Section 2.6 of Volume II of the RFP shall apply.

### **(c) FF&E**

Successful Proposer shall submit to the Owner, within 30 days following the effective date of this Early Works Agreement: (i) a detailed breakdown (including a breakdown of per unit direct costs and mark-ups at each tier) of Successful Proposer’s pricing for, and quantities of, the FF&E specified in Appendix 7 of Volume II of the RFP, as reflected in its Revised Proposal; and (ii) detailed recommendations of alternate or substitute products of similar quality as those specified in Appendix 7 of Volume II of the RFP that are commonly used in the higher education sector, together with applicable product data sheets and unit pricing. Following receipt and review of such information, the Owner may adjust the quantities and types of the FF&E specified in Appendix 7 of Volume II of the RFP, provided that the aggregate price of the FF&E after such adjustments (based on the information submitted by Successful Proposer hereunder) does not exceed the aggregate price of the FF&E (inclusive of mark-ups) included in Successful Proposer’s Revised Proposal. Developer shall cooperate in good faith with the Owner to facilitate any such changes, and any adjustments to the FF&E requirements hereunder will be reflected in the execution version of Appendix 7 of the Technical Requirements.

### **(d) PG&E**

On or prior to September 1, 2016, Successful Proposer shall submit to PG&E a complete application and all supporting documents required by PG&E to request an increase in service capacity of electricity and gas Utilities sufficient to meet the increased demand for such Utilities for each Facility.



#### **4. Progress Meetings and Progress Updates**

From the effective date of this Early Works Agreement until the Early Works Termination Date, Successful Proposer shall:

- (a) Conduct Progress Meetings in respect of the Early Works in accordance with Section 2.4.1.3 of Volume II of the RFP on (i) a bi-weekly basis following the effective date of this Early Works Agreement until the Design Development Commencement Date, and (ii) a weekly basis following the Design Development Commencement Date; and
- (b) Submit Monthly Progress Reports in respect of the Early Works in accordance with Section 2.4.1.5 of Volume II of the RFP.

## **APPENDIX 2 TO EARLY WORKS AGREEMENT**

### **RATE SCHEDULE – EARLY DESIGN WORK**

#### **Architectural Services**

Partner and Director	\$415 / hr
Associate Director	\$285 / hr
Associate	\$230 / hr
Technical Employees	
Group A	\$100 / hr
Group B	\$115 / hr
Group C	\$150 / hr
Group D	\$160 / hr
Group E	\$190 / hr
Group F	\$220 / hr

*All Technical Employees (Architects, Engineers, etc.) are assigned groups based on their education, experience, and responsibilities.*

#### **Systems Engineering Services**

Principal	\$280 / hr
Associate Principal	\$230 / hr
Associate	\$210 / hr
Sr. Engineer/Sr. Designer	\$180 / hr
Project Engineer II/Project Designer II	\$155 / hr
Project Engineer I/Project Designer I	\$145 / hr
Designer Level II	\$130 / hr
Designer Level I	\$120 / hr
Drafter	\$110 / hr
Administrative	\$85 / hr

#### **Structural Engineering Services**

Senior Vice President / Principal	\$285 / hr
Vice President	\$250 / hr
Senior Associate	\$215 / hr
Associate	\$200 / hr
Senior Project Engineer / Director	\$185 / hr
Project Engineer / Director	\$165 / hr
Senior Building Information Modeler	\$145 / hr
Senior Building Information Modeler	\$115 / hr
Senior Engineer/Architect/Designer	\$145 / hr
Engineer/Architect/Designer/Consultant	\$135 / hr
Administrative Support Staff	\$90 / hr

#### **Civil Engineering Services**

Principal	\$450 / hr
Project Manager	\$185 / hr
Senior Engineer	\$270 / hr
Project Engineer	\$170 / hr
Design Engineer III/ Designer III	\$155 / hr
Design Engineer II/ Designer II	\$145 / hr
Design Engineer I/ Designer I	\$130 / hr
CADD/GIS	\$140 / hr
Graphics	\$130 / hr
Project Assistant	\$90 / hr

## **APPENDIX 3 TO EARLY WORKS AGREEMENT**

### **EARLY WORKS INSURANCE POLICIES**

In connection with the performance of any Early Construction Work, Successful Proposer shall procure and maintain, or cause to be procured and maintained, the following insurance policies strictly in accordance with the applicable minimum coverage requirements and terms of coverage set forth in Section 17.1 and Appendix 8 of Volume I of the RFP, except as otherwise specified below:

	<b>Insurance Policy</b>	<b>Policy Limit</b>	<b>Policy Term</b>	<b>Other Terms/Conditions</b>
1.	Commercial General Liability	US\$2 million per occurrence  US\$4 million general aggregate  US\$4 million completed operations aggregate	Term of this Early Works Agreement	--
2.	Excess Liability	US\$10 million per occurrence and in the aggregate	Term of this Early Works Agreement	--
3.	Contractor Pollution Liability	US\$1 million per occurrence and in the aggregate	Term of Early Construction Work plus extended reporting period of 5 years	Deductible/Self-Insured Retention not to exceed US\$250,000 per occurrence
4.	Workers Compensation / Employers' Liability compliant with California Statute	Workers Compensation: Statutory  Employers' Liability: US\$1 million per occurrence US\$1 million disease per employee US\$1 million disease policy limit	Term of this Early Works Agreement	--
5.	Commercial Automobile Liability	US\$1 million combined single limit	Term of this Early Works Agreement	Deductible/Self-Insured Retention not to exceed US\$250,000

## **APPENDIX 25**

### **GOVERNMENTAL APPROVALS AND DEADLINES**

<b>Governmental Approval</b>	<b>Governmental Approval Deadline</b>
Approval(s) required from Merced County with respect to the design and construction of the Bellevue Intersection Improvements	60 days following submission of a complete application(s) and supporting documents in accordance with applicable requirements of Merced County and the Contract Documents
Review and comment by MID on initial submission of proposed plans and specifications for any bridge/driveway crossing over a Canal or Canal-Related Work (as defined in the MID Agreement), as applicable	20 days following submission of a complete application and supporting documents in accordance with applicable requirements of the MID Agreement and the Contract Documents
Review and comment, or approval, as the case may be, by MID of any resubmittal of the initially proposed or subsequently resubmitted plans and specifications	10 days following submission of a complete application and supporting documents in accordance with applicable requirements of the MID Agreement and the Contract Documents
Review and comment, or approval, as the case may be, by the Division of the State Architect of the 90% Construction Documents	45 days following submission of a complete application and supporting documents in accordance with applicable requirements of the Division of the State Architect and the Contract Documents
Review and comment, or approval, as the case may be, by the Division of the State Architect of any resubmittal of the 90% Construction Documents, as amended	21 days following submission of a complete application and supporting documents in accordance with applicable requirements of the Division of the State Architect and the Contract Documents
Review and comment, or approval, as the case may be, by the Building Official of the 90% Construction Documents	28 days following submission of a complete application and supporting documents in accordance with applicable requirements of the Building Official and the Contract Documents
Review and comment, or approval, as the case may be, by the Building Official of any resubmittal of the 90% Construction Documents, as amended	14 days following submission of a complete application and supporting documents in accordance with applicable requirements of the Building Official and the Contract Documents, including

	resolution of all prior comments received from the Building Official
Approval by Designated Campus Fire Marshal of the 90% Construction Documents	28 days following submission of a complete application and supporting documents in accordance with applicable requirements of the Designated Campus Fire Marshal and the Contract Documents
Approval by the Designated Campus Fire Marshal of any resubmittal of the 90% Construction Documents, as amended	14 days following submission of a complete application and supporting documents in accordance with applicable requirements of the Designated Campus Fire Marshal and the Contract Documents, including resolution of all prior comments received from the Designated Campus Fire Marshal
Any Governmental Approval required from the State Water Resources Control Board/Regional Water Quality Control Board	120 days following submission of a complete application and supporting documents in accordance with applicable requirements of the State Water Resources Control Board/Regional Water Quality Control Board and the Contract Documents.
Any Governmental Approval required from the California Department of Fish and Wildlife	120 days following submission of a complete application and supporting documents in accordance with applicable requirements of the California Department of Fish and Wildlife and the Contract Documents.
Any other Governmental Approval (excluding Owner-Provided Approvals)	60 days following submission of a complete application(s) and supporting documents in accordance with applicable requirements of the Governmental Entity and the Contract Documents

**APPENDIX 26**

**BASELINE GEOTECHNICAL REPORT**

(See attached.)



January 8, 2016  
File No.: 20151969

**University of California, Merced**  
Design + Construction  
5200 N. Lake Rd  
Merced, California 95343

Attention: Mr. Andrew Boyd

**SUBJECT: 2020 Development Area Project Data Report  
University of California, Merced  
Merced, California**

Dear Mr. Boyd:

As requested, Kleinfelder is please to present this data report for limited field exploration and laboratory testing services performed for the 2020 Project Development Area.

#### **FIELD EXPLORATION**

Kleinfelder performed a total of 92 soil borings, 12 test pits and double ring infiltrometers, and 20 cone penetrometers (CPT) during the field operation on August 4, through August 8, 2014 (45 borings, 20 CPT, and 12 test pits); August 19, through August 26, 2015 (37 borings); October 26, through October 28, 2015 (10 borings). The test borings were drilled with two (2) CME 75 and a Mobil B37 truck mounted drill rigs and a Landra L10 track mounted drill rig utilizing hollow stem auger and/or rotary wash techniques. The borings were advanced to a depths ranging from 21½ to 101½ feet below the existing ground surface. The CPT soundings were advanced with a Paystar 5000 using a 25 ton cone to depths ranging from 1 to 35 feet below existing grade. The test pits were excavated rubber tire backhoe equipped with a 24-inch bucket to depths ranging from ½ foot to 8 feet below existing grade. Borings B-62, B-68, and B-69, were not performed due to direction given by representatives of UC Merced. The approximate locations of the test borings, test pits, and CPT's are indicated on the Boring, CPT, and Test Pit Location Map, Plate 1.

The soils encountered in the borings were visually classified in the field and a continuous log for each boring was recorded. Relatively undisturbed samples were collected from the test borings at selected depths by driving a 2.5-inch I.D. split barrel sampler containing brass liners into the undisturbed soil with a 140-pound automatic hammer free falling a distance of 30 inches. In addition, a 1.4-inch I.D. standard penetrometer (SPT) was driven at selected depths in accordance with ASTM D1586 test procedures. The standard penetration sampler was used

without liners. Resistance to sampler penetration is noted on the boring logs as the number of blows per 6 inches over 18 inches of sampler penetration. The blow counts listed in the boring logs have not been corrected for the effects of overburden pressure, sampler size, or hammer efficiency. Bulk samples were also obtained from auger cuttings at some of the boring locations. The borings were backfilled with auger cuttings and capped with concrete where needed. Piezometers were installed in borings B-10, B-19, B-25, B-27, and B-39, to allow for future measurements of the groundwater seepage.

## **FIELD TESTS**

Double ring infiltrometers were performed in all test pits in accordance with ASTM D3385 using a 24-inch diameter outer and 12-inch diameter inner rings. Results of the tests are provided on the attached Plates C-1 through C-12.

Penetration rates, determined in general accordance with ASTM D1586, were used to aid in evaluating the consistency, compression, and strength characteristics of the foundation soils.

## **LABORATORY TESTS**

Laboratory tests were performed on selected near surface samples to evaluate certain physical characteristics. The following laboratory tests were performed:

- ☐ Unit Weight (ASTM D2937)
- ☐ Moisture Content (ASTM D2216)
- ☐ pH and Minimum Resistivity (California Test Method No. 543)
- ☐ Soluble Sulfate Content (California Test Method No. 417)
- ☐ Soluble Chloride Content (California Test Method No. 422)
- ☐ Amount of Material Finer than #200 Sieve (ASTM D1140)
- ☐ Sieve Analysis (ASTM D422 w/o hydrometer)
- ☐ Consolidation Test (ASTM D2436)
- ☐ Expansion Index (ASTM D4829)
- ☐ Atterberg Limits (ASTM D4318)
- ☐ Moisture Density Relationship (ASTM D1557)



- ☐ Direct Shear Test (ASTM D3080)
- ☐ Unconfined Compressive Strength (California Test Method 373)
- ☐ Resistance Value (California Test Method 301)

The dry density, moisture content, Expansion Index (EI), percent passing the #4 and #200 sieves, liquid limit, plasticity index, direct shear tests, and corrosion test results are shown on the boring logs in Appendix A. The soluble sulfate, soluble chloride, pH and minimum resistivity provided in Table 1. Appendix B provides the laboratory test data.

**TABLE 1  
PRELIMINARY CORROSION RESULTS**

Boring	pH	Minimum Resistivity (ohm-cm)	Soluble Chlorides (ppm)	Soluble Sulfates (ppm)
B-10	7.61	1,200	16.5	16.1
B-14	7.57	2,040	16.2	2.8
B-18	7.71	1,420	4.7	17.9
B-20	7.13	2,470	4.6	4.2
B-22	6.41	2,170	14.6	13.4
B-28	7.16	1,690	19.1	11.3
B-30	6.82	1,820	8.0	4.7
B-32	6.31	3,480	7.3	0.2
B-34	7.34	1,500	10.4	0.9
B-26	6.11	4,020	10.4	0.5
B-38	6.24	960	21.1	7.6
B-42	7.85	800	13.9	7.5
B-44	7.58	1,100	14.6	1.1

Bulk samples from borings B-18, B-26, and B-34, were selected to represent the range in clayey soil types anticipated to occur during construction. The samples were each thoroughly blended, split to representative specimens, and treated with 3% lime following general procedures of CT 373. The blended material was then moisture conditioned to approximately 4% above the optimum moisture content, and compacted into the test specimens. The test specimens were compacted to approximately 90 percent relative compaction. The samples were cured in a 110 degree oven for seven days. Table 2 summarizes the unconfined compressive strength test results.

**TABLE 2  
TEST RESULTS**

Boring Location	% Lime	Test Unconfined Compressive Strength (psi)
B-18	3	490
		660
		750
B-26		420
		620
		560
B-34		580
		530

## GROUNDWATER

Table 3 below indicates borings in which water was encountered during the drilling operations. The water measurements were taken from the existing ground surface. It should be noted that the ground surface elevations would vary depending on the location of the borings.

**TABLE 3  
BORINGS WITH WATER LEVELS**

<b>Boring</b>	<b>Depth To Water During Drilling (ft)</b>	<b>Depth To Water After Drilling (ft)</b>
B-11	15	-
B-18	15	-
B-19	20	-
B-20	39	-
B-31	26	-
B-64	35	48
B-65	34	33
B-66	50	42
B-74	7	6½
B-78	25	23
B-81	30	31
B-83	25	23
B-106	40	40
B-109	26	26
B-110	25	25

## **LIMITATIONS**

There are no implied or intended recommendations contained in this data report. The borings performed are intended to be for reference only and should not be used for construction or design (other than preliminary conceptual design). It is possible that soil conditions could vary between or beyond the points explored.

This data report has been prepared in substantial accordance with the generally accepted geotechnical engineering practice, as it exists in the general area at the time of the study. No warranty, express or implied, is provided or intended.

This data report may be used only by University of California, Merced, and their designated representatives and designers and governing regulatory agencies, and only for the purposes stated, within a reasonable time from its issuance, but in no event later than two years (without review) from the date of the data report. Land use, site conditions or other factors may change



over time, and additional work may be required with the passage of time. Any other party who wishes to use this data report shall notify Kleinfelder of such intended use. Based on the intended use of the letter, Kleinfelder may require that additional work be performed and that an updated data report be issued. Non-compliance with any of these requirements by the client or anyone else will release Kleinfelder from any liability resulting from the use of this data report by any unauthorized party.


## CLOSURE

Kleinfelder appreciates the opportunity to continue to provide geotechnical services to the University of California, Merced, and their designers. Kleinfelder trusts this information meets your current needs. If there are any questions concerning the information presented in this data report, please contact this office at your convenience.

Respectfully submitted,

## KLEINFELDER, INC.

  
Michael R. Beltran, P.E.  
Area Manager

  
Nathan L. Dahlen, P.E.  
Senior Project Engineer

Attachments:

## PLATES

BORING, CPT, AND TEST PIT LOCATION MAP.....1

## APPENDIX A

BORING GRAPHICS AND SOIL DESCRIPTION KEY .....A-1/A-2  
BORING LOGS .....A-3/A-94  
TEST PIT LOGS.....A-95/A-106  
CPT SOUNDING LOGS .....A-107/A-126

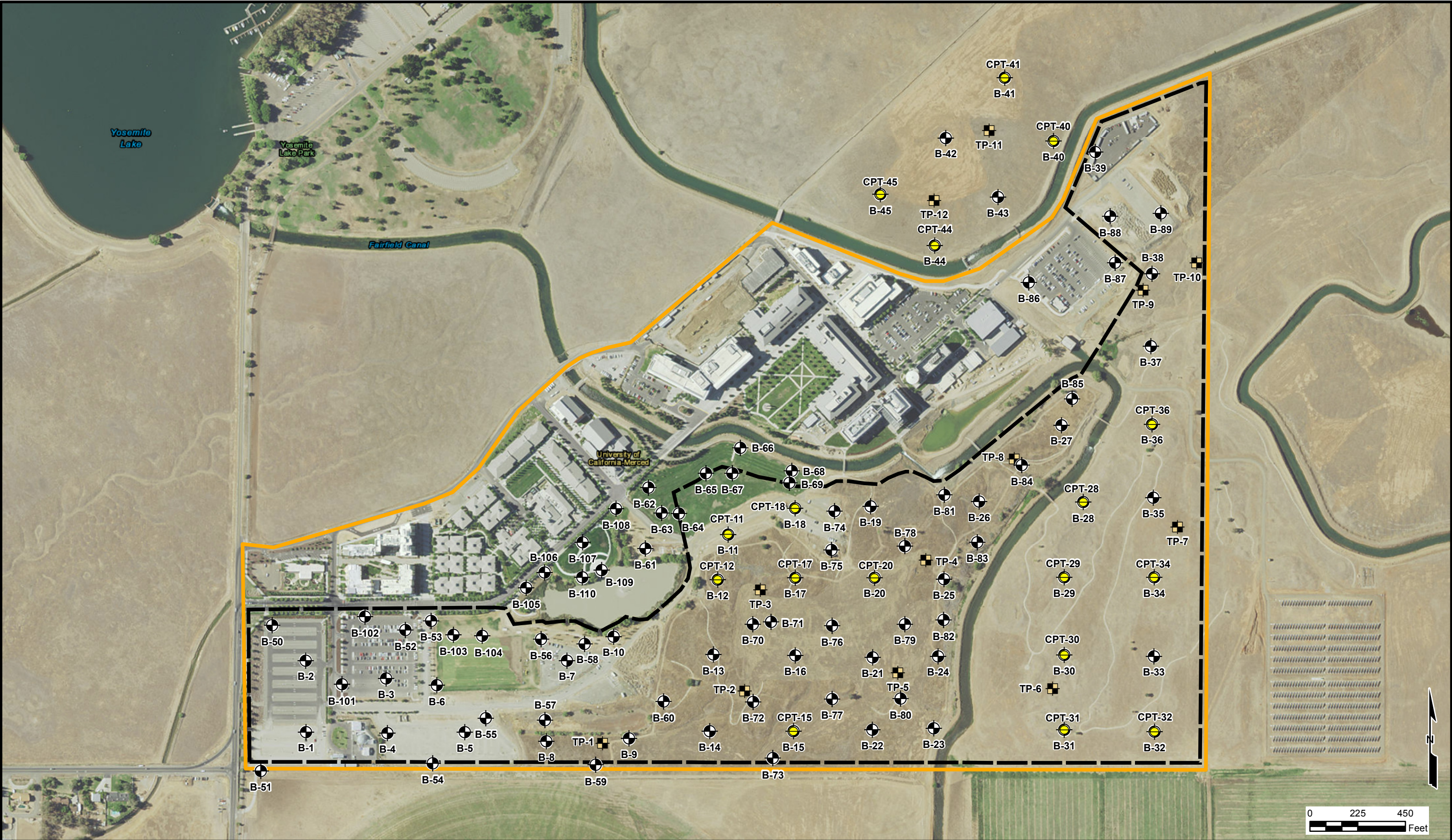
## APPENDIX B

COMPACTION CURVE .....B-1/B-13  
GRAIN SIZE DISTRIBUTION .....B-14/B19  
ATTERBERG LIMITS .....B-20/B-22  
DIRECT SHEAR TESTS .....B-23/B-35  
CONSOLIDATION TEST .....B-36/B-49  
R-VALUE .....B-50/B-58

## APPENDIX C

DOUBLE RING INFILTRMETER RATES .....C-1/C-12










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Legend

-  Boring Location
-  CPT Location
-  Test Pit Location

-  2020 Project Total Area
-  2020 Project Building Subarea



PROJECT NO.	20151969	<b>BORING, CPT AND TEST PIT LOCATION MAP</b>	PLATE <b>1</b>
DRAWN:	01/2016		
DRAWN BY:	KFH		
CHECKED BY:	MB	University of California, Merced 2020 Development Project Merced, CA	
FILE NAME:	20151969p_1.mxd		



**SAMPLE/SAMPLER TYPE GRAPHICS**

	BULK SAMPLE
	CALIFORNIA SAMPLER (3 in. (76.2 mm.) outer diameter)
	GRAB SAMPLE
	STANDARD PENETRATION SPLIT SPOON SAMPLER (2 in. (50.8 mm.) outer diameter and 1-3/8 in. (34.9 mm.) inner diameter)

**GROUND WATER GRAPHICS**

	WATER LEVEL (level where first observed)
	WATER LEVEL (level after exploration completion)
	WATER LEVEL (additional levels after exploration)
	OBSERVED SEEPAGE

**NOTES**

- The report and graphics key are an integral part of these logs. All data and interpretations in this log are subject to the explanations and limitations stated in the report.
- Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual or differ from those shown.
- No warranty is provided as to the continuity of soil or rock conditions between individual sample locations.
- Logs represent general soil or rock conditions observed at the point of exploration on the date indicated.
- In general, Unified Soil Classification System designations presented on the logs were based on visual classification in the field and were modified where appropriate based on gradation and index property testing.
- Fine grained soils that plot within the hatched area on the Plasticity Chart, and coarse grained soils with between 5% and 12% passing the No. 200 sieve require dual USCS symbols, ie., GW-GM, GP-GM, GW-GC, GP-GC, GC-GM, SW-SM, SP-SM, SW-SC, SP-SC, SC-SM.
- If sampler is not able to be driven at least 6 inches then 50/X indicates number of blows required to drive the identified sampler X inches with a 140 pound hammer falling 30 inches.

**UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2487)**

<b>GRAVELS</b> (More than half of coarse fraction is larger than the #200 sieve)	CLEAN GRAVEL WITH <5% FINES	Cu ≥ 4 and 1 ≤ Cc ≤ 3		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		Cu < 4 and/or 1 > Cc > 3		GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
	GRAVELS WITH 5% TO 12% FINES	Cu ≥ 4 and 1 ≤ Cc ≤ 3		GW-GM	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
		Cu ≥ 4 and 1 ≤ Cc ≤ 3		GW-GC	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
		Cu < 4 and/or 1 > Cc > 3		GP-GM	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE FINES
		Cu < 4 and/or 1 > Cc > 3		GP-GC	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE CLAY FINES
	GRAVELS WITH > 12% FINES			GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
				GC-GM	CLAYEY GRAVELS, GRAVEL-SAND-CLAY-SILT MIXTURES
<b>SANDS</b> (More than half of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH <5% FINES	Cu ≥ 6 and 1 ≤ Cc ≤ 3		SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		Cu < 6 and/or 1 > Cc > 3		SP	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
	SANDS WITH 5% TO 12% FINES	Cu ≥ 6 and 1 ≤ Cc ≤ 3		SW-SM	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
		Cu ≥ 6 and 1 ≤ Cc ≤ 3		SW-SC	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
		Cu < 6 and/or 1 > Cc > 3		SP-SM	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE FINES
		Cu < 6 and/or 1 > Cc > 3		SP-SC	POORLY GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE CLAY FINES
				SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
	SANDS WITH > 12% FINES			SC-SM	CLAYEY SANDS, SAND-SILT-CLAY MIXTURES
<b>FINE GRAINED SOILS</b> (More than half of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid Limit less than 50)			ML	INORGANIC SILTS AND VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				CL-ML	INORGANIC CLAYS-SILTS OF LOW PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
	SILTS AND CLAYS (Liquid Limit greater than 50)			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
				MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY



PROJECT NO.: 20151969

DRAWN BY:

CHECKED BY:

DATE:

REVISED: -

**GRAPHICS KEY**

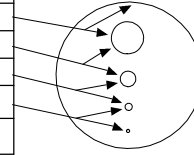
UNIVERSITY OF CALIFORNIA, MERCED  
2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

**A-1**

**GRAIN SIZE**

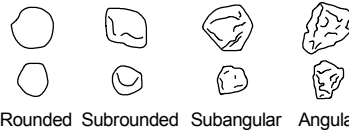
DESCRIPTION	SIEVE SIZE	GRAIN SIZE	APPROXIMATE SIZE
Boulders	>12 in. (304.8 mm.)	>12 in. (304.8 mm.)	Larger than basketball-sized
Cobbles	3 - 12 in. (76.2 - 304.8 mm.)	3 - 12 in. (76.2 - 304.8 mm.)	Fist-sized to basketball-sized
Gravel	coarse 3/4 - 3 in. (19 - 76.2 mm.)	3/4 - 3 in. (19 - 76.2 mm.)	Thumb-sized to fist-sized
	fine #4 - 3/4 in. (#4 - 19 mm.)	0.19 - 0.75 in. (4.8 - 19 mm.)	Pea-sized to thumb-sized
Sand	coarse #10 - #4	0.079 - 0.19 in. (2 - 4.9 mm.)	Rock salt-sized to pea-sized
	medium #40 - #10	0.017 - 0.079 in. (0.43 - 2 mm.)	Sugar-sized to rock salt-sized
	fine #200 - #40	0.0029 - 0.017 in. (0.07 - 0.43 mm.)	Flour-sized to sugar-sized
Fines	Passing #200	<0.0029 in. (<0.07 mm.)	Flour-sized and smaller

**Munsell Color**

NAME	ABBR
Red	R
Yellow Red	YR
Yellow	Y
Green Yellow	GY
Green	G
Blue Green	BG
Blue	B
Purple Blue	PB
Purple	P
Red Purple	RP
Black	N

**ANGULARITY**

DESCRIPTION	CRITERIA
Angular	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular	Particles are similar to angular description but have rounded edges
Subrounded	Particles have nearly plane sides but have well-rounded corners and edges
Rounded	Particles have smoothly curved sides and no edges

**Particles Present**

Amount	Percentage
trace	<5
few	5-10
little	15-25
some	30-45
and	50
mostly	50-100

**PLASTICITY**

DESCRIPTION	LL	FIELD TEST
Non-plastic	NP	A 1/8-in. (3 mm.) thread cannot be rolled at any water content.
Low (L)	< 30	The thread can barely be rolled and the lump or thread cannot be formed when drier than the plastic limit.
Medium (M)	30 - 50	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump or thread crumbles when drier than the plastic limit.
High (H)	> 50	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump or thread can be formed without crumbling when drier than the plastic limit.

**MOISTURE CONTENT**

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

**REACTION WITH HYDROCHLORIC ACID**

DESCRIPTION	FIELD TEST
None	No visible reaction
Weak	Some reaction, with bubbles forming slowly
Strong	Violent reaction, with bubbles forming immediately

**APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL**

APPARENT DENSITY	SPT-N <sub>60</sub> (# blows/ft)	MODIFIED CA SAMPLER (# blows/ft)	CALIFORNIA SAMPLER (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	<4	<5	0 - 15
Loose	4 - 10	5 - 12	5 - 15	15 - 35
Medium Dense	10 - 30	12 - 35	15 - 40	35 - 65
Dense	30 - 50	35 - 60	40 - 70	65 - 85
Very Dense	>50	>60	>70	85 - 100

NOTE: AFTER TERZAGHI AND PECK, 1948

**CONSISTENCY - FINE-GRAINED SOIL**

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH (q <sub>u</sub> )(psf)	CRITERIA
Very Soft	< 1000	Thumb will penetrate soil more than 1 in. (25 mm.)
Soft	1000 - 2000	Thumb will penetrate soil about 1 in. (25 mm.)
Firm	2000 - 4000	Thumb will indent soil about 1/4-in. (6 mm.)
Hard	4000 - 8000	Thumb will not indent soil but readily indented with thumbnail
Very Hard	> 8000	Thumbnail will not indent soil

**STRUCTURE**

DESCRIPTION	CRITERIA
Stratified	Alternating layers of varying material or color with layers at least 1/4-in. thick, note thickness
Laminated	Alternating layers of varying material or color with the layer less than 1/4-in. thick, note thickness
Fissured	Breaks along definite planes of fracture with little resistance to fracturing
Slickensided	Fracture planes appear polished or glossy, sometimes striated
Blocky	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay; note thickness
Homogeneous	Same color and appearance throughout

**CEMENTATION**

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure



PROJECT NO.: 20151969  
 DRAWN BY:  
 CHECKED BY:  
 DATE:  
 REVISED: -

**SOIL DESCRIPTION KEY**

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 MERCED, CALIFORNIA

FIGURE

**A-2**

<b>Date Begin - End:</b> 8/08/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-1</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,169.857 Easting: 6,581,688.256 Surface Condition: Road Base	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Base Rock:</b> approximately 18-inches thick											
		<b>Lean CLAY (CL):</b> medium plasticity, dark brown, moist, firm, fine grained sand	BC=3 4 4 PP=2.0			21.1	100.0						
5		<b>Sandy Lean CLAY (CL):</b> medium plasticity, dark brown, moist, hard, fine to medium grained sand	BC=5 11 27 PP=4.5			15.4	114.0						
10		<b>Clayey SAND (SC):</b> low plasticity, brown, moist, medium dense, fine grained	BC=5 9 12										
15		<b>Poorly-graded SAND with Silt (SP-SM):</b> brown, moist, medium dense, fine grained, light iron oxide staining	BC=8 11 24		SP-SM	11.5	111.8						<b>Direct Shear=</b> Peak Cohesion: 0 psf Peak Friction Angle: 46.4° Ultimate Cohesion: 0 psf Ultimate Friction Angle: 45.0°
20		<b>Poorly-graded SAND (SP):</b> light brownish gray, moist, medium dense to dense, fine grained	BC=6 11 14										
25			BC=19 20 21										
30			BC=8 9 10										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings and patched at surface on August 08, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

**BORING LOG B-1**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-3

PAGE: 1 of 1



Date Begin - End:	8/08/2014	Drilling Company:	All Well Abandonment	BORING LOG B-2		
Logged By:	F. Jaime	Drill Crew:	R. Slagle			
Hor.-Vert. Datum:	Not Available	Drilling Equipment:	CME-75		Hammer Type - Drop:	140 lb. Auto - 30 in.
Plunge:	-90 degrees	Drilling Method:	Hollow Stem Auger			
Weather:	Sunny, warm	Boring Diameter:	8 in. O.D.			

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,506.256 Easting: 6,581,686.122 Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Asphalt:</b> approximately 2.5-inches thick											
		<b>Aggregate Base:</b> approximately 4.0-inches thick											
		<b>Lean CLAY with Sand (CL):</b> medium plasticity, dark brown, moist, hard, fine grained sand, trace gravel	BC=10 11 17 PP=4.5			17.9	107.9						
5		increased sand content	BC=5 9 10 PP=4.5										
		<b>Silty SAND (SM):</b> brown, moist, medium dense, fine grained, trace clay, weakly to moderately cemented											
10		<b>Lean CLAY with Sand (CL):</b> medium plasticity, dark brown, moist, hard, with fine grained sand	BC=5 9 13 PP=4.5										
		<b>Sandy SILT (ML):</b> non-plastic to low plasticity, brown, moist, medium dense, fine grained sand, trace clay, heavy to light iron oxide staining											
15		<b>Poorly-graded SAND with Silt (SP-SM):</b> brown, moist, medium dense, fine grained, mottled with light iron oxide staining	BC=5 9 14 PP=2.75			22.4	90.6						
		<b>Poorly-graded SAND with Silt (SP-SM):</b> brown, moist, medium dense, fine grained, mottled with light iron oxide staining											
20		<b>Silty SAND (SM):</b> yellow brown, moist, medium dense, fine grained, with iron oxide staining	BC=7 9 17			14.5	88.7						
		<b>Silty SAND (SM):</b> yellow brown, moist, medium dense, fine grained, with iron oxide staining											
25		<b>Poorly-graded SAND (SP):</b> brown, moist, medium dense, fine to medium grained, light iron oxide staining	BC=5 9 11										
		<b>Poorly-graded SAND (SP):</b> brown, moist, medium dense, fine to medium grained, light iron oxide staining											
30		<b>Poorly-graded SAND with Silt (SP-SM):</b> light brown gray, moist, medium dense, fine grained	BC=9 17 16			3.4	93.3						
		<b>Poorly-graded SAND with Silt (SP-SM):</b> light brown gray, moist, medium dense, fine grained											
35			BC=10 11 13										



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## BORING LOG B-2

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-4

PAGE: 1 of 2

<b>Date Begin - End:</b> 8/08/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-2</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,506.256 Easting: 6,581,686.122 Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		weakly cemented		BC=27 43 25			4.2	105.9					
		Poorly-graded SAND (SP): brown, moist, dense, fine grained											
		Silty SAND (SM): brown, moist, medium dense, fine grained											
45				BC=7 9 17									
		Poorly-graded SAND with Silt (SP-SM): light brown gray, moist, medium dense, fine grained											
50		increased fines content		BC=7 17 27			16.2	98.7					
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings and patched with quick set concrete and black dye on August 08, 2014.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion. GENERAL NOTES:							
60													
65													
70													
75													



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

**BORING LOG B-2**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-4**

PAGE: 2 of 2

<b>Date Begin - End:</b>	<u>8/08/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-3</b>	
<b>Logged By:</b>	<u>J. Campos</u>	<b>Drill Crew:</b>	<u>M. Ceja</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>CME-75</u>		<b>Hammer Type - Drop:</b> <u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>8 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,421.131 Easting: 6,582,065.058 Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Asphalt:</b> 2.5-inches thick											
		<b>Aggregate Base:</b> 4-inches thick											
		<b>Poorly-graded SAND with Silt (SP-SM):</b> moist, very dense, fine to medium grained, moderately cemented	BC=14 35 50/6"			10.6	120.5						
5			BC=10 35 45			10.0	109.4						
		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, dark brown, moist, very hard, fine to medium grained sand			CL						35	16	
10			BC=3 7 10										
		<b>Lean CLAY (CL):</b> medium plasticity, dark brown, moist, very hard											
15			BC=18 50/4"			12.3	116.0						
		<b>Silty SAND (SM):</b> olive gray, moist, dense, fine grained											
20			BC=10 23 26										
		<b>Poorly-graded SAND with Silt (SP-SM):</b> moist, very dense, fine grained, moderately cemented											
25			BC=10 35 45			11.0	114.1						
		<b>Poorly-graded SAND (SP):</b> olive, moist, medium dense, fine grained											
30			BC=7 11 15										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings and patched with quick set concrete and black dye on August 08, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

BORING LOG B-3














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FIGURE

A-5

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-4</b>
<b>Logged By:</b> J. Campos	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 1,954,164.038 Easting: 6,582,071.148 Surface Condition: Gravel	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
		<b>Gravel Road:</b> approximately 12-inches thick												
		<b>Lean CLAY (CL):</b> medium plasticity, dark brown, moist, firm to hard, trace fine grained sand	BC=5 11 16			22.2	102.9							
5		light brown gray	BC=3 14 17		CL						43	28		
		<b>Silty SAND (SM):</b> light brown gray, moist, very dense, fine grained												
10			BC=16 50/6"			15.7	108.3							
		<b>Sandy SILT (ML):</b> low plasticity, yellow brown, moist, very dense, fine grained sand												
15			BC=9 20 23											
		<b>Silty SAND (SM):</b> light brown gray, moist, medium dense, fine grained												
20			BC=8 15 30		SM	26.8	97.0						<b>Direct Shear=</b> Peak Cohesion: 200 psf Peak Friction Angle: 31.5° Ultimate Cohesion: 0 psf Ultimate Friction Angle: 34.0°	
		<b>Poorly-graded SAND (SP):</b> light brown gray, moist, medium dense to dense, fine to medium grained												
25			BC=10 14 16											
														
30		olive	BC=15 24 35											
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.					<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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 DRAWN BY: ZJ  
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**BORING LOG B-4**






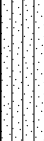







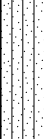

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
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FIGURE

A-6

PAGE: 1 of 1

<b>Date Begin - End:</b>	8/07/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-5</b>
<b>Logged By:</b>	J. Campos	<b>Drill Crew:</b>	M. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,168.889 Easting: 6,582,435.104 Surface Condition: Gravel	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		Gravel Road: approximately 12-inches thick											
		Lean CLAY (CL): medium to high plasticity, dark brown, moist, very hard	 BC=7 18 18			12.9	118.4						
5		Silty SAND (SM): olive, moist, medium dense to very dense, fine grained, trace gravel up to 3-inches diameter, weakly to moderately cemented	 BC=15 50/6"			11.8 4.7	94.6 101.0						
10		decreased gravel content	 BC=12 14 18		SM			100	39				
15			 BC=10 22 35										
20		yellow brown	 BC=9 29 32										
25		decreased fines content	 BC=7 31 43										
30			 BC=11 20 20										
35	The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.												
	GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion. GENERAL NOTES:												



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**BORING LOG B-5**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-7**


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<b>Date Begin - End:</b> 8/08/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-6</b>
<b>Logged By:</b> J. Campos	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,388.733 Easting: 6,582,304.25 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(P)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		Lean CLAY with Gravel (CL): medium to high plasticity, dark brown, moist, very hard, with fine rounded gravel	BC=14 33 36				8.9	83.3					
10		gravel and cobbles up to 3.5-inches diameter	BC=9 12 20										
15		Lean CLAY (CL): medium to high plasticity, dark brown, moist, very hard	BC=25 50/6"				11.9	100.0					
20		Silty SAND (SM): olive yellow, moist, very dense, fine grained, moderately cemented, presence of mica	BC=11 18 25										
25		Poorly-graded SAND (SP): olive, moist, dense to very dense, fine to medium grained, trace subrounded gravel	BC=11 28 45				16.7	110.3					
30		increased fines content	BC=12 14 20										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.											
		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion.											
		GENERAL NOTES:											

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20151969	BORING LOG B-6	FIGURE  A-8
	DRAWN BY: ZJ		
	CHECKED BY: MB	UNIVERSITY OF CALIFORNIA, MERCED 2020 DEVELOPMENT PROJECT MERCED, CALIFORNIA	
	DATE: 8/28/2014		
	REVISED: 8/19/2014		
			PAGE: 1 of 1

<b>Date Begin - End:</b> 8/08/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-7</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,506.646 Easting: 6,582,915.484 Surface Condition: Road Base	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Base Rock:</b> approximately 6-inches thick											
5		<b>Sandy Lean CLAY (CL):</b> medium plasticity, dark gray, moist, firm to hard, fine to medium grained sand, spots of iron oxide staining dark brown, decrease sand content	BC=8 9 11 PP=2.0			64.4	79.7						
		increased sand content	BC=5 6 10 PP=2.5			18.8	103.3						
10		<b>Silty SAND (SM):</b> light yellow brown, moist, medium dense, fine grained	BC=5 11 11										
15		<b>Sandy SILT (ML):</b> non-plastic, brown, moist, medium dense to very dense, fine grained sand, with iron oxide staining	BC=7 9 17 PP=2.0			26.6	95.9						
20		increased sand content	BC=5 11 27 PP=2.0		ML				54				
25		trace clay, low plasticity	BC=5 9 15 PP=0.25			21.4	85.5						
30		decreased clay content	BC=5 9 19			21.8	98.3						
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings and patched at surface on August 08, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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**BORING LOG B-7**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-9

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<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-8</b>
<b>Logged By:</b> J. Campos	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,124.978 Easting: 6,582,819.084 Surface Condition: Dirt Road	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy SILT (ML):</b> low plasticity, olive yellow, moist, very dense, fine grained sand		BC=14 22 22		ML							R-Value= 6
5		<b>Lean CLAY (CL):</b> medium plasticity, brown, moist, firm		BC=6 3 12		CL					31	16	
10		<b>Lean CLAY with Sand (CL):</b> low to medium plasticity, light brown gray, moist, firm, with fine grained sand		BC=9 16 20		CL							Consolidation
15		<b>Silty SAND (SM):</b> light brown gray, moist, medium dense, fine grained, mica present		BC=7 15 18									
20		<b>Lean CLAY (CL):</b> medium plasticity, brown, moist, very hard, trace fine grained sand		BC=17 26 50/6"		CL	18.7	104.8					Consolidation
25				BC=8 13 23									
30		<b>Clayey SAND (SC):</b> medium plasticity, olive yellow, moist, very dense, fine to medium grained		BC=9 26 50/6"			11.0	116.6					
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014. <div> <b>GROUNDWATER LEVEL INFORMATION:</b>              Groundwater was not encountered during drilling or after completion.  <b>GENERAL NOTES:</b> </div>											



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 DATE: 8/28/2014  
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**BORING LOG B-8**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
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FIGURE

A-10

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<b>Date Begin - End:</b>	<u>8/07/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-9</b>	
<b>Logged By:</b>	<u>J. Campos</u>	<b>Drill Crew:</b>	<u>M. Ceja</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>CME-75</u>		<b>Hammer Type - Drop:</b> <u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>8 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 1,954,139.151 Easting: 6,583,207.75 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr: Blow/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
		<b>Lean CLAY (CL):</b> medium plasticity, light brown gray, moist, trace coarse grained sand												
			BC=17 50/6"			18.3	90.5							
5		<b>Clayey SAND (SC):</b> low plasticity, light brown gray, moist, very dense, fine grained		BC=19 50/6"		16.0	96.4							
		<b>Sandy Lean CLAY (CL):</b> low plasticity, olive yellow, moist, firm, fine grained sand												
10			BC=5 11 18											
		<b>Silty SAND (SM):</b> olive yellow, moist, very dense, fine grained												
15			BC=10 19 50/5"			21.7	103.0							
		<b>Sandy Lean CLAY (CL):</b> medium plasticity, yellow brown, moist, dense, fine grained sand												
20			BC=10 17 22		CL						33	15		
		<b>Poorly-graded SAND (SP):</b> olive yellow, moist, dense, fine to medium grained, trace fine gravel												
25			BC=15 17 32			2.2	103.0							
		<b>Lean CLAY with Sand (CL):</b> medium plasticity, olive yellow, moist, firm to hard, fine grained sand												
30			BC=29 32 37											
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.					<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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**BORING LOG B-9**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-11

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PLOTTED: 01/08/2016 01:19 PM BY: MPalmer

<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-10</b>
<b>Logged By:</b> T. Desouza	<b>Drill Crew:</b> J. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> Track Rig	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							PIEZOMETER CONSTRUCTION*		
		Lithologic Description	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)			
		<p>Northing: 1,954,619.288 Easting: 6,583,135.423 Surface Condition: Bare Earth</p>													
		Lithologic Description	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)			
		<b>Clayey SAND (SC):</b> yellow brown, moist, medium dense, fine to medium grained				SC			98	48	35	20			
						CL	6.8	88.5							
5		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, dark brown, moist, very hard, fine grained sand, strongly cemented	BC=8 11 19 PP=4.5												
			BC=9 12 46 PP=4.5												
10		increased sand content	BC=33 50/3" PP=4.5			CL									
15		decreased sand content	BC=10 18 31 PP=4.5												
20			BC=11 14 26 PP=4.5												
		<b>Poorly-graded SAND (SP):</b> light brown, moist, dense, fine to coarse grained													
		<b>Lean CLAY with Sand (CL):</b> low to medium plasticity, gray to brown, moist, hard to very hard, fine grained sand													
25		increased sand content	BC=6 10 16 PP=4.5			CL			74						
30		increased clay content	BC=8 21 33 PP=4.5												
		The boring was terminated at approximately 31.5 ft. below ground surface. Piezometer installed to a depth of 30 ft below ground surface.													
		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion.													
		GENERAL NOTES:													


2-inch PVC riser from 0-20 ft bgs

Soil Cuttings from 0-20 ft bgs

Well screen from 20-30 ft bgs

Clean graded, kiln dried Monterey Sand from 20-30 ft bgs

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20151969	BORING LOG B-10	FIGURE
	DRAWN BY: ZJ		
CHECKED BY: MB			
DATE: 8/28/2014			
REVISED: 8/19/2014			
			A-12
			PAGE: 1 of 1

<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-11</b>
<b>Logged By:</b> T. Desouza	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 1,955,100.294 Easting: 6,583,674.773 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
		<b>Sandy Lean CLAY (CL):</b> medium plasticity, dark brown, moist, hard to very hard, fine grained sand		BC=18 26 30 PP=4.5			8.5	120.0						
5		increased sand content, with subrounded gravel up to 1-inch diameter		BC=6 18 21 PP=4.5			5.5	75.4						
10				BC=21 21 5 PP=3.5										
		<b>Poorly-graded SAND (SP):</b> red brown, moist, medium dense, fine to coarse grained, trace clay												
15		wet		BC=16 12 13			19.0	99.3						
20				BC=4 9 9 PP=4.0										
		<b>Fat CLAY (CH):</b> high plasticity, gray, moist, very hard, trace sand												
25				BC=12 21 15 PP=2.5			31.2	93.1						
30				BC=8 13 16 PP=4.5										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> ⚡ Perched groundwater was observed at approximately 15 ft. below ground surface during drilling. <u>GENERAL NOTES:</u>								



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**BORING LOG B-11**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
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FIGURE

A-13

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-12</b>
<b>Logged By:</b> J. Campos	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,887.251 Easting: 6,583,624.863 Surface Condition: Grass	Sample Type	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks	
		Lithologic Description	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf										
		Clayey SAND (SC): low plasticity, olive yellow, moist, medium dense to dense, fine to medium grained											
5		decreased sand content	BC=12 25 29										
		Poorly-graded SAND with Gravel (SP): olive, moist, dense, fine to medium grained, with fine subrounded gravel	BC=8 13 13										
10			BC=11 18 18			15.1	110.8						
		Silty SAND (SM): olive, moist, dense, fine to medium grained											
15			BC=12 20 24						40				
		Poorly-graded SAND (SP): olive, moist, medium dense, fine to medium grained											
20			BC=12 19 21			16.5	109.1						
		Silty SAND (SM): yellow brown, moist, medium dense to very dense, fine grained											
25			BC=8 12 18						45				
30		increased sand content	BC=14 31 41										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014. <div> <b>GROUNDWATER LEVEL INFORMATION:</b>              Groundwater was not encountered during drilling or after completion.           </div> <b>GENERAL NOTES:</b>											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
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**BORING LOG B-12**

UNIVERSITY OF CALIFORNIA, MERCED  
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 MERCED, CALIFORNIA

FIGURE

A-14

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<b>Date Begin - End:</b>	8/06/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-13</b>
<b>Logged By:</b>	J. Campos	<b>Drill Crew:</b>	M. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								Additional Tests/ Remarks
		Northing: 1,954,533.252 Easting: 6,583,604.571 Surface Condition: Grass	Lithologic Description	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	
			<b>SILT (ML):</b> low plasticity, olive, moist, firm, trace coarse grained sand											
5			<b>Lean CLAY with Sand (CL):</b> medium plasticity, olive, moist, very hard, fine grained sand, trace coarse grained sand, moderately cemented	BC=14 18 18			CL	8.9	79.5			24	12	
				BC=37 50/5"				14.3	102.6					
10			<b>Silty SAND (SM):</b> yellow brown, moist, medium dense, fine to medium grained	BC=8 11 12			SM				13			
15				BC=13 16 20			SM	5.5	97.5					
20			presence of mica, increased moisture content	BC=8 7 10										
25			<b>Poorly-graded SAND with Silt (SP-SM):</b> olive, moist, dense, weakly cemented	BC=14 17 27										
30			<b>Poorly-graded SAND (SP):</b> olive yellow, moist, medium dense to dense, fine grained, trace silty nodules	BC=10 12 16										
35			olive, fine to medium grained											
			moist, olive, increased moisture content	BC=13 20 22										
			<b>Sandy SILT (ML):</b> low plasticity, yellow brown, moist, very dense, fine grained sand											

**Direct Shear=**  
 Peak Cohesion: 0 psf  
 Peak Friction Angle: 37.4°  
 Ultimate Cohesion: 180 psf  
 Ultimate Friction Angle: 31.7°



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### BORING LOG B-13

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-15

PAGE: 1 of 3

<b>Date Begin - End:</b>	8/06/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-13</b>
<b>Logged By:</b>	J. Campos	<b>Drill Crew:</b>	M. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,533.252 Easting: 6,583,604.571 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy SILT (ML):</b> low plasticity, yellow brown, moist, very dense, fine grained sand	BC=17 17 25										
45		olive brown	BC=12 19 41				28.0	96.2					
		<b>Lean CLAY with Sand (CL):</b> low to medium plasticity, light brown gray, moist, firm, fine grained sand											
50		increased sand content	BC=15 23 24										
		<b>Sandy SILT (ML):</b> low plasticity, light brown gray, moist, medium dense to very dense, fine grained sand											
55			BC=41 50/5"										
		brown, presence of clay nodules	BC=10 13 22										
		<b>Clayey SAND (SC):</b> non-plastic to low plasticity, gray, moist, very dense, fine grained											
65			BC=25 30 50/6"										
		<b>Lean CLAY (CL):</b> medium plasticity, gray, moist, hard to very hard, trace fine grained sand											
70			BC=13 29 21										
75			BC=15 30 50/5"										
		<b>Lean CLAY with Sand (CL):</b> low to medium plasticity, light brown gray, moist, firm, fine grained sand											



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## BORING LOG B-13






UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-15

PAGE: 2 of 3

<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-13</b>
<b>Logged By:</b> J. Campos	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,533.252 Easting: 6,583,604.571 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Lean CLAY with Sand (CL):</b> low to medium plasticity, light brown gray, moist, firm, fine grained sand	 BC=7 11 50/6"										
		<b>Lean CLAY (CL):</b> low to medium plasticity, brown, moist, very hard, trace fine grained sand, some strongly cemented clay nodules											
85			 BC=17 30 50/4"										
		<b>Sandy Silt (ML):</b> non-plastic to low plasticity, light brown gray, moist, medium dense, fine grained sand											
90			 BC=12 15 25										
		<b>Lean CLAY (CL):</b> low to medium plasticity, brown, moist, firm, trace fine grained sand											
95			 BC=12 23 27										
100		olive gray	 BC=7 6 20										
The boring was terminated at approximately 101.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.													
<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>													
105													
110													
115													



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### BORING LOG B-13















UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 3 of 3

<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-14</b>	
<b>Logged By:</b>	<u>J. Campos</u>	<b>Drill Crew:</b>	<u>M. Ceja</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>CME-75</u>		<b>Hammer Type - Drop:</b> <u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>8 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,172.772 Easting: 6,583,588.204 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Lean CLAY (CL):</b> olive, moist, fine grained sand, trace fine subangular gravel	 BC=20 50/3"			CL							<b>pH= 7.57</b> <b>Resistivity=</b> 2040 ohm-cm <b>Sulfates=</b> 2.8 ppm <b>Chlorides=</b> 16.2 ppm <b>ASTM D1557 Method A=</b> Max. Dry Unit Wt.: 122.6 pcf Opt. Water Content: 12.2% <b>Expansion Index=</b> 45
10		<b>Silty SAND (SM):</b> light brown gray, moist, dense, fine grained, weakly to moderately cemented, presence of mica	 BC=10 15 22				19.7	101.7					
15		<b>Poorly-graded SAND (SP):</b> olive yellow, moist, dense, fine to medium grained	 BC=8 20 42										
20		<b>Poorly-graded SAND (SP):</b> olive yellow, moist, dense, fine to medium grained	 BC=10 15 20										
25		<b>Silty SAND (SM):</b> light brown gray, moist, dense, fine grained, weakly to moderately cemented, presence of mica	 BC=10 15 15				3.3	88.6					
30		<b>Silty SAND (SM):</b> olive, moist, medium dense to very dense, fine to coarse grained, trace of fine subrounded gravel	 BC=8 9 12										
35		<b>Silty SAND (SM):</b> olive, moist, medium dense to very dense, fine to coarse grained, trace of fine subrounded gravel	 BC=8 25 48			SM	7.0	109.0	89	12			
The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.													
<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>													



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**BORING LOG B-14**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-15</b>
<b>Logged By:</b> J. Campos	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,173.742 Easting: 6,583,982.247 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Silty SAND with Gravel (SM):</b> olive brown, dry to moist, very dense, fine to medium grained, with fine to coarse subrounded gravel increased gravel content, subangular gravel up to 3-inches diameter	BC=19 50/4"				7.6	97.7					
5		<b>Lean CLAY (CL):</b> medium plasticity, light brown gray, moist, very hard, trace coarse grained sand	BC=14 19 22			CL							Consolidation
10		<b>Silty SAND (SM):</b> light brown gray, moist, dense, fine grained	BC=6 14 16										
15		<b>Poorly-graded SAND with Silt (SP-SM):</b> olive yellow, moist, dense, fine grained, weakly cemented nodules	BC=4 17 24				14.0	104.2					
20		<b>Poorly-graded SAND (SP):</b> olive, moist, medium dense, fine to medium grained	BC=7 13 14										
25		<b>Lean CLAY (CL):</b> low to medium plasticity, brown, moist, firm, trace fine grained sand	BC=8 17 25				23.2	97.2					
30		<b>Sandy Lean CLAY (CL):</b> medium plasticity, light brown gray, moist, firm to hard, fine grained sand	BC=10 18 25			CL				54	37	17	
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014. <div> <b>GROUNDWATER LEVEL INFORMATION:</b>              Groundwater was not encountered during drilling or after completion.  <b>GENERAL NOTES:</b>              Boring relocated 10 ft north.           </div>											



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**BORING LOG B-15**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b>	8/07/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-16</b>
<b>Logged By:</b>	J. Campos	<b>Drill Crew:</b>	M. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,530.221 Easting: 6,583,990.864 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Silty SAND with Gravel (SM):</b> yellow brown, moist, very dense, fine grained, with fine gravel											
		gravel and cobbles up to 4-inches diameter		BC=36 50/3"									
5		<b>Lean CLAY (CL):</b> low to medium plasticity, light brown gray, moist, very hard		BC=7 23 48									
10		<b>Silty SAND (SM):</b> light brown gray, moist, dense, fine grained, presence of mica		BC=8 15 19		54.2	74.4						
15		<b>Sandy Lean CLAY (CL):</b> medium plasticity, olive, moist, hard, fine grained sand		BC=11 21 26		CL					35	19	
20		<b>Silty SAND (SM):</b> yellow brown, moist, dense, fine grained to coarse grained		BC=8 24 34		19.4	103.8						
25		<b>Sandy SILT (ML):</b> non-plastic to low plasticity, light brown gray, moist, medium dense, fine grained sand		BC=8 10 14									
30		<b>Lean CLAY (CL):</b> medium plasticity, brown, moist, firm		BC=6 11 17		CL							Consolidation
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u> Boring relocated 10 ft west.							



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**BORING LOG B-16**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b>	8/07/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-17</b>
<b>Logged By:</b>	J. Campos	<b>Drill Crew:</b>	M. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,894.981 Easting: 6,583,991.421 Surface Condition: Grass	Sample Type	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks	
		Lithologic Description	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf										
		Poorly-graded SAND with Gravel (SP): dark brown, moist, dense, fine to coarse grained, with fine gravel											
5			BC=30 32 37			7.1	127.5						
		Lean CLAY (CL): medium plasticity, brown, moist	BC=11 18 19			7.8	137.9						
10		Sandy Lean CLAY (CL): low plasticity, yellow brown, moist, firm, fine grained sand	BC=5 11 13		CL					37	19		
15		Poorly-graded SAND with Silt (SP-SM): dark brown, moist, dense, fine grained	BC=12 25 41			11.9	113.7						
20		Silty SAND (SM): olive brown, moist, medium dense to dense, fine to medium grained, trace clay nodules	BC=10 10 11										
25		olive yellow, trace fine subrounded gravel	BC=11 23 31			13.4	115.5		38				
30		increased fines content	BC=9 18 24										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014. <div> <b>GROUNDWATER LEVEL INFORMATION:</b>              Groundwater was not encountered during drilling or after completion.  <b>GENERAL NOTES:</b> </div>											



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### BORING LOG B-17

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FIGURE

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<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-18</b>	
<b>Logged By:</b>	<u>T. Desouza</u>	<b>Drill Crew:</b>	<u>J. Ceja</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>Track Rig</u>		<b>Hammer Type - Drop:</b> <u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>6 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,955,222.698 Easting: 6,583,990.109 Surface Condition: Gravel	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		Gravel: approximately 6-inches thick				CL							pH= 7.71 Resistivity= 1420 ohm-cm Sulfates= 17.9 ppm Chlorides= 4.7 ppm ASTM D1557 Method B= Uncorr. Max. Dry Unit Wt.: 136.1 pcf Uncorr. Opt. Water Content: 6.7% Corr. Max. Dry Unit Wt.: 141.0 pcf Corr. Opt. Water Content: 6.7% R-Value= 8 Expansion Index= 25 Direct Shear= Peak Cohesion: 0 psf Peak Friction Angle: 45.7° Ultimate Cohesion: 44 psf Ultimate Friction Angle: 0.0°
5		Sandy Lean CLAY (CL): low to medium plasticity, brown to dark brown, moist, firm, fine grained sand	BC=6 20 13 PP=3.0										
		Fat CLAY with Gravel (CH): medium to high plasticity, red, moist, firm to hard, with subrounded gravel up to 1-inch diameter increased sand content, no gravel	BC=2 2 5 PP=2.5										
10		Clayey SAND (SC): medium plasticity, red, moist, medium dense, fine to medium grained, trace subrounded gravel up to 1-inch diameter	BC=5 8 14		SC								
15		Poorly-graded SAND (SP): brown, wet, medium dense, fine to coarse grained	BC=Push										
20		trace fines content, becomes fine to medium grained	BC=12 22 34			21.7	105.4						
25		gray, fine to coarse grained	BC=9 15 15										
30		Sandy Lean CLAY (CL): medium plasticity, brown, moist, hard to very hard, fine grained sand	BC=9 9 21 PP=4.5			30.1	92.1						
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.											
		GROUNDWATER LEVEL INFORMATION: ⚠ Perched groundwater was observed at approximately 15 ft. below ground surface during drilling. GENERAL NOTES:											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
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### BORING LOG B-18

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-19</b>		
<b>Logged By:</b>	<u>T. Desouza</u>	<b>Drill Crew:</b>	<u>J. Ceja</u>			
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>Track Rig</u>		<b>Hammer Type - Drop:</b>	<u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>			
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>6 in. O.D.</u>			

Depth (feet)	Graphical Log	FIELD EXPLORATION			LABORATORY RESULTS								PIEZOMETER CONSTRUCTION*		
		Northing: 1,955,231.973 Easting: 6,584,344.293 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)			
		Lithologic Description													
		<b>Silty SAND (SM):</b> brown to gray brown, moist, dense to very dense, fine to medium grained													
		trace clay content	BC=14 35 49			17.2	102.6								
5			BC=12 24 25			19.6	95.8								
10		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, brown, moist, firm to hard, fine grained sand	BC=4 8 PP=2.5		CL						44	23	●	2-inch PVC riser from 0-20 ft bgs	
15		<b>Silty SAND (SM):</b> brown, moist, medium dense, fine to coarse grained, trace clay content	BC=6 14 20										●	Soil Cuttings from 0-20 ft bgs	
20		wet	BC=6 11 14										●	Well screen from 20-25 ft bgs	
25		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, brown, moist, firm to hard, fine grained sand	BC=10 17 29 PP=4.5		CL	22.4	103.2						●	Clean graded, kiln dried Monterey Sand from 20-25 ft bgs	
30			BC=7 14 26 PP=2.5												
35		The boring was terminated at approximately 31.5 ft. below ground surface. Piezometer installed to a depth of 25 ft below ground surface.			<div>GROUNDWATER LEVEL INFORMATION: ● Perched groundwater was observed at approximately 20 ft. below ground surface during drilling.</div> <div>GENERAL NOTES:</div>										

The boring was terminated at approximately 31.5 ft. below ground surface. Piezometer installed to a depth of 25 ft below ground surface.

**GROUNDWATER LEVEL INFORMATION:**  
 ∇ Perched groundwater was observed at approximately 20 ft. below ground surface during drilling.  
**GENERAL NOTES:**

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
 GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20151969	BORING LOG B-19	FIGURE
	DRAWN BY: ZJ		
	CHECKED BY: MB	UNIVERSITY OF CALIFORNIA, MERCED 2020 DEVELOPMENT PROJECT MERCED, CALIFORNIA	A-21
DATE: 8/28/2014			
REVISED: 8/19/2014			
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<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-20</b>
<b>Logged By:</b> T. Desouza	<b>Drill Crew:</b> J. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> Track Rig	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,896.527 Easting: 6,584,364.165 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		Clayey SAND with Gravel (SC): high plasticity, light brown, moist, dense to very dense, fine to medium grained, with subangular to subrounded gravel up to 1.5-inches diameter red brown, no gravel, trace clay, strongly cemented		BC=17 33 50/6"		SC	10.5	98.5			51	38	pH= 7.13 Resistivity= 2470 ohm-cm Sulfates= 4.2 ppm Chlorides= 4.6 ppm ASTM D1557 Method C= Uncorr. Max. Dry Unit Wt.: 133.2 pcf Uncorr. Opt. Water Content: 5.9% Corr. Max. Dry Unit Wt.: 139.0 pcf Corr. Opt. Water Content: 5.1% R-Value= 11 Expansion Index= 0
			BC=14 15 20										
			BC=9 18 27										
10					17.7		98.1						
15			BC=5 9 14 PP=2.0										
20		BC=8 13 19 PP=3.5											
25		increased sand content		BC=10 16 24 PP=2.5		CH	42.5	77.6					Consolidation
30													
35			BC=7 8 11 PP=3.5										
		Sandy Fat CLAY (CH): medium plasticity, gray, moist, firm to very hard, fine grained sand											
		increased sand content											
		wet											



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## BORING LOG B-20

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-20</b>		
<b>Logged By:</b>	<u>T. Desouza</u>	<b>Drill Crew:</b>	<u>J. Ceja</u>			
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>Track Rig</u>		<b>Hammer Type - Drop:</b>	<u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>			
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>6 in. O.D.</u>			

Depth (feet)	Graphical Log	FIELD EXPLORATION			LABORATORY RESULTS								
		Northing: 1,954,896.527 Easting: 6,584,364.165 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= 1sf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Fat CLAY (CH):</b> medium plasticity, gray, moist, firm to very hard, fine grained sand	BC=13 20 30										
		<b>Fat CLAY (CH):</b> medium to high plasticity, gray, moist, firm to very hard											
45			BC=9 8 11 PP=3.5										
50		increased sand content	BC=7 11 22 PP=4.5										
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.											
60		GROUNDWATER LEVEL INFORMATION: ⚡ Perched groundwater was observed at approximately 39 ft. below ground surface during drilling.											
65		GENERAL NOTES:											
70													
75													



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### BORING LOG B-20

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-22

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-21</b>
<b>Logged By:</b> J. Campos	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,520.041 Easting: 6,584,355.39 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Poorly-graded SAND with Silt (SP-SM):</b> moist, very dense, fine to medium grained, trace coarse subrounded gravel	BC=24 31 50/6"				10.8	108.8					
		increased sand content	BC=15 50/4"										
10		<b>Sandy SILT (ML):</b> non-plastic to low plasticity, light brown gray, moist, dense, fine grained sand	BC=11 23 24										
15		<b>Lean CLAY (CL):</b> medium plasticity, brown, moist, firm	BC=10 23 27										
20		olive yellow, trace fine grained sand	BC=9 13 21										
25		<b>Silty SAND (SM):</b> olive, moist, dense, fine to medium grained, clay nodules	BC=11 22 37										
30			BC=11 25 26			SM				45			
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014. <div> <b>GROUNDWATER LEVEL INFORMATION:</b>              Groundwater was not encountered during drilling or after completion.  <b>GENERAL NOTES:</b> </div>											



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### BORING LOG B-21

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-23

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<b>Date Begin - End:</b>	<u>8/08/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-22</b>	
<b>Logged By:</b>	<u>T. Desouza</u>	<b>Drill Crew:</b>	<u>J. Ceja</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>Track Rig</u>		<b>Hammer Type - Drop:</b> <u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>6 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,180.495 Easting: 6,584,353.5 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> medium plasticity, red brown, moist, very hard, fine to medium grained, with subangular gravel up to 1-inch diameter increased gravel content		BC=50/4"		CL			88	55	27	14	<b>pH=</b> 6.41 <b>Resistivity=</b> 2170 ohm-cm <b>Sulfates=</b> 13.4 ppm <b>Chlorides=</b> 14.6 ppm <b>ASTM D1557 Method B=</b> Uncorr. Max. Dry Unit Wt.: 125.0 pcf Uncorr. Opt. Water Content: 10.5% Corr. Max. Dry Unit Wt.: 127.3 pcf Corr. Opt. Water Content: 9.5% <b>R-Value=</b> R<5 <b>Expansion Index=</b> 28
5		<b>Clayey SAND (SC):</b> low plasticity, red brown, moist, very dense, fine to coarse grained		BC=35 36 40 PP=4.5		SC			93	37	37	15	
10		<b>Lean CLAY (CL):</b> low to medium plasticity, dark brown, moist, very hard, very strongly cemented	 	BC=50/2" BC=50/2"									
15		<b>Silty SAND (SM):</b> olive yellow, moist, very dense, very strongly cemented		BC=50/1"									
20		<b>Sandy Lean CLAY (CL):</b> low plasticity, red brown, moist, very hard, fine grained sand	    	BC=11 20 21 PP=4.5 BC=50/1" BC=50 50/3" BC=17 20 28 PP=4.5 BC=13 16 25 PP=4.5		CL					34	14	
30			 	BC=36 50/3" BC=6 30 37									
35		The boring was terminated at approximately 33.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



PROJECT NO.: 20151969  
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### BORING LOG B-22

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/08/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-23</b>
<b>Logged By:</b> T. Desouza	<b>Drill Crew:</b> J. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> Track Rig	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,186.315 Easting: 6,584,642.724 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Silty SAND (SM):</b> red brown, moist, dense to very dense, fine to coarse grained, with subangular gravel up to 2-inches diameter, trace clay	BC=50/6"			SM	9.5	99.7					<b>Direct Shear=</b> Peak Cohesion: 0 psf Peak Friction Angle: 50.2° Ultimate Cohesion: 219 psf Ultimate Friction Angle: 33.8°
		increased sand content, no gravel	BC=36 23 31										
10		<b>Clayey SAND (SC):</b> red brown to dark brown, moist, dense to very dense, fine to coarse grained, with subangular gravel up to 0.5-inches diameter	BC=12 17 27										
15		gray, increased clay content, no gravel	BC=23 25 46 PP=4.5				13.4	113.3					
20		<b>Poorly-graded SAND (SP):</b> light brown gray, moist, medium dense, fine to coarse grained, trace fines content	BC=13 13 16										
25			BC=17 19 24				8.0	102.6					
30		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, brown, moist, very hard, fine grained sand	BC=12 16 26 PP=4.5										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.											
		<b>GROUNDWATER LEVEL INFORMATION:</b> Groundwater was not encountered during drilling or after completion. <b>GENERAL NOTES:</b>											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

## BORING LOG B-23

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b>	<u>8/08/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-24</b>	
<b>Logged By:</b>	<u>T. Desouza</u>	<b>Drill Crew:</b>	<u>J. Ceja</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>Track Rig</u>		<b>Hammer Type - Drop:</b> <u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>6 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,526.601 Easting: 6,584,662.633 Surface Condition: Bare Earth	Sample Type	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks	
		Lithologic Description	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf										
		<b>Sandy SILT (ML):</b> non-plastic, red, moist, medium dense, fine to coarse grained sand, trace clay											
5		<b>Clayey GRAVEL (GC):</b> low plasticity, red to gray, moist, very dense, subrounded gravel up to 3-inches diameter	BC=38 50/4"			4.7	89.9						
		<b>Fat CLAY (CH):</b> high plasticity, red brown, moist, very hard	BC=5 11 19 PP=4.5										
10		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, red brown, moist, hard to very hard, fine grained sand	BC=8 17 26 PP=4.0			23.1	103.7						
15		<b>Poorly-graded SAND (SP):</b> red brown, moist, medium dense to very dense, fine to coarse grained, trace clay	BC=6 12 15										
20		<b>Sandy Fat CLAY (CH):</b> medium to high plasticity, brown, moist, very hard, fine grained sand	BC=12 25 42			12.7	118.8						
25			BC=6 10 17 PP=4.5										
30			BC=16 36			27.7	96.3						
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.											
		<b>GROUNDWATER LEVEL INFORMATION:</b> Groundwater was not encountered during drilling or after completion. <b>GENERAL NOTES:</b>											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

**BORING LOG B-24**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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Date Begin - End:	8/07/2014	Drilling Company:	All Well Abandonment	BORING LOG B-25		
Logged By:	T. Desouza	Drill Crew:	J. Ceja			
Hor.-Vert. Datum:	Not Available	Drilling Equipment:	Track Rig		Hammer Type - Drop:	140 lb. Auto - 30 in.
Plunge:	-90 degrees	Drilling Method:	Hollow Stem Auger			
Weather:	Sunny, warm	Boring Diameter:	6 in. O.D.			

Depth (feet)	Graphical Log	FIELD EXPLORATION			LABORATORY RESULTS							PIEZOMETER CONSTRUCTION*		
		Northing: 1,954,888.797 Easting: 6,584,690.51 Surface Condition: Bare Earth	Sample Type  Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)			
		Lithologic Description												
		<b>Sandy Lean CLAY (CL):</b> low plasticity, yellow brown, moist, firm, fine grained sand, with subangular gravel up to 0.5-inches diameter	BC=24 50/3"			5.3								
5		<b>Clayey SAND (SC):</b> low to medium plasticity, red brown, moist, medium dense to very dense, fine to medium grained	BC=19 29 46 PP=4.5			15.9	107.2							
10			BC=6 8 14 PP=2.5		SC				49	38	17	●	2-inch PVC riser from 0-25 ft bgs	
15		<b>Fat CLAY (CH):</b> high plasticity, dark brown, moist, firm	BC=8 11 16 PP=3.0		CH							●	Soil Cuttings from 0-25 ft bgs	
20		increased sand content	BC=8 18 25 PP=4.5											
25			BC=17 50/5" PP=4.5									●	Well screen from 25-30 ft bgs	
30		increased sand content	BC=11 18 22 PP=4.5									●	Clean graded, kiln dried Monterey Sand from 25-30 ft bgs	
35		The boring was terminated at approximately 31.5 ft. below ground surface. Piezometer installed to a depth of 30 ft below ground surface.			<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>									

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20151969	BORING LOG B-25	FIGURE
	DRAWN BY: ZJ		
	CHECKED BY: MB	UNIVERSITY OF CALIFORNIA, MERCED 2020 DEVELOPMENT PROJECT MERCED, CALIFORNIA	A-27
	DATE: 8/28/2014		
	REVISED: 8/19/2014		

<b>Date Begin - End:</b>	<u>8/07/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-26</b>	
<b>Logged By:</b>	<u>T. Desouza</u>	<b>Drill Crew:</b>	<u>J. Ceja</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>Track Rig</u>		<b>Hammer Type - Drop:</b> <u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>6 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,955,253.93 Easting: 6,584,855.876 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Silty SAND (SM):</b> light brown gray, moist, dense, fine to medium grained, with subangular to subrounded gravel up to 3-inches diameter, trace clay		BC=15 24 30 PP=2.5			13.8	99.0					pH= 6.11 Resistivity= 4020 ohm-cm Sulfates= 0.5 ppm Chlorides= 10.4 ppm
5		<b>Clayey SAND (SC):</b> low plasticity, red brown, moist, medium dense to very dense, fine to coarse grained		BC=5 9 11 PP=4.5									
10				BC=10 19 30 PP=4.5			15.9	99.8					
15				BC=7 10 16 PP=4.5			16.3	108.0					
20		decreased clay content		BC=8 13 35 PP=4.5									
25		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, gray, moist, very hard, fine grained sand		BC=9 12 15 PP=4.5									Consolidation
30				BC=18 27 45 PP=4.5		CL							
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion. GENERAL NOTES:							



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

**BORING LOG B-26**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 1 of 1

<b>Date Begin - End:</b>	8/07/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-27</b>
<b>Logged By:</b>	T. Desouza	<b>Drill Crew:</b>	J. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	Track Rig	<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	6 in. O.D.	

Depth (feet)	Graphical Log	FIELD EXPLORATION			LABORATORY RESULTS								PIEZOMETER CONSTRUCTION*		
		Northing: 1,955,614.324 Easting: 6,585,243.469 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)			
		Lithologic Description													
		<b>Silty SAND with Gravel (SM):</b> yellow brown, moist, very dense, fine grained, with subrounded gravel up to 1-inch diameter		BC=12 50/4"											
5		<b>Clayey GRAVEL (GC):</b> brown to blue gray, moist, very dense, subrounded gravel up to 3-inches diameter		BC=30 41 47											
		<b>Clayey SAND (SC):</b> low plasticity, light brown gray, moist, very dense, fine to medium grained		BC=22 26 50/5" PP=4.5			18.4	108.8							
10		red brown, increased clay content		BC=11 12 14											2-inch PVC riser from 0-25 ft bgs
15				BC=38 40 46 PP=4.5											Soil Cuttings from 0-25 ft bgs
20		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, gray brown to dark brown, moist, firm to very hard, fine grained sand		BC=6 7 12 PP=4.5											
25		increased sand content		BC=7 12 21 PP=3.0			40.7	79.2							Well screen from 25-30 ft bgs
30				BC=15 22 26 PP=4.5											Clean graded, kiln dried Monterey Sand from 25-30 ft bgs
35		The boring was terminated at approximately 31.5 ft. below ground surface. Piezometer installed to a depth of 30 ft below ground surface.			GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion. GENERAL NOTES:										

2-inch PVC riser from 0-25 ft bgs

Soil Cuttings from 0-25 ft bgs

Well screen from 25-30 ft bgs

Clean graded, kiln dried Monterey Sand from 25-30 ft bgs



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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**BORING LOG B-27**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 1 of 1

<b>Date Begin - End:</b>	8/08/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-28</b>
<b>Logged By:</b>	J. Campos	<b>Drill Crew:</b>	M. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 1,955,250.997 Easting: 6,585,345.78 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
		<b>Clayey SAND (SC):</b> olive, dry to moist, very dense, coarse grained, with fine subangular to subrounded gravel		BC=50/3"		SC								<b>pH=</b> 7.16 <b>Resistivity=</b> 1690 ohm-cm <b>Sulfates=</b> 11.3 ppm <b>Chlorides=</b> 19.1 ppm <b>ASTM D1557 Method B=</b> Max. Dry Unit Wt.: 125.5 pcf Opt. Water Content: 10.2% <b>R-Value=</b> R<5 <b>Expansion Index=</b> 41
5		<b>Silty SAND with Gravel (SM):</b> olive, moist, very dense, fine grained, with fine subangular to subrounded gravel		BC=14 50/3"										
10		yellow brown		BC=32 50/6"										
15		<b>Poorly-graded GRAVEL with Cobbles (GP)</b>		BC=30 35 31										
20		<b>Clayey SAND with Gravel (SC):</b> medium plasticity, olive yellow, moist, very dense, fine to medium grained, with fine to coarse angular to subangular gravel, including fractured cobbles		BC=30 50/3"		SC					34	14		
25		<b>Silty SAND (SM):</b> light brown gray, moist, medium dense, fine grained		BC=19 15 15		SM				17				
30		<b>Clayey SAND (SC):</b> light brown gray, moist, dense, fine grained		BC=10 18 30		SC	22.6	101.8		41	40	21		
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>								



PROJECT NO.: 20151969  
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### BORING LOG B-28

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b>	8/08/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-29</b>
<b>Logged By:</b>	J. Campos	<b>Drill Crew:</b>	M. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,897.366 Easting: 6,585,256.171 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Silty SAND (SM):</b> olive, dry to moist, very dense, fine to coarse grained		BC=11 50/6"			8.4	110.7					
5		increased sand content		BC=14 50/6"			10.3	113.2					
10				BC=22 29 32		SM				22			
15		<b>Lean CLAY with Gravel (CL):</b> medium plasticity, olive brown, moist, very hard, fine to medium grained sand, with fine to coarse subangular to subrounded gravel, including cobble fragments		BC=26 50/6"			7.5	108.2					
20		<b>Silty SAND with Gravel (SM):</b> olive yellow, moist, very dense, fine to medium grained, with fine gravel, 1-inch layer of quartz		BC=9 20 42		SM			74	18			
25		<b>Poorly-graded GRAVEL with Silt and Sand (GP-GM):</b> olive brown, moist, very dense, coarse subrounded to rounded gravel, with fine grained sand		BC=50/3"	NR								
30		<b>Silty SAND with Gravel (SM):</b> light brown gray, moist, very dense, fine to coarse grained, with fine subangular gravel		BC=18 46 40		SM			67	15			
35		<p>The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.</p> <p><u>GENERAL NOTES:</u></p>											



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### BORING LOG B-29

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/08/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-30</b>
<b>Logged By:</b> J. Campos	<b>Drill Crew:</b> M. Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,532.612 Easting: 6,585,256.768 Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Clayey SAND (SC):</b> low plasticity, olive, dry to moist, very dense, fine to coarse grained, moderately cemented	BC=27 50/5"		SC	9.6	114.3				31	15	<b>pH= 6.82</b> <b>Resistivity=</b> 1820 ohm-cm <b>Sulfates=</b> 4.7 ppm <b>Chlorides=</b> 8.0 ppm <b>ASTM D1557 Method B=</b> Uncorr. Max. Dry Unit Wt.: 122.5 pcf Uncorr. Opt. Water Content: 10.7% Corr. Max. Dry Unit Wt.: 125.8 pcf Corr. Opt. Water Content: 9.5% <b>R-Value= 6</b> <b>Expansion Index= 26</b>
	yellow brown	BC=7 13 15											
10	gravel up to 2.5-inches diameter	BC=12 32 40				7.6	123.3						
15	decreased gravel content	BC=18 18 27			SC						42	26	
20	<b>Poorly-graded GRAVEL with Clay (GP-GC):</b> low plasticity, brown, moist, very dense, fine subrounded to rounded gravel	BC=50/3"											
25	<b>Silty SAND (SM):</b> olive, moist, very dense, fine to medium grained	BC=15 28 50/4"			SM					22			
30	<b>Poorly-graded GRAVEL with Clay (GP-GC):</b> low to medium plasticity, moist, very dense, fine to coarse subrounded to rounded gravel, with fine grained sand	BC=32 50/4"											
35	The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.					<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							

GROUNDWATER LEVEL INFORMATION:  
Groundwater was not encountered during drilling or after completion.

GENERAL NOTES:



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

**BORING LOG B-30**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 1 of 1

<b>Date Begin - End:</b>	8/08/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-31</b>
<b>Logged By:</b>	J. Campos	<b>Drill Crew:</b>	M. Ceja	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,180.486 Easting: 6,585,256.537 Surface Condition: Grass	Sample Type	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks	
		Lithologic Description	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf										
		<b>Silty SAND (SM):</b> olive yellow, dry to moist, medium dense, fine to coarse grained, moderately cemented										<b>Direct Shear=</b> Peak Cohesion: 267 psf Peak Friction Angle: 46.1° Ultimate Cohesion: 0 psf Ultimate Friction Angle: 46.0°	
5			BC=14 15 13		SM	18.3	99.4						
			BC=4 5 22										
10		<b>Silty SAND with Gravel (SM):</b> yellow brown, moist, dense, fine to medium grained, with fine to coarse subangular gravel			SM			57	15				
			BC=12 25 25										
15		<b>Poorly-graded SAND with Silt (SP-SM):</b> olive, moist, dense, fine to medium grained, trace fine subrounded gravel			SP-SM							<b>Direct Shear=</b> Peak Cohesion: 467 psf Peak Friction Angle: 37.6° Ultimate Cohesion: 500 psf Ultimate Friction Angle: 26.6°	
			BC=21 22 23										
20		<b>Silty SAND with Gravel (SM):</b> yellow brown, moist, very dense, fine to medium grained, with fine subangular gravel, silt pockets present			SM			62	20				
			BC=16 40 34										
25		<b>Poorly-graded GRAVEL with Clay (GP-GC):</b> low plasticity, yellow brown, moist, very dense, fine to coarse subangular gravel, with fine to medium grained sand											
			BC=23 50/6"										
30		<b>Poorly-graded SAND with Silt and Gravel (SP-SM):</b> olive, wet, very dense, fine to coarse grained, with fine gravel, silt nodules			SP-SM			74	11			The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.	
			BC=6 31 27										
35												<b>GROUNDWATER LEVEL INFORMATION:</b> ≡ Perched groundwater was observed at approximately 26 ft. below ground surface during drilling.	
												<b>GENERAL NOTES:</b>	



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### BORING LOG B-31





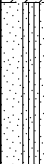

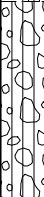

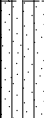




UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-33

PAGE: 1 of 1

<b>Date Begin - End:</b>	<u>8/07/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-32</b>	
<b>Logged By:</b>	<u>F. Jaime</u>	<b>Drill Crew:</b>	<u>R. Slagle</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>CME-75</u>		<b>Hammer Type - Drop:</b> <u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>8 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,171.755 Easting: 6,585,681.638 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Clayey SAND with Gravel (SC):</b> low plasticity, yellow red to brown, moist, medium dense to very dense, fine to coarse grained, with fine to coarse subangular to subrounded gravel up to 1-inch diameter		BC=19 50/6"		SC	6.9	100.3	72	37	23	10	
10				BC=9 19 22									
15		<b>Poorly-graded SAND with Silt (SP-SM):</b> brown, moist, medium dense, fine grained, light iron oxide staining  decreased clay content, increased gravel content		BC=6 8 8		SP-SM			94	9.7			
20		<b>Silty GRAVEL (GM):</b> low plasticity, brown, moist, very dense, fine to coarse subangular to subrounded gravel up to 2-inches diameter, with fine grained sand		BC=33 50/5"			6.5	118.4					
25		<b>Sandy SILT (ML):</b> low to medium plasticity, brown mottled with light gray, moist, medium dense, fine grained sand, some clay		BC=9 12 13		ML							<b>Consolidation</b>
30		<b>Sandy Lean CLAY (CL):</b> medium plasticity, brown, moist, firm, fine grained sand		BC=9 18 27 PP=1.5									
35				BC=21 36 38 PP=1.0									
		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## BORING LOG B-32

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-33</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 1,954,527.212 Easting: 6,585,678.474 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
		<b>Silty SAND (SM):</b> brown, moist, medium dense to dense, fine grained, weakly cemented												
		decreased grain size	BC=18 15 9			11.3	97.8							
5		increased clay content	BC=16 18 25		SM	5.5	97.1							
		<b>Poorly-graded SAND with Silt (SP-SM):</b> brown, moist, medium dense to very dense, fine to medium grained, trace fine subrounded gravel up to 0.5-inches diameter												
10			BC=50/4"											
			BC=4 7 9											
		<b>Poorly-graded SAND (SP):</b> brown, moist, dense to very dense, fine to medium grained, light iron oxide staining												
15			BC=27 50/5"											
			BC=50/4"											
			BC=18 22 25											
20		increased gravel and fines content, heavy iron oxide staining	BC=29 30 42											
		<b>Clayey SAND (SC):</b> brown, moist, very dense, fine to coarse grained, with fine to coarse subangular gravel up to 1-inch diameter, with some rock fragments												
25			BC=20 50/2"											
			BC=35 50/4"											
30		decreased clay content, increased silt content	BC=18 30 32											
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.					<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### BORING LOG B-33

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-34</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,897.329 Easting: 6,585,679.065 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		Clayey SAND with Gravel (SC): brown, moist, medium dense to dense, fine grained, with fine gravel up to 0.5-inches diameter, trace clay	BC=15 22 40			SC	18.7	102.5	83	36			pH= 7.34 Resistivity= 1500 oh-cm Sulfates= 0.9 ppm Chlorides= 10.4 ppm ASTM D1557 Method B= Max. Dry Unit Wt.: 123.1 pcf Opt. Water Content: 9.0% R-Value= 7 Expansion Index= 27
		trace fine gravel, increased fines content, increased clay content	BC=15 18 22				18.7	103.6					
10		trace subangular gravel up to 0.75-inches diameter	BC=9 10 14										
15		increased gravel content, increased clay content	BC=9 15 19										
			BC=8 9 14										
20		Silty Clayey SAND (SC-SM): low plasticity, moist, medium dense, interbedded Poorly Graded Sand with Silt (SP-SM) with Silty, Clayey Sand (SC-SM), bedding approximately 2-inches thick	BC=15 14 8										
25		Clayey SAND with Gravel (SC): low plasticity, brown, moist, very dense, fine grained, with fine to coarse angular to subangular gravel up to 1-inch diameter	BC=50/5" BC=42 50/5.5"										
30		Clayey SAND (SC): low to medium plasticity, light brown gray, moist, medium dense to dense, fine grained sand, mottled with iron oxide staining	BC=15 18 23 PP=1.5										
35		increased sand content, no iron oxide staining	BC=13 18 27 PP=2.75				18.3	99.3					



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## BORING LOG B-34


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FIGURE

A-36

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-34</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,954,897.329 Easting: 6,585,679.065 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Clayey SAND (SC):</b> low to medium plasticity, light brown gray, moist, medium dense to dense, fine grained sand, mottled with iron oxide staining decreased sand content, with iron oxide staining	BC=5 8 13 PP=1.0		SC				43	35	15		
45		<b>Poorly-graded SAND (SP):</b> brown yellow, moist, medium dense to very dense, fine to coarse grained, trace fine subrounded gravel up to 0.5-inches thick, with iron oxide staining	BC=19 35 44			4.7	116.6						
50			BC=18 13 16		SP						NP	NP	
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
60													
65													
70													
75													



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**BORING LOG B-34**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-35</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,955,272.63 Easting: 6,585,675.853 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Clayey SAND (SC):</b> low plasticity, brown, moist, medium dense to dense, fine to medium grained, few fine subrounded gravel up to 0.5-inches diameter, weakly to moderately cemented increased gravel content	BC=20 30 22										
			BC=10 12 15				7.8	108.9					
10		decreased clay content, mica present	BC=7 12 15			SC					31	19	
15		<b>Silty SAND (SM):</b> brown, moist, medium dense, fine to coarse grained, trace clay, mica present	BC=50/4" BC=27 12 14										
20			BC=7 12 16			SM			85	17			
25		<b>Clayey SAND with Gravel (SC):</b> low plasticity, brown, moist, medium dense, fine to coarse grained, with fine subangular to subrounded gravel up to 0.75-inches diameter	BC=8 12 17				7.3	117.1					
			BC=12 15 21										
30		<b>Silty GRAVEL with Sand (GM):</b> brown, moist, very dense, fine to coarse subangular to subrounded gravel up to 1.25-inches diameter, with fine to coarse grained sand, trace clay	BC=18 35 50/4"			GM			53	15			
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014. <div> <b>GROUNDWATER LEVEL INFORMATION:</b>              Groundwater was not encountered during drilling or after completion.  <b>GENERAL NOTES:</b> </div>											



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### BORING LOG B-35

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FIGURE

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-36</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,955,619.099 Easting: 6,585,669.289 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Clayey SAND with Gravel (SC):</b> brown, moist, medium dense, fine to medium grained, with fine to coarse subangular to subrounded gravel up to 3-inches diameter, with cobbles up to 4-inches diameter	BC=5 7 8		SC			71	25	24	11	<b>ASTM D1557 Method B=</b> Uncorr. Max. Dry Unit Wt.: 135.8 pcf Uncorr. Opt. Water Content: 5.8% Corr. Max. Dry Unit Wt.: 140.8 pcf Corr. Opt. Water Content: 5.0% <b>R-Value= 6</b> <b>Expansion Index= 8</b>	
		<b>Sandy Lean CLAY with Gravel (CL):</b> medium plasticity, brown, moist, firm, fine grained sand, with coarse gravel	BC=2 5 8 PP=4.0 BC=6 3 2										
10		<b>Poorly-graded GRAVEL (GP):</b> moist, medium dense to very dense, fine to coarse subangular to subrounded gravel up to 3-inches diameter	BC=2 2 5										
			BC=3 1 2										
15			BC=27 50/6"										
20		<b>Silty Clayey GRAVEL (GC-GM):</b> brown, moist, very dense, fine to coarse subrounded gravel up to 2.5-inches diameter, with fine grained sand	BC=37 35 50/4"										
25		<b>Sandy SILT (ML):</b> non-plastic to low plasticity, brown, moist, medium dense, fine grained sand, trace clay, with iron oxide staining	BC=27 12 15 PP=4.5										
30		<b>Clayey SAND (SC):</b> low plasticity, brown, moist, dense, fine grained	BC=15 27 27			24.2	91.5						
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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**BORING LOG B-36**

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 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/07/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-37</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,955,985.746 Easting: 6,585,663.57 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Silty SAND with Gravel (SM):</b> brown, moist, very dense, fine grained, with fine to coarse gravel, trace cobbles up to 4-inches diameter											
5		decreased gravel content, increased fines and sand content		BC=50/6"									
				BC=34 36 40		16.3	105.1						
10		<b>Sandy SILT (ML):</b> low plasticity, brown, moist, very dense, fine grained sand, trace gravel, trace clay, moderately cemented		BC=7 30 32 PP=4.5									
15		increased clay content, decreased moisture content		BC=12 15 21 PP=4.5									
20		<b>Silty SAND (SM):</b> brown, moist, medium dense, fine grained, trace clay		BC=3 9 12 PP=3.5									
25		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, brown, moist, hard, fine grained sand, weakly to moderately cemented, trace black staining		BC=8 12 16 PP=4.5									
30				BC=12 15 20 PP=4.5		CL							Consolidation
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 07, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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## BORING LOG B-37
















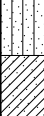



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FIGURE

A-39

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/08/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-38</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,956,328.514 Easting: 6,585,669.555 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Clayey SAND with Gravel (SC):</b> low plasticity, brown, moist, very dense, fine grained, fine to coarse subangular to subrounded gravel up to 3-inches diameter	 BC=50 50/6"		SC	12.1	108.0	76	46	39	19	<b>pH= 6.24</b> <b>Resistivity= 960</b> <b>Sulfates= 7.6 ppm</b> <b>Chlorides= 21.1 ppm</b> <b>ASTM D1557 Method B=</b> Uncorr. Max. Dry Unit Wt.: 115.0 pcf Uncorr. Opt. Water Content: 12.9% Corr. Max. Dry Unit Wt.: 121.1 pcf Corr. Opt. Water Content: 10.6% <b>R-Value= R&lt;5</b> <b>Expansion Index= 54</b>	
			 BC=8 13 30		SC			93	54				
10		<b>Clayey SAND (SC):</b> low plasticity, brown, moist, very dense, fine grained, weakly cemented, few black clay nodules	 BC=11 27 50/3"			20.6	93.2						
15		<b>Silty SAND (SM):</b> brown, moist, medium dense to dense, fine grained, weakly cemented	 BC=7 13 21		SM			100	49				
20		increased fines content	 BC=9 20 40			23.9	87.5						
		<b>Sandy Elastic SILT (MH):</b> low to medium plasticity, brown, moist, dense, fine grained sand											
25			 BC=12 22 27 PP=2.5		MH					58	24		
30			 BC=5 15 18 PP=1.75			31.4	81.9						
		<b>Silty SAND (SM):</b> brown, moist, medium dense, fine grained, trace clay nodules											
35		<b>Sandy SILT (ML):</b> low plasticity, brown, moist, medium dense, fine grained sand, some clay nodules, trace sand lenses	 BC=12 15 27 PP=2.5										
		<b>Silty SAND (SM):</b> dark brown, moist, very dense, fine grained, some mica											
		<b>Sandy Lean CLAY (CL):</b> light brown gray, moist, hard, fine grained sand, weakly cemented											



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## BORING LOG B-38


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FIGURE

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PAGE: 1 of 2

<b>Date Begin - End:</b> 8/08/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-38</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,956,328.514 Easting: 6,585,669.555 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> light brown gray, moist, hard, fine grained sand, weakly cemented	BC=12 20 27 PP=3.0		CL	32.1	82.0						
45			BC=11 15 27 PP=3.75								36	15	
50		<b>Silty SAND (SM):</b> brown, moist, very dense, fine grained, trace fine gravel cemented in sand matrix, moderately cemented	BC=50/5"				26.8	89.1					
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 08, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
60													
65													
70													
75													



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**BORING LOG B-38**


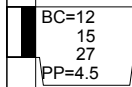
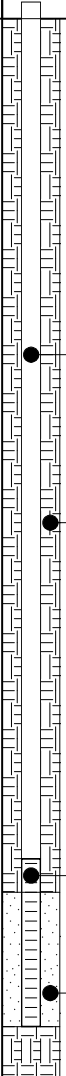
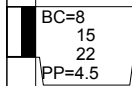
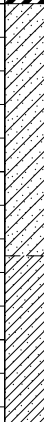
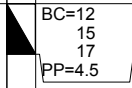
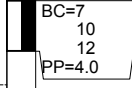

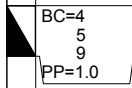

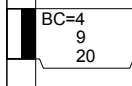

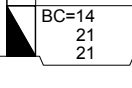

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FIGURE

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PAGE: 2 of 2

<b>Date Begin - End:</b>	8/08/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-39</b>
<b>Logged By:</b>	F. Jaime	<b>Drill Crew:</b>	R. Slagle	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							PIEZOMETER CONSTRUCTION*	
		Northing: 1,956,899.386 Easting: 6,585,401.876 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)		
5		<b>Sandy Fat CLAY (CH):</b> high plasticity, brown, moist, hard, fine grained sand			CH	14.0	117.3			57	38	 2-inch PVC riser from 0-25 ft bgs  Soil Cuttings from 0-26 ft bgs		
					CH									
10		<b>Clayey SAND (SC):</b> medium plasticity, brown, moist, medium dense to dense, fine grained, light iron oxide staining			SC			44	32	16				
15		trace clay, low plasticity			SC									
20		<b>Sandy Lean CLAY (CL):</b> medium plasticity, brown, moist, medium dense, fine grained sand			CL			64	39	16				
25		<b>Silty SAND (SM):</b> brown, moist, medium dense to dense, fine grained, some clay nodules				19.0	97.2					 Well screen from 25-30 ft bgs		
30												 Clean graded, kiln dried Monterey Sand from 26-30 ft bgs		
35		The boring was terminated at approximately 31.5 ft. below ground surface. Piezometer installed to a depth of 30 ft below ground surface.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion. GENERAL NOTES:								



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### BORING LOG B-39

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-40</b>
<b>Logged By:</b> F. Jaime	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Northing: 1,956,952.346 Easting: 6,585,205.363 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
		<b>Sandy Lean CLAY (CL):</b> medium plasticity, moist, fine grained sand, trace fine subrounded gravel up to 0.5-inches diameter		BC=14 17 27 PP=4.5		CL	12.7	107.2						R-Value= R<5
5		<b>Clayey SAND (SC):</b> brown, moist, dense, fine grained, moderately cemented		BC=6 12 21		CL				69	50	30		
		<b>Silty SAND (SM):</b> light brown, moist, medium dense to dense, fine grained												
10				BC=16 19 39			14.7	105.4						
15		decreased fines content		BC=4 10 18						43				
		<b>Sandy Lean CLAY (CL):</b> medium plasticity, dark yellow brown, moist, firm, fine grained sand												
20				BC=6 17 27			17.2	94.4						
25				BC=5 7 12 PP=4.5										
		<b>Poorly-graded SAND (SP):</b> brown, moist, medium dense, fine to coarse grained, light iron oxide staining												
30		light gray		BC=9 11 22										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>								



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**BORING LOG B-40**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-42

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<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> DSI Drilling	<b>BORING LOG B-41</b>
<b>Logged By:</b> M. Owens	<b>Drill Crew:</b> C. Davis	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> B-37 Mobil	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Trip - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,957,249.784 Easting: 6,584,976.804 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy SILT with Gravel and Cobbles (ML)</b>											
		<b>Sandy Lean CLAY (CL):</b> medium plasticity, red brown, moist, hard, fine grained sand		BC=12 21 25 PP=4.5			14.4	96.8					
5		brown with red brown mottling		BC=23 28 34		CL							<b>Direct Shear=</b> Peak Cohesion: 510 psf Peak Friction Angle: 36.1° Ultimate Cohesion: 310 psf Ultimate Friction Angle: 35.7°
10				BC=6 14 22		CL				53	29	13	
15		zones of black along fracture seams		BC=8 33 37 PP=4.5		CL	13.0	103.8					
20				BC=15 21 26		CL				63	36	20	
25				BC=14 28 37			22.4	89.0					
30				BC=9 15 25		CL				62	38	20	
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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### BORING LOG B-41

UNIVERSITY OF CALIFORNIA, MERCED  
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 MERCED, CALIFORNIA

FIGURE

A-43

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<b>Date Begin - End:</b>	8/06/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-42</b>
<b>Logged By:</b>	M. Beswick	<b>Drill Crew:</b>	R. Slagle	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,956,967.055 Easting: 6,584,698.028 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Lean CLAY with Gravel and Cobbles (CL):</b> medium plasticity, red brown, moist, firm, fine grained sand, with fine to coarse subrounded gravel, cobbles up to 4-inches diameter		BC=12 25 50/3"		CL	7.6	101.7					<b>pH= 7.85</b> <b>Resistivity=</b> 800 ohm-cm <b>Sulfates=</b> 7.5 ppm <b>Chlorides=</b> 13.9 ppm <b>ASTM D1557 Method A=</b> Uncorr. Max. Dry Unit Wt.: 115.3 pcf Uncorr. Opt. Water Content: 13.6% Corr. Max. Dry Unit Wt.: 122.0 pcf Corr. Opt. Water Content: 11.4% <b>Expansion Index= 52</b> <b>Consolidation</b> <b>Direct Shear=</b> Peak Cohesion: 613 psf Peak Friction Angle: 31.4° Ultimate Cohesion: 113 psf Ultimate Friction Angle: 30.5°
5		<b>Clayey SAND (SC):</b> red brown with white, moist, dense, fine to coarse grained		BC=7 14 22		SC			100	39			
10		<b>Lean CLAY (CL):</b> low to medium plasticity, light brown gray, moist, firm to hard		BC=8 10 19 PP=3.0		CL							
15		dark red brown, with fine grained sand		BC=9 16 29									
20		<b>Silty SAND (SM):</b> red brown, moist, very dense, fine to medium grained		BC=13 22 46			15.9	111.2					
25		<b>Silty CLAY (CL-ML):</b> low plasticity, red brown, moist, firm, fine to medium grained sand		BC=6 8 15									
30		<b>Sandy Lean CLAY (CL):</b> low to high plasticity, red brown, moist, hard to very hard, fine to medium grained sand		BC=10 18 27		CL	19.2	103.3				<b>Consolidation</b>	
35		yellow brown		BC=5 12 17									



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### BORING LOG B-42

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-44

PAGE: 1 of 3

<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> All Well Abandonment	<b>BORING LOG B-42</b>
<b>Logged By:</b> M. Beswick	<b>Drill Crew:</b> R. Slagle	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,956,967.055 Easting: 6,584,698.028 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		<b>Sandy Lean CLAY (CL):</b> low to high plasticity, red brown, moist, hard to very hard, fine to medium grained sand	BC=9 14 25										
45		<b>Lean CLAY (CL):</b> medium plasticity, dark brown, moist, hard	BC=5 12 24										
50		<b>Silty SAND (SM):</b> brown, moist, very dense, fine to medium grained, weakly to moderately cemented	BC=8 20 50/4"										
55			BC=6 24 50/5"										
60		<b>Lean CLAY (CL):</b> low to medium plasticity, dark brown, moist, very hard, moderately to strongly cemented, mottled color	BC=10 20 50/6" PP=4.5										
65		<b>SILT with Sand (ML):</b> low plasticity, yellow brown, moist, hard, fine to medium grained sand	BC=7 16 26										
70		<b>Sandy Lean CLAY (CL):</b> low plasticity, brown, moist, very hard, fine to medium grained sand, strongly cemented	BC=9 29 50/5"										
75			BC=8 20 26										



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### BORING LOG B-42

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA






FIGURE

**A-44**

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<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>All Well Abandonment</u>	<b>BORING LOG B-42</b>	
<b>Logged By:</b>	<u>M. Beswick</u>	<b>Drill Crew:</b>	<u>R. Slagle</u>		
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>CME-75</u>	<b>Hammer Type - Drop:</b>	<u>140 lb. Auto - 30 in.</u>
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>Hollow Stem Auger</u>		
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Boring Diameter:</b>	<u>8 in. O.D.</u>		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,956,967.055 Easting: 6,584,698.028 Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> low plasticity, brown, moist, very hard, fine to medium grained sand, strongly cemented	 BC=9 22 35										
85			 BC=8 17 23										
90		<b>Lean CLAY with Sand (CL):</b> olive brown, moist, firm to hard, fine grained sand	 BC=8 18 24										
95			 BC=6 12 21										
100		<b>Sandy Lean CLAY (CL):</b> red brown, moist, very hard, moderately to strongly cemented	 BC=7 10 26										
105		The boring was terminated at approximately 101.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
110													
115													



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### BORING LOG B-42

UNIVERSITY OF CALIFORNIA, MERCED  
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 MERCED, CALIFORNIA

FIGURE

**A-44**

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<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> DSI Drilling	<b>BORING LOG B-43</b>
<b>Logged By:</b> M. Owens	<b>Drill Crew:</b> C. Davis	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> B-37 Mobil	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, warm	<b>Boring Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Trip - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,956,688.71 Easting: 6,584,944.26 Surface Condition: Open Field	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Silty SAND with Gravel and Cobbles (SM)</b>											<b>Direct Shear=</b> Peak Cohesion: 0 psf Peak Friction Angle: 37.8° Ultimate Cohesion: 0 psf Ultimate Friction Angle: 35.0°
5		<b>Silty SAND (SM):</b> brown to light brown, moist, dense to very dense, fine grained	BC=20 39 46		SM								
			BC=20 36 49										
10		<b>Sandy Lean CLAY (CL):</b> low to medium plasticity, red brown, moist, hard			CL				51	31	11		
			BC=9 30 36 PP=4.5										
15		<b>Sandy SILT (ML):</b> non-plastic, red brown, moist, very dense, fine grained sand											
			BC=25 36 42 PP=4.5			24.6	96.6						
20		<b>Clayey SILT (ML):</b> non-plastic, red brown, moist, hard											
			BC=7 11 23 PP=4.5										
25			BC=23 32 39			18.7	105.3						
30		<b>Lean CLAY (CL):</b> non-plastic to low plasticity, red brown, moist, hard											
			BC=11 25 37										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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### BORING LOG B-43

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-45

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<b>Date Begin - End:</b>	8/06/2014	<b>Drilling Company:</b>	All Well Abandonment	<b>BORING LOG B-44</b>
<b>Logged By:</b>	M. Beswick	<b>Drill Crew:</b>	R. Slagle	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,956,461.05 Easting: 6,584,647.301 Surface Condition: Open Field	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Gravelly CLAY with Cobbles (CL):</b> medium plasticity, red brown, dry to moist, firm				CL							<b>pH= 7.58</b> <b>Resistivity=</b> 1100 ohm-cm <b>Sulfates=</b> 1.1 ppm <b>Chlorides=</b> 14.6 ppm <b>ASTM D1557 Method A=</b> Max. Dry Unit Wt.: 114.6 pcf Opt. Water Content: 13.7%
5		<b>Sandy SILT (ML):</b> yellow brown, moist, medium dense to very dense, fine grained	BC=14 24 35		ML					52			
			BC=5 12 10										
10		<b>Sandy Lean CLAY (CL):</b> brown, moist, firm, fine grained sand				4.1	102.2						
		<b>Poorly-graded SAND (SP):</b> yellow brown, moist, medium dense to dense, fine to medium grained	BC=10 13 19										
15			BC=3 7 8		SM					42			
		<b>Silty SAND (SM):</b> yellow brown, moist, medium dense, fine to medium grained	BC=4 11 17			21.4	103.3						
20		<b>Sandy Lean CLAY (CL):</b> brown, moist, firm to hard, fine to medium grained sand	BC=5 17 25										
25													
30		<b>Silty SAND (SM):</b> yellow brown, moist, medium dense, fine to medium grained	BC=4 7 8										
35		The boring was terminated at approximately 31.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 06, 2014.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							



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### BORING LOG B-44

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b>	8/06/2014	<b>Drilling Company:</b>	DSI Drilling	<b>BORING LOG B-45</b>
<b>Logged By:</b>	M. Owens	<b>Drill Crew:</b>	C. Davis	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	B-37 Mobil	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny, warm	<b>Boring Diameter:</b>	6 in. O.D.	
<b>Hammer Type - Drop:</b>				140 lb. Trip - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Northing: 1,956,700.422 Easting: 6,584,390.427 Surface Condition: Open Field	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy SILT with Gravel and Cobbles (ML):</b> non-plastic, moist, firm											
5		<b>Sandy Lean CLAY with Gravel (CL):</b> non-plastic, yellow brown, moist, hard, fine grained sand, with fine rounded gravel up to 1.5-inches diameter	BC=50/5"										
			BC=50/4"										
10		light gray brown with red brown mottling	BC=2 10 21										
15		<b>Silty SAND (SM):</b> light brown, moist, very dense, fine to coarse grained, trace clay	BC=28 36 45		SM	6.8	107.5		13				
20		<b>Clayey SAND (SC):</b> medium plasticity, moist, very dense, fine grained sand	BC=31 49 50/4"		SC						36	20	
25	↑	The boring was terminated because of practical auger refusal (↑) at approximately 21.5 ft. below ground surface on due to suspected cobbles or hard conditions. The exploration was backfilled with auger cuttings on August 06, 2014.											
30		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.											
35		<u>GENERAL NOTES:</u>											



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### BORING LOG B-45


UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 1 of 1

<b>Date Begin - End:</b> 8/19/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-50</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>ASPHALT:</b> 5-inch thickness <b>AGGREGATE BASE:</b> 9-inch thickness <b>Sandy Lean CLAY (CL):</b> fine to medium-grained sand, medium plasticity, reddish brown, moist, firm	BC=16 23 25										
5			BC=17 6 9										
10			BC=9 16 18										
15			BC=5 8 11										
20		<b>Clayey SAND (SC):</b> fine to medium-grained, non-plastic to low plasticity, light brownish gray, moist, medium dense	BC=10 16 29										
25		<b>Poorly-graded SAND (SP):</b> fine to medium-grained, light brownish gray, moist, medium dense to dense	BC=7 9 12										
30			BC=11 20 25										
35		fine to coarse-grained											
40		The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 19, 2015.											
45		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion.											
50													
55													



PROJECT NO.: 20151969  
 DRAWN BY: TD  
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 DATE: 8/31/2015  
 REVISED: -

**BORING LOG B-50**


UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-48

PAGE: 1 of 1

<b>Date Begin - End:</b>	8/25/2015	<b>Drilling Company:</b>	AWA	<b>BORING LOG B-51</b>
<b>Logged By:</b>	S. Linton	<b>Drill Crew:</b>	Juan/Miguel	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny/Hot	<b>Auger Diameter:</b>	6 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, medium plasticity, yellowish brown, moist, very hard, trace fine gravel		BC=11 11 21 PP=4.5									
10		no gravel		BC=8 11 13									
15				BC=7 19 31 PP=4.5									
20				BC=7 13 21									
25		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, light brownish gray, moist, very dense, with gravel up to 2 inches, trace fines		BC=22 49 39									
30		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.											
35		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 25, 2015.											
40													
45													
50													
55													



PROJECT NO.: 20151969  
 DRAWN BY: TD  
 CHECKED BY: MB  
 DATE: 8/31/2015  
 REVISED: -

**BORING LOG B-51**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-49**

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/21/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-52</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, medium plasticity, dark brown, moist, firm											
5				BC=7 8 9									
		yellowish brown											
10				BC=4 10 17									
15				BC=19 21 33									
		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, light brownish gray with yellowish brown, moist, dense											
20		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained sand, low to medium plasticity, yellowish brown, moist, soft		BC=8 12 14									
		<b>Poorly-graded SAND (SP):</b> fine to medium-grained, light brownish gray, moist, medium dense, trace fines											
25				BC=10 16 31									
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 21, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.							
35													
40													
45													
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### BORING LOG B-52


UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-50

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/26/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-53</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, low to medium plasticity, yellowish brown, moist, firm	BC=5 6 8											
10		BC=6 9 13												
15		BC=9 17 27												
20		<b>Clayey SAND (SC):</b> fine to medium-grained, non-plastic to low plasticity, yellowish brown with light brownish gray, moist, dense	BC=6 19 28											
25		BC=8 15 16												
30	The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 26, 2015.													<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.
35														
40														
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50														
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**BORING LOG B-53**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-51

PAGE: 1 of 1



<b>Date Begin - End:</b> 8/19/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-54</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, yellowish brown with light brownish gray, moist, firm											
5			BC=12 34 50/4"										
10			BC=5 9 16										
15		yellowish brown	BC=5 18 27										
20			BC=6 16 22										
25			BC=8 18 40										
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 19, 2015.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion.							
35													
40													
45													
50													
55													



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### BORING LOG B-54


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MERCED, CALIFORNIA

FIGURE

A-52

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/20/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-55</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Gravel Road	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>FILL</b> <b>Silty SAND (SM):</b> fine to medium-grained, light brownish gray, moist, with sub-angular gravel											
5		<b>NATIVE</b> <b>Clayey SAND (SC):</b> fine to coarse-grained, yellowish brown, moist, medium dense to very dense, trace gravel	BC=30 42 47										
10		no gravel	BC=14 24 32										
15			BC=11 18 29										
20			BC=16 37 48										
25			BC=10 12 15										
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 20, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.							
35													
40													
45													
50													
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### BORING LOG B-55

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FIGURE

A-53

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/21/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-56</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, brown, moist, firm	BC=7 9 11										
10		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, non-plastic to low plasticity, light brownish gray, moist, medium dense	BC=5 10 12										
15		<b>Clayey SAND (SC):</b> fine to coarse-grained, non-plastic to low plasticity, light brownish gray with yellowish brown, moist, dense	BC=17 15 21										
20			BC=10 22 50										
25		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, medium plasticity, yellowish brown, moist, firm	BC=6 12 20										
30		<b>Poorly-graded SAND (SP):</b> fine to medium-grained, light brownish gray, moist, dense	BC=10 17 28										
35		<b>Clayey SAND (SC):</b> fine to medium-grained, low plasticity, yellowish brown with light brownish gray, moist, dense	BC=9 17 24										
40		<p>The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 21, 2015.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.</p>											
45													
50													
55													



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### BORING LOG B-56

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FIGURE

A-54

PAGE: 1 of 1

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
<b>Date Begin - End:</b> 8/20/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-57</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, low plasticity, olive brown, moist, firm											
5			BC=11 20 27										
10			BC=7 14 19										
15		fine to medium-grained sand, yellowish brown	BC=5 12 20										
20			BC=6 13 18										
25		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, light brownish gray, moist, dense to very dense	BC=14 19 33										
30			BC=16 37 41										
35		<b>Clayey SAND (SC):</b> fine to coarse-grained, non-plastic to low plasticity, yellowish brown, moist											
		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, yellowish brown with light brownish gray, moist, dense	BC=10 17 25										
40		The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with grout on August 20, 2015.											
45													
50													
55													
		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion.											

	PROJECT NO.: 20151969	<b>BORING LOG B-57</b>  UNIVERSITY OF CALIFORNIA, MERCED 2020 DEVELOPMENT PROJECT MERCED, CALIFORNIA	FIGURE  <b>A-55</b>
	DRAWN BY: TD, MP		
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	DATE: 9/8/2015		
	REVISED: -		

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
 GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_BORING/TEST PIT SOIL LOG]

<b>Date Begin - End:</b> 8/21/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-58</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, low to medium plasticity, yellowish brown, moist, firm, moderately cemented		BC=5 7 11									
10				BC=6 13 21									
15				BC=10 31 50/5"									
20				BC=7 11 20									
25				BC=9 19 39									
30				BC=5 10 14									
35				BC=14 41 50/4"									
40				BC=10 13 13									
45				BC=14 26 22									
50				BC=10 18 19									
55	The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 21, 2015.												<div>GROUNDWATER LEVEL INFORMATION:</div> <div> Groundwater was observed at approximately 50 ft. below ground surface during drilling.</div>



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**BORING LOG B-58**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-56

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/24/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-59</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained sand, medium plasticity, yellowish brown, moist, firm											
6		6-inch layer of Poorly-Graded Sand											
10		<b>Clayey SAND (SC):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, medium dense to very dense, with fine gravel											
15			BC=12 35 39										
20			BC=7 19 50/5"										
25			BC=11 16 27										
30			BC=8 27 45										
35			BC=8 10 18										
36.5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, medium plasticity, yellowish brown with light brownish gray, moist, firm	BC=12 21 30										
37			BC=8 15 24										
40		The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 24, 2015.											
45													
50													
55													

**GROUNDWATER LEVEL INFORMATION:**

Groundwater was not encountered during drilling or after completion.



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**BORING LOG B-59**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-57**

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/25/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-60</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, dense to very dense, trace fine gravel	BC=50/6"											
10		<b>Clayey SAND (SC):</b> fine to coarse-grained, non-plastic to low plasticity, yellowish brown, moist, medium dense, trace fine gravel	BC=15 38 17											
15			BC=36 50/6"											
20		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, yellowish brown, moist, dense, trace gravel and fines	BC=10 10 14											
25			BC=12 20 22											
30	The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 25, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.									
35														
40														
45														
50														
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PROJECT NO.: 20151969  
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**BORING LOG B-60**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-58

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/19/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-61</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Clayey SAND (SC):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, medium dense to very dense, trace gravel											
5		non-plastic to low plasticity, weakly cemented, no gravel		BC=30 31 31									
10		moderately cemented		BC=24 50/6"									
15				BC=31 50/5"									
20		fine to medium-grained, yellowish brown to light brownish gray		BC=11 15 24									
25		medium plasticity, dark brown		BC=5 18 23									
		non-plastic to low plasticity, light brownish gray											
30		medium plasticity, reddish brown		BC=8 8 9									
35		non-plastic to low plasticity, brown		BC=22 41 34									
40		The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 19, 2015.											
45		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion.											
50													
55													



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**BORING LOG B-61**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-59

PAGE: 1 of 1



<b>Date Begin - End:</b> 8/19/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-63</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Clayey SILT (ML):</b> fine to medium-grained, yellowish brown with light brownish gray, moist, medium dense to very dense		BC=13 33 49									
5													
10				BC=5 12 17									
15		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, light brownish gray with yellowish brown, moist, medium dense		BC=8 13 18									
20		red to reddish brown		BC=10 18 23									
25		<b>Clayey SAND (SC):</b> fine to medium-grained, yellowish brown to light brownish gray, moist, dense		BC=9 19 27									
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 19, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.							
35													
40													
45													
50													
55													



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 DRAWN BY: TD, MP  
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### BORING LOG B-63

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-60

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/19/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-64</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Clayey SAND (SC):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, medium dense											
5		fine to medium-grained, dense	BC=12 20 20										
10		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, non-plastic, yellowish brown with light brownish gray, moist, medium dense	BC=6 9 13										
15		trace gravel	BC=15 16 13										
20		<b>Clayey SAND (SC):</b> fine to medium-grained, medium plasticity, yellowish brown, moist, medium dense	BC=8 9 12										
25			BC=10 13 15										
30		very dense	BC=8 23 36										
35		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, non-plastic, brown, wet, dense	BC=11 16 28										
40		very dense	BC=13 32 43										
45		<b>Clayey SAND (SC):</b> fine to medium-grained, medium plasticity, yellowish brown with light brownish gray, wet, dense	BC=12 17 22										
50		6 inch layer of Poorly Graded Sand	BC=24 47 50										
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with grout on August 19, 2015.</p> <p><b>GROUNDWATER LEVEL INFORMATION:</b>            ∇ Groundwater was observed at approximately 35 ft. below ground surface during drilling.            ▼ Groundwater was observed at approximately 48 ft. below ground surface at the end of drilling.            HSA=Hollow Stem Auger            MR=Mud rotary</p>											



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**BORING LOG B-64**

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FIGURE

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<b>Date Begin - End:</b> 8/18/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-65</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Clayey SAND (SC):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, medium dense, moderate cemented, trace fine gravel		BC=7 9 8									
10				BC=5 9 10									
15				BC=8 12 17									
20		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, medium plasticity, reddish brown with light brownish gray, moist, firm		BC=9 12 15									
25				BC=7 14 17									
30				BC=9 17 24									
35		<b>Clayey SAND (SC):</b> fine to medium-grained, medium plasticity, yellowish brown, moist, dense		BC=7 15 25									
40		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, brown, wet, hard		BC=18 32 39									
45		brown to reddish brown		BC=13 22 26									
50				BC=8 14 28									
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with grout on August 18, 2015.</p> <p><b>GROUNDWATER LEVEL INFORMATION:</b>            ☒ Groundwater was observed at approximately 34 ft. below ground surface during drilling.            ▼ Groundwater was observed at approximately 33 ft. below ground surface at the end of drilling.            HSA=Hollow Stem Auger            MR=Mud rotary</p>											



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**BORING LOG B-65**

UNIVERSITY OF CALIFORNIA, MERCED  
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 MERCED, CALIFORNIA

FIGURE

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<b>Date Begin - End:</b> 8/18/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-66</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, low plasticity, brown, moist, firm		BC=10 16 17									
10		fine to medium-grained, medium plasticity, yellowish brown		BC=4 8 12									
15		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, non-plastic, yellowish brown to light brownish gray, moist, medium dense		BC=6 12 12									
20				BC=9 13 13									
25		trace fine gravel											
30		<b>Clayey SAND (SC):</b> fine to medium-grained, medium plasticity, reddish brown, moist, dense		BC=18 18 21									
35				BC=8 14 20									
40				BC=7 12 18									
45		yellowish brown		BC=11 19 28									
50		wet		BC=10 19 30									
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with grout on August 18, 2015.</p> <p><b>GROUNDWATER LEVEL INFORMATION:</b>            ∇ Groundwater was observed at approximately 50 ft. below ground surface during drilling.            ▼ Groundwater was observed at approximately 42 ft. below ground surface at the end of drilling.            HSA=Hollow Stem Auger            MR=Mud rotary</p>											



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**BORING LOG B-66**


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FIGURE

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<b>Date Begin - End:</b> 8/18/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-67</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
5		Clayey SAND (SC): fine to coarse-grained, medium plasticity, yellowish brown, moist, firm, trace gravel		BC=7 8 9										
10			BC=6 11 14											
15		reddish brown		BC=9 14 21										
20				BC=6 11 14 PP=2.5										
25				BC=8 13 17										
30	The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 18, 2015.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion.									
35														
40														
45														
50														
55														



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### BORING LOG B-67

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FIGURE

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<b>Date Begin - End:</b> 8/25/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-70</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, hard, trace gravel											
5		yellowish brown to light brownish gray, moderately to strongly cemented		BC=12 22 33									
10				BC=12 17 31									
15				BC=5 21 35									
20				BC=9 18 29									
25				BC=14 30 50/4"									
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 25, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
35													
40													
45													
50													
55													



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### BORING LOG B-70

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FIGURE

A-65

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<b>Date Begin - End:</b> 8/26/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-71</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, hard, trace fine gravel											
5		light brownish gray with yellowish brown		BC=8 16 22									
10				BC=5 25 50/5"									
15				BC=5 16 21									
20				BC=13 29 50/4"									
25				BC=8 11 21									
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 26, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
35													
40													
45													
50													
55													



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### BORING LOG B-71

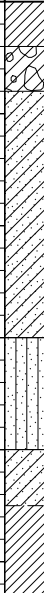
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FIGURE

A-66

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/25/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-72</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, medium dense											
5		<b>Clayey GRAVEL with Sand (GC):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, medium dense, fine gravel up to 2 inches	BC=14 27 36										
10		<b>Clayey SAND (SC):</b> fine to medium-grained, medium plasticity, yellowish brown, moist, medium dense	BC=7 17 26										
15		<b>Silty SAND (SM):</b> fine to medium-grained, non-plastic to low plasticity, yellowish brown, moist, medium dense	BC=11 12 15										
20		<b>Clayey SAND (SC):</b> fine to medium-grained, low plasticity, yellowish brown, moist, very dense	BC=14 27 38										
25		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, medium plasticity, yellowish brown, moist, firm	BC=7 13 29										
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 25, 2015.											
35		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>											
40													
45													
50													
55													



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### BORING LOG B-72

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FIGURE

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<b>Date Begin - End:</b> 8/25/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-73</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY with Gravel (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, firm, fine subangular gravel up to 2 inches											
5		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, medium plasticity, yellowish brown, moist, firm	BC=36 50/5"										
10			BC=11 13 18										
15		piece of coarse gravel in sample	BC=21 28 36										
20		<b>Clayey SAND (SC):</b> fine to coarse-grained, non-plastic to low plasticity, light brownish gray, moist, very dense	BC=5 22 33										
25		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, medium plasticity, dark yellowish brown, moist, firm	BC=8 24 43										
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 25, 2015.											
35		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>											
40													
45													
50													
55													



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### BORING LOG B-73


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FIGURE

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<b>Date Begin - End:</b> 8/21/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-74</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, low plasticity, brown, moist, firm, trace fines											
5		<b>Clayey SAND (SC):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, medium dense		BC=9 9 8									
10			BC=P 3 4										
15			trace fine gravel		BC=11 13 27								
20					BC=7 10 10								
25					BC=12 19 31								
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with grout on August 21, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
35													
40													
45													
50													
55													



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### BORING LOG B-74

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FIGURE

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<b>Date Begin - End:</b> 8/21/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-75</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, low plasticity, brown, moist, firm											
5		<b>Clayey SAND (SC):</b> fine to coarse-grained, medium plasticity, brown, moist, loose, trace gravel		BC=5 3 3									
10				BC=2 4 5									
15		<b>Clayey SAND with Gravel (SC):</b> fine to coarse-grained, non-plastic to low plasticity, brown, moist, dense, fine subangular gravel		BC=10 17 21									
20		<b>Clayey SAND (SC):</b> fine to medium-grained, low to medium plasticity, yellowish brown, moist, dense		BC=8 15 20									
25		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, non-plastic, yellowish brown with light brownish gray, moist, very dense, trace fines		BC=13 28 31									
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with grout on August 21, 2015.											
35		<div>GROUNDWATER LEVEL INFORMATION:</div> <div>Groundwater was observed at approximately 7 ft. below ground surface during drilling.</div> <div>Groundwater was observed at approximately 6.5 ft. below ground surface after drilling completion.</div> <div>GENERAL NOTES:</div>											
40													
45													
50													
55													



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**BORING LOG B-75**

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FIGURE

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<b>Date Begin - End:</b> 8/26/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-76</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Gravelly Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, fine subangular gravel up to 2 inches											
5		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, medium plasticity, yellowish brown with light brownish gray, moist, firm, moderate cemented	BC=18 46 50/5"										
10			BC=2 10 17										
15			BC=10 33 35										
20		8 inch lens of poorly graded sand yellowish brown	BC=11 11 11										
25			BC=5 22 35										
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 26, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
35													
40													
45													
50													
55													



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### BORING LOG B-76











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FIGURE

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<b>Date Begin - End:</b>	8/26/2015	<b>Drilling Company:</b>	AWA	<b>BORING LOG B-77</b>
<b>Logged By:</b>	S. Linton	<b>Drill Crew:</b>	Juan/Miguel	
<b>Hor.-Vert. Datum:</b>	Not Available	<b>Drilling Equipment:</b>	CME-75	
<b>Plunge:</b>	-90 degrees	<b>Drilling Method:</b>	Hollow Stem Auger	
<b>Weather:</b>	Sunny/Hot	<b>Auger Diameter:</b>	6 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.				

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr: Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, firm, trace fine gravel  yellowish brown with light brownish gray		BC=9 19 23									
10		<b>Clayey SAND (SC):</b> fine to coarse-grained, low plasticity, yellowish brown with light brownish gray, moist, medium dense		BC=5 12 22									
15		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, medium plasticity, yellowish brown with light brownish gray, moist, hard, trace fine gravel		BC=6 21 50									
20		<b>Clayey SAND (SC):</b> fine to medium-grained, low plasticity, yellowish brown, moist, medium dense		BC=3 12 17									
25		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, medium plasticity, yellowish brown, moist, hard, moderately to strongly cemented, trace fine gravel		BC=36 50/4"									
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 26, 2015.											
35		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.											
40		<u>GENERAL NOTES:</u>											
45													
50													
55													



PROJECT NO.: 20151969  
 DRAWN BY: SL  
 CHECKED BY: MB  
 DATE: 8/31/2015  
 REVISED: -

### BORING LOG B-77

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-72

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/24/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-78</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Clayey SAND with Gravel (SC):</b> fine to coarse-grained, low to medium plasticity, yellowish brown, moist, medium dense											
5		<b>Poorly-graded SAND with Clay (SP-SC):</b> fine to medium-grained, non-plastic to low plasticity, yellowish brown, moist, very dense	BC=29 50/6"										
10		reddish brown, medium dense	BC=14 16 17										
15		2.5 inch gravel in shoe of sampler	BC=19 19 28										
20		<b>Clayey SAND (SC):</b> fine to medium-grained, medium plasticity, yellowish brown with light brownish gray, moist, medium dense	BC=6 8 12										
25		wet	BC=7 15 21										
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with grout on August 24, 2015.											
35		<u>GROUNDWATER LEVEL INFORMATION:</u> ☒ Groundwater was observed at approximately 25 ft. below ground surface during drilling. ☒ Groundwater was observed at approximately 23 ft. below ground surface after drilling completion. <u>GENERAL NOTES:</u>											
40													
45													
50													
55													



PROJECT NO.: 20151969  
 DRAWN BY: SL, MP  
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 DATE: 9/8/2015  
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**BORING LOG B-78**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-73

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/26/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-79</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (SC):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, firm											
5		fine to medium-grained		BC=31 50/5"									
10		hard		BC=13 31 46									
15				BC=7 12 23									
20				BC=9 36 50/4"									
25		firm		BC=7 11 16									
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 26, 2015.					<b>GROUNDWATER LEVEL INFORMATION:</b> Groundwater was not encountered during drilling or after completion. <b>GENERAL NOTES:</b>						
35													
40													
45													
50													
55													



PROJECT NO.: 20151969  
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### BORING LOG B-79

UNIVERSITY OF CALIFORNIA, MERCED  
2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

**A-74**

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/25/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-80</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, firm, moderately cemented											
		olive brown		BC=43 50/3"									
10		olive brown to yellowish brown, strongly cemented		BC=50/3"									
15				BC=50/4"									
20		yellowish brown, moderately to strongly cemented		BC=50/4"									
25				BC=50/3"									
30				BC=50/3"									
35				BC=50/3"									
40				BC=43 50/1"									
45		olive brown with yellowish brown		BC=7 20 32									
50				BC=50/2"									
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 25, 2015.						<b>GROUNDWATER LEVEL INFORMATION:</b> Groundwater was not encountered during drilling or after completion. <b>GENERAL NOTES:</b>					



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### BORING LOG B-80

UNIVERSITY OF CALIFORNIA, MERCED  
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MERCED, CALIFORNIA

FIGURE

**A-75**

PAGE: 1 of 1



<b>Date Begin - End:</b> 8/24/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-81</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, low plasticity, brown, moist, firm, trace fine gravel		BC=26 39 50/4"									
10				BC=11 31 47									
15		<b>Poorly-graded SAND (SP):</b> fine to medium-grained, non-plastic to low plasticity, yellowish brown, moist, medium to very dense, trace fines		BC=9 12 15									
20				BC=14 23 31									
25		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, olive brown, moist, firm, moderately cemented wet		BC=6 12 16									
30				BC=20 50 50/3"									
35		moderately to strongly cemented		BC=11 19 36									
40				BC=20 44 50									
45		trace fine subangular gravel		BC=4 8 11									
50				BC=19 21 23									
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with grout on August 24, 2015.</p> <p><b>GROUNDWATER LEVEL INFORMATION:</b>            ∇ Groundwater was observed at approximately 30 ft. below ground surface during drilling.            ▼ Groundwater was observed at approximately 31 ft. below ground surface after drilling completion.  <b>GENERAL NOTES:</b></p>											



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**BORING LOG B-81**









UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 1 of 1

<b>Date Begin - End:</b> 8/25/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-82</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, firm, moderately cemented, trace fine gravel		BC=24 50/6"									
10		light brownish gray with yellowish brown		BC=8 12 18									
15				BC=16 33 48									
20				BC=8 19 26									
25				BC=16 36 43									
30				BC=12 17 22									
35				BC=6 22 48									
40	The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 25, 2015.					<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
45													
50													
55													



PROJECT NO.: 20151969  
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DATE: 8/31/2015  
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### BORING LOG B-82

UNIVERSITY OF CALIFORNIA, MERCED  
2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

**A-77**

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/24/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-83</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY with Gravel (CL):</b> fine grained, medium plasticity, yellowish brown, moist, firm, fine subangular gravel up to 1 inch											
5		<b>Sandy Lean CLAY (CL):</b> fine-grained, medium plasticity, yellowish brown, moist, firm, fine to coarse sand	BC=9 12 12										
10			BC=15 16 11										
15		<b>Silty SAND (SM):</b> fine to coarse-grained, non-plastic to low plasticity, yellowish brown, moist, medium dense	BC=8 14 21										
20			BC=6 8 10										
25			BC=10 12 15										
30	▽	wet	BC=5 9 21										
35	▽	<b>Sandy Lean CLAY (CL):</b> fine-grained, medium plasticity, olive brown, wet, hard, moderately cemented, fine to coarse sand	BC=10 19 37										
40			BC=10 13 21										
45			BC=12 21 38										
50			BC=6 15 26										
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with grout on August 24, 2015.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u>            ▽ Groundwater was observed at approximately 30 ft. below ground surface during drilling.            ▼ Groundwater was observed at approximately 33 ft. below ground surface after drilling completion.  <u>GENERAL NOTES:</u></p>											



PROJECT NO.: 20151969  
 DRAWN BY: SL, MP  
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 DATE: 9/8/2015  
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**BORING LOG B-83**

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-78

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/24/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-84</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine-grained, medium plasticity, yellowish brown, moist, firm		BC=11 28 39									
10				BC=8 23 28									
15		<b>Clayey SAND (SC):</b> fine to medium-grained, medium plasticity, yellowish brown, moist, medium dense		BC=5 10 14									
20				BC=12 33 50/5"									
25		<b>Sandy Lean CLAY (CL):</b> fine-grained, medium plasticity, brown, moist, firm		BC=9 23 35									
30				BC=11 28 40									
35		<b>Clayey SAND (SC):</b> fine to coarse-grained, low to medium plasticity, yellowish brown, moist, medium dense		BC=15 33 38									
40													
45		<p>The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 24, 2015.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.</p> <p><u>GENERAL NOTES:</u></p>											
50													
55													



PROJECT NO.: 20151969  
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 DATE: 9/8/2015  
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### BORING LOG B-84

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA


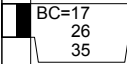
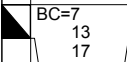
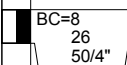
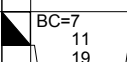
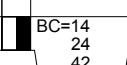
FIGURE


A-79

PAGE: 1 of 1

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<b>Date Begin - End:</b> 8/24/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-85</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
5		Sandy Lean CLAY (CL): fine-grained, medium plasticity, yellowish brown, moist, firm		BC=17 26 35										
10			BC=7 13 17											
15			BC=8 26 50/4"											
20			BC=7 11 19											
25		Sandy Lean CLAY (CL): fine-grained, medium plasticity, brown, moist, firm, moderately cemented	BC=14 24 42											
30	The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 24, 2015.													<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>
35														
40														
45														
50														
55														

 <p><b>KLEINFELDER</b> Bright People. Right Solutions.</p>	PROJECT NO.: 20151969	<p><b>BORING LOG B-85</b></p> <p>UNIVERSITY OF CALIFORNIA, MERCED 2020 DEVELOPMENT PROJECT MERCED, CALIFORNIA</p>	FIGURE
	DRAWN BY: SL, MP CHECKED BY: MB DATE: 9/8/2015 REVISED: -		<p><b>A-80</b></p>
			PAGE: 1 of 1

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_BORING/TEST PIT SOIL LOG]

<b>Date Begin - End:</b> 8/20/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-86</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>ASPHALT</b>											
		<b>BASE COURSE</b>											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, low plasticity, brown, moist, firm, fine gravel up to 3/4 inch	BC=50/2"										
10			BC=21 50/3"										
15			BC=25 50 50										
20		<b>Clayey SAND (SC):</b> fine to coarse-grained, non-plastic to low plasticity, yellowish brown, moist, medium dense	BC=8 11 12										
25		very dense	BC=14 23 34										
30	The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 20, 2015.												
35	<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.												
40	<u>GENERAL NOTES:</u>												
45													
50													
55													



PROJECT NO.: 20151969  
DRAWN BY: SL, MP  
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DATE: 9/8/2015  
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### BORING LOG B-86

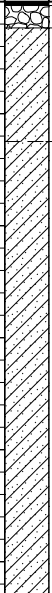
UNIVERSITY OF CALIFORNIA, MERCED  
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MERCED, CALIFORNIA

FIGURE

A-81

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/20/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-87</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Juan/Miguel	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>ASPHALT</b>											
		<b>BASE COURSE</b>											
5		<b>Clayey SAND with Gravel (SC):</b> fine to coarse-grained, medium plasticity, yellowish brown, moist, dense, fine gravel	BC=8 14 25										
10		<b>Clayey SAND (SC):</b> fine to coarse-grained, non-plastic to low plasticity, yellowish brown with light brownish gray, moist, dense	BC=6 15 27										
15		low plasticity	BC=10 20 28										
20		very dense	BC=12 29 50										
25			BC=13 16 23										
30		The boring was terminated at approximately 26.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 20, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							
35													
40													
45													
50													
55													



PROJECT NO.: 20151969  
DRAWN BY: SL, MP  
CHECKED BY: MB  
DATE: 9/8/2015  
REVISED: -

### BORING LOG B-87

UNIVERSITY OF CALIFORNIA, MERCED  
2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

A-82

PAGE: 1 of 1

<b>Date Begin - End:</b> 8/20/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-88</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Jose/Juan	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Silty SAND with Gravel (SM):</b> light brownish gray											
5		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, low plasticity, brown, moist, firm, fine gravel up to 3/4 inch		BC=50/1"									
10				BC=28 10 18									
15				BC=19 50/3"									
20		<b>Poorly-graded SAND (SP):</b> fine to coarse-grained, non-plastic, yellowish brown, moist, dense, trace fines		BC=8 15 16									
25				BC=50/6"									
30		light brownish gray to brown		BC=12 14 19									
35				BC=15 25 33									
40				BC=9 15 15									
45				BC=14 21 24									
50				BC=12 13 17									
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 20, 2015.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.</p> <p><u>GENERAL NOTES:</u></p>											



PROJECT NO.: 20151969  
 DRAWN BY: SL, MP  
 CHECKED BY: MB  
 DATE: 9/8/2015  
 REVISED: -

### BORING LOG B-88

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-83

PAGE: 1 of 1



<b>Date Begin - End:</b> 8/20/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-89</b>
<b>Logged By:</b> S. Linton	<b>Drill Crew:</b> Jose/Juan	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny/Hot	<b>Auger Diameter:</b> 6 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Gravel	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Silty SAND with Gravel (SM):</b> light brownish gray											
5		<b>Clayey SAND (SC):</b> fine to coarse-grained, non-plastic to low plasticity, yellowish brown, moist, loose		BC=5 4 5									
10		low to medium plasticity, brown to dark brown		BC=2 4 6									
15		very dense		BC=14 28 40									
20				BC=10 29 45									
25		medium dense		BC=8 14 21									
30				BC=12 21 25									
35				BC=7 13 22									
40		very dense		BC=15 30 39									
45		medium dense		BC=10 21 23									
50		<b>Lean CLAY (CL):</b> fine-grained, medium plasticity, pale olive to olive brown, moist, firm, trace sand		BC=14 23 36									
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on August 20, 2015.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.</p> <p><u>GENERAL NOTES:</u></p>											



PROJECT NO.: 20151969  
 DRAWN BY: SL  
 CHECKED BY: MB  
 DATE: 8/31/2015  
 REVISED: -

### BORING LOG B-89

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-84

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<b>Date Begin - End:</b> 10/26/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-101</b>
<b>Logged By:</b> I. Rosales	<b>Drill Crew:</b> Jose	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Clear, warm	<b>Exploration Diameter:</b> 8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		ASPHALT: 1.5" thick											
		AGGREGATE BASE: 7" thick											
5		Sandy Lean CLAY (CL): fine to medium-grained, yellowish brown with black specs, moist, firm	BC=6 7 14										
10			BC=11 19 26										
15		pale olive with interbedded orange	BC=6 12 28										
20		reddish brown with interbedded pale olive	BC=8 20 29										
25		fine to coarse-grained, white striations, hard	BC=10 17 36										
30		Poorly graded SAND with Clay (SP-SC): fine to coarse-grained, light yellow, moist, medium dense	BC=9 14 16										
35		Sandy Lean CLAY (CL): fine to medium-grained, reddish brown with interbedded pale olive, moist, hard	BC=20 41 50/4"										
40		firm	BC=6 10 19										
45			BC=6 13 26										
50		hard	BC=11 22 30										
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on October 26, 2015.				<b>GROUNDWATER LEVEL INFORMATION:</b> Groundwater was not encountered during drilling or after completion. <b>GENERAL NOTES:</b>							



PROJECT NO.: 20151969  
DRAWN BY: MP  
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DATE: 10/29/2015  
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### BORING LOG B-101

UNIVERSITY OF CALIFORNIA, MERCED  
2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

A-85


PAGE: 1 of 1

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<b>Date Begin - End:</b> 10/26/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-102</b>
<b>Logged By:</b> I. Rosales	<b>Drill Crew:</b> Jose	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Clear, warm	<b>Exploration Diameter:</b> 8 in. O.D.	

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Asphalt	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		ASPHALT: 2" thick											
		AGGREGATE BASE: 7" thick											
5		Sandy Lean CLAY (CL): fine to medium-grained, reddish brown, moist, firm		BC=5 9 8									
10		pale olive with some orange, hard		BC=18 30 47									
15		reddish brown, firm		BC=8 13 18									
20		pale olive with some orange specs, hard		BC=15 33 44									
25		firm		BC=11 16 15									
30		Poorly graded SAND with Clay (SP-SC): fine to coarse-grained, light yellow, moist, very dense		BC=14 24 50/4"									Gravel observed in cuttings
35		Clayey SAND (SC): trace gravel, fine to coarse-grained, yellow, moist, dense		BC=17 21 27									
40		Poorly graded SAND (SP): trace gravel, fine to coarse-grained, dark gray, moist, dense		BC=15 26 26									
45		Clayey SAND (SC): trace gravel, fine to coarse-grained, orangish brown, moist, dense		BC=12 26 24									
50		Poorly graded SAND (SP): fine to coarse-grained, white with interbedded orange, moist, dense		BC=16 25 28									
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on October 26, 2015.				GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion. GENERAL NOTES:							

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
 GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_BORING/TEST PIT SOIL LOG]

	PROJECT NO.: 20151969	BORING LOG B-102		FIGURE  <b>A-86</b>
	DRAWN BY: MP	UNIVERSITY OF CALIFORNIA, MERCED 2020 DEVELOPMENT PROJECT MERCED, CALIFORNIA		
	CHECKED BY: MB			
	DATE: 10/29/2015			
	REVISED: -			
PAGE: 1 of 1				

<b>Date Begin - End:</b> 10/28/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-103</b>
<b>Logged By:</b> M. Montgomery	<b>Drill Crew:</b> Juan Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> Limited Access Rig	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Clear	<b>Exploration Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS								
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description												
5		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, gravel up to 1" diameter, dark brown, moist, firm		BC=4 7 9										
10		reddish brown		BC=13 20 39										
15				BC=11 21 29										
20		<b>Poorly graded SAND with Clay (SP-SC):</b> fine to coarse-grained, reddish brown, moist, medium dense												
		<b>Silty SAND (SM):</b> fine to medium-grained, reddish brown, moist, medium dense		BC=9 13 17										
25		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, yellowish brown, moist, hard		BC=17 50/5"										
30		firm		BC=6 9 11										
35		hard		BC=12 40 50/4"										
40				BC=11 19 31										
45				BC=15 35 50/4"										
50				BC=7 16 32										
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on October 28, 2015.												
GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion. GENERAL NOTES:														



PROJECT NO.: 20151969  
 DRAWN BY: MP  
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 DATE: 10/29/2015  
 REVISED: -

### BORING LOG B-103

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-87

PAGE: 1 of 1

<b>Date Begin - End:</b> 10/28/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-104</b>
<b>Logged By:</b> M. Montgomery	<b>Drill Crew:</b> Juan Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> Limited Access Rig	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Cloudy, rain	<b>Exploration Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, gravel up to 1" diameter, reddish brown, moist, firm											
5		orangish brown		BC=6 4 5									
10		hard		BC=24 50/4"									
15		reddish yellow		BC=20 13 14									
		<b>Poorly graded SAND (SP):</b> fine to coarse-grained, brown, moist, medium dense											
20		gravel up to 1" diameter, reddish brown		BC=15 35 34									
25		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, reddish brown, moist, hard		BC=13 19 30									
30		<b>Poorly graded SAND with Clay (SP-SC):</b> fine to coarse-grained, reddish brown, moist, dense		BC=9 23 39									
35		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, reddish brown, moist, firm		BC=9 16 15									
		<b>Poorly graded SAND with Clay (SP-SC):</b> fine to coarse-grained, brown, moist, medium dense											
40		The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on October 28, 2015.											
45		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during drilling or after completion.											
50		GENERAL NOTES:											
55													



PROJECT NO.: 20151969  
 DRAWN BY: MP  
 CHECKED BY: MB  
 DATE: 10/29/2015  
 REVISED: -

### BORING LOG B-104

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA















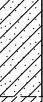





FIGURE


A-88

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PLOTTED: 01/08/2016 01:21 PM BY: MPalmer


<b>Date Begin - End:</b> 10/27/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-105</b>
<b>Logged By:</b> I. Rosales	<b>Drill Crew:</b> Jose	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Cloudy, warm	<b>Exploration Diameter:</b> 8 in. O.D.	

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> trace gravel, fine to coarse-grained, pale olive, moist, firm	 BC=10 16 23										Gravel observed in cuttings
10		<b>Clayey SAND (SC):</b> fine to coarse-grained, reddish brown, moist, medium dense	 BC=6 5 6										
15		<b>Poorly graded SAND (SP):</b> fine to coarse-grained, light brown, moist, medium dense	 BC=12 16 17										
20		<b>Clayey SAND (SC):</b> trace gravel, fine to coarse-grained, pale olive with interbedded orange, moist, dense	 BC=9 17 20										
25		<b>Poorly graded SAND (SP):</b> fine to coarse-grained, light yellow, moist, dense	 BC=13 25 32										
30		<b>Clayey SAND (SC):</b> fine to medium-grained, reddish yellow, moist, medium dense	 BC=10 13 15										
35		dense	 BC=10 23 29										
40			 BC=9 13 18										
45		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, pale olive with interbedded orange, moist, hard	 BC=9 25 44										
50		reddish brown	 BC=7 18 21										
55		The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on October 27, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion. <u>GENERAL NOTES:</u>							

 <p><b>KLEINFELDER</b> Bright People. Right Solutions.</p>	PROJECT NO.: 20151969	<b>BORING LOG B-105</b>  UNIVERSITY OF CALIFORNIA, MERCED 2020 DEVELOPMENT PROJECT MERCED, CALIFORNIA	FIGURE
	DRAWN BY: MP		A-89
	CHECKED BY: MB		
	DATE: 10/29/2015		
	REVISED: -		

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_BORING/TEST PIT SOIL LOG]

<b>Date Begin - End:</b> 10/26/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-106</b>
<b>Logged By:</b> M. Beltran	<b>Drill Crew:</b> Juan Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> Limited Access Rig	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, cool	<b>Exploration Diameter:</b> 8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PF)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine to coarse-grained sand, some gravel up to 1" diameter, brown, moist, hard											
5			BC=14 19 24										
10		dark brown	BC=3 3 4										
15		<b>Poorly graded SAND (SP):</b> fine to coarse-grained, light brown, moist, medium dense	BC=7 15 18										
20		brown	BC=8 14 17										
25		dense	BC=10 20 25										
30		fine to medium-grained	BC=8 10 14										
35			BC=12 24 27										
40		wet	BC=11 19 26										
45		very dense	BC=29 50/5"										
50			BC=6 15 18										
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with grout on October 26, 2015.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u>   Groundwater was observed at approximately 40 ft. below ground surface during drilling.</p> <p><u>GENERAL NOTES:</u></p>											



PROJECT NO.: 20151969  
 DRAWN BY: MP  
 CHECKED BY: MB  
 DATE: 10/29/2015  
 REVISED: -

## BORING LOG B-106

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-90

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<b>Date Begin - End:</b> 10/26/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-107</b>
<b>Logged By:</b> M. Beltran	<b>Drill Crew:</b> Juan Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> Limited Access Rig	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Sunny, 80° F	<b>Exploration Diameter:</b> 8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, dark brown, moist, firm											
5			BC=11 21 23										
10			BC=34 42 45										
15		<b>Clayey SAND (SC):</b> fine to coarse-grained, reddish brown, moist, medium dense	BC=4 5 3										
20		with gravel up to 4" in diameter	BC=20 36 50/4"										
25		<b>Poorly graded SAND (SP):</b> fine to medium-grained, brown, moist, medium dense	BC=11 12 13										
30			BC=13 24 42										
35		<b>Sandy SILT (ML):</b> fine-grained sand, brown, moist, very dense	BC=9 13 22										
40		The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on October 26, 2015.				<b>GROUNDWATER LEVEL INFORMATION:</b> Groundwater was not encountered during drilling or after completion. <b>GENERAL NOTES:</b>							
45													
50													
55													



PROJECT NO.: 20151969  
DRAWN BY: MP  
CHECKED BY: MB  
DATE: 10/29/2015  
REVISED: -

## BORING LOG B-107

UNIVERSITY OF CALIFORNIA, MERCED  
2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

A-91

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<b>Date Begin - End:</b> 10/27/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-108</b>
<b>Logged By:</b> I. Rosales	<b>Drill Crew:</b> Jose	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> CME-75	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Cloudy, warm	<b>Exploration Diameter:</b> 8 in. O.D.	
<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.		

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
5		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, olive yellow, moist, firm		BC=5 7 8									
10		gravel up to 1" diameter											
		gray											
15		pale olive		BC=10 13 14									
20				BC=8 11 14									
25		<b>Poorly graded SAND (SP):</b> fine to coarse-grained, light brown with interbedded orange, moist, very dense		BC=19 29 47									
30		<b>Clayey SAND (SC):</b> fine to coarse-grained, dark reddish yellow, moist, dense		BC=11 14 19									
35		<b>Sandy Lean CLAY (CL):</b> fine to medium-grained, pale olive with interbedded orange, moist, hard		BC=14 39 50/5"									
40		very hard		BC=13 45 50/3"									
45				BC=14 37 50/5"									
50		<b>Poorly graded SAND (SP):</b> fine to coarse-grained, reddish yellow, moist, very dense		BC=11 17 27									
55				BC=24 40 50/5"									
<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with auger cuttings on October 27, 2015.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during drilling or after completion.</p> <p><u>GENERAL NOTES:</u></p>													



PROJECT NO.: 20151969  
 DRAWN BY: MP  
 CHECKED BY: MB  
 DATE: 10/29/2015  
 REVISED: -

### BORING LOG B-108

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-92

PAGE: 1 of 1

**Date Begin - End:** 10/27/2015 **Drilling Company:** AWA  
**Logged By:** M. Beltran **Drill Crew:** Juan Ceja  
**Hor.-Vert. Datum:** Not Available **Drilling Equipment:** Limited Access Rig **Hammer Type - Drop:** 140 lb. Auto - 30 in.  
**Plunge:** -90 degrees **Drilling Method:** Hollow Stem Auger/Mud Rotary  
**Weather:** Cloudy, cool **Exploration Diameter:** 8 in. O.D.

## BORING LOG B-109

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Bare Earth	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, gravel up to 1" diameter, dark brown, moist, firm											
5													
		<b>Silty SAND (SM):</b> fine to medium-grained, brown, moist, medium dense	BC=8 7 7										
		<b>Poorly graded SAND with Silt (SP-SM):</b> fine to coarse-grained, brown, moist, medium dense											
10		<b>Poorly graded SAND (SP):</b> fine to coarse-grained, brown, moist, dense	BC=11 19 22										
15			BC=5 10 15										
20		dense	BC=10 24 40										
25		wet	BC=12 10 16										Switch to mud rotary at 25 feet
30		<b>Poorly graded GRAVEL (GP):</b> up to 1" diameter	BC=8 16 24										
		<b>Silty SAND (SM):</b> fine to medium-grained, brown, wet, dense											
35		medium dense	BC=10 10 12										
40		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, brown, wet, firm	BC=12 15 29										
45			BC=6 7 13										
50			BC=12 22 28										
55		<p>The boring was terminated at approximately 51.5 ft. below ground surface. The exploration was backfilled with grout on October 27, 2015.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u>            Groundwater was observed at approximately 26 ft. below ground surface during drilling.  <u>GENERAL NOTES:</u></p>											



PROJECT NO.: 20151969  
 DRAWN BY: MP  
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 DATE: 10/29/2015  
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## BORING LOG B-109

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 1 of 1

<b>Date Begin - End:</b> 10/27/2015	<b>Drilling Company:</b> AWA	<b>BORING LOG B-110</b>
<b>Logged By:</b> M. Beltran	<b>Drill Crew:</b> Juan Ceja	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> Limited Access Rig	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> Hollow Stem Auger	
<b>Weather:</b> Cloudy, cool	<b>Exploration Diameter:</b> 8 in. O.D.	
		<b>Hammer Type - Drop:</b> 140 lb. Auto - 30 in.

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS							
		Surface Condition: Grass	Sample Type	Blow Counts(BC)= Uncorr. Blows/6 in. Pocket Pen(PP)= tsf	Recovery (NR=No Recovery)	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description											
		<b>Sandy Lean CLAY (CL):</b> fine-grained sand, dark brown, moist, firm											
5		brown											
		dark brown											
		<b>Poorly graded SAND (SP):</b> fine to coarse-grained, reddish brown, moist, medium dense											
10		light brown											
				BC=6 8 9									
15		brown											
				BC=10 16 22									
20													
				BC=8 11 14									
25		wet											
				BC=8 11 16									
30		<b>Silty SAND (SM):</b> fine to medium-grained, brown, moist, medium dense											
				BC=13 15 18									
35													
				BC=19 39 50/5"									
40		The boring was terminated at approximately 36.5 ft. below ground surface. The exploration was backfilled with auger cuttings on October 27, 2015.				<u>GROUNDWATER LEVEL INFORMATION:</u> ∇ Groundwater was observed at approximately 25 ft. below ground surface during drilling. <u>GENERAL NOTES:</u>							
45													
50													
55													



PROJECT NO.: 20151969  
 DRAWN BY: MP  
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 REVISED: -

## BORING LOG B-110

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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**Date Begin - End:** 8/07/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 156 x 24 ft

## TEST PIT LOG TP-1

Depth (feet)	Graphical Log	FIELD EXPLORATION	LABORATORY RESULTS								Additional Tests/ Remarks
		Northing: 1,954,118.047 Easting: 6,583,083.271 Surface Condition: Bare Earth	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	
		Lithologic Description									
1		<b>Lean CLAY with Sand (CL):</b> medium plasticity, brown, dry to moist, very hard, with fine to coarse grained sand, abundant plant roots									
2		<b>Sandy Lean CLAY (CL):</b> low plasticity, pale olive to olive, dry to moist, very hard, fine to coarse grained sand									
3											
4		<p>The test pit was terminated at approximately 3.5 ft. below ground surface. The exploration was backfilled with soil cuttings on August 07, 2014.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion.</p> <p><u>GENERAL NOTES:</u></p>									



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## TEST PIT LOG TP-1

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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**Date Begin - End:** 8/07/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 96 x 24 ft

## TEST PIT LOG TP-2

Depth (feet)	Graphical Log	FIELD EXPLORATION	LABORATORY RESULTS								Additional Tests/ Remarks
		Northing: 1,954,363.578 Easting: 6,583,753.095 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	
		<b>Sandy Lean CLAY (CL):</b> medium plasticity, brown, dry to moist, very hard, fine to coarse grained sand, trace to few fine to coarse subrounded gravel up to 1-inch diameter, abundant plant roots									
1		<p>The test pit was terminated at approximately 0.5 ft. below ground surface. The exploration was backfilled with soil cuttings on August 07, 2014.</p> <p><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion.</p> <p><u>GENERAL NOTES:</u></p>									
2											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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## TEST PIT LOG TP-2

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE



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PAGE: 1 of 1

**Date Begin - End:** 8/08/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 144 x 24 ft

## TEST PIT LOG TP-3

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS								
		Northing: 1,954,838.543 Easting: 6,583,826.225 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks	
		Lithologic Description										
1		<b>Lean CLAY with Sand (CL):</b> medium plasticity, brown, dry to moist, hard to very hard, fine to coarse grained sand, trace fine gravel up to 0.75-inches diameter, abundant plant roots										
2												
3		<b>Clayey GRAVEL with Sand (GC):</b> non-plastic to low plasticity, light brownish gray, dry to moist, fine to coarse subrounded gravel up to 2-inches diameter, with fine to coarse grained sand										
4		<div><div>The test pit was terminated at approximately 3 ft. below ground surface. The exploration was backfilled with soil cuttings on August 08, 2014.</div><div><u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u></div></div>										



PROJECT NO.: 20151969  
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## TEST PIT LOG TP-3

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE



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**Date Begin - End:** 8/08/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 132 x 24 ft

## TEST PIT LOG TP-4

Depth (feet)	Graphical Log	FIELD EXPLORATION	LABORATORY RESULTS								
		Northing: 1,954,977.941 Easting: 6,584,605.044 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description									
1		<b>Clayey SAND with Gravel (SC):</b> low to medium plasticity, brown, dry to moist, fine to coarse grained, with fine to coarse subrounded to rounded gravel, abundant plant roots									
2											
3		<b>Clayey GRAVEL with Sand (GC):</b> non-plastic to low plasticity, brown, dry to moist, fine to coarse gravel up to 3-inches diameter, with fine to coarse grained sand, few cobbles up to 3.5-inches diameter									
4		The test pit was terminated at approximately 3 ft. below ground surface. The exploration was backfilled with soil cuttings on August 08, 2014.		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

## TEST PIT LOG TP-4

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE



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PAGE: 1 of 1

**Date Begin - End:** 8/08/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 348 x 24 ft

## TEST PIT LOG TP-5

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS							
		Northing: 1,954,449.296 Easting: 6,584,473.148 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Lithologic Description									
1		Clayey GRAVEL with Sand (GC): medium plasticity, brown, dry to moist, fine to coarse gravel up to 2.5-inches diameter, with fine to coarse grained sand, plant roots									
2											
3		Sandy Lean CLAY (CL): medium plasticity, olive to pale olive, moist, hard, fine to coarse grained sand									
4											
5		7-inch lens of Clayey Sand (SC), dry to moist, dense, fine to coarse grained									
6											
7											
8		The test pit was terminated at approximately 7 ft. below ground surface. The exploration was backfilled with soil cuttings on August 08, 2014.		GROUNDWATER LEVEL INFORMATION: Groundwater was not encountered during excavation or after completion. GENERAL NOTES:							
9											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## TEST PIT LOG TP-5

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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**Date Begin - End:** 8/06/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 96 x 24 ft

## TEST PIT LOG TP-6

Depth (feet)	Graphical Log	FIELD EXPLORATION				LABORATORY RESULTS						
		Northing: 1,954,374.922 Easting: 6,585,202.021 Surface Condition: Dry Grass				Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit
		Lithologic Description				Additional Tests/Remarks						
		<b>Sandy Lean CLAY (CL):</b> medium plasticity, pale olive to olive, dry to moist, very hard, fine to coarse grained sand, abundant plant roots										
1		The test pit was terminated at approximately 0.5 ft. below ground surface. The exploration was backfilled with soil cuttings on August 06, 2014.										
2		The test pit was terminated at approximately 0.5 ft. below ground surface. The exploration was backfilled with soil cuttings on August 06, 2014.										

GROUNDWATER LEVEL INFORMATION:

Groundwater was not encountered during excavation or after completion.

GENERAL NOTES:

PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## TEST PIT LOG TP-6

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 1 of 1

**Date Begin - End:** 8/06/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 156 x 24 ft

## TEST PIT LOG TP-7

Depth (feet)	Graphical Log	FIELD EXPLORATION	LABORATORY RESULTS								Additional Tests/ Remarks
		Northing: 1,955,135.899 Easting: 6,585,789.592 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	
1		<b>Sandy Lean CLAY (CL):</b> medium plasticity, brown, dry to moist, very hard, fine to medium grained sand, trace fine to coarse gravel up to 1-inch diameter, plant roots									
2		<b>Poorly-graded SAND with Gravel (SP):</b> olive yellow, dry to moist, fine to coarse grained, with fine to coarse gravel up to 1-inch diameter									
3											
4											

The test pit was terminated at approximately 3 ft. below ground surface.  
 The exploration was backfilled with soil cuttings on August 06, 2014.

**GROUNDWATER LEVEL INFORMATION:**  
 Groundwater was not encountered during excavation or after completion.  
**GENERAL NOTES:**



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## TEST PIT LOG TP-7

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA


FIGURE

A-101

PAGE: 1 of 1

**Date Begin - End:** 8/07/2014 - 8/08/2014      **Excavation Company:** Brisco Enterprises  
**Logged By:** N. Ramos      **Excavation Crew:** Ruben  
**Hor.-Vert. Datum:** Not Available      **Excavation Equip.:** CAT 426C  
**Plunge:** N/A      **Excav. Dimensions:** 72 x 24 ft  
**Weather:** Sunny, warm

## TEST PIT LOG TP-8

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS							
		Northing: 1,955,455.523 Easting: 6,585,020.925 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description									
		<b>Clayey SAND (SC):</b> non-plastic to low plasticity, olive to pale olive, dry to moist, fine to coarse grained, trace fine gravel up to 0.5-inches diameter, abundant plant roots, micaceous									
1		The test pit was terminated at approximately 0.5 ft. below ground surface. The exploration was backfilled with soil cuttings on August 08, 2014.		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							
2											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 9/23/2014

## TEST PIT LOG TP-8

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE


A-102

PAGE: 1 of 1

**Date Begin - End:** 8/06/2014 - 8/07/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 84 x 24 ft

## TEST PIT LOG TP-9

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS							
		Northing: 1,956,250.68 Easting: 6,585,627.278 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Lithologic Description									
		<b>Gravelly Lean CLAY with Sand (CL):</b> medium plasticity, brown, dry to moist, very hard, fine to coarse subrounded gravel up to 1-inch diameter, with fine to coarse grained sand, abundant plant roots									
1		The test pit was terminated at approximately 0.5 ft. below ground surface. The exploration was backfilled with soil cuttings on August 07, 2014.		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							
2											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 9/23/2014

## TEST PIT LOG TP-9

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE


A-103

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**Date Begin - End:** 8/07/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 180 x 24 ft

## TEST PIT LOG TP-10

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS							
		Northing: 1,956,379.118 Easting: 6,585,878.821 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/Remarks
		Lithologic Description									
1		<b>Sandy Lean CLAY with Gravel (CL):</b> low to medium plasticity, brown, dry to moist, very hard, fine to coarse grained, with fine to coarse gravel up to 1-inch diameter, abundant plant roots									
2											
3											
4		<b>Lean CLAY with Sand (CL):</b> medium plasticity, brown to olive, dry to moist, very hard, with fine to medium grained sand									
5											
6	The test pit was terminated at approximately 5 ft. below ground surface. The exploration was backfilled with soil cuttings on August 07, 2014.		<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>								
7											
8											
9											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## TEST PIT LOG TP-10

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

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PAGE: 1 of 1

**Date Begin - End:** 8/06/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 132 x 24 ft

## TEST PIT LOG TP-11

Depth (feet)	Graphical Log	FIELD EXPLORATION	LABORATORY RESULTS								Additional Tests/ Remarks
		Northing: 1,957,001.147 Easting: 6,584,902.381 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	
1		<b>Sandy Lean CLAY with Gravel (CL):</b> medium plasticity, greenish gray, dry to moist, very hard, fine to coarse grained sand, with fine to coarse subangular to subrounded gravel up to 2-inches diameter									
2		<b>Sandy Lean CLAY (CL):</b> medium plasticity, olive to pale olive, dry to moist, very hard, fine to coarse grained sand									
3											
4											

The test pit was terminated at approximately 3 ft. below ground surface.  
 The exploration was backfilled with soil cuttings on August 06, 2014.

**GROUNDWATER LEVEL INFORMATION:**  
 Groundwater was not encountered during excavation or after completion.

**GENERAL NOTES:**

PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## TEST PIT LOG TP-11

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE


A-105

PAGE: 1 of 1

**Date Begin - End:** 8/06/2014  
**Logged By:** N. Ramos  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** N/A  
**Weather:** Sunny, warm

**Excavation Company:** Brisco Enterprises  
**Excavation Crew:** Ruben  
**Excavation Equip.:** CAT 426C  
**Excav. Dimensions:** 216 x 24 ft

## TEST PIT LOG TP-12

Depth (feet)	Graphical Log	FIELD EXPLORATION		LABORATORY RESULTS							
		Northing: 1,956,673.344 Easting: 6,584,643.62 Surface Condition: Dry Grass	Sample Type	USCS Symbol	Water Content (%)	Dry Unit Wt. (pcf)	Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plasticity Index (NP=NonPlastic)	Additional Tests/ Remarks
		Lithologic Description									
1		<b>Lean CLAY with Sand (CL):</b> medium plasticity, brown, dry to moist, very hard, fine grained sand, little to some coarse subrounded gravel, trace to few cobbles up to 4-inches diameter									
2		<b>Sandy Lean CLAY (CL):</b> medium to high plasticity, pale olive to olive, dry to moist, very hard, fine to medium grained sand									
3		increased sand content									
4											
5		decreased sand content									
6											
7	The test pit was terminated at approximately 6 ft. below ground surface. The exploration was backfilled with soil cuttings on August 06, 2014.			<u>GROUNDWATER LEVEL INFORMATION:</u> Groundwater was not encountered during excavation or after completion. <u>GENERAL NOTES:</u>							
8											
9											



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## TEST PIT LOG TP-12

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 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-106

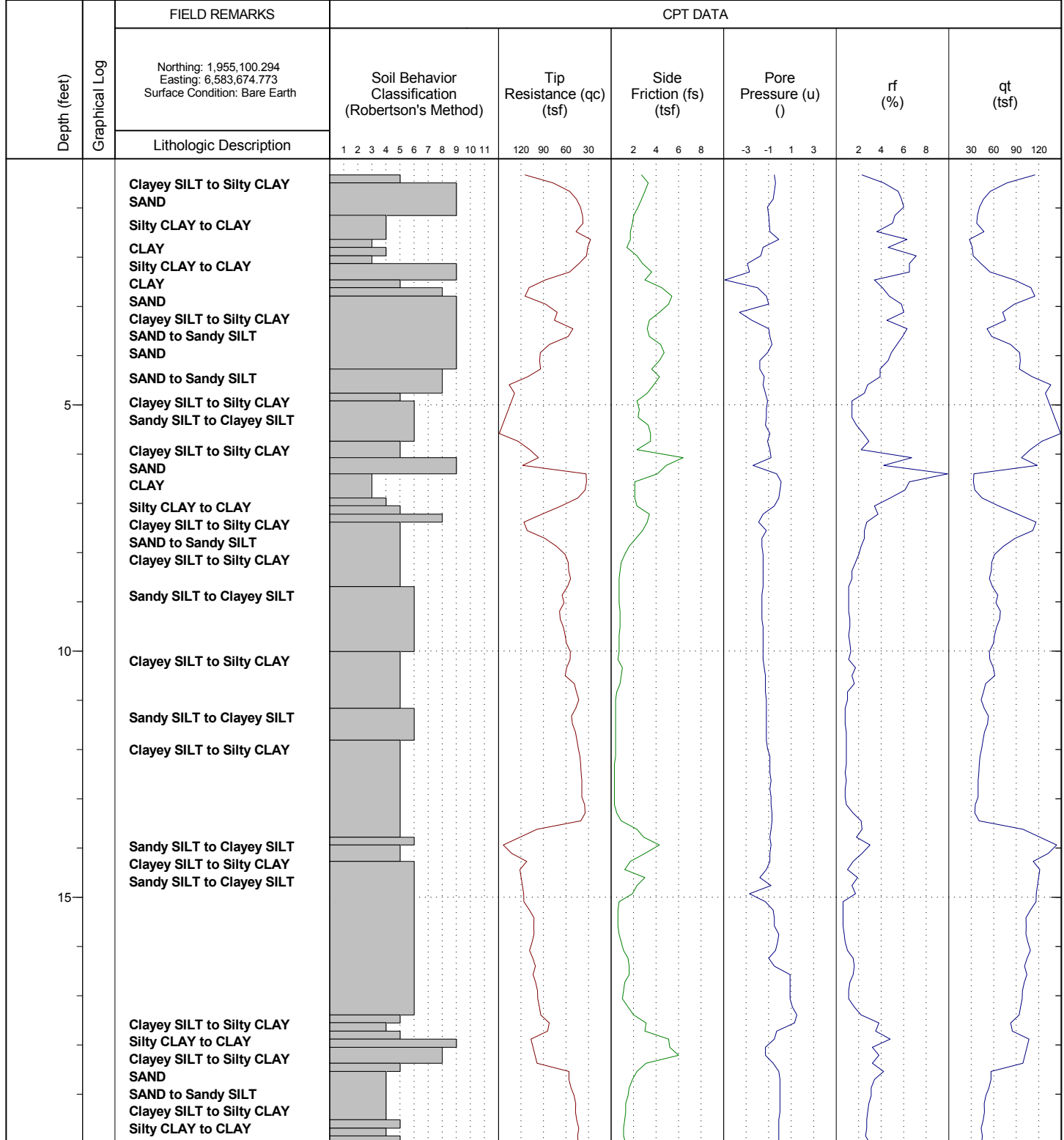
PAGE: 1 of 1

PLOTTED: 01/08/2016 01:22 PM BY: MPalmer

Date Begin - End: 8/06/2014  
Logged By: N/A  
Hor.-Vert. Datum: Not Available  
Plunge: -90 degrees  
Weather: Sunny, warm

Drilling Company: Middle Earth Geo Testing Inc.  
Drill Crew: N/A  
Drilling Equipment: 25 ton Paystar 5000  
Drilling Method: CPT Sounding  
Sounding Diameter: 2 in. O.D.

**BORING LOG CPT-11**



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-11  
(\* Associated Boring B-11)**

UNIVERSITY OF CALIFORNIA, MERCED  
2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

**A-107**

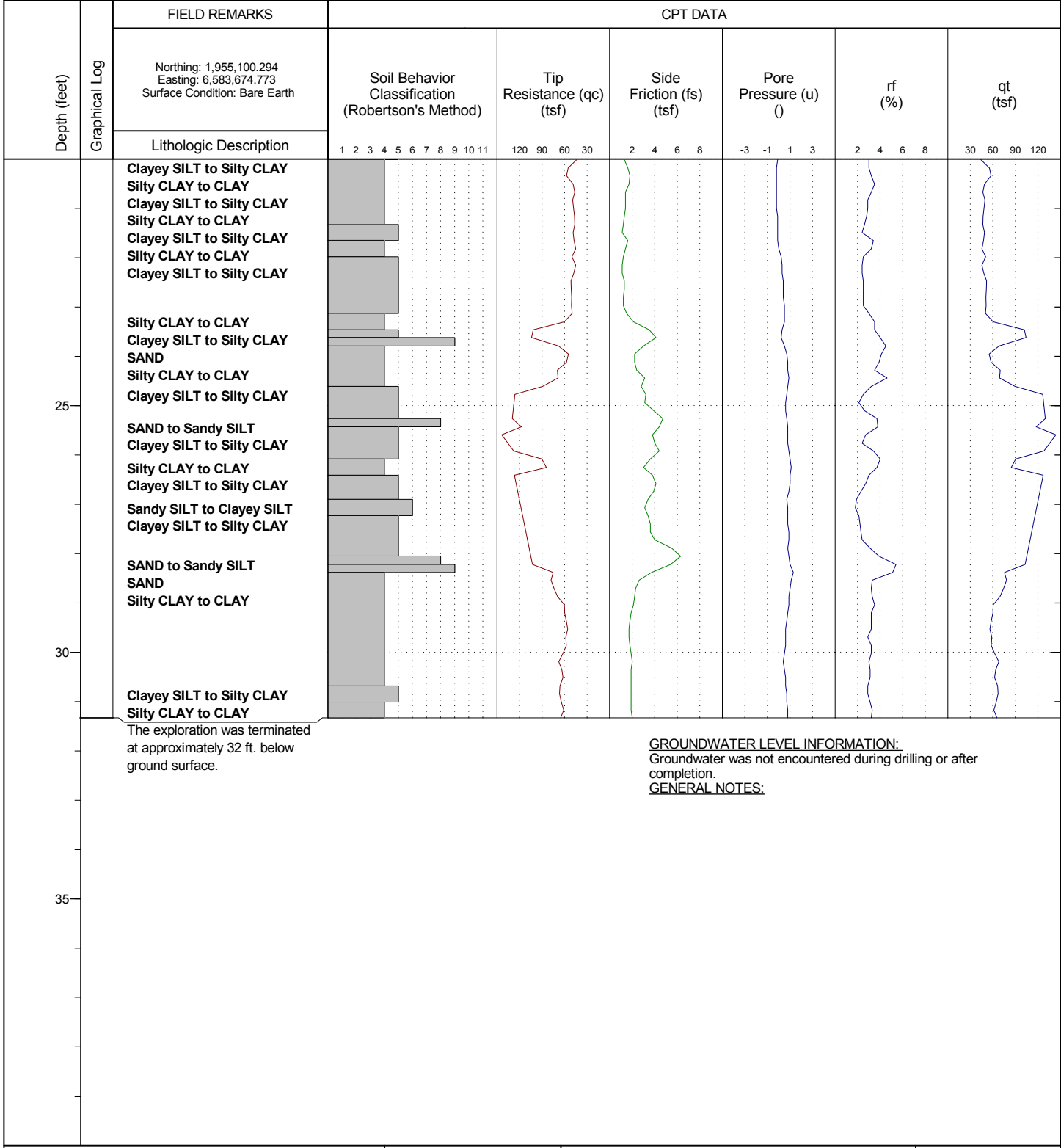
PAGE: 1 of 2

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_CPT WITHOUT LOG]



PLOTTED: 01/08/2016 01:22 PM BY: MPalmer

<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> Middle Earth Geo Testing Inc.	<b>BORING LOG CPT-11</b>
<b>Logged By:</b> N/A	<b>Drill Crew:</b> N/A	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> 25 ton Paystar 5000	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> CPT Sounding	
<b>Weather:</b> Sunny, warm	<b>Sounding Diameter:</b> 2 in. O.D.	

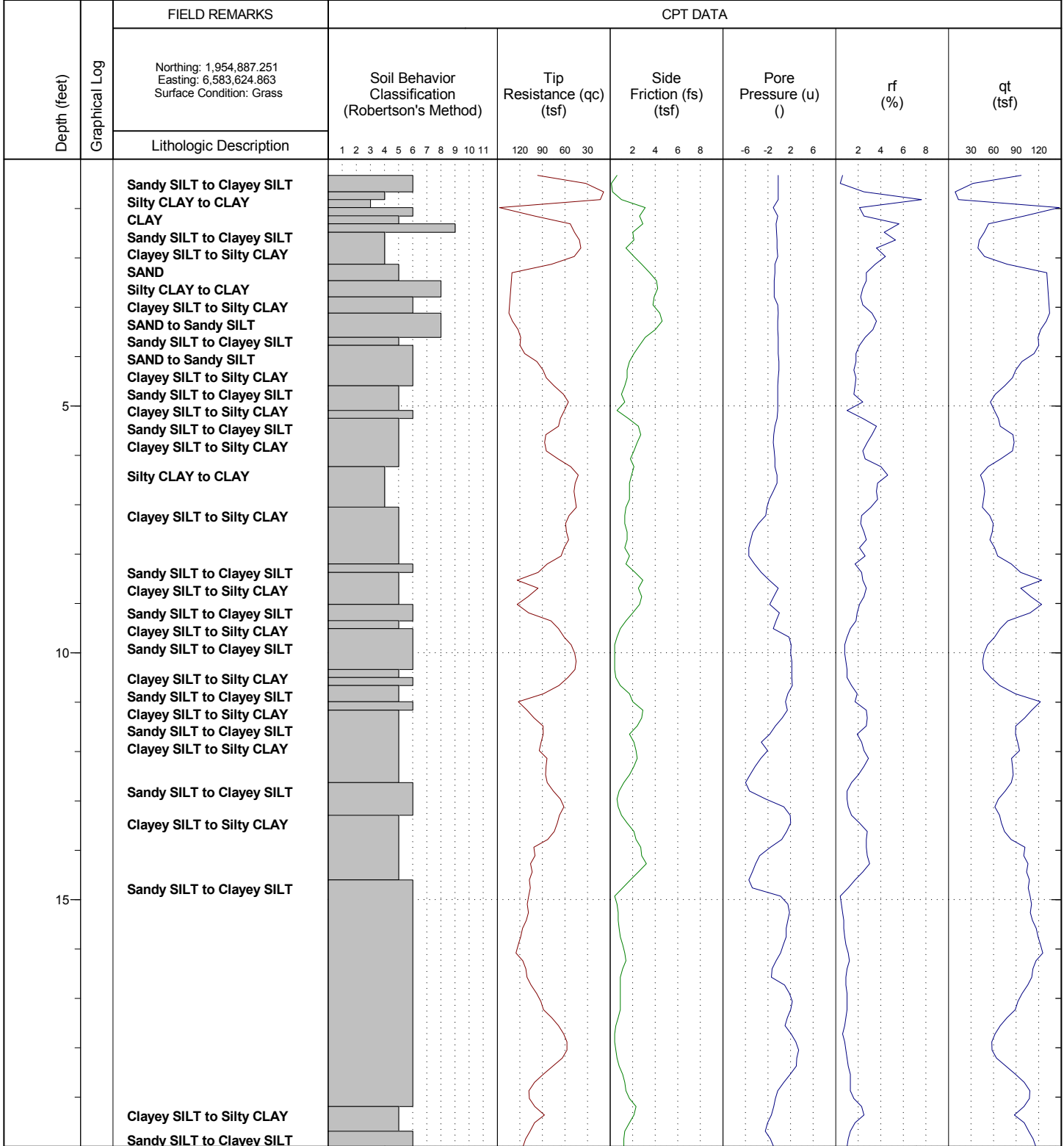


The exploration was terminated at approximately 32 ft. below ground surface.

**GROUNDWATER LEVEL INFORMATION:**  
 Groundwater was not encountered during drilling or after completion.  
**GENERAL NOTES:**

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
 GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_CPT WITHOUT LOG]

<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>Middle Earth Geo Testing Inc.</u>	<b>BORING LOG CPT-12</b>
<b>Logged By:</b>	<u>N/A</u>	<b>Drill Crew:</b>	<u>N/A</u>	
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>25 ton Paystar 5000</u>	
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>CPT Sounding</u>	
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Sounding Diameter:</b>	<u>2 in. O.D.</u>	



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

CPT SOUNDING LOG CPT-12  
(\* Associated Boring B-12)

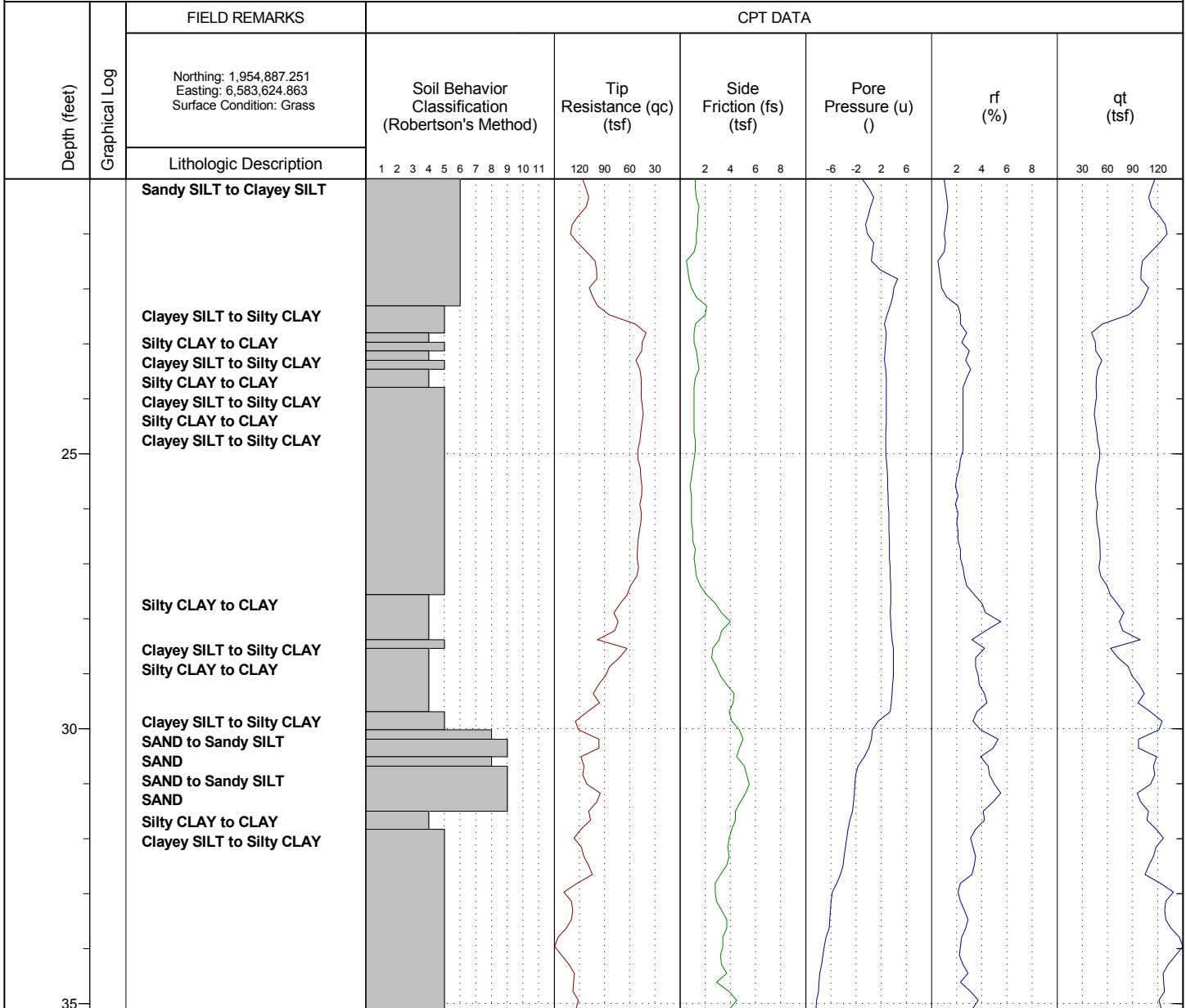
UNIVERSITY OF CALIFORNIA, MERCED  
2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

A-108

PAGE: 1 of 2

<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>Middle Earth Geo Testing Inc.</u>	<b>BORING LOG CPT-12</b>
<b>Logged By:</b>	<u>N/A</u>	<b>Drill Crew:</b>	<u>N/A</u>	
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>25 ton Paystar 5000</u>	
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>CPT Sounding</u>	
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Sounding Diameter:</b>	<u>2 in. O.D.</u>	



The exploration was terminated at approximately 35 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:  
Groundwater was not encountered during drilling or after completion.

GENERAL NOTES:



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

CPT SOUNDING LOG CPT-12  
(\* Associated Boring B-12)

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2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

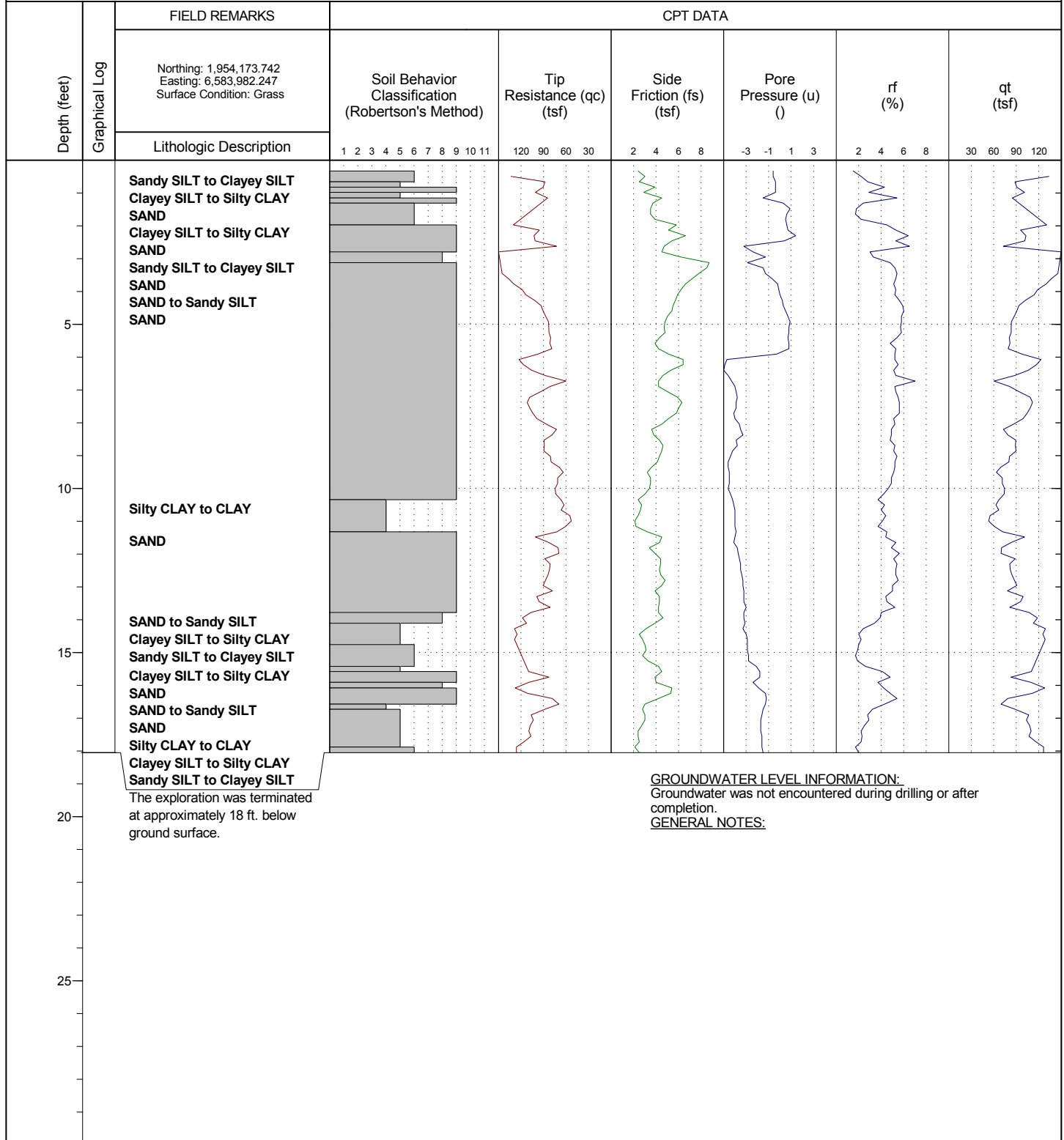
FIGURE

A-108

PAGE: 2 of 2

**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-15**

PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-15**  
 (\* Associated Boring B-15)

UNIVERSITY OF CALIFORNIA, MERCED  
 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-109**

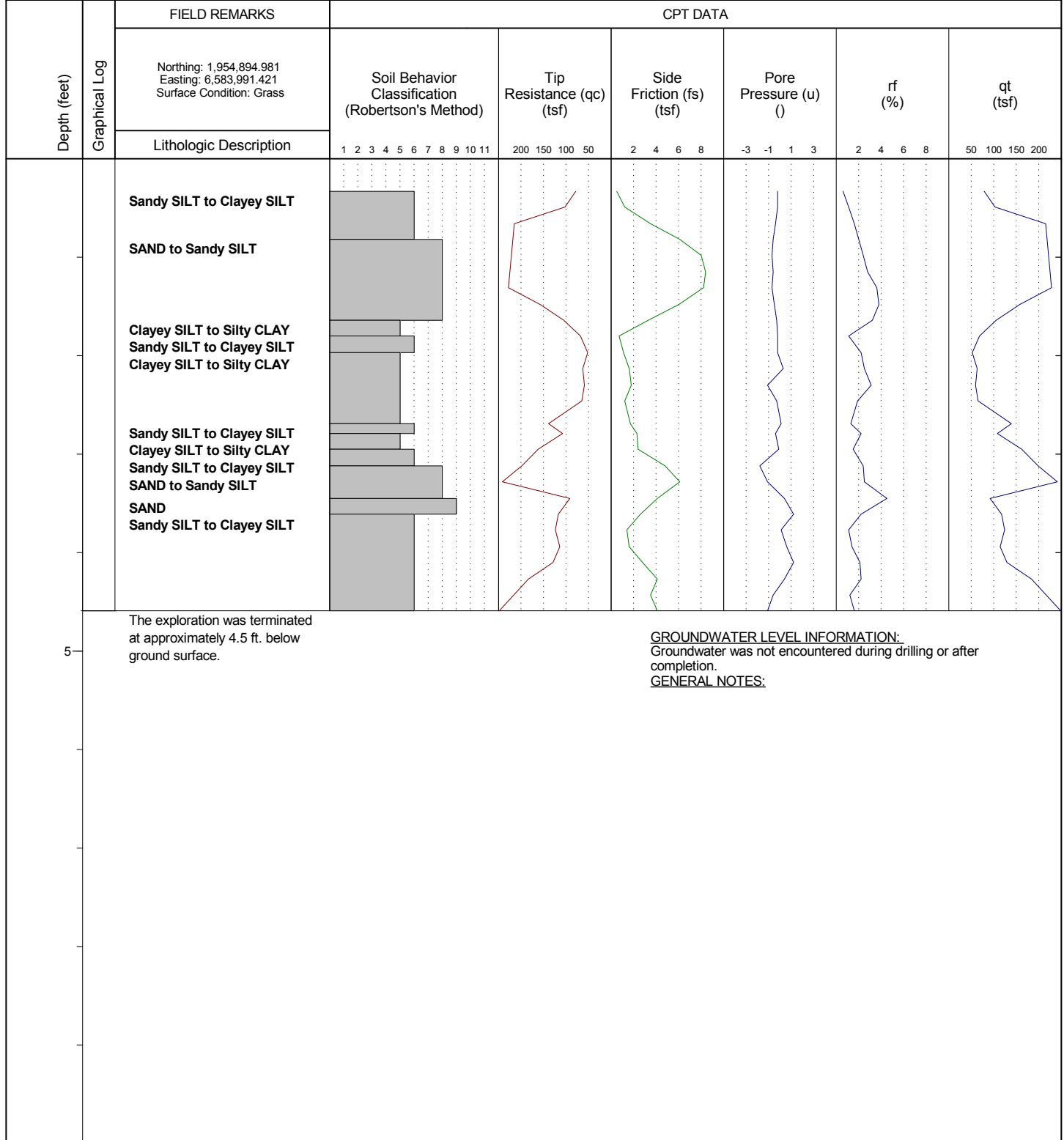
PAGE: 1 of 1

PLOTTED: 01/08/2016 01:22 PM BY: MPalmer

**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-17**



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-17**  
 (\* Associated Boring B-17)

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 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

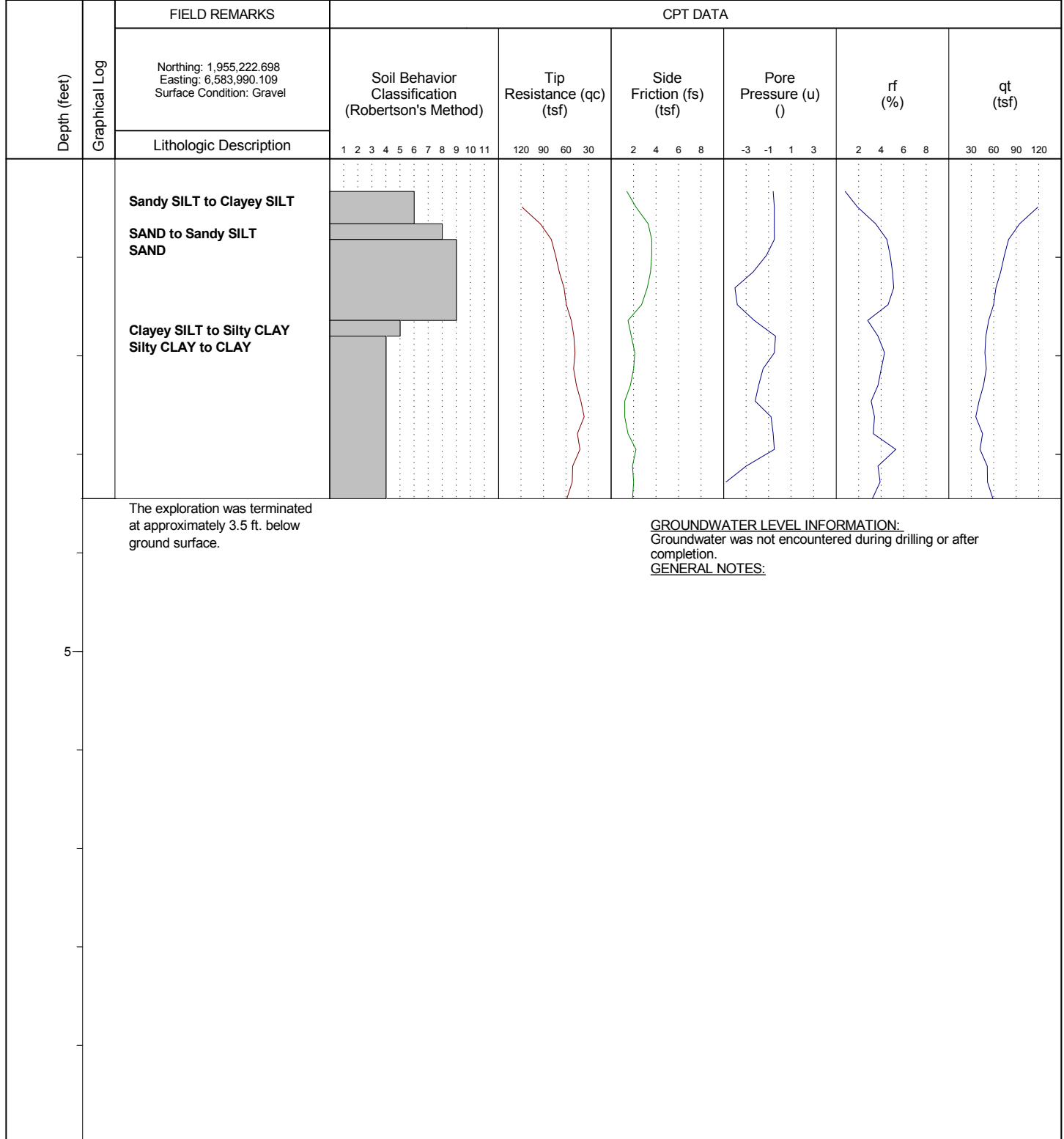
**A-110**

PLOTTED: 01/08/2016 01:22 PM BY: MPalmer

Date Begin - End: 8/06/2014  
Logged By: N/A  
Hor.-Vert. Datum: Not Available  
Plunge: -90 degrees  
Weather: Sunny, warm

Drilling Company: Middle Earth Geo Testing Inc.  
Drill Crew: N/A  
Drilling Equipment: 25 ton Paystar 5000  
Drilling Method: CPT Sounding  
Sounding Diameter: 2 in. O.D.

**BORING LOG CPT-18**



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-18**  
(\* Associated Boring B-18)

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MERCED, CALIFORNIA

FIGURE

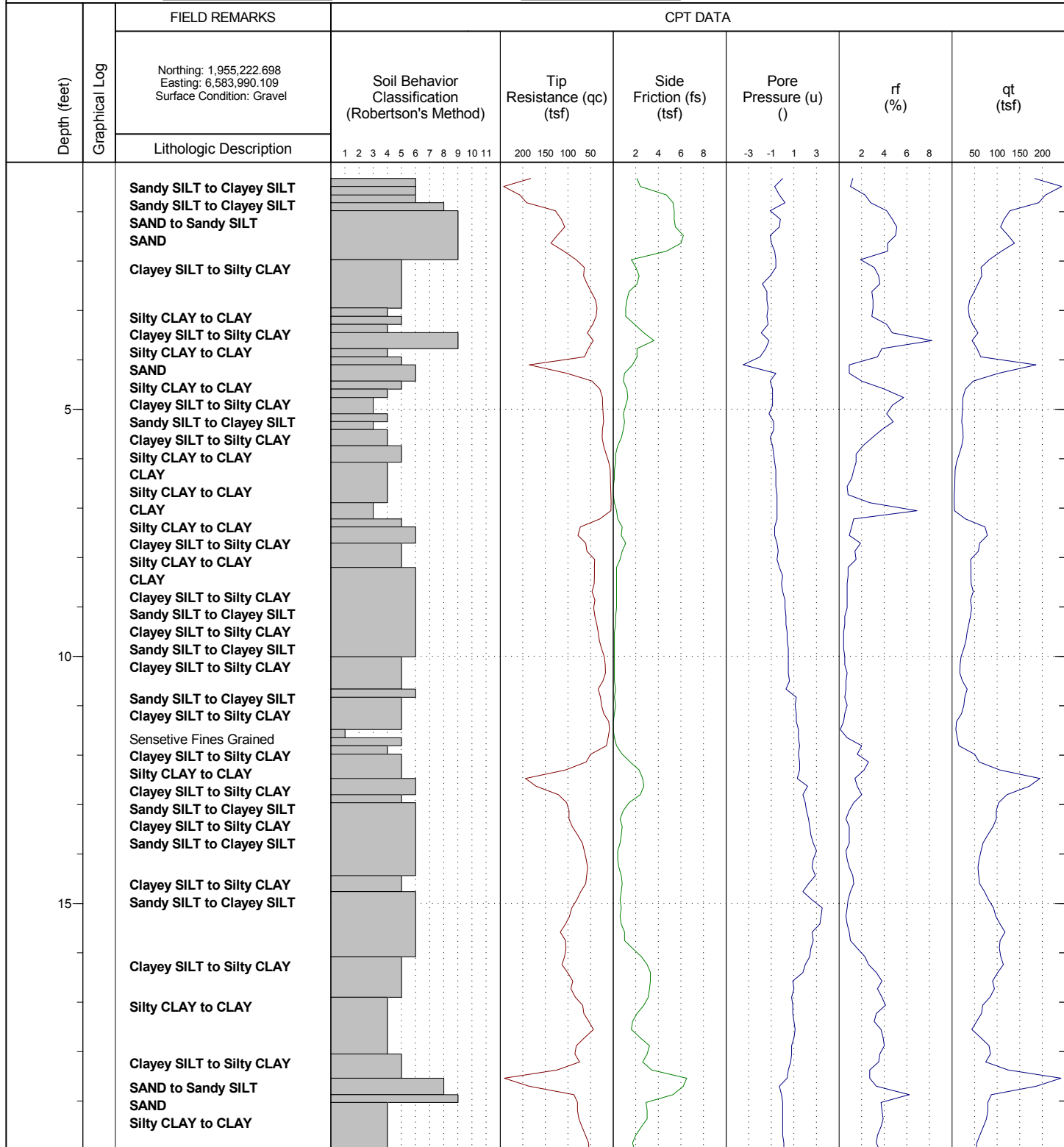
**A-111**

PAGE: 1 of 1

Date Begin - End: 8/06/2014  
 Logged By: N/A  
 Hor.-Vert. Datum: Not Available  
 Plunge: -90 degrees  
 Weather: Sunny, warm

Drilling Company: Middle Earth Geo Testing Inc.  
 Drill Crew: N/A  
 Drilling Equipment: 25 ton Paystar 5000  
 Drilling Method: CPT Sounding  
 Sounding Diameter: 2 in. O.D.

## BORING LOG CPT-18A



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

### CPT SOUNDING LOG CPT-18A (\* Associated Boring B-18)

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 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

A-112

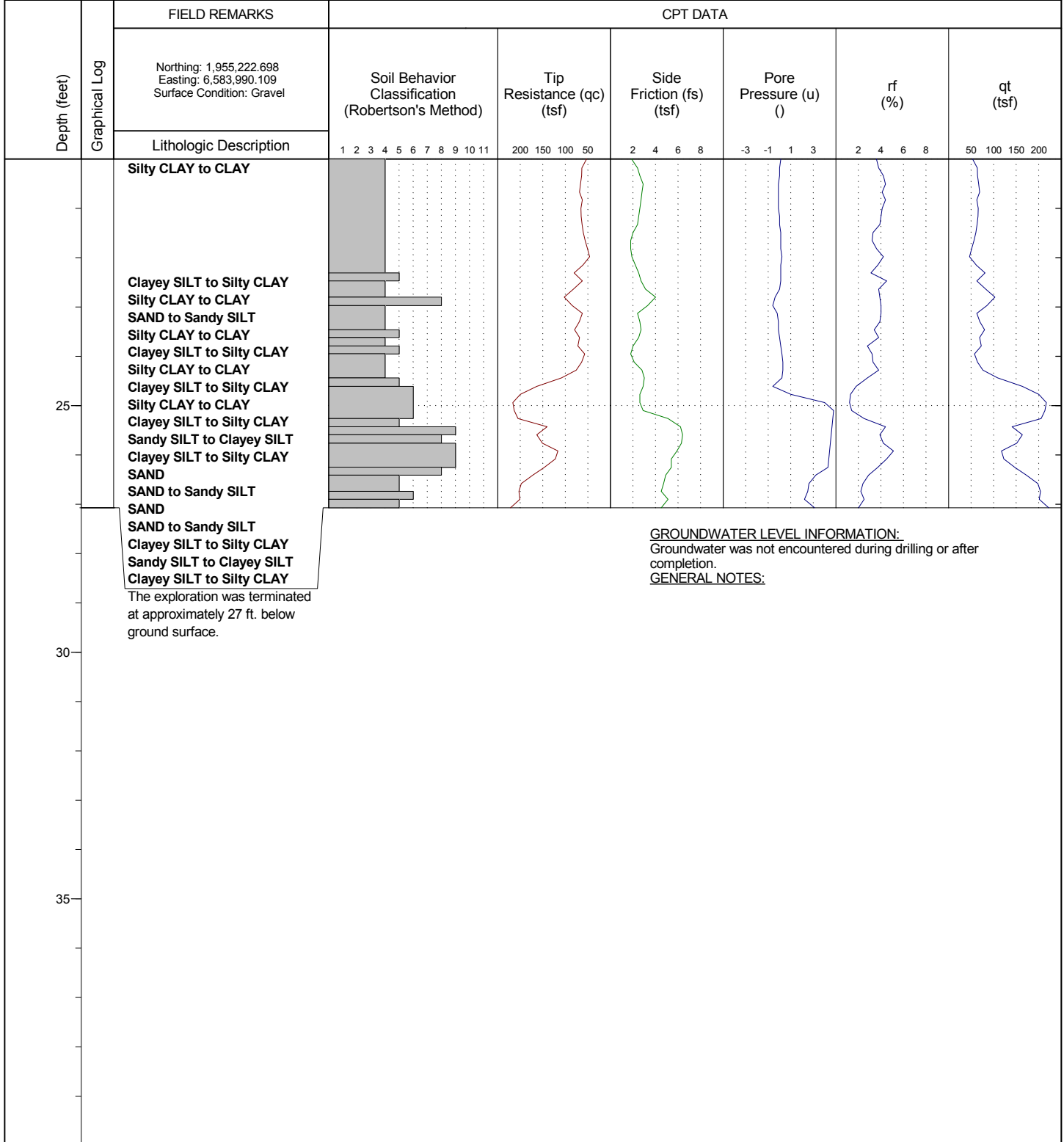
PAGE: 1 of 2



**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-18A**



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-18A**  
 (\* Associated Boring B-18)

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 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-112**



**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-20**

Depth (feet)	Graphical Log	FIELD REMARKS	CPT DATA						
		Northing: 1,954,896.527 Easting: 6,584,364.165 Surface Condition: Bare Earth	Soil Behavior Classification (Robertson's Method)	Tip Resistance (qc) (tsf)	Side Friction (fs) (tsf)	Pore Pressure (u) (')	rf (%)	qt (tsf)	
		Lithologic Description	1 2 3 4 5 6 7 8 9 10 11	600 450 300 150	3 6 9 12	-3 -1 1 3	2 4 6 8	150 300 450 600	
		<div><div>Sandy SILT to Clayey SILT</div><div>SAND to Sandy SILT</div></div>							

The exploration was terminated at approximately 1 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:  
 Groundwater was not encountered during drilling or after completion.  
GENERAL NOTES:



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-20**  
 (\* Associated Boring B-20)

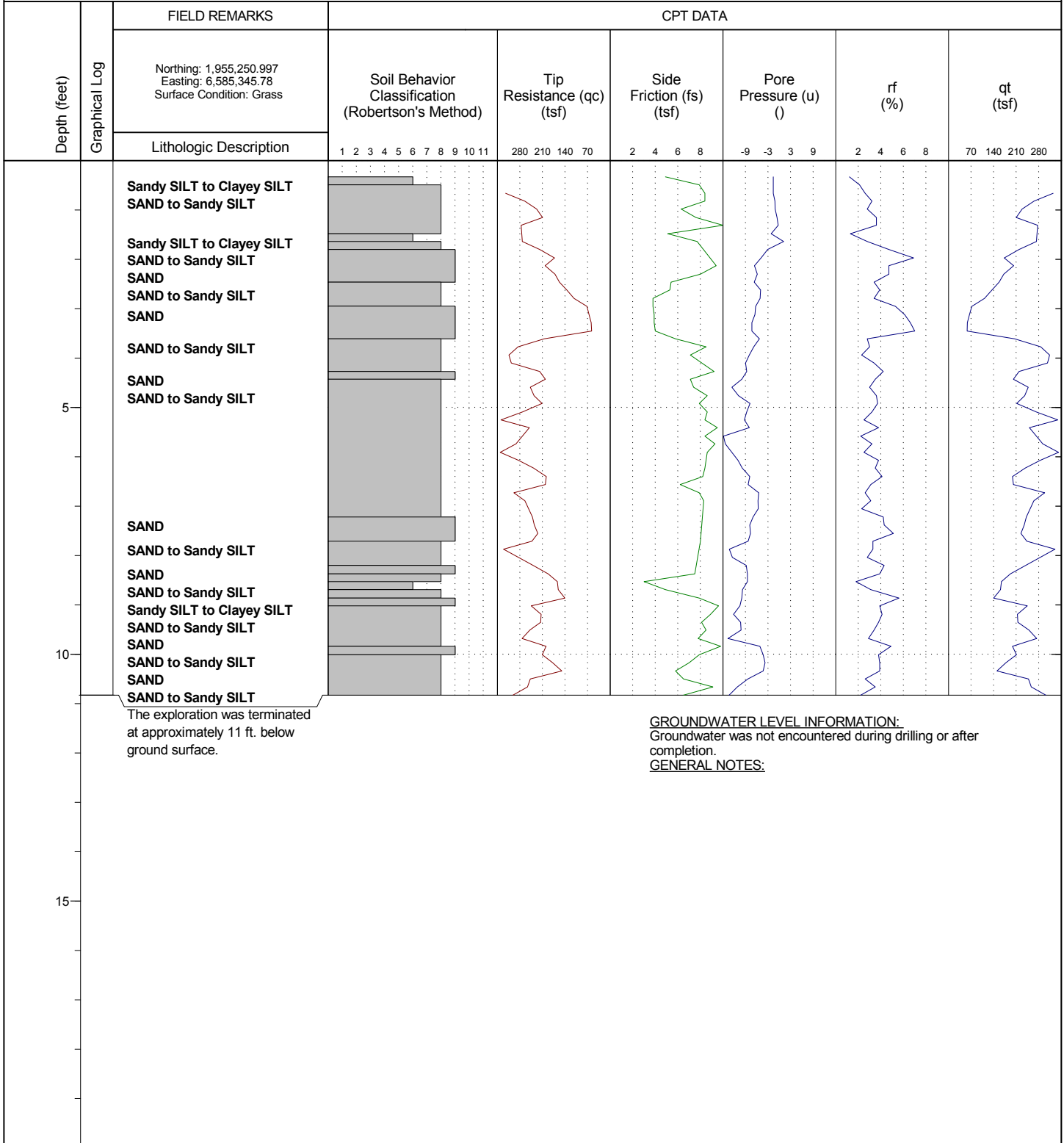
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FIGURE

**A-113**

PAGE: 1 of 1

<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>Middle Earth Geo Testing Inc.</u>	<b>BORING LOG CPT-28</b>
<b>Logged By:</b>	<u>N/A</u>	<b>Drill Crew:</b>	<u>N/A</u>	
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>25 ton Paystar 5000</u>	
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>CPT Sounding</u>	
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Sounding Diameter:</b>	<u>2 in. O.D.</u>	



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

CPT SOUNDING LOG CPT-28  
(\* Associated Boring B-28)

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MERCED, CALIFORNIA

FIGURE

A-114

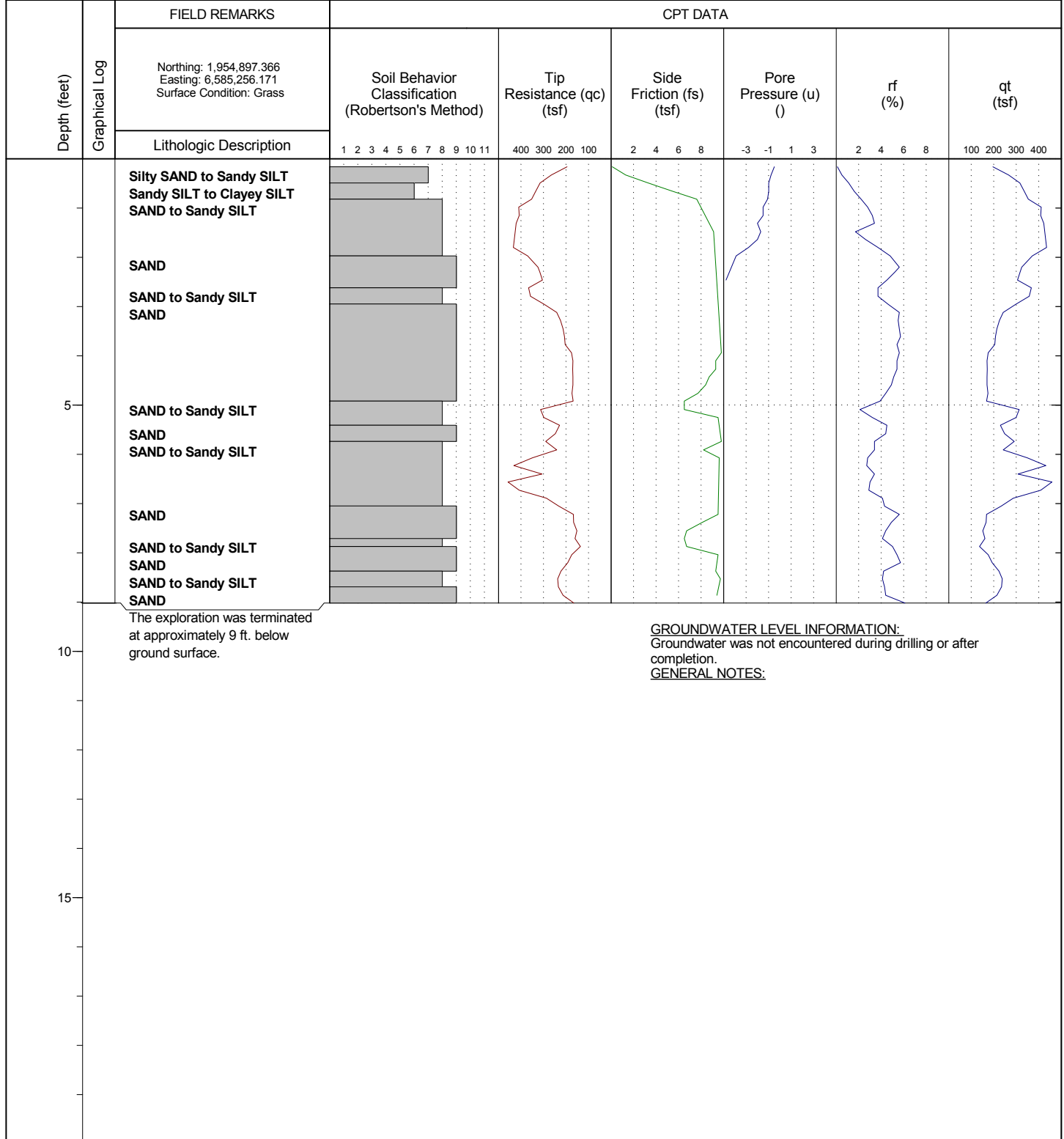
PAGE: 1 of 1

PLOTTED: 01/08/2016 01:23 PM BY: MPalmer

Date Begin - End: 8/06/2014  
Logged By: N/A  
Hor.-Vert. Datum: Not Available  
Plunge: -90 degrees  
Weather: Sunny, warm

Drilling Company: Middle Earth Geo Testing Inc.  
Drill Crew: N/A  
Drilling Equipment: 25 ton Paystar 5000  
Drilling Method: CPT Sounding  
Sounding Diameter: 2 in. O.D.

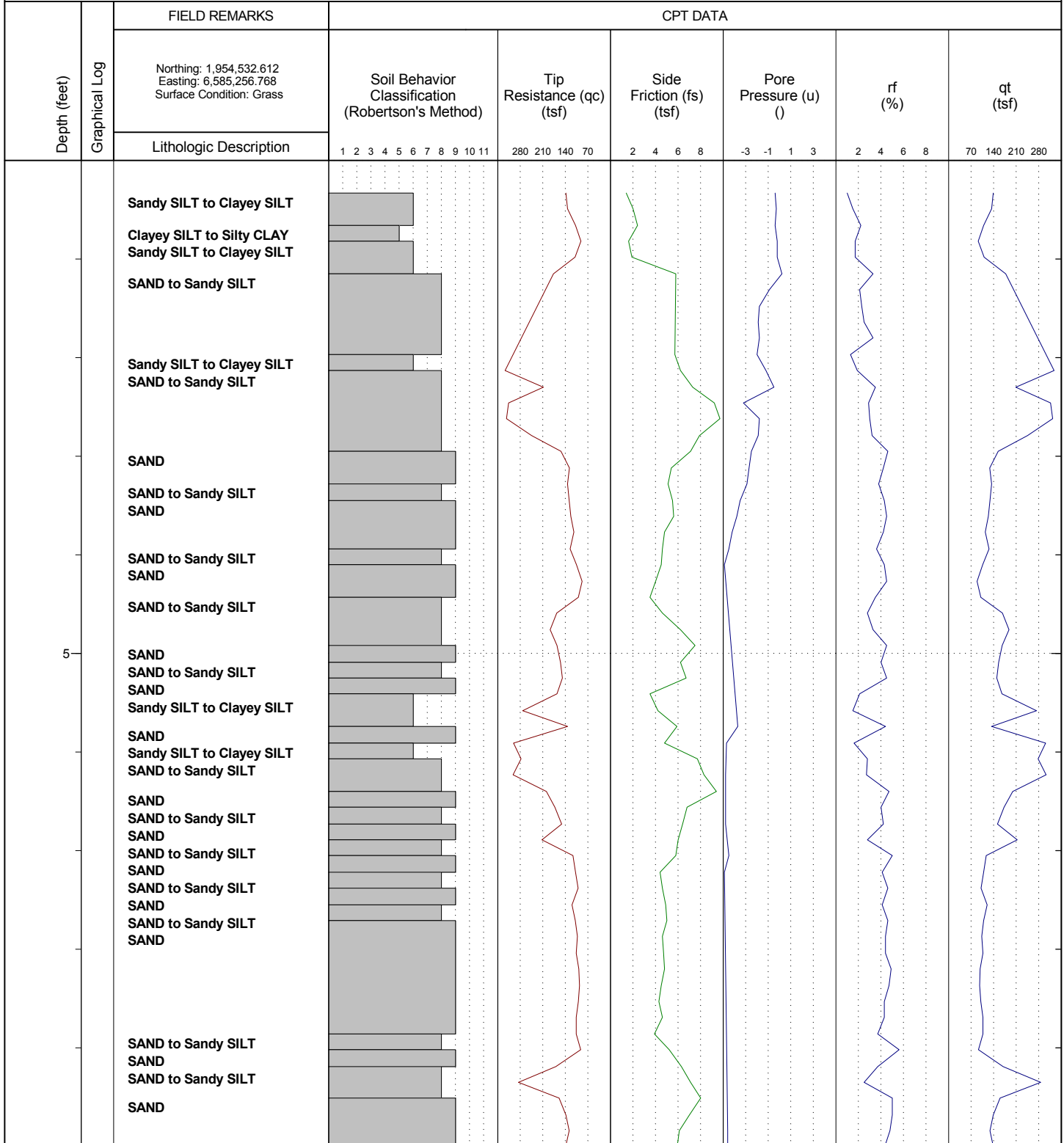
BORING LOG CPT-29



Date Begin - End:	8/06/2014
Logged By:	N/A
Hor.-Vert. Datum:	Not Available
Plunge:	-90 degrees
Weather:	Sunny, warm

<b>Drilling Company:</b>	<u>Middle Earth Geo Testing Inc.</u>
<b>Drill Crew:</b>	<u>N/A</u>
<b>Drilling Equipment:</b>	<u>25 ton Paystar 5000</u>
<b>Drilling Method:</b>	<u>CPT Sounding</u>
<b>Sounding Diameter:</b>	<u>2 in. O.D.</u>

**BORING LOG CPT-30**



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

CPT SOUNDING LOG CPT-30  
(\* Associated Boring B-30)

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2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

A-116

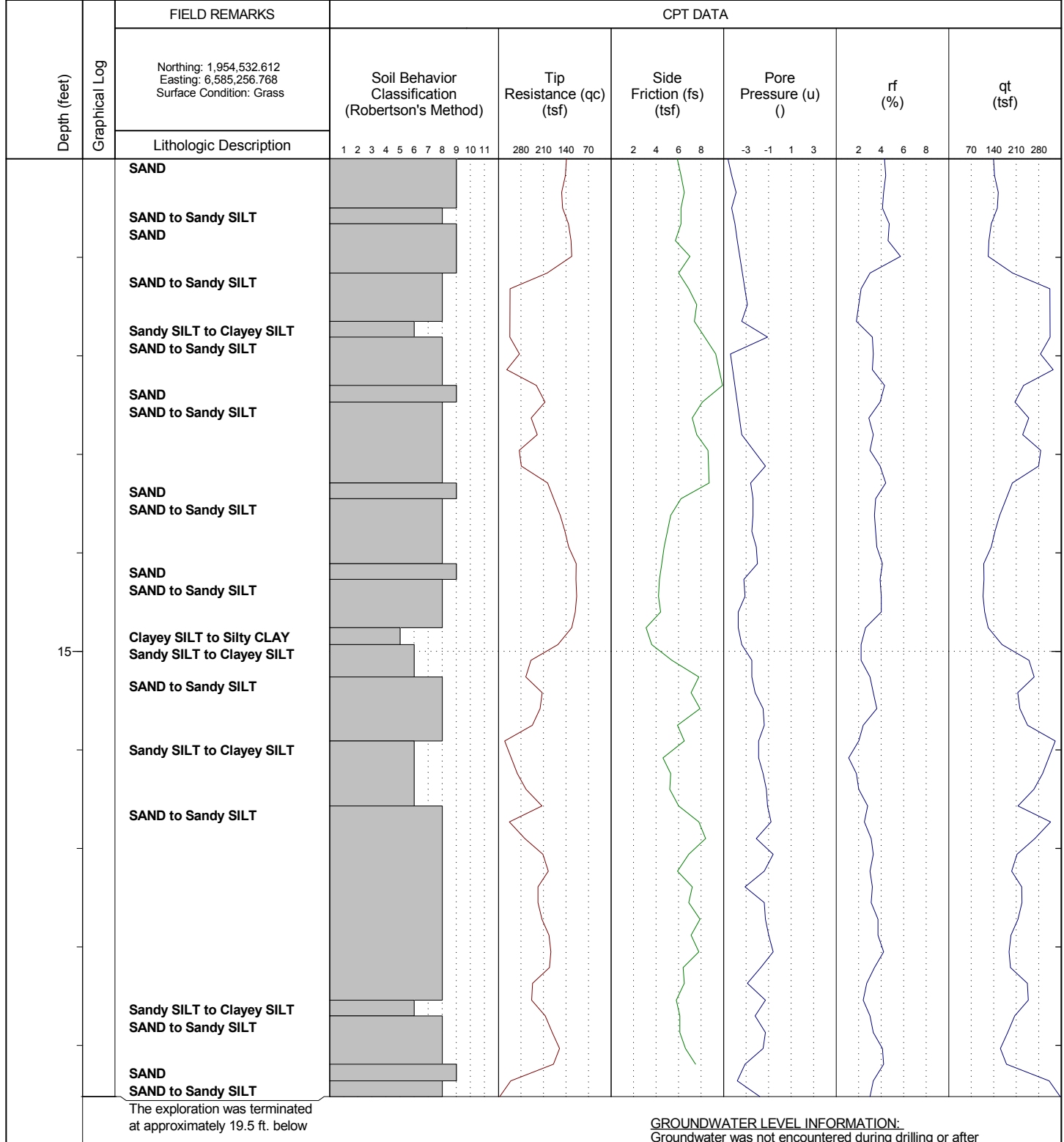
PAGE: 1 of 3

PLOTTED: 01/08/2016 01:23 PM BY: MPalmer

**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-30**



**GROUNDWATER LEVEL INFORMATION:**  
 Groundwater was not encountered during drilling or after



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-30**  
 (\* Associated Boring B-30)


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 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-116**

<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> Middle Earth Geo Testing Inc.	<b>BORING LOG CPT-30</b>
<b>Logged By:</b> N/A	<b>Drill Crew:</b> N/A	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> 25 ton Paystar 5000	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> CPT Sounding	
<b>Weather:</b> Sunny, warm	<b>Sounding Diameter:</b> 2 in. O.D.	

Depth (feet)	Graphical Log	FIELD REMARKS	CPT DATA																														
		Northing: 1,954,532.612 Easting: 6,585,256.768 Surface Condition: Grass	Soil Behavior Classification (Robertson's Method)											Tip Resistance (qc) (tsf)				Side Friction (fs) (tsf)				Pore Pressure (u) ( )				rf (%)				qt (tsf)			
			1	2	3	4	5	6	7	8	9	10	11	280	210	140	70	2	4	6	8	-3	-1	1	3	2	4	6	8	70	140	210	280
Lithologic Description																																	
		ground surface.																															
		completion. <u>GENERAL NOTES:</u>																															

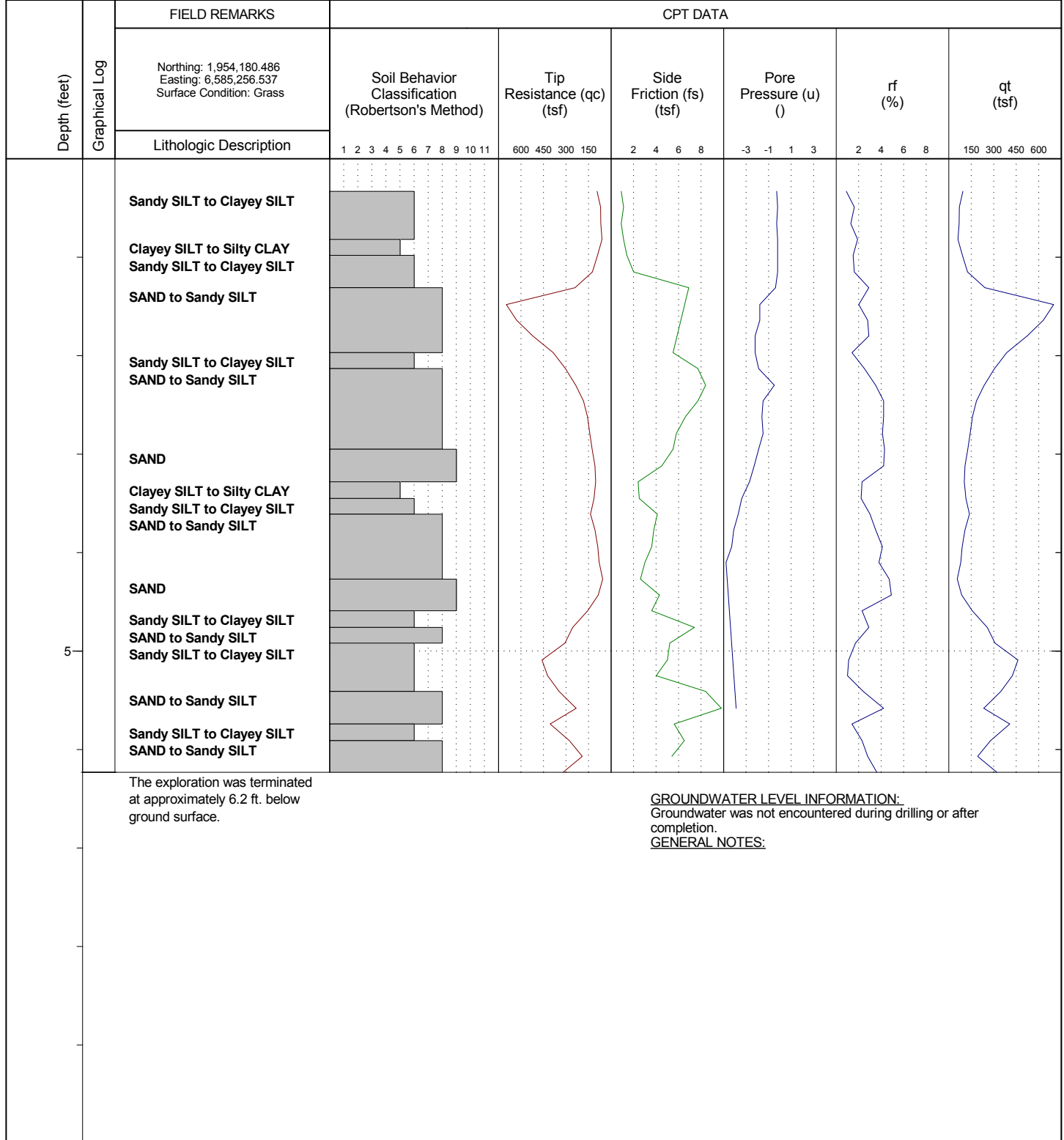
	PROJECT NO.: 20151969	<b>CPT SOUNDING LOG CPT-30</b> (* Associated Boring B-30)	<b>FIGURE</b>  <b>A-116</b>
	DRAWN BY: ZJ CHECKED BY: MB DATE: 8/28/2014 REVISED: 8/27/2014		
PAGE: 3 of 3			

PLOTTED: 01/08/2016 01:23 PM BY: MPalmer

**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-31**



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-31**  
 (\* Associated Boring B-31)

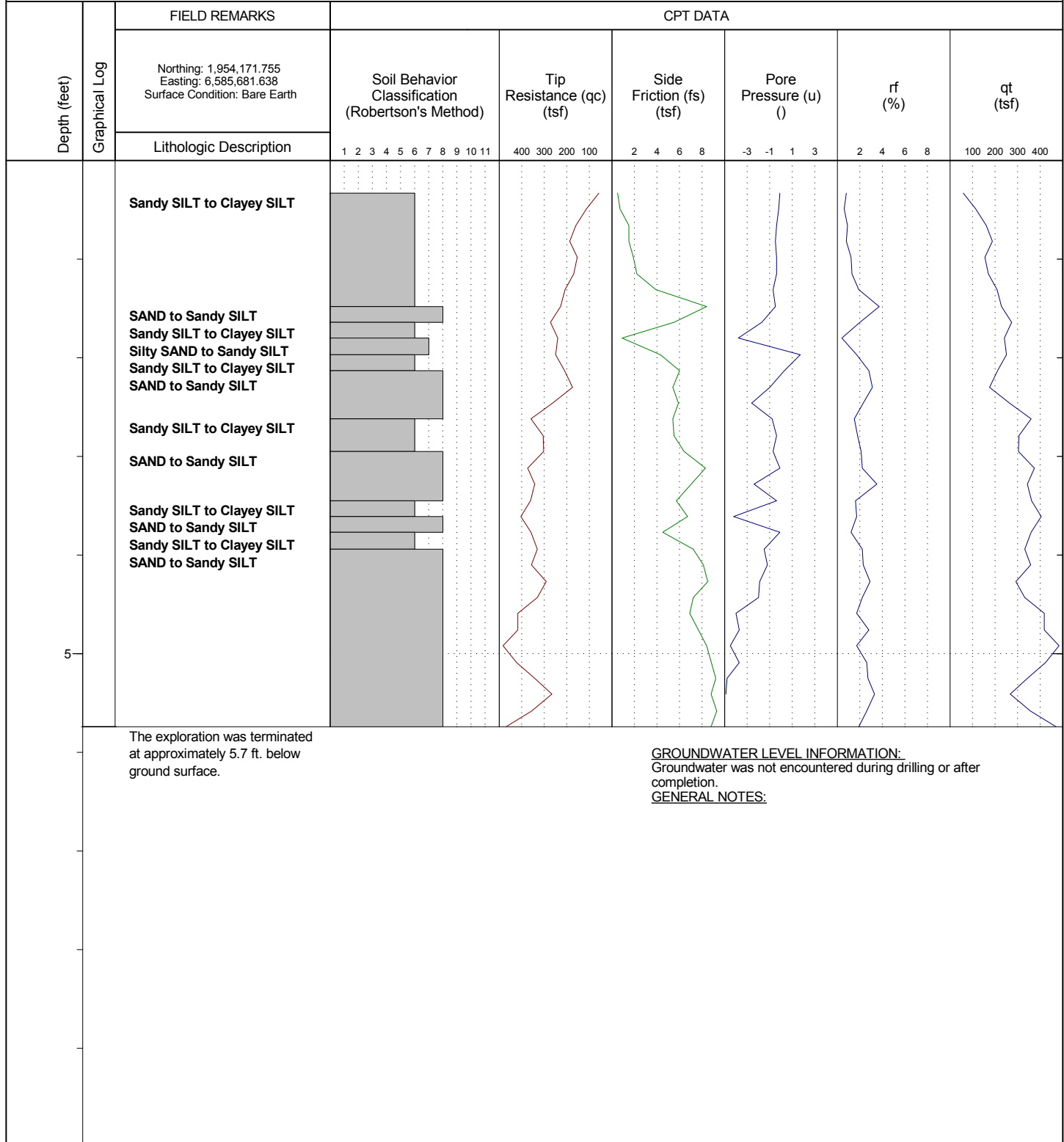
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 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-117**

**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-32**

PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-32**  
 (\* Associated Boring B-32)

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 2020 DEVELOPMENT PROJECT  
 MERCED, CALIFORNIA

FIGURE

**A-118**

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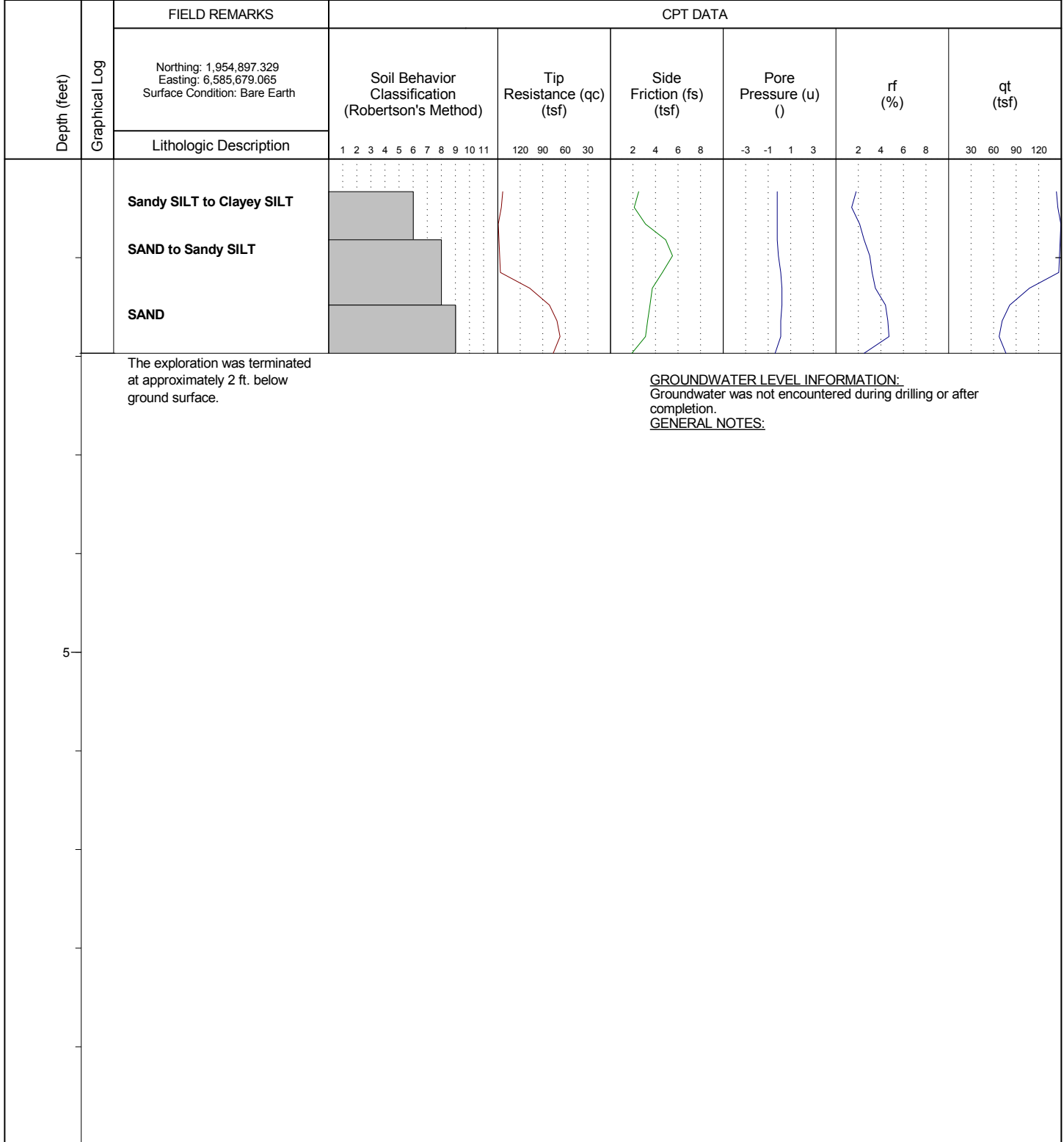


PLOTTED: 01/08/2016 01:23 PM BY: MPalmer

Date Begin - End: 8/06/2014  
Logged By: N/A  
Hor.-Vert. Datum: Not Available  
Plunge: -90 degrees  
Weather: Sunny, warm

Drilling Company: Middle Earth Geo Testing Inc.  
Drill Crew: N/A  
Drilling Equipment: 25 ton Paystar 5000  
Drilling Method: CPT Sounding  
Sounding Diameter: 2 in. O.D.

BORING LOG CPT-34



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

CPT SOUNDING LOG CPT-34  
(\* Associated Boring B-34)

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2020 DEVELOPMENT PROJECT  
MERCED, CALIFORNIA

FIGURE

A-119

PAGE: 1 of 1

<b>Date Begin - End:</b>	<u>8/06/2014</u>	<b>Drilling Company:</b>	<u>Middle Earth Geo Testing Inc.</u>	<b>BORING LOG CPT-34A</b>
<b>Logged By:</b>	<u>N/A</u>	<b>Drill Crew:</b>	<u>N/A</u>	
<b>Hor.-Vert. Datum:</b>	<u>Not Available</u>	<b>Drilling Equipment:</b>	<u>25 ton Paystar 5000</u>	
<b>Plunge:</b>	<u>-90 degrees</u>	<b>Drilling Method:</b>	<u>CPT Sounding</u>	
<b>Weather:</b>	<u>Sunny, warm</u>	<b>Sounding Diameter:</b>	<u>2 in. O.D.</u>	

Depth (feet)	Graphical Log	FIELD REMARKS	CPT DATA												
		Soil Behavior Classification (Robertson's Method)	Tip Resistance (qc) (tsf)	Side Friction (fs) (tsf)	Pore Pressure (u) ( )	rf (%)	qt (tsf)								
								1 2 3 4 5 6 7 8 9 10 11	120 90 60 30	2 4 6 8	-3 -1 1 3	2 4 6 8	30 60 90 120		
		Northing: 1,954,897.329 Easting: 6,585,679.065 Surface Condition: Bare Earth  Lithologic Description													
		<div><div>Sandy SILT to Clayey SILT</div><div>Sandy SILT to Clayey SILT</div><div>SAND to Sandy SILT</div><div>Clayey SILT to Silty CLAY</div><div>SAND to Sandy SILT</div><div>Clayey SILT to Silty CLAY</div><div>Silty CLAY to CLAY</div><div>Clayey SILT to Silty CLAY</div></div> <div>The exploration was terminated at approximately 2 ft. below ground surface.</div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
			<div><div>GROUNDWATER LEVEL INFORMATION:</div><div>Groundwater was not encountered during drilling or after completion.</div><div>GENERAL NOTES:</div></div>												



PROJECT NO.:	20151969
DRAWN BY:	ZJ
CHECKED BY:	MB
DATE:	8/28/2014
REVISED:	8/27/2014

CPT SOUNDING LOG CPT-34A  
(\* Associated Boring B-34)

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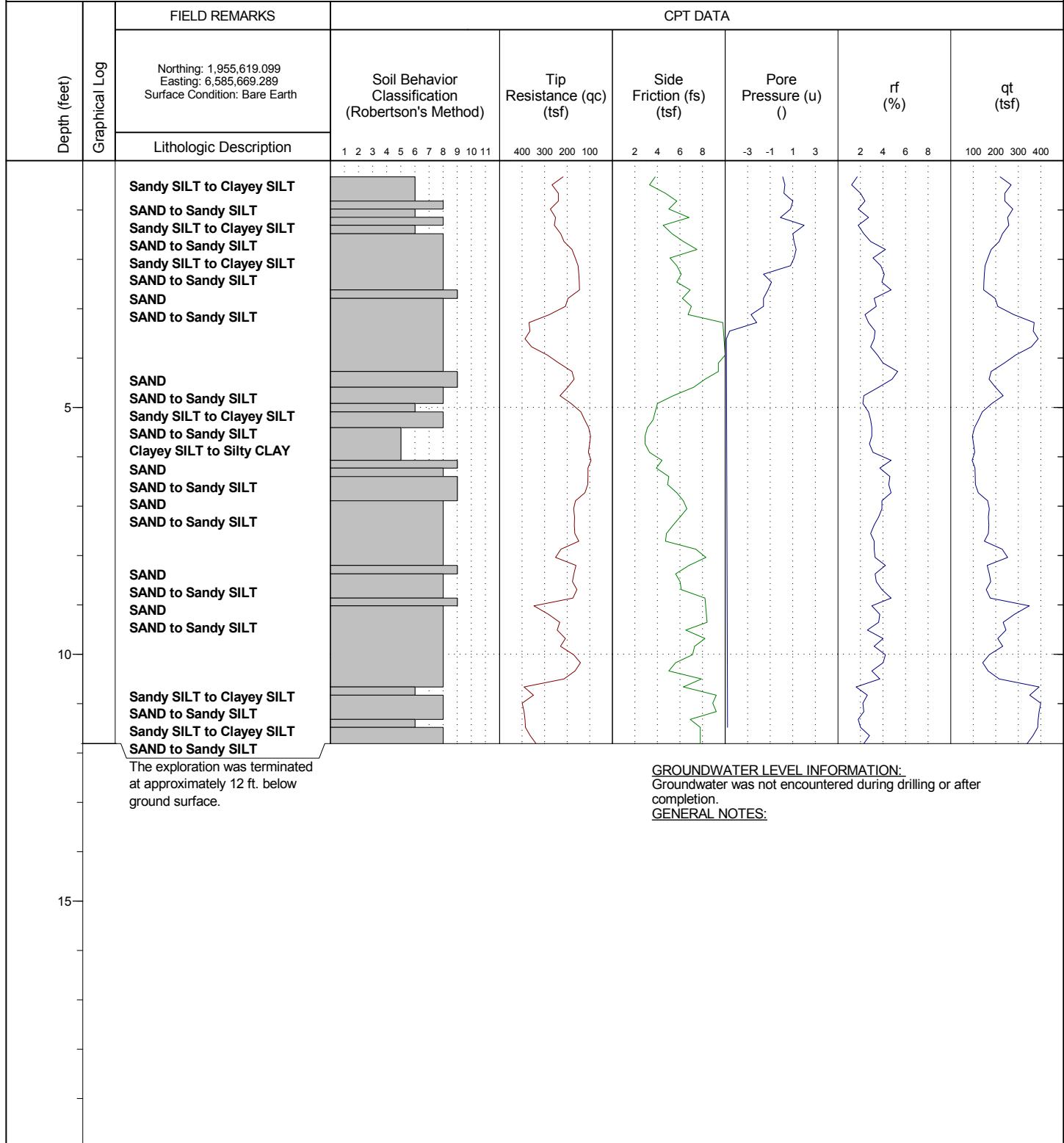
FIGURE

A-120

PAGE: 1 of 1

**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-36**

**GROUNDWATER LEVEL INFORMATION:**  
 Groundwater was not encountered during drilling or after completion.  
**GENERAL NOTES:**



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-36**  
 (\* Associated Boring B-36)

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FIGURE

**A-121**

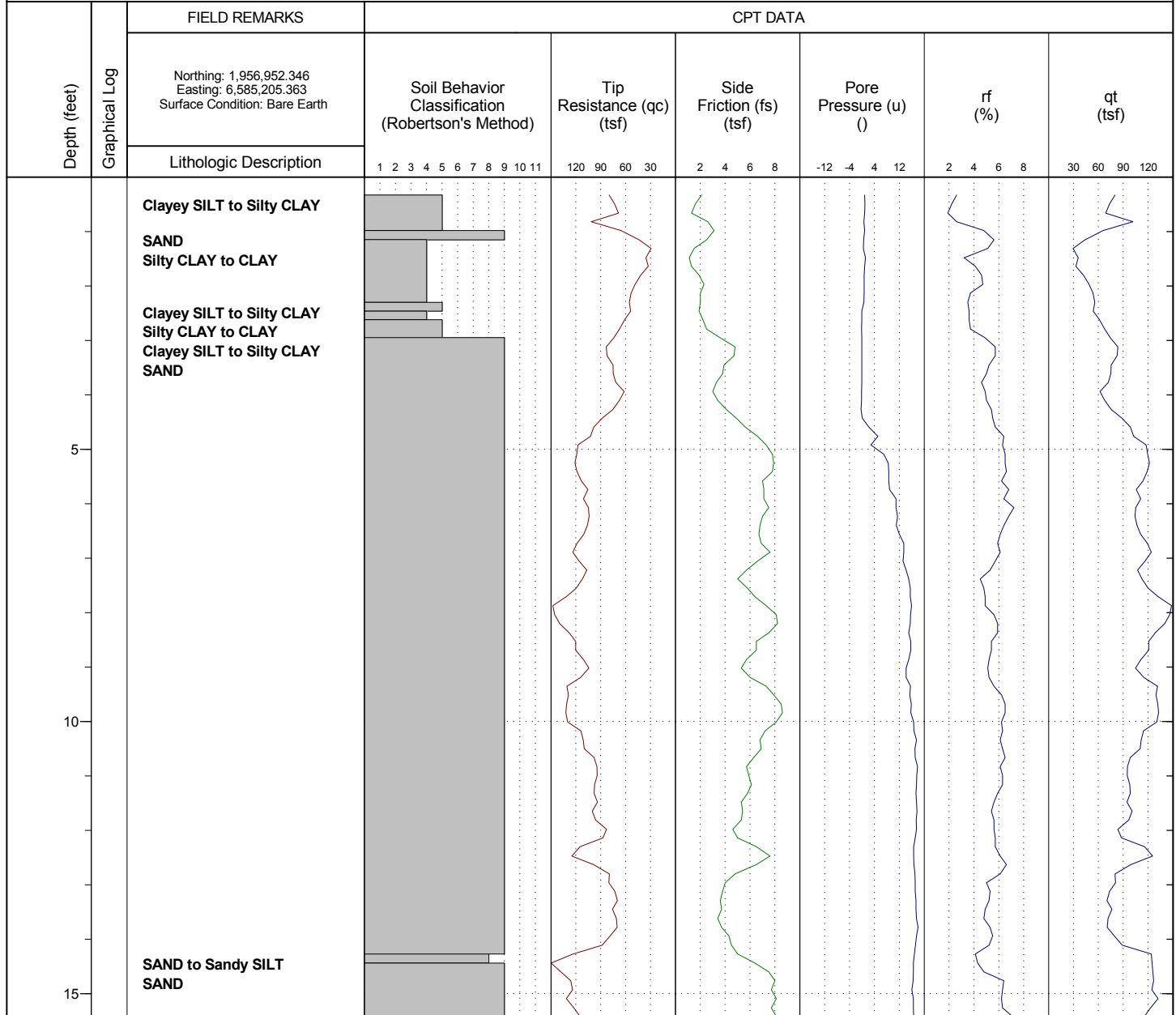
PAGE: 1 of 1

PLOTTED: 01/08/2016 01:23 PM BY: MPalmer

Date Begin - End: 8/06/2014  
Logged By: N/A  
Hor.-Vert. Datum: Not Available  
Plunge: -90 degrees  
Weather: Sunny, warm

Drilling Company: Middle Earth Geo Testing Inc.  
Drill Crew: N/A  
Drilling Equipment: 25 ton Paystar 5000  
Drilling Method: CPT Sounding  
Sounding Diameter: 2 in. O.D.

**BORING LOG CPT-40**



The exploration was terminated at approximately 15.5 ft. below ground surface.

GROUNDWATER LEVEL INFORMATION:  
Groundwater was not encountered during drilling or after completion.  
GENERAL NOTES:

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_CPT WITHOUT LOG]



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-40  
(\* Associated Boring B-40)**

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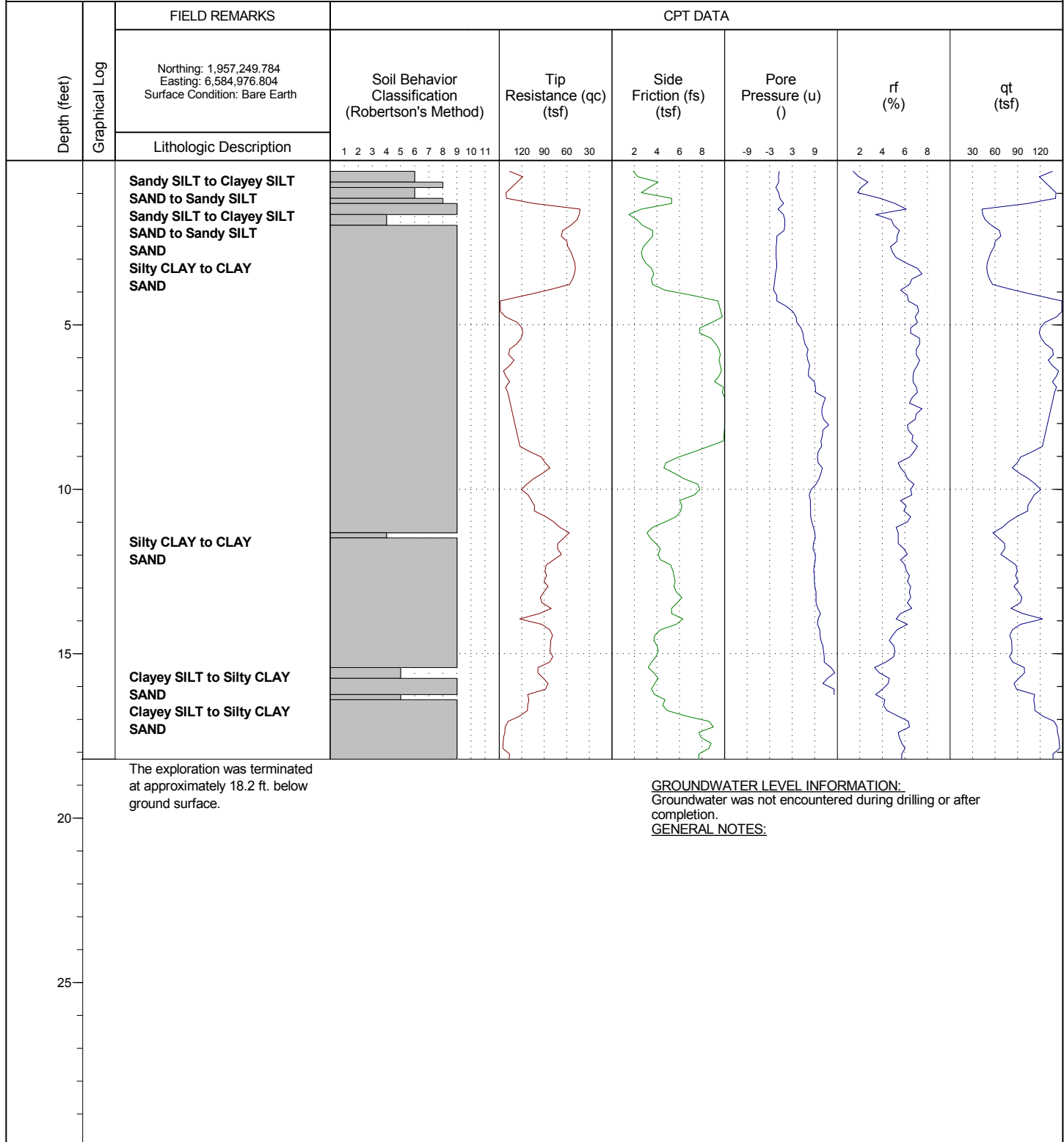
FIGURE

**A-122**

PAGE: 1 of 1

**Date Begin - End:** 8/06/2014  
**Logged By:** N/A  
**Hor.-Vert. Datum:** Not Available  
**Plunge:** -90 degrees  
**Weather:** Sunny, warm

**Drilling Company:** Middle Earth Geo Testing Inc.  
**Drill Crew:** N/A  
**Drilling Equipment:** 25 ton Paystar 5000  
**Drilling Method:** CPT Sounding  
**Sounding Diameter:** 2 in. O.D.

**BORING LOG CPT-41**

PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-41**  
 (\* Associated Boring B-41)

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FIGURE

**A-123**

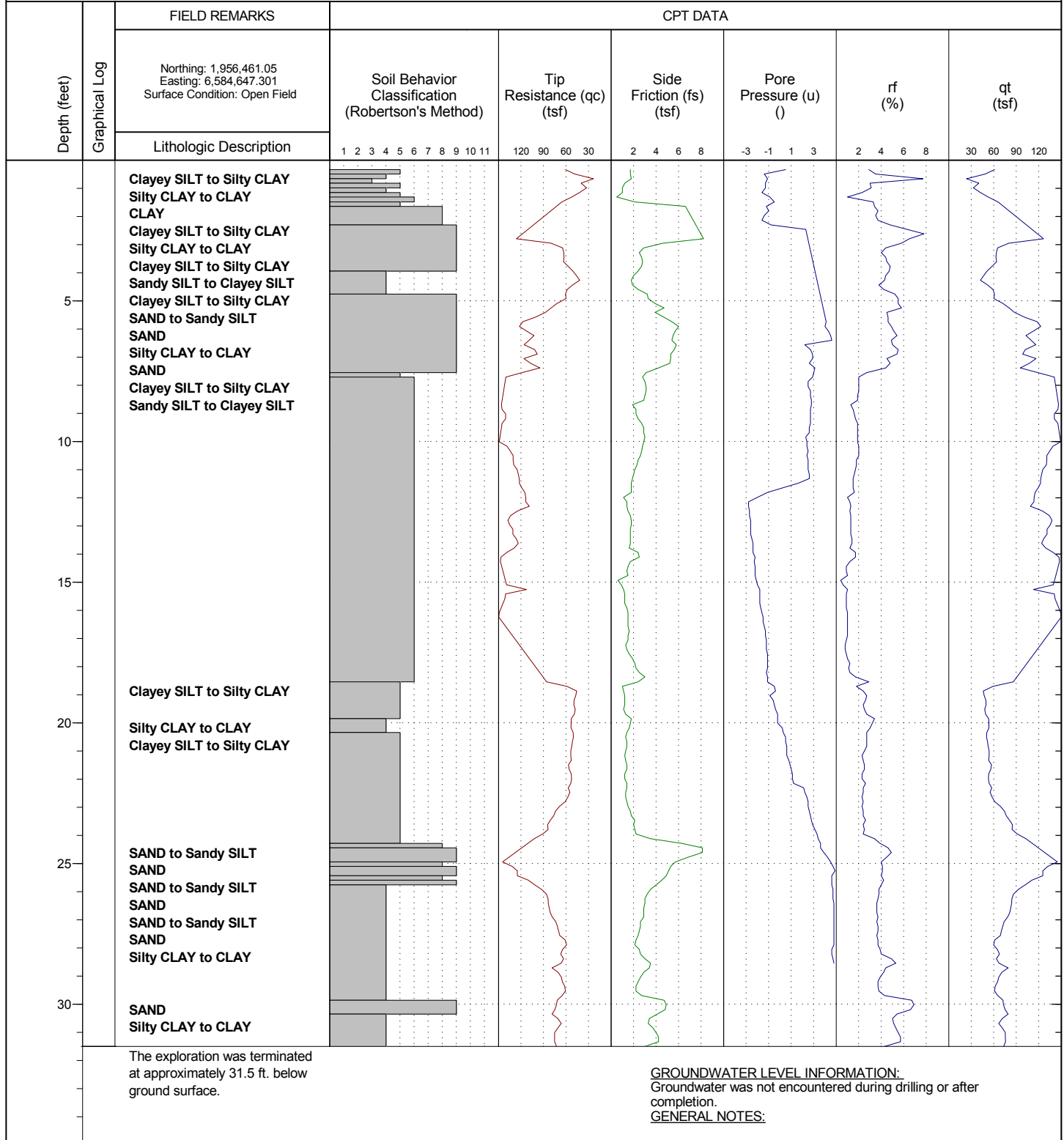
PAGE: 1 of 1

PLOTTED: 01/08/2016 01:23 PM BY: MPalmer

Date Begin - End: 8/06/2014  
Logged By: N/A  
Hor.-Vert. Datum: Not Available  
Plunge: -90 degrees  
Weather: Sunny, warm

Drilling Company: Middle Earth Geo Testing Inc.  
Drill Crew: N/A  
Drilling Equipment: 25 ton Paystar 5000  
Drilling Method: CPT Sounding  
Sounding Diameter: 2 in. O.D.

**BORING LOG CPT-44**



GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_CPT WITHOUT LOG]



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
CHECKED BY: MB  
DATE: 8/28/2014  
REVISED: 8/27/2014

**CPT SOUNDING LOG CPT-44  
(\* Associated Boring B-44)**

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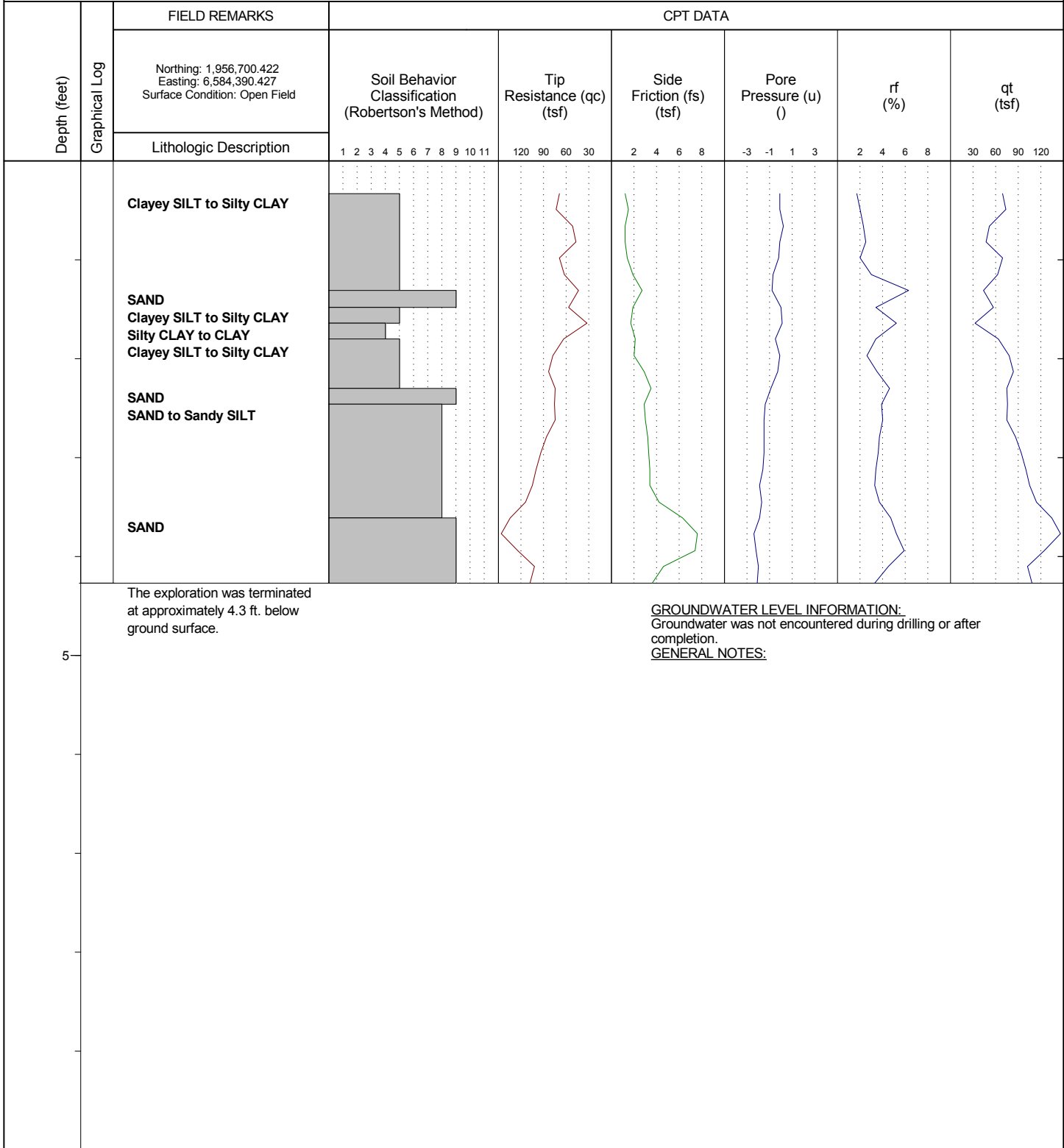
FIGURE


**A-124**

PAGE: 1 of 1

PLOTTED: 01/08/2016 01:23 PM BY: MPalmer

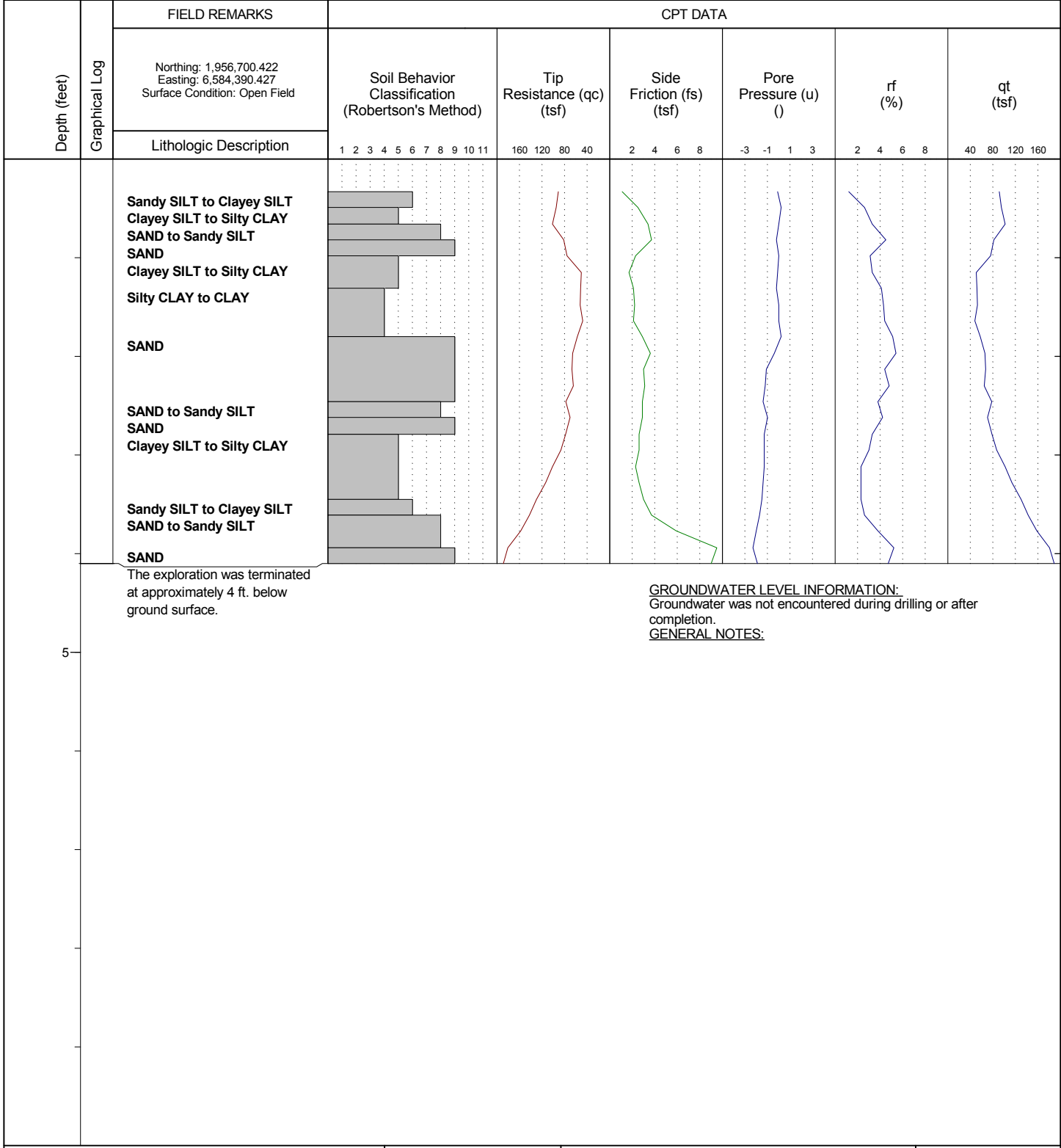
<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> Middle Earth Geo Testing Inc.	<b>BORING LOG CPT-45</b>
<b>Logged By:</b> N/A	<b>Drill Crew:</b> N/A	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> 25 ton Paystar 5000	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> CPT Sounding	
<b>Weather:</b> Sunny, warm	<b>Sounding Diameter:</b> 2 in. O.D.	



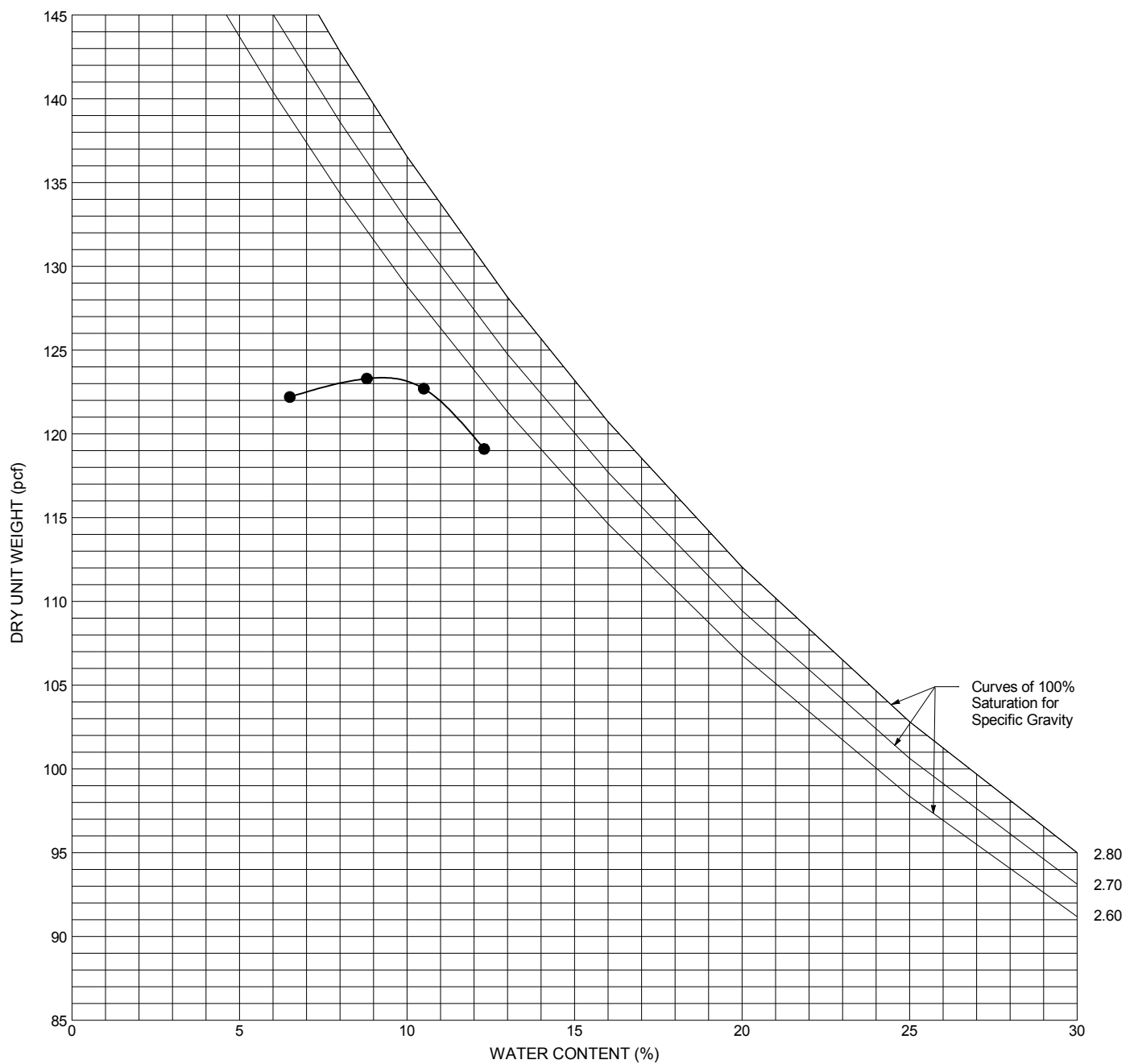
	PROJECT NO.: 20151969	CPT SOUNDING LOG CPT-45 (* Associated Boring B-45)	FIGURE  A-125
	DRAWN BY: ZJ		
	CHECKED BY: MB	UNIVERSITY OF CALIFORNIA, MERCED 2020 DEVELOPMENT PROJECT MERCED, CALIFORNIA	

GINT FILE: PROJECTWISE: 20151969 All Borings.gpj  
GINT TEMPLATE: PROJECTWISE: KLF\_STANDARD\_GINT\_LIBRARY\_2015.GLB [KLF\_CPT WITHOUT LOG]

<b>Date Begin - End:</b> 8/06/2014	<b>Drilling Company:</b> Middle Earth Geo Testing Inc.	<b>BORING LOG CPT-45A</b>
<b>Logged By:</b> N/A	<b>Drill Crew:</b> N/A	
<b>Hor.-Vert. Datum:</b> Not Available	<b>Drilling Equipment:</b> 25 ton Paystar 5000	
<b>Plunge:</b> -90 degrees	<b>Drilling Method:</b> CPT Sounding	
<b>Weather:</b> Sunny, warm	<b>Sounding Diameter:</b> 2 in. O.D.	







Exploration ID		Depth (ft.)		Sample Description					
● B-10		0 - 5		CLAYEY SAND					
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Maximum Dry Unit Weight (pcf)		Optimum Water Content (%)	
NM	98	48	35	15	20	123.4		9.2	

Testing performed in general accordance with ASTM D1557 Method A.  
 NP = Nonplastic  
 NM = Not Measured



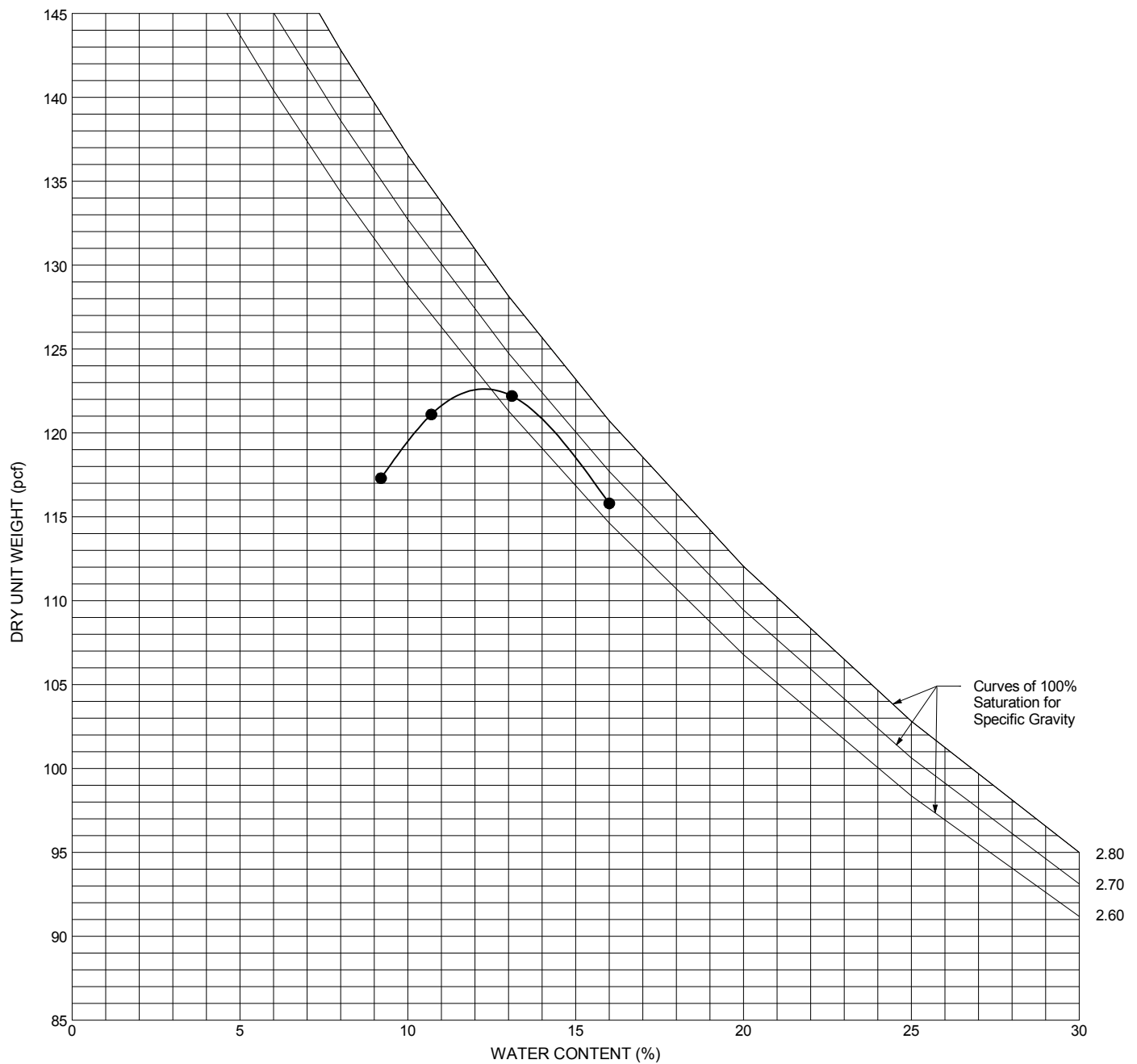
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

B-1



Exploration ID		Depth (ft.)		Sample Description					
● B-14		0 - 5		LEAN CLAY					
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Maximum Dry Unit Weight (pcf)		Optimum Water Content (%)	
NM	NM	NM	NM	NM	NM	122.6		12.2	

Testing performed in general accordance with ASTM D1557 Method A.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

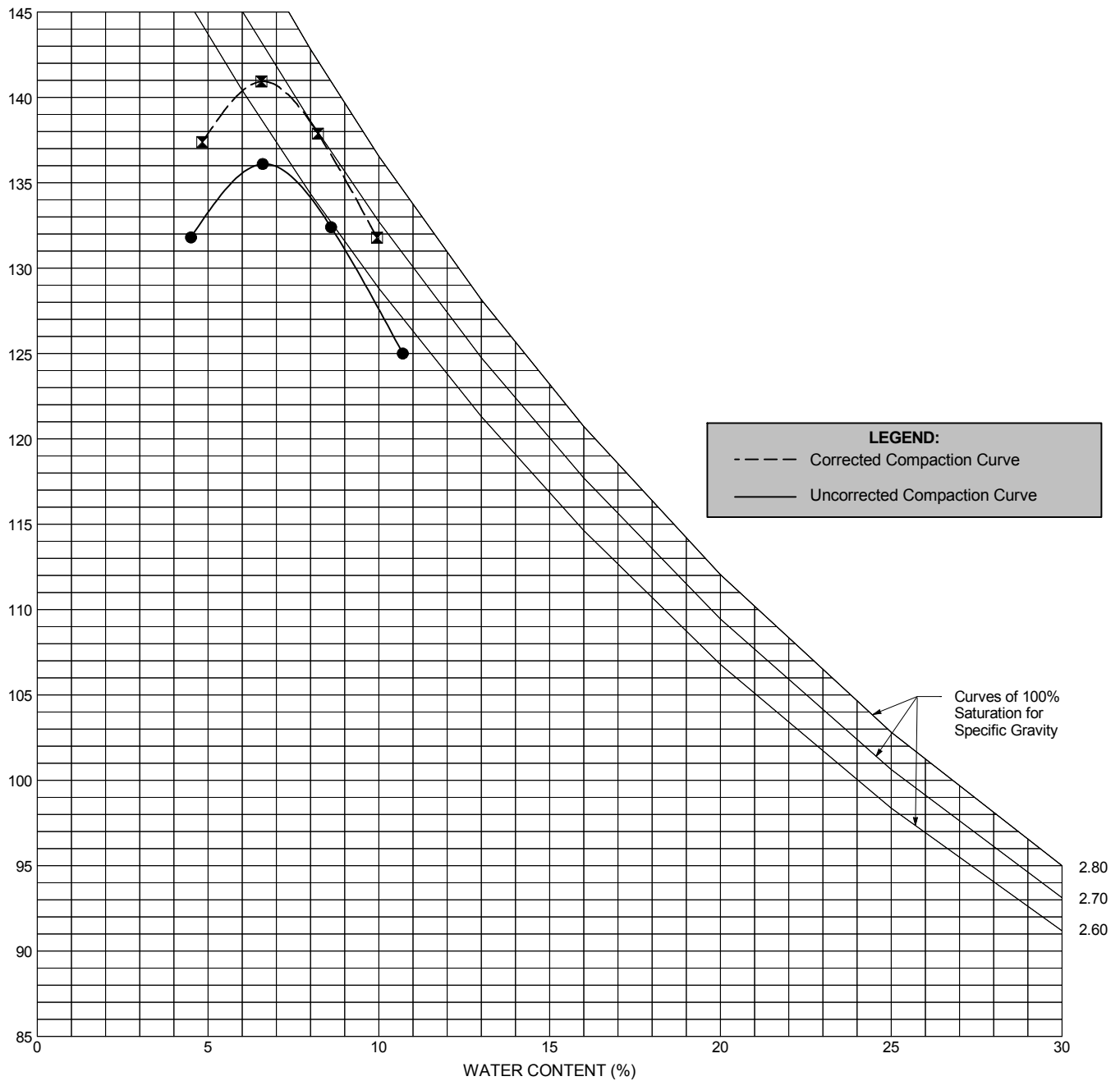
### COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

B-2

DRY UNIT WEIGHT (pcf)



Exploration ID		Depth (ft.)		Sample Description			
●	B-18	0 - 5		SANDY LEAN CLAY			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Uncorrected Max Dry Unit Wt. (pcf)	Uncorrected Opt. Water Content (%)
82	NM	NM	NM	NM	NM	136.1	6.7
Exploration ID		Depth (ft.)		Fraction > 3/4" sieve (%)		Corrected Max Dry Unit Wt. (pcf)	Corrected Opt. Water Content (%)
☒	B-18	0 - 5		17.6		141.0	6.7

Testing performed in general accordance with ASTM D1557 Method B.  
 Oversized correction method performed in general accordance with ASTM D4718.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

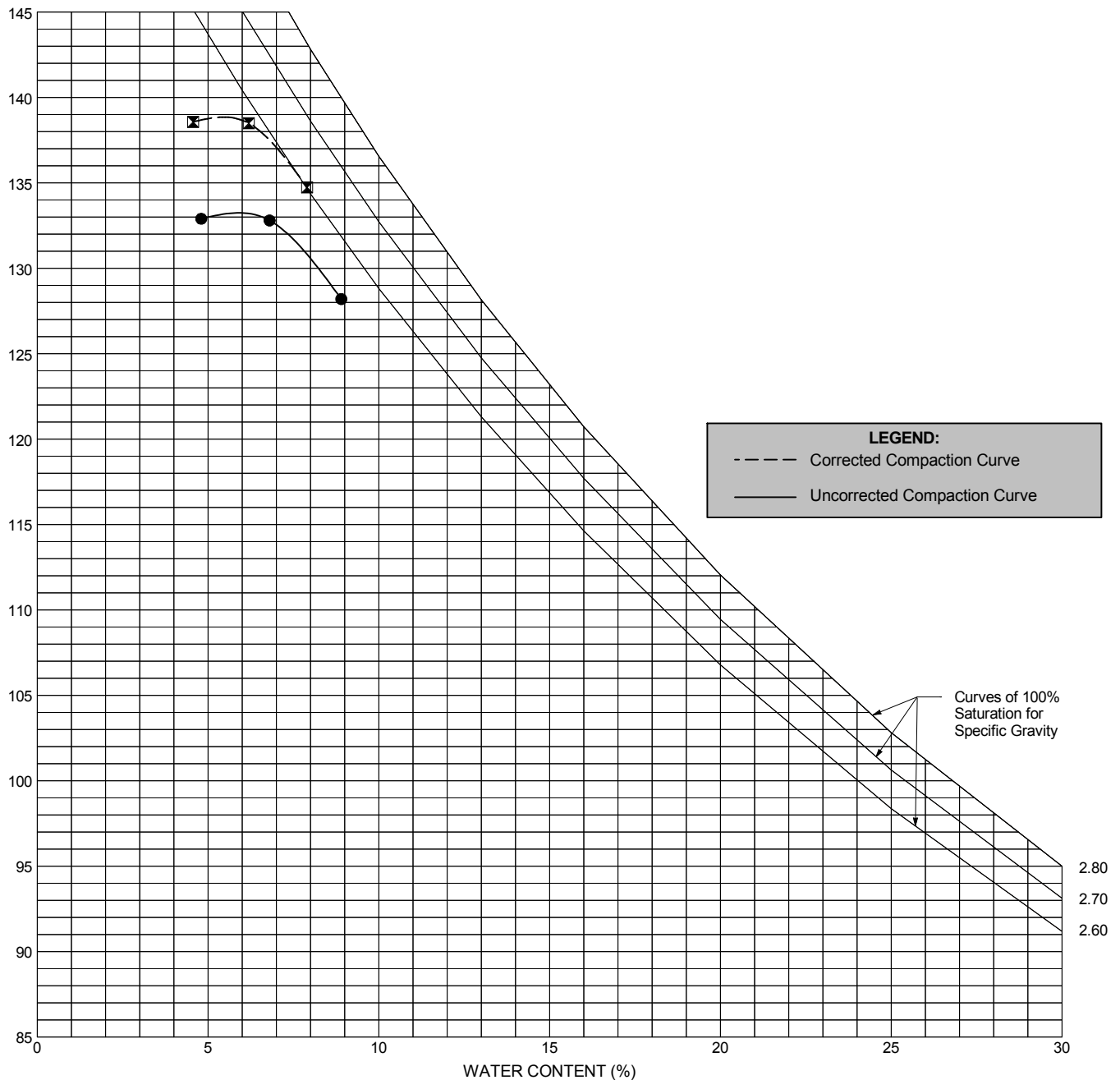
## COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

B-3

DRY UNIT WEIGHT (pcf)



Exploration ID		Depth (ft.)		Sample Description			
● B-20		0 - 5		CLAYEY SAND WITH GRAVEL			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Uncorrected Max Dry Unit Wt. (pcf)	Uncorrected Opt. Water Content (%)
82	NM	NM	51	13	38	133.2	5.9
Exploration ID		Depth (ft.)		Fraction > 3/4" sieve (%)		Corrected Max Dry Unit Wt. (pcf)	Corrected Opt. Water Content (%)
☒ B-20		0 - 5		18.5		139.0	5.1

Testing performed in general accordance with ASTM D1557 Method C.  
 Oversized correction method performed in general accordance with ASTM D4718.  
 NP = Nonplastic  
 NM = Not Measured



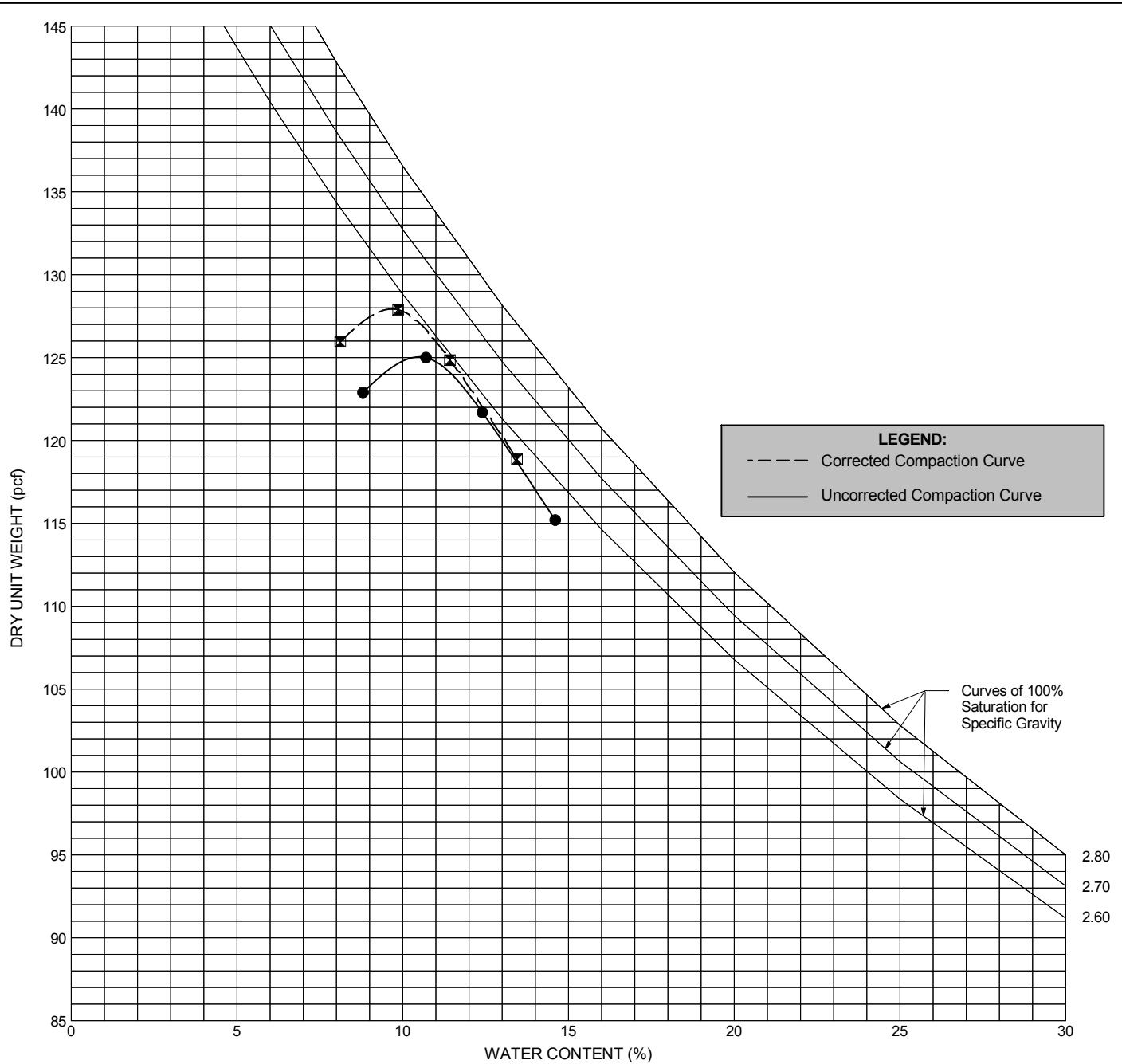
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

B-4



Exploration ID		Depth (ft.)		Sample Description			
● B-22		0 - 5		SANDY LEAN CLAY			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Uncorrected Max Dry Unit Wt. (pcf)	Uncorrected Opt. Water Content (%)
97	88	55	27	13	14	125.0	10.5
Exploration ID		Depth (ft.)		Fraction > 3/8" sieve (%)		Corrected Max Dry Unit Wt. (pcf)	Corrected Opt. Water Content (%)
☒ B-22		0 - 5		8.0		127.3	9.5

Testing performed in general accordance with ASTM D1557 Method B.  
 Oversized correction method performed in general accordance with ASTM D4718.  
 NP = Nonplastic  
 NM = Not Measured



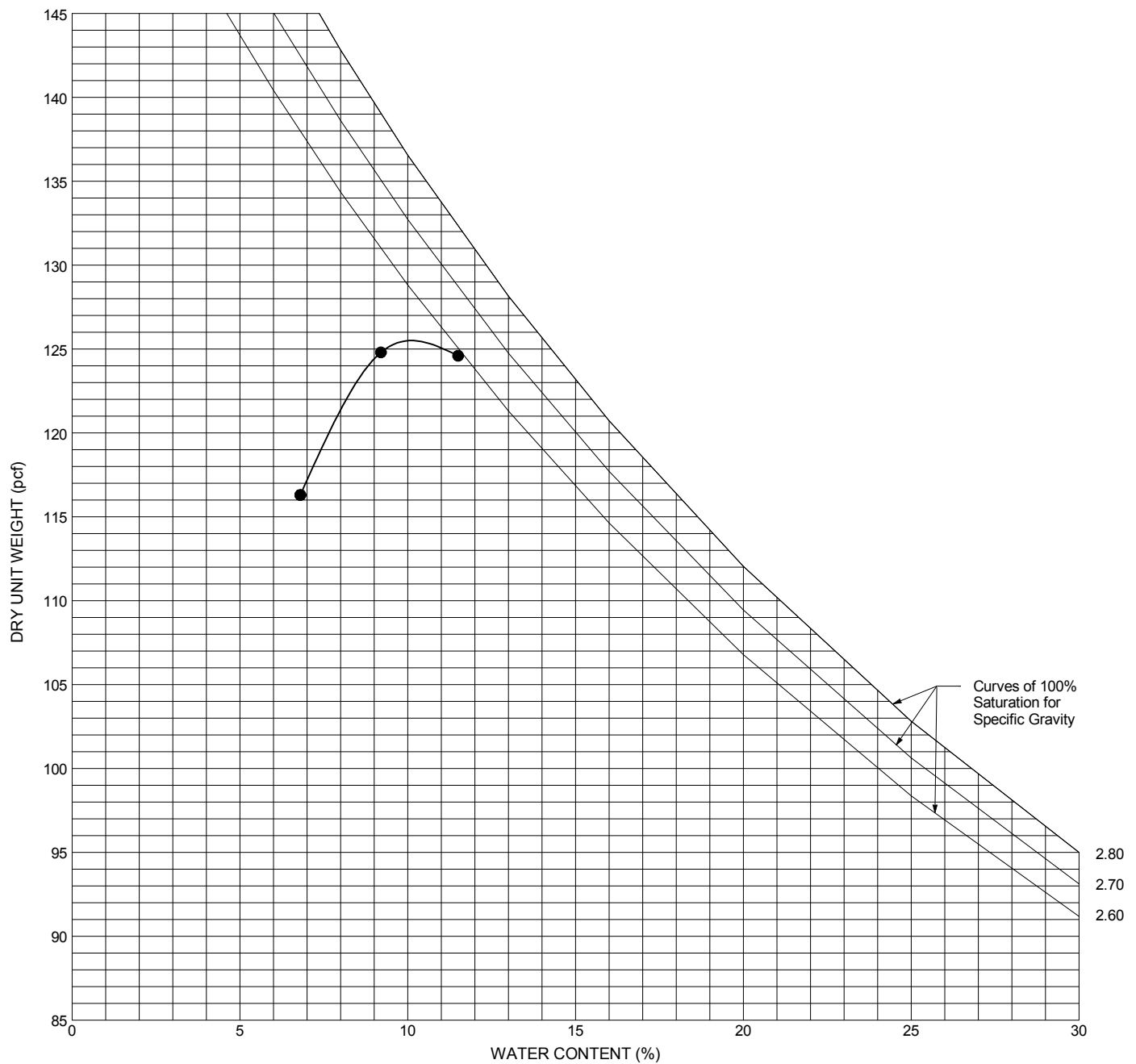
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

B-5



Exploration ID		Depth (ft.)		Sample Description					
● B-28		0 - 5		CLAYEY SAND					
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Maximum Dry Unit Weight (pcf)		Optimum Water Content (%)	
NM	NM	NM	NM	NM	NM	125.5		10.2	

Testing performed in general accordance with ASTM D1557 Method B.  
 NP = Nonplastic  
 NM = Not Measured



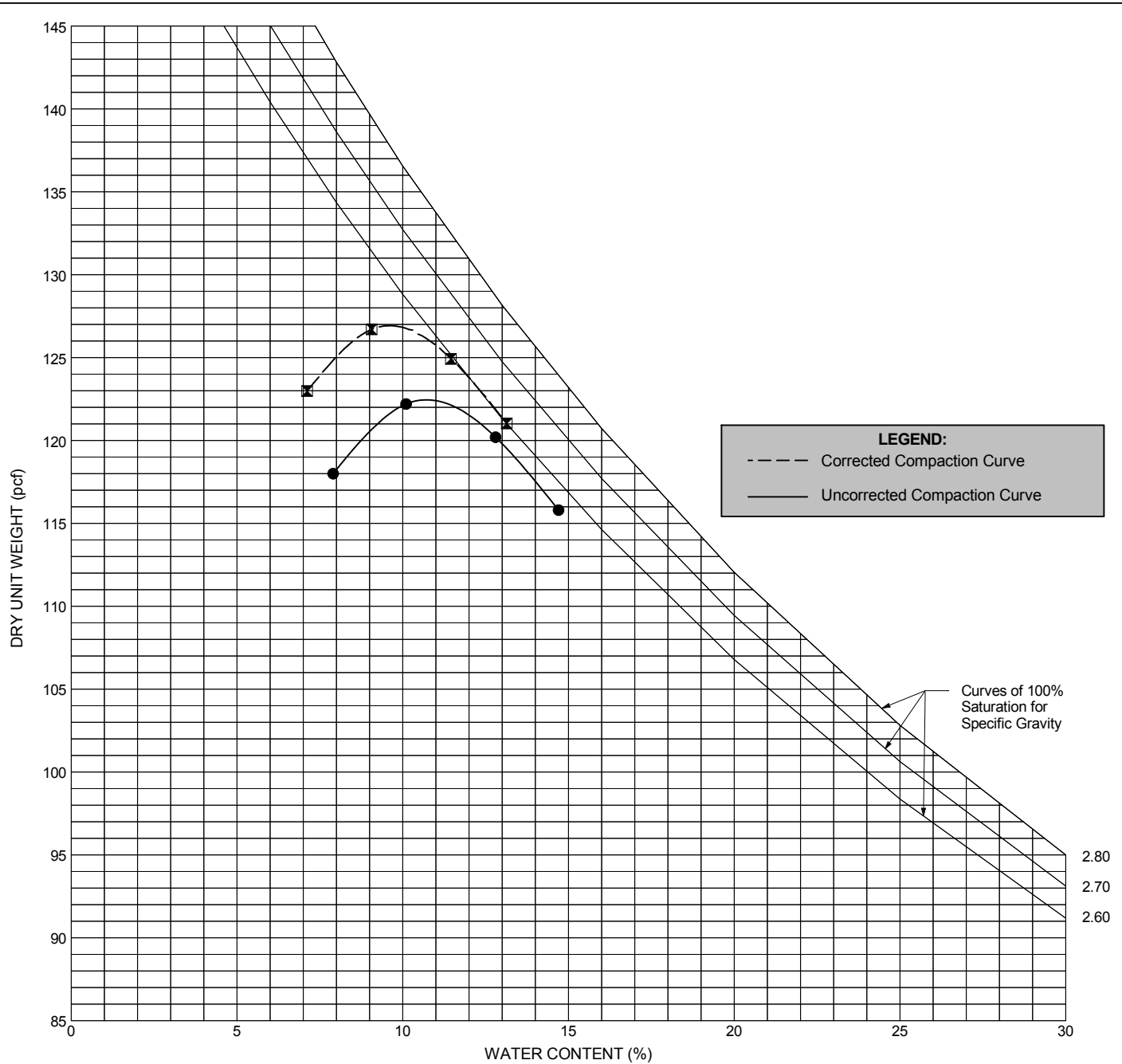
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

B-6



Exploration ID		Depth (ft.)		Sample Description			
●	B-30	1 - 5		CLAYEY SAND			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Uncorrected Max Dry Unit Wt. (pcf)	Uncorrected Opt. Water Content (%)
NM	NM	NM	31	16	15	122.5	10.7
Exploration ID		Depth (ft.)		Fraction > 3/8" sieve (%)		Corrected Max Dry Unit Wt. (pcf)	Corrected Opt. Water Content (%)
☒	B-30	1 - 5		11.4		125.8	9.5

Testing performed in general accordance with ASTM D1557 Method B.  
 Oversized correction method performed in general accordance with ASTM D4718.  
 NP = Nonplastic  
 NM = Not Measured



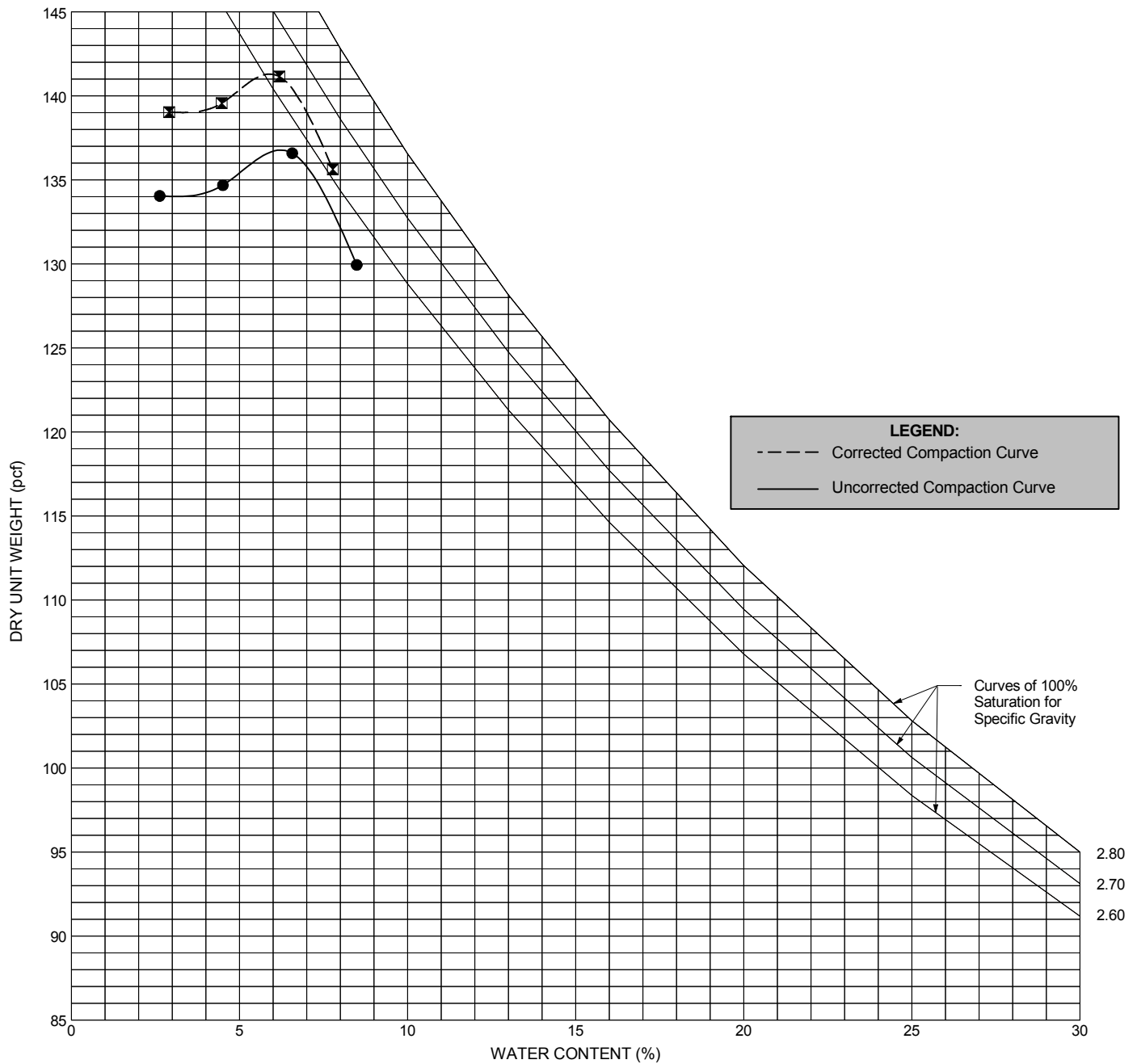
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

B-7



Exploration ID		Depth (ft.)		Sample Description			
●	B-32	0 - 5		CLAYEY SAND WITH GRAVEL			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Uncorrected Max Dry Unit Wt. (pcf)	Uncorrected Opt. Water Content (%)
83	NM	NM	23	13	10	136.8	6.2
Exploration ID		Depth (ft.)		Fraction > 3/4" sieve (%)		Corrected Max Dry Unit Wt. (pcf)	Corrected Opt. Water Content (%)
■	B-32	0 - 5		16.9		140.2	6.1

Testing performed in general accordance with ASTM D1557 Method B.  
 Oversized correction method performed in general accordance with ASTM D4718.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

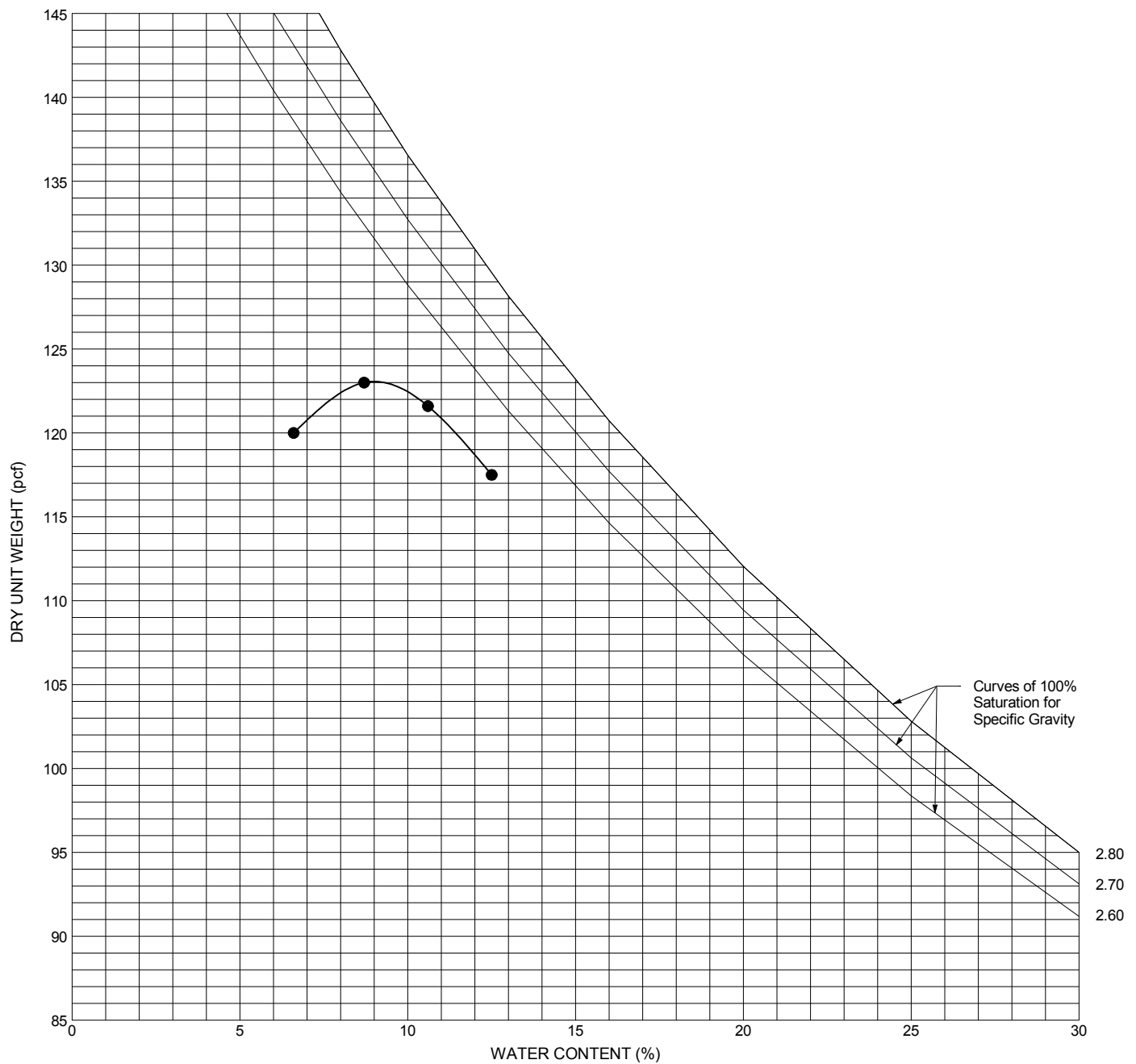
### COMPACTION CURVE

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 2020 Development Project  
 Merced, California

PLATE

B-8





Exploration ID		Depth (ft.)		Sample Description			
● B-34		0 - 5		CLAYEY SAND WITH GRAVEL			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Maximum Dry Unit Weight (pcf)	Optimum Water Content (%)
95	83	36	NM	NM	NM	123.1	9.0

Testing performed in general accordance with ASTM D1557 Method B.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

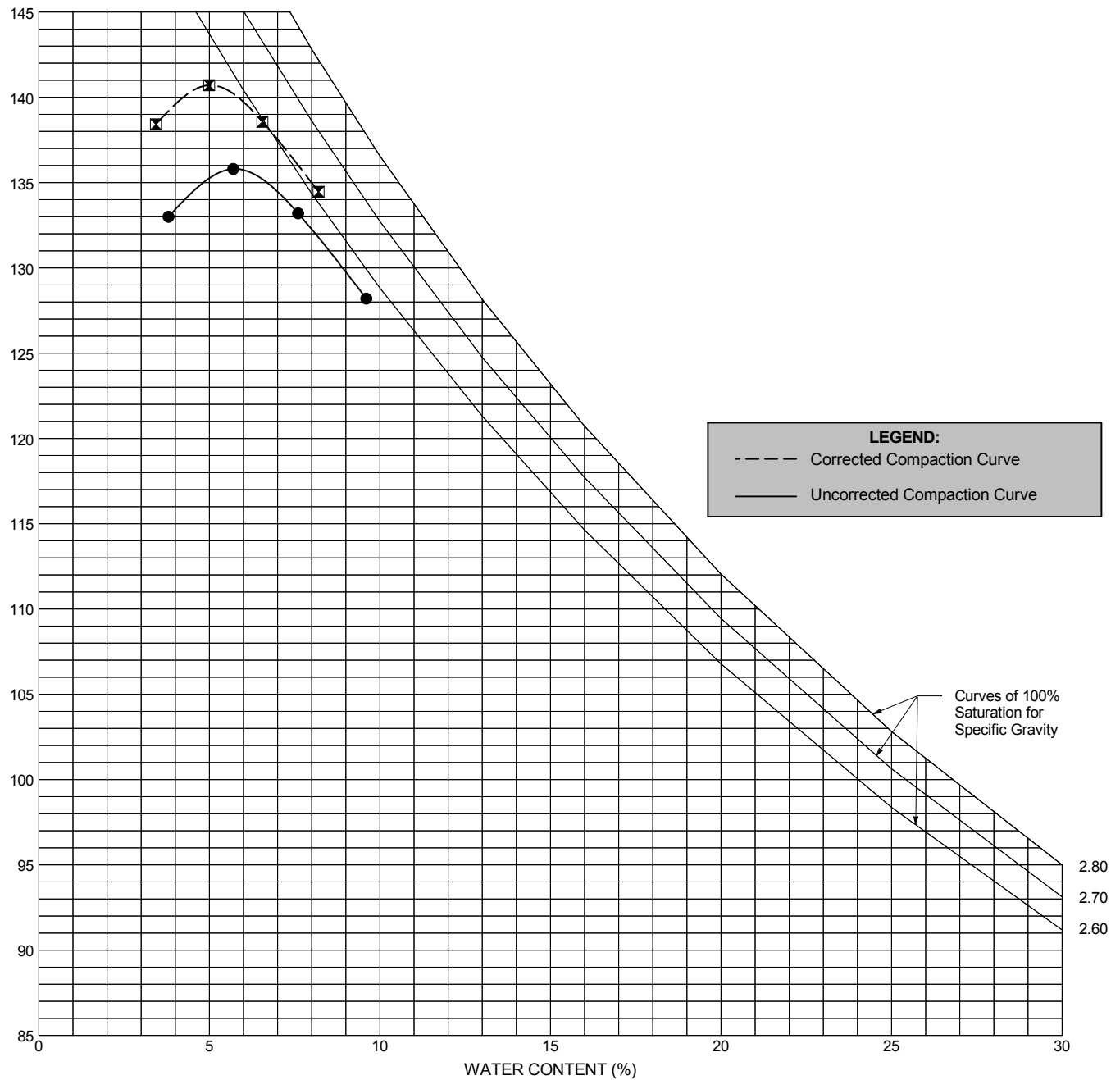
### COMPACTION CURVE

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 2020 Development Project  
 Merced, California

PLATE

B-9

DRY UNIT WEIGHT (pcf)



Exploration ID		Depth (ft.)		Sample Description			
●	B-36	0 - 5		CLAYEY SAND WITH GRAVEL			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Uncorrected Max Dry Unit Wt. (pcf)	Uncorrected Opt. Water Content (%)
82	NM	NM	24	13	11	135.8	5.8
Exploration ID		Depth (ft.)		Fraction > 3/4" sieve (%)		Corrected Max Dry Unit Wt. (pcf)	Corrected Opt. Water Content (%)
☒	B-36	0 - 5		17.7		140.8	5.0

Testing performed in general accordance with ASTM D1557 Method B.  
 Oversized correction method performed in general accordance with ASTM D4718.  
 NP = Nonplastic  
 NM = Not Measured



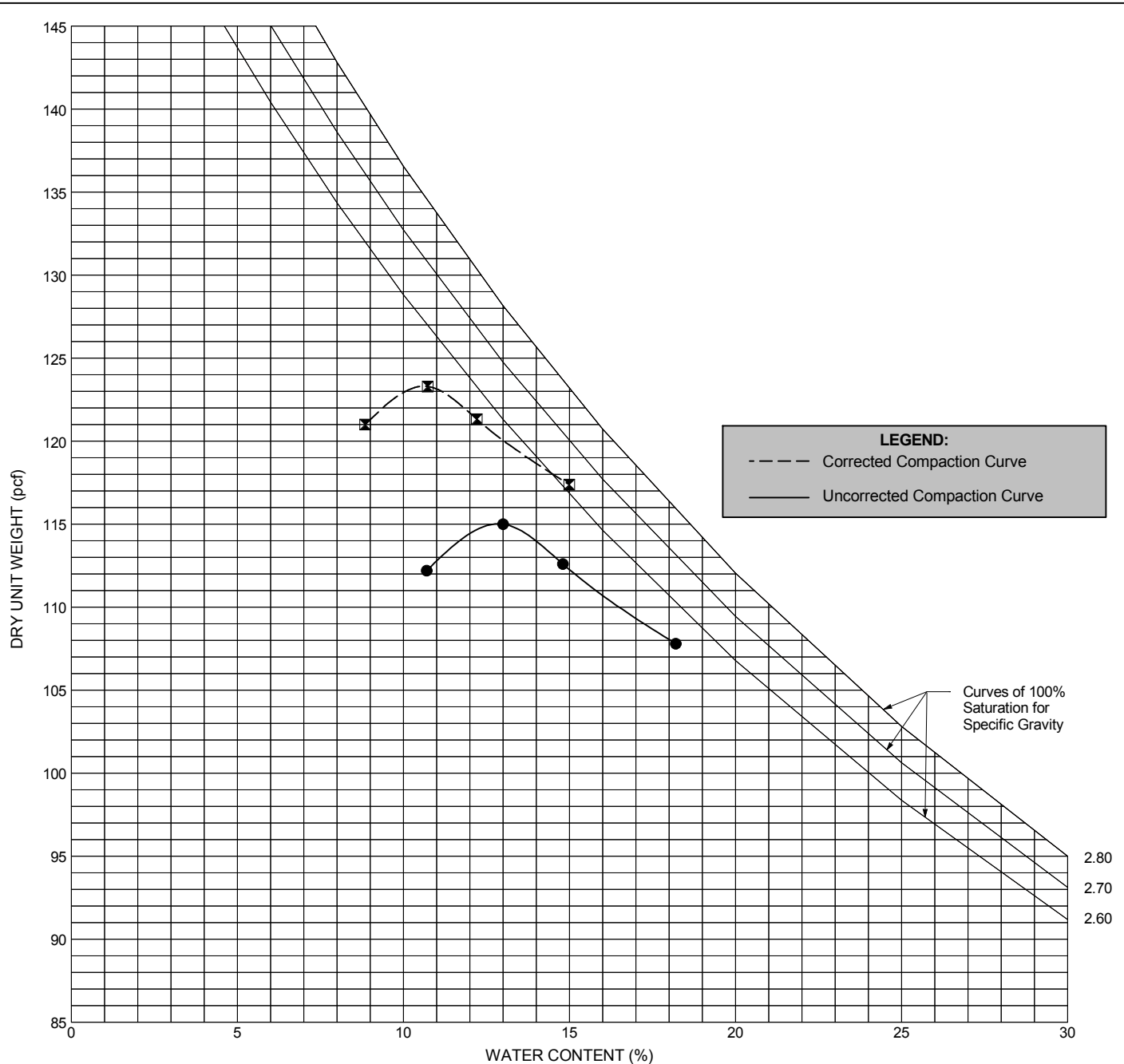
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

## COMPACTION CURVE

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PLATE

B-10



Exploration ID		Depth (ft.)		Sample Description			
● B-38		0 - 5		CLAYEY SAND WITH GRAVEL			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Uncorrected Max Dry Unit Wt. (pcf)	Uncorrected Opt. Water Content (%)
91	76	46	39	20	19	115.0	12.9
Exploration ID		Depth (ft.)		Fraction > 3/8" sieve (%)		Corrected Max Dry Unit Wt. (pcf)	Corrected Opt. Water Content (%)
☒ B-38		0 - 5		18.0		121.1	10.6

Testing performed in general accordance with ASTM D1557 Method B.  
 Oversized correction method performed in general accordance with ASTM D4718.  
 NP = Nonplastic  
 NM = Not Measured



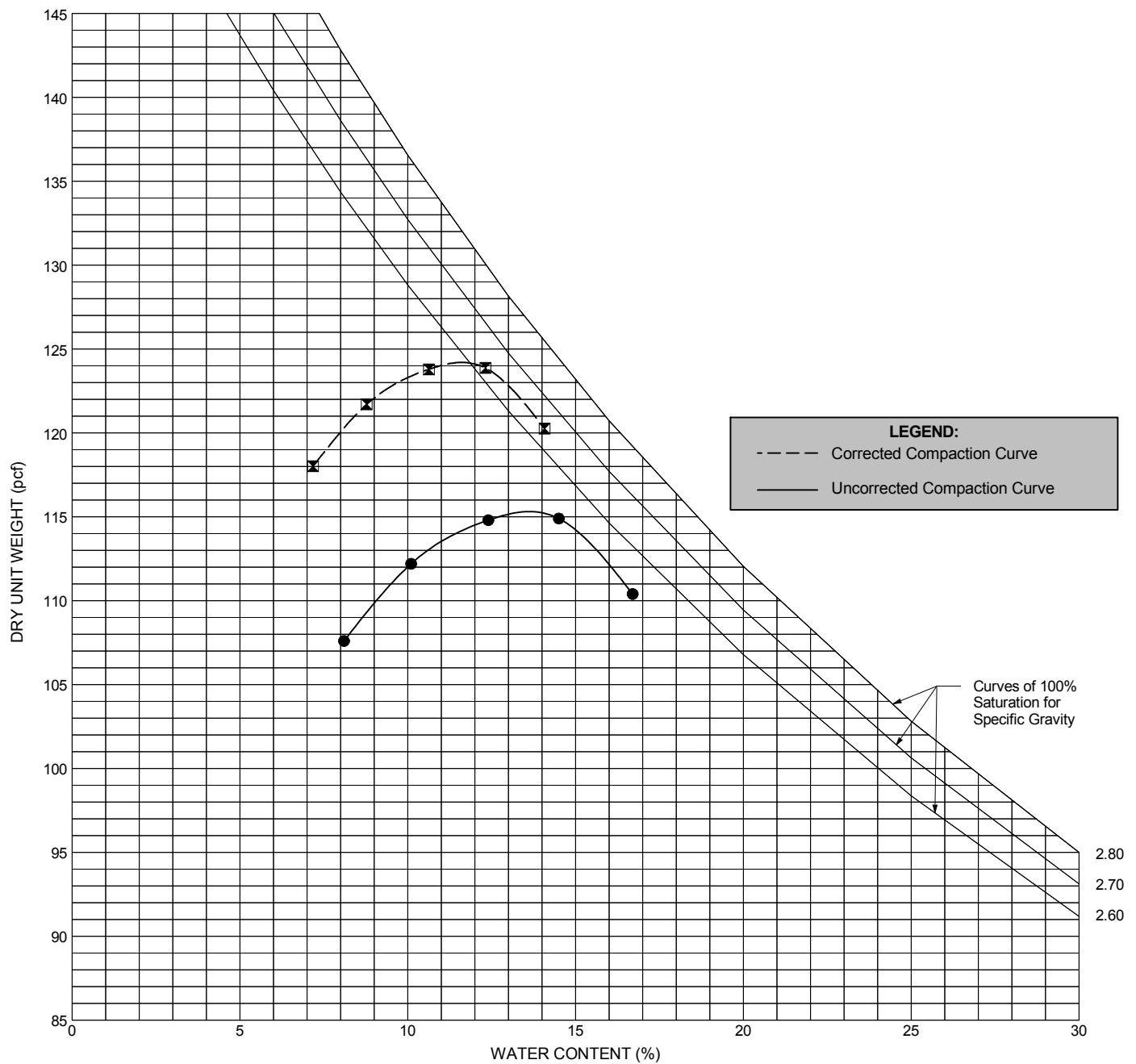
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### COMPACTION CURVE

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PLATE

B-11



Exploration ID		Depth (ft.)		Sample Description			
● B-42		0 - 5		LEAN CLAY WITH GRAVEL			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Uncorrected Max Dry Unit Wt. (pcf)	Uncorrected Opt. Water Content (%)
80	NM	NM	NM	NM	NM	115.3	13.6
Exploration ID		Depth (ft.)		Fraction > 3/4" sieve (%)		Corrected Max Dry Unit Wt. (pcf)	Corrected Opt. Water Content (%)
☒ B-42		0 - 5		19.7		122.0	11.4

Testing performed in general accordance with ASTM D1557 Method A.  
 Oversized correction method performed in general accordance with ASTM D4718.  
 NP = Nonplastic  
 NM = Not Measured



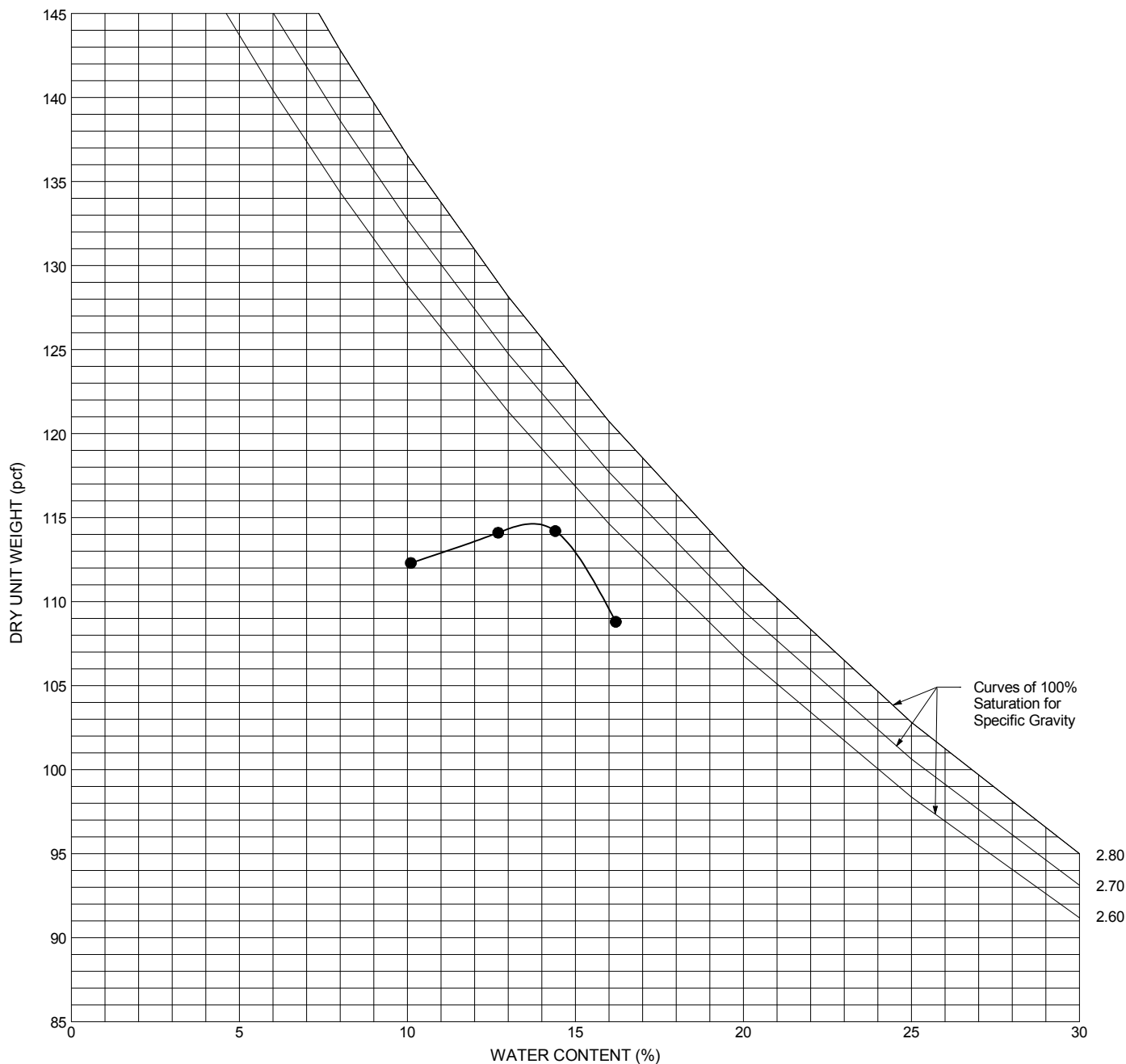
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

B-12



Exploration ID		Depth (ft.)		Sample Description			
● B-44		0 - 5		GRAVELLY LEAN CLAY WITH COBBLES			
Passing 3/4"	Passing #4	Passing #200	LL	PL	PI	Maximum Dry Unit Weight (pcf)	Optimum Water Content (%)
NM	NM	NM	NM	NM	NM	114.6	13.7

Testing performed in general accordance with ASTM D1557 Method A.  
 NP = Nonplastic  
 NM = Not Measured



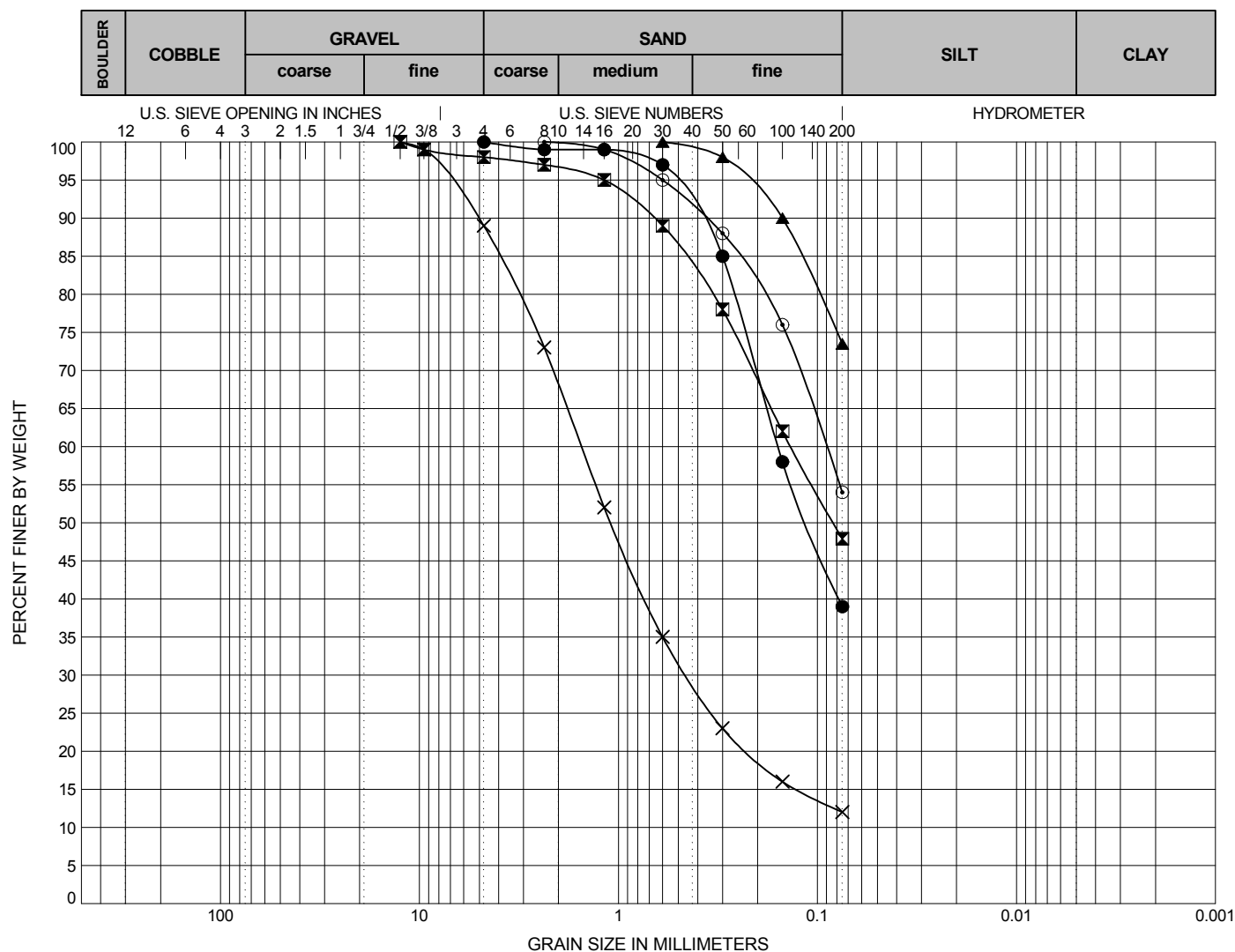
PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### COMPACTION CURVE

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

**B-13**



Exploration ID		Depth (ft.)	Sample Description	LL	PL	PI
●	B-5	10	SILTY SAND	NM	NM	NM
☒	B-10	0 - 5	CLAYEY SAND	35	15	20
▲	B-10	25	LEAN CLAY WITH SAND	NM	NM	NM
✕	B-14	30	SILTY SAND	NM	NM	NM
◎	B-15	30	SANDY LEAN CLAY	37	20	17

	Exploration ID	Depth (ft.)	D <sub>100</sub>	D <sub>60</sub>	D <sub>30</sub>	D <sub>10</sub>	Cc	Cu	Passing 3/4"	Passing #4	Passing #200	%Silt	%Clay
●	B-5	10	4.75	0.158	NM	NM	NM	NM		100	39	NM	NM
☒	B-10	0 - 5	12.5	0.136	NM	NM	NM	NM		98	48	NM	NM
▲	B-10	25	0.6	NM	NM	NM	NM	NM			74	NM	NM
✕	B-14	30	12.5	1.537	0.449	NM	2.48	28.97		89	12	NM	NM
⊙	B-15	30	2.36	0.091	NM	NM	NM	NM			54	NM	NM

Sieve Analysis and Hydrometer Analysis testing performed in general accordance with ASTM D422.  
NP = Nonplastic  
NM = Not Measured

Coefficients of Uniformity -  $C_u = D_{60} / D_{10}$   
 Coefficients of Curvature -  $C_c = (D_{30})^2 / D_{60} D_{10}$   
 $D_{60}$  = Grain diameter at 60% passing  
 $D_{30}$  = Grain diameter at 30% passing  
 $D_{10}$  = Grain diameter at 10% passing



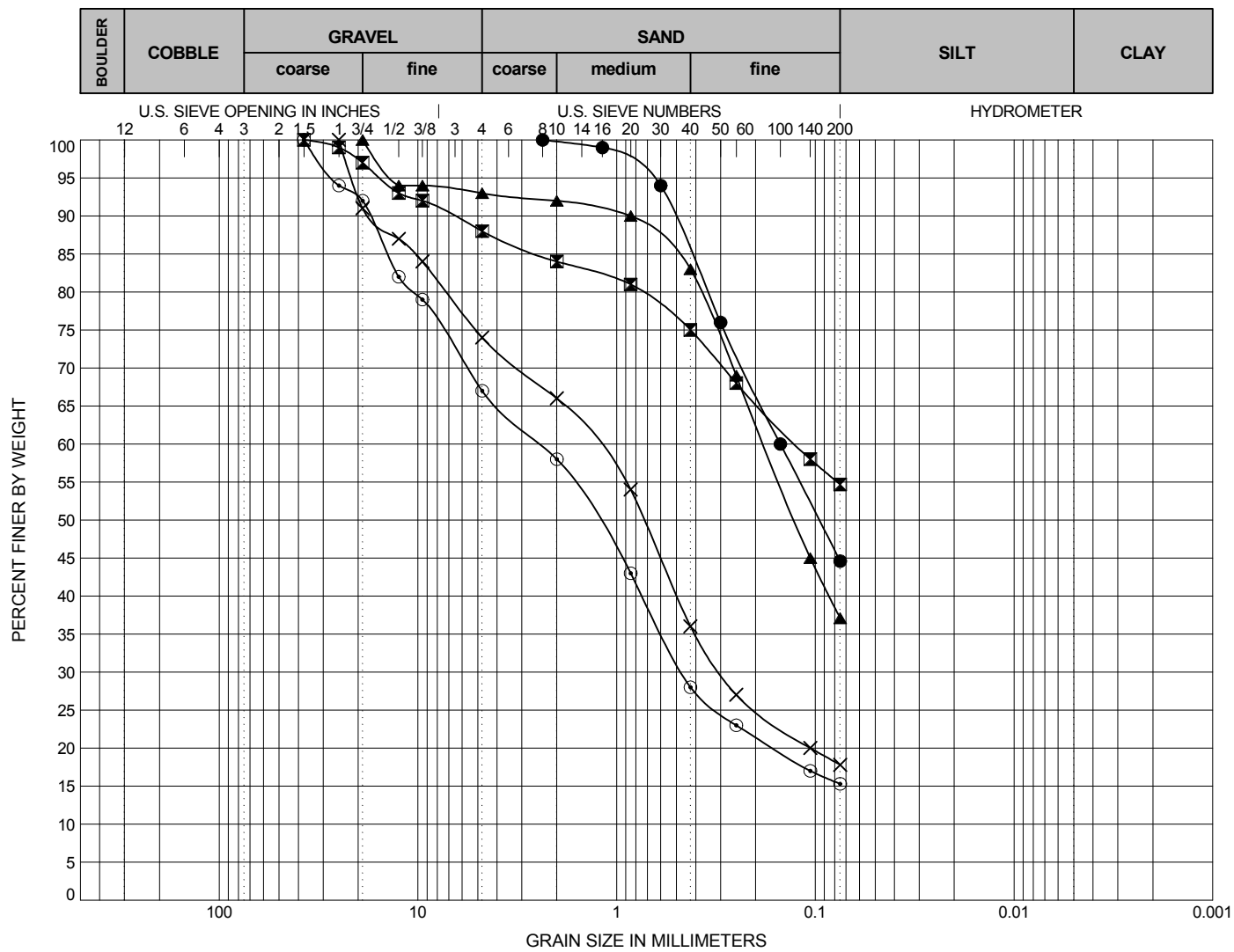
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## SIEVE ANALYSIS

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PLATE

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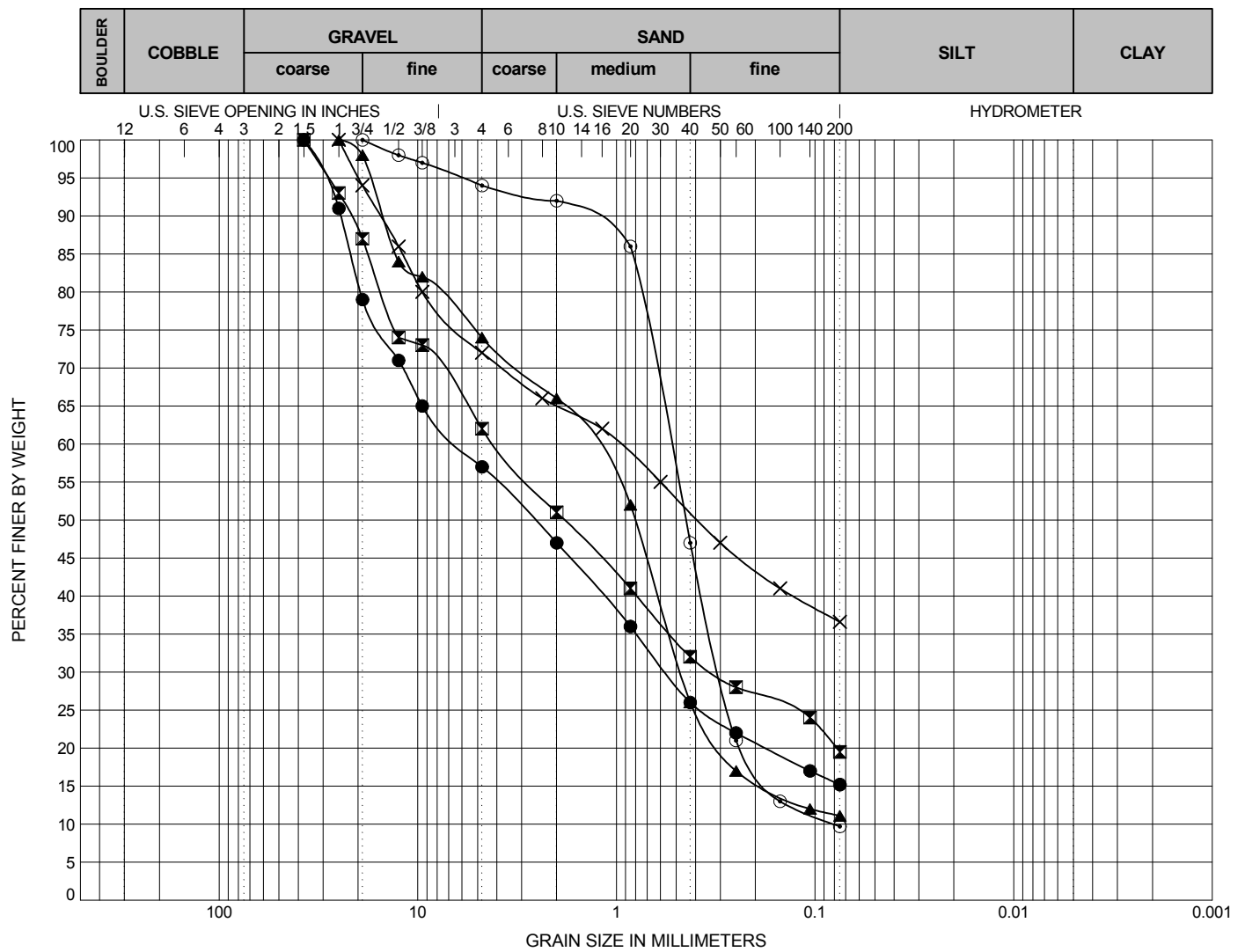
Exploration ID	Depth (ft.)	Sample Description	LL	PL	PI
● B-21	30	SILTY SAND	NM	NM	NM
☒ B-22	0 - 5	SANDY LEAN CLAY	27	13	14
▲ B-22	5	CLAYEY SAND	37	22	15
✕ B-29	20	SILTY SAND WITH GRAVEL	NM	NM	NM
○ B-29	30	SILTY SAND WITH GRAVEL	NM	NM	NM

Exploration ID	Depth (ft.)	D <sub>100</sub>	D <sub>60</sub>	D <sub>30</sub>	D <sub>10</sub>	C <sub>c</sub>	C <sub>u</sub>	Passing 3/4"	Passing #4	Passing #200	%Silt	%Clay
● B-21	30	2.36	0.15	NM	NM	NM	NM			45	NM	NM
☒ B-22	0 - 5	37.5	0.126	NM	NM	NM	NM	97	88	55	NM	NM
▲ B-22	5	19	0.181	NM	NM	NM	NM	100	93	37	NM	NM
✕ B-29	20	25	1.304	0.298	NM	NM	NM	91	74	18	NM	NM
○ B-29	30	37.5	2.424	0.466	NM	NM	NM	92	67	15	NM	NM

Sieve Analysis and Hydrometer Analysis testing performed in general accordance with ASTM D422.  
 NP = Nonplastic  
 NM = Not Measured

Coefficients of Uniformity -  $C_u = D_{60} / D_{10}$   
 Coefficients of Curvature -  $C_c = (D_{30})^2 / D_{60} D_{10}$   
 D<sub>60</sub> = Grain diameter at 60% passing  
 D<sub>30</sub> = Grain diameter at 30% passing  
 D<sub>10</sub> = Grain diameter at 10% passing

	PROJECT NO.: 20151969	SIEVE ANALYSIS	PLATE
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Exploration ID	Depth (ft.)	Sample Description	LL	PL	PI
● B-31	10	SILTY SAND WITH GRAVEL	NM	NM	NM
☒ B-31	20	SILTY SAND WITH GRAVEL	NM	NM	NM
▲ B-31	30	POORLY GRADED SAND WITH SILT AND GRAVEL	NM	NM	NM
× B-32	0.1 - 2	CLAYEY SAND WITH GRAVEL	NM	NM	NM
⊙ B-32	15	POORLY GRADED SAND WITH SILT	NM	NM	NM

Exploration ID	Depth (ft.)	D <sub>100</sub>	D <sub>60</sub>	D <sub>30</sub>	D <sub>10</sub>	C <sub>c</sub>	C <sub>u</sub>	Passing 3/4"	Passing #4	Passing #200	%Silt	%Clay
● B-31	10	37.5	6.16	0.561	NM	NM	NM	79	57	15	NM	NM
☒ B-31	20	37.5	4.059	0.326	NM	NM	NM	87	62	20	NM	NM
▲ B-31	30	25	1.386	0.473	NM	3.28	28.21	98	74	11	NM	NM
× B-32	0.1 - 2	25	0.973	NM	NM	NM	NM	94	72	37	NM	NM
⊙ B-32	15	19	0.535	0.3	0.08	2.11	6.70	100	94	9.7	NM	NM

Sieve Analysis and Hydrometer Analysis testing performed in general accordance with ASTM D422.  
 NP = Nonplastic  
 NM = Not Measured

Coefficients of Uniformity -  $C_u = D_{60} / D_{10}$   
 Coefficients of Curvature -  $C_c = (D_{30})^2 / D_{60} D_{10}$   
 D<sub>60</sub> = Grain diameter at 60% passing  
 D<sub>30</sub> = Grain diameter at 30% passing  
 D<sub>10</sub> = Grain diameter at 10% passing



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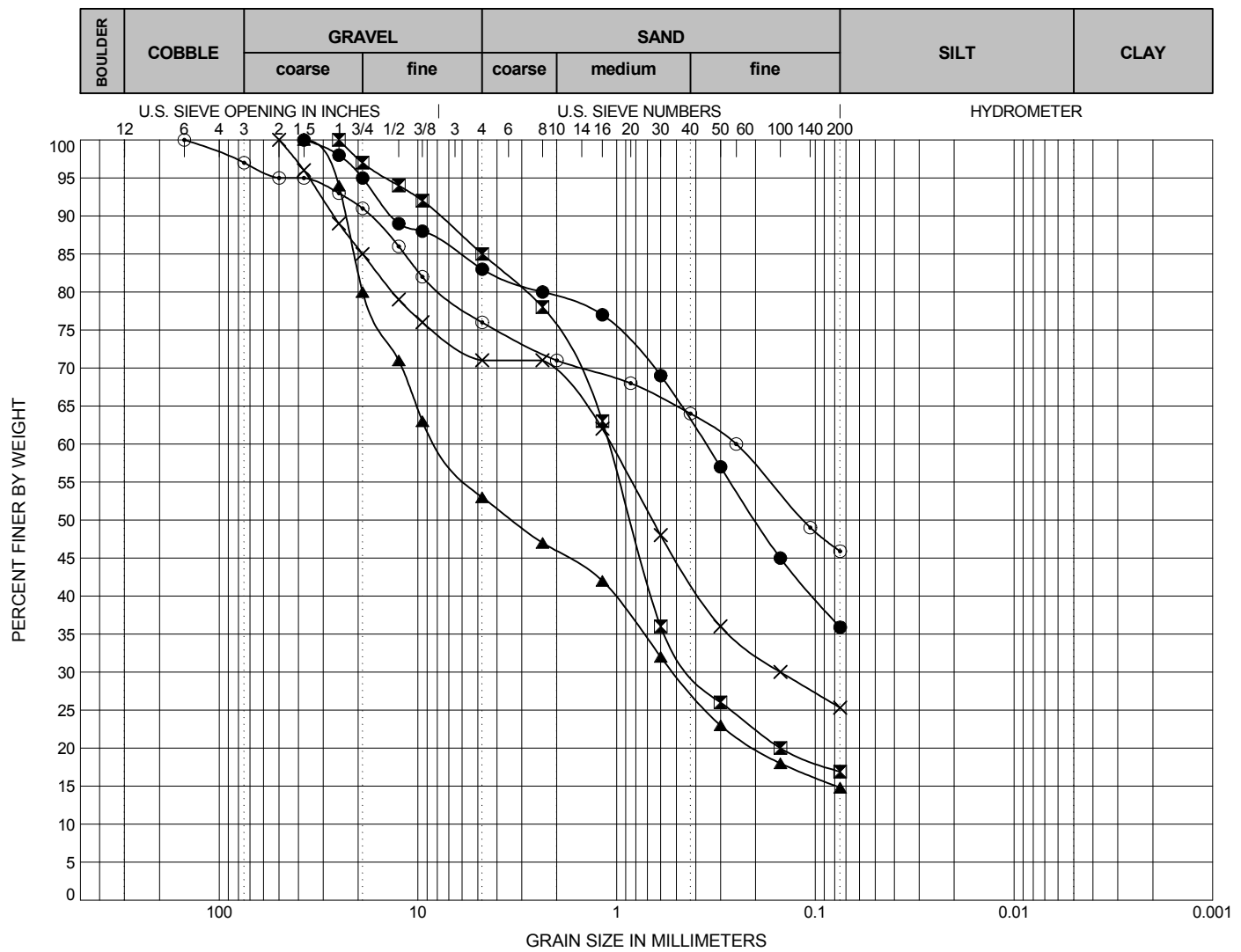
### SIEVE ANALYSIS

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PLATE

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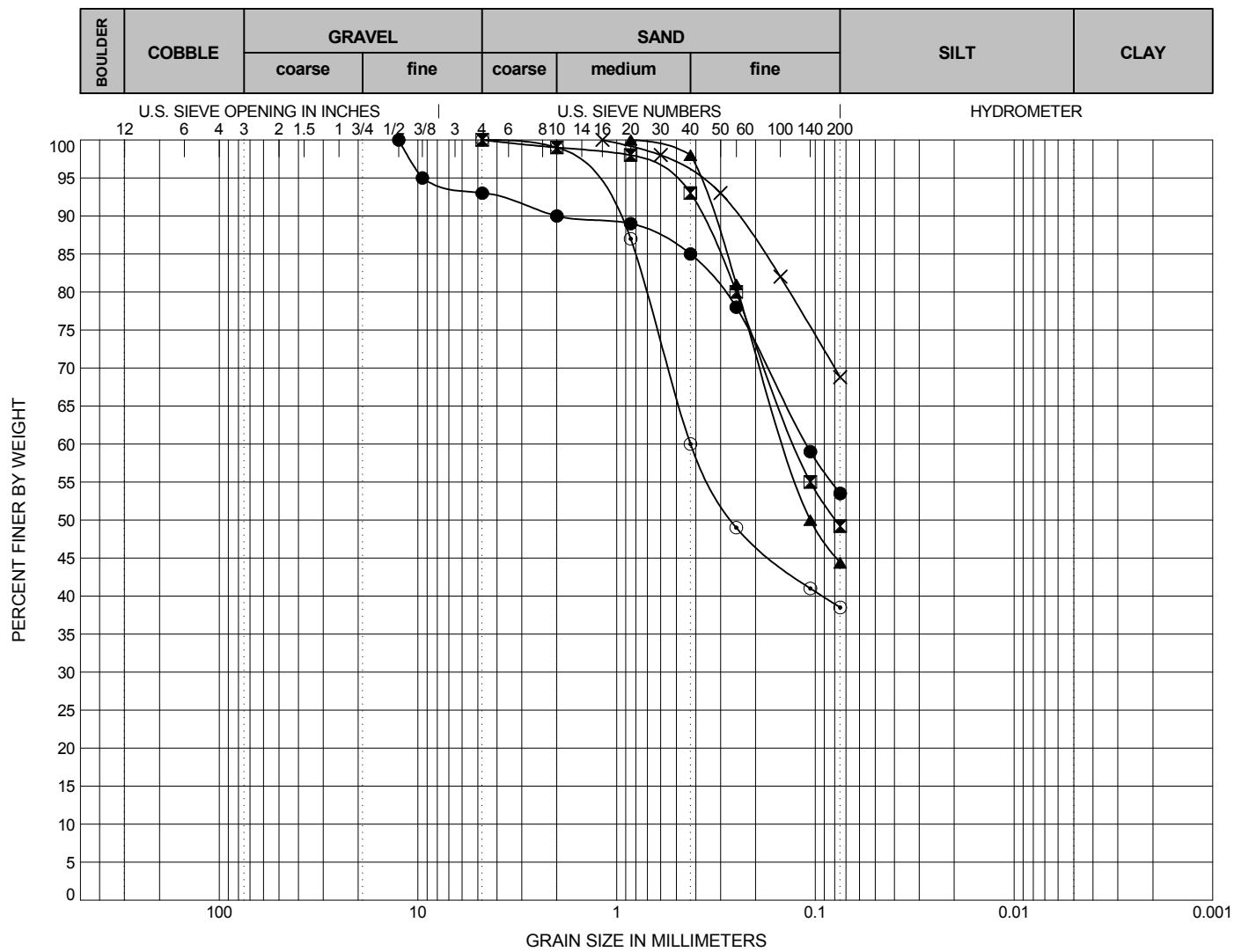
Exploration ID	Depth (ft.)	Sample Description	LL	PL	PI
● B-34	0 - 5	CLAYEY SAND WITH GRAVEL	NM	NM	NM
☒ B-35	20	SILTY SAND	NM	NM	NM
▲ B-35	30	SILTY GRAVEL WITH SAND	NM	NM	NM
✕ B-36	0.1 - 3	CLAYEY SAND WITH GRAVEL	NM	NM	NM
⊙ B-38	0 - 5	CLAYEY SAND WITH GRAVEL	39	20	19

Exploration ID	Depth (ft.)	D <sub>100</sub>	D <sub>60</sub>	D <sub>30</sub>	D <sub>10</sub>	C <sub>c</sub>	C <sub>u</sub>	Passing 3/4"	Passing #4	Passing #200	%Silt	%Clay
● B-34	0 - 5	37.5	0.357	NM	NM	NM	NM	95	83	36	NM	NM
☒ B-35	20	25	1.095	0.396	NM	NM	NM	97	85	17	NM	NM
▲ B-35	30	37.5	7.716	0.514	NM	NM	NM	80	53	15	NM	NM
✕ B-36	0.1 - 3	50	1.071	0.15	NM	NM	NM	85	71	25	NM	NM
⊙ B-38	0 - 5	150	0.25	NM	NM	NM	NM	91	76	46	NM	NM

Sieve Analysis and Hydrometer Analysis testing performed in general accordance with ASTM D422.  
 NP = Nonplastic  
 NM = Not Measured

Coefficients of Uniformity -  $C_u = D_{60} / D_{10}$   
 Coefficients of Curvature -  $C_c = (D_{30})^2 / D_{60} D_{10}$   
 D<sub>60</sub> = Grain diameter at 60% passing  
 D<sub>30</sub> = Grain diameter at 30% passing  
 D<sub>10</sub> = Grain diameter at 10% passing

	PROJECT NO.: 20151969	SIEVE ANALYSIS	PLATE
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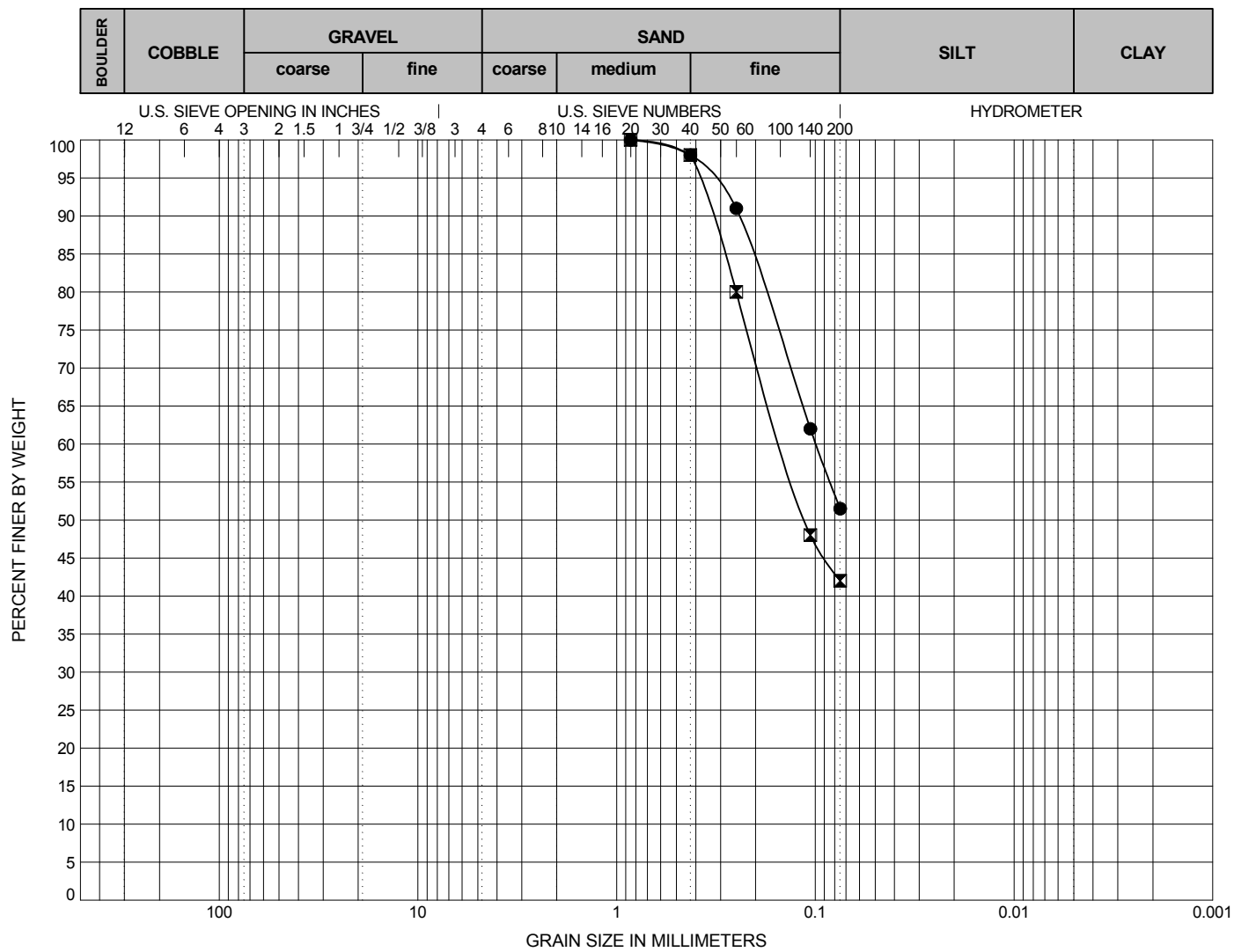
Exploration ID	Depth (ft.)	Sample Description	LL	PL	PI
● B-38	5	CLAYEY SAND WITH GRAVEL	NM	NM	NM
☒ B-38	15	SILTY SAND	NM	NM	NM
▲ B-39	10	CLAYEY SAND	32	16	16
✕ B-40	5	SANDY LEAN CLAY	50	20	30
⊙ B-42	5	CLAYEY SAND	NM	NM	NM

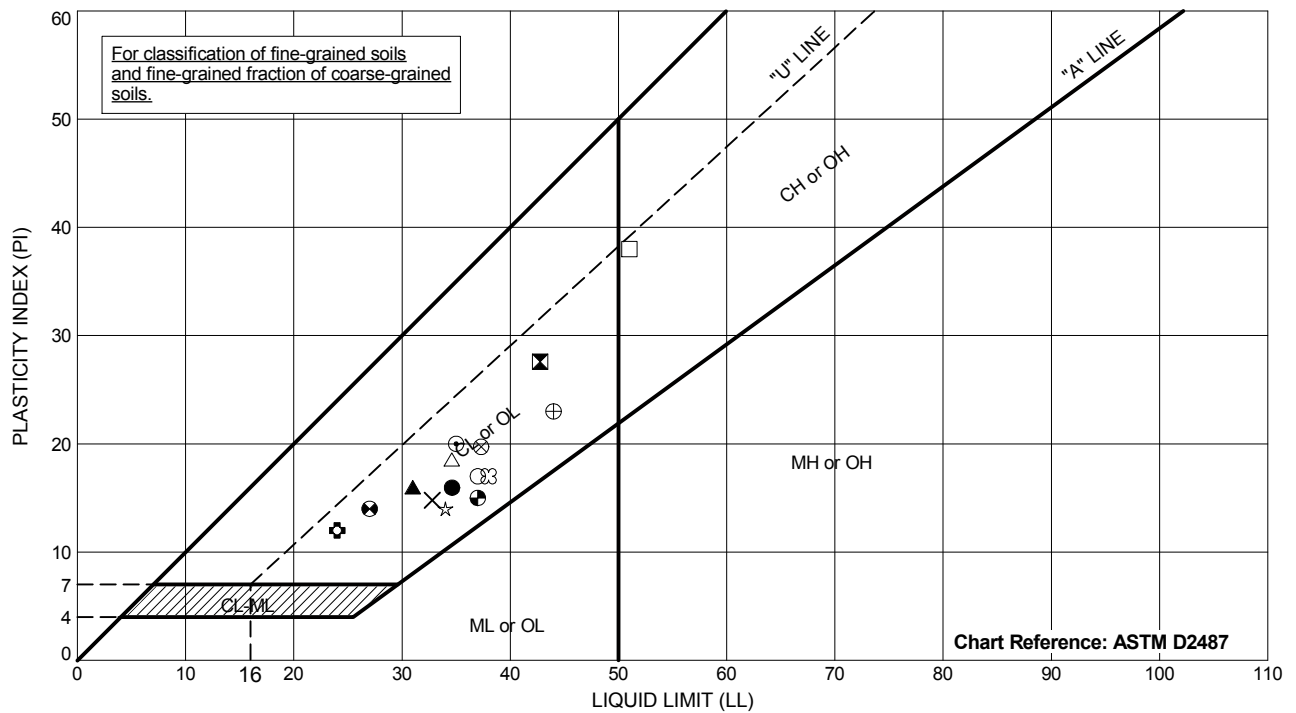
Exploration ID	Depth (ft.)	D <sub>100</sub>	D <sub>60</sub>	D <sub>30</sub>	D <sub>10</sub>	C <sub>c</sub>	C <sub>u</sub>	Passing #3/4"	Passing #4	Passing #200	%Silt	%Clay
● B-38	5	12.5	0.111	NM	NM	NM	NM		93	54	NM	NM
☒ B-38	15	4.75	0.126	NM	NM	NM	NM		100	49	NM	NM
▲ B-39	10	0.85	0.14	NM	NM	NM	NM			44	NM	NM
✕ B-40	5	1.18	NM	NM	NM	NM	NM			69	NM	NM
⊙ B-42	5	4.75	0.425	NM	NM	NM	NM		100	39	NM	NM

Sieve Analysis and Hydrometer Analysis testing performed in general accordance with ASTM D422.  
 NP = Nonplastic  
 NM = Not Measured

Coefficients of Uniformity -  $C_u = D_{60} / D_{10}$   
 Coefficients of Curvature -  $C_c = (D_{30})^2 / D_{60} D_{10}$   
 D<sub>60</sub> = Grain diameter at 60% passing  
 D<sub>30</sub> = Grain diameter at 30% passing  
 D<sub>10</sub> = Grain diameter at 10% passing

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	REVISED: 8/19/2014		





Exploration ID	Depth (ft.)	Sample Description	Passing #200	LL	PL	PI
● B-3	10	SANDY LEAN CLAY	NM	35	19	16
⊠ B-4	5	LEAN CLAY	NM	43	15	28
▲ B-8	5	LEAN CLAY	NM	31	15	16
× B-9	20	SANDY LEAN CLAY	NM	33	18	15
⊙ B-10	0 - 5	CLAYEY SAND	48	35	15	20
⊕ B-13	2	LEAN CLAY WITH SAND	NM	24	12	12
○ B-15	30	SANDY LEAN CLAY	54	37	20	17
△ B-16	15	SANDY LEAN CLAY	NM	35	16	19
⊗ B-17	10	SANDY LEAN CLAY	NM	37	18	19
⊕ B-19	10	SANDY LEAN CLAY	NM	44	21	23
□ B-20	0 - 5	CLAYEY SAND WITH GRAVEL	NM	51	13	38
⊗ B-22	0 - 5	SANDY LEAN CLAY	55	27	13	14
⊕ B-22	5	CLAYEY SAND	37	37	22	15
☆ B-22	22.5	SANDY LEAN CLAY	NM	34	20	14
⊗ B-25	10	CLAYEY SAND	49	38	21	17

Testing performed in general accordance with ASTM D4318.  
 NP = Nonplastic  
 NM = Not Measured



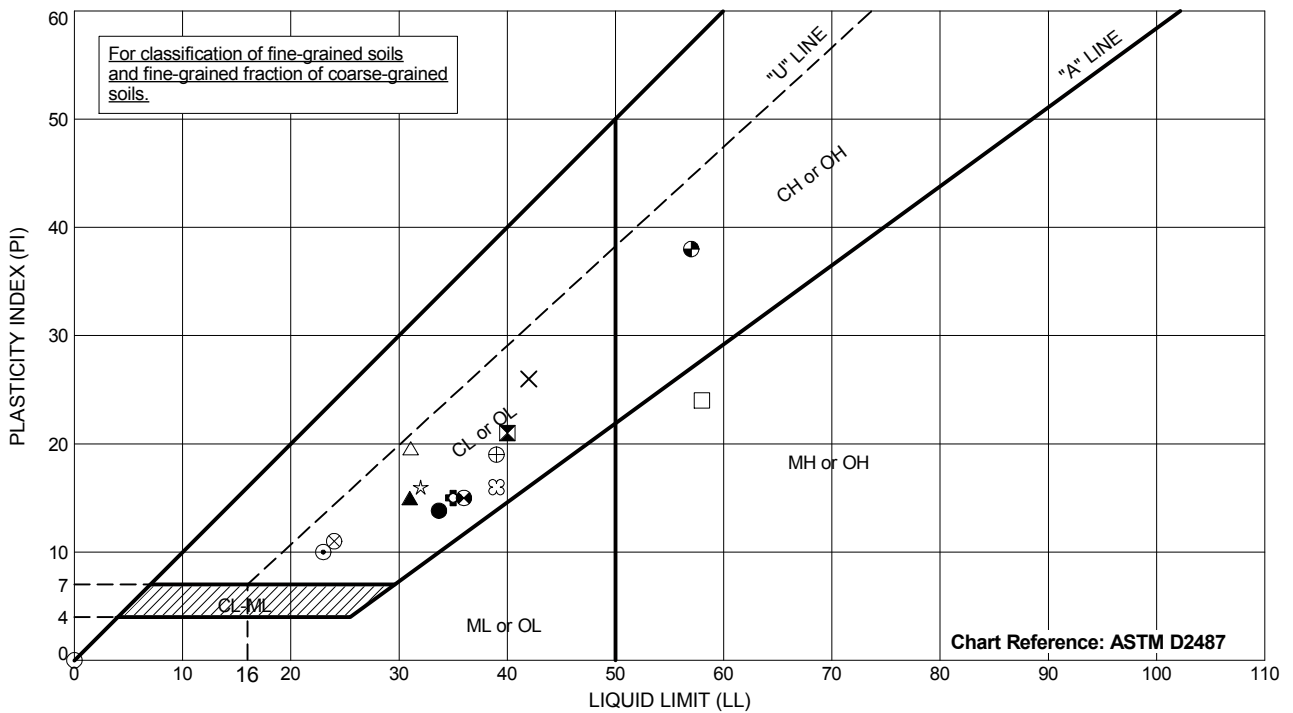
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PLATE

B-20



Exploration ID	Depth (ft.)	Sample Description	Passing #200	LL	PL	PI
● B-28	20	CLAYEY SAND WITH GRAVEL	NM	34	20	14
⊠ B-28	30	CLAYEY SAND (SC)	41	40	19	21
▲ B-30	1 - 5	CLAYEY SAND	NM	31	16	15
× B-30	15	CLAYEY SAND	NM	42	16	26
⊙ B-32	0 - 5	CLAYEY SAND WITH GRAVEL	NM	23	13	10
⊕ B-34	40	CLAYEY SAND	43	35	20	15
○ B-34	50	POORLY GRADED SAND	NM	NP	NP	NP
△ B-35	10	CLAYEY SAND	NM	31	12	19
⊗ B-36	0 - 5	CLAYEY SAND WITH GRAVEL	NM	24	13	11
⊕ B-38	0 - 5	CLAYEY SAND WITH GRAVEL	46	39	20	19
□ B-38	25	SANDY ELASTIC SILT	NM	58	34	24
⊗ B-38	45	SANDY LEAN CLAY	NM	36	21	15
⊕ B-39	2	SANDY FAT CLAY	NM	57	19	38
☆ B-39	10	CLAYEY SAND	44	32	16	16
⊗ B-39	20	SANDY LEAN CLAY (CL)	64	39	23	16

Testing performed in general accordance with ASTM D4318.  
 NP = Nonplastic  
 NM = Not Measured



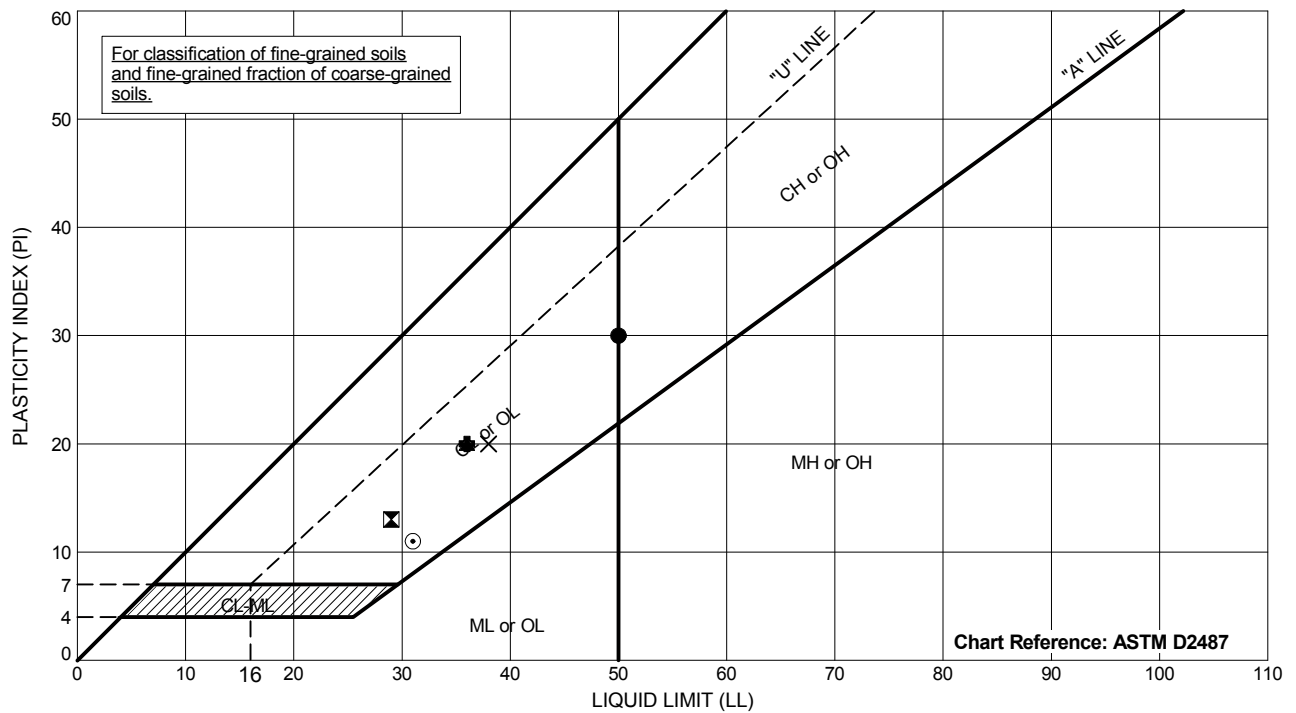
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PLATE

B-21



Exploration ID	Depth (ft.)	Sample Description	Passing #200	LL	PL	PI
● B-40	5	SANDY LEAN CLAY	69	50	20	30
☒ B-41	10	SANDY LEAN CLAY	53	29	16	13
▲ B-41	20	SANDY LEAN CLAY	63	36	16	20
✕ B-41	30	SANDY LEAN CLAY	62	38	18	20
⊙ B-43	10	SANDY LEAN CLAY	51	31	20	11
⊕ B-45	20	CLAYEY SAND	NM	36	16	20

Testing performed in general accordance with ASTM D4318.  
 NP = Nonplastic  
 NM = Not Measured



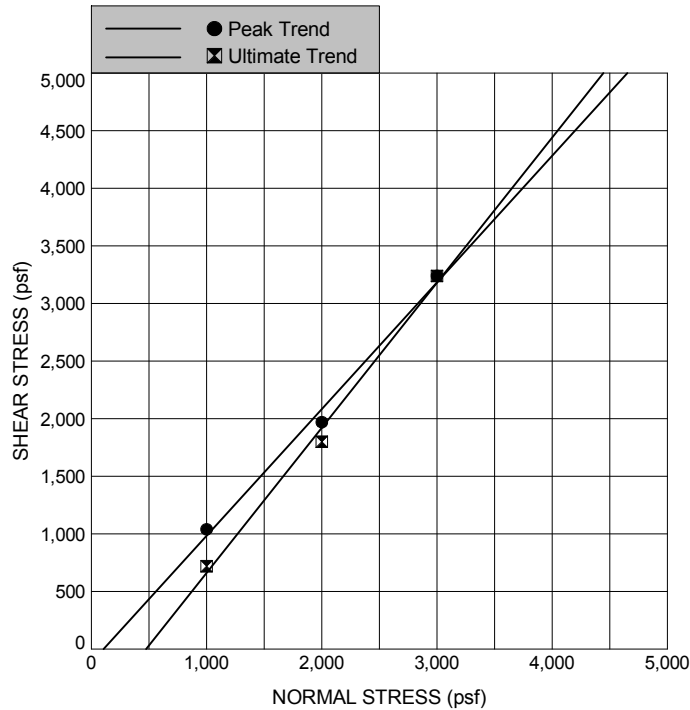
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PLATE

B-22



TEST CONDITIONS: Intact

Exploration ID	Depth (ft.)	Sample Description
B-1	15	POORLY GRADED SAND WITH SILT

Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM	NM	NM	NM	NM	2.65

Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	11.5	106.3			4.60	1.00
	2	11.5	106.3			4.60	1.00
	3	11.5	111.0			4.60	1.00

At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	24.9	22.6			4.60	0.98
	2	22.9	19.3			4.60	0.96
	3	23.7	22.8			4.60	0.92

Specimen No.	Peak Shear Stress (psf)	Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1	1040	720	0.5000	1000	0.012
2	1970	1800	0.5000	2000	0.012
3	3240	3240	0.5000	3000	0.012

Results	Cohesion (psf)	Friction $\phi$ (deg)	Tan $\phi$ (deg)
Peak	0	46	
Ultimate	0	45	

Testing performed in general accordance with ASTM D3080.  
 NP = Nonplastic  
 NM = Not Measured



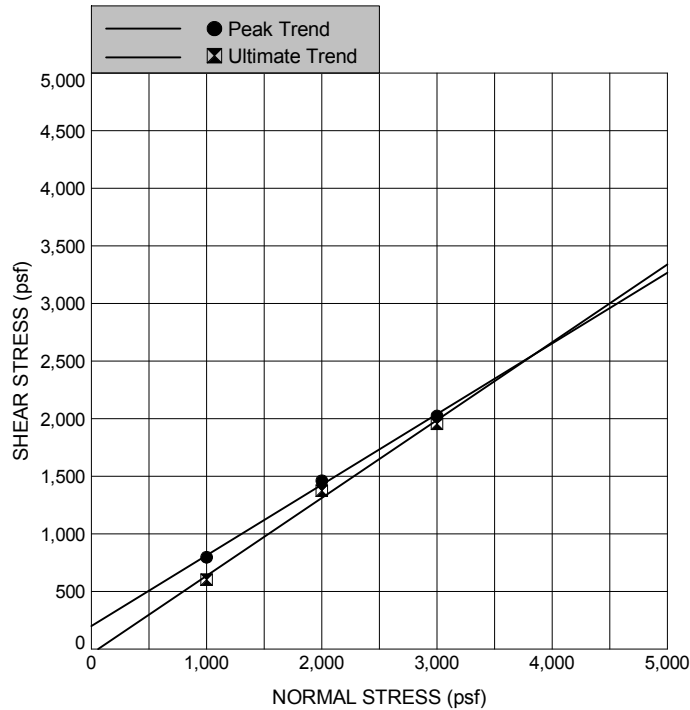
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DIRECT SHEAR

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PLATE

B-23



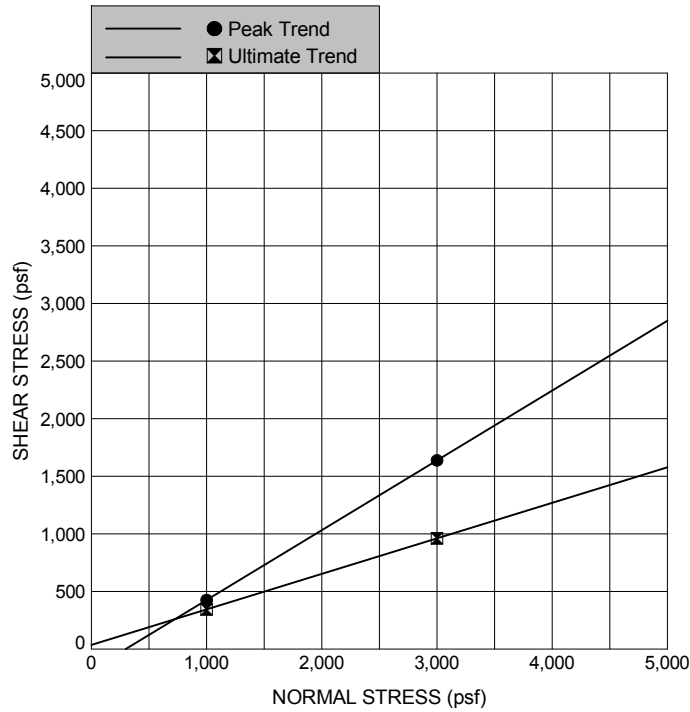
TEST CONDITIONS: Intact

Exploration ID		Depth (ft.)	Sample Description					
B-4		20	SILTY SAND					
Passing #4 (%)		Passing #200 (%)		Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity	
NM		NM		NM	NM	NM	2.65	
Initial	Specimen No.	Water Content (%)		Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	26.6		100.0			4.60	1.00
	2	26.8		97.0			4.60	1.00
	3	26.8		96.6			4.60	1.00
At Test	Specimen No.	Water Content (%)		Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	25.1		97.0			4.60	0.97
	2	26.5		85.6			4.60	0.95
	3	26.3		90.0			4.60	0.92
Specimen No.		Peak Shear Stress (psf)		Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)	
1		797		604	0.5000	1000	0.005	
2		1461		1374	0.5000	2000	0.005	
3		2024		1955	0.5000	3000	0.005	
Results		Cohesion (psf)			Friction $\phi$ (deg)		Tan $\phi$ (deg)	
Peak		200			32			
Ultimate		0			34			

Testing performed in general accordance with ASTM D3080.  
 NP = Nonplastic  
 NM = Not Measured

	PROJECT NO.: 20151969	DIRECT SHEAR	PLATE
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TEST CONDITIONS: Intact

Exploration ID		Depth (ft.)	Sample Description				
B-10		2	SANDY LEAN CLAY				
Passing #4 (%)		Passing #200 (%)		Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM		NM		NM	NM	NM	2.65
Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	6.8	86.5			4.60	1.00
	2	6.8	94.2			4.60	1.00
	3					4.60	
At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	26.2	80.5			4.60	0.95
	2	24.1	84.0			4.60	0.94
	3						
Specimen No.		Peak Shear Stress (psf)		Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1		426		344	0.0050	1000	0.005
2		1638		961	0.0050	3000	0.005
3							
Results		Cohesion (psf)			Friction $\phi$ (deg)		Tan $\phi$ (deg)
Peak		0			28		
Ultimate		36			17		

Testing performed in general accordance with ASTM D3080.  
 NP = Nonplastic  
 NM = Not Measured



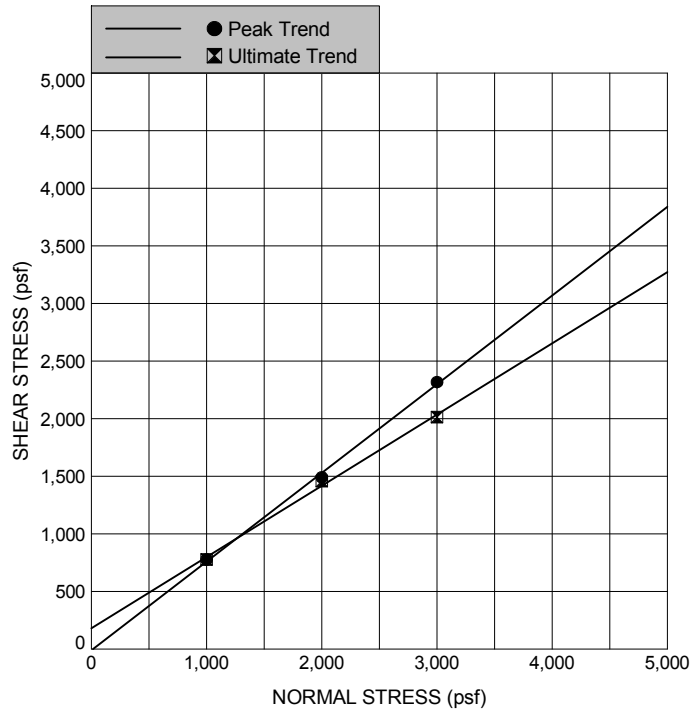
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PLATE

B-25



TEST CONDITIONS: Intact

Exploration ID		Depth (ft.)	Sample Description				
B-13		15	SILTY SAND				
Passing #4 (%)		Passing #200 (%)		Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM		NM		NM	NM	NM	2.65
Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in²)	Height (in)
	1	5.5	93.0			4.60	1.00
	2	5.5	94.4			4.60	1.00
	3	5.8	99.3			4.60	1.00
At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in²)	Height (in)
	1	27.0	81.2			4.60	0.98
	2	25.3	84.9			4.60	
	3		84.0			4.60	0.96
Specimen No.		Peak Shear Stress (psf)		Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1		778		778	0.5000	1000	0.012
2		1491		1457	0.5000	2000	0.012
3		2318		2015	0.5000	3000	0.012
Results		Cohesion (psf)		Friction $\phi$ (deg)		Tan $\phi$ (deg)	
Peak		0		37			
Ultimate		180		32			

Testing performed in general accordance with ASTM D3080.

NP = Nonplastic

NM = Not Measured



PROJECT NO.: 20151969

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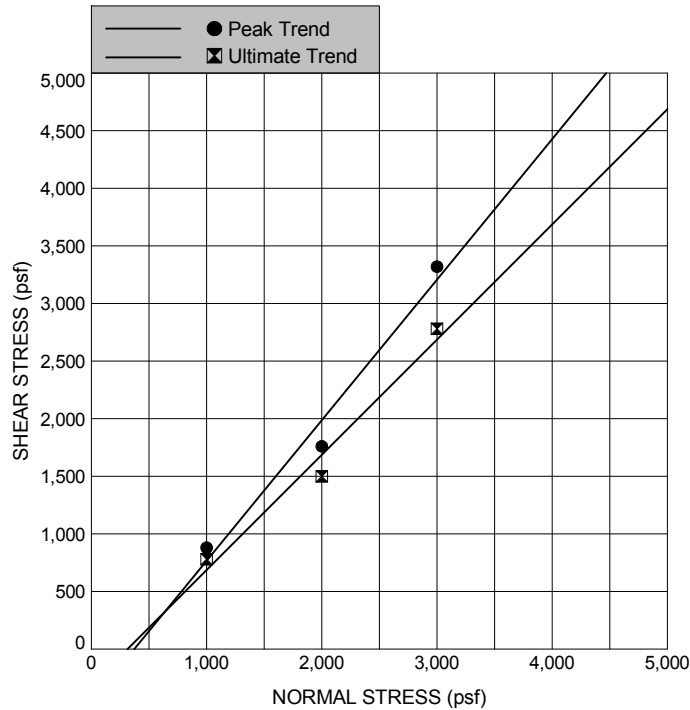
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DIRECT SHEAR

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PLATE

B-26



TEST CONDITIONS: Intact

Exploration ID	Depth (ft.)	Sample Description
B-18	10	CLAYEY SAND

Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM	NM	NM	NM	NM	2.65

Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	17.5	100.3	71.6	0.649	4.60	1.00
	2	18.4	100.0	74.4	0.654	4.60	1.00
	3	18.3	102.2	78.5	0.618	4.60	1.00

At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	21.8	93.2	93.2	0.619	4.60	0.98
	2	21.2	91.9	91.9	0.611	4.60	0.97
	3	17.8	92.5	92.5	0.607	4.60	0.97

Specimen No.	Peak Shear Stress (psf)	Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1	880	780	0.3500	1000	0.02
2	1760	1500	0.3500	2000	0.02
3	3320	2780	0.3500	3000	0.02

Results	Cohesion (psf)	Friction $\phi$ (deg)	Tan $\phi$ (deg)
Peak	0	46	
Ultimate	44	0	

Testing performed in general accordance with ASTM D3080.  
 NP = Nonplastic  
 NM = Not Measured



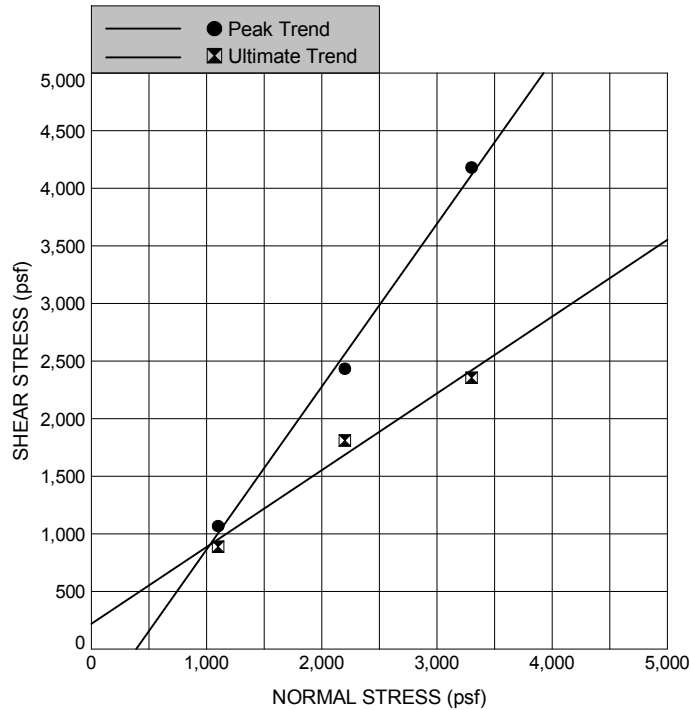
PROJECT NO.: 20151969  
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## DIRECT SHEAR

University of California, Merced  
 2020 Development Project  
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PLATE

B-27



TEST CONDITIONS: Intact

Exploration ID	Depth (ft.)	Sample Description
B-23	5	SILTY SAND

Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM	NM	NM	NM	NM	2.65

Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	11.8	109.7	59.4	0.536	4.60	1.02
	2	15.1	105.7	68.5	0.595	4.60	1.04
	3	18.8	105.8	83.1	0.623	4.60	1.03

At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	17.8	110.5	91.4	0.527	4.60	1.01
	2	19.8	107.0	93.0	0.576	4.60	1.03
	3	21.0	107.7	97.2	0.595	4.60	1.01

Specimen No.	Peak Shear Stress (psf)	Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1	1068	889	0.4000	1100	0.02
2	2434	1812	0.4000	2200	0.02
3	4181	2356	0.4000	3300	0.02

Results	Cohesion (psf)	Friction $\phi$ (deg)	Tan $\phi$ (deg)
Peak	0	50	
Ultimate	219	34	

Testing performed in general accordance with ASTM D3080.  
 NP = Nonplastic  
 NM = Not Measured



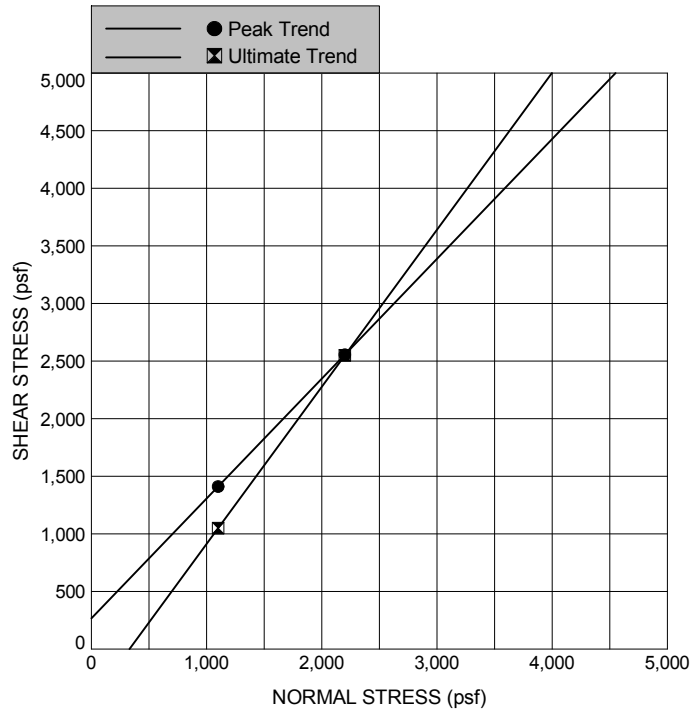
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## DIRECT SHEAR

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PLATE

B-28



TEST CONDITIONS: Intact

Exploration ID		Depth (ft.)	Sample Description				
B-31		5	SILTY SAND				
Passing #4 (%)		Passing #200 (%)		Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM		NM		NM	NM	NM	2.65
Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	17.5	109.1	86.8	0.545	4.60	1.02
	2	15.4	112.1	82.6	0.502	4.60	1.02
	3					4.60	
At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	17.8	111.1	92.8	0.519	4.60	1.00
	2	15.9	116.9	96.9	0.443	4.60	0.98
	3						
Specimen No.	Peak Shear Stress (psf)		Ultimate Shear Stress (psf)		Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1	1411		1050		0.4000	1100	0.02
2	2555		2550		0.4000	2200	0.02
3							
Results	Cohesion (psf)			Friction $\phi$ (deg)		Tan $\phi$ (deg)	
Peak	267			46			
Ultimate	0			46			

Testing performed in general accordance with ASTM D3080.

NP = Nonplastic

NM = Not Measured



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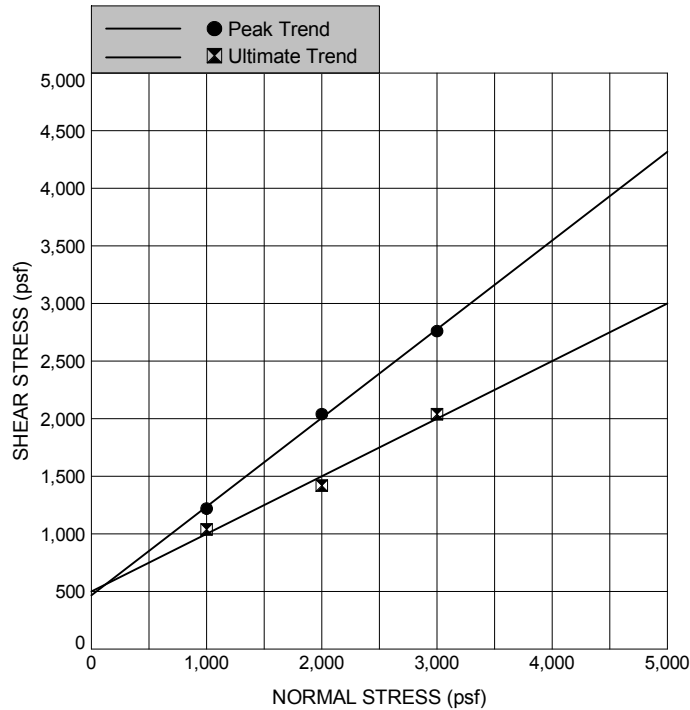
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## DIRECT SHEAR

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PLATE

B-29



TEST CONDITIONS: Intact

Exploration ID	Depth (ft.)	Sample Description
B-31	15	POORLY GRADED SAND WITH SILT

Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM	NM	NM	NM	NM	2.65

Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	12.7	108.6	64.5	0.523	4.60	1.00
	2	11.8	109.7	61.5	0.507	4.60	1.00
	3	12.5	107.8	62.1	0.535	4.60	1.00

At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	18.0	109.5	94.8	0.502	4.60	0.99
	2	18.2	111.6	101.5	0.476	4.60	0.98
	3	17.5	110.0	96.8	0.501	4.60	0.97

Specimen No.	Peak Shear Stress (psf)	Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1	1220	1040	0.3500	1000	0.02
2	2040	1420	0.3500	2000	0.02
3	2760	2040	0.3500	3000	0.02

Results	Cohesion (psf)	Friction $\phi$ (deg)	Tan $\phi$ (deg)
Peak	467	38	
Ultimate	500	27	

Testing performed in general accordance with ASTM D3080.  
 NP = Nonplastic  
 NM = Not Measured



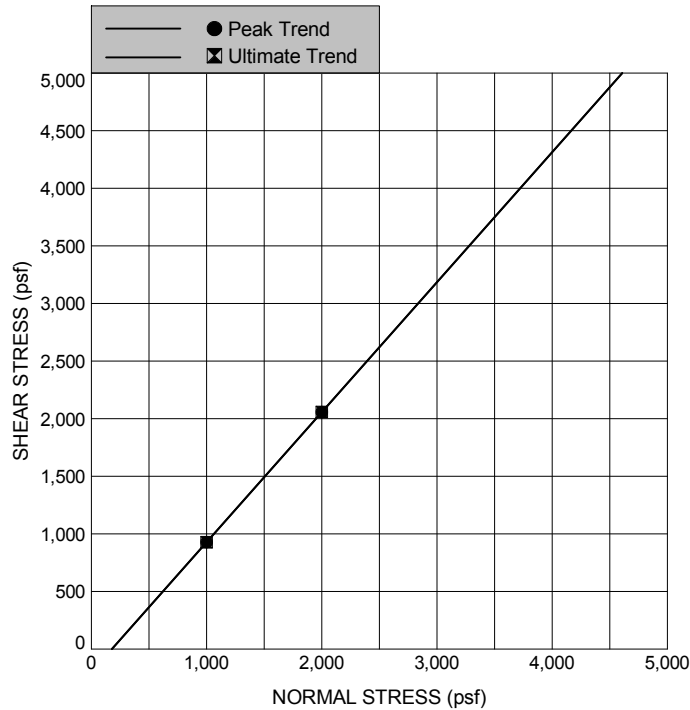
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## DIRECT SHEAR

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PLATE

B-30



TEST CONDITIONS: Intact

Exploration ID		Depth (ft.)	Sample Description				
B-33		5	SILTY SAND				
Passing #4 (%)		Passing #200 (%)		Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM		NM		NM	NM	NM	2.65
Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in²)	Height (in)
	1	5.5	96.6			4.60	1.00
	2	5.5	96.6			4.60	1.00
	3					4.60	
At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in²)	Height (in)
	1	23.2	83.8			4.60	0.97
	2	22.9	84.9			4.60	0.95
	3						
Specimen No.		Peak Shear Stress (psf)		Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1		929		929	0.5000	1000	0.012
2		2057		2057	0.5000	2000	0.012
3							
Results		Cohesion (psf)			Friction $\phi$ (deg)		Tan $\phi$ (deg)
Peak		0			45		
Ultimate		0			45		

Testing performed in general accordance with ASTM D3080.

NP = Nonplastic

NM = Not Measured



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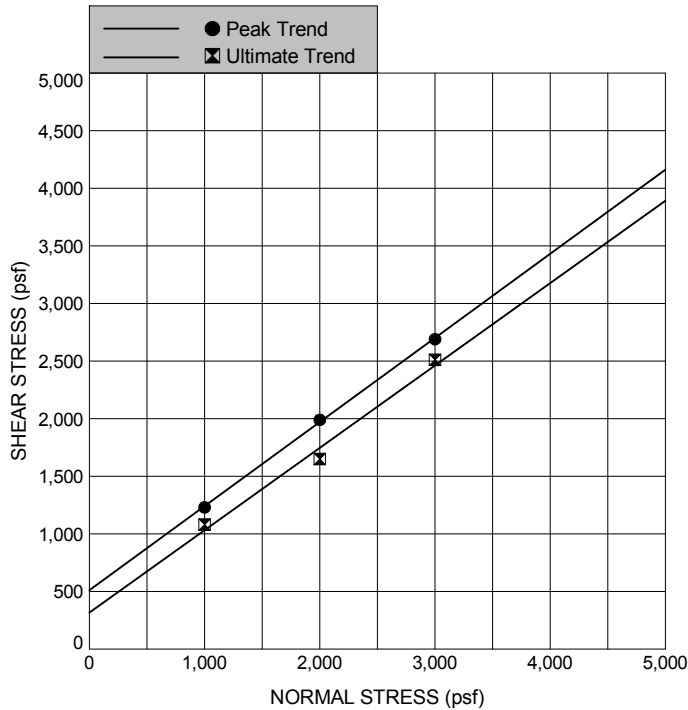
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PLATE


B-31



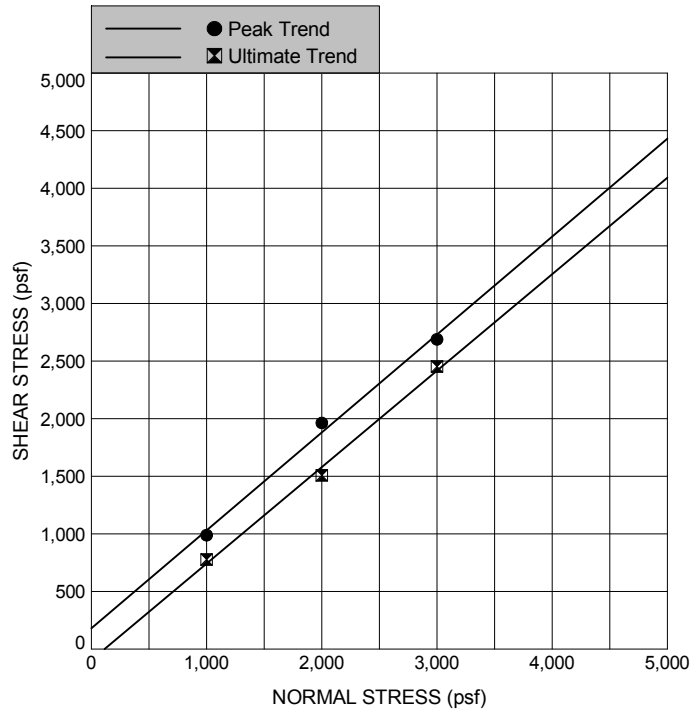
TEST CONDITIONS: Intact

Exploration ID		Depth (ft.)	Sample Description				
B-41		5	SANDY LEAN CLAY				
Passing #4 (%)		Passing #200 (%)		Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM		NM		NM	NM	NM	2.65
Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	13.0	101.8			4.60	1.00
	2	13.0	102.9			4.60	1.00
	3	13.0	99.1			4.60	1.00
At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	27.4	93.8			4.60	0.98
	2	26.2	93.3			4.60	0.96
	3	26.5	89.8			4.60	0.95
Specimen No.		Peak Shear Stress (psf)		Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1		1230		1080	0.5000	1000	0.005
2		1990		1650	0.5000	2000	0.005
3		2690		2510	0.5000	3000	0.005
Results		Cohesion (psf)			Friction $\phi$ (deg)		Tan $\phi$ (deg)
Peak		510			36		
Ultimate		310			36		

Testing performed in general accordance with ASTM D3080.  
 NP = Nonplastic  
 NM = Not Measured

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TEST CONDITIONS: Intact

Exploration ID	Depth (ft.)	Sample Description
B-41	15	SANDY LEAN CLAY

Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM	NM	NM	NM	NM	2.65

Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	13.0	104.2			4.60	1.00
	2	13.0	103.8			4.60	1.00
	3	13.0	107.1			4.60	1.00

At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	22.7	93.5			4.60	0.98
	2	22.0	95.2			4.60	0.97
	3	21.4	95.6			4.60	0.95

Specimen No.	Peak Shear Stress (psf)	Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1	989	777	0.5000	1000	0.005
2	1963	1508	0.5000	2000	0.005
3	2689	2452	0.5000	3000	0.005

Results	Cohesion (psf)	Friction $\phi$ (deg)	Tan $\phi$ (deg)
Peak	180	40	
Ultimate	0	40	

Testing performed in general accordance with ASTM D3080.

NP = Nonplastic

NM = Not Measured



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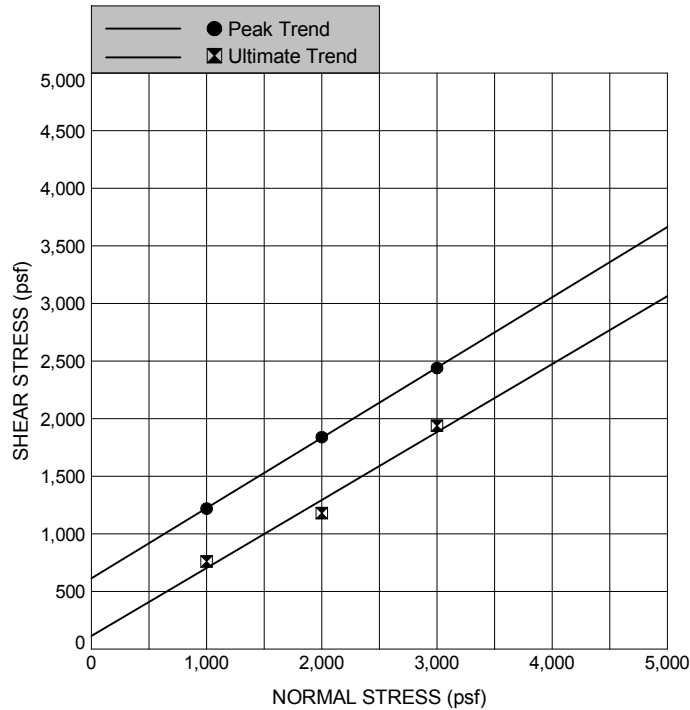
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PLATE

B-33



TEST CONDITIONS: Intact

Exploration ID		Depth (ft.)	Sample Description				
B-42		10	LEAN CLAY				
Passing #4 (%)		Passing #200 (%)		Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM		NM		NM	NM	NM	2.65
Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	21.5	93.9	73.2	0.794	4.60	1.00
	2	21.3	94.7	73.7	0.779	4.60	1.00
	3	23.1	93.4	77.7	0.804	4.60	1.00
At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	29.7	93.8	101.8	0.788	4.60	1.00
	2	27.8	96.1	101.0	0.744	4.60	0.98
	3	28.6	94.9	98.5	0.763	4.60	0.98
Specimen No.	Peak Shear Stress (psf)		Ultimate Shear Stress (psf)		Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1	1220		760		0.2000	1000	0.002
2	1840		1180		0.2000	2000	0.002
3	2440		1940		0.2000	3000	0.002
Results	Cohesion (psf)			Friction $\phi$ (deg)		Tan $\phi$ (deg)	
Peak	613			31			
Ultimate	113			31			

Testing performed in general accordance with ASTM D3080.

NP = Nonplastic

NM = Not Measured



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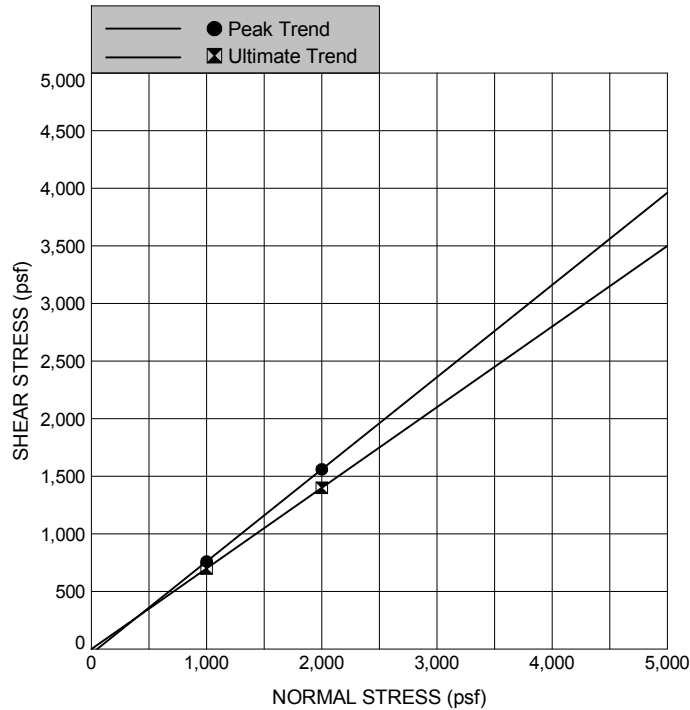
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Merced, California

PLATE

B-34



TEST CONDITIONS: Intact

Exploration ID	Depth (ft.)	Sample Description
B-43	5	SILTY SAND

Passing #4 (%)	Passing #200 (%)	Liquid Limit	Plastic Limit	Plasticity Index	Specific Gravity
NM	NM	NM	NM	NM	2.65

Initial	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	11.2	92.2	37.4	0.793	4.60	1.00
	2	10.1	93.0	34.5	0.778	4.60	1.00
	3					4.60	

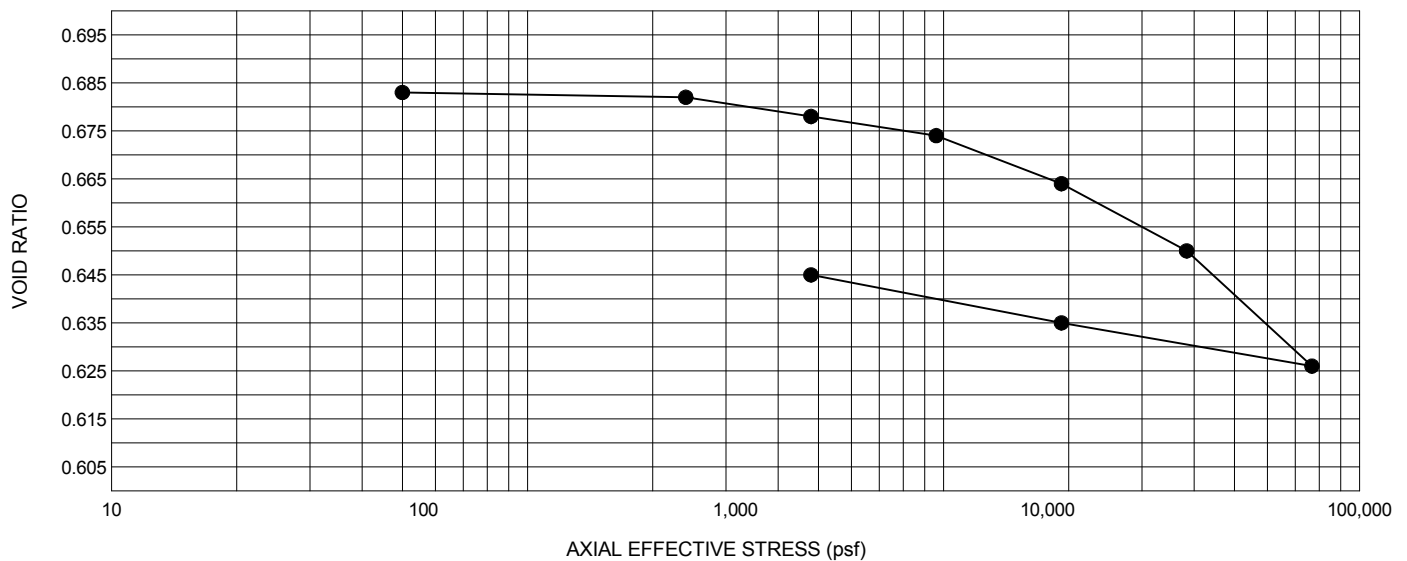
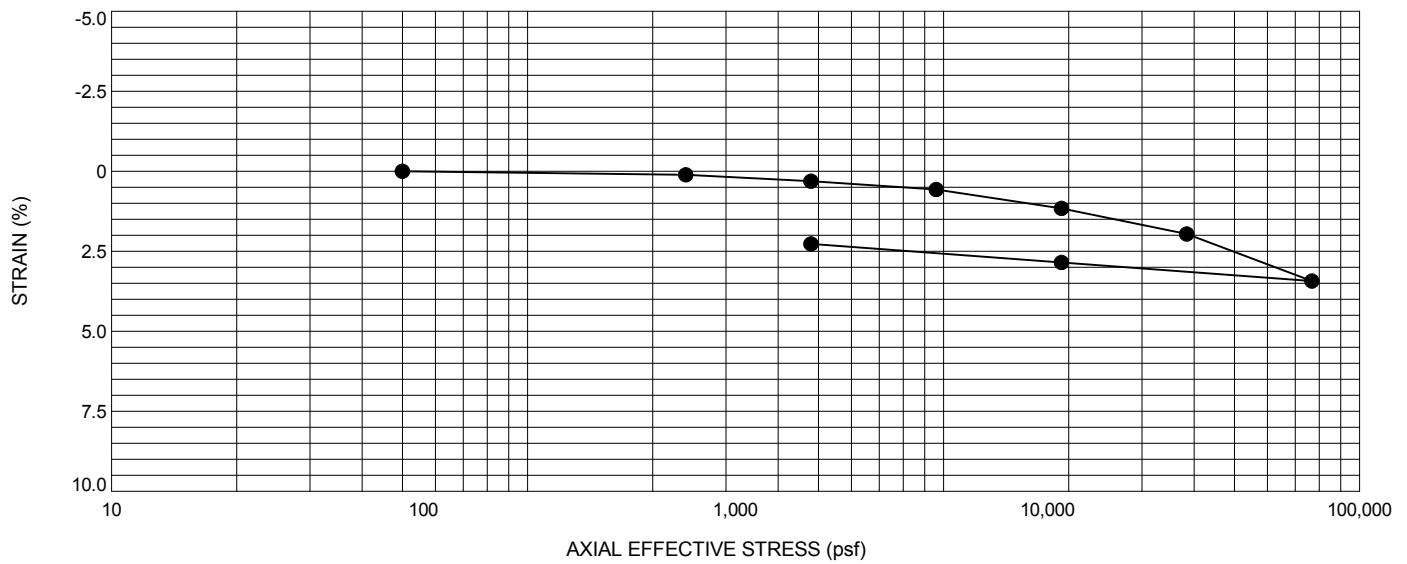
At Test	Specimen No.	Water Content (%)	Dry Unit Weight (pcf)	Saturation (%)	Void Ratio	Area (in <sup>2</sup> )	Height (in)
	1	28.3	94.0	98.7	0.759	4.60	0.98
	2	25.5	97.3	95.3	0.709	4.60	0.96
	3						

Specimen No.	Peak Shear Stress (psf)	Ultimate Shear Stress (psf)	Horizontal Displacement (in)	Normal Stress (psf)	Strain Rate (in/min)
1	760	700	0.3500	1000	0.002
2	1560	1400	0.3500	2000	0.002
3					

Results	Cohesion (psf)	Friction $\phi$ (deg)	Tan $\phi$ (deg)
Peak	0	38	
Ultimate	0	35	

Testing performed in general accordance with ASTM D3080.  
 NP = Nonplastic  
 NM = Not Measured

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Exploration ID		Depth (ft.)		Sample Description									
B-8		10		LEAN CLAY WITH SAND									
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	19.1	22.5	98.0	120.1	84.0	0.683	2.65	NM	NM	NM	NM
Final	Intact	50.8	18.6	24.2	124.9	155.1	99.0	0.645	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



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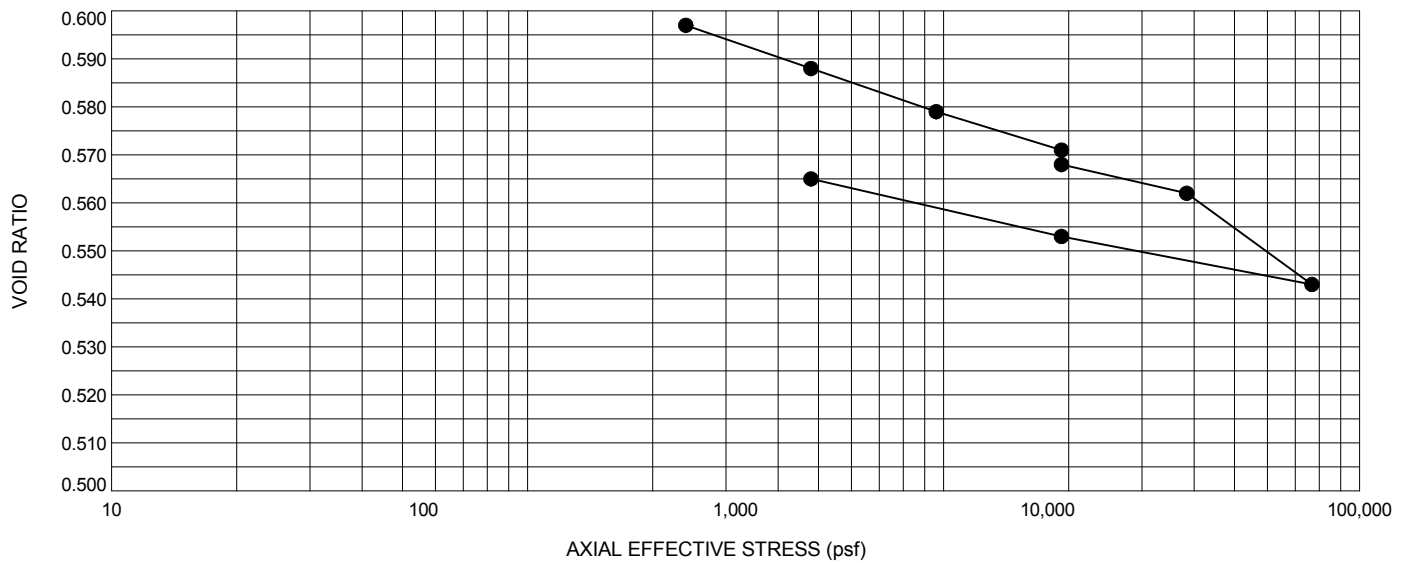
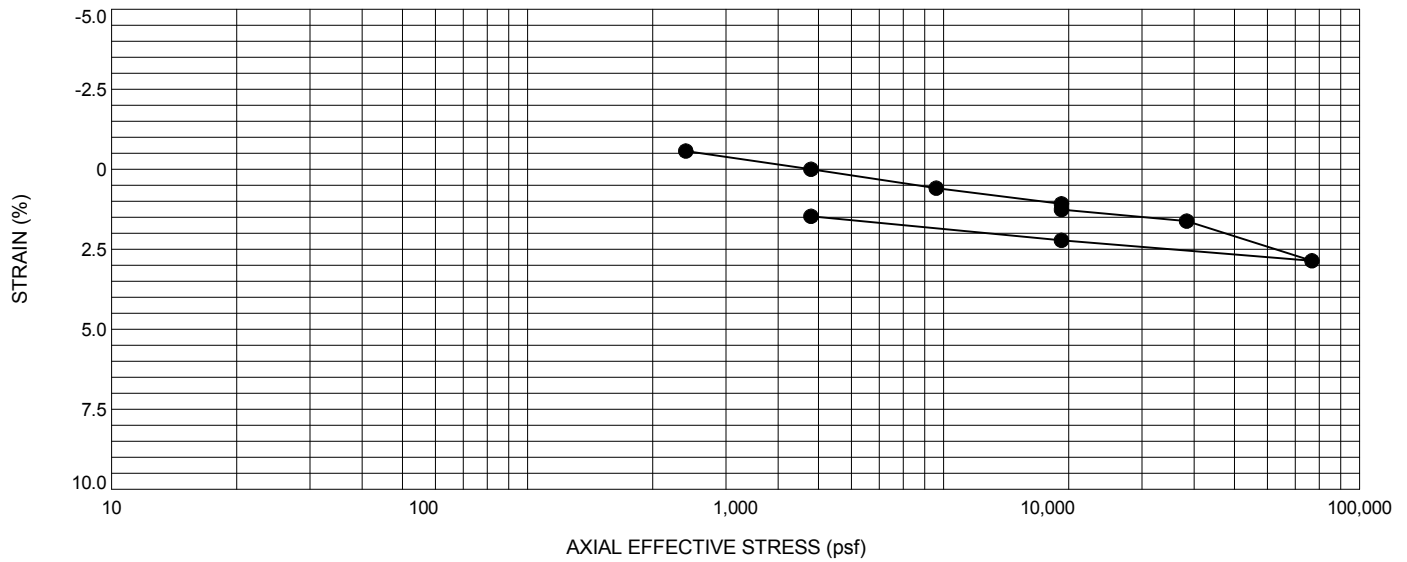
### ONE DIMENSIONAL CONSOLIDATION TEST

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 Merced, California

PLATE

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Exploration ID		Depth (ft.)		Sample Description									
B-8		20		LEAN CLAY									
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	25.4	18.7	104.1	123.6	84.3	0.588	2.65	NM	NM	NM	NM
Final	Intact	50.8	24.9	20.9	107.0	129.4	101.4	0.546	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



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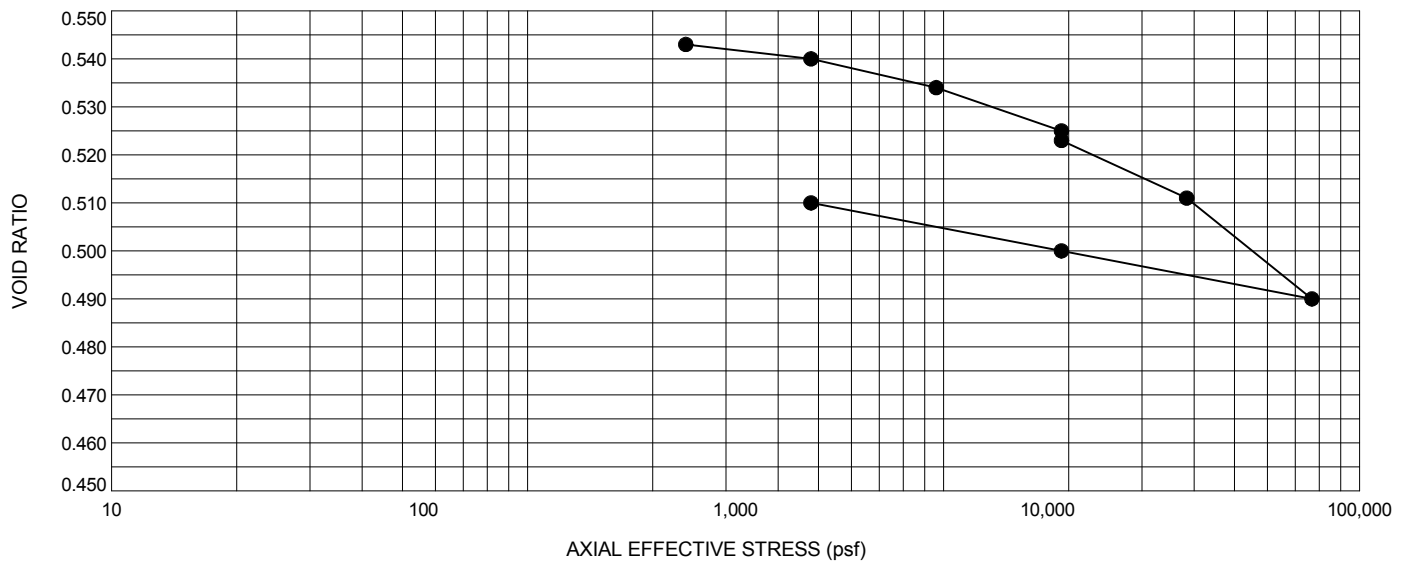
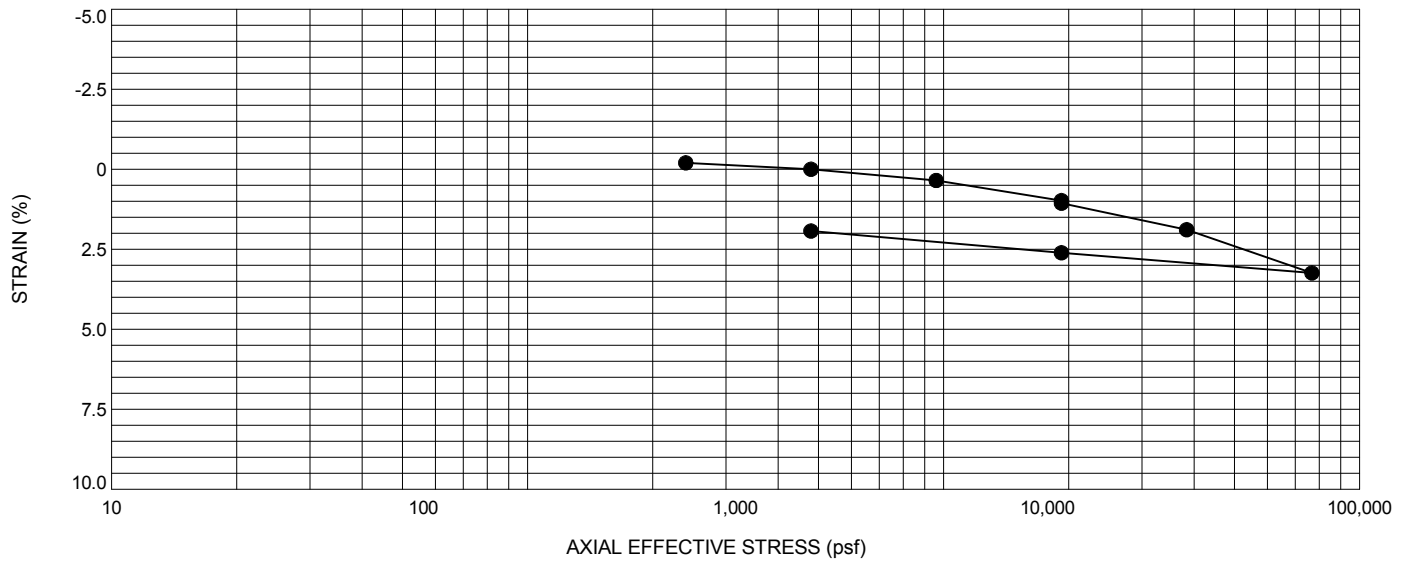
### ONE DIMENSIONAL CONSOLIDATION TEST

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Exploration ID		Depth (ft.)	Sample Description										
B-10		10	SANDY LEAN CLAY										
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	25.4	14.9	107.4	123.4	73.2	0.540	2.65	NM	NM	NM	NM
Final	Intact	50.8	24.9	19.0	109.5	130.3	98.5	0.511	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



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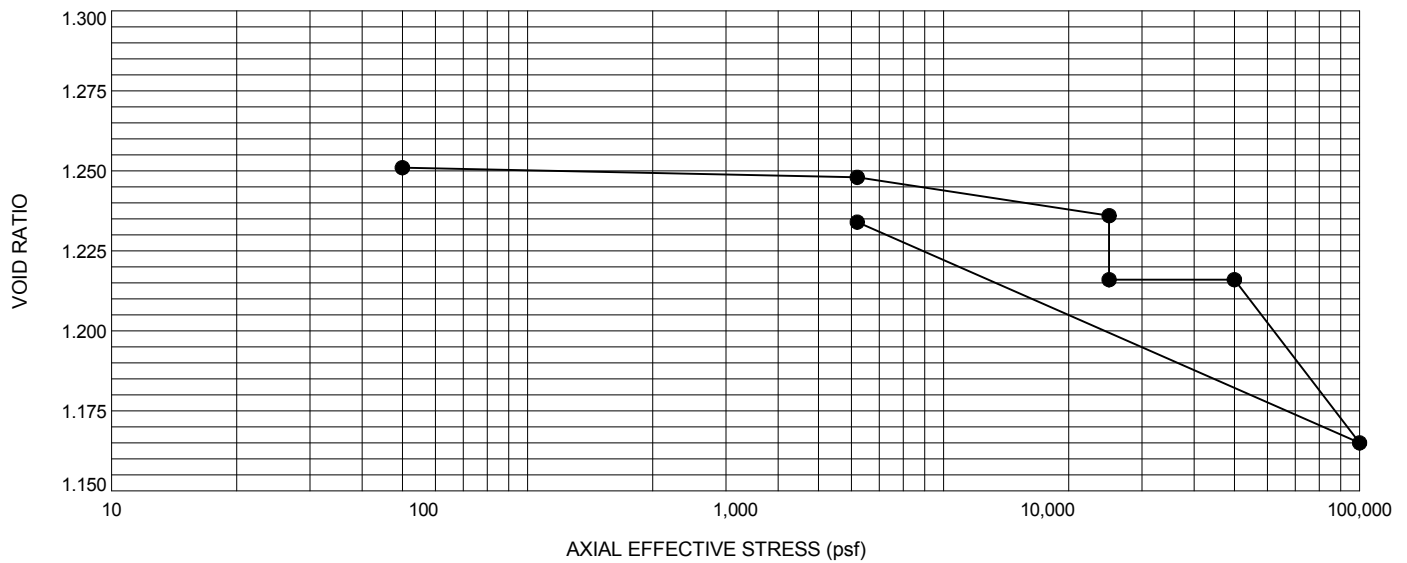
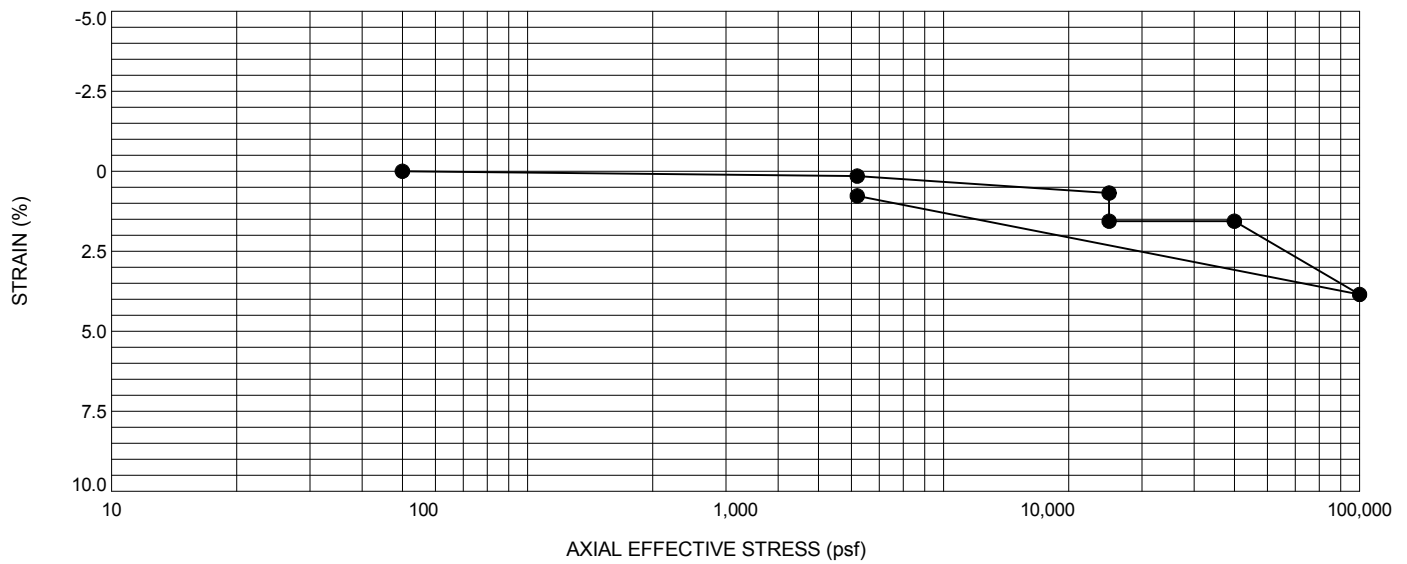
### ONE DIMENSIONAL CONSOLIDATION TEST

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Exploration ID		Depth (ft.)		Sample Description									
B-15		5		LEAN CLAY									
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	25.4	40.5	73.5	103.3	85.8	1.251	2.65	NM	NM	NM	NM
Final	Intact	50.8	25.1	43.9	73.5	105.8	93.0	1.234	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



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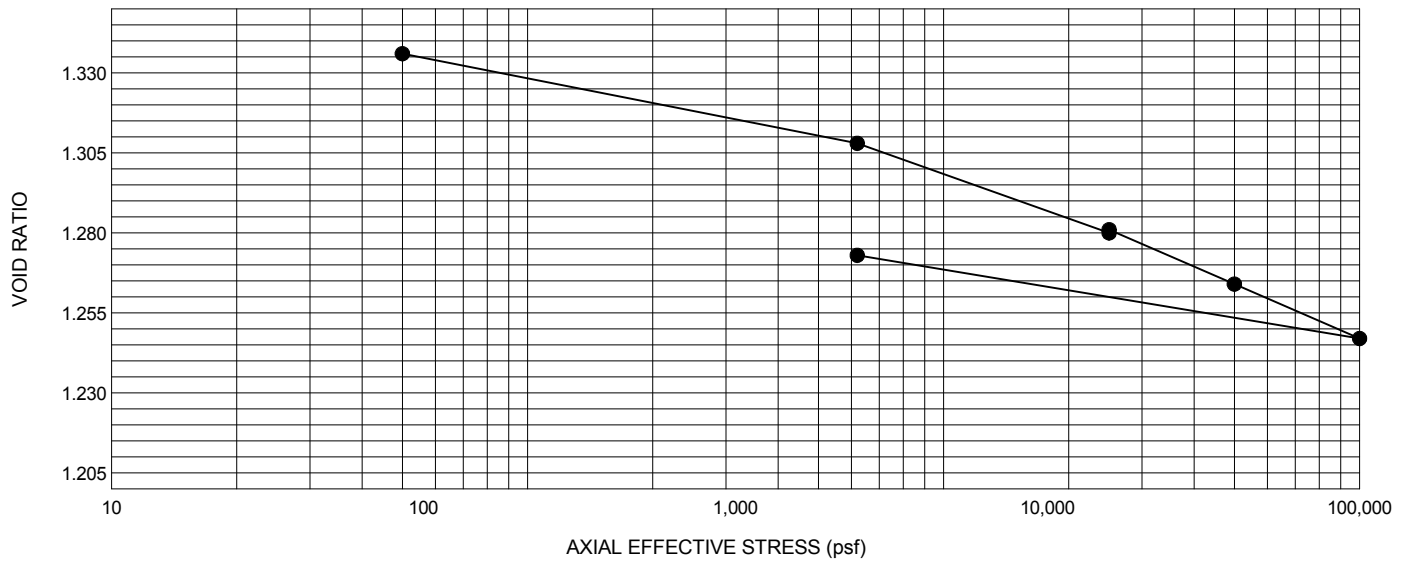
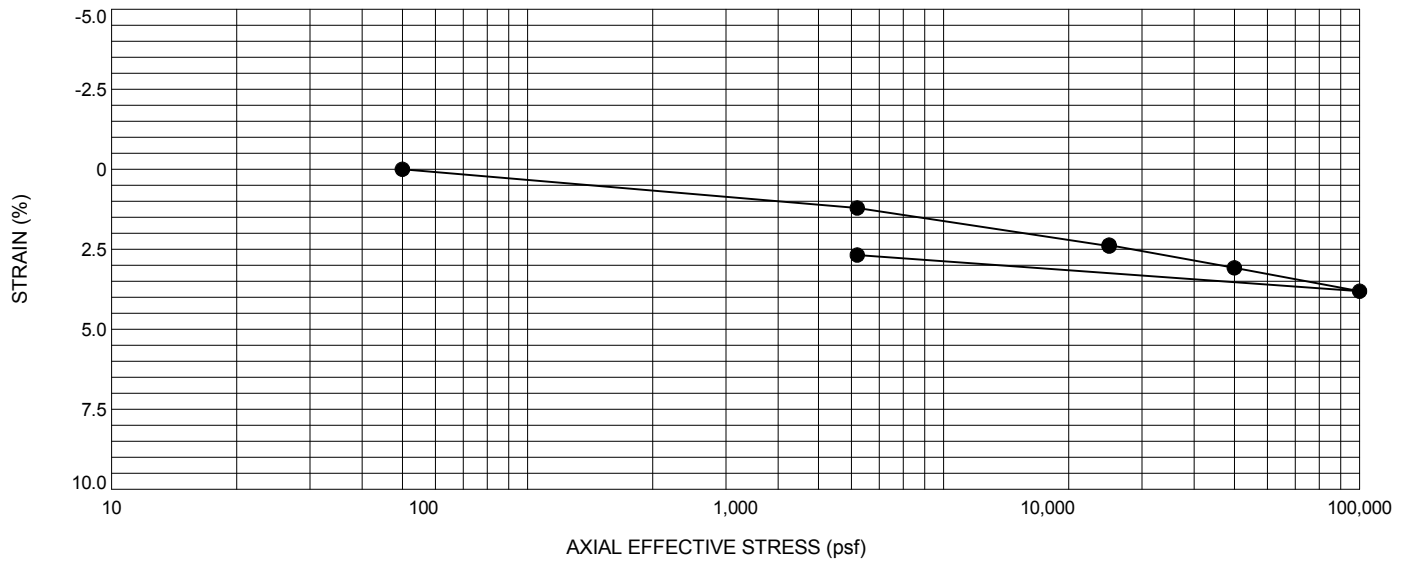
### ONE DIMENSIONAL CONSOLIDATION TEST

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PLATE

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Exploration ID		Depth (ft.)	Sample Description										
B-16		30	LEAN CLAY										
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	25.4	46.5	70.8	103.7	92.2	1.336	2.65	NM	NM	NM	NM
Final	Intact	50.8	23.5	48.0	70.7	104.6	95.1	1.291	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



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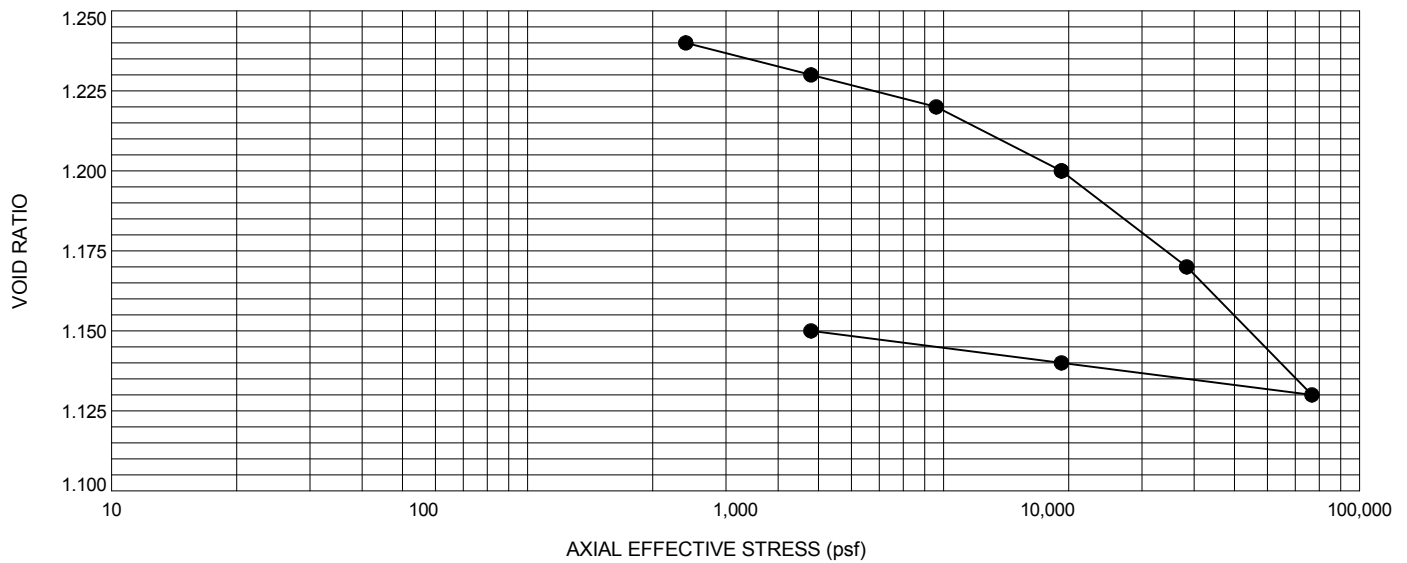
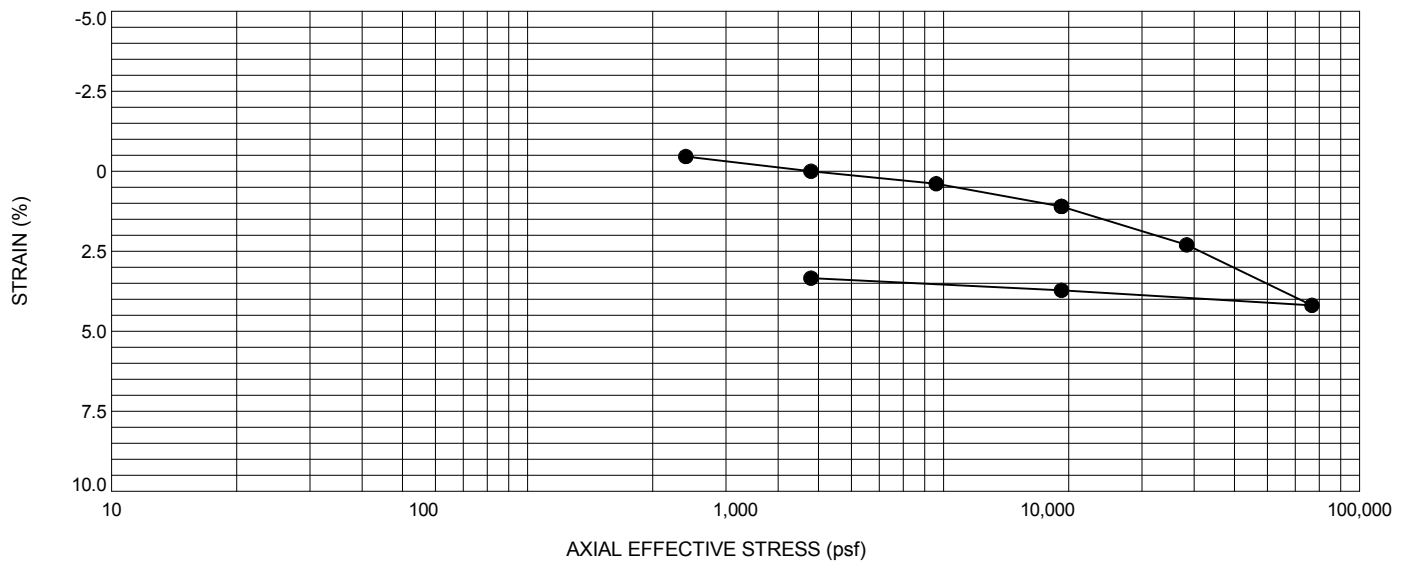
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Exploration ID		Depth (ft.)	Sample Description										
B-20		30	SANDY FAT CLAY										
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	61.5	25.4	42.5	74.3	105.9	91.9	1.230	2.65	NM	NM	NM	NM
Final	Intact	61.5	24.3	41.3	77.7	109.8	97.0	1.130	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

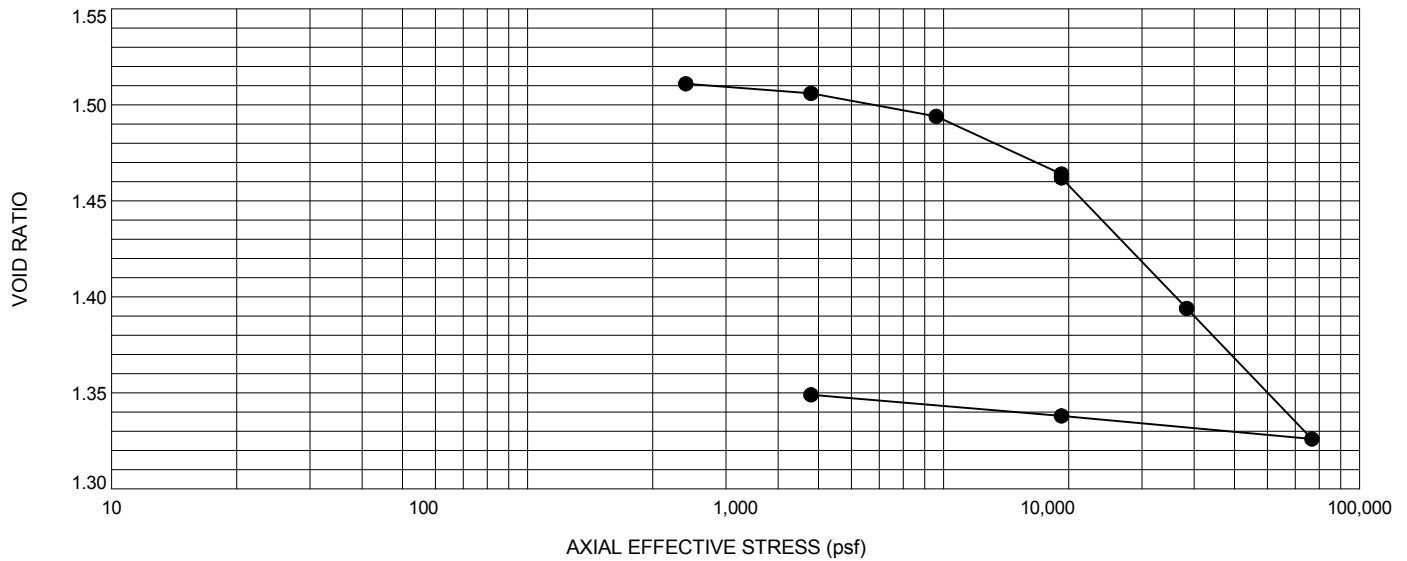
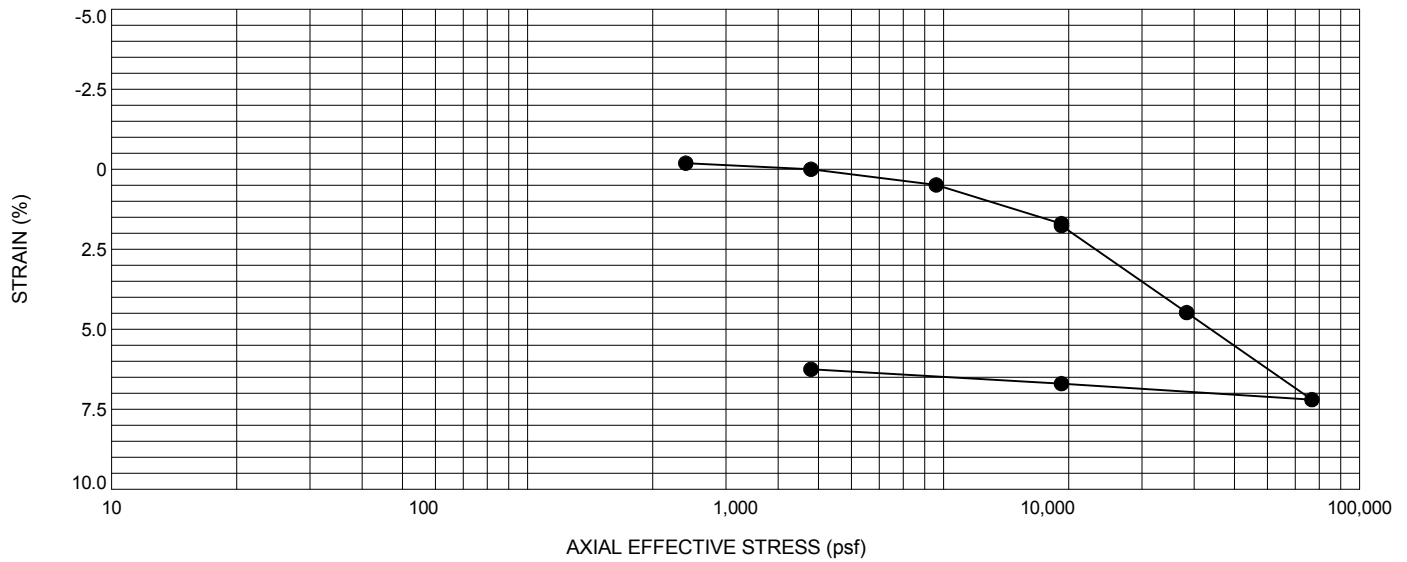
### ONE DIMENSIONAL CONSOLIDATION TEST

University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

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Exploration ID		Depth (ft.)	Sample Description										
B-25		15	FAT CLAY										
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	61.5	25.4	46.1	66.0	96.4	81.1	1.506	2.65	NM	NM	NM	NM
Final	Intact	61.5	23.7	46.6	71.6	105.0	94.2	1.311	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

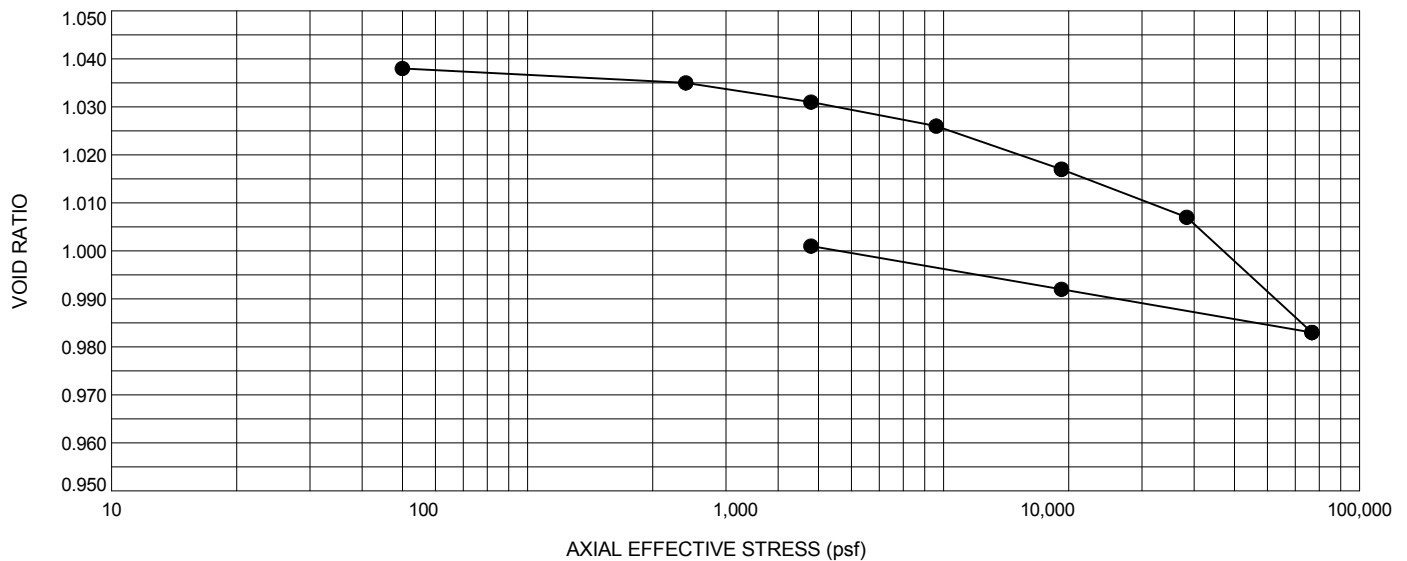
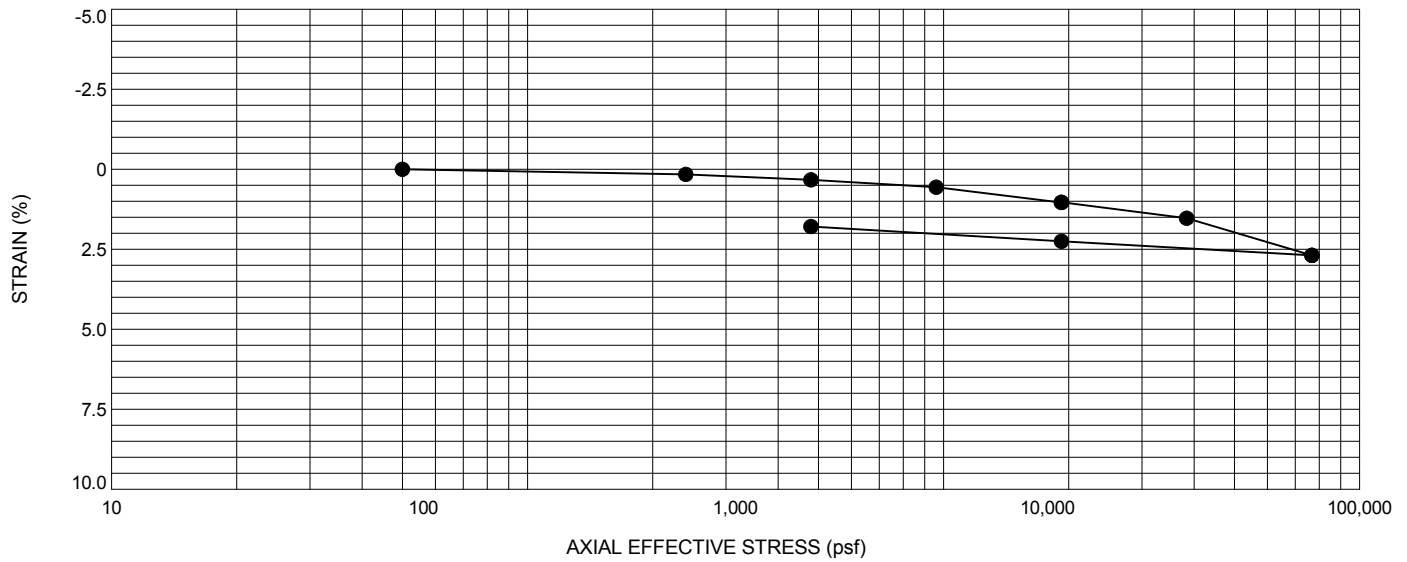
### ONE DIMENSIONAL CONSOLIDATION TEST

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Exploration ID		Depth (ft.)	Sample Description										
B-26		30	SANDY LEAN CLAY										
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	19.1	37.6	111.7	153.7	96.0	1.038	2.65	NM	NM	NM	NM
Final	Intact	50.8	18.7	37.5	113.8	156.5	99.0	1.001	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

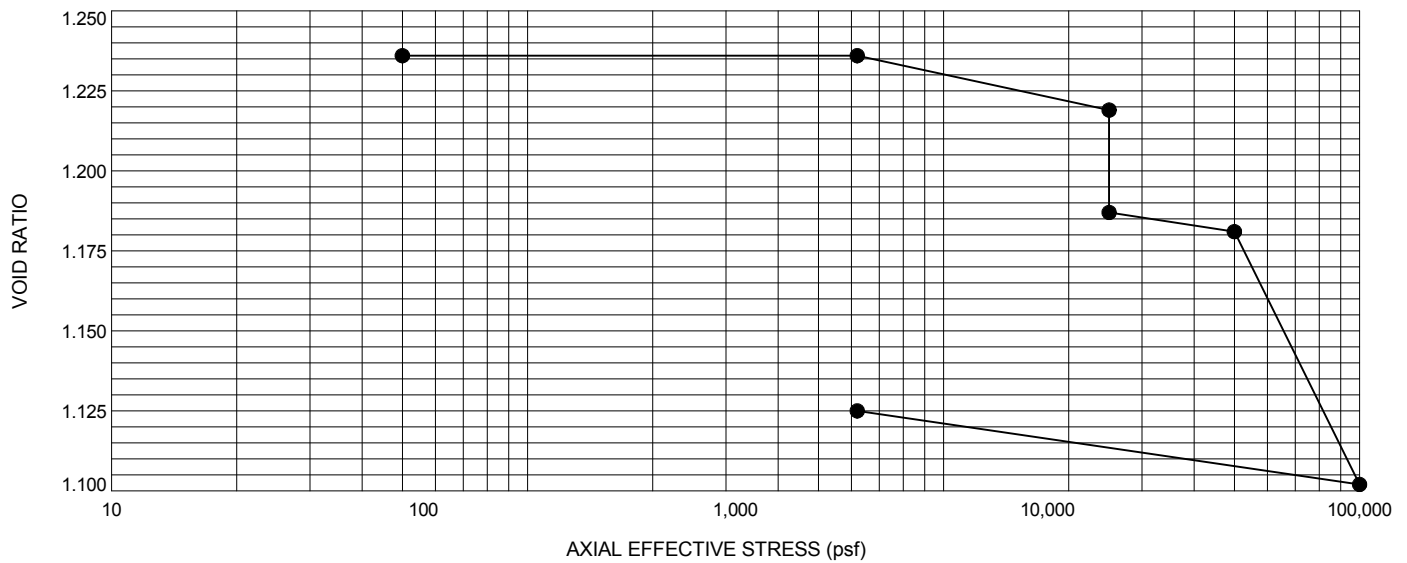
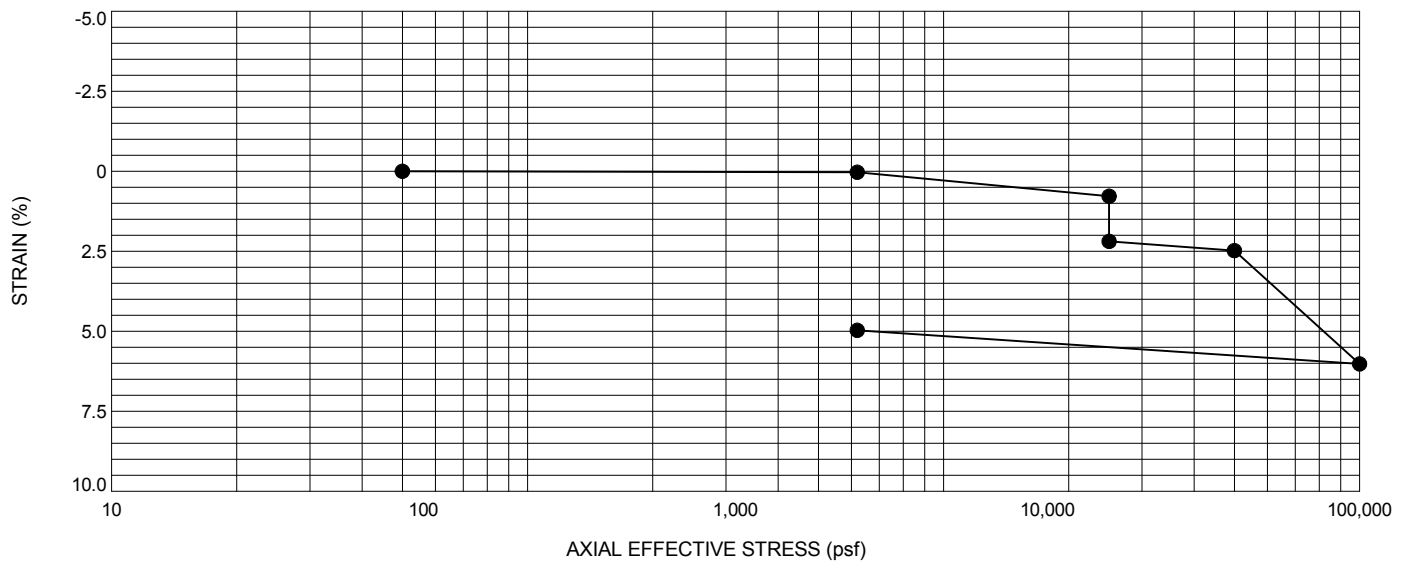
### ONE DIMENSIONAL CONSOLIDATION TEST

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 2020 Development Project  
 Merced, California

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Exploration ID		Depth (ft.)		Sample Description									
B-32		25		SANDY SILT									
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	25.4	37.4	73.9	101.5	80.2	1.236	2.65	NM	NM	NM	NM
Final	Intact	50.8	24.1	42.7	73.9	105.5	91.5	1.125	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



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 DATE: 8/28/2014  
 REVISED: 8/19/2014

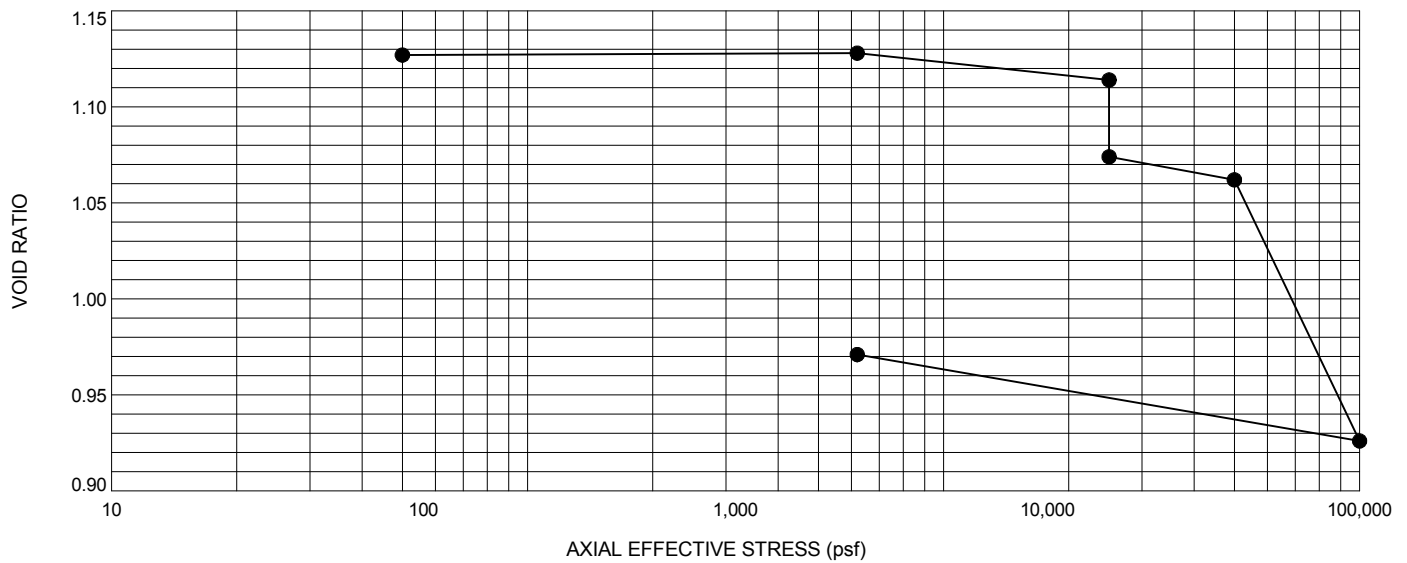
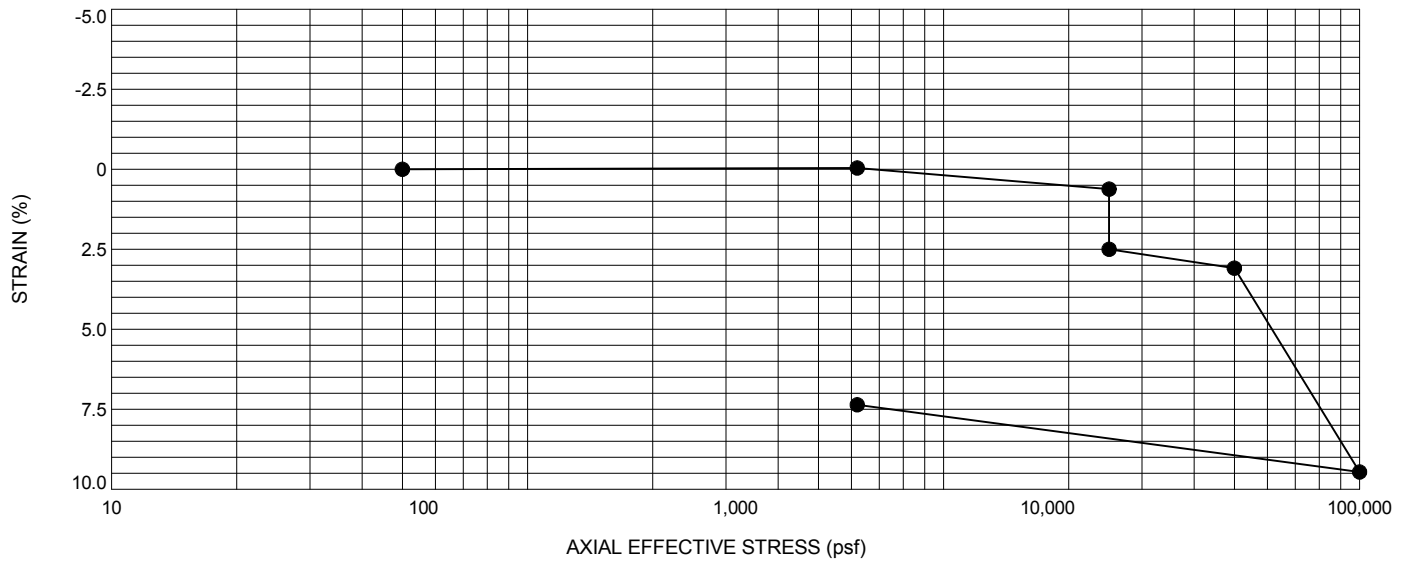
### ONE DIMENSIONAL CONSOLIDATION TEST

University of California, Merced  
 2020 Development Project  
 Merced, California

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Exploration ID		Depth (ft.)	Sample Description										
B-37		30	SANDY LEAN CLAY										
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	25.4	34.9	77.7	104.8	87.9	1.127	2.65	NM	NM	NM	NM
Final	Intact	50.8	23.5	34.9	77.7	104.8	87.9	0.971	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

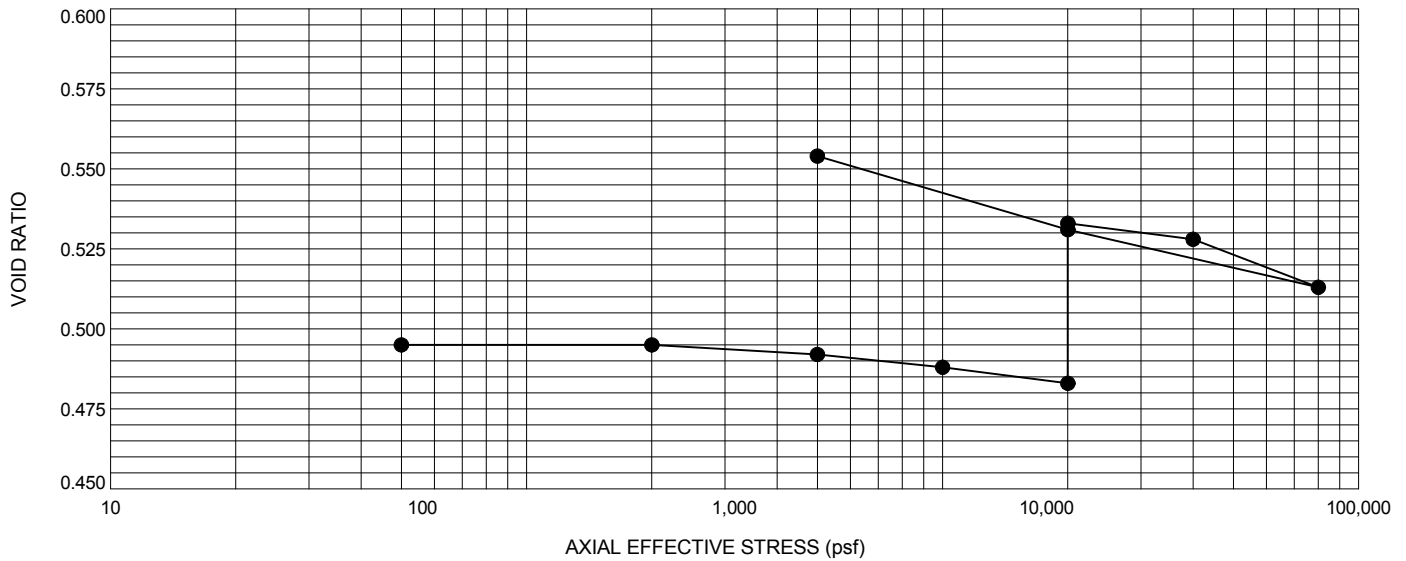
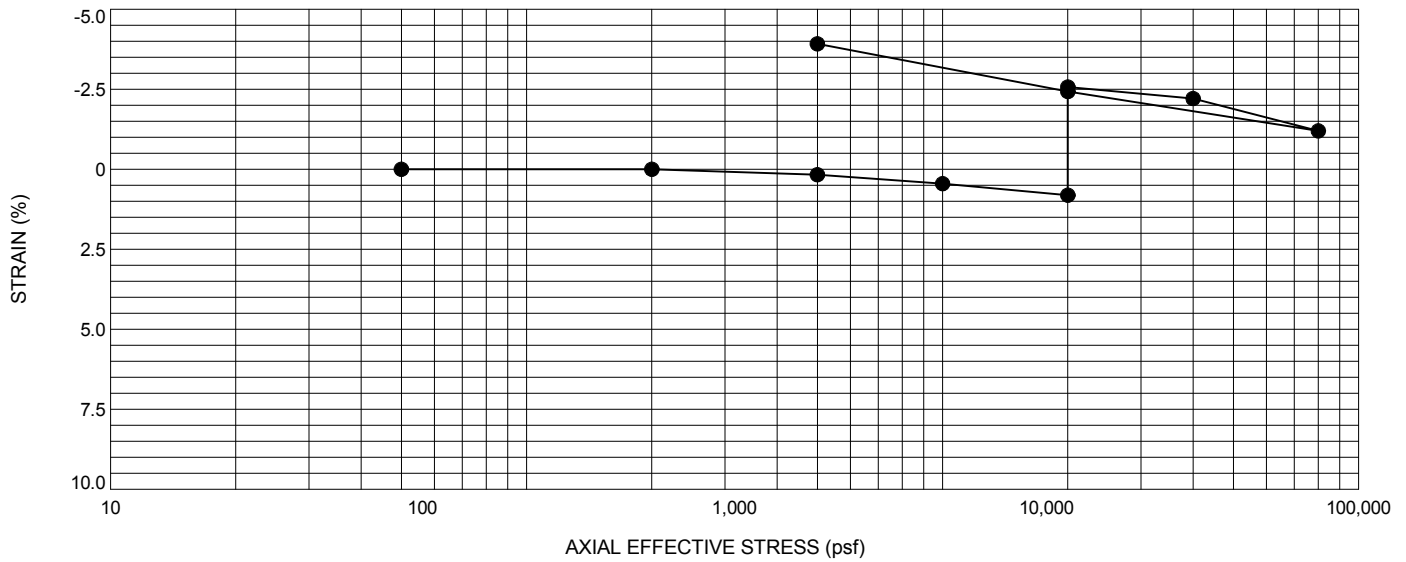
### ONE DIMENSIONAL CONSOLIDATION TEST

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 2020 Development Project  
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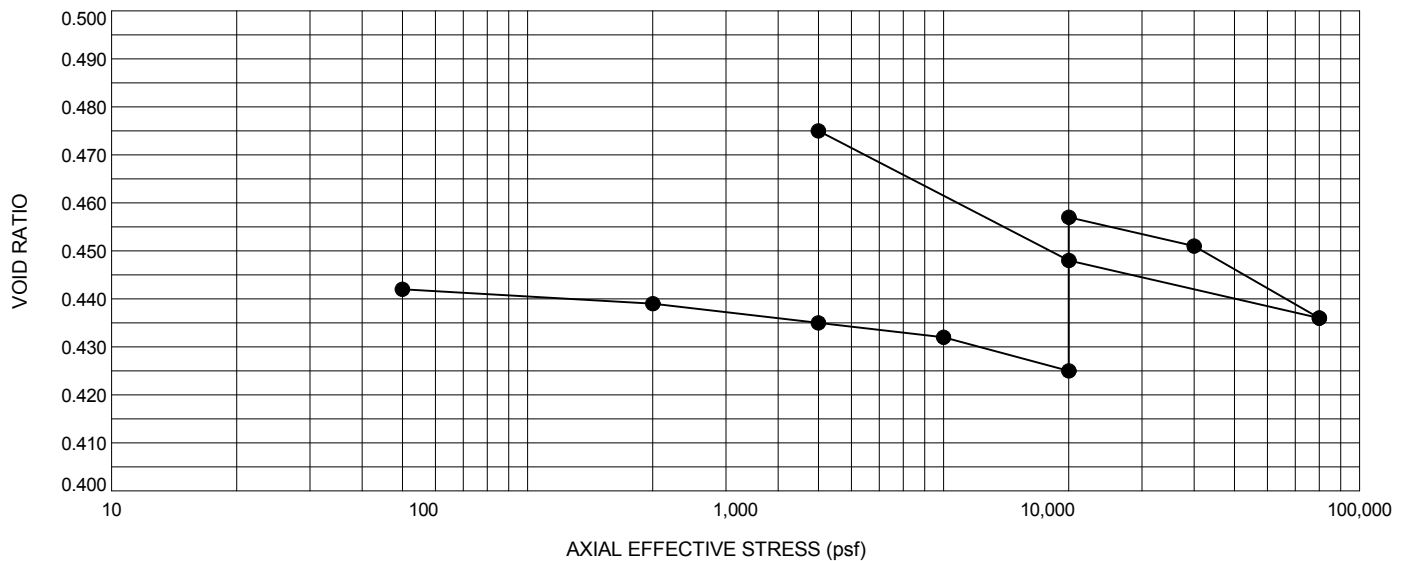
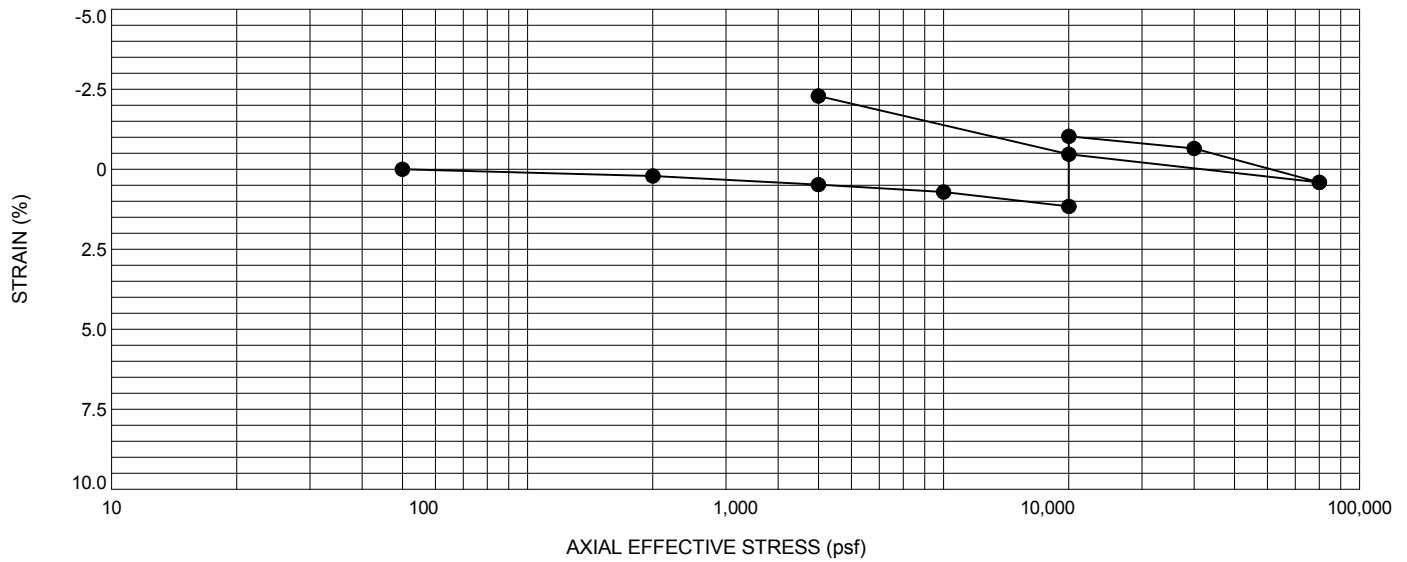


Exploration ID		Depth (ft.)	Sample Description										
B-39		5	SANDY FAT CLAY										
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	19.1	15.9	110.7	128.3	85.0	0.495	2.65	NM	NM	NM	NM
Final	Intact	50.8	19.8	20.8	129.1	156.0	100.0	0.554	2.65	NM	NM	NM	NM

**NOTE:** Inundated at 2000 psf

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured

	PROJECT NO.: 20151969	<b>ONE DIMENSIONAL CONSOLIDATION TEST</b>  University of California, Merced 2020 Development Project Merced, California	<b>PLATE</b>  <b>B-46</b>
	DRAWN BY: ZJ  CHECKED BY: MB  DATE: 8/28/2014  REVISED: 8/19/2014		



Exploration ID		Depth (ft.)	Sample Description										
B-39		15	CLAYEY SAND										
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	19.1	14.5	131.4	150.5	87.0	0.442	2.65	NM	NM	NM	NM
Final	Intact	50.8	19.5	18.2	132.7	156.9	102.0	0.475	2.65	NM	NM	NM	NM

**NOTE:** Inundated at 2000 psf

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

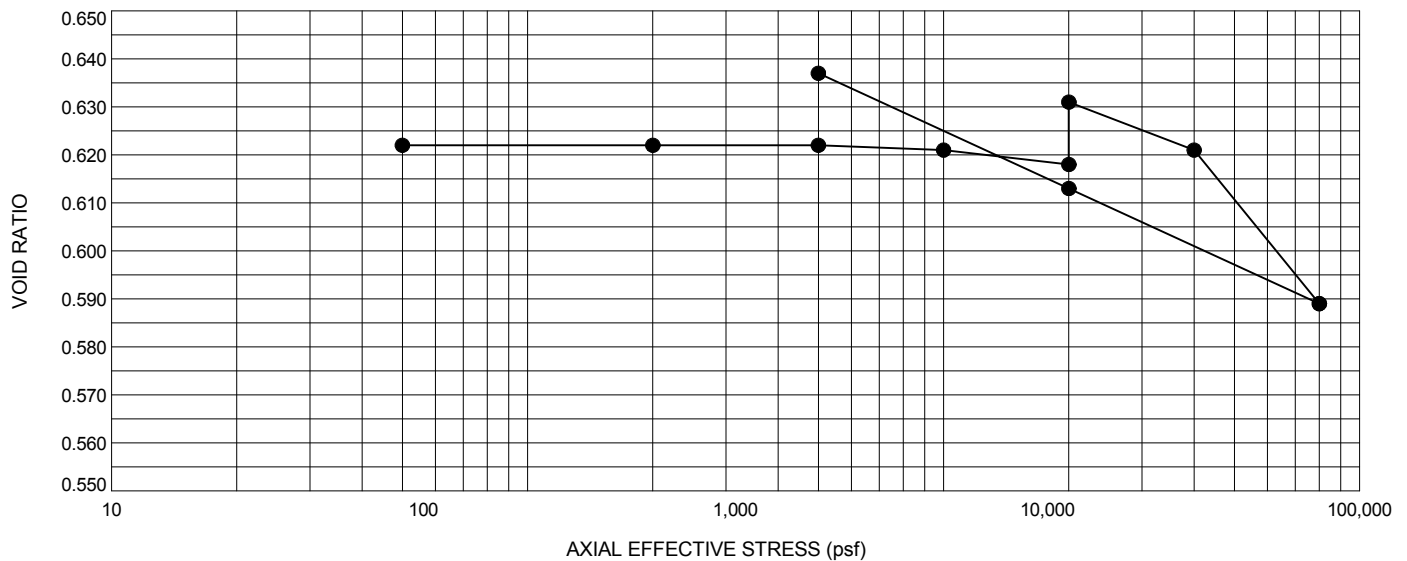
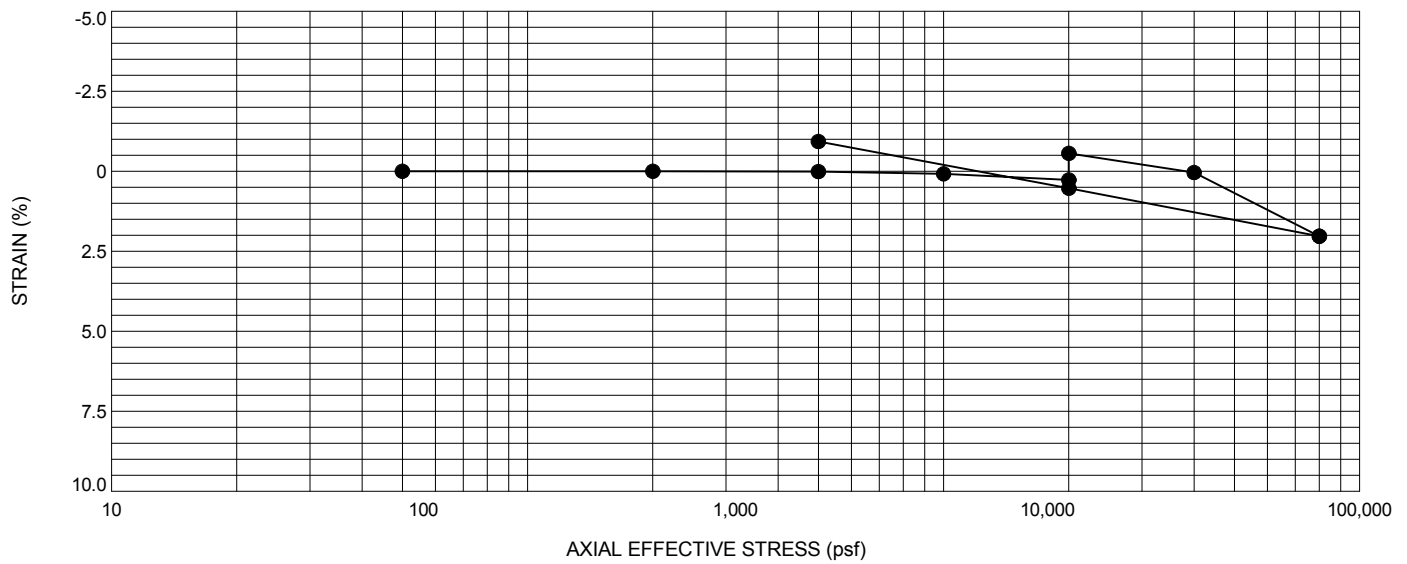
### ONE DIMENSIONAL CONSOLIDATION TEST

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 2020 Development Project  
 Merced, California

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Exploration ID		Depth (ft.)		Sample Description									
B-42		10		LEAN CLAY									
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	19.1	21.1	102.0	123.5	90.0	0.622	2.65	NM	NM	NM	NM
Final	Intact	50.8	19.6	25.1	99.5	124.5	100.0	0.655	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

### ONE DIMENSIONAL CONSOLIDATION TEST

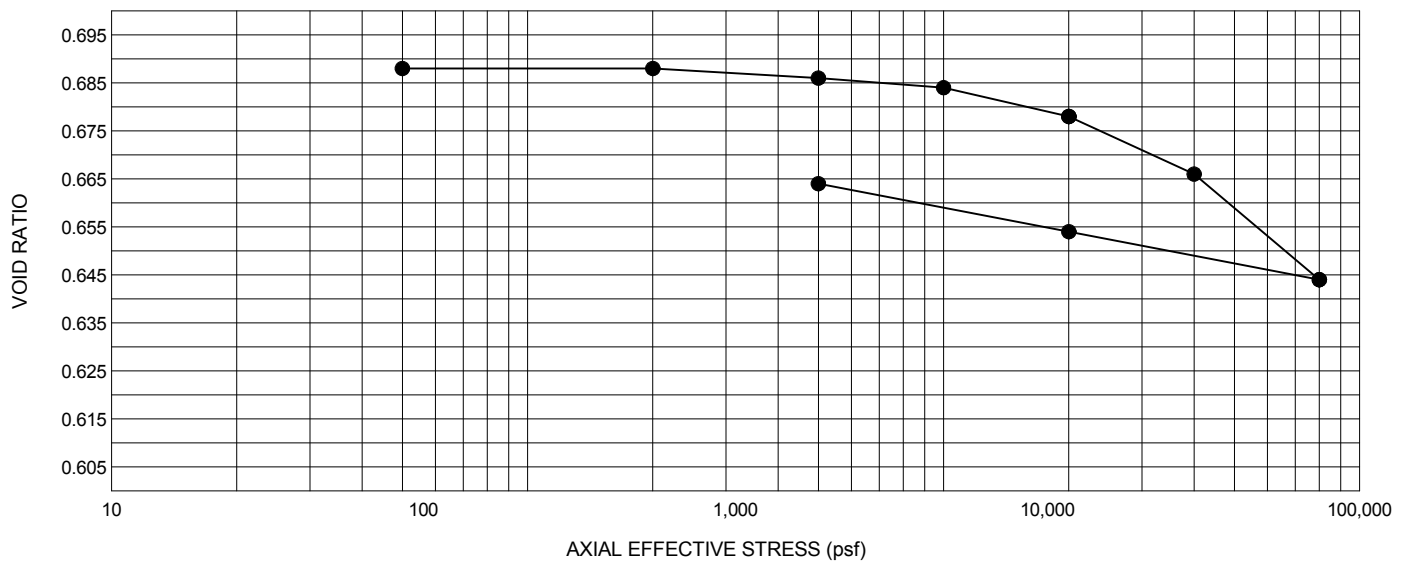
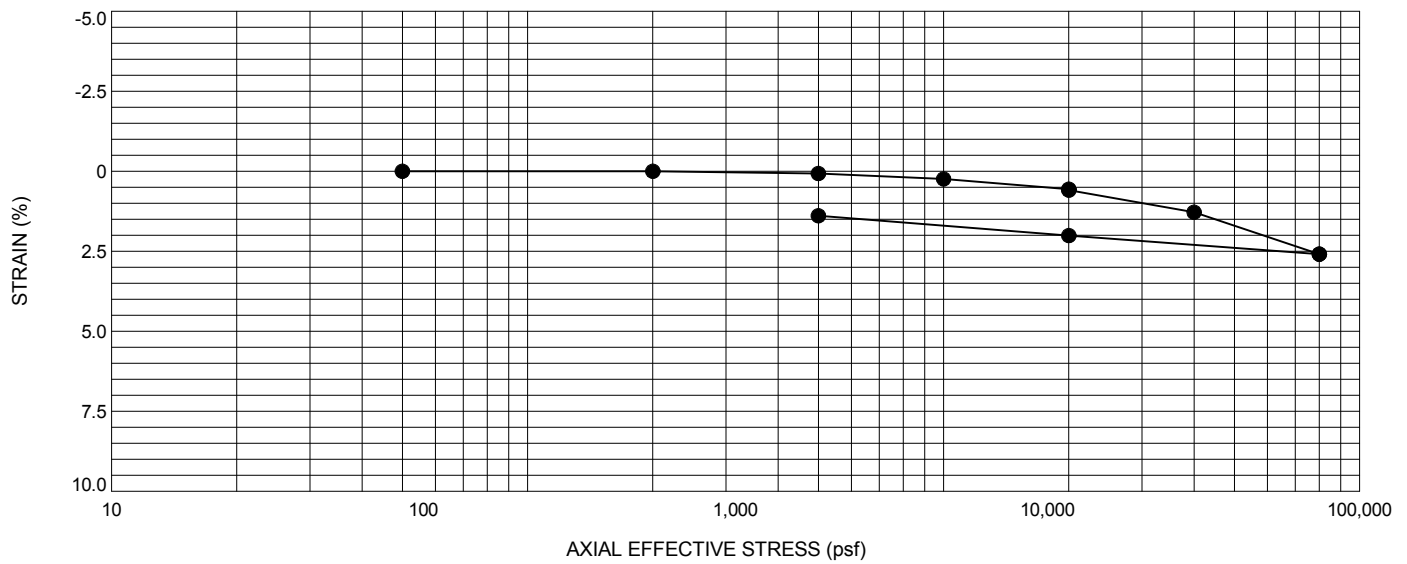
University of California, Merced  
 2020 Development Project  
 Merced, California

PLATE

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Exploration ID		Depth (ft.)		Sample Description									
B-42		30		SANDY LEAN CLAY									
	Sample Condition Type	Sample Diameter (mm)	Height (mm)	Water Content (%)	Dry Unit Wt. (pcf)	Wet Unit Wt. (pcf)	Saturation (%)	Void Ratio	Specific Gravity (Assumed)	Passing #200	LL	PL	PI
Initial	Intact	50.8	19.1	22.2	98.0	119.8	86.0	0.688	2.65	NM	NM	NM	NM
Final	Intact	50.8	18.8	24.9	99.5	124.3	99.0	0.664	2.65	NM	NM	NM	NM

Testing performed in general accordance with ASTM D2435 Method A.  
 NP = Nonplastic  
 NM = Not Measured



PROJECT NO.: 20151969  
 DRAWN BY: ZJ  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

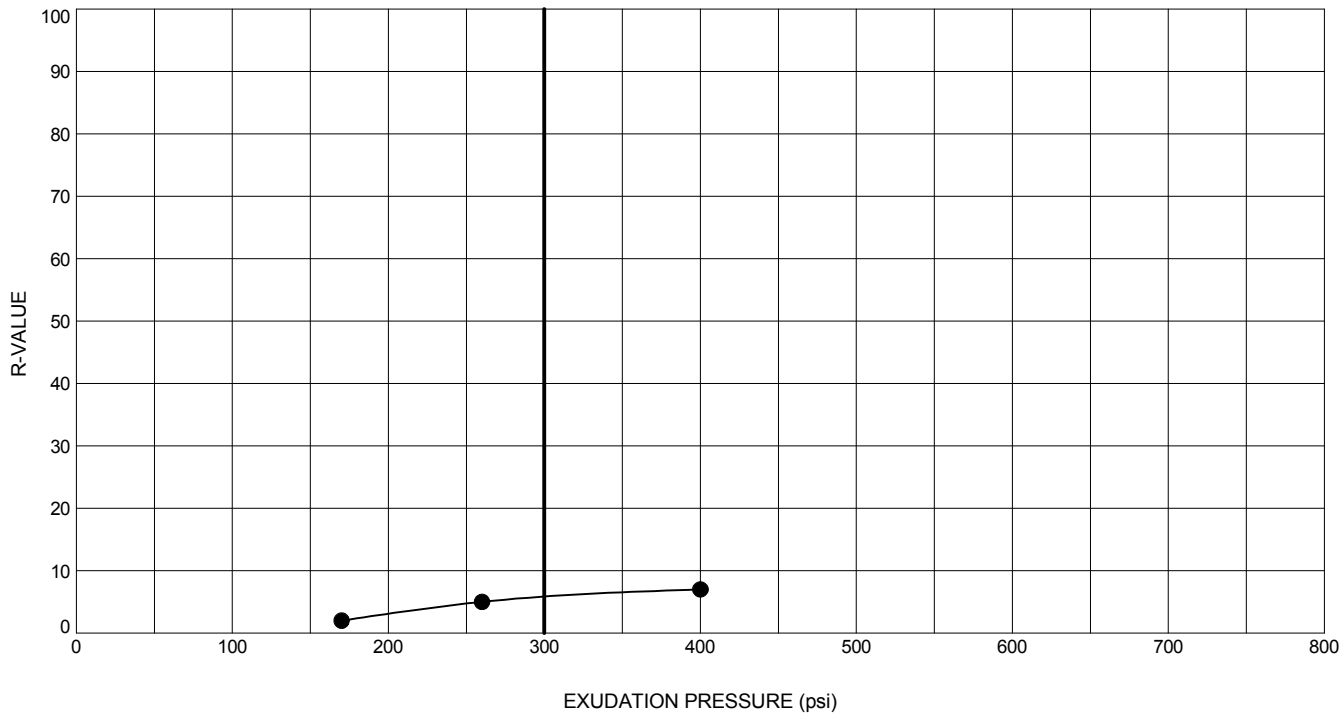
### ONE DIMENSIONAL CONSOLIDATION TEST

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 2020 Development Project  
 Merced, California

PLATE

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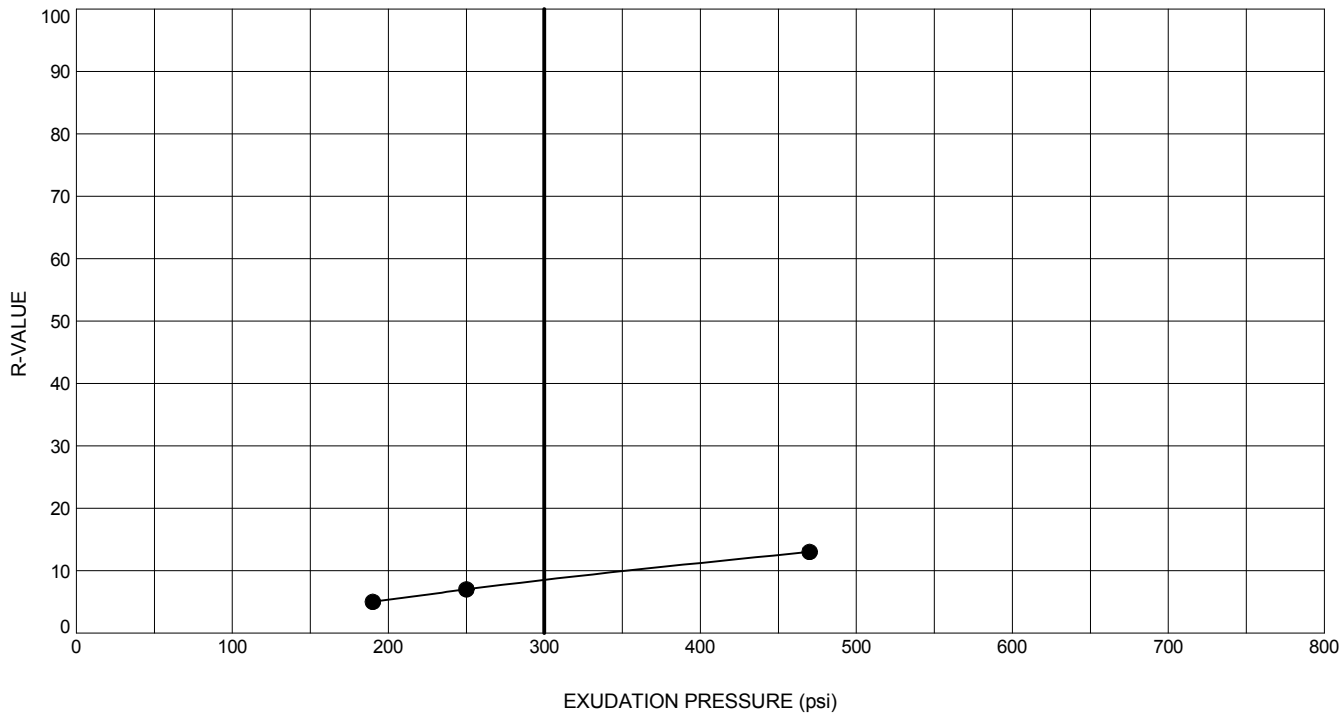
PAGE: 1 of 2



Exploration ID	Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-8	0 - 5	SANDY SILT			6
Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	19.1	103.9	0	170	2
2	16.4	109.0	0	260	5
3	15.0	113.2	65	400	7

Testing performed in general accordance with ASTM D2844.

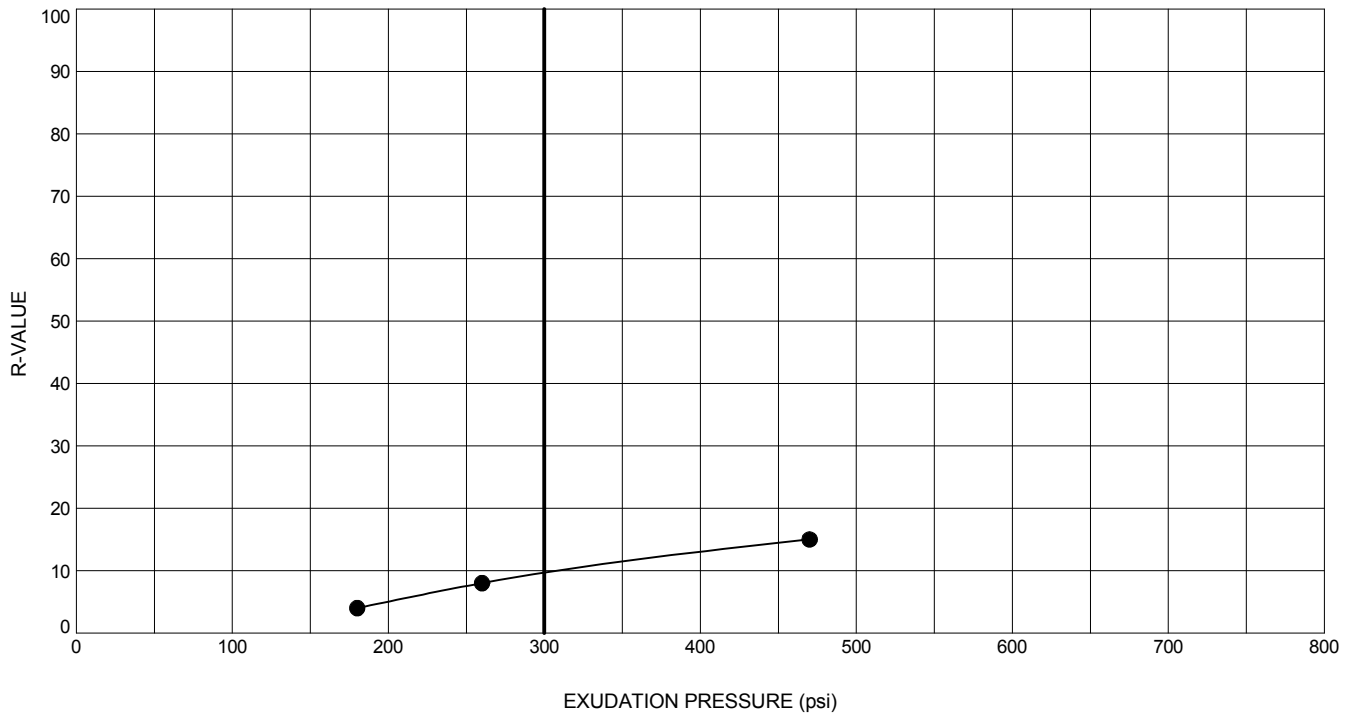
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	DRAWN BY: ZJ CHECKED BY: MB DATE: 8/28/2014 REVISED: 8/19/2014		



Exploration ID	Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-18	0 - 5	SANDY LEAN CLAY			8
Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	14.5	115.9	0	250	7
2	15.8	112.4	0	190	5
3	13.1	116.4	0	470	13

Testing performed in general accordance with ASTM D2844.

	PROJECT NO.: 20151969	<b>R-VALUE</b>  University of California, Merced 2020 Development Project Merced, California	<b>PLATE</b>  <b>B-51</b>
	DRAWN BY: ZJ CHECKED BY: MB DATE: 8/28/2014 REVISED: 8/19/2014		



Exploration ID	Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-20	0 - 5	CLAYEY SAND WITH GRAVEL			11
Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	15.5	110.9	52	180	4
2	13.3	116.8	69	260	8
3	11.2	118.3	95	470	15

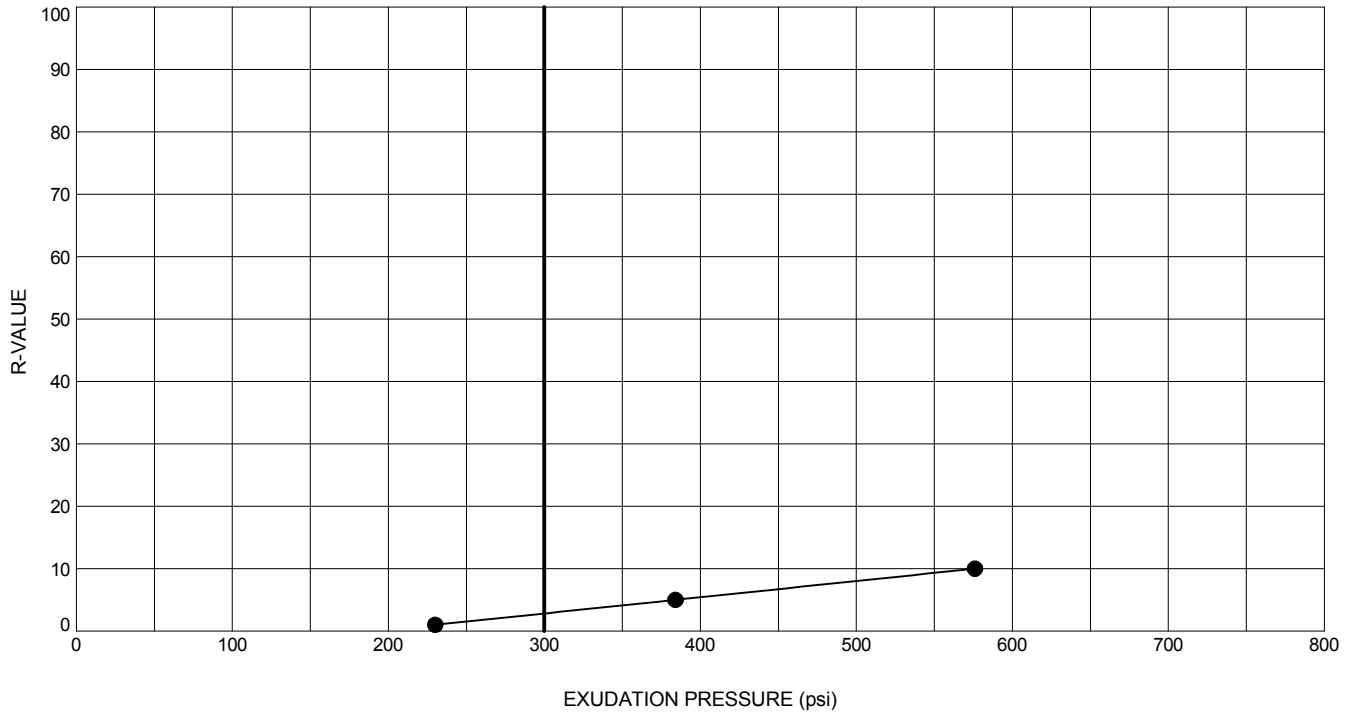
Testing performed in general accordance with ASTM D2844.



PROJECT NO.: 20151969  
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 DATE: 8/28/2014  
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**R-VALUE**  
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 Merced, California

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**B-52**



Exploration ID	Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-22	0 - 5	SANDY LEAN CLAY			R<5
Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	15.8	114.4	126	576	10
2	17.6	110.2	113	384	5
3	19.4	106.1	91	230	1

Testing performed in general accordance with ASTM D2844.



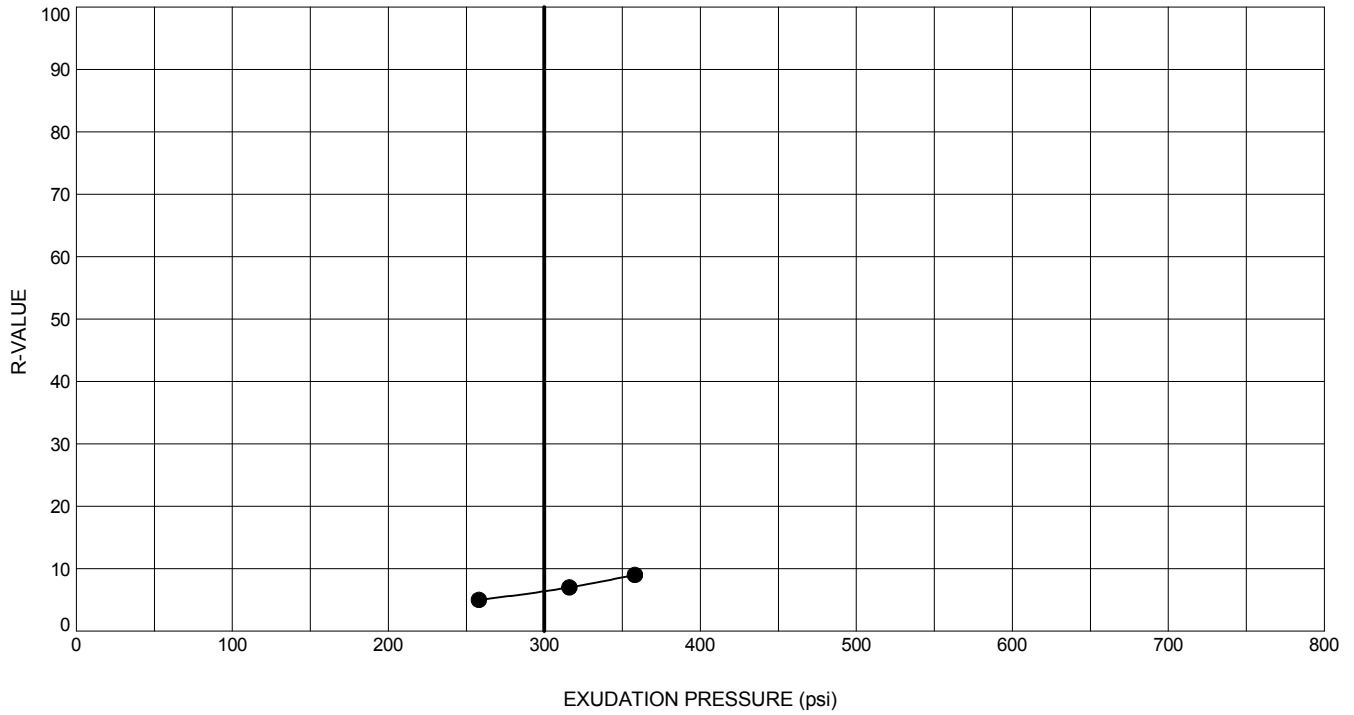
PROJECT NO.: 20151969  
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 DATE: 8/28/2014  
 REVISED: 8/19/2014

R-VALUE

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 Merced, California


PLATE

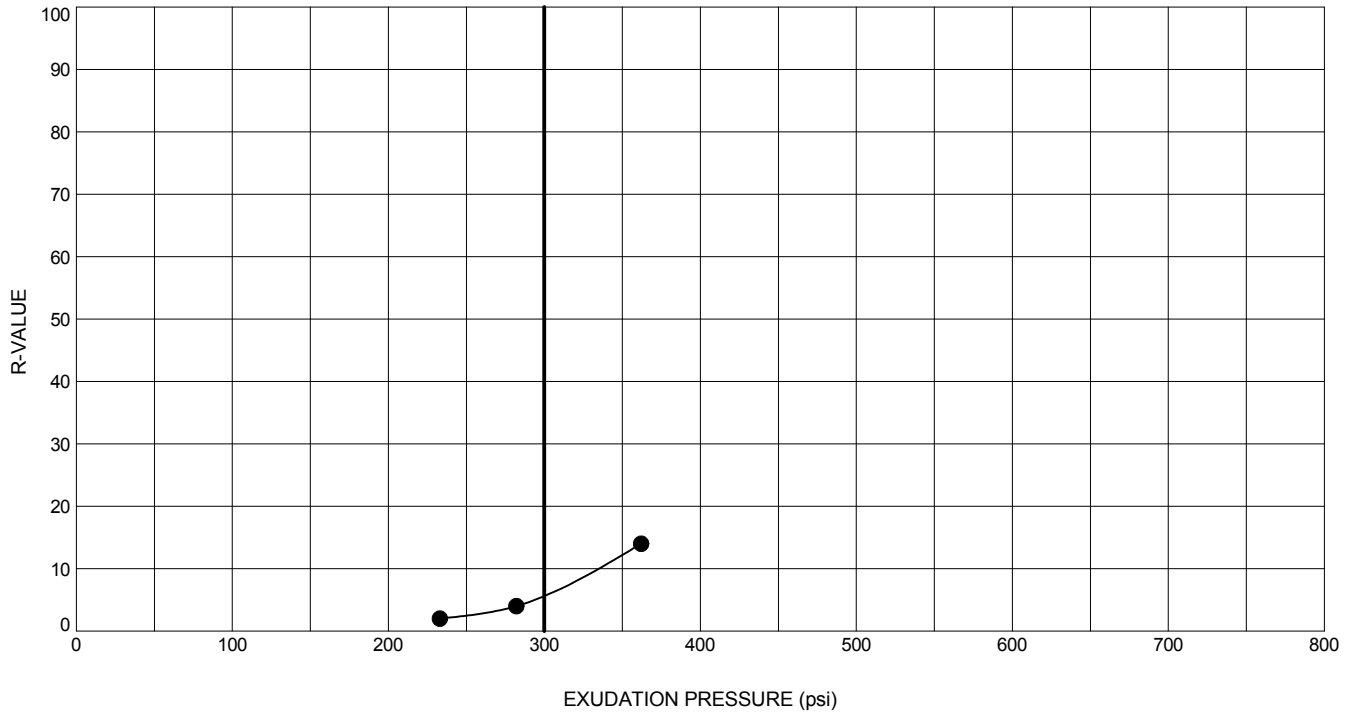
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Exploration ID	Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-30	1 - 5	CLAYEY SAND			6
Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	17.2	113.6	39	316	7
2	18.1	112.5	22	258	5
3	16.3	115.5	78	358	9


Testing performed in general accordance with ASTM D2844.

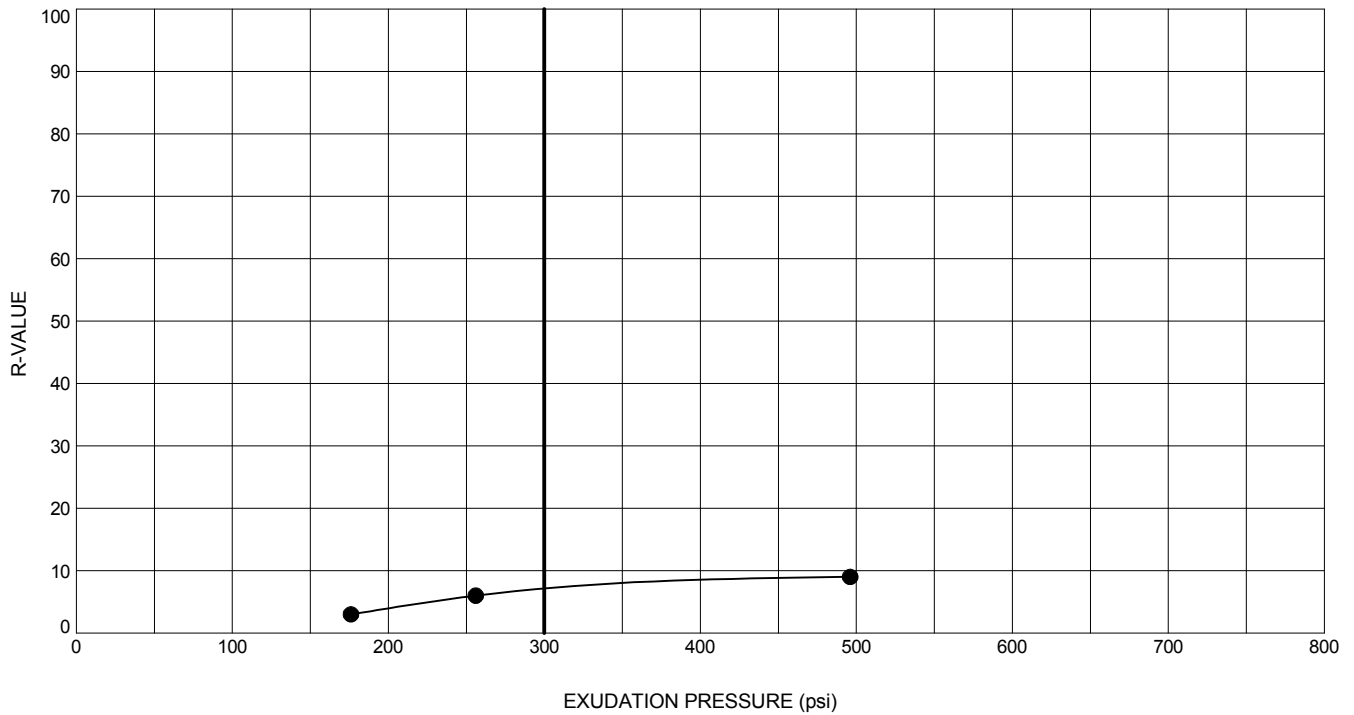
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	DRAWN BY: ZJ CHECKED BY: MB DATE: 8/28/2014 REVISED: 8/19/2014		



Exploration ID	Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-32	0 - 5	CLAYEY SAND WITH GRAVEL			5
Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	14.2	116.3	69	233	2
2	12.5	121.2	91	282	4
3	10.7	124.7	126	362	14


Testing performed in general accordance with ASTM D2844.

	PROJECT NO.: 20151969	R-VALUE	PLATE
	DRAWN BY: ZJ		
	CHECKED BY: MB	University of California, Merced 2020 Development Project Merced, California	B-55
	DATE: 8/28/2014		
	REVISED: 8/19/2014		

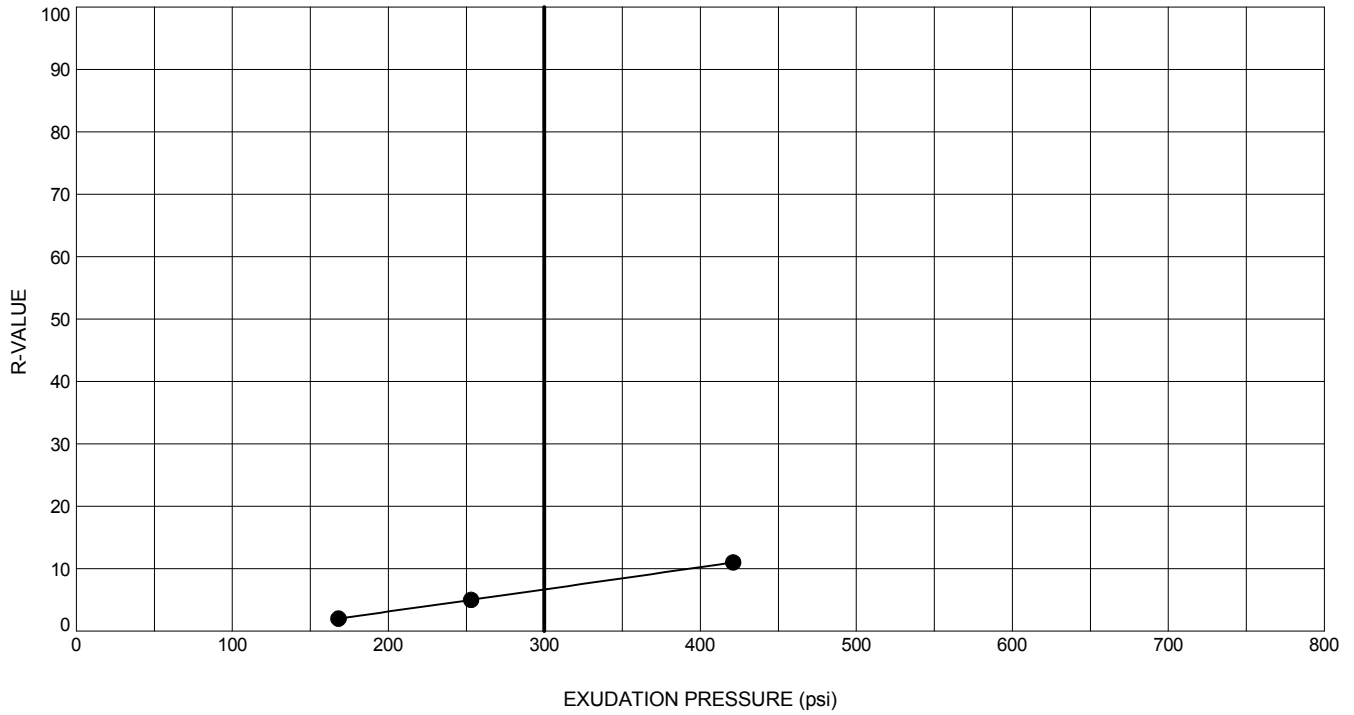


Exploration ID	Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-34	0 - 5	CLAYEY SAND WITH GRAVEL			7
Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	20.5	102.6	39	176	3
2	18.6	106.6	48	256	6
3	17.3	109.0	65	496	9

Testing performed in general accordance with ASTM D2844.

	PROJECT NO.: 20151969	<b>R-VALUE</b>  University of California, Merced 2020 Development Project Merced, California	<b>PLATE</b>  <b>B-56</b>
	DRAWN BY: ZJ CHECKED BY: MB DATE: 8/28/2014 REVISED: 8/19/2014		





Exploration ID	Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-36	0 - 5	CLAYEY SAND WITH GRAVEL			6
Specimen No.	Moisture at Time of Test (%)	Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	14.2	116.4	364	168	2
2	12.5	121.3	411	253	5
3	10.7	125.7	476	421	11

Testing performed in general accordance with ASTM D2844.



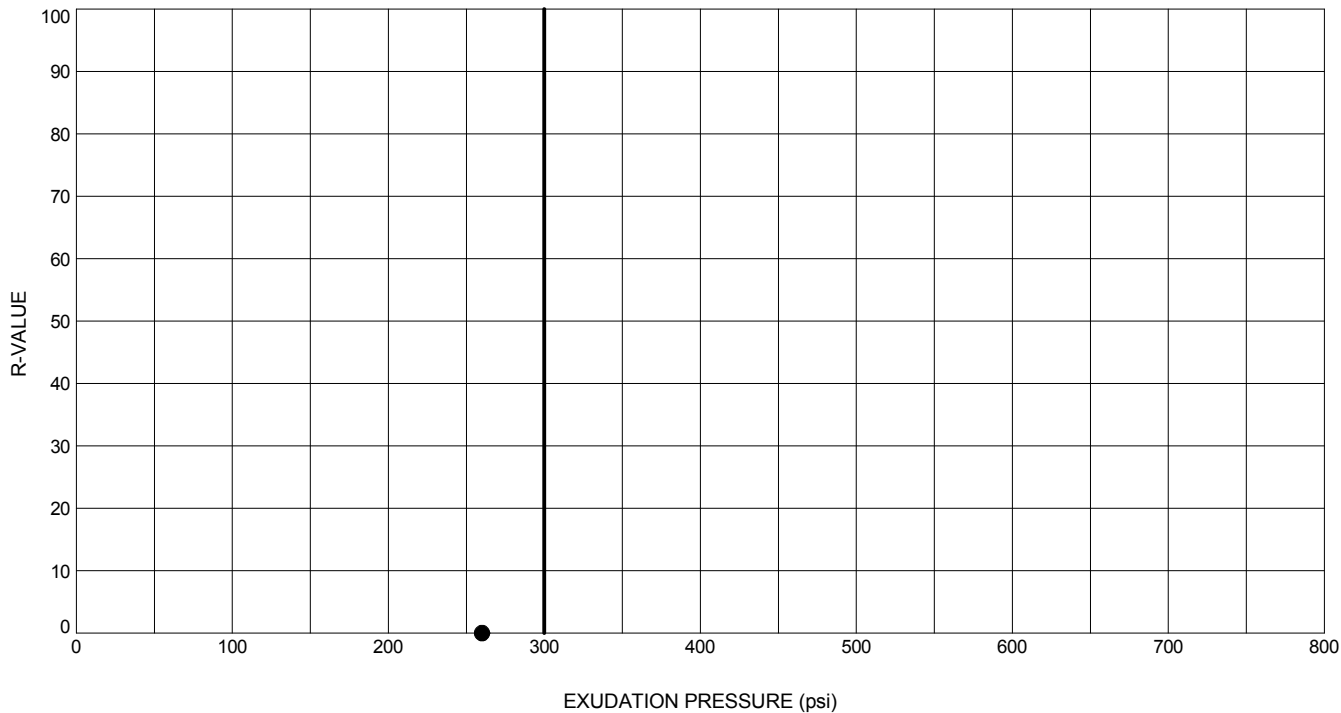
PROJECT NO.: 20151969  
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 CHECKED BY: MB  
 DATE: 8/28/2014  
 REVISED: 8/19/2014

R-VALUE

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 2020 Development Project  
 Merced, California

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Exploration ID		Depth (ft.)	Sample Description			R-Value @ 300 psi Exudation Pressure
B-40		0 - 5	SANDY LEAN CLAY			R<5
Specimen No.	Moisture at Time of Test (%)		Dry Unit Weight (pcf)	Expansion Pressure (psi)	Exudation Pressure (psi)	Corrected Resistance Value
1	22.1		99.2	48	260	0
2						
3						

**NOTE:** Sample extruded, R-Value less than 5

Testing performed in general accordance with ASTM D2844.



PROJECT NO.: 20151969  
DRAWN BY: ZJ  
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DATE: 8/28/2014  
REVISED: 8/19/2014

**R-VALUE**

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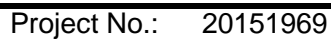
PLATE

**B-58**

Location: TP-1 @ 3.5 feet

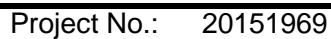
The graph illustrates the relationship between the elapsed time and the infiltration rate. The y-axis, labeled 'INFILTRATION RATE (MINUTES/INCH)', ranges from 1100.00 to 1240.00. The x-axis, labeled 'ELAPSED TIME (HOURS)', ranges from 0 to 5. The data points are connected by a solid blue line, showing a significant decrease in the infiltration rate between the first and second hours, followed by a period of stability.

Elapsed Time (Hours)	Infiltration Rate (minutes/inch)
1	1233
2	1110
3	1110
4	1110



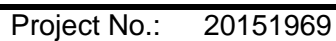
Location: TP-2 @ 0.5 foot

Elapsed Time (hours)	Infiltration Rate (minutes/inch)
1	482.5
2	462.5
3	427
4	504



Location: TP-3 @ 3 feet

Elapsed Time (Hours)	Infiltration Rate (Minutes/Inch)
0.5	80.00
1.0	37.00
1.5	41.00
2.0	32.00
2.5	29.00
3.0	33.00
3.5	46.00
4.0	46.00
4.5	45.00



Location: TP-4 @ 3 feet

The graph displays the relationship between the elapsed time in hours and the infiltration rate in minutes per inch. The x-axis represents 'ELAPSED TIME (HOURS)' from 0 to 5, and the y-axis represents 'INFILTRATION RATE (MINUTES/INCH)' from 1100.00 to 1180.00. The data points are connected by a solid blue line, showing a constant rate of 1110.00 minutes/inch for the first 3 hours, followed by a sharp increase to approximately 1168.50 minutes/inch at 4 hours.

Elapsed Time (Hours)	Infiltration Rate (Minutes/Inch)
1	1110.00
2	1110.00
3	1110.00
4	1168.50

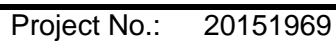


Project No.: 20151969

Location: TP-5 @ 7 feet

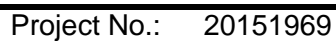
A line graph showing the relationship between Infiltration Rate (minutes/inch) and Elapsed Time (hours) for a 100% water content soil. The x-axis represents Elapsed Time (hours) from 0 to 5, and the y-axis represents Infiltration Rate (minutes/inch) from 1100.00 to 1240.00. The data points are connected by a blue line, showing a sharp increase in infiltration rate between 1 and 3 hours, followed by a constant rate at 4 hours.

Elapsed Time (hours)	Infiltration Rate (minutes/inch)
1	1110.00
2	1168.33
3	1233.33
4	1233.33



Location: TP-6 @ 0.5 foot

Elapsed Time (hours)	Infiltration Rate (minutes/inch)
1	1387
2	1387
3	1233
4	1233





Location: TP-7 @ 3 feet

The graph illustrates the infiltration rate over a five-hour period. The y-axis, labeled 'INFILTRATION RATE (MINUTES/INCH)', ranges from 0.00 to 1200.00 in increments of 200.00. The x-axis, labeled 'ELAPSED TIME (HOURS)', ranges from 0 to 6 in increments of 1. The data points are as follows:

Elapsed Time (Hours)	Infiltration Rate (Minutes/Inch)
1	0.00
2	0.00
3	1100.00
4	1100.00
5	1100.00



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Location: TP-8 @ 0.5 foot

A line graph with 'ELAPSED TIME (HOURS)' on the x-axis and 'INFILTRATION RATE (MINUTES/INCH)' on the y-axis. The x-axis ranges from 0 to 5 with major ticks every 1 unit. The y-axis ranges from 175.00 to 200.00 with major ticks every 5.00 units. A blue line connects four data points marked with blue diamonds. The data points are approximately (1, 176.2), (2, 182.0), (3, 194.8), and (4, 188.2).

Elapsed Time (Hours)	Infiltration Rate (minutes/inch)
1	176.2
2	182.0
3	194.8
4	188.2



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Location: TP-9 @ 0.5 foot

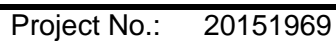
Elapsed Time (hours)	Infiltration Rate (minutes/inch)
1	129.05
2	126.15
3	130.58
4	130.58



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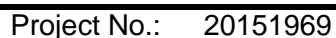
Location: TP-10 @ 5 foot

Elapsed Time (Hours)	Infiltration Rate (Minutes/Inch)
1	0.00
2	855.00
3	925.00
4	925.00



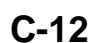
Location: TP-11 @ 3 foot

Elapsed Time (Hours)	Infiltration Rate (Minutes/Inch)
1	0.00
2	925.00
3	1010.00
4	925.00
5	1010.00



Location: TP-12 @ 6 feet

Elapsed Time (hours)	Infiltration Rate (minutes/inch)
1	0
2	1300
3	1230
4	1390
5	1230



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## **APPENDIX 27**

### **OWNER'S COMPETITIVE BIDDING POLICIES AND PROCEDURES**

#### **1. California Public Contract Code-related Requirements**

- a. Developer shall comply with California Public Contract Code Sections 10500-10506, provided that Section 10503(e) thereof shall not apply.
- b. Developer shall comply with Volume 5, Chapter 1 ("Methods of Contractor Selection") of the University of California Facilities Manual, found at <http://www.ucop.edu/construction-services/facilities-manual/volume-5/vol-5-chapter-1.html#1-1>, provided that Section 1.6 ("Best Value Contractor Selection") thereof shall not apply.
- c. The cost-plus fee mode of contracting under California Public Contract Code Section 10503(d) may only be used for emergency repair work.

#### **2. Required Documentation**

- a. At the conclusion of every competitive bid, whether formal or informal, Developer shall submit to the Owner a Bid Outlay Report, which shall include, at a minimum, the following information:
  - i. Brief description of work being bid
  - ii. Type of competitive bid
  - iii. Mode of contracting
  - iv. Date of bid solicitation
  - v. Firm name of each bidder
  - vi. Qualification status of each bidder
  - vii. Bid amount of each bidder
  - viii. Date of bid results posting
  - ix. Date of end of bid protest period
  - x. If applicable, description of any bid protests received and their respective resolution
  - xi. Outreach log noting each contractor Developer invited to bid during the bid solicitation period
- b. If applicable, Developer shall submit to the Owner a list of prequalified mechanical, electrical and plumbing subcontractors in accordance with Section 1.2 ("Informal Competitive Bidding Procedures") of Volume 5, Chapter 1, of the University of California Facilities Manual, found at <http://www.ucop.edu/construction-services/facilities-manual/volume-5/vol-5-chapter-1.html#1-2>. Developer shall submit the list to the Owner at the conclusion of the informal competitive bid process.