STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
REQUEST FOR QUALIFICATIONS NOTICE
NUMBER 11A3056

Read carefully as the following revisions have been made to this document:

- On 2/26/19, Section I, General Information, Paragraph F, regarding fee and escalation was revised.
- On 10/2/18, Section I, General Information, Paragraph E, regarding financial documents was revised.

Note: Questions concerning this Request for Qualifications (RFQ) must be submitted in writing to the attention of Patricia Nichols at Patricia.Nichols@dot.ca.gov. Questions must be received no later than 10 calendar days after RFQ advertisement. Consultants contacting the District or Division directly seeking information about this RFQ will be disqualified from consideration in the selection process.

Proposers are advised that Caltrans has established a federally mandated overall annual DBE goal comprising both race neutral and race conscious elements to ensure equal participation of DBE groups specified in 49 CFR 26.5. In compliance with 49 CFR 26, Caltrans set a contract goal for DBEs participating in this solicitation expressed as a percentage of the total dollar value of the resultant Agreement. The DBE participation goal for this solicitation is 18 percent (18%). See section I.H. in this RFQ for requirements.

I. GENERAL INFORMATION

A. Caltrans is soliciting Statements of Qualifications (SOQs) from qualified firms that may lead to the award of a contract for Construction Management/Engineering/Inspection, Materials Sampling and Testing, and Surveying Services. In submitting your Statement of Qualifications (SOQ), you shall comply with the instructions found herein. In addition to those programs that are specified in this solicitation, prospective consultants are encouraged to consider programs that are available, such as those for the use of small businesses, disadvantaged businesses, disabled veteran businesses, new emerging firms, and other businesses covered by State and Federal programs.
B. The estimated contract amount is $5,200,000.00 - $8,450,000.00.

C. The estimated contract term is three (3) years.

D. Interviews will be held in San Diego on March 25, 2020. Confirmation letters will be sent to those firms short-listed.

E. The most highly qualified consulting firm will be required to submit an electronic copy of the financial documents listed on the appropriate Financial Documents Submittal Checklist available on the A&E Contract Information website. The most highly qualified consulting firm will be notified of their selection and receive instructions for the electronic submission financial documents. The most highly qualified consulting firm must submit a complete financial documents package no later than four (4) days after notification of selection. The prime consultant must submit the complete financial documents package in order for Caltrans to have the information necessary to engage in negotiations. The prime consultant is solely responsible for timely and complete submission of financial documents on behalf of the entire proposed team; financial documents will not be accepted from proposed subconsultant firms. Failure to submit a complete financial documents package by the specified due date may result in termination of negotiations with the most highly qualified consulting firm.

F. Negotiations will be held with the top-ranked firm in San Diego during the week of March 30, 2020. The fee for profit shall be 10.3 percent, and the escalation shall be as follows:

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<thead>
<tr>
<th>Period</th>
<th>Escalation</th>
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<tbody>
<tr>
<td>2/14/2020 - 2/13/2021</td>
<td>0%</td>
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<tr>
<td>2/14/2021 - 2/13/2022</td>
<td>1.5%</td>
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<tr>
<td>2/14/2022 - 2/13/2023</td>
<td>3.0%</td>
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<tr>
<td>2/14/2023 - 6/30/2023</td>
<td>3.0%</td>
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Notes:
1. Partial year will only occur on the last year of the contract term. All other periods are full years.
2. Increases to the loaded billing rates after contract execution is not authorized for any reason per Article IV, Section 17 and Article XVI, Section 6 of the California Constitution.

G. The scheduled date to complete cost negotiations and submit final cost proposal is April 6, 2020.
H. Disadvantaged Business Enterprise Program

1. This solicitation and resultant Agreement are financed in whole or in part with federal funds and therefore subject to Title 49, Code of Federal Regulations, Part 26 (49 CFR 26) entitled "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs." To ensure equal participation for Disadvantaged Business Enterprise (DBE) groups specified in 49 CFR 26.5, Caltrans specifies a contract goal for DBE participation. The required goal for DBE participation in this solicitation is not less than 18 percent.

2. Only participation by certified DBEs will count toward the contract goal for this solicitation. In order to count toward a contract goal, a firm must be certified as a DBE by the California Unified Certification Program (CUCP) and possess the work codes applicable to the type of work the firm will perform on the Agreement by the SOQ submittal due date. For a list of work codes, go to Caltrans Office of Business and Economic Opportunity website.

3. It is the proposer’s responsibility to verify that the DBE firm is certified as a DBE by the specified SOQ submittal due date and time. For a list of DBEs certified by the CUCP, go to Caltrans Office of Business and Economic Opportunity website.

4. A DBE must perform a commercially useful function (CUF) for the type of work it will perform on the Agreement as provided in 49 CFR 26.55(c)(1)-(4). A DBE performs a CUF when it is responsible for the execution of a distinct element of the work of the Agreement and is carrying out its responsibilities by actually performing, managing, and supervising the work involved.

5. See “Statement of Qualifications Submittal Instructions and General Contract Process Information” for detailed information and references to the required forms. Required forms will be made a part of the Agreement. Failure to meet the DBE goal or Good Faith Effort requirements and provide required DBE participation at due date and time of SOQ submittal may result in the SOQ submittal being rejected as non-responsive.

I. Federal and/or State prevailing wage rates may apply. This requirement, if applicable, will be specified in the draft Agreement. See SOQ Submittal Instructions, Section I., H. regarding the California Department of Industrial Relations (DIR) Consultant/Contractor Registration Program on the A&E Contract Information website.

J. Caltrans does not guarantee, either expressly or by implication, that any work or services will be required under any contract issued as a result of this RFQ.
K. A Pre-award or Post-award Audit will be performed on any contract issued as a result of this RFQ.

L. Contract boilerplate can be obtained on the A&E Contract Information website.

II. SCOPE OF WORK/DELIVERABLES

The work to be performed for this RFQ is described in the Scope of Work/Deliverables and is hereby incorporated as Attachment 1.

III. CONFLICT OF INTEREST

A. Conflicts of interest may occur due to direct or indirect financial or business interests in the work to be performed or in any real property acquired for such project. Conflicts of interest can include, but are not limited to, past, existing or planned activities or because of relationships with other persons or firms. If there is a conflict of interest, the proposed team, including both the prime consultants and subconsultants, and individual employees of team members would actually or potentially be unable to render impartial assistance or advice to Caltrans. The proposer’s objectivity or availability in performing the contract work may be impaired due to actual or potential conflicts of interest.

B. If the proposed team determines that any actual or potential conflicts of interest exists, it must identify and describe in detail each conflict of interest to Caltrans, using the Disclosure of Potential Conflict of Interest Form, which can be found on the Caltrans A&E Contract Information website. Along with the description of the actual or potential conflicts of interest, the proposed team shall also offer measures to avoid, neutralize, or mitigate all listed conflicts. The list of conflicts, including conflicts that apply to individuals as well as firms, and the mitigation measures on the Disclosure of Potential Conflict of Interest Form must be submitted as a separate section in the Statement of Qualifications. Disclosure of information will not disqualify a proposed team from competing for a contract. The existence of actual or potential conflicts of interest will be used as a criterion to evaluate team availability during the evaluation and selection process. Caltrans reserves the right to terminate negotiations with the first selected firm and begin negotiations with the next selected firm or to cancel the procurement prior to execution if Caltrans learns that the selected team failed to disclose any actual or potential conflicts, which it knew or should have known about, or if the proposed team provided or omitted information on the disclosure form that results in the information being false or misleading.
C. After award, conflict of interest guidelines and policies shall continue to be monitored and enforced by the Caltrans Contract Manager. Additional information about Conflict of Interest issues can be found in the SOQ Submittal Instructions and General Contract Process Information document (Section V. Post Government Employment Restrictions and Section VI. Conflict of Interest Concerning Consultant(s)) found on the A&E Contract Information website. The State and Federal contract boilerplates on DPAC’s website also contain information on conflict of interest issues (Exhibit D) and can be found on the A&E Contract Information website.

D. The prime consultant and subconsultants may be proposed on SOQs for other Caltrans A&E on-call contracts; however, the Caltrans Contract Manager may prohibit work on specific project(s) where Caltrans determines that a conflict of interest exists.

IV. SUBMISSION OF STATEMENTS OF QUALIFICATIONS (SOQs)

A. IMPORTANT: Download “Statement of Qualifications Submittal Instructions and General Contract Process Information” from the Procuring A&E Contracts website. Failure to follow these instructions may result in rejection of your SOQs.

B. SOQ Package Submittal Instructions

Read instructions below carefully. You will be required to submit SOQ packages to Sacramento and District 11 (see items 1 and 3 below for required number of copies), as well as an electronic file to Sacramento. See paragraph B.5.

1. One (1) copy of the SOQ containing all the indicated information shall be submitted. Fax copies will not be allowed. SOQs will be accepted until 3:00 p.m. on March 13, 2020, and must be directed to:

State of California Department of Transportation
Administration
Division of Procurement and Contracts, MS 65
1727 30th Street
Sacramento, CA 95816-7006
Attention: Patricia Nichols
Telephone: (916) 227 – 6067
2. If your SOQ package is hand-delivered, you must date and time stamp it immediately upon arrival. The date/time stamp machine is located in the lobby of the first floor to the right of the security guard station at the address noted above. Date/stamp one label for each SOQ package/box submitted. Ask the security guard to call the Division of Procurement and Contracts’ reception desk at (916) 227-6000 to have your SOQ package picked up by Contracts’ staff.

3. Additionally, six (6) copies of the SOQ containing all indicated information shall be submitted to District 11. FAX copies will not be allowed. SOQs will be accepted until 3:00 p.m. on March 13, 2020, and must be directed to:

   State of California
   Department of Transportation
   Surveys & R/W Engineering, MS 313
   4050 Taylor Street
   San Diego, CA 92110
   Attention: Karen Madden
   Telephone: (619) 688 – 6005

4. The SOQs must be submitted in a sealed package labeled as follows:

   - RFQ Number 11A3056
   - Submittal deadline: March 13, 2020
   - “DO NOT OPEN”

5. In addition to the seven (7) copies of the SOQ requested in this section IV “Submission of Statements of Qualifications,” electronic submission of a single unprotected (i.e. not password protected) PDF file of the SOQ is required. The electronic submittal will be accepted until 3:00 p.m. on March 13, 2020.

You will be required to create a Novell Filr account with Caltrans. Send an email message to the Contract Analyst, Patricia Nichols, at Patricia.Nichols@dot.ca.gov containing the information listed below for a link and instructions to complete the self-registration page and submit the SOQ electronically.

   - Your firm’s name
   - Your email address
   - The solicitation number for which you would like to submit an SOQ
The file name shall include the contract number, consultant name (max. 25 characters) separated by an underscore (_), ending with the “.pdf” extension.

Example A: 50A0694_JohnDoeConsulting.pdf
Example B: 50A0694_aaa1234engineer.pdf

6. SOQ submittals will be considered non-responsive if all copies, including electronic submittal, are not received in the specified location(s) by the date and time specified in this RFQ.

C. Request for RFQ Copies

Copies of this RFQ may be obtained on the Cal eProcure website.
SCOPE OF WORK/DELIVERABLES
ROADWAY CONSTRUCTION SERVICES

For Caltrans, Division of Construction, District 11
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Roadway Construction Services, on an “as-needed” basis to support Caltrans, Division of Construction, District 11, in the construction of proposed Caltrans transportation facilities.

B. Explanation of Work.

The Caltrans Contract Manager shall assign specific work to the Consultant through the issuance of Task Orders describing in detail the services to be performed. The Consultant shall only perform work that is assigned in an authorized Task Order. This Contract does not guarantee that a Task Order shall be issued.

1. Exclusion of Work.

All Roadway Construction Services associated with structures including, but not limited to, bridges and buildings, are specifically excluded from the scope of this Contract.

C. Location of Work.

The work shall be performed on projects to improve the State transportation system throughout the county of San Diego in California within the limits of District 11, south of State Route (SR)-52. The specific location within the above-described geographical limits of the work to be performed within this geographic area shall be identified in each Task Order. It may become necessary for projects to extend into another adjoining county, to wit, across the San Diego County/Imperial County line and into Imperial County. In such instances, the project work shall not extend more than a thirty (30)-mile radius from the geographic boundary.

D. Required Services.

1. Pursuant to an authorized Task Order, the Consultant shall provide Roadway Construction Services within the geographical jurisdiction of this Contract set forth in “Location of Work” Section, and all necessary personnel, material, transportation, lodging, instrumentation, and the specialized facilities and
equipment necessary to satisfy all appropriate agencies and required to ensure compliance with all applicable Federal, State, and Local statutes, laws, codes, regulations, policies, procedures, ordinances, standards, specifications, performance standards, and guidelines, applicable to the Consultant's services and work product. The specific Roadway Construction Services shall be described in the attachment templates chosen to create the scope of work for this contract. The attachment templates that were used with this base template to create a scope of work as follows:

A - Roadway Construction Inspection and Office Engineering  
B - Electrical Construction Inspection  
C - Landscape Architectural Construction Inspection  
F - Construction Materials Sampling and Testing  
G - Construction Stormwater Implementation  
H. Land Survey and Right of Way Engineering

2. Provided in Attachment 1A is a list of proposed Caltrans projects in District 11. This list is not exclusive, however, and it does not constitute a commitment that the projects will be initiated or completed or work assigned to the Consultant. Caltrans reserves the right to add or delete from this list of projects that are within the geographical jurisdiction of this Contract set forth in “Location of Work” Section.

Caltrans intends to utilize this Contract to complete a specific piece of work as long as it is located within the geographical jurisdiction of this Contract set forth in the “Location of Work” for each of the projects listed in this Contract utilizing the services described in this Scope of Work and as described in a Task Order. In the future, Caltrans may find it necessary to create a separate contract (or contracts) that involves a specific project listed in this Contract and includes part of the work contained in this Contract. Caltrans reserves the right to procure Architectural and Engineering (A&E) services involving the listed projects or unlisted projects (within the geographical jurisdiction of this Contract set forth in “Location of Work” Section) involving in whole or in part the same work using a project-specific agreement if the schedule to complete performance of the specific project extends beyond the term of this Contract or the cost to complete the specific project exceeds the dollar balance remaining in the Contract after accounting for amounts due to the Consultant for work previously performed and for work that is scheduled to be performed in executed task orders.

Should a project-specific agreement be procured under these provisions, the parties mutually agree that, in accordance with Exhibit D, Section III, Termination of this Contract, Caltrans shall terminate for convenience the portion of the Contract that includes the common scope of work identified in the project-specific agreement per Exhibit D, Section III, Termination of this Contract. Such partial termination for convenience shall be processed by amendment to this Contract. Unless otherwise
required by law, regulation, or Caltrans policy or procedure, the Consultant may compete for these project-specific Contracts.

3. In this Contract is a list of proposed personnel classifications for which services are anticipated to be needed by Caltrans during the term of this Contract. Caltrans reserves the right to add/or delete personnel classifications from this list. Consultant personnel will work under the general direction of either the Caltrans Contract Manager or a Caltrans Task Order Manager.

4. Consultant agrees that:
   a. The Consultant Contract Manager or designee shall manage, instruct and supervise all Consultant employees and subconsultants, and shall not allow any other party to manage, instruct and supervise such parties.
   b. Consultant shall employ and discharge its own employees and subconsultants.
   c. Unless approved in writing by the District 11 Contract Manager, Consultant shall not hire employees or subconsultants to exclusively and only work on Caltrans matters. Consultant may hire employees and subconsultants for a specific Caltrans matter provided such party has the skills and knowledge to work on other matters and they are assigned to other matters from time to time.
   d. The work performed by Consultant, its employees and its subconsultants shall be a regular part of Consultant’s regular and established business.
   e. Consultant shall make all of its own business (including personnel) decisions and bear the risk for its decisions.
   f. Consultant shall provide its own tools, equipment and supplies, and Consultant shall not rely on Caltrans to provide such tools, equipment and supplies. Notwithstanding the foregoing, Caltrans may, during the term of the Agreement, allow Consultant to access selected items of equipment; provide non-employee userids and related access to Caltrans computer systems to Consultant employees and subconsultants; and provide non-employee access cards and other such forms of identification to Consultant employees and subconsultants.
   g. Consultant shall provide its own training to its employees and subconsultants, and Consultant shall not rely upon Caltrans to provide such training.
   h. Consultant shall advise its employees and subconsultants of the foregoing contract terms that apply to them, and Consultant advise such employees and subconsultants to report to Consultant any apparent or actual breaches. Consultant shall relay any such reports to Caltrans.

5. A wide range of tasks associated with Roadway Construction Services should be expected. The Consultant shall perform and have the expertise, capability, and equipment necessary to perform this Scope of Work.
6. At the sole discretion of Caltrans, Consultant may be required to provide the required services on safety projects, emergency projects, Emergency Storm Damage Projects, excess parcel assessments, or other current/future transportation projects, including minor projects not listed above, except for those specially excluded above, within the geographical jurisdiction of this Contract set forth in “Location of Work” Section.

7. The potential projects may vary in scope and size, and may encompass any type of improvement for the State transportation system including, but not limited to, roadway rehabilitation, widening and/or realignment of existing facilities, relocation of existing facilities, and construction of new facilities. The project location, project limits, purpose, expected results, project deliverables, period of performance, project schedule, and scope of work to be performed shall be described in each Task Order.

8. Consultant shall be available, on two (2) days’ written notice:
   a. To meet with Caltrans or other Caltrans meetings.
   b. To attend public meetings (day and evening) where an expert is required.
   c. To participate in any public hearings necessary for a Project.
   d. To provide technical expertise on an “as-needed” basis.

9. Maintaining a stable work force is essential to the successful completion of Caltrans work. Consultant shall implement a personnel retention plan strategy and shall submit a written plan with the Statement of Qualification submittal.

10. The Consultant may be expected to spend time for extended assignments to perform A&E services at Caltrans offices. At the sole discretion and convenience of Caltrans, Caltrans may permit Consultant to use office space, office equipment (such as copiers, printers and telephones) and furniture at various Caltrans (field) offices. Consultant will provide its own computers, office supplies, and related work materials. The Consultant, including its Subconsultants, shall include the Field Office Indirect Cost Rate in its cost proposals and use the Field Office Indirect Cost Rate in billing Caltrans for those personnel utilizing Caltrans’ (field) office facilities, and the cost rates will reflect the Consultant’s lower costs where Caltrans provides office space, office equipment and furniture. If the Consultant, including its Subconsultants, does not currently have a Field Office Indirect Cost Rate, it will develop and use a Field Office Indirect Cost Rate to reflect an equitable distribution of allowable costs to the contract (as specified in 48 CFR 31.203(f)). When working on-site in the Caltrans Facilities, the Consultant shall adjust its hours to meet the business needs of Caltrans and shall generally work and be present during Caltrans building business hours (which are 8:00 a.m. - 5:00 p.m.) The business hours can be adjusted in different Task Orders.
E. Workplan Standards Guide Codes.

Task Orders are based on the Caltrans Workplan Standards Guide (WSG). The latest WSG is found in the Guide to Project Delivery Workplan Standards Guide, which is available from the Caltrans’ Publication Unit and on the Internet at http://www.dot.ca.gov/hq/projmgmt/guidance.htm. The WSG references the Work Breakdown Structure (WBS) categories, which are potential and related work activities applicable to this Contract. The WSG references WBS categories which present the potential and related work activities that the Consultant may be required to perform. All revisions to the current version of the Work Breakdown Structure (WBS) shall apply during the life of this Contract. Refer to the attachment templates used with this base template for the WBS activities applicable to this Contract.

F. General Personnel Requirements.

1. The Consultant’s personnel shall be capable, competent, and experienced in performing the types of work in this Contract with minimal instruction. Personnel skill level should match the specific job classifications, as set forth herein or in the Consultant’s Cost Proposal, Attachment 2 and task complexity. The Consultant’s personnel shall be knowledgeable about, and comply with, all applicable Federal, State, and Local laws and regulations.

2. The Consultant is required to submit a written request and obtain the Caltrans Contract Manager’s prior written approval for any substitutions, additions, alterations, or modifications to the Consultant’s originally proposed personnel and project organization, as depicted on the proposed Consultant’s Organization Chart or the Consultant’s cost proposals. The Consultant personnel shall have the same job classification, as set forth herein or in the Consultant’s Cost Proposal, Attachment 2, not exceed the billing rate, and meet or exceed the qualifications and experience level of the previously assigned personnel, at no additional cost to Caltrans. The Consultant personnel shall have significant experience in the work involving a similar transportation facility for at a minimum two (2) previous projects, unless otherwise approved by the Caltrans Contract Manager.

3. In responding to Caltrans’ Task Order and in consultation with the Caltrans Contract Manager, the Consultant Contract Manager shall identify the specific individuals proposed for the task and their job assignments. The Consultant shall provide documentation that proposed personnel meet the appropriate minimum qualifications as required by this Contract.

4. The Consultant’s personnel shall typically be assigned to and remain on specific Caltrans projects/deliverables until completion and acceptance of the project/deliverables by Caltrans. Personnel assigned by the Consultant shall be
available at the start of a Task Order and after acceptance of the project/deliverable by Caltrans.

5. After the Caltrans Contract Manager’s approval of the Consultant’s personnel proposal and finalization of a Task Order, the Consultant may not add, delete or substitute personnel without the Caltrans Contract Manager’s prior written approval.

6. Resumes containing the qualifications and experience of the Consultant’s and Subconsultant’s personnel, which include existing and additional personnel, and copies of their minimum required certifications, shall be submitted to the Caltrans Contract Manager for review before assignment on a project or Task Order. The resume and copies of current certification for each candidate shall be submitted to the Caltrans Contract Manager within one (1) week of receiving the request.

7. The Caltrans Contract Manager or designee may interview the Consultant’s personnel for the qualifications and experience. The Caltrans Contract Manager’s decision to select the Consultant’s personnel shall be binding to the Consultant and its Subconsultants. The Consultant shall provide adequate qualified personnel to be interviewed by the Caltrans Contract Manager within one (1) week of receiving the request.

8. The Caltrans Contract Manager or designee shall evaluate the adequacy (quality and quantity) of the work performed by the Consultant’s personnel, and determine whether the deliverables satisfy the acceptance tests and criteria. The Caltrans Contract Manager may reject any Consultant personnel who are determined by the Caltrans Contract Manager to lack the minimum qualifications. If at any time the level of performance is below expectations, the Caltrans Contract Manager may direct the Consultant to immediately remove Consultant personnel from the project specified in a Task Order and request that the Consultant provide another qualified person be assigned as needed. The Consultant personnel shall meet the qualifications required by this Contract for performance of the work as demonstrated by a resume and copies of current certifications submitted by the Consultant. Consultant personnel shall receive prior written approval from the Caltrans Contract Manager. Invoices with charges for personnel not pre-approved by the Caltrans Contract Manager for work on the Contract and for each Task Order shall not be reimbursed.

9. The Consultant shall not remove or replace any existing personnel assigned to Task Orders without the prior written consent of the Caltrans Contract Manager. The removal or replacement of personnel without the written approval from the Caltrans Contract Manager shall be violation of the Contract and may result in termination of the Contract per Exhibit D, Section III, Termination of the Contract.
10. When assigned consultant personnel is on approved leave and required by the Caltrans Contract Manager, the Consultant Contract Manager shall provide a temporary substitute employee until the assigned employee returns to work from the approved leave. The Consultant personnel shall have the same job classification, as set forth herein or in the Consultant’s Cost Proposal, Attachment 2, not exceed the billing rate and meet or exceed the qualifications and experience level of the previously assigned personnel, at no additional cost to Caltrans. Consultant personnel shall receive prior written approval from the Caltrans Contract Manager to work on this Contract.

11. Other project personnel who are not identified on the Consultant’s cost proposal shall also satisfy appropriate minimum qualifications for assigned Task Orders. Caltrans’ prior written approval is required for all personnel not identified on the Consultant’s organization chart or the Consultant’s cost proposals before providing services under this Contract.

12. The Consultant is responsible to provide fully trained personnel to efficiently perform the work. The Consultant’s personnel may be asked to attend certain special training if recommended by the Caltrans Contract Manager. On such occasions, with the approval of the Caltrans Contract Manager, Caltrans shall compensate the Consultant for the Consultant’s actual cost for time spent in training only. All other costs, fees, and expenses associated with the training, including any transportation costs and training fees, shall be the Consultant’s responsibility. In addition, services to train the Caltrans personnel shall not be provided by the Consultant under this Contract.

13. In location(s) where the Consultant personnel is expected to work for extended period(s) of time, the Consultant shall either relocate the personnel or make every effort to hire local persons.

14. The attachment scopes chosen for this contract, as indicated in the Required Services section previously, will specify personnel requirements for the Consultant depending on the work. The attachment templates that can be used with this base template to create a scope of work are as follows:

A - Roadway Construction Inspection and Office Engineering  
B - Electrical Construction Inspection  
C - Landscape Architectural Construction Inspection  
F - Construction Materials Sampling and Testing  
G - Construction Stormwater Implementation  
H - Land Surveying and Right of Way Engineering

15. The Consultant and all subconsultants, shall throughout the life of the Contract, retain within its firm, a staff of people who shall be properly licensed and certified
in accordance with the laws of the State of California and qualified to perform all aspects of the required work described in this Contract and all work specified in a Task Order along with any emergencies that may arise during the life of this Contract. The Consultant shall be prepared to provide additional personnel, as necessary, during the period performance of this Contract to accommodate the work.

16. At the request of the Caltrans Contract Manager, Consultant personnel will complete security and privacy awareness training each year, see http://itsecurity.dot.ca.gov/training.

Consultant personnel whose work involves field work must:

a. Have current certification of Defensive Driving Training and current California Driver’s License.

b. Have attended an 8 hr Construction Safety Orientation Class prior to being assigned to work on Caltrans projects and current on annual refresher class. (See Section on Field Safety for additional requirements.)

G. Consultant Contract Manager.

The Consultant Contract Manager shall coordinate work-related matters and Consultant’s operations under this Contract with the Caltrans Contract Manager in coordination with the Caltrans Task Order Manager, Functional Manager, District/Region Area Construction (Claims) Engineer, Laboratory Supervisor, Headquarters’ Structural Construction Engineer, Resident Engineer, District Landscape Architect, District Surveys Engineer, District Right-of-Way Engineer, District Water Quality Program Manager, District Deputy Director for Program/Project Management, District’s Traffic Operations Units, Project Coordinator, Deputy District Director for Environmental Analysis, District Surveys Office Chief, and/or District’s Public Information Officer.

The Consultant Contract Manager shall have a minimum of five (5) years of responsible experience performing the duties as a contract manager for similar Roadway Construction Services contracts. The Consultant Contract Manager shall be knowledgeable about all Caltrans policies and procedures. The Consultant Contract Manager shall have a documented minimum ten (10) years of demonstrated experience acceptable to Caltrans in Roadway Construction Services work. The Consultant Contract Manager shall be an employee of the prime Consultant.

In addition to other specified responsibilities, the Consultant Contract Manager shall be responsible for all matters related to the Consultant’s personnel,
Subconsultants, Roadway Construction Services work, and Consultant’s and Sub-Consultants’ operations including, but not limited to, the following:

a. Ensuring that deliverables are clearly defined, acceptance tested and that criteria are specific, measurable, attainable, realistic and time-bound; and that the deliverables satisfy the acceptance tests and criteria.
b. Supervising, reviewing, monitoring, training, and directing the Consultant’s and Sub-Consultants’ personnel.
c. Assigning qualified personnel to complete the required Task Order work as specified on an “as-needed” basis in coordination with the Caltrans Contract Manager.
d. Administering personnel actions for Consultant personnel and ensuring appropriate actions taken for Subconsultant personnel.
e. Maintaining and submitting organized project files for record tracking and auditing.
f. Developing, organizing, facilitating, and attending scheduled coordination meetings, and preparation and distribution of meeting minutes.
g. Implementing and maintaining quality control procedures to manage conflicts, insure product accuracy, and identify critical reviews and milestones.
h. Assuring that all applicable safety measures are in place.
i. Providing invoices in a timely manner and providing monthly Contract expenditures.
j. Reviewing invoices for accuracy and completion before billing to Caltrans.
k. Managing Subconsultants.
l. Managing overall budget for Contract and provide report to the Caltrans Contract Manager.
m. Monitoring and maintaining required DBE or DVBE involvement.
n. Ensuring compliance with the provisions in this Contract and all specific Task Order requirements.
o. Possessing knowledge, experience, and familiarity with prevailing wage issues and requirements in State of California.
p. Possessing knowledge, experience, and familiarity in reviewing the Critical Path Method (CPM) schedules and providing expert comments.
q. Attending meetings with the Caltrans Functional Managers for project CPM activities.
r. Monitoring the health and safety of personnel working in a hazardous environment in accordance with all applicable Federal, State, and Local regulations.

H. Consultant Task Order Manager.

For each Task Order, if required by Caltrans Contract Manager, the Consultant shall provide a Consultant Task Order Manager to coordinate the Consultant Task Order
operations with the Caltrans Contract Manager in coordination with the Caltrans Task Order Manager.

The Consultant Task Order Manager (who may be other than the Consultant Contract Manager) shall be assigned to conduct, or direct the conduct of, all work assigned under a single Task Order. The Consultant Task Order Manager shall be the primary contact for the assigned Task Order and be available as needed for communication with Caltrans.

I. Consultant Responsible Person.

1. The attachment scope(s) of work for this contract will indicate specific personnel requirements for the Consultant Responsible Person, depending on the work. The attachment templates that can be used with this base template to create a complete scope of work are as follows:

   A - Roadway Construction Inspection and Office Engineering
   B - Electrical Construction Inspection
   C - Landscape Architectural Construction Inspection
   F - Construction Materials Sampling and Testing
   G - Construction Stormwater Implementation
   H – Land Surveying and Right of Way Engineering

2. One contract may have multiple Consultant Responsible Persons with differing minimum requirements, depending on the attachment templates chosen (A-C, F, G & H) to create the scope of work.

3. In this Contract, a person who is authorized to review and approve Consultant analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables in place of the Consultant Contract Manager shall be hereafter referred to as the Consultant Responsible Person for a particular attachment scope (A-C, F, G & H).

4. The Consultant Responsible Person’s minimum requirements will be specified in each attachment scope of work (A-C, F, G & H).

5. The Consultant Responsible Person shall be currently employed by the Consultant or its Subconsultants at the time the deliverables are submitted to Caltrans for consideration under the review and acceptance process.

6. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables under this Contract not fully approved by Caltrans bearing the signature of the Consultant Responsible
Person shall be replaced by analytical results, estimates, notes, calculations, analysis, reports, graphics, drawings, product, data, details, other documents, other items, and deliverables under this Contract bearing the signature of a qualified replacement Consultant Responsible Person who is currently employed by the Consultant or its Subconsultants. In such an event, no additional time shall be allowed or cost reimbursed to the Consultant without the prior written approval of the Caltrans Contract Manager.

7. All of the Consultant’s work shall be conducted under the direction of the Consultant Contract Manager who shall have the appropriate experience as described in this Contract. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables under this Contract requiring the Consultant Responsible Person’s signature, shall be produced by the responsible Consultant personnel having appropriate experience, and shall be signed by the Consultant Responsible Person.

J. Consultant Availability and Work Hours.

1. The typical workday includes all hours worked by the Caltrans construction contractor on the project as identified in the Task Order and also as directed by the Caltrans Contract Manager. Unless otherwise specified in the Task Order or directed by the Caltrans Contract Manager, the normal workday shall be Monday through Friday, from 8 a.m. to 5 p.m. or any combination of five (5) consecutive days which may include Saturday and/or Sunday, and the normal workweek shall consist of forty (40) hours. If Saturday and/or Sunday is part of a regular work week as determined by Caltrans, then the Saturday and/or Sunday work shall be treated as work performed on a regular workday and no overtime shall be paid for the first eight (8) hours on Saturday or Sunday. Consultant Contract Manager shall be responsible for providing Consultant personnel who can satisfy the requirements set forth in this Agreement.

If Caltrans determines that the Consultant’s services and work product need to be received outside of normal business hours (including instances where receipt is required to avoid danger to life or property), the Consultant may be directed to provide its services and work product during specific hours during the week (including hours that are outside of normal business hours). Night work may be required on projects involving high traffic areas. The Caltrans construction contractor’s operations may be restricted to specific hours during the week, which shall become the normal workday for Consultant’s personnel. Any shift differential rate pay for prevailing wage tasks shall be reimbursed in accordance with the applicable Department of Industrial Relations (DIR) determination.
On days when work is not performed by the Caltrans construction contractor, such as rainy or unsuitable weather days, Consultant’s services shall not be provided unless authorized by the Caltrans Contract Manager in coordination with the Caltrans staff.

The Caltrans Contract Manager in coordination with the Caltrans staff shall provide advance notice of eight (8) hours if the Consultant’s services are not required as a result of a cessation of construction activities or if reassignment of personnel is required. If Caltrans fails to provide the required advance notice and the Consultant personnel are not required as a result of cessation of construction activities, Caltrans shall provide a maximum of four (4) hours compensation.

It is anticipated that variations in the Caltrans' construction contract activities will occur. During the contract period, the Caltrans Contract Manager or designee may ask the Consultant Contract Manager to reassign Consultant employees from a project or an office with low activity to assist on another project or office with high activity. The Consultant Contract Manager will be notified at least two (2) working days prior to this reassignment.

2. The Consultant’s typical work day(s) shall include, but not be limited to, working in conjunction, coordination, and cooperation with all of the following:

   a. Caltrans Contract Manager
   b. Caltrans District Construction Staff
   c. Caltrans Construction Resident Engineer
   d. Caltrans Construction Contractor(s) and subcontractor(s)
   e. Other State and/or Local Agencies

3. The Consultant shall obtain approval from the Resident Engineer prior to entering any Caltrans’ project construction site.

4. The Consultant shall obtain approval from the Caltrans Facility Manager prior to conducting activities within a maintenance station or other Caltrans facility.

K. General Requirements.

1. The Consultant shall prepare the required analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract according to requirements of this Contract and applicable Caltrans Manuals for the work.
2. If directed by the Caltrans Contract Manager, the Consultant shall prepare and update a comprehensive Critical Path Method (CPM) network diagram, Bar Chart Schedule, Logic Network Schedule, and the Caltrans Work Breakdown Structure (WBS) for each Task Order issued by the Caltrans Contract Manager showing a deliverables schedule as well as other relevant data to monitor project progress, Consultant’s work control, and Caltrans review of work status, if required in the Task Order. The relevant data shall include a list of activities with budgeted cost, milestones, and target date for completion of each activity. The minimum number of task details shall be identified in the Task Order. This workplan shall be updated once a month to show the approved baseline schedule and the actual progress schedule.

Caltrans shall review these documents and return them to the Consultant with notes and comments as soon as possible in order to validate the planning and cost control procedures within the first calendar month of performance period.

3. The Consultant’s timesheet/invoices/expenses shall be subject to the review of the Consultant Contract Manager and the subsequent review and the approval of the Caltrans Task Order Manager before submitting timesheets, invoices, or expense reimbursement requests for payment.

4. The Consultant shall begin the required work within two (2) working days after receiving a fully executed Task Order and the issuance of the Notice to Proceed (NTP) from the Caltrans Contract Manager to the Consultant Contract Manager or on the date specified in the Task Order. Some work, however, may require Consultant personnel to mobilize within 24-hour of notifications. Once the work begins, the work shall be prosecuted/performed diligently until all required work has been completed to the satisfaction of the Caltrans Contract Manager or Caltrans designee.

5. The work shall not be performed when conditions prevent a safe and efficient operation, and shall only be performed with written authorization by Caltrans.

6. The Consultant Contract Manager, Consultant Task Order Manager, and Key Personnel shall be accessible to the Caltrans Contract Manager at all times during normal Caltrans working hours or after hours as required by the Caltrans Contract Manager.

7. The Consultant Contract Manager or designee may advise the Consultant’s Contract Manager of the perceived need to have the Consultant’s employees to work overtime to meet Task Order schedules, and the Consultant’s Contract Manager shall take effective measures to address the Caltran’s Contract Manager’s need. All overtime shall be pre-approved by the Caltrans Contract Manager or
designee. Overtime pay shall be paid to only persons covered by the Fair Labor Standards Act.

8. All Consultant personnel are required to sign a confidentiality and nondisclosure agreement.

9. The Consultant may not disclose any information to third parties without prior written approval of the Caltrans Contract Manager.

10. The Consultant shall only provide incidental non-Architectural and Engineering (A&E) services, such as GIS support, utilities location support, traffic control, office support, field office support, and meeting support, provided (a) such services are necessary for the completion of the A&E tasks and/or deliverables performed by the Consultant described in executed Task Orders and covered by the work in this Contract and (b) the rendering of the services is approved in advance by the Caltrans Contract Manager. These incidental services shall only be provided to support the Consultant’s personnel who are performing A&E services, tasks, and deliverables on this Contract. The Contract amount spent on such incidental services shall be relatively minor when compared to the professional A&E services performed. The Consultant shall not be paid or reimbursed for any incidental non-A&E services provided to Caltrans unless provided in the fashion described in this Contract and included in the executed Task Order. The Consultant is responsible for ensuring that Task Orders only include any incidental non-A&E services.

11. Incidental training services may be provided only if the training involves the specific work product of this Agreement. Such incidental training services are permitted, but only if:

   a. The training involves the specific work product created under this Agreement (and does not involve general A&E training and is not the work product of a previous agreement); and
   b. The total aggregate cost of all training under this Agreement does not exceed 10% of the total authority of the Agreement; and
   c. The training is an incidental task within the Agreement and not the purpose for entering into this Agreement.

12. The Consultant shall include the Caltrans Contract Manager in written communications to other Caltrans personnel for any clarification on the scope of work.
L. Coordination.

1. For each Task Order, the Consultant shall carry out instructions received from the Caltrans Contract Manager, and as directed by the Caltrans Contract Manager, shall coordinate activities and work closely with multiple stakeholders including, but not limited to, Caltrans’ various functional units, Caltrans’ project managers, local agencies, various environmental groups, other state agencies, Native American tribal governments, utility companies, railroads, other agencies, other entities with an interest in the project (including, but not limited to, FHWA), other consultants, other contractors, and planning, engineering, and construction firms (and its suppliers and subcontractors) contracted by Caltrans working on the same projects or adjacent projects. In the event an instruction or direction is unclear to the Consultant, the Consultant shall ask the Caltrans Contract Manager or designee to clarify the instruction or direction. The work is a critical element of compatible designs, project planning and construction schedules and shall be accomplished in a timely fashion. Projects having complex and overlapping schedules and therefore Project work may have overlapping and parallel (not serial order) schedules or make work discontinues. Projects have complex and overlapping schedules and field work may be intermittent. Task Orders may be written for treatment of unanticipated finds encountered during project work. When unanticipated finds are encountered, a rapid response shall be necessary to avoid costly construction delays.

2. The foregoing paragraph does not relieve the Consultant of professional responsibility during the performance of this Contract. In instances where the Consultant believes a better standard solution to a task being performed or an issue being addressed is possible, the Consultant shall promptly notify the Caltrans Contract Manager of these concerns, together with the reasons therefore. However, Caltrans shall make all final decisions on the interpretation of the instructions, directions, work product and outputs that are described in the Task Order.

3. The Consultant shall be required to work with other Caltrans Functional Units and others (including, but not limited to, Regional Water Quality Control Board - RWQCB, Permitting Agencies,) as directed by the Caltrans Contract Manager.

4. The Consultant shall work closely with the Caltrans Contract Manager and the Caltrans designee identified in the Task Order.

5. The Consultant shall have the capability to send to and receive from Caltrans’ digital electronic mail system and file transfer protocol system including, but not limited to, attachments for word processing, photographs, spreadsheets, and databases.
6. Caltrans shall not reimburse the Consultant for costs to relocate its personnel to the service area of this Contract. Caltrans shall not reimburse the Consultant for per diem costs, unless preapproved by the Caltrans Contract Manager. Caltrans shall not reimburse the Consultant for out-of-state travel without prior written approval from the Caltrans Contract Manager.

7. The Consultant shall obtain the Caltrans Contract Manager’s approval prior to making presentations at non-Caltrans sponsored conferences or workshops for any services provided under this Contract.

8. The Consultant shall notify the Caltrans Contract Manager or Caltrans designee in writing a minimum one (1) week before it begins any field work, unless the Task Order specifies some other notification date.

9. Caltrans shall not incur costs beyond the funding commitments in the Contract and each Task Order. If the Consultant anticipates that funding for work will be insufficient to complete work, the Consultant shall promptly notify the Caltrans Contract Manager.

10. The Consultant shall submit personnel resumes for all of the personnel that it and its Subconsultants propose to use for this Contract. When the Consultant proposes to add personnel to cost proposals, the Consultant shall submit updated cost proposals to Caltrans. The Caltrans Contract Manager may request that the update be for either the incremental change or the complete list. The Consultant shall provide the electronic copy of the cost proposals and subsequent proposed changes to the cost proposals in Microsoft Excel format, version 2013 or format currently in use by Caltrans. All resumes and cost proposals to add personnel must be submitted and approved by the Caltrans Contract Manager prior to being submitted to other Caltrans staff.

M. General Equipment Requirements.

1. The Consultant or its Subconsultants shall not incorporate any materials or equipment of a single or sole source origin without the advance written approval of Caltrans.

2. The Consultant may claim reimbursement for providing equipment or supplies. However, such claimed costs shall be in compliance with 48 Code of Federal Regulation (CFR), Chapter 1, Part 31 (Federal Acquisition Regulation - FAR cost principles) and 2 CFR, Part 200, and be consistent with the Consultant’s company-wide allocation policies and charging practices with all clients including federal government, state governments, local agencies, and private clients.
N. Roadway Construction Services Equipment Requirements.

1. Office Equipment and Supplies (Consultant’s Office):

   The Consultant shall have and provide adequate office equipment and supplies to complete the work required by this Contract. Such equipment and supplies shall include, but not be limited to, the following:

   a. Office Supplies.
   b. Computers with appropriate software, printers, plotters, fax machines, calculators, data collectors and their necessary attachments and accessories.
   c. Data processing systems, software packages, reference materials, or other tools, including hardware and software, used in providing transportation engineering deliverables. This includes, but not be limited to, the following:
      i. Microsoft Office Software (including, but not limited to, Word, Excel, PowerPoint).
      ii. Adobe Acrobat Professional version 5 or later.
      iii. Critical Path Method (CPM) software, with Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project. The Consultant shall have access to additional industry standard CPM software, as used by the contractors.
   d. The Consultant shall provide a computer system for each person working under a Task Order that meets the Caltrans current specifications. Caltrans reserves the right to provide the computer equipment and access to computer system if such items are beneficial to Caltrans’ interest.
   e. Reference material, or other tools, used in providing deliverables.
   f. Caltrans shall not purchase any hardware, software, or other equipment (including, but not limited to, batteries, paper, and office supplies) that may be required for the Consultant to perform work required in this Contract. The Caltrans Contract Manager shall approve any Consultant’s request for digital electronic connections and compatibility with current Caltrans Windows-based networks and programs in writing prior to the use and/or installation of any electronic hardware and/or software.
   g. In-house printing, reproduction, and delivery services.

2. Field Equipment and Supplies:

   Consultant shall have and provide adequate field tools, instruments, equipment, materials, supplies, and safety equipment to complete the required field work and that meet or exceed Caltrans Specifications per the Caltrans Manuals. The tools, instruments, equipment, materials, supplies, and safety equipment required for each
Consultant field personnel shall include, but not be limited to, the following, if required by the Task Order:

a. Sufficient vehicles suitable for the work to be performed and terrain conditions of the project sites. Vehicles shall be fully equipped with all necessary tools, instruments, equipment, materials, supplies, and safety equipment required for the efficient operation of the Consultants’ field personnel, including cellphones. Each vehicle shall have a load carrying capacity of 1500 pounds of materials and equipment. Each Vehicle shall have sufficient ground clearance to safely maneuver through highway construction sites while fully loaded with equipment and materials. Each vehicle shall have overhead flashing amber light(s), visible from all sides (360 degrees), with a driver control switch; locking toolbox; fire extinguisher; and first aid kit. Vehicles without side windows shall not be used. All vehicles shall be clearly marked as to ownership. Each vehicle shall be equipped to meet Caltrans safety requirements.

b. A laptop computer or tablet with appropriate software. An aircard may be required by Caltrans by written notice.

c. Communication device: Mobile telephone, cell phone shall be compatible with the current Caltrans cellular phone system.

d. Hand tools such as shovels, gloves, pick, measuring tape, buckets, wheel barrow, heat gun, sledge hammer, concrete and asphalt thermometers, clip board, calculator, and peg book.

e. All necessary safety equipment including, but not limited to, fire extinguisher, hard-soled safety footwear, white hard hats, eye protection, hearing protection, and approved safety attire as appropriate for the requested field work to be performed safely and efficiently within operating highway and construction zone environments.

f. Digital Camera.

g. Electronic Calculator

3. The Consultant shall provide all necessary tools, instruments, equipment, materials, supplies, and safety equipment required to perform the work identified in each Task Order and this Contract accurately, efficiently, and safely. The Consultant’s personnel shall be fully trained in the use of such necessary tools, instruments, equipment, materials, supplies, and safety equipment. The Consultant shall not be reimbursed separately for tools of the trade, which may include, but not be limited to, the above-mentioned equipment.

4. Consultant shall use all necessary equipment, tools, and instruments provided by Caltrans to perform the work identified in this scope of work accurately, efficiently, and safely. Consultant personnel shall use Caltrans equipment with the utmost care. Any negligent damage caused to Caltrans equipment shall be the responsibility of the Consultant.
5. Inertial Profilograph—If specified in the Task Order, the Consultant shall provide an Inertial Profilograph and properly certified operator. The equipment and operator shall be in accordance to current Caltrans specifications.

6. Consultant shall possess and skillfully operate:
   a. Critical Path Method (CPM) software, with Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project. The Consultant shall have an access to use additional industry standard CPM software, used by the contractors.
   b. Microsoft Office (Word, Excel, PowerPoint, and others) software.
   c. Full-size plotter.
   d. Laptop computer.

7. Consultant shall be capable of providing:
   a. Full-size color plots of CPM charts and graphs.

O. Standards.

1. All work/services under this Contract shall be performed in accordance with all applicable Federal, State, and Local statutes, laws, codes, regulations, policies, procedures, ordinances, standards, specifications, performance standards, and guidelines, including the latest Caltrans regulations, policies, procedures, manuals, standards, specifications, performance standards, directives, guidelines, handbooks, guidance documents, forms, templates, policy memo, methodologies, and other informational or directive publications, including compliance with Federal Highway Administration (FHWA) and State guidelines for implementing those requirements; and any permits, licenses, agreements or certifications that apply to specific Task Orders; the terms and conditions of this Contract; and current Caltrans Manuals and any future revisions. Work not covered by the “Manuals” shall be performed as specified in the Task Order. If no standards exist, Task Orders may call for the development of new standards, so long as these standards do not conflict with the requirements, or amend the Scope of Work under of this Contract.
   a. The Consultant is responsible for obtaining, at its expense, all necessary manuals, reference documents, and other materials.
   b. Caltrans Manuals generally may be purchased from the Publication Distribution Unit. The Publications staff may be reached at (916) 263-0822, and the center is located at the following address:
c. Manuals and documents that are not available from the Caltrans Publication Distribution Center or are not available from Caltrans’ Internet web site may be requested from the Caltrans Contract Manager. Caltrans does not guarantee the availability of publications nor its Internet web pages. Required Manuals include:

d. Caltrans’ regulations, policies, procedures, manuals, standards, specifications, performance standards, directives, guidelines, handbooks, guidance documents, forms, templates, policy memo, methodologies, and other informational or directive publications, are dynamic documents and subject to change. The Consultant is responsible to verify that the latest version or update is used.


The following manuals, documents and links to internet sites are referenced in association with the work in this Contract. The list is not all-inclusive, but is intended to illustrate the types of reference material and sources of information.

a. Caltrans’ Internet Home Webpage:
   http://www.dot.ca.gov/

b. Caltrans’ Code of Safe Practices:
   http://www.dot.ca.gov/hq/construc/safety/

c. California Business and Professions Code:

d. California Code of Regulations:
   http://www.oal.ca.gov/ccr.htm

e. California Health and Safety Code:
   http://www.leginfo.ca.gov/cgi-bin/calawquery?codesection=hsc

f. California Public Contract Code:

g. California Public Resources Code:
h. Caltrans Highway Design Manual:
   http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm
   http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm#hdm

i. Manual of Uniform Traffic Control Devices (MUTCD):
   California Manual on Uniform Traffic Control Devices:
   http://mutcd.fhwa.dot.gov/
   http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp
   http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd.htm
   http://www.dot.ca.gov/hq/traffops/engineering/mutcd/index.htm

   http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual.htm
   http://www.dot.ca.gov/hq/traffops/signtech/signdel/trafficmanual-current.htm
   http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp
   http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd.htm

k. Caltrans Traffic Impact Studies (TIS) Guidelines:
   http://www.dot.ca.gov/dist1/d1transplan/tisguide-Dec02.pdf

l. Caltrans Surveys Manual:

m. Caltrans Construction Manual:
   http://www.dot.ca.gov/hq/construc/constmanual/

n. Construction Manual:
   Chapter 5 Section 1 Project Records and Reports

o. Caltrans Project Development Procedures Manual (PDPM):
   http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm
http://www.dot.ca.gov/hq/opppd/pdpm/pdpm.htm

p. Project Development Procedures Manual: Chapter 7 - Uniform File System:  

q. Project Development Procedures Manual: Chapter 15 - Final Project Development Procedures:  

r. Caltrans CADD Users Manual:  
http://www.dot.ca.gov/hq/opppd/cadd/usta/caddman/english/toc.htm  
http://www.dot.ca.gov/hq/opppd/cadd/usta/caddman/default.htm  
http://www.dot.ca.gov/hq/esc/oe/project_plans/index.htm

s. CADD Users Manual Chapter 4.3 As-Built Plans (March 30, 2011)  


Construction Staking Handbook:  
Construction Staking: Chapter 12 of Caltrans Surveys Manual:  

v. Caltrans Standard Plans and Standard Specifications:  
Caltrans Specification and Estimate Procedures:  
http://www.dot.ca.gov/hq/esc/oe/  
http://www.dot.ca.gov/hq/esc/oe/standards.php  
http://www.dot.ca.gov/hq/esc/oe/conststand.html  
http://www.dot.ca.gov/hq/esc/oe/construction_standards.html  
http://www.dot.ca.gov/hq/esc/oe/project_plans/  
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/06_plans_disclaim_US.htm  
w. Standard Plans 2002 Dual Units:
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdplns-dual-new02.htm (broken link)
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdplns-dual-new02.htm

x. Caltrans Standard Special Provisions:
http://www.dot.ca.gov/hq/esc/oe/conststand.html
http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

y. Caltrans Guide for the Submittal of Plans, Specifications, and Estimates:
Caltrans Plans Preparation Manual:
http://www.dot.ca.gov/hq/oppd/cadd/usta/caddman/default.htm
http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/default.htm
http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/toc.htm
http://www.dot.ca.gov/hq/esc/oe/standards.php
http://www.dot.ca.gov/hq/esc/oe/construction_standards.html

z. Project Plan Preparation Manual of Instructions:
http://www.dot.ca.gov/hq/esc/oe/project_plans/index.htm (broken link)

aa. Caltrans Policy and Guidelines: Cost Estimate:
http://www.dot.ca.gov/hq/oppd/costest/costest.htm

bb. Caltrans Right of Way Manual:
http://www.dot.ca.gov/hq/row

cc. Caltrans Project Management Handbook:
http://www.dot.ca.gov/hq/projmgmt/guidance.htm

dd. Caltrans Storm Water Quality Handbooks, Manuals, Project Planning, and Design Guide:
Caltrans Storm Water Quality Handbooks:
Caltrans Storm Water Quality Handbooks and Manuals:
Caltrans Storm Water Project Planning and Design Guide:
http://www.dot.ca.gov/hq/oppd/stormwtr/

ee. Caltrans Project Management Directives:
http://pd.dot.ca.gov/pm/ProjectOffice/ProcessGuidance_Directives/Guidance_DirectivesHome.asp

ff. Caltrans Project Risk Management Handbook:  
http://www.dot.ca.gov/hq/projmgmt/guidance_prmhb.htm

gg. Quantitative Risk Analysis section (page 14) of Caltrans Project Risk Management Handbook:  
http://www.dot.ca.gov/hq/projmgmt/documents/prmhb/caltrans_project_risk_management_handbook_20070502.pdf (broken link)  

hh. Project Management Institute (PMI) "A Guide to the Project Management Body of Knowledge":  
www.pmi.org

ii. Caltrans Standard Environmental Reference Webpage:  
Caltrans Standard Environmental Reference (SER), Caltrans Environmental Handbook, Volume I, Volume II, Volume III, and Volume IV:  
http://www.dot.ca.gov/ser/  
http://www.dot.ca.gov/ser/envhand.htm

jj. Caltrans Standard Environmental Reference, Biological Resources:  

kk. Caltrans PEAR Handbook:  
http://www.dot.ca.gov/ser/pear.htm

ll. Caltrans Quality Control and Assurance for Biological Technical Documents:  

mm. Secretary of the Interior’s Professional Qualification Standards:  
http://www.nps.gov/history/local-law/arch_stnds_9.htm

nn. Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (Federal Register, Vol. 48, No. 190, September 1983):  
http://www.nps.gov/history/local-law/arch_stnds (broken link)

oo. Caltrans Technical Publications and Manuals:  
http://www.dot.ca.gov/hq/esc/techpubs/
pp.  Caltrans Ready-to-list and Construction Contract Award Guide:
http://www.dot.ca.gov/hq/esc/oe/specifications/rtl_guide (broken link)
http://www.dot.ca.gov/hq/esc/oe/rtl_guide.html

qq.  Caltrans Design Information Bulletins:
http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm

rr.  Construction Policy Bulletins (CPBs):

ss.  Caltrans Design Memorandum:
http://www.dot.ca.gov/hq/oppd/design/index.htm

tt.  Caltrans Cooperative Agreements Manual:
http://www.dot.ca.gov/hq/oppd/coop/index.htm (broken link)

uu.  Caltrans Environmental Handbook:
http://www.dot.ca.gov/ser/envhand.htm

vv.  Caltrans Preliminary Environmental Analysis Report (PEAR) Handbook:
Caltrans PEAR Handbook:
http://www.dot.ca.gov/ser/pear.htm

ww.  Caltrans Environmental Policy Memos:
Environmental Policy Memos:
http://www.dot.ca.gov/ser/memos.htm

xx.  California Test Methods:
http://www.dot.ca.gov/hq/esc/ctms/index.html

http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCompleteManuals/BCRPVol1_Terms.pdf

aaa. Caltrans Value Analysis Program:
http://www.dot.ca.gov/hq/oppd/value

bbb. METS Website:
http://www.dot.ca.gov/hq/esc/Translab/

ccc. AASHTO Pavement Design Guidance:
https://bookstore.transportation.org

ddd. Superpave Mix Design Standards:
http://www.asphaltinstitute.org

eee. Federal Highway Administration Title 23, Code of Federal Regulations, 637B:
http://www.fhwa.dot.gov/legsregs/directives/fapr0637b.htm

fff. Independent Assurance Manual:


hhh. Caltrans Falsework Manual:

iii. Caltrans Trenching and Shoring Manual:

jjj. Caltrans Foundation Manual:
http://www.dot.ca.gov/hq/esc/construction/manuals/OSCCOMPLETEManuals/Foundation_Terms.pdf

kkk. Caltrans Prestress Manual:

III. Other applicable Offices of Structure Construction manuals:
http://www.dot.ca.gov/hq/esc/construction/manuals/

mmm. Manual of Traffic Controls for Construction and Maintenance Work Zones:
http://www.dot.ca.gov/hq/traffops/signtech/signdel/pdf/TMChapter5.pdf (broken link)

nnn. Median Barrier Guidelines.
(Not available on the internet)

(Not a Caltrans Publication)

(Not a Caltrans Publication)

qqq. Division of Construction Oversight Engineer Field Guidelines.
Chapter 4 Project Completion.

Chapter 206.2A As-Built Plans and Other Completion Records.

Chapter 17.4 AS BUILT PLANS.
http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm

ttt. Office of Special Funded Projects Information and Procedures Guide.
Chapter 1-9 Project Records.

http://www.fhwa.dot.gov/
http://www.fhwa.dot.gov/
http://www.fhwa.dot.gov/cadiv/pre/guide3.htm (broken link)


http://www.epa.gov/epaoswer/hazwaste/test/main.htm

xxx. Caltrans Soil and Rock Logging Manual, Classification, and Presentation Manual:

yyy. State of California, Department of Water Resources, California Well Standards/Well Standards Bulletins, in Bulletins 74-81 and 74-90:
http://www.water.ca.gov/groundwater/well info and other/well standards.cfm
http://www.water.ca.gov/groundwater/well info and other/california well standards/well standards content.html
http://www.water.ca.gov/groundwater/well info and other/well standards.cfm

http://www.dtsc.ca.gov/SiteCleanup/upload/SMP_Monitoring_Well_Design.pdf (broken link)


cccc. Caltrans Biological Guide for Consultants:
http://dot.ca.gov/ser/vol3/volL3.htm (broken link)


ffff. Caltrans Project Planning and Design Activities Guide.


nnnn. Caltrans Bridge Memo to Designers.

oooo. Caltrans Bridge Standard Details Sheets.

pppp. Caltrans Bridge Detail Decals.

qqqq. Caltrans Formatted Highway Plan Sheets.

rrrr. Caltrans Formatted Bridge Plan Sheets.


LOCAL MANUALS

tttt. “Site Assessment and Mitigation Manual” (SAM) of the San Diego County Department of Environmental Health (DEH).


“The Designated Level Methodology for Waste Classification and Cleanup Level Determination”, Central Valley Regional Water Quality Control Board.

RWQCB - Region 2 Draft Fact Sheet for Reviewing Wetland and Riparian Projects.
http://www.swrcb.ca.gov/rwqcb2/water_issues/programs/401_certs/fact_sheet_wetland_projects_12-1-06.doc

http://www.usace.army.mil/CECW/Pages/reg_supp.aspx (broken link)

http://www.usace.army.mil/CECW/Pages/reg_supp.aspx (broken link)

http://el.erdc.usace.army.mil/wetlands/wlpubs.html (broken link)
http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf (broken link)

USACE Sacramento District.

USACE San Francisco District.
http://www.spn.usace.army.mil/regulatory/JD/Info%20Req.pdf (broken link)

P. Field Safety.

In addition to the requirements specified elsewhere in this Contract, the following also shall apply:


2. The field work shall not be performed when conditions prevent a safe and efficient operation, and shall only be performed with written authorization by Caltrans.

3. The Consultant shall provide, at no cost to Caltrans, all safety equipment to perform the required services in a safe manner including, but not limited to: gloves, coveralls, sunscreen, insect repellents, fire extinguisher, hard-soled safety footwear, white hard hats, eye protection, hearing protection, and approved safety attire. The Consultant’s personnel shall wear hard-soled safety footwear, white
hard hats, eye protection, hearing protection, and approved safety vests at all times while working in the field.

4. The Consultant shall provide, at no cost to Caltrans, appropriate safety training for all the Consultant’s and the Subconsultant’s office, laboratory, and field personnel, including training required for performing the work in an office setting or in the field to work on and near highways in a safe manner.

5. The Consultant shall be solely responsible for the protection of health and safety of its personnel, Subconsultants, and Subconsultant’s personnel in performance of this Contract.

6. The Consultant shall conform to all safety requirements for testing and storage of nuclear gauges.

7. The Consultant shall provide, at no cost to Caltrans, a valid Thermoluminescent Dosimeters (TLD) badge to each Consultant employee engaged in nuclear gauge testing to meet the safety requirement by the California Department of Public Health. Quarterly radiation exposure reports and yearly operator’s radiation safety training shall be submitted to Caltrans’ District Radiation Safety Officer.

8. Any safety violations committed by the consultant personnel may be cause for termination.

Q. Orientation Provided by Caltrans.

Caltrans may provide orientation regarding the requirements for this Contract and each Task Order as deemed necessary by Caltrans. The orientation may consist of a description of Caltrans procedures, practices, and requirements for the specific work to be performed and sharing of project related files and notes. However, if the orientation instructions conflict with the contract or task order requirements, the Contract and the executed Task Order shall prevail over any descriptions provided.

R. Monitoring and Review Procedure.

1. The Caltrans Contract Manager shall have the unilateral right to monitor and review the progress and processes of the Consultant related to work performed under this Contract.

2. The performance of the Consultant Contract Manager, key personnel, and team shall be evaluated by the Caltrans Contract Manager, as needed, but no less frequently than annually, and at the expiration of the Contract. Unsatisfactory reviews of specific consultant personnel may result in Caltrans requesting that they be replaced with new personnel; the Consultant shall immediately replace
personnel with individuals whose qualifications at a minimum equal those of the personnel replaced at no additional cost to Caltrans. Evaluation includes, but not be limited to, the following:

b. Quality of Work.
c. Timely submittal of reports, invoices, daily diaries, and other required documents.
d. Early detection of problems and timely resolutions.
e. Requesting timely approval for personnel changes and travel expenditure.
f. Responsiveness and ability to control costs.
g. DBE or DVBE Participation.
h. Conflicts of interest.

Poor performance and any negative evaluations may result in the request for replacement of the Consultant Contract Manager, key personnel, or any personnel; the need to replace key personnel shall reflect adversely on the Consultant’s performance evaluation, and if warranted, may result in the termination of the Contract per Exhibit D, Section III, Termination of the Contract.

3. Construction Inspectors (Roadway, Electrical, Landscape Architectural and Stormwater) shall prepare daily diary reports of construction operations. Construction Office Engineers and Construction Schedule Support Analysts shall prepare a brief report of daily office operations. The reports shall be prepared on Caltrans-provided forms and shall be prepared daily at the end of the day's work.

S. General Materials to be provided or made available by Caltrans.

Materials (if deemed applicable, necessary, and when available from Caltrans) that may be furnished or made available by Caltrans and where listed in the individual Task Orders and this Contract, are for the Consultant’s use only, shall be returned at the end of the Contract. The Consultant shall use the materials in the execution of the specific work described in the Task Order. These materials may include, but not be limited to, the following:

1. Appropriate background or reference information for each Task Order.
2. Project special provisions, full-size and reduced-size sets of project plans, materials information handout, and construction contract and proposal, as necessary.
3. Caltrans standardized forms.
4. Caltrans shall provide Permits to Enter for private property access. The Consultant shall notify Caltrans, in writing, sufficiently in advance of its need to enter upon private property or facility to perform work. The Consultant’s notice shall specify
the date, purpose, duration, location, and the time of day of the Consultant’s activities. The Consultant shall not perform work on property outside of the Caltrans right-of-way until Caltrans has obtained an entry permit from the property owner. The Consultant is responsible for notifying the property owner 48 hours in advance of entering the property, unless otherwise specified in the Permit. The Consultant shall notify the Caltrans Contract Manager within 48 hours if permission has been denied. The Consultant personnel shall carry the Permits to Enter on their person while performing work outside the Caltrans Right-of-Way. No work shall be performed by the Consultant outside the Caltrans Right-of-Way without Permits to Enter. The Consultant shall comply with all conditions imposed by the Caltrans Contract Manager and requirements set forth in the Permit to Enter. The Consultant shall be responsible for any damages that consultant did to owner property at Consultant’s own expense.

5. Appropriate background information, site topographic maps, as-built drawings, blank Caltrans plan sheet overlays, digital electronic seed files, cell libraries, lane closure request forms, right-of-way alignments and survey limits, preliminary utility location maps, areas where focused studies are needed, Construction Contract Documents, and Shop Drawings, as available, for each Task Order.

6. Digital Electronic templates of Task Order formats.

7. For Contract work on Caltrans’ Right-of-Way, an executed contract constitutes the consultant’s “Encroachment Permit.” The consultant (prime as well as any subconsultants) shall carry a copy of the fully executed contract along with the pertinent Task Order(s) at all times while conducting work for Caltrans within Caltrans’ Right-of-Way.

8. All pertinent correspondence and investigations.

9. The Caltrans Contract Manager may designate a Caltrans Task Order Manager to manage the technical aspects of the Task Order or each specific Task Order.

10. The Caltrans Contract Manager or Caltrans designee shall review all deliverables for compliance, substance, and quality.

T. Construction Engineering and Construction Inspection Materials to be provided or made available by Caltrans.

1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.

2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.
3. Construction Materials Testing:
   a. When appropriate, Caltrans shall provide the Consultant with the appropriate forms for recording test data in accordance with Caltrans’ practices and procedures outlined in the California Test Methods.
   b. Caltrans may permit the Consultant to calibrate the Consultant’s nuclear gauges on Caltrans’ test blocks, if available.
   c. Limited office space, office equipment and office supplies typically used by the Caltrans material testing field personnel may be made available for use by the Consultant’s personnel.

   Note: The Consultant is responsible for the return to Caltrans, in original condition, of all items provided for use under this Contract. The Consultant shall replace, at the Consultant’s sole expense, all lost or damaged Caltrans data or materials.

U. Materials to be Provided by the Consultant.

   Unless otherwise specified in this Contract, the Consultant shall provide all materials to complete the required work in accordance with the delivery schedule and cost estimate outlined in each Task Order.

   1. The Consultant shall be responsible for obtaining all necessary approvals and permits for Task Order work performed on any property that Caltrans does not own or control, with the exception of private property. The Consultant shall identify all necessary approvals and permits, prepare signature-ready permit applications, and track the status of permit applications, as specified in each Task Order. Also, the Caltrans District NPDES Coordinator shall be notified prior to performance of any work.

   2. The Consultant shall provide to its Roadway Construction Services personnel sets of the following that are applicable to the current project:
      c. Materials listed under section “Equipment Requirements”.

   3. When performing work within Railroad Company property, the Consultant is required to obtain sufficient and/or adequate insurance coverage that shall comply with the Railroad Company’s requirements when performing work within their jurisdiction. The amount of insurance and types of coverage required by the Railroad Company may be above and beyond that required by Caltrans. The Consultant may be required to provide additional Railroad liability insurance including, but not limited to:
b. Business Automobile Coverage Insurance.
c. Worker Compensation and Employers Liability Insurance.
d. Railroad Protective Liability Insurance.
e. Umbrella or Excess Insurance.
f. Pollution Liability Insurance.

V. Product Approval and Payment

1. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items produced by the Consultant in the performance of this Contract, shall be subject to the approval and acceptance by the Caltrans Contract Manager prior to invoicing and payment for these items.

2. All of the deliverables and tasks provided for acceptance under each Task Order shall comply with the terms, covenants and conditions of this Contract.

3. Upon completion of each deliverable or task, the Caltrans Contract Manager shall either accept or reject the completed work. In the event of non-acceptance due to errors, omissions, or non-compliance with the Caltrans Manuals, as revised as of the time of the Task Order, or the provisions of this Contract, the Consultant shall remedy the errors, omissions, or non-compliance to the satisfaction of the Caltrans Contract Manager at no cost to Caltrans prior to payment. Caltrans shall withhold payment until the work is satisfactorily completed and approved by the Caltrans Contract Manager. Additional cost incurred to correct errors will not be compensated.

4. Caltrans shall not pay the Consultant for the Consultant’s work under this Contract and the charges incurred by the Consultant that does not conform to the requirements specified in this Contract and to the applicable Task Order, and such work shall be corrected at the Consultant’s sole expense at no additional cost to Caltrans.

5. All reviews, inspections and approvals made prior to the final acceptance of deliverables or Task Orders are intended only to provide interim authorizations to proceed and do not constitute final approval of the deliverable or Task Order.

6. Notwithstanding any other provision of this Agreement, until final acceptance of a Task Order under the Agreement, any acceptance or approval means approval to proceed, but it does not mean acceptance or approval of a deliverable or task, and,
it does not reduce or eliminate any of the Consultant’s duties or responsibilities under this Agreement.

W. General Deliverables.

All deliverables, intermediate work products, and original documents including, but not limited to, original field notes, photographs, reports, documents, plans, data, data files, edits to field data, adjustment calculations, final results, drawings, specifications, estimates, studies, record search, records, books, maps, manuscripts, manuals, digital electronic software developed, databases, background information, spreadsheets, procedural scripts, macros developed, and intellectual properties, developed pursuant to this Contract, shall be subject to the provisions of Exhibit D, sections XIX and XX and shall be sent to Caltrans upon completion of each Task Order deliverable and acceptance/approval of the work by the Caltrans Contract Manager or immediately upon request by the Caltrans Contract Manager. The Consultant shall retain a copy of all documents furnished to Caltrans until expiration of the Contract.

Unless otherwise specified in the Task Order, the deliverables shall conform to the following:


   The Consultant shall deliver unprotected and modifiable digital electronic files meeting the following requirements and as specified in each Task Order:

   a. Alphanumeric information (80 character, ASCII data type).
   b. Reports (Acrobat Writer 5 and above).
   c. Graphs, charts (Acrobat Writer 5 and above).
   d. Compliance with standard naming convention (including, but not limited to, Project ID, County, Route/PM, Date).

2. The Consultant shall work in close liaison with the Caltrans Contract Manager. Time is of the essence. Caltrans shall exercise review and approval functions through the Caltrans Contract Manager at key points, as specified in each Task Order. Milestone reviews shall be performed with the Caltrans Contract Manager for the specific performance, products, and deliverables listed in each Task Order.

3. The Consultant shall prepare a cost estimate showing task, subtask, personnel, personnel hours estimated for each task or subtask, and a schedule of deliverables.

4. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this
Contract shall be prepared on Caltrans standardized forms. Necessary forms shall be provided by Caltrans for the Consultant’s use.

5. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract shall be submitted in both hardcopy and unprotected and modifiable digital electronic files in the Caltrans-approved forms and in the Caltrans-approved and designated digital electronic formats (Microsoft Word, Microstation, CA ice, AutoCAD Civil 3D, PhotoShop, 8 1/2 x 11 in green, plastic, three ring binder), in accordance with the guidelines in this Contract and each Task Order, and shall conform to Caltrans standards and the requirements of the Caltrans Office Engineer at the end of Contract or when requested by the Caltrans Contract Manager or Caltrans designee. The unprotected and modifiable digital electronic files shall include the responsible person’s digital electronic signature and seal. The Consultant shall verify the latest version of software used prior to submittal. The Consultant shall also provide plot parameter (.par) or IPARM (.i) files in accordance with I-Plot standards.

6. At the end of each Task Order or when requested by the Caltrans Contract Manager, the Consultant shall also submit one (1) unprotected and modifiable digital electronic copy of all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract in a specified digital device format (CD, DVD, and/or flash drive). The file formats shall be specified in each Task Order. Appropriate documentation shall accompany each digital device indicating the contents of each file.

7. When the Consultant is required to prepare and submit analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract and any approved Task Order to Caltrans or review analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items submitted to Caltrans by others, these documents shall be reviewed. They shall be submitted in draft as scheduled and the opportunity provided for Caltrans to provide comments and feedback, prior to final submittal. The specific schedule for Caltrans’ review of the Consultant’s submittals shall be specified in the Task Order.

The Consultant personnel involved in preparation or review of analytical results, estimates, notes, calculations, analysis, reports, graphics, drawings, visual
simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items shall be identified in the prepared or review report.

8. If the Consultant fails to submit the required analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract and any approved Task Order, Caltrans shall have the right to withhold payment and/or terminate this Contract in accordance with the termination provisions of this Contract per Exhibit D, Section III, Termination. If the Contract is terminated, the Consultant shall, at Caltrans’ request, return all materials recovered or developed by the Consultant under the Contract including, but not limited to, photos, field notes, computer data files, maps, artifact collections, catalogs, analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract.

9. For each Task Order, a milestone submittal schedule shall be prepared by the Consultant and approved by the Caltrans Contract Manager. Milestones may be changed by written agreement between the Caltrans Contract Manager and the Consultant Contract Manager through an amendment to the Task Order.

10. The Consultant shall prepare and update the Caltrans Work Breakdown Structure (WBS) as set forth in this Contract for each Task Order issued by the Caltrans Contract Manager showing a deliverables schedule. It is expected that the Consultant shall complete and meet the agreed upon schedule for each Task Order. Failure to complete the work based on the agreed upon schedule in the Task Order may result in termination of the Task Order or this Contract. Caltrans may have work completed in any way allowed by law, for which the Consultant shall be liable for any additional costs incurred by Caltrans to complete the work. Such costs may be deducted from amounts due to the Consultant in pending or future invoices, or if the Contract is terminated, may be recouped by any means allowed by law.

11. The Consultant shall maintain a separate complete set of project files for each Task Order issued by the Caltrans Contract Manager performed under this Contract. The Consultant shall maintain two (2) sets of these files. One (1) set shall be maintained on site with the Consultant and the other set shall be updated by the Consultant monthly and delivered to the Caltrans Contract Manager in coordination with the Caltrans Task Order Manager. These files shall be indexed in accordance with Caltrans’ Project Development Uniform File System (http://www.dot.ca.gov/hq/oppd/pdpm/chap_pdf/chapt07.pdf). These files shall be made available to the Caltrans Contract Manager during normal working hours and shall be transferred to Caltrans upon completion of work under the Task Order. If
requested by the Caltrans Contract Manager, the Consultant shall provide these project files.

12. Deliverables specified in each Task Order shall be delivered to the attention and address indicated in each Task Order.

13. The Consultant shall be capable of working in either English or Metric units.

14. All deliverables shall be prepared in Imperial English Units unless an exception is approved. The units to be used for deliverables shall be addressed within individual Task Orders.

15. A Task Order may require the Consultant to use software and digital electronic formats other than those indicated in this Contract as needed to accomplish the objectives of the Task Order.

16. Quality Control Plan

Prior to the work, the Consultant shall prepare the quality control plan and the minimum standard of work quality and obtain approval from the Caltrans Contract Manager, in effect for each and every Task Order during the entire time the work is being performed under the Contract. The Consultant shall complete the quality control plan and certify at the completion of work that all measures contained therein were satisfied. Caltrans shall perform quality assurance on the quality control plan to assure that quality control was satisfied.

The Consultant’s quality control plan shall establish a process whereby:

a. All deliverables are reviewed for accuracy, completeness, and readability before submittal to Caltrans.
b. Calculations and plans are independently checked, corrected and re-checked.
c. All job-related correspondence and memoranda are routed and received by affected persons and then filed in the appropriate Task Order file.
d. Field activities are routinely verified for accuracy and completeness, such that any discovered deficiencies do not become systemic or affect the result of a Task Order deliverable.

The Consultant shall provide an outline of the quality control program before a specific task begins and shall identify critical quality control reviews within each Task Order. The Caltrans Contract Manager shall periodically request evidence that the quality control/quality assurance plan is functioning. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details,
deliverables, backup documents, other documents, and other items required by this Contract submitted to the Caltrans Contract Manager for review shall be marked clearly as being fully checked or unchecked, and that the preparation of the material followed the quality control plan established for the work. The Quality Control/Quality Assurance (QC/QA) plan shall contain provisions for the development of appropriate “checklists” to maintain product quality and control. These “checklists” shall be delivered to the Caltrans Contract Manager with the QC/QA plan. The Consultant shall update these documents when directed by the Caltrans Contract Manager. Within thirty (30) calendar days of the Notice to Proceed (NTP), the Consultant shall submit to the Caltrans Contract Manager or Caltrans designee a job specific QC/QA plan and staffing plan.

17. Subject to Caltrans review, approval, and acceptance, the Consultant has total responsibility for and shall verify the accuracy and completeness of the analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract prepared by the Consultant or its Subconsultants for the projects as specified in this Contract and in each Task Order. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract shall be reviewed by Caltrans for conformity with project standards and the requirements in the Task Order and this Contract. The analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract shall be reviewed by Caltrans for conformity with project standards and the requirements in the Task Order and this Contract. Reviews by Caltrans do NOT include detailed review or checking of major components, quantitative calculations, related details or accuracy of information. The responsibility for accuracy and completeness of such items remains solely that of the Consultant.

18. The Caltrans Contract Manager shall address all questions which may arise as to the quality or acceptability of deliverables furnished and work performed for this Contract.

19. Prepare the analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract in accordance with prevailing industry standards and in a form acceptable to the Caltrans Contract Manager. These items shall identify the preparer, the designated reviewers, and the criteria for acceptance. The deliverables shall satisfy the Caltrans acceptance criteria and tests. The work product shall be complete, of neat appearance, well-organized, technically and grammatically
correct, independently checked for error, checked by designated reviewers (Caltrans and Consultant Personnel), dated, and shall conform to industry standards and all applicable Caltrans, State, and Federal Standards, Requirements, and Procedures. All deliverables shall be approved by the Caltrans Contract Manager or Caltrans designee.

The minimum standard of appearance, organization, and content of analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract, shall be that of similar types produced by Caltrans and set forth in related Caltrans manuals.

Caltrans and the Consultant shall develop and agree to a schedule for the services and deliverables to be completed and delivered, and where appropriate, for acceptance criteria and acceptance tests that the services and deliverables must satisfy as a prerequisite for approval by Caltrans. All deliverables shall satisfy the Standards set forth in “Standards” Section in order to be accepted for payment.

X. Roadway Construction Services Deliverables.

1. The Consultant shall obtain written approval from Caltrans for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract. If there are no Caltrans standardized forms, the format and content requirements for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract shall be specified in each Task Order.

2. All Roadway Construction Services analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, other documents, other items, and deliverables required by this Contract performed on computer shall be delivered to Caltrans including, but not limited to, the formats specified below:

   a. Text-based documents shall be submitted as an Adobe Portable Document Format (“pdf”) file using Adobe Acrobat Professional version 5 or later software. The pdf file shall be inclusive of all graphics (e.g. page orientation, photographs or other images, charts, and tables) and be suitable for printing in final form. The pdf file shall:
      i. Contain functioning bookmarks, indexes, tables of contents or other hyperlinks as required by the Task Order.
ii. Be configured (e.g. bookmarks, indexes, table of contents, thumbnails, annotations, signatures, and security settings) as required, or as directed by the Task Order.

iii. Be optimized for use by Adobe Acrobat Reader 10 or newer.

b. Text-based documents shall also be submitted in Microsoft Word format, version 2013. The document shall include all graphics (e.g. photographs, image graphics, charts, and tables). Photographs shall be in “jpeg” file format. Other image graphics shall be in “gif” format unless otherwise specified.

c. All graphics (e.g. photographs or other drawings) shall be submitted separately from the pdf and Microsoft Word documents in archive-type file formats (e.g. photographs and bitmapped drawings as “tif”, Microstation drawings as “dgn”, and vector drawings as “ai”) unless otherwise specified. The intent of this section is for the Consultant to provide Caltrans with a copy of each graphic in an uncompressed file format for archive purposes. The Consultant may suggest alternative formats that are compatible with this goal.

d. Spreadsheet files shall be submitted in Microsoft Excel format, version 2013, or format currently in use by Caltrans.

e. Word processing files shall be submitted in Microsoft Word format, version 2013, or format currently in use by Caltrans.

f. Database files shall be submitted in Microsoft Access format, version 2013, or format currently in use by Caltrans.

g. The Consultant shall not format digital electronic files as “view only” or “read only” unless so specified in the Task Order.

h. Other - As specified in the Task Order.

i. All scheduling deliverables and documents performed on computer shall be delivered to Caltrans in the specified formats per executed Task Orders.

j. Schedules in Critical Path Method (CPM) software, with Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Projects. The Consultant shall have an access to use additional industry standard CPM software, used by the contractors.

Y. Conflict of Interest

The Consultant, its subconsultants and their subsidiaries thereof who may provide, has provided, or is currently providing design engineering services and/or construction engineering services under a contractual relationship with a construction contractor(s) on any Caltrans project listed in this Scope of Work, must disclose the contractual relationship, the dates and the nature of the services (either actually provided or potentially to be provided under the contract(s)).
The Consultant, its subconsultants and their subsidiaries are required to disclose in the SOQ and throughout the term of the awarded contract any design engineering services including claim services, lead project management services and construction engineering services provided to Caltrans and all consultant clients which either actually provided or potentially to be provided under that contract(s) on the projects listed in this SOW.

Throughout the contract term, the Consultant will ensure that the consultant and its subconsultants will agree that, prior to providing any engineering services to any construction contractor on any of the Caltrans projects listed in this SOW, it will disclose all actual and potential business relationship and mitigation efforts, if any, to eliminate any conflicts of interest and will submit a written request, and seek Caltrans’ consent to render those services.

The submitted documentation regarding conflicts of interest will be used for determining potential conflicts of interest; Caltrans will use this documentation to determine whether the consultant or subconsultant may work on specific projects. A conflict of interest may include a situation in which, during the term of the Contract, the consultant or any subconsultants provide engineering services to a construction contractor who is awarded a contract with Caltrans on a project for which the consultant or subconsultant is working on an assigned Task Order under this contract. In this situation, the Consultant must immediately notify the Caltrans Contract Manager regarding the conflict. The Caltrans Contract Manager will then terminate the Task Order involving the conflict of interest and Caltrans may obtain the conflicted services in any way allowed by law. Failure by the Consultant to notify the Caltrans Contract Manager is grounds for termination of the contract for default pursuant to Exhibit D, Section III, Termination, of the awarded Contract. The Consultant and its subconsultants have not, currently do not, and will not provide design engineering services including lead project management services and claim services on the same Caltrans project(s) identified in this SOW.

All roadway construction services deliverables produced by the Consultant and its subconsultants shall be free of any actual or potential conflict of interest and shall be subject to the approval and acceptance by the Caltrans Contract Manager.

In the event of non-acceptance due to discovery of conflict of interest, the Consultant shall provide replacement deliverables free of any conflict of interest as a prerequisite for receipt of payment and at no additional cost to Caltrans. In the event the Consultant is unable to provide replacement deliverables, the Consultant shall not receive compensation for the deliverables containing the conflict of interest. If work is later determined to contain a conflict of interest, either the Consultant shall reimburse Caltrans for any amount paid for the conflicted work or Caltrans may deduct that payment from any current or future amounts owed to the Consultant. Failure by the Consultant to disclose any conflict of interest to the Caltrans Contract Manager is grounds for termination of the contract for default pursuant to Exhibit D, Section III, Termination, of the awarded contract.
Z. Conflict of Interest Examples

1. Provide design engineering services and Construction Management/Inspection services for the same project listed in this SOW.

2. Provide Construction Management/Inspection services for the construction contractor and/or Caltrans on the same project.

3. Certified Materials Tester(s) or Plant Inspector(s) from the same company that performs Quality Control for the Contractor and Quality Assurance for Caltrans on the same project.

4. Certified Materials Tester(s) or Plant Inspector(s) from the same company that currently performs Quality Control for the Contractor on any project within that District where the services are being performed and Quality Assurance for Caltrans on different projects within that District where the services are being performed where the same Contractor is performing work.

5. Providing services to construction contractor’s subcontractors, fabricators, equipment installer, material suppliers and other firms associated with the projects listed in the Contract can be a potential conflict of interest when such contractor teams are identified.
SCOPE OF WORK/DELIVERABLES
ROADWAY CONSTRUCTION INSPECTION AND OFFICE ENGINEER
For Caltrans, Division of Construction, District 11
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Roadway Construction Inspection and Office Engineer, on an “as-needed” basis to support Caltrans, Division Construction, District 11, in the construction of proposed Caltrans transportation facilities.

B. Consultant Roadway Construction Inspection and Office Engineer Required Services.

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

1. Performing and assisting in performing the duties of an Assistant Resident Engineer, including, but not limited to, roadway construction inspection, quantity calculations, checking grade and alignment, labor compliance interviews, traffic control review, and assuring compliance with project plans and specifications.
2. Identifying actual and potential problems associated with the construction project work and recommending sound engineering solutions in a timely manner.
3. Maintaining an awareness of safety and health requirements and assuring compliance with applicable regulations and construction contract provisions for the protection of the public and construction project personnel.
4. Preparing quantity calculations, records, reports, and correspondence related to construction project activities.
5. Assisting in the preparation of final As-Built plans and reports at the completion of construction.
6. Performing minor construction surveying activities including, but not limited to, barrier rail layout, grades, incidental slope grade check points and shoulder grades as covered under Caltrans Surveys Manual, Chapter 12, Section 1-1 “Responsibilities.”
7. Performing and assisting in all aspects of required office construction engineering work including setting up and maintaining project files, processing required documents and progress payments, as necessary.
C. Work Breakdown Structure Activities.

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>270</td>
<td>Construction Engineering and Contract Administration</td>
</tr>
<tr>
<td>270.10</td>
<td>Construction Staking Package and Control</td>
</tr>
<tr>
<td>270.10.10</td>
<td>Construction Staking Package</td>
</tr>
<tr>
<td>270.10.20</td>
<td>Project Control for Construction</td>
</tr>
<tr>
<td>270.22</td>
<td>Contract Administration</td>
</tr>
<tr>
<td>270.33</td>
<td>Construction Inspection</td>
</tr>
<tr>
<td>270.44</td>
<td>Control of Materials</td>
</tr>
<tr>
<td>270.56</td>
<td>Employment Compliance</td>
</tr>
<tr>
<td>270.66</td>
<td>Technical Support</td>
</tr>
<tr>
<td>280</td>
<td>Administration of Permits, Licenses, Agreements or Certifications (PLACs) and Environmental Stewardship</td>
</tr>
<tr>
<td>280.70</td>
<td>Updated Environmental Commitments Record</td>
</tr>
<tr>
<td>285</td>
<td>Change Order Administration</td>
</tr>
<tr>
<td>285.05</td>
<td>Change Order (CO) Process</td>
</tr>
<tr>
<td>285.10</td>
<td>Functional Support</td>
</tr>
<tr>
<td>285.10.15</td>
<td>Other Functional Support</td>
</tr>
<tr>
<td>295</td>
<td>Accept Contract/Prepare Final Construction Estimate And Final Report</td>
</tr>
<tr>
<td>295.05</td>
<td>Processed Estimate after Acceptance</td>
</tr>
<tr>
<td>295.10</td>
<td>Proposed Final Contract Estimate</td>
</tr>
<tr>
<td>295.15</td>
<td>As-Built Plans</td>
</tr>
<tr>
<td>295.20</td>
<td>Project History File</td>
</tr>
<tr>
<td>295.25</td>
<td>Final Report</td>
</tr>
</tbody>
</table>

Use the below reporting codes with WBS 280 activity:
- 401 COMP 401 permit compliance during construction of a project
- 401VIO Response to PLAC violation(s) under the 401 permit.
- COMP Compliance to regulations not included in the 401 permit.
- VIO Response to alleged PLAC violation(s) not under 401 permit
- UPDECR Updates to the Environmental Commitments Record (ECR).
- REEV Changes that affect project’s environmental documentation.
- UPDPLAC Renewal and/or extension requests for previously issued PLACs.
D. Consultant Roadway Construction Inspection and Office Engineer Responsible Person Requirements

The Consultant Roadway Construction Inspection and Office Engineer responsible person shall be a Registered Professional Engineer (Civil) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Consultant Roadway Construction Inspection and Office Engineer Personnel Requirements

1. Consultant Lead Roadway Construction Inspector

Consultant Lead Roadway Construction Inspectors shall be in possession of a valid certificate of registration as a civil engineer issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists. Principal Roadway Construction Inspectors shall have a documented minimum (6) years of demonstrated experience acceptable to Caltrans in roadway construction inspection, and shall have a minimum of two (2) of these six (6) years as a lead worker.

Consultant Lead Roadway Construction Inspectors shall also have:

a. Knowledge and experience with equipment used in roadway construction inspection, surveying, and construction office engineering.

b. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.

c. Knowledge and experience with principles of effective communication.

d. Knowledge and experience with monitoring labor compliance.

e. Knowledge and experience with subcontracting laws and policies.
f. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
h. Proper background clearance, as necessary, when performing work on or near the rail system.
i. Experience in Dispute Review Board (DRB) meetings and preparing position paper.
j. Knowledge and experience with analyzing construction claims and reviewing cost.
k. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

2. Consultant Roadway Construction Inspector

Consultant Roadway Construction Inspectors shall meet one of the following minimum qualifications (Either I or II below):

I) Graduation from a four-year curriculum in civil engineering accredited by the Accreditation Board for Engineering Technology (ABET). Possession of a valid certificate as an Engineer-in-Training issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists, or issued by another jurisdiction and accepted by the California Board may be substituted for the required education. A documented minimum two (2) years of demonstrated experience in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Or

II) A master's or doctorate degree in a civil engineering curriculum from a college or university that has a baccalaureate degree program in a civil engineering curriculum which is accredited by the Accreditation Board of Engineering Technology (ABET). A documented minimum two (2) years of demonstrated experience in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant Roadway Construction Inspectors shall also have knowledge and experience in the following:

a) Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office engineering work including, but not limited to the following: inspection of non-structural construction operations;
inspection of traffic control system compliance; contract change order (CCO) preparation, review, and analysis; and Water Pollution Control Program (Storm Water Pollution Prevention Plan) enforcement.

b) Capable of reviewing, inspecting, and approving traffic control systems, including lane closures, in accordance with Caltrans’ standards and requirements. Personnel reviewing, inspecting, and approving traffic control system work shall have one (1) year demonstrated experience in such work.

c) Consultant Roadway Construction Inspectors shall also have:

i. Knowledge and experience with equipment used in roadway construction inspection, surveying, field testing of construction materials, and construction office engineering.

ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.

iii. Knowledge and experience with principles of effective communication and supervision.

iv. Knowledge and experience with monitoring labor compliance.

v. Knowledge of subcontracting laws and policies.

vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.


viii. Proper background clearance, as necessary, when performing work on or near the rail system.

ix. Experience in assisting in preparation of Resident Engineers for the Dispute Review Board (DRB) position papers and meetings.

x. Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for Dispute Review Board (DRB).

xi. Experience in preparation of Claims files, documents and reports.

xii. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.
3. Consultant Assistant Roadway Construction Inspector

Consultant Assistant Roadway Construction Inspectors shall meet the following minimum qualifications:

Two (2) years of education equivalent to completion of a curriculum beyond the 12th grade in either (1) engineering which includes courses in trigonometry and algebra or higher, drafting, computer science, and physics, chemistry, or a comparable physical science; or (2) surveying which includes courses in trigonometry and algebra or higher, drafting, surveying, and computer science. A documented minimum four (4) years of demonstrated experience in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant Assistant Roadway Construction Inspectors shall also have knowledge and experience in the following:

I) Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office engineering work including, but not limited to the following: inspection of non-structural construction operations; inspection of traffic control system compliance; contract change order (CCO) preparation, review, and analysis; and Water Pollution Control Program (Storm Water Pollution Prevention Plan) enforcement.

II) Capable of reviewing, inspecting, and approving traffic control systems, including lane closures, in accordance with Caltrans’ standards and requirements. Personnel reviewing, inspecting, and approving traffic control system work shall have one (1) year demonstrated experience in such work.

III) Consultant Assistant Roadway Construction Inspectors shall also have:

i. Knowledge and experience with equipment used in roadway construction inspection, surveying, field testing of construction materials, and construction office engineering.

ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.

iii. Knowledge and experience with principles of effective communication and supervision.

iv. Knowledge and experience with monitoring labor compliance.
v. Knowledge of subcontracting laws and policies.
vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
viii. Proper background clearance, as necessary, when performing work on or near the rail system.
ix. Experience in assisting in preparation of Resident Engineers for the Dispute Review Board (DRB) position papers and meetings.
x. Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for Dispute Review Board (DRB).
xi. Experience in preparation of Claims files, documents and reports.
xii. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

4. Consultant Construction Office Engineers (COEs)

Consultant Construction Office Engineers shall meet one of the following minimum qualifications (Either I or II below):

I) Graduation from a four-year curriculum in civil engineering accredited by the Accreditation Board for Engineering Technology (ABET) and a documented minimum two (2) years of demonstrated experience acceptable to Caltrans in highway construction office engineering or in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

OR

II) Possession of a valid certificate as an Engineer-in-Training issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists, or issued by another jurisdiction and accepted by the California Board and a documented minimum two (2) years of demonstrated experience acceptable to Caltrans in highway construction office engineering or in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant COEs shall be capable of assisting the Caltrans Resident Engineer in all aspects of required office construction engineering work including, but not limited
to, labor compliance requirements; and shall also be knowledgeable and experienced in the following areas:

a. Setting up and maintaining project files.
b. Writing construction change orders.
c. Processing required documents and progress payments.
d. Prevailing Wage Laws and Regulations.
e. Monitoring and enforcing labor compliance.
f. Computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others).
g. Subcontracting laws and policies.

5. Consultant Assistant Construction Office Engineers (Assistant COEs)

Consultant Assistant Construction Office Engineers shall meet the following minimum qualifications:

Two years of education equivalent to completion of a curriculum beyond the 12th grade in either (1) engineering which includes courses in trigonometry and algebra or higher, drafting, computer science, and physics, chemistry, or a comparable physical science; or (2) surveying which includes courses in trigonometry and algebra or higher, drafting, surveying, and computer science. A documented minimum four (4) years of demonstrated experience acceptable to Caltrans in highway construction office engineering or in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant Assistant COEs shall be capable of assisting the Caltrans Resident Engineer in all aspects of required office construction engineering work including, but not limited to, labor compliance requirements; and shall also be knowledgeable and experienced in the following areas:

a. Setting up and maintaining project files.
b. Writing construction change orders.
c. Processing required documents and progress payments.
d. Prevailing Wage Laws and Regulations.
e. Monitoring and enforcing labor compliance.
f. Computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others).
g. Subcontracting laws and policies.
F. Roadway Construction Inspection and Office Engineer materials to be provided or made available by Caltrans.

1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.

2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.

G. Roadway Construction Inspection and Office Engineer Deliverables.

1. Consultant Daily reports and extra work daily reports shall be delivered to the Caltrans Resident Engineer (RE) within one workday of the work being covered by the daily report.

2. Construction contract progress payment quantity documents shall be delivered to the Caltrans Resident Engineer within five (5) working days after completion of the work or no later than the last working day preceding the 20th of each month.

3. Final payment quantity documents shall be delivered to the Caltrans Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed construction project final pay item.

4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.
SCOPE OF WORK/DELIVERABLES
ELECTRICAL CONSTRUCTION INSPECTION
For Caltrans, Division of Construction, District 11
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Electrical
Construction Inspection, on an “as-needed” basis to support Caltrans, Division of
Construction, District 11, in the construction of proposed Caltrans transportation facilities.

B. Electrical Construction Inspection Required Services.

Typical duties to be performed by the Consultant’s personnel shall include, but not be
limited to, the following:

1. Performing and assisting in performing the duties of an Electrical Construction
Inspector, including, but not limited to, electrical construction inspection, quantity
calculations, labor compliance interviews, safeguarding project, and assuring
compliance with project plans and specifications.

2. Identifying actual and potential problems associated with the construction project
work and recommending sound engineering solutions in a timely manner.

3. Maintaining an awareness of safety and health requirements and assuring
compliance with applicable regulations and construction contract provisions for the
protection of the public and construction project personnel.

4. Preparing calculations, records, reports, and correspondence related to construction
project activities.

5. Assisting in the preparation of final As-Built plans and reports at the completion of
construction.

6. Performing the Electrical Construction inspection and compliance monitoring of
projects.

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work
described in this attachment template:

270 Construction Engineering and Contract Administration
270.10.20 Project Control for Construction
270.22 Contract Administration
270.33 Construction Inspection
270.44 Control of Materials
270.56 Employment Compliance
D. Consultant Electrical Construction Inspection Responsible Person Requirements

The Consultant Electrical Construction Inspection responsible person, shall be a Registered Professional Engineer (Electrical) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Consultant Electrical Construction Inspector Personnel Requirements

1. Consultant Lead Electrical Construction Inspector

Consultant Lead Electrical Construction Inspectors shall have the following minimum qualifications:

   a. A documented minimum seven (7) years of demonstrated experience in electrical construction inspection of highways or major public works projects performing the duties described in this contract. Graduation from a four-year curriculum in electrical engineering accredited by the Accreditation Board for Engineering Technology (ABET) can be substituted for two (2) years of electrical work experience. A valid certificate of registration as an electrical engineer issued by the California State Board of Registration for Professional Engineers Land Surveyors, and Geologists can also be substituted for two (2) years of electrical work experience.

   b. Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office engineering work including, but not limited to the
following: inspection of non-structural electrical construction operations and contract change order (CCO) preparation, review, and analysis.

c. Consultant Lead Electrical Construction Inspectors shall also have:
   i. Knowledge and experience with equipment used in electrical construction inspection, and construction office engineering.
   ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
   iii. Knowledge and experience with principles of effective communication.
   iv. Knowledge and experience with monitoring labor compliance.
   v. Knowledge of subcontracting laws and policies.
   vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.

2. Consultant Electrical Construction Inspector

Consultant Electrical Construction Inspectors shall have the following minimum qualifications:

a. Possession of a valid certificate of registration as an electrical engineer issued by the California Board of Registration for Professional Engineers.

   OR

   Graduation from a four-year curriculum in electrical, electronic or computer engineering accredited by the Accreditation Board for Engineering Technology (ABET).

b. A documented minimum four (4) years of demonstrated experience in construction inspection of highways or major public works projects performing the duties described in this contract, with two (2) of these four (4) years inspecting electrical work.

c. Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office engineering work including, but not limited to the following: inspection of non-structural electrical construction operations and contract change order (CCO) preparation, review, and analysis.

d. Consultant Electrical Construction Inspectors shall also have:
   i. Knowledge and experience with equipment used in electrical construction inspection and construction office engineering.
ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.

iii. Knowledge and experience with principles of effective communication.

iv. Knowledge and experience with monitoring labor compliance.

v. Knowledge of subcontracting laws and policies.

vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.


viii. Proper background clearance, as necessary, when performing work on or near the rail system.

F. Electrical Construction Inspection materials to be provided or made available by Caltrans.

1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.

2. Caltrans construction forms as necessary, including digital electronic or hardcopy forms (as specified by the Caltrans Resident Engineer on the Project).

G. Electrical Construction Inspection Deliverables.

1. Consultant Daily reports and extra work daily reports shall be delivered to the Caltrans Resident Engineer (RE) within one (1) workday of the work being covered by the daily report.

2. Construction contract progress payment quantity documents shall be delivered to the Caltrans Resident Engineer within five (5) working days after completion of the work or no later than the last working day preceding the 20th of each month.

3. Final payment quantity documents shall be delivered to the Caltrans Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed construction project final pay item.

4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.
SCOPE OF WORK/DELIVERABLES
LANDSCAPE ARCHITECTURAL CONSTRUCTION INSPECTION

For Caltrans, Division of Construction, District 11
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Landscape Architectural Construction Inspection, on an “as-needed” basis to support Caltrans, Division of Construction, District 11, in the construction of proposed Caltrans transportation facilities.

B. Required Services

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

1. Performing and assisting in performing the duties of a Landscape Architectural Construction Inspector, including but not limited to, landscape architectural construction inspection, quantity calculations, labor compliance interviews, and assuring compliance with project plans and specifications.
2. Identifying actual and potential problems associated with the construction project work and recommending sound engineering solutions in a timely manner.
3. Maintaining an awareness of safety and health requirements and assuring compliance with applicable regulations and construction contract provisions for the protection of the public and construction project personnel.
4. Preparing quantity calculations, records, reports, and correspondence related to construction project activities.
5. Assisting in the preparation of final As-Built plans and reports at the completion of construction.

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

270 Construction Engineering and Contract Administration
270.22 Contract Administration
270.33 Construction Inspection
270.44 Control of Materials
270.56 Employment Compliance
270.66 Technical Support
Administration of Permits, Licenses, Agreements or Certifications (PLACs) and Environmental Stewardship

Use the below reporting codes with WBS 280 activity

- 401 COMP 401 permit compliance during construction of a project
- 401VIO Response to PLAC violation(s) under the 401 permit.
- COMP Compliance to regulations not included in the 401 permit.
- VIO Response to alleged PLAC violation(s) not under 401 permit
- UPDECR Updates to the Environmental Commitments Record (ECR).
- REEV Changes that affect project’s environmental documentation.
- UPDPLAC Renewal and/or extension requests for previously issued PLACs.

Updated Environmental Commitments Record

Change Order Administration

Change Order (CO) Process

Functional Support

Other Functional Support

Accept Contract/Prepare Final Construction Estimate and Final Report

Processed Estimate after Acceptance

Proposed Final Contract Estimate

As-Built Plans

Project History File

Final Report

Processed Final Estimate

Certificate Of Environmental Compliance (CEC)

Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance

Other Accept Contract/Prepare Final Construction Estimate and Final Report

D. Consultant Landscape Architectural Construction Inspection Responsible Person Requirements

The Consultant Landscape Architectural Construction Inspection responsible person shall have a license as a Landscape Architect, issued by the California Landscape Architects Technical Committee, at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.
E. Consultant Landscape Architectural Construction Inspection Personnel Requirements

1. Consultant Landscape Architectural Construction Inspector

Consultant Landscape Architectural Construction Inspectors shall have the following minimum qualifications:

a. Possession of a valid Certificate of Registration as a Landscape Architect issued by the California Board of Landscape Architects.
   OR
   Graduation from a curriculum in Landscape Architecture from a college or university accredited by the American Society of Landscape Architects.

b. A documented minimum four (4) years demonstrated experience in construction inspection of highways or major public works projects performing the duties described in this contract, with two (2) of these four (4) years inspecting Landscape Architectural construction.

c. Capable of assisting the Caltrans Resident Engineer in all aspects of required field and office construction engineering work including, but not limited to the following: inspection of non-structural landscape architectural construction operations and contract change order (CCO) preparation, review, and analysis.

d. Consultant Landscape Architectural Construction Inspectors shall also have:
   i. Knowledge and experience with equipment used in landscape architectural construction inspection, and construction office engineering.
   ii. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.
   iii. Knowledge and experience with principles of effective communication.
   iv. Knowledge and experience with monitoring labor compliance.
   v. Knowledge of subcontracting laws and policies.
   vi. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
   viii. Proper background clearance, as necessary, when performing work on or near the rail system.
F. Landscape Architectural Construction Inspection materials to be provided or made available by Caltrans.

1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.

2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.

G. Landscape Architectural Construction Inspection Deliverables.

1. Consultant Daily reports and extra work daily reports shall be delivered to the Caltrans Resident Engineer (RE) within one workday of the work being covered by the daily report.

2. Construction contract progress payment quantity documents shall be delivered to the Caltrans Resident Engineer within five (5) working days after completion of the work or no later than the last working day preceding the 20th of each month.

3. Final payment quantity documents shall be delivered to the Caltrans Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed construction project final pay item.

4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.
SCOPE OF WORK/DELIVERABLES
Construction Materials Sampling and Testing Services
for Caltrans, Division of Construction, District 11
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Construction Materials Sampling and Testing Services, including, but not limited to, field sampling, construction materials testing, analysis, reports, plant inspection, and work related to test equipment calibration on an “as-needed” basis to support Caltrans, Division of Construction, District 11, in the construction of proposed Caltrans transportation facilities.

B. Construction Materials Sampling and Testing Required Services.

1. The Consultant shall perform services relating to field sampling and in situ testing of materials (collectively, "Materials Sampling and Testing Work") as required by the Caltrans Contract Manager and specified in a Task Order. The Consultant shall perform services relating to laboratory testing, analysis, and reporting of materials (collectively, "Special Materials Analysis Work") as required by the Caltrans Contract Manager and as specified in a Task Order.

2. The Consultant shall make inspections for material control at roadway material processing plants’ operations during the production of Asphalt Concrete, Portland Cement Concrete, and other related materials. The Consultant shall sample and test rock and sand according to the California Test Methods and Caltrans’ Construction Manual. The Consultant shall also obtain samples of binders, cements and admixtures in accordance with the requirements of the Construction Manual. The Consultant shall visit quarries and mine pits to witness material source sampling and stockpiling.

3. The Consultant shall maintain a set of project files that shall be indexed in accordance with Caltrans' California Test Methods Manual.

4. The Consultant shall prepare the required calculations and reports according to Caltrans standards and requirements for the Materials Sampling and Testing Services work including the plant inspection services work.

5. The Consultant shall have access to plant and mobile laboratories to perform Materials Sampling and Testing Services. The Consultant shall provide a copy of the firm’s nuclear gauge license to Caltrans.
6. The Consultant shall have the ability to respond in a timely and cost efficient manner to Caltrans requests for Materials Sampling and Testing Services work at any project locations.

7. Construction Materials Testing during construction of State highway facilities may include, but not be limited to, the following tests:

<table>
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<tr>
<th>California Test Method No.</th>
<th>Description</th>
<th>Response Time for Completing Tests (Hours)</th>
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<tr>
<td>105</td>
<td>Calculations pertaining to Gradings and Specific Gravities</td>
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<td>125</td>
<td>Sampling Roadway Materials</td>
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<td>201</td>
<td>Method of Test for Soil and Aggregate Sample Preparation</td>
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<td>Sieve Analysis</td>
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<td>205</td>
<td>Crushed Particles</td>
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<td>211</td>
<td>LA Rattler</td>
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<td>Maximum Density</td>
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<td>308</td>
<td>Method of Test for Determining Bulk Specific Gravity and Density of Compacted Hot Mix Asphalt</td>
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<td>Method of Test for Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt</td>
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<td>366</td>
<td>Stabilometer</td>
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<td>Entrained Air Content</td>
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<tr>
<td>518</td>
<td>Unit Weight/PCC</td>
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<td>521</td>
<td>Method of Test for Compressive Strength of Molded Concrete Cylinders</td>
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<td>523</td>
<td>Flexural Strength (Beam)</td>
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<tr>
<td>524</td>
<td>Method of Test for Flexural Strength of Rapid Strength Concrete</td>
<td>4</td>
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</tbody>
</table>
8. Source/Plant Inspection and Laboratory Work.

9. The Consultant shall provide a Consultant Lead Material Engineering Tester to supervise Consultant Material Engineering personnel.

10. Duties assigned to the Consultant’s Material Engineering personnel shall generally be in line of the overall District 11 Regional Laboratory activities and services that support the Caltrans project delivery plan in Districts 11. Typical duties may include, but not be limited to, the following:
   a. Providing Material Engineering personnel to the Material Testing Unit performing testing and engineering analysis on hot mix asphalt and asphalt binder. The Material Engineering personnel shall be responsible for: construction materials testing, batching samples, and mix design verifications and analysis in accordance with test methods from American Association of State Highway and Transportation Officials (AASHTO), American Standards for Testing and Materials (ASTM) and/or California Test Method (CTM). Information is available at:
      i. http://www.transportation.org/
      ii. http://www.astm.org
   b. Perform data analysis and prepare draft report on material data analysis.
   c. Install, test, operate, and maintain laboratory instrumentation and devices including regular maintenance and calibration as required for laboratory certification.
   d. Operate computer to record and file test results.

11. The Consultant laboratory shall be accredited and Material Engineering personnel shall be certified by Caltrans in performing California Test Methods relating to
concrete, aggregate, surface treatment materials, or hot mix asphalt. Information on accreditation is located in the Caltrans Independent Assurance Manual at:

12. The Consultant shall be accredited by AASHTO, American Material Research Laboratory (AMRL), and Concrete Cement Research Laboratory (CCRL) certified for aggregates, soils, concrete, cement, masonry, and metals. Proofs of current accreditation are required to be submitted at the time of the Contract execution.

13. Materials District laboratory testing during construction of State highway facilities may include, but not be limited to, the following tests:

<table>
<thead>
<tr>
<th>California Test Method No.</th>
<th>AASHTO Test</th>
<th>Description</th>
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<tr>
<td>105</td>
<td>None</td>
<td>Calculations Pertaining to Gradings and Specific Gravities</td>
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<tr>
<td>106</td>
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<td>Definitions of Terms Relating to SG</td>
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<td>125</td>
<td>None</td>
<td>Sampling HMA Highway Materials</td>
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<tr>
<td>125</td>
<td>None</td>
<td>Sampling Aggregate Highway Materials</td>
</tr>
<tr>
<td>125</td>
<td>None</td>
<td>Sampling PCC Highway Materials</td>
</tr>
<tr>
<td>125</td>
<td>None</td>
<td>Sampling Miscellaneous Highway Materials</td>
</tr>
<tr>
<td>201</td>
<td>None</td>
<td>Sample Preparation</td>
</tr>
<tr>
<td>202</td>
<td>T11,T27</td>
<td>Sieve Analysis</td>
</tr>
<tr>
<td>204</td>
<td>T89, T90</td>
<td>Liquid Limit, Plastic Limit and Plasticity Index</td>
</tr>
<tr>
<td>205</td>
<td>ASTM 05821</td>
<td>Crushed Particles</td>
</tr>
<tr>
<td>206</td>
<td>T84</td>
<td>SpG &amp; Absorption (course)</td>
</tr>
<tr>
<td>207</td>
<td>T85</td>
<td>SpG &amp; Absorption (fine)</td>
</tr>
<tr>
<td>211</td>
<td>T96</td>
<td>LA Rattler</td>
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<tr>
<td>212</td>
<td>None</td>
<td>Unit Weight of Aggregate</td>
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<tr>
<td>217</td>
<td>T176</td>
<td>Sand Equivalent (S.E)</td>
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<tr>
<td>227</td>
<td>None</td>
<td>Evaluating Cleanness of Course Aggregate</td>
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<tr>
<td>229</td>
<td>None</td>
<td>Durability Index</td>
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<tr>
<td>235</td>
<td>ASTM D4791</td>
<td>% of Flat and Elongated Particles in Course Aggregate</td>
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<td>301</td>
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<td>R Value</td>
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<td>Prep of Bitumenous Mixes</td>
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<tr>
<td>308</td>
<td>T275</td>
<td>Bulk SpG of Bituminous Mixes</td>
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<td>309</td>
<td>T209</td>
<td>Rice Specific Gravity</td>
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<tr>
<td>366</td>
<td>T246</td>
<td>Stabilometer</td>
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<tr>
<td>367</td>
<td>None</td>
<td>Recommending OBC</td>
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<td>368</td>
<td>None</td>
<td>OBC for Open Graded HMA</td>
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<td>Tensile Strength Ratio</td>
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<td>382</td>
<td>T308</td>
<td>Asphalt Content of HMA by Ignition Oven</td>
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<tr>
<td>None</td>
<td>T-312</td>
<td>Gyratory Compactor</td>
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<td>None</td>
<td>T-324</td>
<td>Hamburg Wheel Track Test</td>
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14. Tests to be provided by the Consultant Material Engineering personnel may include, but not be limited to:


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<tr>
<th>CTM</th>
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<th>ASTM</th>
<th>California Test Methods</th>
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<tr>
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<td>Sampling Highway Materials - Asphalt Concrete</td>
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<td>Sampling Highway Materials - PCC</td>
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<td>MS125</td>
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<td>Sampling Highway Materials - Miscellaneous</td>
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<td>201</td>
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<td>Soil and Aggregate Sample Preparation</td>
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<td>202</td>
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<td>None</td>
<td>Sieve Analysis of Fine and Coarse Aggregate</td>
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<td>203</td>
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<td>Mechanical Analysis of Soils</td>
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<td>None</td>
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<td>Plasticity Index of Soils</td>
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<td>205</td>
<td>None</td>
<td>None</td>
<td>Determining Percentage of Crushed Particles</td>
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<td>None</td>
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<td>None</td>
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<td>Specific Gravity and Absorption of Fine Aggregate</td>
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<td>Apparent Specific Gravity of Fine Aggregate</td>
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<td>Abrasion of Coarse Aggregate (LA Rattler Machine)</td>
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<td>Organic Impurities in Concrete Sand</td>
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<td>214</td>
<td>None</td>
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<td>Soundness of Aggregates by Use of Sodium Sulfate</td>
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<tr>
<td>216</td>
<td>None</td>
<td>None</td>
<td>Method of Test for Relative Compaction of Untreated and Treated Soils and Aggregates</td>
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<tr>
<td>CTM</td>
<td>AASHTO</td>
<td>ASTM</td>
<td>California Test Methods</td>
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<td>217</td>
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<td>None</td>
<td>Determination of Sand Equivalent of Fine Aggregate</td>
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<td>226</td>
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<td>None</td>
<td>Method of Determination of Moisture Content by Oven Drying</td>
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<td>Evaluating Cleanliness of Coarse Aggregate</td>
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<tr>
<td>229</td>
<td>None</td>
<td>None</td>
<td>Durability Index</td>
</tr>
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<td>231</td>
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<td>None</td>
<td>Method of Test for Relative Compaction of Untreated and Treated Soils and Aggregates using Nuclear Gage</td>
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<td>Determination of the &quot;R&quot; Value (Aggregates &amp; Soils)</td>
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<tr>
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<td>None</td>
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<td>Method of Test for Determining Bulk Specific Gravity and Density of Compacted Hot Mix Asphalt</td>
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<td>Method of Test for Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt</td>
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<td>Determining the In-Place Density and Relative Compaction of Hot Mix Asphalt Pavement using Nuclear Gages</td>
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<tr>
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<td>Air Content of Freshly Mixed Concrete by the Pressure Method</td>
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<td>Compressive Strength of Molded Concrete Cylinders</td>
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<td>523</td>
<td>None</td>
<td>None</td>
<td>Flexural Strength of Concrete (Simple Beam, Center-Point Loading)</td>
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<td>Method of Test for Flexural Strength of Rapid Strength Concrete</td>
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<tr>
<td>529</td>
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<td>Proportions of Coarse Aggregate in Fresh Concrete</td>
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<td>533</td>
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<td>Method of Test for Ball Penetration in Fresh Portland Cement Concrete</td>
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<td>539</td>
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<td>None</td>
<td>Method of Test for Sampling Fresh Concrete</td>
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<tr>
<td>540</td>
<td>None</td>
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<td>Method of Test for Making, Handling, and Storing Concrete Compressive Test Specimens in the Field</td>
</tr>
<tr>
<td>552</td>
<td>None</td>
<td>None</td>
<td>Relative Compaction of Polymer Concrete, Nuclear</td>
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CTM | AASHTO | ASTM | California Test Methods
---|---|---|---
940 | None | None | Making, Handling, and Storing Concrete Compressive Test Specimens

b. Soil.

<table>
<thead>
<tr>
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<th>Soil</th>
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<tbody>
<tr>
<td>None</td>
<td>R 0058</td>
<td>D 0421</td>
<td>Dry Preparation of Disturbed Soil and Soil-Aggregate Samples for Testing</td>
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<tr>
<td>None</td>
<td>T 0088</td>
<td>D 0422</td>
<td>Particle Size Analysis of Soils</td>
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<tr>
<td>None</td>
<td>T 0089</td>
<td>D 4318</td>
<td>Determining the Liquid Limit of Soils</td>
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<td>T 0090</td>
<td>D 4318</td>
<td>Determining the Plastic Limit and Plasticity Index of Soils</td>
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<td>T 0100</td>
<td>None</td>
<td>Specific Gravity of Soils</td>
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<tr>
<td>None</td>
<td>T 0176</td>
<td>D 2419</td>
<td>Plastic Fines in Graded Aggregates and Soils by Use of the SE Test</td>
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<tr>
<td>None</td>
<td>T 0190</td>
<td>D 2844</td>
<td>Resistance R-Value and Expansion Pressure of Compacted Soils</td>
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<tr>
<td>None</td>
<td>T 0265</td>
<td>D 2216</td>
<td>Laboratory Determination of Moisture Content of Soils</td>
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<tr>
<td>None</td>
<td>None</td>
<td>D 1140</td>
<td>Amount of Material in Soils Finer than No. 200 (75-μm) Sieve</td>
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c. Aggregate.

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<th>Aggregate</th>
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<tr>
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<td>C 0117</td>
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<td>C 0040</td>
<td>Organic Impurities in Fine Aggregates for Concrete</td>
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<td>T 0027</td>
<td>C 0136</td>
<td>Sieve Analysis of Fine and Coarse Aggregates</td>
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<td>T 0084</td>
<td>C 0128</td>
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<td>None</td>
<td>T 0085</td>
<td>C 0127</td>
<td>Specific Gravity and Absorption of Coarse Aggregate</td>
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<tr>
<td>None</td>
<td>T 0096</td>
<td>C 0131</td>
<td>Resistance to Degradation, Coarse Agg by Abrasion &amp; Impact in the LA Rattler</td>
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<tr>
<td>None</td>
<td>T 0104</td>
<td>C 0088</td>
<td>Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate</td>
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<td>CTM</td>
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<td>ASTM</td>
<td>Description</td>
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<tr>
<td>None</td>
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<td>D 2419</td>
<td>Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test</td>
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<tr>
<td>None</td>
<td>T 0210</td>
<td>D 3744</td>
<td>Aggregate Durability Index</td>
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<tr>
<td>None</td>
<td>T 0248</td>
<td>C 0702</td>
<td>Reducing Samples of Aggregate to Testing Size</td>
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<tr>
<td>None</td>
<td>T 0255</td>
<td>C 0566</td>
<td>Total Evaporable Moisture Content of Aggregate by Drying</td>
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<tr>
<td>None</td>
<td>T 0304</td>
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<td>Uncompacted Void Content of Fine Aggregate</td>
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<td>D 4791</td>
<td>Flat Particles, Elongated Particles, or Flat and Elongated in Coarse Aggregate</td>
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d. Portland Cement Concrete.

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<td>C 0031</td>
<td>Making and Curing Concrete Test Specimens in the Field</td>
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<tr>
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<td>C 0039</td>
<td>Compressive Strength of Cylindrical Concrete Specimens</td>
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<tr>
<td>None</td>
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<td>C 0078</td>
<td>Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)</td>
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<td>None</td>
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<td>Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete</td>
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<tr>
<td>None</td>
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<td>C 0143</td>
<td>Slump of Hydraulic-Cement Concrete</td>
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<tr>
<td>None</td>
<td>None</td>
<td>C 0172</td>
<td>Sampling Freshly Mixed Concrete</td>
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<td>None</td>
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<td>Air Content of Freshly Mixed Concrete by the Volumetric Method</td>
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<td>Making and Curing Concrete Test Specimens in the Laboratory</td>
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<td>Capping Cylindrical Concrete Specimens - (7000 psi and below)</td>
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<td>Temperature of Freshly Mixed Hydraulic-Cement Concrete</td>
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<td>Unbonded Caps, Comp. Strength, Hardened Concrete Cyl. - (7000 psi &amp; below)</td>
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e. Hydraulic Cement - Physical Tests.
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<tr>
<td>None</td>
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<td>Comp. Strength of Hyd. Cement Mortars (Using 2-in. or [50-mm] Cube Spec.)</td>
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<td>None</td>
<td>None</td>
<td>C 0151</td>
<td>Autoclave Expansion of Hydraulic Cement</td>
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<td>Sampling and the Amount of Testing of Hydraulic Cement</td>
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<td>Air Content of Hydraulic Cement Mortar</td>
</tr>
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<td>C 0187</td>
<td>Amount of Water Required for Normal Consistency of Hydraulic Cement Paste</td>
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<tr>
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<td>C 0191</td>
<td>Time of Setting of Hydraulic Cement by Vicat Needle</td>
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<tr>
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<td>Fineness of Hydraulic Cement by Air-Permeability Apparatus</td>
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<td>Time of Setting of Hydraulic-Cement Paste by Gillmore Needles</td>
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<td>Mechanical Mixing of Hyd. Cement Pastes and Mortars of Plastic Consistency</td>
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<td>Fineness of Hydraulic Cement by the 45-μm (No. 325) Sieve</td>
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<td>Early Stiffening of Hydraulic Cement (Paste Method)</td>
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<tr>
<td>None</td>
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<td>Flow of Hydraulic Cement Mortar</td>
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f. Masonry.

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<td>Capping Concrete Masonry Units, Related &amp; Masonry Prisms for Comp. Testing</td>
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<td>Sampling - Sampling and Testing Concrete Masonry Units and Related Units</td>
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<td>None</td>
<td>None</td>
<td>C 0140</td>
<td>Absorption - Sampling and Testing Concrete Masonry Units and Related Units</td>
</tr>
<tr>
<td>None</td>
<td>None</td>
<td>C 0140</td>
<td>Strength - Sampling and Testing Concrete Masonry Units and Related Units</td>
</tr>
</tbody>
</table>

CTM, AASHTO, and ASTM refer to the organizations involved in the standards development for the tests.
15. Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:
   a. Performing construction materials sampling and testing, including plant inspection.

16. All field testing is to be performed in accordance with California Test Methods located at http://www.dot.ca.gov/hq/esc/ctms/index.html, by Consultants certified in the appropriate test methods. In addition, equivalent alternatives may be described in each project’s “Special Provisions” and shall be provided by Caltrans.

17. Sampling and testing of materials for quality assurance.

18. Performing plant inspections for quality assurance.

19. Preparing calculations, records, reports and correspondence related to project activities.

20. Provide incidental engineering support services for construction change orders and claims issues as required.

21. Assist and advise Caltrans as technical experts during the claims process including, but not limited to, Dispute Review Board (DRB), District Board Review (DBR) and Arbitration process as relating to, but not be limited to, welding, structural steel members fabrication, precast concrete members fabrication and painting. Consultant shall not be required to administer the DRB process.

C. Workplan Standards Guide Codes.

Task Orders are based on the Caltrans Workplan Standards Guide (WSG). The latest WSG is found in the Guide to Project Delivery Workplan Standards Guide, which is available from the Caltrans’ Publication Unit and on the Internet at http://www.dot.ca.gov/hq/projmgmt/guidance.htm. The WSG references the Work Breakdown Structure (WBS) categories, which are potential and related work activities applicable to this Contract. The WGS references WBS categories which present the potential and related work activities that the Consultant may be required to perform. All revisions to the current version of the Work Breakdown Structure (WBS) shall apply during the life of this Contract.

The WBS activities below applicable to this Contract are limited to those set forth below:

100 Perform Project Management (Contract Management)
100.20 Project Management - Construction Component
270.22 Contract Administration
D. Consultant Construction Material Sampling and Testing Responsible Person Requirements

The Consultant Construction Material Sampling and Testing responsible person shall be a Registered Professional Engineer (Civil) licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologist at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Construction Materials Sampling and Testing Personnel Requirements.

1. Consultant Dispatch Coordinator.

For each Task Order, the Consultant shall provide a Dispatch Coordinator to assign material testers and plant inspectors to specific projects per Caltrans request.

2. Consultant Personnel and Team Member Qualifications.

The Consultant’s personnel assigned to perform Construction Materials Sampling and Testing shall have the following desirable minimum qualifications:

a. The Consultant’s field construction personnel shall be capable of reviewing, inspecting, and approving traffic control systems, including lane closures, in accordance with Caltrans’ standards and the requirements. Personnel reviewing, inspecting, and approving traffic control system work shall have a documented minimum one (1) year of demonstrated experience acceptable to Caltrans in such work.
i. The Consultant’s personnel assigned to perform construction materials testing and plant inspection work shall have the following minimum qualifications:
   • Consultant Material Testers and Consultant Plant Inspectors must be qualified under the Department’s Independence Assurance Program

The Consultant team member shall be capable of assisting the Consultant Contract Manager in all aspects of the required work. The Consultant team member’s required professional qualifications shall be identified in each Task Order.

3. Consultant Plant Inspectors shall:
a. Have knowledge of physical properties and uses of engineering construction materials used in state transportation projects.
b. Have familiarity with weighing and batching equipment.
c. Have knowledge of how materials are placed, sampled, and tested.
d. Have knowledge of construction contract documents including Plans and Specifications.
e. Have knowledge of the Standard Specifications and Special Provisions relating to material testing.
f. Have knowledge of sampling and testing frequencies shown in the Construction Manual, in the QC/QA procedures, or as outlined in the Special Provisions.
g. Have ability to interpret material test data and visually recognize basic material properties throughout production and placement.
h. Have ability to work independently, make clear recommendations, prepare concise reports/documentation, and work constructively with others.
i. Have analytical determination of material acceptability and interpretation of material problems.
j. Have current certification required by Caltrans in the testing procedure before execution of the Contract and prior to that individual’s performance of any Field or Laboratory work that requires certification. Common test methods that require certification include, but not be limited to, the following California Test Methods: 105, 109, AG125, AC125, PC125, MS125, 201, 202, 217, 226, and 227.
k. Have knowledge of, and comply with, safety and health regulations and requirements applicable to the projects.

4. Consultant Field Material Testers shall:
a. Have knowledge of uses of engineering construction materials used in state transportation projects.
b. Have knowledge of how materials are placed, sampled, and tested.
c. Have knowledge of construction contract documents including plans and specifications.
d. Have knowledge of the Standard Specifications and Special Provisions relating to material testing.

e. Have knowledge of field testing frequencies shown in the Construction Manual, in the QC/QA procedures, or as outlined in the Special Provisions.

f. Have ability to interpret material test data and visually recognize basic material properties throughout production and placement.

g. Have ability to work independently, to make clear recommendations, to prepare concise reports/documentation, and work constructively with others.

h. Have analytical determination of material acceptability and interpretation of material problems.

i. Have certification of Nuclear Gauge Operator Training.

j. Have current certification required by Caltrans in the testing procedure before execution of the Contract and prior to that individual’s performance of any Field or Laboratory work that requires certification. Common test methods that require certification include, but not be limited to, the following California Test Methods: 105, AG125, AC125, PC125, MS125, 201, 202, 216, 231, 375, 504, 518, 521, 523, 524, 533, 539, 540, and 552.

k. Certified in radiation safety prior to starting work.

l. Shall be capable of assisting the Resident Engineer in all aspects of material testing work including, but not limited to, the following:

i. Have the ability to establish specific location for appropriate tests when construction contract administration personnel are not available.

ii. Be familiar with construction practices and be able to orient themselves at the project site.

iii. Have knowledge of, and comply with, safety and health regulations and requirements applicable to the projects.

5. Consultant Construction Materials Sampling and Testing personnel assigned to work in the District 11 be certified in the tests that have been identified for the District 11 Regional Laboratory prior to starting work. They include: 105, 106, AG125, AC125, PC125, MS125, 201, 202, 204, 205, 206, 207, 211, 212, 217, 227, 229, 235, 301, 304, 309, 366, 367, 382, and AASHTO test T-283, T-312, and T-324.

6. Consultant Supervisors of laboratory and/or field technicians shall have a documented minimum three (3) years of demonstrated experience acceptable to Caltrans in performing the material tests, which are run by the technicians they are supervising. The supervisors shall be certified by the National Institute for Certification in Engineering Technologies (NICET) at Level III or higher in the appropriate Construction Materials Testing field, or complete the Joint Training Certification Program, or meet one (1) of the following requirements:
a. Be registered as a Professional Engineer licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, and shall have a documented minimum one (1) year of demonstrated experience acceptable to Caltrans in highways.

b. Possession of a valid Engineer-in-Training (EIT) certificate issued or accepted by the California State Board for Professional Engineers, Land Surveyors, and Geologists and shall have a documented minimum two (2) years of demonstrated experience acceptable to Caltrans in highways.

c. Hold a Degree (Bachelors, Masters, or higher) in Civil Engineering from an ABET accredited institution (College or University) or an Associate Degree in Civil Engineering Technology and shall have a documented minimum three (3) years of demonstrated experience acceptable to Caltrans in highways.


The Consultant’s Lead Material Engineering Tester shall be a Registered Professional Civil Engineer licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, and shall have a documented minimum three (3) years of demonstrated experience acceptable to Caltrans in a responsible role, following licensing, in his/her responsible field of work.

The Consultant’s Lead Material Engineering Tester shall communicate and coordinate with the District 11 Regional Laboratory Manager and be available at all time during normal working hours. In addition to other specified responsibilities, the Consultant’s Lead Material Engineering Tester is required to be working in District 11 Regional Laboratory and shall be responsible for all matters related to Material Engineering personnel daily operation and tasks, including, but not limited to:

a. Directing, reviewing, and monitoring, all work performed by the Consultant’s Material Engineering personnel.

b. Overseeing, coordinating, and scheduling the entire Consultant’s Material Engineering personnel.

c. Assigning and matching Consultant’s Material Engineering personnel to specific tasks and engineering expertise.

8. The Consultant’s Material Engineering personnel shall have the following qualifications.

a. Shall have a minimum education equivalent to completion of the 12th grade.

b. A documented minimum three (3) years of demonstrated experience acceptable to Caltrans in laboratory testing on transportation materials. A
Degree (Bachelors, Masters, or higher) in engineering or related fields may be used to compensate for one (1) year of demonstrated experience acceptable to Caltrans.

c. Shall be able to communicate effectively and write clearly in English.

d. Knowledge of the following:
   i. Material testing equipment, setup, operation, calibration, maintenance, certification, procedures, and records.
   ii. Materials sampling, testing, verification, and batching.
   iii. Have knowledge of QC/QA procedures.
   iv. Have various current certifications with California Test Methods, AASHTO, and ASTM test methods relating to roadway and structural materials used in highway and bridge construction.
   v. Using and adjusting precision instruments.
   vi. Methods, materials, tools, and equipment used in highway and bridge construction and maintenance work.
   vii. Physical characteristics and properties of highway and bridge construction materials and the approved methods and equipment used in making physical tests of construction materials.
   viii. Conventional and state-of-the-art computer applications to transportation engineering work.

9. Consultant’s Material Engineering Testers qualifications shall be in conformance with the Caltrans Independent Assurance Manual. Consultant’s Material Engineering Testers are required to go through the Qualification Program mentioned in the manual prior to the working in the SRL. The Independent Assurance Manual is located at:


F. General Requirements.

1. The Consultant shall prepare the required analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract according to requirements of this Contract and applicable Caltrans Manuals for the work.

2. As directed and as a first order of work, the Consultant shall prepare and update a comprehensive Critical Path Method (CPM) network diagram, Bar Chart Schedule, Logic Network Schedule, and the Caltrans Work Breakdown Structure (WBS) for
each Task Order issued by the Caltrans Contract Manager showing a deliverables schedule as well as other relevant data to monitor project progress, Consultant’s work control, and Caltrans review of work status, if required in the Task Order. The relevant data shall include a list of activities with budgeted cost, milestones, and target date for completion of each activity. The minimum number of task details shall be identified in the Task Order. This workplan shall be updated once a month to show the approved baseline schedule and the actual progress schedule.

Caltrans shall review these documents and return them to the Consultant with notes and comments as soon as possible in order to validate the planning and cost control procedures within the first calendar month of performance period.

3. The Consultant’s timesheet/invoices/expenses shall be subject to the Consultant Contract Manager’s review and the approval of the Caltrans Contract Manager before submitting timesheets, invoices, or expense reimbursement requests for payment.

4. The Consultant shall begin the required work within two (2) working days after receiving a fully executed Task Order and the issuance of the Notice to Proceed (NTP) from the Caltrans Contract Manager to the Consultant Contract Manager or on the date specified in the Task Order. Some work, however, may require Consultant personnel to mobilize within 24-hour of notifications. Once the work begins, the work shall be prosecuted/performed diligently until all required work has been completed to the satisfaction of the Caltrans Contract Manager or Caltrans designee.

5. The work shall not be performed when conditions prevent a safe and efficient operation, and shall only be performed with written authorization by Caltrans.

6. The Consultant Contract Manager, Consultant Task Order Manager, and Key Personnel shall be accessible to the Caltrans Contract Manager at all times during normal Caltrans working hours or after hours as required by the Caltrans Contract Manager.

7. The Consultant Contract Manager may direct the Consultant’s employees to work overtime to meet Task Order schedules at the request of the Caltrans Contract Manager. All overtime shall be pre-approved by the Caltrans Contract Manager. Overtime shall be worked only when directed in writing by the Caltrans Contract Manager and specifically required by the Task Order, and shall only be paid to persons covered by the Fair Labor Standards Act.

8. All Consultant personnel are required to sign a confidentiality and nondisclosure agreement.
9. The Consultant may not disclose any information to third parties without prior written approval of the Caltrans Contract Manager.

10. The Consultant shall only provide incidental non-Architectural and Engineering (A&E) services, such as Computer Aid Drafting & Design (CADD) support, GIS support, utilities location support, traffic control, office support, field office support, and meeting support, provided (a) such services are necessary for the completion of the A&E tasks and/or deliverables performed by the Consultant described in executed Task Orders and covered by the work in this Contract and (b) the rendering of the services is approved in advance by the Caltrans Contract Manager. These incidental services shall only be provided to support the Consultant’s personnel who are performing A&E services, tasks, and deliverables on this Contract. The Contract amount spent on such incidental services shall be relatively minor when compared to the professional A&E services performed. The Consultant shall not be paid or reimbursed for any incidental non-A&E services provided to Caltrans unless provided in the fashion described in this Contract and included in the executed Task Order. The Consultant is responsible for ensuring that Task Orders only include any incidental non-A&E services.

11. Incidental training services may be provided only if the training involves the specific work product of this Agreement. Such incidental training services are permitted, but only if:

a. The training involves the specific work product created under this Agreement (and does not involve general A&E training and is not the work product of a previous agreement); and

b. The total aggregate cost of all training under this Agreement does not exceed 10% of the total authority of the Agreement; and

c. The training is an incidental task within the Agreement and not the purpose for entering into this Agreement.

12. The Consultant shall include the Caltrans Contract Manager in written communications to other Caltrans personnel for any clarification on the scope of work.

G. Coordination.

1. For each Task Order, the Consultant shall carry out instructions received from the Caltrans Contract Manager, and as directed by the Caltrans Contract Manager, shall coordinate activities and work closely with multiple stakeholders including, but not
limited to, Caltrans’ various functional units, Caltrans’ project managers, local agencies, various environmental groups, other state agencies, Native American tribal governments, utility companies, railroads, other agencies, other entities with an interest in the project (including, but not limited to, FHWA), other consultants, other contractors, and planning, engineering, and construction firms (and its suppliers and subcontractors) contracted by Caltrans working on the same projects or adjacent projects. In the event an instruction or direction is unclear to the Consultant, the Consultant shall ask the Caltrans Contract Manager to clarify the instruction or direction. The work is a critical element of compatible designs, project planning and construction schedules and shall be accomplished in a timely fashion. Projects having complex and overlapping schedules and therefore Project work may have overlapping and parallel (not serial order) schedules or make work discontinues. Projects have complex and overlapping schedules and field work may be intermittent. Task Orders may be written for treatment of unanticipated finds encountered during project work. When unanticipated finds are encountered, a rapid response shall be necessary to avoid costly construction delays.

2. The foregoing paragraph does not relieve the Consultant of professional responsibility during the performance of this Contract. In instances where the Consultant believes a better standard solution to a task being performed or an issue being addressed is possible, the Consultant shall promptly notify the Caltrans Contract Manager of these concerns, together with the reasons therefore. However, Caltrans shall make all final decisions on the scope of the Consultant’s activities and investigations.

3. The Consultant shall be required to work with other Caltrans Functional Units and others (including, but not limited to, Regional Water Quality Control Board - RWQCB, Permitting Agencies,) as directed by the Caltrans Contract Manager.

4. The Consultant shall work closely with the Caltrans Contract Manager and the Caltrans designee identified in the Task Order.

5. The Consultant shall have the capability to send to and receive from Caltrans’ digital electronic mail system and file transfer protocol system including, but not limited to, attachments for word processing, photographs, spreadsheets, and databases.

6. Caltrans shall not reimburse the Consultant for costs to relocate its personnel to the service area of this Contract. Caltrans shall not reimburse the Consultant for per diem costs, unless preapproved by the Caltrans Contract Manager. Caltrans shall not reimburse the Consultant for out-of-state travel without prior written approval from the Caltrans Contract Manager.
7. The Consultant shall obtain the Caltrans Contract Manager’s approval prior to making presentations at non-Caltrans sponsored conferences or workshops for any services provided under this Contract.

8. The Consultant shall notify the Caltrans Contract Manager or Caltrans designee in writing a minimum one (1) week before it begins any field work, unless the Task Order specifies some other notification date.

9. Caltrans shall not incur costs beyond the funding commitments in the Contract and each Task Order. If the Consultant anticipates that funding for work will be insufficient to complete work, the Consultant shall promptly notify the Caltrans Contract Manager.

H. General Equipment Requirements.

1. The Consultant or its Subconsultants shall not incorporate any materials or equipment of a single or sole source origin without the advance written approval of Caltrans.

2. The Consultant may claim reimbursement for providing equipment or supplies. However, such claimed costs shall be in compliance with 48 Code of Federal Regulation (CFR), Chapter 1, Part 31 (Federal Acquisition Regulation - FAR cost principles) and 2 CFR, Part 200, and be consistent with the Consultant's company-wide allocation policies and charging practices with all clients including federal government, state governments, local agencies, and private clients.

I. Construction Materials Sampling and Testing Equipment Requirements.

1. Laboratory Equipment - The Consultant shall use all measurement and testing equipment certified by Caltrans or equivalent agency. The Consultant’s laboratory shall meet the latest requirements, as applicable, of American Standard for Testing Materials (ASTM) Designation D3666 “Evaluation of Inspection and Testing Agencies for Bituminous Paving Materials”, E329 “Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction”, and C1077 “Testing Concrete and Concrete Aggregates for use in Construction and Criteria for Laboratory Evaluation”. The Consultant shall use material specimens from an accredited laboratory acceptable to Caltrans for calibration of all equipment. The Consultant shall provide fully equipped testing laboratories. The laboratories shall be certified and functional for all listed test methods during entire term of the Contract.

In case of discrepancy or conflict, the following requirements supersede those of the above ASTM standards:
a. All Testing and laboratory equipment used on the Contract shall conform to the requirement of the California Test Methods.

b. When required by Caltrans, a temporary testing laboratory shall be established in the general vicinity of the project or projects requiring construction materials testing. The laboratory is to be fully staffed, equipped and supplied to conduct all the tests required in a timely manner.

c. Testing machines shall be calibrated annually by impartial means using devices of accuracy traceable to the National Bureau of Standards. Records for calibration shall be provided to the Caltrans Contract Manager upon request.

    Calibration charts for nuclear devices shall be within one (1) year of use and shall be kept up to date throughout the term of the Contract. No separate payments shall be made for calibration of equipment.

2. Nuclear Gauges - If specified in the Task Order, the Consultant shall provide their own Nuclear Gauges and provide storage in accordance with Caltrans' and Department of Health Service's requirements.

3. Consultant’s Material Engineering personnel shall use Caltrans equipment with utmost care. Any negligent damage caused to Caltrans equipment shall be the responsibility of the Consultant.

J. Standards.

1. Laboratory Standards.

   a. Materials sampling and testing during construction shall be in accordance with the current Caltrans Manuals and their current revisions.

   b. The Consultant’s laboratory shall participate in the AASHTO Material Reference Laboratory (ARML) or Cement and Concrete Reference Laboratory (CCRL) inspection programs as appropriate. Copies of applications, correspondence, reports and corrective actions shall be provided to Caltrans.

    Due to the time requirements to enter into these programs, the Consultant may perform work on Caltrans projects prior to field engineering. However, the Consultant shall provide proof an application has been submitted to enter one or both of the programs and shall continue to make a good faith
effort to have its laboratory inspected at the earliest possible opportunity. Certification by the AASHTO Accreditation program shall be required for laboratories, upon completion of the current cycle of field engineering.

c. Other than assignments covered by the ASTM standards, the Consultant’s laboratory shall accept only those assignments from Caltrans in which the Consultant will be able to perform competently with its own personnel and equipment.

d. When the Consultant is providing material testing during construction, Caltrans shall request testing from Consultant on the afternoon prior to the day that testing is required. Unless otherwise stated in the Task Order, the Consultant shall submit completed test documents for each test performed to the relevant field project offices by the end of the week following the week in which the test was completed. Test documents that are incomplete or unsatisfactory shall be returned to the Consultant for the necessary revisions and shall be resubmitted within one (1) week.

e. When the Consultant is providing construction materials testing during construction, failing tests shall be reported immediately to the Caltrans Contract Manager.

f. All test documents produced by the Consultant shall be certified (signed and stamped) by the Laboratory Manager. In the absence of the Laboratory Manager, certification shall be made by an Acting Laboratory Manager who is a Registered Professional Civil Engineer licensed in the State of California in good standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period. All test results shall be recorded on the appropriate forms as prescribed in the Caltrans California Test Methods.

g. The Consultant shall certify in writing that each tester is qualified to perform the required tests and plant field engineering according to the current procedures described in the Caltrans California Test Methods.

h. The Consultant shall have a program in effect during the entire time work is being performed under Contract to train personnel and arrange achievement of the required certifications.

i. The Consultant shall maintain a laboratory procedure manual describing the methods used for recording, processing, and reporting data, sources of reference materials, standards, and test methods.
j. The Consultant shall maintain an inventory of the testing equipment (listing the manufacturer, model, serial number, calibration and tolerances).

k. Caltrans and the Federal Highway Administration (FHWA) reserve the right to periodically review field testing and sampling in progress at job sites and laboratory facilities by Consultant personnel.

l. The Consultant shall have a quality control plan in effect for the duration of work being performed under the Contract. This plan shall include quality control, quality assurance and equipment calibration programs for the Consultant’s main laboratory and for any satellite or project laboratories.

m. If any laboratory work is to be subcontracted, the Subconsultant’s laboratory shall meet the same requirements as the Consultant’s laboratory.

K. Field Safety.

In addition to the requirements specified elsewhere in this Contract, the following also shall apply:

1. The Consultant's Material Engineering personnel shall wear safety gloves, eye protection, and approved safety apparels during material testing while working in the laboratory.

2. Any safety violations committed by Consultant Material Engineering personnel may be cause for termination.

L. Construction Materials Sampling and Testing Deliverables.

1. The Consultant shall obtain written approval from Caltrans for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract. If there are no Caltrans standardized forms, the format and content requirements for all analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract shall be specified in each Task Order. All analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents,
and other items required by this Contract to be used for the project includes, but not be limited to, the following:

b. Special Materials Analysis Work.
c. Plant Inspection Work.

2. All Construction Materials Sampling and Testing Services analytical results, plans, designs, specifications, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, manuals, details, deliverables, backup documents, other documents, and other items required by this Contract performed on computer shall be delivered to Caltrans including, but not limited to, the formats specified below:

a. Text-based documents shall be submitted as an Adobe Portable Document Format (“pdf”) file using Adobe Acrobat Professional version 5 or later software. The pdf file shall be inclusive of all graphics (e.g. page orientation, photographs or other images, charts, and tables) and be suitable for printing in final form. The pdf file shall:
i. Contain functioning bookmarks, indexes, tables of contents or other hyperlinks as required by the Task Order.
ii. Be configured (e.g. bookmarks, indexes, table of contents, thumbnails, annotations, signatures, and security settings) as required, or as directed by the Task Order.
iii. Be optimized for use by Adobe Acrobat Reader 10 or newer.

b. Text-based documents shall also be submitted in Microsoft Word format, version 2007. The document shall include all graphics (e.g. photographs, image graphics, charts, and tables). Photographs shall be in “jpeg” file format. Other image graphics shall be in “gif” format unless otherwise specified.

c. All graphics (e.g. photographs or other drawings) shall be submitted separately from the pdf and Microsoft Word documents in archive-type file formats (e.g. photographs and bitmapped drawings as “tif”, Microstation drawings as “dgn”, and vector drawings as “ai”) unless otherwise specified. The intent of this section is for the Consultant to provide Caltrans with a copy of each graphic in an uncompressed file format for archive purposes. The Consultant may suggest alternative formats that are compatible with this goal.

d. Spreadsheet files shall be submitted in Microsoft Excel format, version 2007, or format currently in use by Caltrans.

e. Word processing files shall be submitted in Microsoft Word format, version 2007, or format currently in use by Caltrans.

f. Database files shall be submitted in Microsoft Access format, version 2007, or format currently in use by Caltrans.
g. The Consultant shall not format digital electronic files as “view only” or “read only” unless so specified in the Task Order.
h. Other - As specified in the Task Order.

3. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.

4. Plant Inspection and Field Construction Materials Testing:
   a. Consultant Daily reports, extra work diaries, plant inspection reports and construction materials testing reports shall be delivered to the Caltrans Resident Engineer and/or the Caltrans Task Order Manager same day services conducted or as stipulated in the Task Order.
    i. One (1) unprotected and modifiable digital electronic copy of the Test Report and all supporting documents.
   b. The Consultant shall perform all services and meet all required standards.

5. The Consultant shall obtain written acceptance from the Caltrans Contract Manager for each of the following deliverables of the project:
   a. Material Testing and Sampling work.
   b. Special Material Analyses Work.
   c. Plant Inspection Work.
SCOPE OF WORK/DELIVERABLES
CONSTRUCTION STORMWATER IMPLEMENTATION SUPPORT

For Caltrans, Division of Construction, District 11
On-Call Contract

A. Purpose of Work.

The Consultant shall perform professional and technical services required for Construction Stormwater Implementation Support, on an “as-needed” basis to support Caltrans, Division of Construction, District 11, in the construction of proposed Caltrans transportation facilities.

B. Construction Stormwater Implementation Support Required Services

Typical duties to be performed by the Consultant’s personnel shall include, but not be limited to, the following:

2. Performing and assisting in performing the duties of Construction Stormwater Implementation Support, including, but not limited to, roadway construction inspection, quantity calculations, checking grade and alignment, materials sampling and control, labor compliance interviews, traffic control review, and assuring compliance with project plans and specifications.
3. Identifying actual and potential problems associated with the construction project work and recommending sound engineering solutions in a timely manner.
4. Maintaining an awareness of safety and health requirements and assuring compliance with applicable regulations and construction contract provisions for the protection of the public and construction project personnel.
5. Preparing quantity calculations, records, reports, and correspondence related to construction project activities.
6. Assisting in the preparation of final As-Built plans and reports at the completion of construction.

C. Work Breakdown Structure Activities

The following Work Breakdown Structure (WBS) activities are applicable to the work described in this attachment template:

270 Construction Engineering and Contract Administration
270.22 Contract Administration
270.33 Construction Inspection
270.56 Employment Compliance
270.66 Technical Support
280 Administration of Permits, Licenses, Agreements or Certifications (PLACs) and Environmental Stewardship
Use the below reporting codes with WBS 280 activity
- 401 COMP 401 permit compliance during construction of a project
- 401VIO Response to PLAC violation(s) under the 401 permit.
- COMP Compliance to regulations not included in the 401 permit.
- VIO Response to alleged PLAC violation(s) not under 401 permit
- UPDECR Updates to the Environmental Commitments Record (ECR).
- REEV Changes that affect project’s environmental documentation.
- UPDPLAC Renewal and/or extension requests for previously issued PLACs.
280.70 Updated Environmental Commitments Record
285 Change Order Administration
285.05 Change Order (CO) Process
285.10 Functional Support
285.10.15 Other Functional Support
295 Accept Contract/Prepare Final Construction Estimate and Final Report
295.05 Processed Estimate after Acceptance
295.10 Proposed Final Contract Estimate
295.15 As-Built Plans
295.20 Project History File
295.25 Final Report
295.30 Processed Final Estimate
295.35 Certificate Of Environmental Compliance (CEC)
295.40 Long Term Environmental Mitigation/Mitigation Monitoring After Construction Contract Acceptance
295.99 Other Accept Contract/Prepare Final Construction Estimate and Final Report

D. Construction Stormwater Implementation Support Responsible Person Requirements
The Consultant Construction Stormwater Implementation Support responsible person shall be a Registered Professional Engineer (Civil) licensed in the State of California in good
standing with the California State Board for Professional Engineers, Land Surveyors, and Geologists at all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders.

E. Consultant Stormwater Construction Inspector Personnel Requirements

1. Consultant Stormwater Construction Inspector

Consultant Stormwater Construction Inspectors shall meet one of the following minimum qualifications (Either I, II, or III below):

I) Be in possession of a valid certificate of registration as a civil engineer issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists.

OR

II) Graduation from a four-year curriculum in civil engineering accredited by the Accreditation Board for Engineering Technology (ABET). Possession of a valid certificate as an Engineer-in-Training issued by the California State Board of Registration for Professional Engineers, Land Surveyors, and Geologists, or issued by another jurisdiction and accepted by the California Board in lieu of the first division of the examination as an engineer may be substituted for the required education.

OR

III) A master's or doctorate degree in a civil engineering curriculum from a college or university that has a baccalaureate degree program in a civil engineering curriculum which is accredited by the Accreditation Board of Engineering Technology (ABET).

Consultant Stormwater Construction Inspectors shall also have knowledge and experience in the following:

a. A documented minimum four (4) years demonstrated experience in construction inspection of highways or major public works projects performing the duties described in this contract, with two (2) of these four (4) years inspecting SWPPP (Storm Water Pollution Prevention Plan) work. In addition, a QSD (Qualified Stormwater Developer) and QSP (Qualified Stormwater Preparer) certification may be required.

b. Implementation of Storm Water Pollution Prevention Plans (SWPPPs) at construction sites.

c. Meets the requirements of a Qualified SWPPP Developer (QSD) and/or Qualified SWPPP Practitioner (QSP) under the new construction general permit.
d. Knowledge and experience with equipment used in roadway construction inspection, surveying, field testing of construction materials, and construction office engineering.

e. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.

f. Knowledge and experience with principles of effective communication and supervision.

g. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.


i. Review and evaluation of environmental compliance at construction sites relative to hazardous wastes, hazardous materials, air quality, and water quality.

j. Evaluation of soil, water, Asphalt Concrete grinding, and Portland Cement Concrete grinding characteristic for profiling, reuse and/or disposal.

k. Construction dewatering operations and treatment systems.

2. Consultant Assistant Stormwater Construction Inspector

Consultant Assistant Stormwater Construction Inspectors shall meet one of the following minimum qualifications:

Two years of education equivalent to completion of a curriculum beyond the 12th grade in either (1) engineering which includes courses in trigonometry and algebra or higher, drafting, computer science, and physics, chemistry, or a comparable physical science; or (2) surveying which includes courses in trigonometry and algebra or higher, drafting, surveying, and computer science. A documented minimum four (4) years of demonstrated experience acceptable to Caltrans in highway construction office engineering or in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

Consultant Assistant Stormwater Construction Inspectors shall also have:

a. A documented minimum four (4) years demonstrated experience in construction inspection of highways or major public works projects performing the duties described in this contract, with two (2) of these four (4) years inspecting SWPPP (Storm Water Pollution Prevention Plan) work. In addition, a QSD (Qualified Stormwater Developer) and QSP (Qualified Stormwater Preparer) certification may be required.
b. Implementation of Storm Water Pollution Prevention Plans (SWPPPs) at construction sites.

c. Meets the requirements of a Qualified SWPPP Developer (QSD) and/or Qualified SWPPP Practitioner (QSP) under the new construction general permit.

d. Knowledge and experience with equipment used in roadway construction inspection, surveying, field testing of construction materials, and construction office engineering.

e. Knowledge of computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others); Critical Path Method (CPM) software such as Primavera Project Planner (P3, P6) and SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; and Microsoft Project.

f. Knowledge and experience with principles of effective communication and supervision.

g. Knowledge and experience with monitoring labor compliance.

h. Knowledge and experience with subcontracting laws and policies.

i. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.


k. Review and evaluation of environmental compliance at construction sites relative to hazardous wastes, hazardous materials, air quality, and water quality.

l. Evaluation of soil, water, Asphalt Concrete grinding, and Portland Cement Concrete grinding characteristic for profiling, reuse and/or disposal.

m. Construction dewatering operations and treatment systems.

F. Construction Stormwater Implementation Support materials to be provided or made available by Caltrans

1. Relevant and existing documents, if any are available, that are applicable to the current project within the project limits.

2. Caltrans construction forms as necessary, including digital electronic or hardcopy (as specified by the Caltrans Resident Engineer on the Project) forms.

G. Construction Stormwater Implementation Support Deliverables.

1. Consultant Daily reports and extra work daily reports shall be delivered to the Caltrans Resident Engineer (RE) within one workday of the work being covered by the daily report.
2. Construction contract progress payment quantity documents shall be delivered to the Caltrans Resident Engineer within five (5) working days after completion of the work or no later than the last working day proceeding the 20th of each month.

3. Final payment quantity documents shall be delivered to the Caltrans Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed construction project final pay item.

4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained and submitted as directed by the Caltrans Resident Engineer.
SCOPE OF WORK/DELIVERABLES
Land Surveying Services
for Caltrans, Division of Construction, District 11
On-Call Contract

LAND SURVEYING\(^1\) SERVICES

A. Purpose of Work

The consultant must perform Land Surveying Services, on an “as-needed” basis to support the California Department of Transportation (Caltrans), Division of Construction, District 11. The Caltrans contract manager will assign specific work to the consultant to support the Caltrans work force through issuing task orders describing the services to be performed. The consultant must only perform work assigned in an authorized task order. This contract does not guarantee that a task order will be issued.

B. Location of Work

The work must be performed on projects to improve the State transportation system throughout the counties of San Diego; south of SR52 and Imperial County in California. The specific location within the above-described geographical limits of the work to be performed must be identified in each task order. It may become necessary for Caltrans, Division of Construction, District 11, projects to extend into another adjoining Division of Construction, District 8/ Riverside County line. Certain California County projects may also require studies/work that extends into adjacent counties adjoining Caltrans' District 11 outside of the boundary of Caltrans’ District 11. In such instances, the project work must not extend more than a 30-mile radius from the District/County, Division of Construction District 11 geographic boundary.

C. Required Services

1. Under an authorized task order, the consultant must provide land surveying services within the geographical jurisdiction of this contract set forth in the “Location of Work” section, including all necessary personnel, material, transportation, lodging, instrumentation, and the specialized facilities and

\(^1\) Defined in section 8726 of the California Business and Professions Code
equipment to satisfy all appropriate agencies and required to ensure compliance with all federal, state, and local statutes, laws, codes, regulations, policies, procedures, ordinances, standards, specifications, performance standards, and guidelines, applicable to the consultant's services and work product.

2. Provided in attachment 1 is a list of proposed Caltrans projects; Division of Construction, District 11, however, this list is not exclusive, and it constitutes no commitment that the projects will be initiated or completed or work assigned to the consultant. Caltrans reserves the right to add or delete from this list of projects that are within the geographical jurisdiction of this contract set forth in “Location of Work” section within the Division of Construction, District 11’s jurisdiction.

3. Caltrans intends to utilize this contract to complete a specific piece of work if it is within the geographical jurisdiction of this contract set forth in the “Location of Work” for each of the projects in this contract utilizing the services described in this Scope of Work (SOW) and as described in a task order. Caltrans may find it necessary to create a separate contract (or contracts) that involves a specific project in this contract and includes part of the work in this contract. Caltrans reserves the right to procure A&E services involving the listed projects or unlisted projects (within the geographical jurisdiction of this contract set forth in “Location of Work” Section) involving in whole or in part the same work using a project-specific agreement if the schedule to complete performance of the specific project extends beyond the term of this contract or the cost exceeds the dollar balance remaining in the contract after accounting for amounts due to the consultant for work previously performed and for work scheduled to be performed in executed task orders.

Should a project-specific agreement be procured under these provisions, the parties mutually agree that, under Exhibit D, Section III, Termination of this Contract, Caltrans must terminate for convenience the portion of the contract that includes the common SOW identified in the project specific agreement per Exhibit D, Section III, Termination of this Contract. Such partial termination for convenience must be processed by amendment to this contract. Unless otherwise required by law, regulation, or Caltrans policy or procedure, the consultant may compete for these project specific contracts.
4. In this contract is a list of proposed staff support personnel classifications for which services are anticipated to be needed by Caltrans during the term of this contract; however, this list is not exclusive if the classification perform Land Surveying Services. Caltrans reserves the right to add/or delete personnel classifications from this list. Consultant personnel will work under the general direction of a Caltrans supervisor.

   i. Project Surveyor
   ii. Survey Technician
   iii. Survey Assistant
   iv. Instrument Person
   v. Rod Person
   vi. Journeyman Chainman
   vii. Apprentice Chainman

5. At the sole discretion of Caltrans, the consultant may have to provide the required services on safety projects, emergency projects, emergency storm damage projects, excess parcel assessments, or other current/future transportation projects, including minor projects not listed above, except for those specially excluded above, within the geographical jurisdiction of this contract set forth in “Location of Work” Section.

6. The potential projects may vary in scope and size, and may encompass any improvement for the State transportation system including, but not limited to, roadway rehabilitation, widening and/or realignment of existing facilities, relocation of existing facilities, and construction of new facilities. The project location, project limits, purpose, expected results, project deliverables, period of performance, project schedule, and SOW to be performed must be described in each task order.

7. Consultant must be available, on two days’ written notice:

   a. To meet with Caltrans; to participate in internal Project Development Team (PDT) meetings or other Caltrans meetings.

   b. To provide technical expertise on an “as-needed” basis.
8. Maintaining a stable work force is essential to the successful completion of Caltrans, Division of Construction, District 11, work. The consultant must implement a personnel retention plan.

The consultant may be expected to spend time for extended assignments to perform support functions at Caltrans offices. Caltrans may provide the office space at various Caltrans offices assigned as "home base", when required by a task order including, but not limited to, all utilities, office equipment, and office supplies typically used by the Caltrans personnel, to the consultant personnel providing services under this contract. The consultant, including its sub-consultants, must include the Office Indirect Cost Rate (OICR) in its cost proposals and use the OICR in billing Caltrans for those personnel utilizing Caltrans’ office facilities. If the consultant, including its sub-consultants, has no OICR, it will develop and use an OICR to reflect an equitable distribution of allowable costs to the contract (as specified in 48 CFR 31.203(f)). The hours a Consultant must work on-site in a Caltrans facility will be defined in any issued contract task order.

D. Workplan Standards Guide (WSG) Codes

Task orders are based on the Caltrans WSG. The latest WSG is found in the Guide to Project Delivery WSG, which is available from the Caltrans’ Publication Unit and on the Internet at http://www.dot.ca.gov/hq/projmgmt/guidance.htm. The WSG references the WBS categories, which are potential and related work activities applicable to this contract. The WSG references WBS categories which present the potential and related work activities that the consultant may have to perform. All revisions to the current version of the WBS must apply during the life of this contract.

The WBS activities below applicable to this Contract are limited to those set forth below:

100 Perform Project Management (Contract Management)
160.10.45 Utility Locations Determined for Preliminary Engineering
160.10.65 Right of Way Relinquishment and Vacation Study
160.20.25 Existing Records
160.20.30 Land Net Surveys
160.20.35 Land Net Map
160.20.40 Right of Way Engineering Products
160.20.50 Control Surveys
160.20.55 Photogrammetric Maps and Products (See Note 1)
160.20.60 Engineering Surveys
160.20.65 As-Built Centerline Surveys
160.20.70 Pavement Surveys
160.30.10 Surveys and Mapping for Environmental Studies
185.10.50 Control Surveys
185.10.55 Photogrammetric Maps and Products (See Note 1)
185.10.60 Engineering Surveys
185.10.65 As-Built Centerline Surveys
185.10.70 Pavement Surveys
185.20.40 Utility Locations Determined for Design
220.05.05 Existing Records
220.05.10 Land Net Survey
220.05.25 Monumentation Perpetuation Record of Survey
220.10 Land Net Map
220.15 Right of Way Maps
220.15.05 Appraisal Maps
220.15.95 Other Maps
220.20 Acquisition Documents
220.20.05 Deeds
220.20.15 Resolution of Necessity Package
220.25 Documents to convey property rights
220.25.05 Director’s deed package
220.25.95 Other deeds and documents
220.35.05 Flagged Right of Way (Includes Utilities)
220.35.10 Staked Right of Way
255.35.10 Construction Staking Package
255.35.20 Project Control for Construction
255.70 Right of Way Engineering Products
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<tr>
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<tr>
<td>270.10.10</td>
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<td>270.10.20</td>
<td>Project Control for Construction</td>
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<tr>
<td>270.10.30</td>
<td>Existing Monument Perpetuation (See Note 2)</td>
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<td>270.15.15</td>
<td>Slope Stakes</td>
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<td>Rough Grade Stakes</td>
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<td>Final Grade Stakes</td>
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<tr>
<td>270.15.35</td>
<td>Drainage and Minor Structure Stakes</td>
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<td>270.15.50</td>
<td>Miscellaneous Stakes (Includes Utilities)</td>
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<td>270.15.55</td>
<td>Photogrammetric Product for Construction (See Note 1)</td>
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<td>270.15.60</td>
<td>Ground Stakes for Major Structure</td>
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<td>Superstructure Stakes for Major Structure</td>
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<td>285.10.05</td>
<td>Field Surveys for Change Order</td>
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<td>Right of Way Monumentation Survey</td>
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<td>Trial Exhibits and Testimony</td>
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<td>300.25</td>
<td>Relinquishment and Vacation Maps</td>
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<tr>
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<td>Deed Package for Excess Land Transactions</td>
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<tr>
<td>300.35</td>
<td>Right of Way Record Map</td>
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**Note 1:** The anticipated work for WBS code 160.20.55, 185.10.55 and 270.15.55 must be limited to field surveys and related office processing for aerial mapping control placement and positioning.

**Note 2:** This WBS code is to be used only for projects with no two (2) phase work.

The consultant must not work on any projects in the planning phase (K-Phase), and the consultant will not be reimbursed for any work performed during this phase of a project.
E. General Personnel Requirements

1. The consultant’s personnel must be capable, competent, and experienced in performing the work in this contract with minimal instruction. Personnel skill level must match the specific job classifications, as set forth or in the consultant’s cost proposal, attachment 2 and task complexity. The consultant’s personnel must be knowledgeable about, and comply with, all federal, state, and local laws and regulations.

2. The consultant must submit a written request and obtain the Caltrans CM’s prior written approval for any substitutions, additions, alterations, or modifications to the consultant’s originally proposed personnel and project organization, as depicted on the proposed consultant’s organization chart or the consultant’s cost proposals. The substitute personnel must have the same job classification, as set forth or in the consultant’s cost proposal, attachment 2, not exceed the billing rate, and meet or exceed the qualifications and experience level of the previously assigned personnel, at no additional cost to Caltrans.

3. In responding to Caltrans’ task order and in consultation with the Caltrans contract manager and the Caltrans task order manager, the Consultant contract manager must identify the specific individuals proposed for the task and their job assignments. The consultant must provide documentation that proposed personnel meet the minimum qualifications as required by this contract.

4. The consultant’s personnel must typically be assigned to and remain on specific Caltrans projects/deliverables until completion and acceptance of the project/deliverables by Caltrans. Personnel assigned by the consultant must be available at the start of a task order and after acceptance of the project/deliverable by Caltrans.

5. After the Caltrans contract manager’s approval of the consultant’s personnel proposal and finalization of a task order, the consultant may not add or substitute personnel without the Caltrans contract manager’s prior written approval.

6. Resumes containing the qualifications and experience of the consultant’s and sub-consultant’s personnel, which include existing, additional, and substitute personnel, and copies of their minimum required certifications, must be submitted...
to the Caltrans contract manager for review before assignment on a project or task order. The resume and copies of current certification for each candidate must be submitted to the Caltrans contract manager within one week of receiving the request.

7. The Caltrans contract manager or Caltrans task order manager may interview the consultant’s personnel for the qualifications and experience. The Caltrans contract manager’s decision to select the consultant’s personnel will be binding to the consultant and its sub-consultants. The consultant must provide adequate qualified personnel to be interviewed by the Caltrans contract manager or Caltrans task order manager within one week of receiving the request.

8. The Caltrans task order manager will evaluate the adequacy (quality and quantity) of the work performed by the consultant’s personnel and determining whether the deliverables satisfy the acceptance tests and criteria. The Caltrans contract manager consulting with the Caltrans task order manager may reject any consultant personnel determined by the Caltrans contract manager to lack the minimum qualifications. If the level of performance is below expectations, the Caltrans contract manager may direct the consultant to immediately remove consultant personnel from the project specified in a task order and request another qualified person be assigned as needed. The substitute personnel must meet the qualifications required by this contract for performance of the work as demonstrated by a resume and copies of current certifications submitted by the consultant. Substitute personnel must receive prior written approval from the Caltrans contract manager. Invoices with charges for personnel not pre-approved by the Caltrans contract manager for work on the contract and for each task order must not be reimbursed.

9. The consultant must not remove or replace any existing personnel assigned to task orders without the prior written consent of the Caltrans contract manager. The removal or replacement of personnel without the written approval from the Caltrans contract manager will violate the contract and may cause termination of the contract per Exhibit D, Section III, Termination of the Contract.

10. When assigned consultant personnel is on approved leave and required by the Caltrans contract manager, the consultant contract manager must provide a substitute employee until the assigned employee returns to work from the approved leave. The substitute personnel must have the same job classification,
as set forth in the consultant’s cost proposal, attachment 2, not exceed the billing rate, and meet or exceed the qualifications and experience level of the previously assigned personnel, at no additional cost to Caltrans. Substitute personnel must receive prior written approval from the Caltrans contract manager to work on this contract.

11. Other project personnel not identified on the consultant’s cost proposal, must also satisfy minimum qualifications for assigned task orders. Caltrans’ prior written approval is required for all personnel not identified on the consultant’s organization chart or the consultant’s cost proposals before providing services under this contract.

12. The consultant is responsible to provide fully trained personnel to efficiently perform the work. The consultant’s personnel may be asked to attend certain special training if recommended by the Caltrans contract manager. On such occasions, with the approval of the Caltrans contract manager, Caltrans will compensate the consultant for the consultant’s actual cost for time spent in training only. All other costs, fees, and expenses associated with the training, including any transportation costs and training fees, must be the consultant’s responsibility.

13. In location(s) where the consultant personnel is expected to work for extended period(s) of time, the consultant must either relocate the personnel or strive to hire local persons.

F. Land Surveying Personnel Requirements

1. The consultant, including the prime consultant and all sub-consultants, must throughout the life of the contract, retain within its firm, a staff of people properly licensed and certified under the laws of the State of California and qualified to perform all aspects of the required work described in this contract and all work specified in a task order with any emergencies that may arise during the life of this contract. The consultant must be prepared to provide additional personnel during the period performance of this contract to accommodate the work.
2. Consultant Contract Manager

The consultant contract manager must coordinate work-related matters and consultant’s operations under this contract with the Caltrans contract manager in coordination with the Caltrans task order manager.

The consultant contract manager must be a Professional Land Surveyor or pre-January 1, 1982 Registered Civil Engineer licensed in the State of California and be in good standing with the California State Board of Professional Engineers, Land Surveyors, and Geologists (BPELSG) during the contract period.

The consultant contract manager must have a minimum of five years of responsible experience performing the duties as a contract manager for similar Land Surveying Services contracts. The consultant contract manager must be knowledgeable about all Caltrans policies and procedures. The consultant contract manager must be an employee of the prime consultant.

Besides other specified responsibilities, the consultant contract manager must handle all matters related to the consultant’s personnel, sub-consultants, land surveying services work, and consultant’s and sub-consultants’ operations including, but not limited to:

a. Ensuring that deliverables are acceptance tested and that criteria are specific, measurable, attainable, realistic and time-bound; and that the deliverables satisfy the acceptance tests and criteria.

b. Supervising, reviewing, monitoring, training, and directing the consultant’s and sub-consultants’ personnel.

c. Assigning qualified personnel to complete the required task order work as specified on an “as-needed” basis in coordination with the Caltrans contract manger and Caltrans task order manager.

d. Administering personnel actions for consultant personnel and ensuring appropriate actions taken for sub-consultant personnel.

e. Maintaining and submitting organized project files for record tracking and auditing.
f. Developing, organizing, facilitating, and attending scheduled coordination meetings, and preparation and distribution of meeting minutes.

g. Implementing and maintaining quality control procedures to manage conflicts, insure product accuracy, and identify critical reviews and milestones.

h. Assuring that all applicable safety measures are in place.

i. Providing invoices in a timely manner and providing monthly contract expenditures.

j. Reviewing invoices for accuracy and completion before billing to Caltrans.

k. Managing sub-consultants.

l. Managing overall budget for the contract and provide report to the Caltrans contract manager.

m. Monitoring and maintaining required DBE or DVBE involvement.

n. Ensuring compliance with the provisions in this contract and all specific task order requirements.

o. Knowledge, experience, and familiarity with prevailing wage issues and requirements in State of California.

3. Consultant Task Order Manager

For each task order, the consultant must provide a consultant task order manager to coordinate the consultant task order operations with the Caltrans contract manager in coordination with the Caltrans task order manager.

The consultant task order manager must be accessible to the Caltrans contract manager in coordination with the Caltrans task order manager during normal Caltrans working hours that task order work is underway.
The consultant task order manager (who may not be the consultant contract manager) must be assigned to conduct, or direct the conduct of, all work assigned under a single task order. The consultant task order manager must be a Professional Land Surveyor or a pre-January 1, 1982 Registered Professional Civil Engineer licensed in the State of California and be in good standing with the BPELSG during the Contract period. The consultant task order manager must be the primary contact for the assigned task order and be available for communication with Caltrans.


The consultant task order lead person (who may not be the consultant CM) must be assigned to conduct, or direct the conduct of, all work assigned under a single task order. The consultant task order lead person must be the primary contact for the assigned task order and be available for communication with Caltrans.

5. Consultant Personnel and Team Member Qualifications.

The consultant team member must be capable of assisting the consultant contract manager in all aspects of the required work. The consultant team member’s required professional qualifications must be identified in each task order.

6. In this contract, a person authorized to review and approve consultant land surveying deliverables in place of the consultant task order manager must be called the consultant land surveying responsible person. The consultant land surveying responsible person must be a Professional Land Surveyor or a pre-January 1, 1982 Registered Professional Civil Engineer licensed in the State of California and be in good standing with the BPELSG during the contract period.

7. All deliverables under this contract not fully approved by Caltrans bearing the signature of the consultant land surveying responsible person who is no longer employed by the consultant or its sub-consultants, must be replaced with deliverables under this contract bearing the signature of a qualified replacement consultant land surveying responsible person currently employed by the consultant or its sub-consultants. In such an event, no additional time will be allowed or cost reimbursed to the consultant without the prior written approval of the Caltrans contract manager.
8. All of the consultant’s work must be conducted under the direction of the consultant contract manager who must have the experience as described in this contract. All deliverables under this contract requiring the consultant land surveying responsible person’s signature, must be produced by the responsible consultant personnel having appropriate experience, and must be signed by a consultant land surveying responsible person.

9. Party Chiefs

Party Chiefs must fulfill one of the following requirements:

a. A Professional Land Surveyor licensed in the State of California and be in good standing with the BPELSG.

b. A pre-January 1, 1982, Registered Professional Civil Engineer licensed in the State of California and be in good standing with the BPELSG.

c. An experienced surveyor/union-certified party chief/journeyman with a documented minimum of five years of field surveying experience who serves as chief under the direction and supervision of a person who is a Professional Land Surveyor licensed in the State of California or pre-January 1, 1982, Registered Professional Civil Engineer licensed in the State of California and be in good standing with the BPELSG. This direction and supervision must be provided in a manner and with a span of control and immediacy that enables the supervisor to be in “Responsible Charge” of the work as defined in the Business and Professions Code, Division 3, Chapter 15 (The Land Surveyors Act).

Party Chief: The duties of the survey party chief include, but are not limited to: plan, coordinate and direct the daily operations and/or assignments of a field survey party, oversees tailgate safety meetings every ten working days or more often as the work location requires, insures the survey party is working in a secure and safe manner; direct the survey party in procedures to be used in fieldwork that conforms with the Caltrans Surveys Manual; verify project datum and project control; check the accuracy of the survey data collected and construction stakes set; and produce a daily Field Surveys Party Report, which verifies the survey party time and project charges.
10. Project Surveyor

Project Surveyor must fulfill one of these licensing requirements and be in good standing with the BPELSG during the Contract period.

a. A Professional Land Surveyor licensed in the State of California.
b. A pre-January 1, 1982, Registered Professional Civil Engineer licensed in the State of California.

Project Surveyor: The duties of the project surveyor in the office include, but are not limited to: prepare survey requests and supporting information for the field survey; analyze, reduce and/or adjust field survey data to produce maps, reports, digital terrain models, project control maps, and related documents to determine property and right of way boundaries; and, research public records from counties, cities, utility companies, and other agencies to produce, signs and seals, documents and maps defining the existing location of, acquisition of, and disposal of State Right of Way, including but not limited to: legal descriptions, acquisition deeds, resolutions of necessities (Condemnation), land net maps, appraisal maps, relinquishment or vacation maps, federal application maps, final record maps and Record of Survey Maps.

11. Land Surveying Assistants

The Land Surveying Assistants must fulfill one of the following requirements:

a. A degree (Associate, Bachelors, Masters, or higher) in land surveying or surveying engineering from an ABET accredited institution (College or University) and a minimum of two years of qualifying experience in land surveying.
b. Possession of a valid Land Surveyor-in-Training certificate issued or accepted by the BPELSG, and a minimum of two years of qualifying experience in land surveying.
c. An experienced surveyor with a documented minimum of four years of surveying experience who works under the direction and supervision of a Professional Land Surveyor licensed in the State of California or pre-
January 1, 1982, Registered Professional Civil Engineer licensed in the State of California and be in good standing with the BPELSG.

The land surveying assistants to the party chiefs and project surveyor must be capable of assisting in all required and associated field and office land surveying work, able to perform difficult survey and complex professional land surveying work involving duties in the field or office with little direct supervision. Duties include, but are not limited to, assist party chief in construction staking, design, and right of way surveys, assist office chief or project surveyor in preparing right of way maps using Computer-Aided Design (CAD), maintaining right of way records and geospatial information systems, research and compile a wide variety of data from public records, geospatial information systems and other sources using both manual and computerized processes, and survey support.

12. Land Surveying Technicians

The land surveying technicians must work under the direction of a Professional Land Surveyor licensed in the State of California or a pre-January 1, 1982 Registered Professional Civil Engineer licensed in the State of California and be in good standing with the BPELSG. The land surveying technicians must fulfill one of these criteria:

a. The equivalent of a two-year college degree, preferably with an emphasis in mathematics and engineering and a minimum of one year of qualifying experience in land surveying.

b. A documented minimum two years of demonstrated experience acceptable to Caltrans in a land surveying services related field, under the direction of a Professional Land Surveyor licensed in the State of California.

The land surveying technicians must be capable of assisting in all required office and/or field land surveying services work.

13. Instrument person

The instrument person must be union certified as an instrument person or have a minimum six years of qualifying experience in land surveying. The instrument
person reports to the party chief and must be capable of assisting the party chief in all required field and office surveying work.

14. Rod person

A rod person must have a minimum two years of qualifying experience in land surveying and may support a party comprising at a minimum one party chief and one instrument person as the project task workload dictates, and as preapproved by the Caltrans contract manager.

15. Surveying Journeymen Chainman

The surveying journeymen chainman must be union certified as a journeyman or have a minimum four years of qualifying experience in land surveying. The surveying journeyman chainman to the party chief must be capable of assisting the party chief in all required field and office surveying work.

16. Apprentice Chainman

A surveying apprentice must have a minimum one year of qualifying experience in land surveying. The surveying apprentice may support a party comprising at a minimum one party chief and one instrument person as the project task workload dictates, and as pre-approved by the Caltrans contract manager.

Compensation for the journeyman/apprentice chainman must be under the contract and supported by documentation from the Northern or Southern California Surveyors Joint Apprenticeship Committee and in compliance with the Division of Apprenticeship Standards (DAS). The apprentice chainman must be enrolled in the Northern or Southern California Surveyors Joint Apprenticeship Program and have union level certification for the level achieved.

17. The consultant must have personnel with documented and demonstrated expertise and experience in the fields of Geographic Information Systems (GIS) and geodetic survey control.

18. Minimum Requirements for Survey Party Membership:
Unless otherwise specified in the task order, each survey party must comprise a party chief and up to three assistants, unless additional survey party members are required for safety. At a minimum, one assistant to the party chief must be capable of assuming temporary leadership of the survey party, absent a party chief, or in emergencies.

19. Consultant will provide consultant surveyors of classification and numbers as specified in the task order. Consultant surveyors will report directly to a Caltrans supervisor and work alongside or directly with Caltrans surveyors. Consultant surveyors assigned to an office will be provided with necessary equipment (computers, monitors, printers etc) by Caltrans. Consultant surveyors assigned to a field crew will be provided the following by the consultant:
   - Vehicle as specified in I.2.a of this contract.
   - Hand tools including but not limited to hammers, shovels, digging bar, measure tape, and calculator.
   - Safety equipment including by not limited to hard hat, ANSI 107-2004 or higher class II garment, safety glasses, hearing protection and hard soled work boots.

20. It is expected that most the work (> 60%) must be completed as staff support working alongside Caltrans staff on a survey party or in an office, in which the consultant provides staff to support the district’s survey personnel.

21. All staff support consultant personnel working in a Caltrans office or on a survey party must complete security and privacy awareness training each year (see http://itsecurity.dot.ca.gov/training).

22. All staff support consultant personnel working in a Caltrans office or on a survey party must have a current certification of Defensive Driving Training and a current California Driver’s License.

G. Consultant Availability and Work Hours

1. The typical workday includes all hours worked as identified in the task order or as directed by the Caltrans contract manager. Unless otherwise specified in a task order or directed by the Caltrans contract manager, the normal work week must comprise forty (40) hours.
2. If Caltrans determines that the work cannot be performed during normal business hours or the work is necessary at off hours to avoid danger to life or property, the consultant's operations may be restricted to specific hours during the week. Night work may be required on projects involving high traffic areas. Changes in hours or schedules must be documented by amendment of task orders. Any shift differential rate pay must be reimbursed under the Department of Industrial Relations (DIR) determination.

3. The Caltrans contract manager in coordination with the Caltrans task order manager, must provide advance notice of one working day(s)/24 hours if the consultant’s services are not required, or if reassignment of personnel is required. If Caltrans fails to provide the required advance notice and the consultant personnel are not required, Caltrans must provide a maximum of four hours compensation.

4. During the contract period, the Caltrans task order manager and/or contract manager may reassign a consultant's employee from a project or an office with low activity to assist on another project or office with high activity. The consultant contract manager will be notified at least two working days prior to this reassignment.

H. General Requirements

1. The consultant must prepare the required deliverables, backup documents, and other items required by this contract according to requirements of this contract and applicable Caltrans Manuals for the work.

2. The consultant’s timesheet/invoices/expenses must be subject to the consultant contract manager’s review and the approval of the Caltrans contract manager before submitting timesheets, invoices, or expense reimbursement requests for payment.

3. The consultant must begin the required work within two working days after receiving a fully executed task order and issuing the Notice to Proceed from the Caltrans contract manager to the consultant contract manager or on the date specified in the task order. Some work, however, may require consultant
personnel to mobilize within 24-hours of notifications. Once the work begins, the work must be prosecuted/ performed diligently until all required work has been completed to the satisfaction of the Caltrans contract manager or Caltrans designee task order manager.

4. The work must not be performed when conditions prevent a safe and efficient operation, and must only be performed with written authorization by Caltrans.

5. The consultant contract manager, consultant task order manager, and key personnel must be accessible to the Caltrans contract manager and the Caltrans task order manager during normal Caltrans working hours or after hours as required by the Caltrans contract manager.

6. The consultant contract manager may direct the consultant’s employees to work overtime to meet task order schedules at the request of the Caltrans contract manager or task order manager. All overtime must be pre-approved by the Caltrans contract manager. Overtime must be worked only when directed in writing by the Caltrans contract manager and specifically required by the task order, and must only be paid to persons covered by the Fair Labor Standards Act.

7. All consultant personnel must sign a confidentiality and nondisclosure agreement.

8. The consultant may disclose no information to third parties without prior written approval of the Caltrans contract manager.

9. The consultant must only provide incidental non-A&E services, such as Computer Aided Drafting & Design (CADD) support, GIS support, utilities location support, traffic control, office support, field office support, and meeting support, provided (a) such services are necessary for completing the A&E tasks and/or deliverables performed by the consultant described in executed task orders and covered by the work in this contract and (b) the rendering of the services is approved in advance by the Caltrans contract manager. These incidental services must only be provided to support the consultant’s personnel performing A&E services, tasks, and deliverables on this contract. The contract amount spent on such incidental services must be relatively minor when compared to the professional A&E services performed. The consultant must not be paid or reimbursed for any incidental non-A&E services provided to Caltrans unless provided in the fashion described in this contract and included in the executed
task order. The consultant ensures that task orders only include any incidental non-A&E services.

10. Incidental training services may be provided only if the training involves the specific work product of this agreement. Such incidental training services are permitted, but only if:
   a. The training involves the specific work product created under this agreement (and does not involve general A&E training and is not the work product of a previous agreement); and
   b. The total aggregate cost of all training under this agreement does not exceed 10% of the total authority of the agreement; and
   c. The training is an incidental task within the agreement and not the purpose for entering this agreement.

11. The consultant must include the Caltrans contract manager or task order manager in written communications to other Caltrans personnel for any clarification on work.

I. Coordination

1. For each task order, the consultant must carry out instructions received from the Caltrans task order manager. If an instruction or direction is unclear to the consultant, the consultant must ask the Caltrans task order manager to clarify the instruction or direction.

2. The foregoing paragraph does not relieve the consultant of professional responsibility during the performance of this contract. Where the consultant believes a better standard solution to a task being performed or an issue being addressed is possible, the consultant must promptly notify the Caltrans contract manager and task order manager of these concerns, with the reasons therefore. However, Caltrans must make all final decisions on the consultant’s activities and investigations.

3. The consultant must work closely with the Caltrans contract manager and the Caltrans task order manager identified in the task order.
4. The consultant must have the capability to send to and receive from Caltrans’ digital electronic mail system and file transfer protocol system including, but not limited to, attachments for word processing, photographs, spreadsheets, and databases.

5. Caltrans must not reimburse the consultant for costs to relocate its personnel to the service area of this contract. Caltrans must not reimburse the consultant for per diem costs, unless preapproved by the Caltrans contract manager. Caltrans must not reimburse the consultant for out-of-state travel without prior written approval from the Caltrans contract manager.

6. The consultant must obtain the Caltrans contract manager’s approval prior to making presentations at non-Caltrans sponsored conferences or workshops for any services provided under this contract.

7. The consultant must notify the Caltrans contract manager or Caltrans task order manager in writing a minimum one week before it begins any field work, unless the task order specifies some other notification date.

8. Caltrans must not incur costs beyond the funding commitments in the contract and each task order. If the consultant anticipates that funding for work will be insufficient to complete work, the consultant must promptly notify the Caltrans contract manager.

J. General Equipment Requirements

1. The consultant or its sub-consultants must incorporate no materials or equipment of a single or sole source origin without the advance written approval of Caltrans.

2. The consultant may claim reimbursement for providing equipment or supplies. However, such claimed costs must comply with 48 Code of Federal Regulation (CFR), Chapter 1, Part 31 (Federal Acquisition Regulation - FAR cost principles) and 2 CFR, Part 200, and follow the consultant's company-wide allocation policies and charging practices with all clients including federal government, state governments, local agencies, and private clients.
K. Land Surveying Equipment Requirements

1. Office Equipment and Supplies (Consultant’s Office):

The consultant must have and provide adequate office equipment and supplies to complete the work required by this contract. Such equipment and supplies must include, but not be limited to:

a. Office supplies.

b. Computers with software, printers, plotters, fax machines, calculators, data collectors and their necessary attachments and accessories.

c. Data processing systems, software packages, reference materials, or other tools, including hardware and software, used in providing transportation land surveying deliverables.

d. The consultant must provide a computer system for each person working under a task order that meets the Caltrans current specifications. Qualified Caltrans information technology personnel must install required software. Caltrans reserves the right to provide the computer system if beneficial to Caltrans’ interest.

e. Reference material, or other tools, used in providing deliverables.

f. Caltrans must purchase no hardware, software, or other equipment (including, but not limited to, batteries, paper, and office supplies) that may be required for the consultant to perform work required in this contract. The Caltrans contract manager must approve any consultant’s request for digital electronic connections and compatibility with current Caltrans Windows-based networks and programs in writing prior to the use and/or installation of any electronic hardware and/or software.

g. In-house printing, reproduction, and delivery services.

h. Computer Aided Drafting equipment and software capable of producing land surveying maps, drawings, and documents in the Caltrans approved format (Microstation, CaiCE, AutoCAD Civil 3D ArcGIS).
2. Field Equipment and Supplies:

Consultant must have and provide adequate field tools, instruments, equipment, materials, supplies, and safety equipment to complete the required field work and that meet or exceed Caltrans specifications per the Caltrans Manuals. The tools, instruments, equipment, materials, supplies, and safety equipment required for each consultant field personnel must include, but not be limited to, the following, if required by the task order:

a. Sufficient vehicles suitable for the work to be performed and terrain conditions of the project sites. Vehicles must be fully equipped with all necessary tools, instruments, equipment, materials, supplies, and safety equipment required for the efficient operation of the consultants’ field personnel. Each vehicle must have a load carrying capacity of 1500 pounds of materials and equipment. Each vehicle must have sufficient ground clearance to safely maneuver through highway construction sites while fully loaded with equipment and materials. Each vehicle must have overhead flashing amber light(s), visible from all sides (360 degrees), with a driver control switch; fire extinguisher; and first aid kit. Vehicles without side windows must not be used. Each vehicle must be equipped to meet Caltrans safety requirements.

b. A laptop computer or tablet with software.

c. Cell phone with “Hot Spot” capabilities

d. Hand tools including but not limited to; shovels, gloves, measuring tape, sledge hammer, clip board, calculator, peg book for the requested field personnel work.

e. All necessary safety equipment including fire extinguisher, hard-soled safety footwear, white hard hats, eye protection, hearing protection, and American National Standards Institute (ANSI) 107-2004 or higher Class II garment for the requested field work to be performed safely and efficiently within operating highway and construction zone environments.

f. Necessary miscellaneous tools, non-consumables, and supplies including, but not limited to, hammers, and shovels.
g. Traffic cones, at a minimum 25, for traffic control as necessary. Such cones must be 28 inches, minimum, in height.

h. Traffic control devices (including signs, sign bases, flags, and hand held signs) as required to perform the requested field personnel work.

i. Photo target templates.

j. Leveling instruments and equipment:
   i. Self-leveling/Digital level or electronic bar code level rod capable of achieving the precisions stated in the Caltrans Surveys Manual.
   
   ii. Suitable leveling rods for the work to be performed.

k. A Total Station Survey System comprising:
   i. A digital electronic angle measuring instrument with a manufacturer’s listed accuracy for the direct circle reading of the horizontal and vertical angles of three seconds or better.
   
   ii. A digital electronic distance measurer with a manufacturer’s listed accuracy of five-millimeters plus/minus three ppm or better.
   
   iii. A digital electronic data collector capable of running Caltrans’ surveys data collection and stakeout software.
   
   iv. Prior to the commencement of the first Task Order for construction staking or topographic surveys, Consultant must have a data collector compatible and interchangeable with Caltrans’ standard Trimble Data collector.
   
   v. Total station survey system must be capable of producing reports sufficient for Quality Assurance.

l. Dual frequency Global Positioning System (GPS)/Global Navigation Satellite System (GNSS) Equipment: GPS/GNSS equipment must be used when required by the Task Order or the CCM.
i. GPS/GNSS receivers and antennas suitable for the specific survey.

ii. GPS/GNSS antennas with ground planes as specified in the Caltrans Surveys Manual.


iv. Real Time Kinematic (RTK) or Real Time Network (RTN) GNSS system equipment comprising a base station, base radio, and a rover unit.

m. Survey-grade terrestrial stationary laser scanning, and mobile terrestrial laser scanning equipment as specified in the Caltrans Surveys Manual.

3. The consultant must provide all necessary tools, instruments, equipment, materials, supplies, and safety equipment required to perform the work identified in each task order and this contract accurately, efficiently, and safely. The consultant’s personnel must be fully trained in using such necessary tools, instruments, equipment, materials, supplies, and safety equipment. The consultant must not be reimbursed separately for tools of the trade, which may include, but not be limited to, the above-mentioned equipment.

L. Standards

1. All work/services under this contract must be performed under all federal, state, and local statutes, laws, codes, regulations, policies, procedures, ordinances, standards, specifications, performance standards, and guidelines, including the latest Caltrans regulations, policies, procedures, manuals, standards, specifications, performance standards, directives, guidelines, handbooks, guidance documents, forms, templates, policy memo, methodologies, and other informational or directive publications, including compliance with FHWA and State guidelines for implementing those requirements; and any permits, licenses, agreements or certifications that apply to specific task orders; the terms and conditions of this contract; and current Caltrans Manuals and any future revisions. Work not covered by the “Manuals” must be performed as specified in the task order. If no standards exist, task orders may call for developing new standards, so
long as these standards do not conflict with the requirements, or amend the Scope Of Work under of this contract.

a. The consultant obtains, at its expense, all necessary manuals, reference documents, and other materials.
b. Caltrans Manuals may be purchased from the Publication Distribution Unit. The publications staff may be reached at (916) 263-0822, and the center is at these address:

   State of California
   California Department of Transportation
   Publication Distribution Unit
   1900 Royal Oaks Drive
   Sacramento, CA  95815-3800

c. Manuals and documents that are not available from the Caltrans Publication Distribution Center or are not available from Caltrans’ internet web site may be requested from the Caltrans contract manager. Caltrans does not guarantee the availability of publications nor its internet web pages.

d. Caltrans’ regulations, policies, procedures, manuals, standards, specifications, performance standards, directives, guidelines, handbooks, guidance documents, forms, templates, policy memo, methodologies, and other informational or directive publications, are dynamic documents and subject to change. The consultant is responsible to verify that the latest version or update is used.

2. Manuals, Documents, and Websites

These manuals, documents and links to internet sites are referenced in association with the work in this contract. The list is not all-inclusive, but should illustrate the reference material and sources of information.

a. Caltrans’ Internet Home Webpage:
   http://www.dot.ca.gov/

   California Manual on Uniform Traffic Control Devices:
http://mutcd.fhwa.dot.gov/
http://www.dot.ca.gov/trafficops/engineering/

c. Caltrans Surveys Manual:

d. Caltrans CADD User’s Manual:
   http://www.dot.ca.gov/hq/oppd/cadd/usta/ppman/toc.htm

e. Caltrans Standard Plans and Standard Specifications:

f. Caltrans Right of Way Manual:
   http://www.dot.ca.gov/hq/row

3. Land surveying services and associated work performed by the consultant must conform to the California Land Surveyors Act. Business & Professions Code §§ 8700 et. seq. The consultant personnel in “Responsible Charge”, as defined in the California Land Surveyors Act, must be a PLS licensed in the State of California or a pre-January 1, 1982, Registered Professional Civil Engineer licensed in the State of California and be in good standing with the BPELSG during the Contract period.

M. Field Safety

Besides the requirements specified elsewhere in this contract, the following also must apply:

1. The consultant must maintain a working environment safe for project personnel and the public. The consultant’s personnel must comply with all safety provisions of the Caltrans Safety Manual, Caltrans Surveys Manual, Caltrans Traffic Manual, and Caltrans Code of Safe Practices. The consultant must comply with all federal, state, and local Occupational Safety and Health Administration (OSHA) statutes, laws, codes, regulations, policies, procedures, ordinances, standards, rules, specifications, performance standards, and guidelines, and the safety instructions that Caltrans issues for performance of task order work, applicable to the work under this contract, regarding safety equipment and procedures (including, but not limited to, use and
operation). Under no circumstance must the consultant’s safety policies be less stringent than Caltrans.

2. The field work must not be performed when conditions prevent a safe and efficient operation, and must only be performed with written authorization by Caltrans.

3. The consultant must provide, at no cost to Caltrans, all safety equipment to perform the required services safely including, but not limited to: gloves, coveralls, sunscreen, insect repellents, fire extinguisher, hard-soled safety footwear, white hard hats, eye protection, hearing protection, and ANSI 107-2004 or higher Class II garment. The consultant’s personnel must wear hard-soled safety footwear, white hard hats, eye protection, hearing protection (when applicable), and ANSI 107-2004 or higher Class II garment.

4. The consultant must provide, at no cost to Caltrans, appropriate safety training for all the consultant’s and the sub-consultant’s office, and field personnel, including training required for performing the work in an office setting or in the field to work on and near highways safely.

5. The consultant must be solely responsible for protecting health and safety of its personnel, sub-consultants, and Sub-consultant’s personnel in performance of this contract.

6. Traffic Control

   a. If specified in the task order, Caltrans must provide traffic control to accomplish the work within Caltrans’ right-of-way. When Caltrans is to provide traffic control, the consultant must request the traffic control before the work to obtain proper clearance. Limited work hours, night work or weekend work may be necessitated by the closure schedule approved by Caltrans for work on State freeways or highways. For work outside of Caltrans’ right-of-way, the consultant must provide traffic control in coordination with the local jurisdiction and/or private owners.

   b. If the task order requires the consultant to provide traffic control or traffic control devices, the consultant must follow policy and procedures per the FHWA Manual on Uniform Traffic Control Devices (MUTCD) and the California Manual of Traffic Control Devices.
N. Orientation Provided by Caltrans

Caltrans may provide orientation regarding the requirements for this contract and each task order as deemed necessary by Caltrans. The orientation may comprise instructions on Caltrans procedures, practices, and requirements for the specific work to be performed and sharing of project related files and notes. However, if the orientation instructions conflict with the contract or task order requirements, the contract and the executed task order must prevail over any instructions provided.

O. Monitoring and Review Procedure

1. The Caltrans contract manager and task order manager will have the unilateral right, occasionally, or as requested by the consultant, to monitor and review the progress and processes of the consultant related to work performed under this contract.

2. The performance of the consultant contract manager, key personnel, and team must be evaluated by the Caltrans contract manager but no less frequently than annually, and at the expiration of the contract. Unsatisfactory reviews of specific consultant personnel may cause Caltrans requesting that they be replaced with new personnel. The consultant must immediately replace personnel with individuals whose qualifications at a minimum equal those of the personnel replaced at no additional cost to Caltrans. Evaluation includes, but not be limited to:

   b. Quality of Work.
   c. Timely submittal of reports, invoices, daily diaries, and other required documents.
   d. Early detection of problems and timely resolutions.
   e. Requesting timely approval for personnel changes and travel expenditure.
   f. Responsiveness and ability to control costs.
   g. DBE or DVBE Participation.
   h. Conflicts of interest.

Poor performance and any negative evaluations may cause replacement of the consultant contract manager, key personnel, or any personnel; the need to replace
key personnel must reflect adversely on the consultant’s performance evaluation, and if warranted, may cause the termination of the contract per Exhibit D, Section III, Termination of the Contract.

3. The survey party chief for each consultant’s survey party must prepare a daily “Survey Party Report.” The reports must be prepared on Caltrans-provided forms and must be prepared daily.

4. The office survey team leader for each consultant's office survey team must prepare a weekly "Office Survey Report." The report must be prepared weekly at the end of the week's work.

5. The consultant must provide a monthly Task Order Summary Report detailing all work performed under each task order. This report should coincide with the dates covered by the monthly invoice period of performance. The report should be included with the invoice submittal.

P. General Materials to be provided by Caltrans

Materials (if deemed applicable, necessary, and when available from Caltrans) that may be furnished or provided by Caltrans and where listed in the individual task orders and this contract, are for the consultant’s use only, must be returned at the end of the contract. The consultant must use the materials in the execution of the specific work described in the task order. These materials may include, but not be limited to:

1. Background or reference information for each task order.

2. Project special provisions, full-size and reduced-size sets of project plans, materials information handout, and construction contract and proposal, as necessary.

3. Caltrans standardized forms.

4. If Permits to Enter onto private property are required to complete work identified in a task order, Caltrans will issue letters of the Intent to Survey for the identified properties. Caltrans will provide the consultant with Caltrans approved “Notice to Property Owners” door hangers.
5. Background information, site topographic maps, as-built drawings, blank Caltrans plan sheet overlays, digital electronic seed files, cell libraries, lane closure request forms, right-of-way alignments and survey limits, preliminary utility location maps, areas where focused studies are needed, and Construction Contract Documents, as available, for each task order.

6. Digital Electronic templates of task order formats.

Q. Land Surveying Materials to be provided by Caltrans

1. Relevant and existing documents, right-of-way record data, survey maps, control, data, topographic maps, and planimetric maps, if any are available, that apply to the current project within the project limits.

2. Monument disks, plugs, tags, and marker posts.


Note: The consultant handles the return to Caltrans, in original condition, of all items provided for use under this contract. The consultant must replace, at the consultant’s sole expense, all lost or damaged Caltrans data or materials.

R. Materials to be provided by the Consultant

Unless otherwise specified in this contract, the consultant must provide all materials to complete the required work under the delivery schedule and cost estimate outlined in each task order.

1. The consultant must provide to its land surveying services personnel sets of the following that apply to the current project:
   
   c. Materials under section “Equipment Requirements”.

2. When performing work within railroad company property, the consultant must obtain sufficient and/or adequate insurance coverage that must comply with the
railroad company’s requirements when performing work within their jurisdiction. The insurance and types of coverage required by the railroad company may be above and beyond that required by Caltrans. The consultant may have to provide additional railroad liability insurance including, but not limited to:

b. Business Automobile Coverage Insurance.
c. Worker Compensation and Employers Liability Insurance.
d. Railroad Protective Liability Insurance.
e. Umbrella or Excess Insurance.
f. Pollution Liability Insurance.

S. Product Approval and Payment

1. Deliverables, backup documents, and other items produced by the consultant in the performance of this contract, must be subject to the approval and acceptance by the Caltrans contract manager or task order manager prior to invoicing and payment for these items.

2. All deliverables and tasks provided for acceptance under each task order must comply with the terms, covenants and conditions of this contract.

3. Upon completion of each deliverable or task, the Caltrans contract manager or task order manager must either accept or reject the completed work. In the event of non-acceptance due to errors, omissions, or non-compliance with the Caltrans Manuals, as revised by the time of the task order, or this contract, the consultant must remedy the errors, omissions, or non-compliance to the satisfaction of the Caltrans contract manager or task order manager at no cost to Caltrans prior to payment. Caltrans must withhold payment until the work is satisfactorily completed and approved by the Caltrans contract manager. Additional cost incurred to correct errors will not be compensated.

4. Caltrans must not pay the consultant for the consultant’s work under this contract and the charges incurred by the consultant that ignores the requirements specified in this contract and to the task order, and such work must be corrected at the consultant’s sole expense at no additional cost to Caltrans.
5. All reviews, inspections and approvals made prior to the final acceptance of deliverables or task orders are intended only to provide interim authorizations to proceed and do not constitute final approval of the deliverable or task order.

6. Notwithstanding any other provision, until final acceptance of a task order under the agreement, any acceptance or approval means approval to proceed, but it does not mean acceptance or approval of a deliverable or task, and, it does not reduce or eliminate any of contractor’s duties or responsibilities under this agreement.

T. General Deliverables

All deliverables, developed under this contract, and subject to Exhibit D, sections XIX and XX, must be sent to Caltrans upon completion of each task order deliverable and with the acceptance/approval of the work by the Caltrans contract manager or task order manager. The consultant must retain a copy of all documents furnished to Caltrans until expiration of the contract.

Unless otherwise specified in the task order, the deliverables must conform to Caltrans current hardware and software platforms

1. The consultant must work in close liaison with the Caltrans contract manager and task order manager. Time is of the essence. Caltrans must exercise review and approval functions through the Caltrans contract manager or task order manager at key points, as specified in each task order. Milestone reviews must be performed with the Caltrans contract manager and task order manager for the specific performance, products, and deliverables in each task order.

2. The consultant must prepare a cost estimate showing task, subtask, personnel, personnel hours estimated for each task or subtask, and a schedule of deliverables.

3. All deliverables, backup documents, and other items required by this contract must be prepared on Caltrans standardized forms. Necessary forms will be provided by Caltrans for the consultant’s use.

4. All deliverables, backup documents, and other items required by this contract must be submitted in both hardcopy and unprotected and modifiable digital electronic files in the Caltrans-approved forms and in the Caltrans-approved and designated digital electronic formats under the guidelines in this contract and each
task order. The unprotected and modifiable digital electronic files must include the responsible person’s digital electronic signature and seal. The consultant must verify the latest version of software used prior to submittal.

5. At the end of each task order or when requested by the Caltrans task order manager, the consultant must also submit one unprotected and modifiable digital electronic copy of all deliverables, backup documents, and other items required by this contract in a specified digital device format. The file formats must be specified in each task order. Documentation must accompany each digital device indicating the contents of each file.

6. The Consultant personnel involved in preparation or review of deliverables, backup documents, and other items must be identified in the prepared or review report.

7. If the consultant fails to submit the required deliverables, backup documents, and other items required by this contract and any approved task order, Caltrans may withhold payment and/or terminate this Contract under the termination provisions of this contract per Exhibit D, Section III, Termination. If the contract is terminated, the consultant must, at Caltrans’ request, return all materials recovered or developed by the consultant under the contract.

8. The consultant must prepare and update the Caltrans WBS in this contract for each task order issued by the Caltrans task order manager showing a deliverables schedule. The consultant must complete and meet the agreed upon schedule for each task order. Failure to complete the work based on the agreed upon schedule in the task order may cause termination of the task order or this contract. Caltrans may have work completed allowed by law, for which the consultant must be liable for any additional costs incurred by Caltrans to complete the work. Such costs may be deducted from amounts due to the consultant in pending or future invoices, or if the contract is terminated, may be recouped by any means allowed by law.

9. Deliverables specified in each task order must be delivered to the attention and address stated in each task order.

10. The Consultant must be capable of working in either English or Metric units.
11. All deliverables must be prepared in U.S. Customary English Units unless an exception is approved. The units to be used for deliverables must be addressed within individual task orders.

12. A task order may require the consultant to use software and digital electronic formats other than those stated in this contract as needed to accomplish the objectives of the task order.

13. Quality Control Plan:

Prior to the work, the consultant must prepare the quality control plan and the minimum standard of work quality and obtain approval from the Caltrans task order manager, in effect for every task order during the entire time the work is being performed under the contract. The consultant must complete the quality control plan and certify at completing work that all measures contained were satisfied. Caltrans must perform quality assurance on the quality control plan to assure that quality control was satisfied.

The Consultant’s quality control plan must establish a process whereby:

a. All deliverables are reviewed for accuracy, completeness, and readability before submittal to Caltrans.

b. Calculations and plans are independently checked, corrected and re-checked.

c. All job-related correspondence and memoranda are routed and received by affected persons and then filed in the task order file.

d. Field activities are routinely verified for accuracy and completeness, such that any discovered deficiencies do not become systemic or affect the result of a task order deliverable.

The consultant must provide an outline of the quality control program before a specific task begins and must identify critical quality control reviews within each task order. The Caltrans task order manager must periodically request evidence that the quality control/quality assurance plan is functioning. All deliverables, backup documents, and other items required by this contract must be submitted to
the Caltrans task order manager for review. The deliverables must be marked clearly as being fully checked or unchecked, and that preparing the material followed the quality control plan established for the work. The Quality Control/Quality Assurance (QC/QA) plan must contain provisions for developing appropriate “checklists” to maintain product quality and control. These “checklists” must be delivered to the Caltrans task order manager with the QC/QA plan. The consultant must update these documents when directed by the Caltrans task order manager. Within 30 calendar days of the Notice to Proceed, the consultant must submit to the Caltrans task order manager or Caltrans designee a job specific QC/QA plan and staffing plan.

14. Subject to Caltrans review, approval, and acceptance, the consultant has total responsibility for and must verify the accuracy and completeness of the deliverables, backup documents, and other items required by this contract prepared by the consultant or its sub-consultants for the projects as specified in this contract and in each task order. All deliverables, backup documents, and other items required by this contract must be reviewed by Caltrans for conformity with project standards and the requirements in the task order and this contract. The deliverables, backup documents, and other items required by this contract are subject to Caltrans’ review, approval, and acceptance. Reviews by Caltrans do NOT include detailed review or checking of major components, quantitative calculations, related details or accuracy of information. The responsibility for accuracy and completeness of such items remains solely that of the consultant.

15. The Caltrans contract manager or task order manager must address all questions which may arise on the quality or acceptability of deliverables furnished and work performed for this Contract.

16. Prepare the deliverables, backup documents, and other items required by this contract under prevailing industry standards and in a form acceptable to the Caltrans contract manager or the Caltrans task order manager. These items must identify the preparer, the designated reviewers, and the criteria for acceptance. The deliverables must satisfy the Caltrans acceptance criteria and tests. The work product must be complete, of neat appearance, well-organized, technically and grammatically correct, independently checked for error, checked by designated reviewers (Caltrans and Consultant Personnel), dated, and must conform to industry standards and all Caltrans, State, and Federal Standards, Requirements,
and Procedures. All deliverables must be approved by the Caltrans Contract Manager or Caltrans designee.

17. The minimum standard of appearance, organization, and content of deliverables, backup documents, and other items required by this contract, must be that of similar types produced by Caltrans and set forth in related Caltrans manuals.

18. Caltrans and the consultant must develop and agree to a schedule for the services and deliverables to be completed and delivered, and where appropriate, for acceptance criteria and acceptance tests that the services and deliverables must satisfy as a prerequisite for approval by Caltrans. All deliverables must satisfy the standards set forth in “Standards” section to be accepted for payment.

U. Land Surveying Deliverables

1. The consultant must obtain written approval from Caltrans for all deliverables, backup documents, and other items required by this contract. If there are no Caltrans standardized forms, the format and content requirements for all deliverables, backup documents, and other items required by this contract must be specified in each task order.

2. All land surveying services deliverables, backup documents, and other items required by this contract performed on computer must be delivered in Caltrans approved hardware and software formats. Specific deliverable file formats must be identified in the individual contract task orders.

3. All maps must be submitted in unprotected and modifiable digital electronic files in the Caltrans-approved and designated formats and must conform to Caltrans standards.

4. Survey points, lines, and monuments must be established, marked, identified and referenced, as required by Standards and Symbols for Photogrammetric Mapping, CADD Standards, task order, and the requirements in this contract.

5. Survey notes, drawings, calculations and other survey documents and information must be completed as required by the task order and the requirements in this contract.
6. All original survey documents resulting from this contract (including original field notes, data collector raw files, edits to field data, adjustment calculations, final results, and intermediate documents) must be delivered to Caltrans and must become the property of Caltrans. The consultant must retain a copy of all survey documents furnished to Caltrans. When the survey is performed with a Total Station Survey System, the original field notes must be a hard copy listing in a readable format of the data (observations) as originally collected and submitted by the survey party. The person in “Responsible Charge” of the survey must sign the listing.

7. The final results of all surveys must be delivered to Caltrans in the formats specified below:

   a. The HORIZONTAL CONTROL must be submitted in unprotected and modifiable digital electronic files in the Caltrans-approved and designated formats, and must conform to Caltrans standards. The digital electronic medium must follow the Caltrans computerized system. Also, an alpha/numeric hard copy point listing with adjusted California Coordinate System northeings and eastings and descriptions must be submitted.

   b. The VERTICAL CONTROL must be submitted in unprotected and modifiable digital electronic files in the Caltrans-approved and designated format, and must conform to Caltrans standards. The digital electronic medium must follow the Caltrans computerized system. Also, an alpha/numeric hard copy benchmark listing with adjusted elevations and descriptions must be submitted.

   c. The TOPOGRAPHIC DATA must be submitted in unprotected and modifiable digital electronic files in the Caltrans-approved and designated formats, and must conform to Caltrans standards. The digital electronic medium must follow the Caltrans computerized system as specified in the task order (CAiCE, AutoCAD Civil 3D). Also, hard copy drawings and an alpha/numeric hard copy listing must be submitted.

   d. Other - As specified in the Task Order.

8. Caltrans role must be limited to technical oversight only and monitoring the Consultant's quality assurance program.
9. Quality assurance must be required for Caltrans produced data or data produced by another consultant.

V. Conflict of Interest

1. All land surveying services provided by the consultant and deliverables produced by the consultant must be free of any conflict of interest and must be subject to the approval and acceptance of the Caltrans contract manager. The consultant must inform the Caltrans contract manager of any ‘perceived’ conflict of interest when discovered.

2. The consultant must not receive compensation for any services or products in which the consultant is found to have a conflict of interest. In the event of non-acceptance due to discovery of conflict of interest, the consultant must provide replacement deliverables free of any conflict of interest prior to payment. If replacement deliverables are not possible, the consultant must not receive compensation for the deliverables containing conflict of interest. Examples of conflict of interest include, but not be limited to:
   a. Providing land surveying services for Caltrans on a particular project and providing land surveying services for the construction contractor on the same project.

   The above conflict of interest scenario is only an example of possible conflicts of interest for the services provided under this contract, but is not intended to describe all circumstances for potential or actual conflicts.

W. List of Abbreviated Terms

   A&E (Architectural and Engineering)
   BPELSG (California State Board of Professional Engineers, Land Surveyors, and Geologists)
   CADD (Computer Aided Drafting & Design)
   Caltrans (California Department of Transportation)
   DBE (Disadvantaged Business Enterprise)
   DPAC (Division of Procurement and Contracts)
   DVBE (Disabled Veterans Business Enterprise)
   FHWA (Federal Highway Administration)
   GNSS (Global Navigation Satellite System)
GPS (Global Positioning System)
MUTCD (Manual of Uniform Traffic Control Devices)
OSHA (Occupational Safety and Health Administration)
OICR (Office Indirect Cost Rate)
PDT (Project Development Team)
PLS (Professional Land Surveyor)
RTK (Real Time Kinematic)
RTN (Real Time Network)
SOW (Scope of Work)
WBS (Work Breakdown Structure)
WSG (Workplan Standards Guide)

X. Datum Requirements

1. Caltrans must designate the existing horizontal and vertical control monuments to be the basis of Consultant performed surveys and mapping. Caltrans must provide the California Coordinate System values for the horizontal control monuments and the elevation values for the vertical monuments. All bearings and distances must be on the California Coordinate System as based on the primary control furnished to consultant. The consultant must adjust the consultant performed surveys utilizing the designated control monument values. Exceptions need prior written approval from the Caltrans district survey engineer.

2. All surveying data and maps prepared by the consultant must conform to Sections 8801 through 8902 of the Public Resources Code. Distances and bearings shown must be grid and the maps and documents must show the datum and combination factor for surface conversion.

3. The task order must designate which epoch of the California Coordinate System is to be used for horizontal coordinate values.

4. The task order must designate the vertical datum to be used for elevations.

Y. Monument Markings

Monuments established by the consultant must be marked by the consultant with Caltrans-furnished disks, plugs, or tags. In addition, the consultant must identify State
furnished monuments by tagging or stamping the monuments with the license or registration number of the consultant's surveyor in "Responsible Charge" of the work.
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