STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

REQUEST FOR QUALIFICATIONS NOTICE
NUMBER 04A7615

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

- On February 2, 2026, new escalations rates.
- On February 2, 2026, interviews will be held in person.
- On September 30, 2025, the U.S. Department of Transportation (U.S. DOT) issued an interim final rule (IFR) which, among other things, implemented changes to the Disadvantaged Business Enterprise (DBE) Program via modifications to 49 Code of Federal Regulations Part 26. (Docket Number DOT-OST-2025-0897.) The IFR was published in the Federal Register on October 3, 2025, and took immediate effect. (90 FR 47969 (Oct. 3, 2025).)
- On 03/07/25, GENERAL, Executive Order N-12-23 replaces Executive Order N-12-12. GenAI Reporting and Factsheet Form STD1000 is retired.
- On 01/31/25, GENERAL the Fee & Escalation table has been revised.

Note: Questions concerning this Request for Qualifications (RFQ) must be submitted in writing to the attention of Vanessa Usanmaz at Vanessa.Usanmaz@dot.ca.gov . Questions must be received no later than seven (7) business days after the RFQ advertisement. Consultants contacting the District or Division directly seeking information about this RFQ will be disqualified from consideration in the selection process.

I. GENERAL INFORMATION

A. Caltrans is soliciting Statements of Qualifications (SOQs) from qualified firms that may lead to the award of a contract for **A&E On-call Roadway Construction services, District 04**. In submitting your 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 $19,600,000.00 - $31,850,000.00.

C. The estimated contract term is three years.

D. Interviews will be held **in person** on **September 23, 2026** at **111**

Grand Ave #300, Oakland, CA 94612. 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 AE Contract Information website. The most highly qualified consulting firm will be notified of their selection and receive instructions for the electronic submission of the 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 by teleconference/WebEx during the week of **October 30, 2026**. The fee for profit shall be ten percent, and the escalation shall be as follows:

From	To	Escalation	Term (yr)
09/08/2026	09/30/2027	1.71%	0
10/01/2027	09/30/2028	3.42%	1
10/01/2028	09/30/2029	3.42%	2
10/01/2029	09/30/2030	3.42%	3

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 **November 12, 2026**.

H. Disadvantaged Business Enterprise Program
1. On September 30, 2025, the U.S. Department of Transportation (U.S. DOT) issued an interim final rule (IFR) which, among other things, implemented changes to the Disadvantaged Business Enterprise (DBE) Program via modifications to 49 Code of Federal Regulations Part 26. (Docket Number DOT-OST-2025-0897.) The IFR was published in the Federal Register on October 3, 2025, and took immediate effect. (90

FR 47969 (Oct. 3, 2025).) The IFR, as published in the Federal Register, is available at the following url: Docket No. DOT-OST-2025-0897

2. In the event of any ambiguity or discrepancy between the existing law, including the IFR, and this contract, existing law controls.

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.,G. regarding the California Department of Industrial Relations (DIR) Consultant/Contractor Registration Program on the AE 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 AE Contract Information website.

M. Pursuant to Executive Order (EO) N-6-22 issued March 4, 2022, persons identified in the list established by the US Department of the Treasury are ineligible to bid on, submit a proposal for, enter into, or renew any Agreement with the State for any goods and/or services. Any person who submits a bid or proposal to Caltrans certifies that it is not identified in the most current lists located https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions.

If applicable, any person who submits a bid or proposal to Caltrans certifies that its subcontractors are not identified in the most current lists located https://home.treasury.gov/policy-issues/financial-sanctions/sanctions-programs-and-country-information/ukraine-russia-related-sanctions

N. Pursuant to Executive Order N-12-23 – Generative Artificial Intelligence (GenAI) Technology Use and Reporting, effective February 20, 2025.

1. The State of California seeks to realize the potential benefits of GenAI, through the development and deployment of GenAI tools, while balancing the risks of these new technologies.
2. Bidder / Offeror must notify the State in writing if it:
   - A) intends to provide GenAI as a deliverable to the State; or
   - B) intends to utilize GenAI, including GenAI from third parties, to complete all or a portion of any deliverable that materially impacts:
     - 1) functionality of a State system,
     - 2) risk to the State, or
     - 3) Contract performance.

Note: For avoidance of doubt, the term “materially impacts” shall have the meaning set forth in State Administrative Manual (SAM) § 4986.2 Definitions for GenAI.

3. Failure to report GenAI to the State may result in disqualification. The State reserves the right to seek any and all relief to which it may be entitled to as a result of such non-disclosure.
4. Upon notification by a Bidder / Offeror of GenAI as required, the State reserves the right to incorporate GenAI Special Provisions into the final contract or reject bids/offers that present an unacceptable level of risk to the State.
5. Government Code 11549.64 defines "Generative Artificial Intelligence (GenAI)" as an artificial intelligence system that can generate derived synthetic content, including text, images, video, and audio that emulates the structure and characteristics of the system's training data.

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 exist, it must identity 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 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 firm 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 AE Contract Information website (see link below). 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 AE Contract Information website (see link below).

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 AE Contract Information website (Dated Rev. 10/07/2020) . 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 an electronic SOQ file to Sacramento.

1. The 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 **10:00 a.m.** on **09/08/2026**. Hard copies of the SOQs are **NOT** required. Fax copies or copies transmitted by email will not be allowed.
2. You will be required to create a Novell Filr account with Caltrans. Send an email message to the Contract Analyst, Vanessa Usanmaz, at Vanessa.Usanmaz@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 a 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
3. SOQ submittals will be considered non-responsive if the electronic submittal is not received by the date and time specified in this RFQ.

C. Request for RFQ Copies

Copies of this RFQ may be obtained on the CaleProcure website.

SCOPE OF WORK/DELIVERABLES

ROADWAY CONSTRUCTION SERVICES

For Caltrans, Division of Construction, District 4

On-Call Contract

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SCOPE OF WORK/DELIVERABLES
ROADWAY CONSTRUCTION SERVICES

For Caltrans, Division of Construction, District 4

On-Call Contract

A. GENERAL PROJECT DESCRIPTION AND OVERVIEW OF SERVICES

1. Purpose of Work

a) The Consultant shall perform professional and technical services required for Roadway Construction Services, on an on-call "as-needed" basis to support Caltrans, Division of Construction, District 4, in the construction phase of proposed Caltrans transportation facilities. The following services are being requested in this Roadway Construction Services On-Call Contract ("Contract"):

A – Roadway Construction Inspection and Office Engineering

B – Electrical Construction Inspection

C – Landscape Architectural Construction Inspection

D – (Omitted from this Contract)

E – Construction Scheduling / Critical Path Method ("CPM")

F – (Omitted from this Contract)

G – (Omitted from this Contract)

H – Roadway Construction Management – Consultant Resident Engineer

b) The Consultant shall review and become familiar with project plans and specifications governing the contracts and materials that have been prepared for Caltrans transportation facility construction project(s) ("Construction Project(s)"). The Consultant shall also review the Caltrans Standard Special Provisions and complementary reports developed from prior planning studies. The Consultant shall maximize the use of existing information available to conduct roadway construction management services in accordance with the California Department of Transportation ("Caltrans" or "Department") policies, procedures, and requirements in compliance with California ("State") and Federal laws and regulations.

c) The Consultant will conduct the appropriate level of engineering and environmental analyses, and prepare appropriate inspections, sampling, testing, and documentation of the prime construction contractor's ("Prime Construction Contractor") compliance with contract requirements on Construction Projects. The preceding shall be used as justifications to Caltrans in making timely and accurate construction contract payments to the Prime Construction Contractor.

d) Role of Caltrans Responsible Charge Construction Engineer ("CRCCE")

Under Federal-aid regulations and State policy, the primary responsibility for general supervision of construction on Construction Projects must remain with the Caltrans Responsible Charge Construction Engineer ("CRCCE"), who shall be a full-time Caltrans Senior Transportation Engineer. The CRCCE must be a registered civil engineer, must be knowledgeable of the Construction Project(s)' progress, and assure that the work is performed in accordance with the Department-approved Construction Project plans and specifications. The CRCCE will review and assure that all Construction Project files are available and stored in Falcon Document Management System ("DMS") with any and all Construction Project documentation and backup records (over-time, progress payments, Construction Project records, field reviews, Disadvantaged Business Enterprise / Disabled Veteran Business Enterprise ["DBE / DVBE"], extra work, and other work products that require CRCCE approvals) as required by the Construction Project.

e) Term Resident Engineer

In this Contract the term "Resident Engineer" is used to represent both Consultant Resident Engineers and Caltrans Resident Engineers, unless otherwise specifically stated.

2. Explanation of Work

The Caltrans contract manager assigned to this Contract ("Caltrans Contract Manager") shall assign specific work to the Consultant through the issuance of task orders describing in detail the services to be performed under this Contract ("Task Order(s)"). 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.

3. Exclusion of Work

a) The following activities will be performed by others and are excluded from this Contract. The Consultant must include the excluded activities in the project schedule to be submitted to the Department for approval. The Consultant further agrees to provide the necessary information in a timely manner to facilitate the successful completion of the excluded tasks listed below:

i. All Structure Construction Services associated but not limited to, bridges and buildings, are specifically excluded from the scope of this Contract.

ii. Professional and technical engineering services required for Roadway Design and related Project Development Services, including constructability reviews and preconstruction services.

iii. The following Construction Projects and contracts are excluded from this Contract:

a. 04A6995 - Roadway Construction Services for Counties of Napa, Solano, San Francisco and San Mateo

b. 04A7380 – Roadway Construction Services for Counties of Marin and Sonoma.

c. 04A7504 - Independent Cost Estimator and Scheduling.

iv. The following specific services are performed by others:

D – Construction Claims Support

F – Construction Materials Sampling and Testing

G – Construction Stormwater Implementation

a) See Attachment H – Roadway Construction Management – Consultant Resident Engineer for additional exclusions of work for the Consultant Resident Engineer.

4. Location of Work

The work shall be performed on Construction Projects to improve the State transportation system throughout the counties of Alameda, Contra Costa, and Santa Clara in California within the limits of District 4. 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 Construction Projects to extend into another adjoining District 3, 5 and 10 / County line. In such instances, the Construction Project work shall not extend more than a thirty (30) mile radius from the geographic boundary.

B. REQUIRED SERVICES

1. Roadway Construction Services

a) 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 the scope of work for this Contract ("Scope of Work").

b) The potential Construction 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 specific details on Construction Project location, Construction Project limits, purpose, expected results, Construction Project deliverables, period of performance, Construction Project schedule, and services to be performed shall be described in each Task Order.

c) 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 assure 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.

d) 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. Some work, however, may require Consultant personnel to mobilize within twenty-four (24)-hour of notifications. Once the work begins, the work shall be executed and performed diligently until all required work has been completed to the satisfaction of the Caltrans Contract Manager or Caltrans designee.

e) The Consultant Contract Manager, Consultant Task Order Manager, and Consultant 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.

f) The Caltrans Contract Manager may advise the Consultant's Contract Manager of the perceived need to have the Consultant's employees work overtime to meet changing Caltrans needs, and the Consultant's Contract Manager shall take effective measures to address the Caltrans Contract Manager's need. All overtime shall be pre-approved by the Caltrans Contract Manager or designee. Overtime pay shall be paid only to persons covered by the Fair Labor Standards Act and as per Caltrans' Division of Procurement and Contracts ("DPAC") Interpretive Guidance on premium overtime reimbursement.

2. Specific Roadway Construction Services

The specific Roadway Construction Services shall be described in the attachment templates chosen to create the scope of work for this Contract ("Scope of Work" or "SOW"). The attachment template(s) that were used along with this base template to create the Scope of Work as follows:

A – Roadway Construction Inspection and Office Engineering

B – Electrical Construction Inspection

C – Landscape Architectural Construction Inspection

D – (Omitted from this Contract)

E – Construction Scheduling / Critical Path Method ("CPM")

F – (Omitted from this Contract)

G – (Omitted from this Contract)

H – Roadway Construction Management – Consultant Resident Engineer

3. Proposed Caltrans Projects

a) Provided in Attachment A is a list of proposed Caltrans Construction Projects in District 4. This list is not exclusive, however, and it does not constitute a commitment that the Construction Projects will be initiated or completed, or work assigned to the Consultant. Caltrans reserves the right to add or delete from this list of Construction Projects that are within the geographical jurisdiction of this Contract set forth in "Location of Work" Section.

b) 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 as set forth in the "Location of Work." In the future, Caltrans may find it necessary to create a separate contract (or contracts) that involves a specific Construction 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 Construction Projects or unlisted Construction 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 contract 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.

c) Should a project-specific contract be procured under these provisions, Caltrans and the Consultant ("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 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.

d) At the sole discretion of Caltrans, the Consultant may be required to provide the required services for Construction Projects contained herein, on safety projects, emergency projects, emergency storm damage projects, except for those specially excluded above, within the geographical jurisdiction of this Contract set forth in "Location of Work" Section.

4. Partnering

The Consultant shall partner with all parties and stakeholders to establish and maintain cooperative communication channels and mutually resolve conflicts at the lowest responsible level. The Consultant shall become familiar with and follow Section 5-1.09, "Partnering," of Caltrans' Standard Specifications and the Caltrans publication "Field Guide to Partnering on Caltrans Construction Projects." This

publication is available at the partnering website: https://dot.ca.gov/programs/construction/partnering

5. Change Order and Extra Work Services

a) Standard Specifications, Section 4-1.05 "Changes and Extra Work" and Section 3-403, "Changes and Extra Work," of the Caltrans Construction Manual establish Caltrans' authority to make changes to a Construction Project contract. The Consultant will utilize Form Construction Engineering Management ("CEM") 4900, "Change Order," to assist the Resident Engineer in memorializing a change order that will be the legally binding document used to enable changes to a Construction Project contract.

b) The Construction Project plans, specifications, and other bid documents define the scope of a Construction Project contract and describe the details for the Construction Project construction and completion of the whole work contemplated. If any change must be made, the Resident Engineer shall formalize and prepare to execute said change order as per Section 5-302, "Change Order Policy" of the Caltrans Construction Manual.

c) Consultant personnel shall review and become familiar with Caltrans' Change Order process to address all work not in compliance with Construction Project plans, specifications, and other bid documents that define the scope of a Construction Project contract and describe the details for the construction and completion of the whole work contemplated.

d) A Change Order is a legally binding document used to make changes to a Construction Project contract. Resident Engineer shall utilize Form CEM-4900, "Change Order," and Form CEM-4903, "Change Order Memorandum," furthermore must be prepared for each Change Order. To process a Change Order for incorporating the new work into an existing construction contract, the appropriate Division of Construction field coordinator may make the final determination and final request order approval shall be the responsibility of the Caltrans Resident Engineer or the CRCCE, whichever is applicable.

e) The Resident Engineer may determine the need for and, as such, initiate a Change Order to change any part of an original Construction Project contract and will impact various Construction Project contract elements and provisions, including the method of compensation, permit requirements, equipment use, and the effects on schedule time. However, other stakeholders, the contractor, other Caltrans units, outside agencies, or individuals may also request changes.

f) The Resident Engineer may consult the Caltrans District construction personnel to consider if the proposed change or extra work is within the scope of the original Construction Project contract.

g) The Prime Construction Contractor normally chooses the method of performing extra work, however approval for labor, equipment, and materials for force

account work is subject to the Caltrans Resident Engineer or the CRCCE, whichever is applicable.

h) To process a Change Order, the Consultant shall assure that all elements are clear, concise, and explicit. When appropriate, it must include the following:

   i. Clearly describe added work or other changes to the Construction Project contract. Include appropriate references to special provisions, contract plans, Standard Plans, or Standard Specifications.

   ii. Location and limits of proposed work

   iii. References to specifications and any applicable specification changes

   iv. The proposed Change Order's effect on time of completion

   v. Method and amount of compensation

i) If any extra work is desired or performed, that is not included in the original Construction Project contract, the Consultant shall memorialize said extra work as per Section 3-9, "Payment," and Section 3-5, "Control of Work," of the Caltrans Construction Manual for the Caltrans Resident Engineer or CRCCE, whichever is applicable, review and approval.

j) The Resident Engineer shall use the Form CEM-4903, "Change Order Memorandum," with all necessary attachments. The memorandum must be sufficiently documented with any necessary attachments, complete to enable a person unfamiliar with the details of the Construction Project to review the Change Order, understand the justification for the work, the reasonableness of the compensation, and the time adjustment provisions. Do not disclose the memorandum to the Prime Construction Contractor or its subcontractors of the Construction Project without written permission from Caltrans. The memorandum is intended for Caltrans interdepartmental use only and NOT to be shared with the Prime Construction Contractor or its subcontractors without written permission from Caltrans.

6. Workplan Standards Guide Codes

a) 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 https://dot.ca.gov/-/media/dot-media/programs/project-management/documents/workplan_standards_guide_a11y1.pdf. The WSG references the Work Breakdown Structure ("WBS") categories, which are potential and related work activities applicable to this Contract.

b) 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 WBS shall apply during the life of this Contract. Refer to the attachment template(s) used with this base template for the WBS activities applicable to this Contract.

7. Quality Control Plan

a) Prior to commencing 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 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.

b) The Consultant's quality control plan shall establish a process whereby:

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

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

   iii. All job-related correspondence and memoranda are routed and received by affected persons and then filed in the appropriate Task Order file.

   iv. 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.

c) 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 ("QA/QC") plan is functioning.

d) 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.

e) The 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 NTP, the Consultant shall submit to the Caltrans Contract Manager or Caltrans designee a job specific QC/QA plan and staffing plan.

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

C. General Requirements – Personnel

1. Independent Contractor Status

a) The Consultant is an independent contractor, and nothing contained in the Contract shall be construed as constituting any relationship with Caltrans other than that of Construction Project owner, Caltrans, and independent contractor, the Consultant. In no event shall the relationship between Caltrans and the Consultant be construed as creating any relationship whatsoever between Caltrans and any of Consultant's employees. Neither the Consultant nor any of its employees is or shall be deemed to be an employee of Caltrans. Except as otherwise specified in the Contract, the Consultant has sole authority and responsibility to employ, discharge and otherwise control its employees and has complete and sole responsibility as a principal for its agents, for all subconsultants, and for all other persons that the Consultant or any subconsultant hires or engages to perform or assist in performing the Scope of Work.

b) The Consultant agrees that:

i. 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.

ii. The Consultant shall employ and discharge its own employees and subconsultants.

iii. Unless approved in writing by Caltrans Contract Manager, the Consultant shall not hire employees or subconsultants to work on Caltrans matters exclusively and only. The 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.

iv. The work performed by the Consultant, its employees, and its subconsultants shall be a regular part of the Consultant's regular and established business.

v. The Consultant shall make all of its own business (including personnel) decisions and bear the risk for its decisions.

vi. The Consultant shall provide its own tools, equipment, and supplies, and the Consultant shall not rely on Caltrans to provide such tools, equipment, and supplies. Notwithstanding the foregoing, Caltrans may, during the term of the Contract, allow the Consultant to access selected items of equipment; provide non-employee User-IDs 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.

vii. The Consultant shall provide its own training to its employees and subconsultants, and the Consultant shall not rely upon Caltrans to provide such training.

viii. The Consultant shall advise its employees and subconsultants of the foregoing Contract terms that apply to them, and the Consultant shall advise such employees and subconsultants to report to the Consultant any apparent or actual breaches. The Consultant shall relay any such reports to Caltrans Contact Manager.

2. Consultant Work Hours and Availability

a) The typical workday includes all hours worked by the Caltrans Prime Construction Contractor on the Construction Project contract as identified in the Task Order and also as directed by the Caltrans Contract Manager.

b) Unless otherwise specified in a Task Order, or predicated by Prime Construction Contractor's operations, 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. The Consultant Contract Manager shall be responsible for providing Consultant personnel who can satisfy the requirements set forth in this Contract.

c) If Caltrans determines that the Consultant's services and work product need to be received outside of normal business hours (including instances where receipt of services 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 Construction Projects involving high traffic demand areas. The Prime Construction Contractor's operations may be restricted to specific hours during the week, which shall become the normal workday for Consultant personnel. Any shift differential rate pay for prevailing wage tasks shall be reimbursed in accordance with the applicable Department of Industrial Relations ("DIR") determination.

d) On days when work is not performed by the Prime Construction Contractor or its subcontractors, such as rainy or unsuitable weather days, the Consultant's services shall not be provided unless authorized by the Caltrans Contract Manager in coordination with the Caltrans staff.

e) 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.

f) 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 at the Non-Prevailing Wage loaded billing rate in the Cost Proposal – Attachment 2.

g) It is anticipated that variations in the Construction Project 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 Construction Project or an office with low activity to assist on another Construction Project or office with high activity. The Consultant Contract Manager will be notified at least two (2) working days prior to this reassignment.

h) The Consultant's typical workday(s) shall include, but not be limited to, working in conjunction, in coordination, and in cooperation with all of the following:

   i. Caltrans Contract Manager

   ii. Caltrans District Construction Staff

   iii. Caltrans Resident Engineer or the CRCCE as applicable

   iv. Caltrans' Prime Construction Contractor(s) and its subcontractor(s) and vendors

   v. Other State and/or local agencies

i) The Consultant shall obtain approval from the Caltrans Resident Engineer or the CRCCE prior to entering any Caltrans' Construction Project site.

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

3. Assigned Personnel on Task Orders

a) In responding to a 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.

b) The Consultant's personnel shall be assigned to and remain on specific Caltrans Construction Projects/deliverables until completion and acceptance of the Construction 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.

c) 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.

d) Resumes containing the qualifications and experience of the Consultant's and Consultant's subconsultant's ("Subconsultant") 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.

e) 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.

f) 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.

g) 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.

4. Personnel Substitutions or Additions

a) 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 and as depicted on the proposed Consultant's Organization Chart and the

Consultant's cost proposal – Attachment 2 with specific rates of compensation. Caltrans reserves the right to add and/or delete personnel classifications from this list.

b) Pursuant to Exhibit D – "Special Terms and Conditions," Section 1 – "Amendment (Change in Terms)," the Consultant is required to submit a written Personnel Request form with justifications 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 – Attachment 2. Additions of personnel are only permitted from the original firms proposed in the Consultant's Organization Chart or in the Consultant's cost proposal – Attachment 2, or as approved by the Caltrans Contract Manager.

c) The Consultant personnel substitutions or additions shall have the same job classification, as set forth herein or in the Consultant's Cost Proposal – Attachment 2, and meet or exceed the qualifications and experience level of the previously assigned personnel, at no additional cost to Caltrans and shall not exceed the billing rate. Executive or highly compensated personnel utilized for substitutions or additions will be reimbursed a fair and reasonable commensurate compensation of the previously assigned personnel, at no additional cost to Caltrans and shall not exceed the billing rate in the Cost Proposal – Attachment 2.

d) The billing rates for Consultant personnel utilized for substitutions or additions including those that fall under general classifications, will be calculated, and reimbursed based on their actual hourly rate as of this Contract's Request for Qualification ("RFQ") date, will be calculated and reimbursed in accordance with the percentage escalations agreed to in the Cost Proposal – Attachment 2.

e) Actual hourly rates for Consultant personnel utilized for substitutions or additions hired after the RFQ date will not exceed (or shall be in line with) the billing rates of similar personnel listed on the Cost Proposal – Attachment 2, having similar experience and will be calculated and reimbursed in accordance with the percentage escalations agreed to in the Cost Proposal – Attachment 2.

f) When the Consultant proposes to substitute or add personnel to the Contract, the Consultant shall submit personnel resumes for all of the personnel that it and its Subconsultants propose to use on this Contract. The Consultant personnel shall have significant experience in the work involving a similar transportation facility for a minimum two (2) previous projects, unless otherwise approved by the Caltrans Contract Manager.

g) The Consultant shall not remove or replace any existing personnel assigned to a Task Order without the prior written approval of the Caltrans Contract

Manager. The removal or replacement of personnel without written approval from the Caltrans Contract Manager is a breach of the Contract and may result in termination of the Contract per Exhibit D, Section III, "Termination" of the Contract.

h) When assigned Consultant personnel is on Consultant-approved leave and that assigned Consultant personnel is required by the Caltrans Contract Manager, the Consultant Contract Manager shall provide a temporary substitute Consultant employee until the assigned Consultant employee returns to work from the approved leave. The temporary substitute Consultant personnel shall have the same job classification, as set forth herein or in the Consultant's Cost Proposal, Attachment 2, shall 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.

i) The Consultant shall not submit the entire updated cost proposals to the Caltrans District Contract Manager; however, submit electronic PDF cost proposal sheets indicating the incremental change attached to the Personnel Request form for said substituted or added personnel only. The Consultant shall provide the same incremental change in personnel in Microsoft Excel format, version 2013, or the format currently in use by Caltrans.

5. Stable Workforce

a) Maintaining a stable work force is essential to the successful completion of Caltrans' work. The Consultant shall implement a personnel retention plan strategy and shall submit a written plan with the Statement of Qualification for this Contract ("SOQ") submittal.

b) With the On-Call nature of this Contract, the Consultant and all Subconsultants, shall throughout the life of the Contract, retain within its firm, a sufficiency in staff of people who shall be properly licensed and certified in accordance with the laws of the State 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. Pursuant to Section C – "General Requirements – Personnel," paragraph 4 – "Personnel Substitutions or Additions," the Consultant shall be prepared to provide additional personnel, as necessary, during the period of performance of this Contract to accommodate the work.

c) The attachment templates chosen for this Contract, as indicated in the Required Services Section above, specify personnel requirements for the Consultant for this SOW. The attachment templates used with this base template to create the SOW are as follows:

A – Roadway Construction Inspection and Office Engineering

B – Electrical Construction Inspection

C – Landscape Architectural Construction Inspection

D – (Omitted from this Contract)

E – Construction Scheduling / Critical Path Method ("CPM")

F – (Omitted from this Contract)

G – (Omitted from this Contract)

H – Roadway Construction Management – Consultant Resident Engineer

6. Safety

a) The Consultant shall review, become familiar with, and comply with occupational safety and health standards established by federal and state laws. The Consultant shall review, become familiar with Caltrans construction Code of Safe Practices ("COSP"), along with the Caltrans Safety Manual. The Consultant shall provide a safe working environment and reasonably free from danger to life or health to its employees and the traveling public and shall maintain a written Injury and Illness Prevention Program.

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

i. The Consultant shall maintain its working environment in a manner that is safe for its personnel that includes at a minimum, fall protection safety, lead training, respirator training, and promotes an awareness of health and safety requirements and enforce its personnel to follow applicable regulations and contract provisions for the protection of the project personnel and the public. The Consultant's personnel shall comply with all safety provisions of the Caltrans Safety Manual (https://dot.ca.gov/programs/construction/construction-manual/section-2-1-safety), Caltrans Surveys Manual (https://dot.ca.gov/programs/right-of-way/surveys-manual-and-interim-guidelines), Caltrans Laboratory Safety Manual (https://dot.ca.gov/-/media/dot-media/programs/engineering/documents/mets/lab-safety-manual-a11y.pdf), Caltrans Traffic Manual (https://dot.ca.gov/programs/safety-programs/camutcd) and Caltrans Code of Safe Practices (https://dot.ca.gov/programs/construction/safety-traffic).

ii. The Consultant shall 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 shall the Consultant's safety policies be less stringent than Caltrans.'

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

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

v. 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.

c) The Consultant shall be solely responsible for the protection of health and safety of its personnel, Subconsultants, and Subconsultants' personnel in performance of this Contract.

d) The Consultant shall provide, at no cost to Caltrans, all safety equipment for Consultant's personnel 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, face masks, 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.

e) 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, project construction site, to work on and near highways in a safe manner.

f) Any safety violations committed by the Consultant personnel may be cause for termination of the Contract.

g) Consultant personnel whose work involves field work must:

i. Have current certification of Caltrans' approved Defensive Driving Training and a current California Driver's License.

ii. Have attended an eight (8)-hour Caltrans approved Construction Safety Orientation Class prior to being assigned to work on Caltrans Construction Projects and current on annual refresher class. (See Section on "Field Safety" for additional requirements.)

h) Notwithstanding anything to the contrary herein, neither Caltrans nor the Consultant will be responsible for the obligations assigned to Prime

Construction Contractor under the Construction Project contract; including but not limited to the Prime Construction Contractor's responsibility for safety as set forth in Sections 7-1.02K(6)(a) and 7 1.04 of the Standard Specifications.

i) When performing the services set forth herein, the Consultant shall be considered an agent of Caltrans for purposes of the Prime Construction Contractor's indemnification and insurance obligations set forth in Standard Specification Sections 7-1.05A and 7-1.06 of the Construction Project contract.

j) Notwithstanding anything to the contrary herein, Consultant shall not be responsible for obligations assigned to Caltrans or their respective personnel in the administration of the Construction Project contract. Nothing contained in this Agreement or inferable therefrom shall make any Caltrans employee an agent, servant, or employee of Consultant. Moreover, the Parties recognize that Consultant does not have supervisory authority over employees of Caltrans. The Parties herein agree that the Consultant shall not be liable for third-party claims arising from the acts, errors, omissions, negligence, recklessness, or willful misconduct of any project staff, including employees, agents, contractors or other consultants of Caltrans or any third parties who are not under Consultant's control or direction. However, the Parties herein agree that the Consultant remains responsible for third-party claims arising from Consultant's staff, employees, agents, contractors or subconsultants of Consultant for their own acts, errors, omissions, negligence, recklessness or willful misconduct consistent with this Contract.

7. Other Personnel Requirements

a) Annual Information Security Awareness Training

This training is mandatory and is to be completed annually by all Caltrans employees, contractors, consultants, partners, vendors, students, and volunteers with access to Caltrans computers or network resources.

b) 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.

c) 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.

d) 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.

e) Confidentiality

i. Critical to the validity of the selection process is the absolute necessity to maintain process integrity and confidentiality. All Consultant personnel are required to sign a No Conflict-of-Interest Statement and confidentiality and nondisclosure agreement ("NDA"). A copy of the No Conflict of Interest Statement shall be submitted with the first invoice.

ii. All Consultant personnel are required to sign an NDA issued by the Consultant firm. An NDA template document shall be submitted in draft and the opportunity provided for Caltrans to provide comments and feedback, prior to final acceptance and before commencing work on the Task Order. A copy of the NDA shall be submitted with the first invoice. Executed NDAs shall be made available to Caltrans upon request.

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

D. INCIDENTAL SERVICES

1. Non-Architectural and Engineering (A&E) Services

a) The Consultant shall only provide incidental non-A&E services, such as Global Information Systems ("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 the rendering of the services is approved in advance by the Caltrans Contract Manager.

b) 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 an executed Task Order. The Consultant is responsible for ensuring that Task Orders include any incidental non-A&E services.

c) The total aggregate cost of all non-A&E services under this Contract shall not exceed 10% of the total authority of the Contract.

d) Any non-A&E services are an incidental task to the Contract and not the purpose for entering into this Contract.

e) The Consultant shall include the Caltrans Contract Manager in written communications to other Caltrans personnel for any clarifications on the Task Order scope of work, schedule, and cost.

2. Training Services

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

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

ii. The total aggregate cost of all training including all other incidental work under this Contract does not exceed 10% of the total authority of the Contract.

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

E. CONSULTANT PERSONNEL REQUIREMENTS

1. Consultant Contract Manager

a) The Consultant Contract Manager shall coordinate work-related matters and the 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 or the Caltrans Responsible Charge Construction 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.

b) The Consultant Contract Manager shall have a minimum of five (5) years of responsible experience performing the duties as a consultant contract manager, managing, and leading a team of engineering firms for roadway project development and construction services contracts. Specifically for the five (5) years of responsible experience performing the duties as a consultant contract manager, other project manager, design manager, lead designer, and other lead role position experiences will not qualify for the Consultant Contract Manager experience as outlined in the RFQ for Personnel Requirements under Consultant Contract Manager. The Consultant Contract Manager shall be knowledgeable about all Caltrans policies and procedures.

c) The Consultant Contract Manager shall have a documented minimum of 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.

d) Each cumulative set of five (5) years and ten (10) years minimum years of experience, gained from multiple projects at various times, shall be in serial (not in parallel order), with the total time not accounting for double-counting or any overlapping between the two types of experience. Specific contract management experience shall be detailed for each relevant project listed in the resume section of the Statement of Qualifications for this Contract (Section E of the Standard Form 330 [“SF 330”]). SF 330 Resume shall provide a brief description of each project and include significant details of the previous role that best demonstrates the person's capability and experience relevant to his/her proposed role in this Contract and consistent with the RFQ.

e) 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 the Consultant’s and Subconsultant’ operations including, but not limited to, the following:

   i. Communicate with Caltrans Contract Manager to assure that deliverables are clearly defined, acceptance tested and that criteria are specific, measurable, attainable, realistic, and time-bound; and confirm with appropriate Consultant personnel that the deliverables satisfy the acceptance tests and criteria.

   ii. Supervising, reviewing, monitoring, training, and directing the Consultant’s and Subconsultants’ personnel.

   iii. Assigning qualified personnel to complete the required Task Order work as specified on an “as-needed” basis in coordination with the Caltrans Contract Manager.

   iv. Administering personnel actions for Consultant personnel and ensuring appropriate actions taken for Subconsultant personnel.

   v. Maintaining and submitting organized project files for record tracking and auditing.

   vi. Developing, organizing, facilitating, and attending scheduled coordination meetings, and preparation and distribution of meeting minutes.

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

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

   ix. Providing invoices in a timely manner and providing monthly Contract expenditures.

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

xi. Managing Subconsultants.

xii. Managing overall budget for Contract and provide report to the Caltrans Contract Manager.

xiii. Monitoring and maintaining required DBE or DVBE involvement.

xiv. Ensuring compliance with the provisions in this Contract and all specific Task Order requirements.

xv. Possessing knowledge, experience, and familiarity with prevailing wage issues and requirements in State of California.

xvi. Possessing knowledge, experience, and familiarity in reviewing the CPM schedules and providing expert comments.

xvii. Attending meetings with the Caltrans Functional Managers for Construction Project CPM activities.

xviii. Monitoring the health and safety of personnel working in a hazardous environment in accordance with all applicable Federal, State, and local regulations.

2. Consultant Task Order Manager

a) 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.

b) The cumulative five (5) years minimum years of experience, gained from multiple projects at various times, shall be in serial (not in parallel order), with the total time not accounting for double-counting or any overlapping. Relative experience shall be detailed for each relevant project listed in the resume section of the Statement of Qualifications (Section E of the SF 330). SF 330 Resume shall provide a brief description of each project and include significant details of the previous role that best demonstrates the person's capability and experience relevant to his/her proposed role in this Contract and consistent with the RFQ.

c) The Consultant Task Order Manager (who may be other than 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.

3. Consultant Responsible Person

a) The Consultant Responsible Person exercises independent control and direction, by the use of initiative, skill, and independent judgment, of the investigation or design of professional engineering work or the direct engineering control of projects.

b) The attachment templates for the SOW for this Contract indicate specific personnel requirements for the Consultant Responsible Person (who may be the Task Order Manager), depending on the work. The attachment templates used with this base template to create the complete SOW are as follows:

A – Roadway Construction Inspection and Office Engineering

B – Electrical Construction Inspection

C – Landscape Architectural Construction Inspection

D – (Omitted from this Contract)

E – Construction Scheduling / Critical Path Method ("CPM")

F – (Omitted from this Contract)

G – (Omitted from this Contract)

H – Roadway Construction Management – Consultant Resident Engineer

c) This Contract may have multiple Consultant Responsible Persons with differing minimum requirements, depending on any one or more of the attached scope(s) (A-H) to create the SOW.

d) In this Contract, a person who is authorized to review and approve the 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 template scope of work (A-H).

e) The Consultant Responsible Person's minimum requirements will be specified in each attachment scope of work (A-H).

f) 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.

g) 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.

h) All of the Consultant's work shall be conducted under the direction of the Consultant Task Order Manager or Consultant Responsible Engineer 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.

4. Specific Personnel Requirements – Attachments (A-H)

The attachment template scope(s) of work for this Contract indicate specific personnel requirements for other classification. The attachment templates used with this base template to create the complete SOW are as follows:

A – Roadway Construction Inspection and Office Engineering

B – Electrical Construction Inspection

C – Landscape Architectural Construction Inspection

D – (Omitted from this Contract)

E – Construction Scheduling / Critical Path Method ("CPM")

F – (Omitted from this Contract)

G – (Omitted from this Contract)

H – Roadway Construction Management – Consultant Resident Engineer

F. 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, may need to 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, Federal Highway Administration ["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.

2. 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.
3. The work is a critical element of compatible designs, project planning and construction schedules and shall be accomplished in a timely fashion. Construction Projects may have complex and overlapping schedules and therefore Construction Project work may have overlapping and parallel (not serial order) schedules or make work discontinues. Construction Projects have complex and overlapping schedules and field work may be intermittent. Task Orders may be written for treatment of unanticipated finds encountered during Construction Project work. When unanticipated finds are encountered, a rapid response shall be necessary to avoid costly construction delays.
4. 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 supportable reasons. 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.
5. 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.
6. The Consultant shall work closely with the Caltrans Contract Manager and the Caltrans designee identified in the Task Order.
7. 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.
8. 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.
9. 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.
10. 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.

11. 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.

G. GENERAL REQUIREMENTS – DELIVERABLES AND DATA

1. Deliverables

a) Unless otherwise specified in the 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 under this Contract (collectively, the "Deliverables"), shall conform to the following below format:

2. Format for Unprotected and Modifiable Electronic File Transfers

a) The Consultant shall submit deliverables in unprotected and modifiable digital electronic files that are fully compatible, readable, and useable by Caltrans software, as set forth in "Software Requirements" section. Deliverables shall meet the following requirements and as specified in each Task Order:

   i. A file sharing system acceptable to Caltrans may be used to facilitate and record reviews of Construction Project documents and deliverables.

   ii. Text-based documents shall be submitted as an Adobe Portable Document Format ("pdf") file using Adobe Acrobat Professional version 10 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.

b) 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.

   iv. Be compliant with Caltrans Americans with Disabilities Act ("ADA") document standards.

c) Text-based documents shall also be submitted in Microsoft Word format, version 2013 or later. 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.

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

e) 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.

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

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

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

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

3. Submittals

a) The minimum standard of appearance, organization, and content of deliverables shall be that of similar types produced by Caltrans and set forth in related Caltrans manuals.

b) Deliverables shall be 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.

c) Deliverables shall be prepared on Caltrans standardized forms when applicable. The Consultant shall request, and Caltrans shall provide necessary forms for the Consultant’s use. If there are no Caltrans standardized forms, the format and content requirements for a deliverable shall be specified in the applicable Task Order.

d) The Consultant shall submit deliverables in unprotected and modifiable digital electronic files in a specified digital device format (CD, DVD, and/or flash drive, or via a file sharing system acceptable to Caltrans). Appropriate documentation shall accompany each digital device indicating the contents of each file.

e) The Consultant personnel involved in preparation or review of deliverables shall be identified in the prepared or reviewed report, including the Consultant Responsible Person’s digital electronic signature and seal when applicable.

4. Project Files

a) The Consultant will develop, maintain, update, and organize all project information in accordance with the Caltrans Project Development Uniform File System methodology described in Chapter 7 of Caltrans' Project Development and Procedures Manual ("PDPM"). The Consultant shall maintain a complete set of project development records for the Working File, Project History File, and Resident Engineer File.

b) Construction Project data shall be available for access and review by Caltrans staff at any time and submitted to Caltrans staff by consultant according to Construction Project schedule deadlines. The Consultant shall maintain a separate complete set of Construction Project files for each Construction Project included under this Contract.

c) The Consultant shall retain a copy of all documents furnished to Caltrans as described in Exhibit D, "Retention of Records/Audits."

d) The Consultant shall maintain a separate complete set of Construction 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 (https://dot.ca.gov/-/media/dot-media/programs/design/documents/pdpm-chapter7-a11y.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 Construction Project files.

H. REVIEW AND ACCEPTANCE PROCESS

1. General

a) 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.

b) The performance of the Consultant Contract Manager, key personnel, and team personnel shall be evaluated by the Caltrans Contract Manager and Caltrans Functional Manager, as needed, but no less frequently than after issuance of the first Task Order, 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:

i. Job performance.

ii. Quality of Work.

iii. Timely submittal of reports, invoices, daily reports, and other required documents.

iv. Early detection of problems and timely resolutions.

v. Requesting timely approval for personnel changes and travel expenditure.

vi. Responsiveness and ability to control costs.

vii. DBE or DVBE Participation.

viii. Conflicts of interest.

c) 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.

d) Upon completion of each deliverable or task, the Caltrans Contract Manager and/or designee, shall either accept or reject the completed work.

e) 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.

2. Reviews of Deliverables

a) The Consultant shall submit document in draft prior to scheduled date and the opportunity afforded to Caltrans to provide comments and feedback, prior to final acceptance. 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.

b) 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.

c) 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.

d) 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.

e) If directed by the Caltrans Contract Manager, the Consultant shall prepare and update a comprehensive CPM network diagram, Bar Chart Schedule, Logic Network Schedule, and the Caltrans 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, the 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.

f) Caltrans shall review these documents and return them to the Consultant with notes and comments within twenty (20) working days in order to validate the planning and cost control procedures within the first calendar month of performance period.

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

3. Acceptance of Deliverables

a) Deliverables shall be subject to written approval and acceptance by Caltrans Contract Manager prior to payment for these items.

b) Deliverables and tasks provided for acceptance under each Task Order shall comply with the terms, covenants, and conditions of this Contract.

c) 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.

d) 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.

e) It is the Consultant's responsibility to notify the Caltrans Contract Manager that the work is complete and ready for review or acceptance. Work is subject to inspection and approval by the Caltrans Contract Manager or his/her designee. The Caltrans Contract Manager shall have the ultimate responsibility and authority to determine whether the Consultant has satisfied its duties and obligations under the Contract, including specifically whether the Consultant delivered all work product and deliverables and whether the Consultant's work product and deliverables satisfied all of the applicable Construction Project contract requirements (including acceptance criteria or tests). Approval of work constitutes approval for payment and not transference or termination of the Consultant's responsibility to perform work in accordance with the terms of the Contract, and any work that needs correction shall be made at the Consultant's sole cost and expense and in a timely manner.

f) Regardless of any prior inspections and acceptances of work during the term of this Contract, all work is subject to final inspection and approval by the Caltrans Contract Manager or his/her designee.

g) Notwithstanding any other provision of this Contract, until final acceptance of a Task Order under the Contract, any acceptance or approval means approval to proceed, but it does not mean final 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 Contract.

4. Rejection of Deliverables

a) Pursuant to Exhibit A, Section II, "Task Order," of the awarded Contract, 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.

b) In the event of non-acceptance due to errors, omissions, or non-compliance with the Caltrans Standards, as revised as of the time of the Task Order, or the provisions of this Contract (including without limitation the applicable Task Order), 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 approval and payment until the work is satisfactorily completed and approved by the Caltrans Contract Manager. Additional cost incurred by the Consultant to correct errors will not be compensated.

I. GENERAL REQUIREMENTS – CONSTRUCTION SERVICE EQUIPMENT

1. General

a) The Consultant shall provide all tools, equipment and supplies needed to fully complete the required Services described in the Contract, and the Consultant shall not require or rely upon Caltrans to provide such tools, equipment, and supplies. Notwithstanding the foregoing, Caltrans may, during the term of the Contract, allow the Consultant to access selected items of equipment; provide non-employee user identification ("ID") 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.

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

c) 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.

2. Office Equipment and Supplies (Consultant's Office):

a) 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:

   i. Office Supplies.

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

b) The Consultant shall possess and skillfully operate data processing systems, software packages, reference materials, or other tools, including hardware and software, used in providing transportation engineering deliverables that should include but not be limited to, the following:

   i. Microsoft Office Software (including, but not limited to, Word, Excel, PowerPoint).

   ii. Adobe Acrobat Professional version 10 or later.

   iii. CPM software, with 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.

c) 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.

d) The Consultant shall provide at its own expense reference material, or other tools, used in providing deliverables.

e) 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.

f) 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.

3. Field Equipment and Supplies

a) The Consultant shall have and provide adequate field tools, instruments, equipment, materials, supplies, and safety equipment to complete the required services and that meet or exceed Caltrans Specifications per the Caltrans manuals and the Consultant shall not require or rely upon Caltrans to provide such tools, equipment, and supplies. If required by the Task Order, the tools, instruments, equipment, materials, supplies, and safety equipment required for each Consultant field personnel shall include, but not be limited to the following:

i. 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. 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.

ii. A laptop computer and/or tablet equipped with an air card or Hotspot, appropriate software, Digital Camera, and Electronic Calculator.

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

iv. Hand tools such as shovels, gloves, pick, measuring tape, buckets, wheelbarrow, heat gun, sledgehammer, concrete and asphalt thermometers, clip board, calculator, and peg book.

v. All necessary safety equipment including, but not limited to, fire extinguisher, hard-soled safety footwear, white hard hats, face masks, 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.

b) 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.

c) The 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.

d) If the Inertial Profilograph is specified in the Task Order, the Consultant shall provide an Inertial Profilograph and properly certified operator. The equipment and operator shall perform in accordance with current Caltrans specifications.

4. Office Equipment and Supplies (Use of Caltrans Office)

a) At the sole discretion and convenience of Caltrans, Caltrans may permit the Consultant to use office space, office equipment (such as copiers, printers, and telephones) and furniture at various Caltrans (field) offices. The Consultant will provide its own computers, tablets, office supplies, and related work materials.

b) The Consultant, including 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.

c) If the Consultant, including Subconsultants, does not 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)).

d) 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.

J. GENERAL REQUIREMENTS – STANDARDS

1. Federal, State, and Local Requirements

a) 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 but not limited to the latest (including all updates) 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 or updates.

b) Work not covered by the applicable Caltrans 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.

2. Prevailing Wages

a) Pursuant to Exhibit F, “Prevailing Wage Requirements,” for all covered prevailing wage work, the Consultant shall comply with all of the applicable provisions of the California Labor Code requiring the payment of prevailing wages. The Consultant’s Cost Proposal, Attachment 2 shall reflect the effective DIR determinations as of the RFQ date.

b) CEM-2501 “Fringe Benefit Statement” and the Consultants Cost Proposal - Attachment 2 shall accurately show the cumulative sum of all irrevocable fringe benefits including but not limited to:

i. Benefits contribution provided either to an independent trustee or third person pursuant to a fund, trust, or plan

ii. Health & Welfare

iii. Collective Bargain Fringe Benefits

iv. Vacation Fringe Benefits

v. Holiday pay

vi. Pension

vii. Continuous Service benefits

viii. Cash payments in lieu of fringe benefits

ix. Bonus

x. Fixed Cost" Benefits

xi. Travel and or Subsistence payments

xii. Apprenticeship or other Training programs

xiii. Other purposes similar to those specified above

c) The Consultant's invoice shall include the following non-prevailing wage services when applicable:

i. Drive time to and from the project site to pick up a sample specimen

ii. Drive time to and from the Material Plant to pick up sample specimen

iii. Performing material test on specimen at a Private lab

iv. Performing Office Engineer duties, such as, project administration in nature, executive or clerical in nature

v. Report writing

vi. Work performed in a lab which is not purchased/rented/designated specifically for the Caltrans project

vii. Work performed outside California

d) CPA firm performed Indirect Cost Rate ("ICR") schedule or FAR compliant ICR schedule shall include a footnote describing the A&E firm's treatment of prevailing wage difference between the employee's standard hourly wage versus the base wage identified in the Prevailing Wage determination and difference between the fringe benefits normally provided to the employee (as calculated by the A&E firm), calculated on an hourly basis, versus the prevailing wage fringe amount required to be paid for the employee's role established by the DIR. The Consultant must be able to prove that their accounting treatment for prevailing wage deltas is consistent, in order to be reimbursed for prevailing wage delta costs on Caltrans and local government agency and local government agency contracts. The Consultant may provide evidence of their accounting treatment for prevailing wage through an overhead audit or through other documentation.

3. Caltrans Standards

a) Unless otherwise specified in a Task Order, the most current version of applicable standards, manuals, directives, and other procedural guidance shall apply. The Consultant is solely responsible to verify that the latest version or update is used when applicable. Unless otherwise specified, the system of measurement and language used in all deliverables will be English (U.S. Customary Units).

b) The standards, manuals, directives, and other guidance listed below or available on Caltrans' webpages are not exhaustive and may not include all

applicable standards for a given Construction Project. The Consultant shall be solely responsible for determining all applicable practices and standards to be used in performing work/services. The Consultant shall inform and demonstrate to Caltrans if standards, directives, or practices required by Caltrans in performance of the work are insufficient, in conflict with applicable standards, or otherwise create a problem for delivering the required services. Should the requirements of any reference, standard, manual, or policy referenced in the Contract conflict with another, the Consultant shall propose a solution and request Caltrans in writing to resolve the conflict.

4. Manuals

a) The Consultant is responsible for obtaining, at its expense, all necessary manuals, reference documents, and other materials. Caltrans manuals generally may be found at: https://dot.ca.gov/manuals.

b) Manuals and documents that are not available from the Caltrans' Internet web site may be requested from the Caltrans Contract Manager. 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.

- Design manuals – https://dot.ca.gov/programs/design
  - CADD Manuals and Resources
  - Highway Design Manual ("HDM")
  - Project Development Procedures Manual ("PDPM")
  - Plans Preparation Manual ("PPM")
  - Standard Plans and Specifications
- Engineering Services manuals – https://dot.ca.gov/programs/engineering-services/manuals
  - Bridge manuals
  - Geotechnical Manual
- Right of Way Manual – https://dot.ca.gov/programs/right-of-way/right-of-way-manual
- Surveys Manual – https://dot.ca.gov/programs/right-of-way/surveys-manual-and-interim-guidelines
- Standard Environmental Reference ("SER") – https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser
- California Manual on Uniform Traffic Control Devices ("CA MUTCD") – https://dot.ca.gov/programs/safety-programs/camutcd

- Construction Manual – https://dot.ca.gov/programs/construction/construction-manual

5. Policies / Directives

- Project Delivery Directives – https://dot.ca.gov/programs/project-delivery/directives
- Policy Memos related to the environmental process – https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/policy-memos
- Traffic Operations Policy Directives ("TOPDs") – https://dot.ca.gov/programs/traffic-operations/policy
- Deputy Directives ("DD")
    - DD-60-R2 Transportation Management Plans – https://dot.ca.gov/programs/traffic-operations/tmp

6. Guidance

- Middle Mile Broadband Initiative – https://dot.ca.gov/programs/design/middle-mile-broadband-initiative
- Broadband Facilities on the State Highway Right of Way – https://dot.ca.gov/programs/design/wired-broadband
- CADD Consultant Resource Files and Guidance – https://misc-external.dot.ca.gov/cadd/index.htm
- Cost Estimating Guidance Document – https://dot.ca.gov/programs/design/cost-estimating-improvements
- Design Information Bulletins ("DIBs") and Design Memoranda – http://www.dot.ca.gov/programs/design
- Stormwater Quality Control – Project Planning and Design Guide – https://dot.ca.gov/programs/design/manual-project-planning-design-guide
- Construction Contract Development Guide (replaced RTL guide) – http://ppmoe.dot.ca.gov/des/oe/guidance.html
- Transportation Management Plan ("TMP") Guidelines – https://dot.ca.gov/programs/traffic-operations/tmp

7. Middle Mile Broadband Network ("MMBN") Design Details

- Design details specific to MMBN (website link pending)
- Bridge Standard details specific to MMBN – https://dot.ca.gov/programs/engineering-services/manuals/bridge-standard-details

- MMBN Structures Plans User Guide (website link pending)

K. GENERAL MATERIALS AND ORIENTATION PROVIDED BY CALTRANS

1. General Materials

a) Materials (if deemed applicable, necessary, and when available from Caltrans) that may be furnished or made available by Caltrans and were listed in the individual Task Orders and this Contract, are for the Consultant's use only and shall be returned to Caltrans in their original condition by 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:

   i. Available background or reference information for each Task Order

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

   iii. Caltrans standardized forms

   iv. All available information in possession of the Department pertaining to utility companies whose facilities may be affected by the proposed work

   v. All pertinent correspondence and investigations

   vi. Existing as-built construction plans

   vii. Digital Electronic templates of Task Order formats

   viii. All pertinent correspondence and investigations

b) 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 Project contract documents, and shop drawings, as available, may be provided for each Task Order.

2. Permits to Enter Property

a) 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 forty-eight (48) hours in advance of entering the property, unless otherwise specified in the permit. The Consultant shall notify the Caltrans Contract Manager within forty-eight (48) hours if permission has been denied.

b) 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 personnel shall carry the permits to enter on their person while performing work outside the Caltrans Right-of-Way.

c) 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 the Consultant did to owner property at the Consultant's own expense.

d) For Contract work on Caltrans' Right-of-Way, an executed Contract constitutes the Consultant's "Encroachment Permit." The Consultant (as well as any Subconsultants) shall carry a copy of this fully executed Contract along with the pertinent Task Order(s) at all times while conducting work for Caltrans within Caltrans' Right-of-Way.

e) 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 Consultant agrees to provide the amount of insurance and types of coverage required by the Railroad Company before commencing on Task Order, which may be above and beyond that required by Caltrans.

3. Orientation

a) 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 Construction 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 in the orientation.

b) The Consultant's warranties and indemnities hereunder cover errors and omissions in the Task Order materials or orientation even though they may be related to errors and omissions in preliminary information supplied by Caltrans.

L. CONFLICT OF INTEREST

1. General Requirements

a) The Consultant and Subconsultants will not be eligible to perform, bid on, or otherwise compete for or accept awards for contracts for non-A&E construction or related construction services for project(s) identified in the Scope of Work for this Contract or assigned Task Order(s).

b) The Consultant, 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 Construction 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)).

c) The Consultant, Subconsultants and their subsidiaries are required to disclose in the SOQ and throughout the term of the Contract any design engineering services including claim services, project management services and construction engineering services provided to Caltrans and all Consultant clients which either actually provided or potentially will provide under that contract(s) on the Construction Projects listed in this Scope of Work.

d) Throughout the Contract term, the Consultant will assure that the Consultant and its Subconsultants agree that, prior to providing any engineering services to any construction contractor on any of the Caltrans Construction Projects listed in this Scope of Work, it will disclose all actual and potential business relationships 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.

e) The submitted documentation regarding actual or potential conflicts of interest will be used for determining actual or 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 Construction 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.

f) Failure by the Consultant to notify the Caltrans Contract Manager of a conflict of interest is grounds for termination of the Contract for default pursuant to Exhibit D, Section III, "Termination," of the awarded Contract. The Consultant and Subconsultants have not, currently do not, and will not provide design engineering services including project management services and claim services on the same Caltrans project(s) identified in this Scope of Work.

g) 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.

h) 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.

i) Former Caltrans employees, including former retired annuitants, designated in a Conflict-of-Interest Code are subject to post employment restrictions under Government Code Section 87406. Information regarding post-employment ban as stated in Government Codes is found at the California Fair Political Practices Commission website: http://www.fppc.ca.gov/.

2. Conflict of Interest Examples

a) Provide design engineering services and Construction Management/Inspection services for the same Construction Project listed in this Scope of Work.

b) Provide construction management/inspection services for the Prime Construction Contractor or other agencies on the same Construction Project for Caltrans.

c) Providing services to Prime Construction Contractor's subcontractors, fabricators, equipment installer, material suppliers and other firms associated with the Construction Projects listed in the Contract can be a potential conflict of interest when such contractor teams are identified.

d) The above list of conflict-of-interest scenarios is only a sample of types of conflicts of interest for the services provided under the Contract but is not an exclusive list of potential conflicts.

M. SPECIFIC ROADWAY CONSTRUCTION SERVICES ATTACHMENTS

1. No specific roadway construction services attachments.

Attachment A – Roadway Construction Inspection and Office Engineer

SCOPE OF WORK/DELIVERABLES
ROADWAY CONSTRUCTION INSPECTION AND OFFICE ENGINEER

For Caltrans, Division of Construction, District 4

On-Call Contract

A. Purpose of Work

1. The Consultant shall perform professional and technical services required for Roadway Construction Inspection and Office Engineer duties, on an "as-needed" basis to support Caltrans, Division Construction, District 4, in the construction of proposed Caltrans transportation facilities.
2. The Consultant Roadway Construction Inspector ("Consultant Inspector") has a primary role of keeping the Resident Engineer informed of all field inspections of Prime Construction Contractor and its subcontractors' quality of work performance in compliance with the requirements of the plans, Standard Specifications, and Construction Project Standard Special Provisions with the end goal of Construction Project contract acceptance.
3. The field Consultant Construction Office Engineer ("Consultant Office Engineer") keeps the Resident Engineer informed while maintaining complete and accurate Construction Project records to help collaborate and facilitate progress payments to the Prime Construction Contractor.

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

1. General Services

   a) The Consultant Inspector has a primary role of field inspection of Prime Construction Contractor, and its subcontractor(s), quality of work and validates that the performance of assigned Construction Project work complies with the requirements of the Construction Project contract Plans, Standard Specifications, and Standard Special Provisions. The Consultant Inspector shall coordinate with the Resident Engineer to determine appropriate priorities for testing and inspection of work quality based on the Prime Construction Contractor's proposed order of work for the shift. The Consultant Inspector supports and counsels the Resident Engineer on the intent and application of any portion of a Construction Project contract.

   b) A Construction Project contract may have one or more inspectors assigned, and each may have one or more activities to inspect as part of their daily responsibilities. There is no contractual requirement to provide full-time inspection of any activity; inspectors may not be on site from start to end of contractor operations, however, they may be required, due to staffing levels,

to rotate inspection activities among their assigned work areas during the work shift or as work progresses. The provisions herein for Construction Project contract inspection are only applicable when the inspector is present and observing a particular Prime Construction Contractor, and/or its subcontractor(s), operation, and recognizes the issue as it develops or after completion of the work. The Consultant shall utilize the appropriate Caltrans Construction Engineering Management ("CEM") form to memorialize and document all Prime Construction Contractor and subcontractor work.

2. General Provisions

   a) The Consultant Inspectors shall verify that the Prime Construction Contractor and subcontractor provides quality control over the execution of the Construction Project, and the Prime Construction Contractor and subcontractor performs the actions necessary to assess and adjust production and construction processes to control the level of quality produced in the end product or facility, and to fulfill specified requirements.

   b) The Consultant Inspectors must monitor issues that may affect progress of the work and may result in an excusable delay or critical delay. All possible efforts shall be made to avoid or mitigate the effects of delays, and the Resident Engineer must initiate action to avoid delays.

   c) Termination of control may occur only when a Prime Construction Contractor fails to supply an adequate work force, fails to supply material of proper quality, fails to make proper and timely payments to subcontractors, or fails in any other respect to perform the work with the diligence and force specified by the Construction Project contract. If the Consultant personnel suspects termination of control may be necessary, the Resident Engineer and the Caltrans Construction Manager must immediately be notified.

   d) Termination of Construction Projects contracts is rare. The Division of Construction must be notified to assure that all necessary steps are taken in handling Construction Project contracts terminated for the best interests of Caltrans. To assure special handling of these types of terminated contracts, the Consultant shall identify and provide the Caltrans Resident Engineer or the Caltrans Responsible Charge Construction Engineer ("CRCCE"), whichever is applicable, all internal correspondence related to them with the words "Convenience Termination" under the job's file reference and copy the Caltrans Construction Manager.

   e) The Consultant Inspector shall assist in developing and recommending a construction management staffing plan and project management plans for the construction and completion of capital improvement projects in accordance with project plans and specifications for Caltrans Contract Manager approval.

3. Safety and Traffic

a) The Consultant Inspector discusses any deficiencies with the Resident Engineer after reviewing the Prime Construction Contractor's proposed traffic control setup for each work zone and all other aspects of safety on Construction Projects and confirms that the Prime Construction Contractor's activities are compatible with the Traffic Management Plan ("TMP") that affects the Construction Project.

b) The Consultant Inspector may coordinate with the Caltrans district's construction safety coordinator ("CSC"), who acts as a technical advisor to construction field personnel.

c) The Consultant Inspector shall assure that the Prime Construction Contractor is providing adequate public safety, a safe access to Caltrans employees and discusses any constructability issues with the Resident Engineer.

d) The Consultant Inspector shall periodically monitor the Prime Construction Contractor's construction safety program for compliance with Safety Audits and all State and Federal laws, policies, and procedures.

e) The Consultant Inspector shall verify that the Prime Construction Contractor complies with all aspects of the Construction Project contract, including applicable safety orders found in the California Code of Regulations Title 8 "Industrial Relations" and of any imminent and serious hazards.

f) When an imminent hazard is found or the Prime Construction Contractor, or its subcontractors, performs repeated occurrences of a hazardous condition, the Consultant Inspector whenever it is necessary to suspend a Prime Construction Contractor, or its subcontractors, operation, notify the Caltrans district's construction safety coordinator, Resident Engineer and the Caltrans Construction Engineer of the hazardous condition and the actions taken.

g) The Consultant Inspector shall be familiar with Section 124 of the California Streets and Highways Code AND shall coordinate with the Resident Engineer to close or restrict the use of any state highway whenever it considers such actions necessary for the following reasons:

    i. To protect the public.

    ii. To protect the highway during construction, improvement, or maintenance operations.

    iii. To protect the highway from damage during storms.

h) The Consultant Inspector shall review and provide feedback to the Prime Construction Contractor's construction contingency plan, to identify alternative or additional equipment, materials, or workers necessary to allow continuing activities and timely reopening of closures if a problem occurs.

i) The Consultant Inspector shall be familiar with detailed reporting guidelines, referenced in Chapter 19, “Special Reporting of Serious Injury, Illness, or Fatality,” of the Caltrans Safety and Health Manual, for reporting of major incidents and accidents on construction projects.

j) The Consultant Inspector may complete a project safety review report every week and file it in Category 6, “Safety,” of the project records using Form CEM-0606, “Construction Safety Checklists,” and either Form CEM-4501, “Resident Engineer’s Daily Report Asst. Resident Engineer’s (Inspectors) Daily Report,” or Form CEM-4601, “Assistant Resident Engineer’s (Inspectors) Daily Report,” to support the project safety review report.

k) The Consultant Inspector shall assist the Resident Engineer in maintaining awareness of safety and health requirements including but not limited to: familiarity with the Caltrans Injury Illness and Prevention Plan (“IIPP”) and development of Construction Project specific Code of Safe Practices (“COSP”); assigning a Construction Project safety representative; be knowledgeable about Federal and State safety requirements and regulations associated with the type of work being performed; be responsible for completing and/or reviewing Construction Project safety reviews; administer the Construction Project’s Construction Zone Enhanced Enforcement Program (“COZEEP”) and budget; be knowledgeable and familiar with Caltrans’ work zone safety strategies and policies, for example, use of COZEEP and positive protection requirements.

4. Construction Project Details

a) The Consultant Inspector must thoroughly study the assigned Construction Project, becoming familiar with all its facets.

b) The Consultant Inspector must analyze the plans, estimates, and preliminary quantity calculations and determine if the estimated quantities cover all work items contemplated.

c) The Consultant Inspector and the Consultant Office Engineer shall prepare complete, accurate, and concise records of the work and quantity calculations, records, reports, and correspondence related to Construction Project activities.

d) The Consultant Inspectors shall prepare daily diary reports of Construction Project operations, including 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.

e) The Consultant Inspector must also thoroughly study the requirements of environmental commitments and permits, including pollution and erosion control plans.

f) The Consultant Inspector must verify that the performance of assigned work complies with the requirements of the Construction Plans, Standard

Specifications, and special provisions and must maintain complete and accurate Construction Project records.

g) The Consultant Inspector shall identify actual and potential problems associated with the Construction Project work and recommend sound engineering solutions in a timely manner to the Resident Engineer.

h) The Consultant Inspector will support the Resident Engineer in reviewing the shoring plans.

i) The Consultant Office Engineer must maintain complete and accurate Construction Project records. Once assigned, the Consultant Office Engineer should remain on the project until its completion. These records may include, but not limited to, the following:

   i. Administer monthly progress pay estimates
   ii. Prepare extra work reports
   iii. Process changes orders
   iv. Monitor labor and equipment records
   v. Develop various written correspondence
   vi. Upkeep personnel records
   vii. Administer records of material testing and acceptance
   viii. Provide detailed calculations support for paid quantities

j) The Consultant Inspectors shall examine roadway construction, inspect substructure density, check grade elevations, alignment, and quantity calculations.

k) The Consultant Office Engineer shall perform and assist in all aspects of required office construction engineering work, including setting up and maintaining Construction Project files, processing required documents and progress payments, as necessary.

l) The Consultant Inspector shall verify accurate weighing and measuring through inspection.

m) The Consultant Inspector shall routinely determine that proper weighing procedures are used; record spot-checks of weighing procedures in daily reports and determine when weighmaster certificates are to be used. Order the use of weighmaster certificates except when the number of loads is very small, or conditions preclude proper weighing procedures, and document in the daily report the reasons for not using weighmaster certificates.

n) Assist the Resident Engineer in requiring the Prime Construction Contractor or its subcontractor to correct any malfunctioning weighing or measuring device.

o) The Consultant Inspector shall order the resealing and retesting of scales and meters as often as necessary to assure accuracy.

p) The Consultant Inspector shall assist the Resident Engineer in reviewing and monitoring the Prime Construction Contractor's schedule (including notifying all stakeholders of any deviations) through weekly meetings and prepare daily inspection records, weekly status reports, and correspondence related to project activities, and provide construction engineering updates to the Resident Engineer.

q) The Consultant Inspector shall assist the Resident Engineer in providing time impact analyses ("TIAs") of the Construction Project schedule and provide recommendations associated with the review or provision of TIAs. See Attachment E – "Scheduling Support" for additional details.

r) The Consultant personnel shall maintain good lines of communication with the Prime Construction Contractor when discovering, discussing potential problems, and recommending sound engineering solutions in a timely manner during all phases of construction.

s) The Consultant Inspector shall review Construction Project contract plans and field quantity calculations to determine adequate measurement and payment in sufficient detail and accuracy to be used in the Construction Project records and progress payments.

5. As-built Information

a) Caltrans is utilizing Building Information Modeling ("BIM"), as a collaborative work method for structuring, managing, and using data and information about transportation assets throughout their lifecycle for increased access to and better integration of geospatially located data and in the effort to increase the efficiency and productivity of Construction Project delivery. BIM is used to deliver capital projects collaboratively (through the planning, design, and construction phases) and efficiently manage services that the built infrastructure is expected to provide using digital rather than traditional paper-based processes.

b) The Consultant Inspector shall import asset location data from the CAD-based data models created during the design phase into their GIS-based asset-management systems. This involves importing CAD format (.dgn) files into a GIS system to create shapefiles or populate asset geodatabases for the purposes of building up the as-built plans.

c) The Consultant shall equip the Consultant Inspectors with wireless tablets having touchscreen interface, that can be used to verify, in real-time, the as-designed model to the as-built model. The Consultant Inspector will use a proprietary application on the tablet to view each object to be installed. From that viewer, the Consultant Inspector will see specific attributes such

as pay items, stations and offsets, and Global Positioning System ("GPS") coordinates.

d) The Consultant Inspector shall assist in the preparation of final As-Built plans and reports at the completion of construction utilizing the 3D and digital file(s) as the legal document in lieu of 2D plan sets.

e) For the transition period to utilize BIM, the Consultant Inspector may utilize the PDF file to redline the design in support of the As-built drawings.

The Consultant Inspector shall assist the Resident Engineer in the following Construction Project contract administration tasks not limited to:

a) Before the start of construction, the Consultant Inspector should participate in the Preconstruction Conference review of the Prime Contractors job activities with the various Caltrans functional unit personnel.

b) Before the start of construction, the Consultant Inspector should conduct a Preconstruction Conference with the Prime Construction Contractor to review the various job activities.

c) The Consultant Inspector and the Consultant Office Engineer duties include keeping accurate and complete records of the construction work performed. The Consultant shall obtain all forms used in administering a Construction Project and maintaining of records including personnel documents and accounting forms, in accordance with instructions contained in Caltrans manuals.

d) The Consultant Inspector and the Consultant Office Engineer shall be familiar with the Construction Project Plans, Specifications, and other bid documents which define the scope of the Construction Project contract and describe the details for the construction and completion of the whole work contemplated. If any change must be made, the Consultant shall formalize and prepare to execute said change order as per Section 5-302, "Change Order Policy" of the Caltrans Construction Manual.

e) If any extra work is desired or performed, that is not included in the original Construction Project contract, the Consultant Inspector shall memorialize said extra work as per Section 3-9, "Payment," and Section 3-5, "Control of Work," of the Caltrans Construction Manual for the Resident Engineer's (or CRCCE's) review and approval.

f) The Consultant Inspector shall notify the Resident Engineer the need for and initiate a change order to change any part of the original Construction Project contract. However, the Prime Contractor, other Caltrans units, or outside agencies or individuals may also request changes as well.

g) If a Change Order is warranted, the Consultant Inspector shall assist the Resident Engineer in incorporating sufficient documentation to explain the scope and reasons for the change with any necessary attachments. The

memorandum is intended for Caltrans inter-departmental use only and NOT to be shared with the Prime Construction Contractor or subcontractors.

h) The above memorandum must be sufficiently complete to enable a person unfamiliar with the details of the Construction Project to review the change order and understand the justification for the work, the reasonableness of the compensation, and the time adjustment provisions.

i) The Consultant Inspector assisting the Resident Engineer shall make every effort possible to reach an agreement with the Prime Construction Contractor and avoid any delays and time for protest.

j) If the Consultant Inspector discovers any major discrepancies, the Consultant Inspector must take appropriate action and notify the Resident Engineer.

k) The Consultant Inspector will assist Caltrans in completing construction projects within the planned scope, allotted time, and projected budget, including project allotment and contingency funds for unforeseen expenses or unknown factors encountered during construction.

l) The Consultant Office Engineer must track Construction Project expenditures, forecast future costs, determine the need for additional funds, and immediately notify the Resident Engineer of any apparent funding shortfalls.

m) The Consultant Office Engineer must notify the Resident Engineer when Construction Project construction work and potential alternatives to complete the Construction project that may require the encumbrance of additional funds before those funds have been approved and added to the Construction Project allotment.

n) If it becomes apparent at any time that the probable unobligated balance of funds, with regard to work remaining, is not sufficient to complete the Consultant Project, the Consultant Office Engineer must bring the situation to the attention of the assigned Resident Engineer.

o) The Prime Construction Contractor may submit notice of the dispute using the three-part Potential Claim Record process to dispute on a disagreement between the Prime Construction Contractor and Caltrans over the interpretation of plans, specifications, bid proposals, material handouts, other documents, ask for a time extension, or to protest the Resident Engineer's decision. The Consultant Inspector and Consultant Office Engineer shall assist the Resident Engineer to respond to the request within the specified time and shall acknowledge receipt of the dispute and begin the process of analyzing and resolving said claim AND try to avoid a contract dispute. See Attachment D "Construction Claims Support" for more details.

p) The Consultant Inspector and Consultant Office Engineer shall partner with the Prime Construction Contractor within the confines of the Construction Project contract, maintain a professional and respectful relationship through the completion of the Construction Project, minimize the number and size of disputes and claims with the timely resolution of any dispute(s).

q) The Consultant Inspector and the Consultant Office Engineer shall assist the Resident Engineer to review the Construction Contractor's written potential claim record when the Prime Construction Contractor believes additional compensation is due in accordance with Section 5-1.43, "Potential Claims and Dispute Resolution," of the Standard Specifications and follow the potential claim record process when protested issues and disputes are not resolved.

r) The Consultant personnel shall participate in the Dispute Resolution Board Progress Meetings. See Section 3-521, "Requests for Information and Potential Claim Records," of the Construction Manual.

s) The Consultant Inspector and the Consultant Office Engineer shall follow Section 9-1.04, "Force Account," of the Standard Specifications that specifies the force account method of payment used to determine payment for extra work, consisting of adding specified markups to the actual cost of labor, equipment, and material used to perform the extra work.

t) The Consultant Inspector and the Consultant Office Engineer must transmit to the Caltrans district construction office the documents and information required to prepare progress payment vouchers. The Consultant shall follow Section 9-1.16, "Progress Payments," of the Standard Specifications to make an estimate of work completed each month.

u) The appropriate Consultant personnel shall be available to provide support to Caltrans Legal Division in all Construction Project contract arbitrations.

v) When the Prime Construction Contractor submits a request for information, in accordance with Section 5-1.42, "Requests for Information" of the Standard Specifications, the Consultant Inspector and Office Engineer shall exercise every effort to provide a complete response to the contractor's request and respond to requests for information within the time specified. See Section 3-521, "Requests for Information and Potential Claim Records," of the Construction Manual.

w) The Consultant Inspectors shall facilitate the final Inspection and Contract Acceptance in accordance with Section 5-1.46, "Final Inspection and Contract Acceptance," of the Standard Specifications.

x) The appropriate Consultant personnel shall be available to participate in partnering meetings.

6. Sampling and Testing

a) The Consultant Inspector and the Consultant Office Engineer shall become familiar with quality control and Caltrans acceptance, as referred in Section 3-606, “Quality Assurance,” of the Caltrans Construction Manual.

7. Environmental Stewardship – General

a) The Consultant Inspector and the Consultant Office Engineer will review the Environmental Commitments Record (“ECR”) with the Caltrans environmental construction liaison or Caltrans district Environmental Unit during the preconstruction meeting with Caltrans personnel before meeting with the Prime Construction Contractor to assist with discussing the requirements at the preconstruction meeting. The Consultant Inspector shall monitor the progress of all construction-related environmental commitments on an ongoing basis throughout the life of the Construction Project contract and verify their implementation.

b) The Consultant Inspector should follow and monitor the ECR, all commitments completed during construction, all relevant environmental compliance information and Permits, Licenses, Agreements, and Certifications (“PLAC”) requirements; basic Construction Project information, including each environmental commitment, person, or unit responsible for commitment completion; timing and manner of implementation; location; and a commitment reference document and other commitment requirements. The ECR will be included as part of the Resident Engineer’s pending file and is necessary to oversee and track the project environmental commitments and shall also be used to prepare the Certificate of Environmental Compliance (“CEC”) during Construction Project contract acceptance.

c) The Consultant Inspector must verify the implementation and enforcement of all environmental mitigation measures included in the Construction project approval and shall be fully informed of the environmental mitigation measures, commitments, or concerns on Construction Projects related to environmental commitments. The Consultant Inspector must also review the environmental commitment record and meet with the assigned Caltrans environmental staff.

d) The Consultant Inspector is responsible to use all available assistance and expertise to understand and meet the commitments listed in the ECR. This assistance may come from the environmental construction liaison, stormwater coordinators, project biologist, or other functional areas in the district or region (such as design, cultural resources, hazardous waste, paleontology, hydraulics, or public information office).

e) At the preconstruction meeting, the Consultant Inspector shall confirm and follow up on the permitted disposal of project hazardous waste disposal site(s) and its ability to dispose of the waste.

f) The Consultant Inspector must be familiar with the recording, reporting requirements of the Aerially Deposited Lead ("ADL") Agreement AND aware of the requirements of the ADL Agreement, including excavating, placing, stockpiling, transporting, managing, burying soil containing ADL, and coordinating and communicating with the district ADL coordinator before, during, and after construction.

g) The Consultant Inspector is responsible for memorializing on the as-built plans the locations where ADL was buried as per the Standard Specifications.

8. Assisting the Resident Engineer in Employment and Labor Compliance

a) Although the Caltrans district labor compliance office administers the labor compliance policy and procedures by assisting Resident Engineers and inspectors in the enforcement of the labor requirements in the Construction Project contract, at the project level, the Consultant Inspector must have adequate working knowledge of the Construction Project contract labor requirements AND is responsible for enforcing the labor requirements that are in the Construction Project contract.

b) The Consultant shall be knowledgeable of State and federal laws that require construction contractors working on public works contracts to pay prevailing wages to their employees. Prevailing wages are predetermined hourly rates for each craft that are set by both the California Department of Industrial Relations and the U.S. Department of Labor.

c) The Consultant Inspector shall assist in Resident Engineer's duties regarding compliance with California Labor Code requirements and the U.S. Fair Labor Standards Act, shall follow Chapter 8, "Employment Practices," of the Caltrans Construction Manual.

d) The Consultant Inspector may assist in resolving minor issues, such as clerical errors or inadvertent acts, at the project level. However, if the issue(s) are not resolved in a timely manner, the Consultant Inspector is responsible to bring labor compliance issues to the attention of the Resident Engineer, the Prime Construction Contractor or subcontractors, and the district labor compliance office immediately upon detection.

e) The Consultant Inspector shall assist in Resident Engineer Construction Project responsibilities including ensuring that labor compliance, equal employment opportunity ("EEO"), and disadvantaged business enterprise ("DBE") or disabled veteran business enterprise ("DVBE") requirements are discussed at the preconstruction conference and request that district labor compliance staff attend and communicate these topics.

f) The Consultant Inspector shall forward all labor compliance, EEO, DBE, and DVBE documents submitted by the Prime Construction Contractor or any subcontractor to the Caltrans district labor compliance office and refer

all employee complaints regarding EEO or wage underpayments to the Caltrans district labor compliance office and verify that required labor compliance posters are properly displayed at the job site.

g) The Consultant Inspector shall assure documentation of the presence of contractor employees and owner-operators at the job site on the inspectors' daily report.

h) The Consultant Inspector is responsible for tracking the apprentices used on the Construction Project contract and recording that information in daily reports. Caltrans district labor compliance staff will verify that apprentice classifications are correctly identified on certified payroll records and that the type of work and ratio of apprentices to journeyman meet the requirements of the apprenticeship agreement on file with the Division of Apprenticeship Standards.

9. Public Relations and Communications

a) As representatives of Caltrans, Consultant personnel should at all times conduct themselves professionally, expresses oneself clearly in all forms of communication, give feedback, be receptive to feedback received and understand that listening is essential.

b) The Consultant Inspector shall hold short staff meetings each workweek to be briefed on planned Prime Construction Contractor and subcontractor operations, announce any changes or new assignments of responsibility, and discuss any other subjects deemed pertinent.

c) Resident Engineer and their inspectors shall take a clear position when communicating with the Prime Construction Contractor and its personnel, as such start on a basis of administering the Construction Project contract firmly in accordance with the plans and specifications. The Consultant shall promote good relations with the Prime Construction Contractor's and subcontractor's personnel.

d) The Resident Engineer and their inspectors should make early personal contact and establish a good working relationship with the staff of affected utility companies and other agencies.

e) In coordination with and in consent of the Resident Engineer or CRCCE, the Consultant personnel shall have good public relations and exercise courtesy when dealing with the people living or working near the Construction Project who are most affected by construction operations. The Consultant shall exercise courtesy by listening and addressing questions and concerns in good faith with the general public or individuals. Also, through close communication and under the direction of the Caltrans Contract Manager, the Consultant primary staff shall address public inquiries and construction-related impacts as they affect the Construction

Project's stakeholders, traveling public, and surrounding residential and business community.

10. Utility Coordination

a) The Consultant Inspector shall review all documents for the utility relocation work, including the "notice to owner" forms, encroachment permits, special provisions, contract plans, and correspondence about utilities not shown on the plans.

b) The Consultant Inspector shall provide proactive on-site coordination with utility companies for the scheduling and execution of utility relocations, which must occur before, during, or after the construction effort. In addition, the Consultant Inspector shall coordinate plan approval, installation, and testing services with the utility owners and contractors, as needed. The Consultant Inspector shall provide construction engineering updates to the Resident Engineer.

c) The Consultant Inspector shall coordinate closely with and provide adequate notice to adjacent property owners and businesses to assure contractual access requirements are being met, right-of-way agreements are complied with, and stakeholder concerns are being addressed and provide construction engineering updates to the Resident Engineer.

d) The Consultant Inspector shall coordinate with the district utility coordinator and get advice on when utility relocation work warrants full-time inspection and maintain records of utility relocation work on Form CEM-4601, and report in the Inspector's Daily Report.

e) In cases where discovery of an underground facility not indicated on the plans or in the special provisions for a Construction Project, the Consultant Inspector shall document written notification from the Prime Construction Contractor or subcontractor, document the location of the underground facility and include this documentation in a written confirmation sent to the Prime Construction Contractor.

f) The Consultant Inspector shall notify the Caltrans district utility coordinator immediately in cases where the utility facility is in conflict with the planned work and follow with written notification. Notification shall include drawings or plan sheets showing the location of the existing facility, the affected work, recommended action, and the estimated date when the conflict will begin to affect the Prime Construction Contractor's work activities and time of completion. The Consultant Inspector shall work with the Caltrans district utility coordinator to administer relocation work necessary with the Prime Construction Contractor to resolve conflicts.

11. Construction Surveys

a) Standard Specifications, Section 5-1.24, "Construction Surveys," requires Caltrans to place stakes and marks necessary to permit satisfactory

completion of the construction work. For information on construction surveys, refer to Chapter 12, "Construction Surveys," of the Caltrans Surveys Manual.

b) The Consultant Inspector shall coordinate with Caltrans district Surveys Unit to set the construction marks and stakes when the area is ready and start setting marks and stakes within two (2) business days of receiving the request for construction stakes.

c) Before work begins, the Consultant Inspector will consult with the Construction Project Resident Engineer to confirm that the Construction Project site has not significantly changed since the original survey was performed. If there are changes in the Construction Project area terrain that could affect earthwork quantities, the Consultant Inspector shall request that the Caltrans district Surveys field check the area. Any new data should be added to the existing digital terrain model ("DTM") and communicated with Caltrans district Design to calculate new earthwork quantities based on a revised DTM.

d) The Consultant Inspector shall perform minor construction surveying activities including, but not limited to, verification of barrier rail layout, grades, incidental slope grade check points, and shoulder grades as covered under Caltrans Surveys Manual, Chapter 12, Section 1-1 "Responsibilities". The Consultant Inspector shall perform surveying services using the latest technological equipment, including GPS and other tools associated with automated machine guidance ("AMG"). The information shall be submitted in digital formats as requested.

e) When applicable, the Consultant Inspector shall inform the Caltrans district Surveys that the Prime Construction Contractor intends to use AMG. The Consultant Inspector will request that a representative from the district Surveys attend the preconstruction conference, or separate AMG meeting, to discuss at a minimum the following: AMG requirements with the Prime Construction Contractor, Prime Construction Contractor's AMG quality-control plan, Global Navigation Satellite Systems ("GNSS") rover along with just-in-time ("JIT") training and Construction Project control verification.

f) During the course of work, the Consultant Inspector shall notify the Prime Construction Contractor of any errors or revisions in the lines and grades and whether a revised DDM file will be provided, or whether Caltrans district Surveys will provide conventional staking for the area involved. Notify district Surveys of any changes in construction staking requirements.

g) During the course of work, the Consultant Inspector shall verify that the Prime Construction Contractor or subcontractor is performing quality-control grade checking at the minimum frequency specified in Section 5-1.26, "Grade Quality Control," of the special provisions and ask district

Surveys unit to provide additional stakes to assist the Resident Engineer in performing grade checking where increased accuracy is needed.

12. Construction Project Action Responsibility Matrix

To establish clear lines of responsibility, the following table summarizes the separation of construction inspection and management duties.

Construction Management duties	Separation of Duties		
	Consultant Inspector	**Resident Engineer**	**CRCCE or Const Engr**
Perform day-to-day routine Construction Project contract administration (exceptions identified below)		X	
Develop and recommend construction management staffing plan for Prime Construction Contractor		X	
Approve construction management staffing plan			X
Prepare weekly statement of working days	Support role	X	
Review and approve baseline monthly CPM schedule updates	Support role	X	
Review and concur with baseline and monthly CPM schedule updates			X
Provide change order recommendations	X	X	
Submit and process change orders		X	
Change order approval and payment			X
Manage Request for Information (RFI) Process	X		
Monitor and document claims	X	X	
Perform claim resolution process	X	X	
Final approval of claims resolution			X
Dispute resolution process	Support role	X	X
Perform project safety reviews and compliance administration	X	X	
Review and authorize quality control plans (Asphalt concrete, PCC, etc.,)		X	

Construction Management duties	Separation of Duties		
	Consultant Inspector	Resident Engineer	CRCCE or Const Engr
Perform Independent Quality Assurance (IQA)			X
Construction control surveys			X
Construction surveys	X		
Obtain utility agreements and encroachment permits during design phase			X
DVBE/DBE goal administration	Support role	X	
Process DVBE/DBE substitutions and terminations		X	
Approve DVBE/DBE substitutions and terminations			X
Process Commercial Useful Function (CUF) determination for Caltrans approval	Support role	X	
Request and submit progress pay estimates & payments	Support role	X	
Sign off on progress pay estimates & payments			X
Oversee public relations activities			X
Seek Construction Project contract acceptance concurrences from stakeholders		X	
Issue Construction Project contract final acceptance			X
Request, review, and report lane closures	Support role	X	
Address emergencies (roadway crashes, jobsite emergencies, etc.)	X	X	
Communicate with other Caltrans functional units – part of contract administration	Support role	X	
Schedule and attend progress and Construction Project review meetings (including project records review) with RE		Support role	X
Administer governmental activities including, but not limited to, the Consultant Contract			X

Construction Management duties	Separation of Duties		
	Consultant Inspector	Resident Engineer	CRCCE or Const Engr
negotiation, Consultant Contract payment, and evaluation of compliance, performance, and quality of services provided by the Consultant			
Assure Consultant costs billed are allowable in accordance with the Federal cost principles and consistent with the Construction Project contract terms			X
Assure acceptability and progress of the Consultant's work			X
Document the Consultant's Construction Project contract monitoring activities and supporting Construction Project contract records			X

X – includes this as a primary role of the position.

Support role – includes assisting with the development and administration of, and not having the responsible charge nor the approval authority of said task.

C. Required Services – Work Breakdown Structure Activities

1. 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	Construction Staking Package and Control
270.10.10	Construction Staking Package
270.10.20	Project Control for Construction
270.15	Construction Stakes
270.15.30	Final Grade Stakes
270.22	Contract Administration
270.33	Construction Inspection
270.44	Control of Materials
270.56	Employment Compliance
270.66	Technical Support

280 Administration of PLACs and Environmental Stewardship – (See Note 1 below WBS activities listing)

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 permits.
- COMP Compliance to regulations not included in the 401 permits.
- VIO Response to alleged PLAC violation(s) not under 401 permits
- UPDECR Updates to the ECR
- REEV Changes that affect project's environmental documentation.
- UPDPLAC Renewal and/or extension requests for previously issued PLACs.

280.10 PLAC Compliance – (See Note 1 below WBS activities listing)

280.40 PLAC Violations – (See Note 1 below WBS activities listing)

280.50 Other Environmental Compliance – (See Note 1 below WBS activities listing)

280.60 Other Environmental Violations – (See Note 1 below WBS activities listing)

280.70 Updated Environmental Commitments Record – (See Note 1 below WBS activities listing)

280.80 Updated PLACs – (See Note 1 below WBS activities listing)

285.10.10 Staking for Change Order

285 Change Order Administration

285.05 Change Order ("CO") Process

285.10 Functional Support

285.10.10 Staking for Change Order

285.10.15 Other Functional Support

290 Resolve Contract Claims

290.40 Potential Claim Record

290.50 Alternative Dispute Resolution

290.60	Claim Resolution
290.70	Arbitration
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
Note 1:	For these WBS items, the consultant shall provide only administrative support as a result from field inspections of the Prime Construction Contractor and its subcontractors' quality of work performance in compliance with the requirements of the plans, Standard Specifications, and Construction Project Standard Special Provisions.

D. Consultant Personnel Requirements

1. Consultant Registered Roadway Construction Inspector

a) The Consultant Registered Roadway Construction Inspector (other than the Consultant Contract Manager) 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. The Consultant Registered Roadway Construction Inspector shall have the independent control and direction, by the use of initiative, skill, and independent judgment, of the investigation, inspection or design of professional engineering work or the direct engineering control of such projects.

b) The Consultant Registered Roadway Construction Inspector 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. The Consultant Registered Roadway Construction Inspector shall have a minimum of five (5) years of experience

acceptable to Caltrans in performing lead duties for similar Roadway Construction Services contracts and shall have a minimum of two (2) of these five (5) years as a lead worker.

c) The cumulative five (5) years minimum years of experience, gained from multiple projects at various times, shall be in serial, with the total time not accounting for double-counting or any overlapping. Relative experience shall be detailed for each relevant project listed in the resume section of the Statement of Qualifications (Section E of the Standard Form 330 [“SF 330”]). SF 330 Resume shall provide a brief description of each project and include significant details of the previous role that best demonstrates the person's capability and experience relevant to his/her proposed role in this Contract and consistent with the Request for Qualifications (“RFQ”) for this Contract.

d) In addition to other specified responsibilities, the Consultant Registered Roadway Construction Inspector shall be knowledgeable for all matters related to the Roadway Construction Services work and the Contractors operations including, but not limited to, the following:

   i. Knowledge and experience with equipment used in roadway construction inspection, surveying, 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 and experience with subcontracting laws and policies.

   vi. Knowledge and experience with DBE, DVBE, and Small Business requirements including determining Commercially Useful Function (“CUF”) of a contractor or material supplier.

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

   viii. Knowledge of Caltrans Standard Plans, Standard Specifications, and Construction Manual.

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

x. Experience in Dispute Review Board ("DRB") and Dispute Resolution Advisor ("DRA") meetings and preparing position papers.

xi. Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for DRB and DRA.

xii. Knowledge and experience with analyzing construction claims and reviewing cost.

xiii. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

xiv. Knowledge of California Manual on Uniform Traffic Control Devices.

2. Consultant Roadway Construction Inspector

a) The 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 ("EIT") 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 of 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 ABET. A documented minimum of two (2) years of demonstrated experience in roadway construction inspection of highways or major public works projects performing the duties described in this Contract.

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

i. Capable of assisting the 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.

iii. Personnel reviewing, inspecting, and approving traffic control system work shall have one (1) year of demonstrated experience in such work.

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

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

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

vii. Knowledge and experience with monitoring labor compliance.

viii. Knowledge of subcontracting laws and policies.

ix. Knowledge and experience with DBE, DVBE, and Small Business requirements, including determining CUF of a contractor or material supplier.

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

xi. Knowledge of Caltrans Standard Plans, Standard Specifications, and Construction Manual.

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

xiii. Experience assisting Resident Engineers in the preparation of the DRB and DRA position papers and meetings.

xiv. Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for DRB and DRA.

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

xvi. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

3. Consultant Assistant Roadway Construction Inspector

a) The 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.

AND

A documented minimum of four (4) years of demonstrated experience in roadway construction inspection of highways or major public works projects, performing the duties described in this Contract.

OR

Education equivalent to completion of the 12th grade and a documented minimum of six (6) years of demonstrated experience in roadway construction inspection of highways or major public works projects, performing the duties described in this Contract.

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

   i. Capable of assisting the 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; CCO preparation, review, and analysis; and Water Pollution Control Program (Storm Water Pollution Prevention Plan) enforcement.

   ii. Capable of assisting the Resident Engineer in reviewing and inspecting traffic control systems, including lane closures, in accordance with Caltrans' standards and requirements. Personnel assisting the Resident Engineer in reviewing and inspecting traffic control system work shall have one (1) year of demonstrated experience in such work.

   iii. The Consultant Assistant Roadway Construction Inspectors shall also have:

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

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

3. Knowledge and experience with principles of effective communication and supervision.
4. Knowledge and experience with monitoring labor compliance.
5. Knowledge of subcontracting laws and policies.
6. Knowledge and experience with the Storm Water Pollution Prevention Program and the General Permit.
7. Knowledge of Caltrans Standard Plans, Standard Specifications, and Construction Manual.
8. Proper background clearance, as necessary, when performing work on or near the rail system.
9. Experience in assisting resident engineers to respond to preliminary claim findings and preparation for DRB.
10. Experience in the preparation of Claims files, documents, and reports.
11. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

4. Consultant Construction Office Engineer

a) The Consultant Construction Office Engineer ("Consultant Office Engineer(s)") 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 ABET AND a documented minimum of 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 EIT 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 of 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.

b) The Consultant Office Engineer shall be capable of assisting the 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:

i. Setting up and maintaining Construction Project files.

ii. Writing construction change orders.

iii. Processing required documents and progress payments.

iv. Prevailing Wage Laws and Regulations.

v. Monitoring and enforcing labor compliance.

vi. Computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint, and others).

vii. Knowledge in receiving and reviewing Daily Reports.

5. Consultant Construction Office Engineering Technician

a) The Consultant Construction Office Engineering Technician shall meet the following minimum qualifications:

i. 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 of 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.

OR

Education equivalent to completion of the 12th grade and a documented minimum of six (6) years of demonstrated experience in construction office engineering or in roadway construction inspection of highways or major public works projects, performing the duties described in this Contract.

b) The Consultant Construction Office Engineering Technician shall be capable of assisting the Resident Engineer in all aspects of required office construction engineering, including, but not limited to, labor compliance requirements; and shall also be knowledgeable and experienced in the following areas:

i. Setting up and maintaining project files.

ii. Writing construction change orders.

iii. Processing required documents and progress payments.

iv. Prevailing Wage Laws and Regulations.

v. Monitoring and enforcing labor compliance.

vi. Computers, computer applications, and computer software programs such as Microsoft Office (Word, Excel, PowerPoint), and others.

vii. Subcontracting laws and policies.

E. Roadway Construction Inspection and Office Engineer Deliverables

1. The Consultant daily reports and extra work daily reports shall be delivered to the Resident Engineer within one (1) workday of the work being covered by the daily report.
2. Construction Project contract progress payment quantity documents shall be delivered to the Resident Engineer within five (5) working days after completion of the work or no later than the last working day preceding the pay estimate date for on or about the 20th of each month.
3. Final payment quantity documents shall be delivered to the Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed Construction Project.
4. Field measurements, test data, and other documents as required by Caltrans procedures shall be recorded, maintained, and submitted as directed by the Resident Engineer.
5. The Consultant Inspector and the Consultant Office Engineer keep the Resident Engineer informed of the following deliverables while maintaining complete and accurate Construction Project records, not limited to the following:
   a. Monthly progress pay estimates
   b. Extra work reports
   c. Change orders
   d. Labor and equipment records
   e. Correspondence
   f. Personnel records
   g. Inspectors' daily report
   h. Records of material testing and acceptance
   i. Detailed calculations for paid quantities
   j. Track and record COZEEP hours used, estimate expenditures for each month, and reconcile the CHP Invoice.
   k. Force account records
   l. Time-related Overhead reports
   m. Accidents and major incidents reports

n. Form CEM-0603 Major Construction Incident Notification
o. Various CEM completed forms

Attachment B – Electrical Construction Inspection

SCOPE OF WORK/DELIVERABLES
ELECTRICAL CONSTRUCTION INSPECTION

For Caltrans, Division of Construction, District 4

On-Call Contract

A. General – Electrical Construction Services

1. 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 4, in the construction of proposed Caltrans transportation facilities.

   The Consultant Electrical Construction Inspector has a primary role of keeping the Resident Engineer informed of all field inspections of Prime Construction Contractor or subcontractor quality of work performance in compliance with the requirements of the Plans, Standard Specifications, and Construction Project Standard Special Provisions with the end goal of Construction Project contract acceptance.

2. Exclusion of Work

   The following activities will be performed by Caltrans' staff or its other consultants and are excluded from this Contract. The Consultant must include the excluded activities in the Construction Project schedule to be submitted to Caltrans for approval. The Consultant further agrees to provide the necessary information in a timely manner to facilitate the successful completion of the excluded tasks listed below:

   a) All electrical items such as controllers, luminaires, signal heads, and conductors are inspected and tested by Materials Engineering and Testing Services ("METS") or its consultant.

   d) See Attachment 1, Roadway Construction Services base template, for additional exclusions of work.

B. Required Services – Electrical Construction Inspection

1. General Services

   a) The Consultant Electrical Construction Inspector has a primary role of field inspection of Prime Construction Contractor and subcontractor quality of work and validates that the performance of assigned construction work complies with the requirements of the Construction Project contract Plans, Standard Specifications, and Special Provisions. The Consultant Electrical Construction Inspector shall coordinate with the Resident Engineer to

determine appropriate priorities for testing and inspection of work quality based on the Prime Construction Contractor's proposed order of work for the shift. The Consultant Electrical Construction Inspector supports and advises the Resident Engineer on the intent and application of any portion of electrical construction per the Construction Project contract requirements.

b) A Construction Project contract may have one or more electrical inspectors assigned, and each may have one or more activities to inspect as part of their daily responsibilities. There is no contractual requirement to provide full-time inspection of any activity. The provisions herein for contract inspection are only applicable when the Consultant Electrical Construction Inspector is present and observing a particular Prime Construction Contractor or subcontractor operation and recognizes the issue as it develops or after completion of the work. The Consultant Electrical Construction Inspector shall utilize the appropriate Caltrans Form CEM-5803A, “Electrical System Inspection Checklist,” for each electrical system to memorialize and document all work items are completed and not overlooked when accepting Prime Construction Contractor work.

c) The Consultant Electrical Construction Inspector shall follow the guidelines for inspection of equipment and materials specified under Division X, “Electrical Work,” Section 86, “General,” of the Standard Specifications including electrical requirements.

d) The Consultant Electrical Construction Inspector shall follow the guidelines in Section 87, “Electrical Systems,” and construction requirements for electrical systems and requirements for modifying and maintaining existing systems, including materials, testing, and construction requirements that apply to specific systems.

2. Before Construction Activity

Prior to the start of Prime Construction Contractors' construction work, the Consultant Electrical Construction Inspector shall address the following:

a) Review Section 87-21, “Existing Electrical Systems,” of the Standard Specifications and verify that all existing electrical signs, various traffic management and operation systems that directly affect traffic.

b) At the preconstruction meeting, if applicable to the Construction Project, discuss the requirements for system operational status and conduct the preconstruction status check with the Prime Construction Contractor and the Caltrans traffic operations electrical representatives for maintaining existing traffic management system elements during construction activities.

c) If there is significant electrical work, the Consultant Electrical Construction Inspector may need to coordinate with the electrical engineer to assure Construction Project safety and assign an electrical safety coordinator (who

maybe the Consultant Electrical Construction Inspector) for the electrical specialty work.

d) If applicable to the Construction Project, coordinate with Caltrans Materials, Engineering, and Testing Service to verify the Prime Construction Contractor has submitted test samples of: Accessible pedestrian signals, LED countdown pedestrian signal face modules, LED signal modules, and luminaires.

3. During the Course of Work

The Consultant Electrical Construction Inspector shall address the following throughout the Construction Project(s):

a) Verify the Electrical Systems are installed using the methods specified in Section 87, “Electrical Systems,” of the Standard Specifications and project standard special provisions.

b) Verify that conduit and pull boxes are installed using the methods specified in Section 87-1.03B, “Conduit Installation,” of the Standard Specifications and Construction Project standard special provisions.

c) When applicable to the Construction Project, the Consultant Electrical Construction Inspector must conduct the system operational status check with the Prime Construction Contractor and Caltrans’ traffic operations electrical representative and maintain existing traffic management system elements operational.

d) Conduct field inspections to verify that specified irrigation system(s) are protected by the Prime Construction Contractor during all construction activities.

e) Verify that existing systems that are damaged by the Prime Construction Contractor or subcontractor during construction are repaired or replaced within the specified time. If the system cannot be fixed, the Prime Construction Contractor or subcontractor must provide a temporary system until the system can be restored to original status.

f) For the foundation requirements for standards, poles, metal pedestals, and posts, refer to Section 56-3, “Standards, Poles, Pedestals, and Posts” of the Standard Specifications.

g) Notify the Caltrans district traffic operations, the public information office, the electrical maintenance office, the local fire department, the police department, and schools, 2 weeks before the turn-on of a signal system.

h) When utilizing temporary Electrical Systems, assure that temporary systems are compliant with Sections 12-3.33, “Portable Signal Systems,” and 12-3.34, “Temporary Flashing Beacon Systems,” of the Standard Specifications.

i) Verify that the Prime Construction Contractor or subcontractor provides, installs, and maintains all the temporary electrical system components as shown on the Construction Project contract plans.

j) Witness the Prime Construction Contractor or subcontractor test each electrical system, including the battery backup system. Verify the electrical system runs continuously for 30 minutes with the power turned off.

k) Verify that Prime Construction Contractor and subcontractor have adequate warnings and safeguards, such as signs, lights, barricades, and barriers, are set in place to protect and preserve property, the traveling public, and workers during construction activities.

l) The Consultant personnel shall maintain good lines of communication with the contractor when discovering, discussing potential problems, and recommending sound engineering solutions in a timely manner during all phases of construction.

m) The Consultant Electrical Construction Inspector shall review Construction Project contract plans and field quantity calculations to determine adequate measurement and payment in sufficient detail and accuracy to be used in the Construction Project records and progress payments.

n) The Consultant Electrical Construction Inspector shall import asset location data from the CAD-based data models created during the design phase into their GIS-based asset-management systems. This involves importing CAD format (.dgn) files into a GIS system to create shapefiles or populate asset geodatabases for the purposes of building up the as-built plans.

o) The Consultant shall equip the Consultant Electrical Construction Inspectors with wireless tablets with a touchscreen interface that can be used to verify, in real-time, the as-designed model compared to the as-built model. The Consultant Inspector will use a proprietary application on the tablet to view each object to be installed. From that viewer, the Consultant Inspector will see specific attributes such as pay items, stations and offsets, and Global Positioning System coordinates.

p) The Consultant Electrical Construction Inspector shall assist in preparing final As-Built plans and reports at the completion of construction utilizing the 3D and digital file(s) as the legal document in lieu of 2D plan sets.

q) For the transition period to utilize BIM, the Consultant Inspector may utilize the PDF file to redline the design in support of the As-Built drawings.

4. Disposal of Electrical Waste

a) The Consultant Electrical Construction Inspector must be aware of California law that defines certain types of electrical equipment as hazardous wastes when they are taken out of service. The Department of Toxic Substances Control requires special handling of these hazardous

wastes; however, there are management requirements specific to the disposal of the type of electrical waste.

b) The Consultant Electrical Construction Inspector must assure that the Prime Construction Contractor or subcontractor identifies the type of electrical equipment to be removed and manage dispose of electrical equipment defined by law as a hazardous waste in conformance with Section 14-11.15, "Disposal of Electrical Equipment Requiring Special Handling," of the Standard Specifications.

5. Construction Project Action Responsibility Matrix

To establish clear lines of responsibility, the following table summarizes the separation of electrical inspection and management duties.

	Separation of Duties		
Construction Management duties	**Consultant Inspector**	**Resident Engineer**	**CRCCE or Const Engr**
Inspection of Prime Construction Contractor or subcontractors' quality of work	X		
Provide change order recommendations	X	X	
Submit and process change orders		X	
Change order approval and payment			X
Manage Request for Information (RFI) Process	X		
Monitor and document claims	X	X	
Perform claim resolution process	X	X	
Final approval of claims resolution			X
Dispute resolution process	Support role	X	X
Perform Independent Quality Assurance (IQA)			X
Request and submit progress pay estimates & payments	Support role	X	
Sign off on progress pay estimates & payments			X

X – includes this as a primary role of the position.

Support role – includes assisting with the development and administration of, and not having the responsible charge nor the approval authority of said task.

C. Required Services – Work Breakdown Structure Activities

1. 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
270.66	Technical Support
285	Change Order Administration
285.05	Change Order ("CO") Process
285.10	Functional Support
285.10.15	Other Functional Support
290	Resolve Contract Claims
290.40	Potential Claim Record
290.50	Alternative Dispute Resolution
290.60	Claim Resolution
290.70	Arbitration
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
295.45.10	Commission TMS Elements
295.99	Other Accept Contract/Prepare Final Construction Estimate and Final Report

D. Consultant Personnel Requirements

1. **Responsible Person – Consultant Electrical Construction Inspector (Registered)**

   a) The Consultant Electrical Construction Inspector 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. The Consultant Electrical Construction Inspector responsible person shall have the independent control and direction, by the use of initiative, skill, and independent judgment, of the investigation, inspection or design of professional engineering work or the direct engineering control of such projects.

b) The cumulative five (5) years minimum years of experience, gained from multiple projects at various times, shall be in serial, with the total time not accounting for double-counting or any overlapping. Relative experience shall be detailed for each relevant project listed in the resume section of the Statement of Qualifications (Section E of the Standard Form 330 [“SF 330”]). SF 330 Resume shall provide a brief description of each project and include significant details of the previous role that best demonstrates the person’s capability and experience relevant to his/her proposed role in this Contract and consistent with the RFQ.

c) In addition to other specified responsibilities, the Consultant Electrical Construction Inspector responsible person shall be knowledgeable for all matters related to the Roadway Construction Services Electrical work and the Prime Construction Contractors or subcontractors’ operations including, but not limited to, the following:

   i. Knowledge and experience with equipment used in roadway 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 subcontracting laws and policies.

   v. Knowledge and experience with Disadvantaged Business Enterprise (“DBE”), Disabled Veteran Business Enterprise (“DVBE”) and Small Business requirements including determining Commercially Useful Function (“CUF”) of a contractor or material supplier.

   vi. Knowledge of Caltrans Standard Plans, Standard Specifications, and Construction Manual.

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

viii. Experience in Dispute Review Board ("DRB") and Dispute Resolution Advisor ("DRA") meetings and preparing position paper.

ix. Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for DRB and DRA.

x. Knowledge and experience with analyzing electrical related construction claims and reviewing cost.

xi. Knowledge and experience in keeping complete, accurate, and concise records of the electrical work and quantities.

xii. Knowledge of California Manual on Uniform Traffic Control Devices.

2. Consultant Electrical Construction Inspector

a) The Consultant Electrical Construction Inspectors shall have the following minimum qualifications (Either I or II below):

i. Graduation from a four (4) year curriculum in electrical 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 of two (2) years of demonstrated experience in Electrical 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 an Electrical (or Civil) engineering curriculum from a college or university that has a baccalaureate degree program in an Electrical (Civil) engineering curriculum which is accredited by the ABET. A documented minimum two (2) years of demonstrated experience in Electrical construction inspection of highways or major public works projects performing the duties described in this Contract.

b) The Consultant Electrical Construction Inspectors shall also have knowledge and experience in the following:

i. Capable of assisting the Resident Engineer in all aspects of required field Electrical Construction Inspection services and office engineering work.

ii. Knowledge and experience with equipment used in electrical construction inspection and construction office engineering.

iii. Reviewing, inspecting, and approving traffic control system work shall have one (1) year demonstrated experience in such work.

iv. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

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

vi. Knowledge and experience with principles of effective communication.

vii. Knowledge and experience with monitoring labor compliance.

viii. Knowledge subcontracting laws and policies.

ix. Knowledge of Caltrans Standard Plans, Standard Specifications, and Construction Manual.

3. Consultant Assistant Electrical Construction Inspector

a) The Consultant Assistant Electrical 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.

AND

A documented minimum of four (4) years of demonstrated experience in electrical construction inspection of highways or major public works projects, performing the duties described in this Contract.

OR

Education equivalent to completion of the 12th grade and a documented minimum of six (6) years of demonstrated experience in electrical construction inspection of highways or major public works projects, performing the duties described in this Contract.

b) The Consultant Assistant Electrical Construction Inspectors shall also have knowledge and experience in the following:

i. Capable of assisting the Resident Engineer in all aspects of required field Electrical Construction Inspection services and office engineering work.

ii. Knowledge and experience with equipment used in electrical construction inspection and construction office engineering.

iii. One (1) year demonstrated experience in reviewing, inspecting, and approving traffic control system work.

iv. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

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

vi. Knowledge and experience with principles of effective communication.

vii. Knowledge and experience with monitoring labor compliance.

viii. Knowledge subcontracting laws and policies.

ix. Knowledge of Caltrans Standard Plans, Standard Specifications, and Construction Manual.

E. Electrical Construction Inspection Deliverables

1. The Consultant daily reports and extra work daily reports shall be delivered to the Resident Engineer within one (1) workday of the work being covered by the daily report.
2. Construction Project contract progress payment quantity documents shall be delivered to the Resident Engineer within five (5) working days after completion of the work or no later than the last working day preceding the pay estimate date for on or about the 20th of each month.
3. Final payment quantity documents shall be delivered to the Resident Engineer no later than five (5) working days after acceptance by Caltrans of the completed Construction Project.
4. Field measurements, test data and other documents as required by Caltrans procedures shall be recorded, maintained, and submitted as directed by the Resident Engineer.
5. The Consultant Electrical Inspector keeps the Resident Engineer informed of the following deliverables while maintaining complete and accurate Construction Project records not limited to the following:

   a) Monthly progress pay estimates

   b) Extra work reports

   c) Change orders

   d) Labor and equipment records

e) Correspondence
f) Personnel records
g) Inspectors daily report
h) Records of material testing and acceptance
i) Detailed calculations for paid quantities
j) Force account records
k) Time related Overtime reports
l) Accidents and major incidents reports
m) Form CEM-0603 Major Construction Incident Notification
n) Various CEM completed forms

Attachment C – Landscape Architecture Construction Inspection

SCOPE OF WORK/DELIVERABLES
LANDSCAPE ARCHITECTURE CONSTRUCTION INSPECTION

For Caltrans, Division of Construction, District 4

On-Call Contract

A. General – Landscape Architecture Construction Inspection

1. Purpose of Work

   The Consultant shall perform professional and technical services required for Landscape Architecture Construction Inspection, on an "as-needed" basis to support Caltrans, Division of Construction, District 4, in the construction of proposed Caltrans transportation facilities.

   Landscaping includes highway planting, installing irrigation systems, inert paving, and other roadside improvements. It involves preparing areas for planting, furnishing and planting plants, performing plant establishment work, and reviewing the installation for inert roadside paving. Landscaping may be combined with erosion control to provide aesthetic, safety, environmental mitigation, stormwater pollution prevention, and erosion control benefits. Landscape planting aesthetically helps integrate the highway within its natural or built environment to provide physical characterizing qualities and maintain an area's unique visual context.

2. Exclusion of Work

   The following activities will be performed by Caltrans' staff or its other consultants and are excluded from this Contract. The Consultant must include the excluded activities in the Construction Project schedule to be submitted to Caltrans for approval. The Consultant further agrees to provide the necessary information in a timely manner to facilitate the successful completion of the excluded tasks listed below:

   a) All applicable irrigation system materials and housing cabinets, inspected and tested by Materials Engineering and Testing Services ("METS") or its consultant.

   b) See Attachment 1, Roadway Construction Services, base template, for additional exclusions of work.

B. Required Services – Consultant Landscape Architecture Construction Inspection

1. General Services

   a) The Consultant Landscape Architecture Construction Inspector shall follow the landscaping guidelines covered under Section 20, "Landscape," of the

Standard Specifications, erosion control guidelines as covered under Section 21, “Erosion Control,” of the Standard Specifications, Project Standard Special Provisions, and additional guidelines in Section 4-21, “Erosion Control,” of the Caltrans Construction Manual.

b) The Consultant Landscape Architecture Construction Inspector has a primary role of keeping the Resident Engineer informed of all field inspections of Prime Construction Contractor or subcontractor quality of work performance in compliance with the requirements of the plans, Standard Specifications, and special provisions, with the end goal of contract acceptance.

c) The Consultant Landscape Architecture Construction Inspector may consult the District Landscape Architect and landscape specialist from the Caltrans Division of Maintenance for questions about the acceptability of materials and work for landscaping. The Consultant Landscape Architecture Construction Inspector should be aware and assure highway planting to enhance safety benefits such as headlight glare reduction, windbreaks, and where landscape can reduce the maintenance required to control graffiti.

d) When required, the Consultant Landscape Architecture Construction Inspector responsible person may perform arborist and/or tree risk assessment and recommend removal.

2. Property and Facility Preservation

a) The Consultant Landscape Architecture Construction Inspector shall review the plans and specifications that may require certain trees, shrubs, and other vegetation be preserved, and assure that the Prime Construction Contractor or subcontractor is aware of all plant life to be protected.

b) The Consultant Landscape Architecture Construction Inspector shall follow guidelines covered under Preservation Section 5-1.36, “Property and Facility Preservation,” of the Standard Specifications that makes the Prime Construction Contractor or subcontractor responsible for protecting and preserving all property involved in the Construction Project, including underground facilities such as irrigation lines and other facilities that are not openly visible.

3. Planting Material

a) The Consultant Landscape Architecture Construction Inspector shall review the Construction Project contract plans and specifications that will specify various types and sizes of the plants, various soil amendment, and soil conditioning material to be used on any given project.

b) If a particular plant type is unavailable from any of the Prime Construction Contractor’s or subcontractor’s nursery sources and a change is proposed, the Consultant Landscape Architecture Inspector shall seek recommendation and approval from the Caltrans District project landscape

architect, who will need to review the Prime Construction Contractors proposal.

4. Before Construction Activities

   a) The Consultant Landscape Architecture Construction Inspector shall review the Construction Project plans and specifications to determine the requirements for highway planting.

   b) The Consultant Landscape Architecture Construction Inspector shall use Form CEM-3101, “Notice of Materials to Be Used,” and document all highway planting materials and refer to Section 6-202, “Responsibilities for Acceptance of Manufactured or Fabricated Materials and Products,” of the Construction Manual for additional information.

   c) Consult the Caltrans District Landscape Architect or project landscape architect and the Caltrans Maintenance landscape specialist to review the areas to be planted and verify the limits and work involved in roadside clearing and discuss any unusual features or potential problem areas.

   d) The Consultant Landscape Architecture Construction Inspector shall assure that the Prime Construction Contractor or subcontractor is aware of any special requirements, particularly for timing of planting, ground preparations, and reviewing specifications covering pesticide use contained in Chapter C2, “Vegetation Control,” of the Caltrans Maintenance Manual.

   e) The Consultant Landscape Architecture Construction Inspector shall discuss the requirements for plants with the Prime Construction Contractor or subcontractor and arrange to inspect the plants at the plant supplier’s nursery before shipping. The Consultant Landscape Architecture Construction Inspector will assure the Prime Construction Contractor or subcontractor understands that the plants will still be subject to inspection at the job site in compliance with Section 20-3, “Planting,” of the Standard Specifications, and with any special provisions.

   f) When existing irrigation systems are to be maintained, the Consultant Landscape Architecture Construction Inspector shall review the systems with the appropriate Caltrans District landscape maintenance personnel and check existing systems for proper operation and state of repair.

   g) Review with the Prime Construction Contractor the requirements for operating existing irrigation systems. When Caltrans maintenance forces are involved, confirm that the Prime Construction Contractor or subcontractor and Caltrans District maintenance personnel are aware of each party’s responsibilities.

5. During the Course of Work

   a) The Consultant Landscape Architecture Construction Inspector shall assure that the Prime Construction Contractor or subcontractor has adequately

prepared areas for planting, applying pesticides, furnishing and planting plants, controlling weeds, removing large roots and stumps, and maintaining plants until the start of the plant establishment period.

b) Review the requirements for water pollution control and recommend leaving some vegetation on the slopes to reduce the potential for stormwater pollution during the rainy season.

c) The Consultant Landscape Architecture Construction Inspector shall observe the mixing and applying of pesticides to assure these processes comply with the approved recommendations and specifications. Assure that Prime Construction Contractor's or subcontractor's employees applying pesticides wear protective clothing, including eye protection, with the pesticide applicator's license on the job site. The Consultant Landscape Architecture Construction Inspector shall include notes about the pesticide application in the daily report including any pertinent instructions given to the contractor, and provide the contractor with Form LA-0017, "Report of Chemical Spray Operations."

d) Assure compliance with roadside clearance, minimum setbacks from the traveled way, pavements, fences, walls, and ditches as shown on the plant list or in a detail in the Construction Project contract plans.

e) The Consultant Landscape Architecture Construction Inspector shall inspect irrigation system installation, pressure testing, and backfilling in preparation of planting areas.

f) The Consultant Landscape Architecture Construction Inspector shall assure the various irrigation systems components are installed and constructed as required.

g) Inspect the installation and location of backflow preventers to assure they conform to the requirements of local codes and to the Construction Project plans and specifications. Pay particular attention to the installation of gate valves and unions on each side of the backflow preventer.

h) During the course of installing water lines and conduit, the Landscape Architecture Construction Inspector must observe the installation of electrical conduit and connections for control and neutral conductors to assure they comply with the size and type specified in the Construction Project plans and specifications.

i) If the Consultant Landscape Architecture Construction Inspector determines that plants will not survive or will be damaged severely because of weather, consider allowing a delay of planting until a more favorable period. If planting is delayed because of unfavorable weather conditions and is the controlling operation, the Consultant Landscape Architecture Construction Inspector may grant nonworking days in accordance with Section 8, "Prosecution and Progress" of the Standard Specifications.

j) Assure the Prime Construction Contractor or subcontractor replaces any plants that have been injured or damaged sufficiently to render them unsuitable. When a replacement plant would not survive because of forecast weather or other predictable causes, consider delaying replacement until a more favorable time.

k) If the Consultant Landscape Architecture Construction Inspector recommends substituting an alternative species, seek authorization through a change order and obtain concurrence from the Caltrans District project landscape architect.

l) Consultant personnel shall maintain good lines of communication with the Prime Construction Contractor and subcontractors when discovering or discussing potential problems and recommending sound engineering solutions in a timely manner during all phases of construction.

m) The Consultant Landscape Architecture Construction Inspector shall review Construction Project contract plans and field quantity calculations to determine adequate measurement and payment in sufficient detail and accuracy to be used in the project records and progress payments.

n) The Consultant Landscape Architecture Construction Inspector shall review the specifications that requires irrigation system work to be paid for by measurable individual contract items rather than lump sum. The Consultant Landscape Architecture Construction Inspector will use the methods of measurement specified for each Construction Project contract item.

o) The Consultant Landscape Architecture Inspector shall import asset location data from the CAD-based data models created during the design phase into their GIS-based asset-management systems. This involves importing CAD format (.dgn) files into a GIS system to create shapefiles or populate asset geodatabases for the purposes of building up the as-built plans.

p) The Consultant shall equip the Consultant Landscape Architecture Inspectors with wireless tablets with a touchscreen interface that can be used to verify, in real-time, the as-designed model compared to the as-built model. The Consultant Landscape Architecture Inspector will use a proprietary application on the tablet to view each object to be installed. From that viewer, the Consultant Landscape Architecture Inspector will see specific attributes such as pay items, stations and offsets, and Global Positioning System coordinates.

q) The Consultant Landscape Architecture Inspector shall assist in preparing final As-built plans and reports at the completion of construction utilizing the 3D and digital file(s) as the legal document in lieu of 2D plan sets.

r) For the transition period to utilize BIM, the Consultant Inspector may utilize the PDF file to redline the design in support of the As-Built drawings.

6. Plant Establishment Work

   a) The objective of plant establishment is to assure that, before Construction Project contract acceptance, plants are healthy and established, and the irrigation system works as per the Construction Project contract.

   b) For specifications and administrative guidelines for plant establishment time requirements, refer to Section 20-4, “Plant Establishment Work,” of the Standard Specifications, and Section 4-2002C (8), “Plant Establishment Work,” of the Construction Manual.

   c) The Consultant Landscape Architecture Construction Inspector shall notify the contractor of the beginning of the plant establishment period. On Form CEM-2701, “Weekly Statement of Working Days,” under “Remarks,” note the date of the first day of the plant establishment period.

   d) In general, the Consultant Landscape Architecture Construction Inspector will consider progress satisfactory if the Prime Construction Contractor or subcontractor entered the plant establishment period on time and carries out plant-establishment work on time. The Consultant Landscape Architecture Construction Inspector shall consider progress unsatisfactory if there will be an overrun in Construction Project contract time because of a delayed start of Type 1 plant establishment.

   e) For landscape projects, consider relief from maintenance and protection requests for non-plant establishment related items of work, such as for fences, curbs, sidewalks, asphalt concrete placed as island paving, and seal coats placed on islands once the plant establishment period begins.

   f) The Consultant Landscape Architecture Construction Inspector shall assure that the Prime Construction Contractor or subcontractor replaces plants that have not been properly maintained. However, the Consultant Landscape Architecture Construction Inspector shall not allow replacement as a substitute for proper maintenance. Note that plants that were planted earlier and maintained for a longer period of time will be more developed and will require less maintenance upon completion of the Construction Project contract than one planted late in the plant establishment period.

   g) For Payment provisions guidelines related to plant establishment, refer to Section 9 “Payment” of the Standard Specifications, and Section 3-9, “Payment” of the Construction Manual.

   h) The Consultant Landscape Architecture Construction Inspector shall assure Prime Construction Contractor or subcontractor maintains sufficiently formed basins around each plant to permit the ponding of irrigation water and provide ample room for the required mulch. During wet weather, the Prime Construction Contractor or subcontractor may need to create temporary openings in the basin walls to drain excess water from the plants.

i) Assure fertilizer is applied at the specified time, in the required amounts, and distributed evenly. Prohibit the concentration of commercial fertilizer at the base or stem of the plant to avoid injury to the plant.

j) Assure that all required establishment work is complete before beginning to give the Prime Construction Contractor credit for plant establishment working days.

7. Plant Irrigation

a) Irrigation systems may be manual or automatic, as specified in Section 20-2, "Irrigation" of the Standard Specifications. The special provisions may require the installation of equipment that can communicate with a centrally located computer.

b) Require the Prime Construction Contractor or subcontractor to give instructions on the use and adjustment of the irrigation controllers as required in the specifications. Invite the appropriate Caltrans District landscape maintenance personnel to the instructional session.

c) Assure the Prime Construction Contractor or subcontractor applies sufficient water so plants will develop properly. Too much water, improperly applied, can cause damage. Inspector shall understand the factors such as weather, soil, and plant type to determine the amount of water and frequency of application.

d) The Consultant Landscape Architecture Construction Inspector shall assure regular watering requirements are met, periodically observe planted areas after initial watering, and the irrigation controller is ready to be programmed to manage irrigation. The Consultant Landscape Architecture Construction Inspector shall assure the irrigation system distributes water evenly, observe proper coverage to assure water does not reach the traveled way, and routinely check the sprinklers' water distribution.

8. Construction Project Action Responsibility Matrix

To establish clear lines of responsibility, the following table summarizes the separation of electrical inspection and management duties.

	Separation of Duties		
Construction Management duties	**Consultant Inspector**	**Resident Engineer**	**CRCCE or Const Engr**
Inspection of Prime Construction Contractor or subcontractor quality of work	X		
Provide change order recommendations	X	X	
Submit and process change orders		X	

	Separation of Duties		
Construction Management duties	**Consultant Inspector**	**Resident Engineer**	**CRCCE or Const Engr**
Change order approval and payment			X
Manage Request for Information (RFI) Process	X		
Monitor and document claims	X	X	
Perform claim resolution process	X	X	
Final approval of claims resolution			X
Dispute resolution process	Support role	X	X
Perform Independent Quality Assurance (IQA)			X
Request and submit progress pay estimates & payments	Support role	X	
Sign off on progress pay estimates & payments			X

X – includes this as a primary role of the position.

Support role – includes assisting with the development and administration of, and not having the responsible charge nor the approval authority of said task.

C. Required Services – 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

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
290	Resolve Contract Claims
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. Consultant Personnel Requirements

1. Responsible Person – Consultant Landscape Architecture Construction Inspector (Registered)

a) The Consultant Landscape Architecture Construction Inspector responsible person shall have a license as a Landscape Architect, issued by the California Landscape Architects Technical Committee, in good standing at

all times during the Contract period, to perform the tasks described in this Contract and in the Task Orders. The Consultant Landscape Architecture Inspector responsible person shall have the independent control and direction, by the use of initiative, skill, and independent judgment, of the investigation, inspection or design of professional engineering work or the direct engineering control of such projects.

b) The Consultant Landscape Architecture Construction Inspector 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. The Consultant Landscape Architecture Construction Inspector responsible person shall have a minimum of five (5) years of experience acceptable to Caltrans in performing lead duties for similar Roadway Construction Services contracts and shall have a minimum of two (2) of these five (5) years as a lead worker.

c) The cumulative five (5) years minimum years of experience, gained from multiple projects at various times, shall be in serial, with the total time not accounting for double-counting or any overlapping. Relative experience shall be detailed for each relevant project listed in the resume section of the Statement of Qualifications (Section E of the Standard Form 330 [SF 330]). SF 330 Resume shall provide a brief description of each project and include significant details of the previous role that best demonstrates the person's capability and experience relevant to his/her proposed role in this Contract and consistent with the RFQ.

d) In addition to other specified responsibilities, the Consultant Landscape Architecture Construction Inspector responsible person shall be knowledgeable for all matters related to the Roadway Landscape Construction Services work and the Landscape Contractors operations including, but not limited to, the following:

   i. Knowledge and experience with equipment used in roadway landscape 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 and experience with subcontracting laws and policies.

   vi. Knowledge and experience with Disadvantaged Business Enterprise (“DBE”), Disabled Veteran Business Enterprise (“DVBE”) and Small

Business requirements including determining Commercially Useful Function ("CUF") of a contractor or material supplier.

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

viii. Knowledge of Caltrans Standard Plans, Standard Specifications, and Construction Manual.

ix. Experience in Dispute Review Board ("DRB") and Dispute Resolution Advisor ("DRA") meetings and preparing position paper.

x. Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for DRB and DRA.

xi. Knowledge and experience with analyzing construction claims and reviewing cost.

xii. Knowledge and experience in keeping complete, accurate, and concise records of the work and quantities.

xiii. Knowledge of California Manual on Uniform Traffic Control Devices.

2. Consultant Landscape Architecture Construction Inspector

a) The Consultant Landscape Architecture Construction Inspectors shall meet one of the following minimum qualifications (Either I or II below):

i. Graduation from a four-year curriculum in Landscape Architecture accredited by the Landscape Architectural Accreditation Board ("LAAB"). A documented minimum of two (2) years of demonstrated experience in Landscape 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 Landscape Architecture from a college or university that has a baccalaureate degree program in a Landscape Architecture curriculum which is accredited by the LAAB. A documented minimum of two (2) years of demonstrated experience in Landscape Architecture construction inspection for highways or major public works projects performing the duties described in this Contract.

b) The Consultant Landscape Architecture Construction Inspectors shall also have knowledge and experience in the following:

i. Capable of assisting the Resident Engineer in all aspects of required field and office engineering work including, but not limited to, the following: inspection of landscape architecture construction operations; contract change order ("CCO") preparation, review, and analysis; and Water Pollution Control Program (Storm Water Pollution Prevention Plan) enforcement.

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

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

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

v. Knowledge and experience with monitoring labor compliance.

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

vii. Knowledge of Caltrans Standard Plans, Standard Specifications, and Construction Manual.

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

ix. Experience assisting Resident Engineers in preparation of the DRB and DRA position papers and meetings.

x. Experience in assisting Resident Engineers to respond to preliminary claim findings and preparation for DRB and DRA.

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.

E. Landscape Architectural Construction Inspection Deliverables

1. The Consultant daily reports and extra work daily reports shall be delivered to the Resident Engineer within one (1) workday of the work being covered by the daily report.
2. Construction Project contract progress payment quantity documents shall be delivered to the Resident Engineer within five (5) working days after completion of the work or no later than the last working day preceding the pay estimate date for on or about the 20th of each month.
3. Final payment quantity documents shall be delivered to the 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 Resident Engineer.

Attachment E – Construction Scheduling Support

SCOPE OF WORK/DELIVERABLES
CONSTRUCTION SCHEDULING SUPPORT

For Caltrans, Division of Construction, District 4

On-Call Contract

A. General – Construction Scheduling Support

1. Purpose of Work

   The Consultant shall perform professional and technical services required for Construction Scheduling Support on an "as-needed" basis to support Caltrans, Division of Construction, District 4, in the construction of proposed Caltrans transportation facilities.

   The Construction Scheduling Support Consultant has a primary role of analyzing Critical Path Method schedules for construction.

2. Exclusion of Work

   The following activities are excluded from this Contract and will be performed by Caltrans staff or other Caltrans consultants. The Consultant must include the excluded activities in the project schedule to be submitted to Caltrans for approval. The Consultant further agrees to provide the necessary information in a timely manner to facilitate the successful completion of the excluded tasks listed below:

   a) Approval of baseline and monthly Critical Path Method ("CPM") schedule updates. This ultimate activity resides with both parties (Prime Construction Contractor and Resident Engineer) in developing, reviewing, and accepting the baseline schedule submittal.

   b) Professional and technical engineering services required for Roadway Design and related Project Development Services including calculating Contract Time – Number of Original Working Days and any preconstruction services.

   c) See Attachment 1, Roadway Construction Services base template, for additional exclusions of work.

B. Required Services – Construction Scheduling Support

The Construction Project contract's progress schedule specifications (Sections 8-1.02 of the Standard Specifications, Revised Standard Specifications, and or Special Provisions, as applicable) sets forth contractual requirements for the Prime Construction Contractor's progress schedule performance throughout the Construction Project contract.

The Consultant shall assist the Resident Engineer by making every effort to obtain a reasonable baseline schedule at the beginning of the Construction Project contract. The Consultant shall record in their daily report any communications regarding the schedule. CPM scheduling may require weekly meetings to resolve scheduling issues until the baseline schedule is accepted. The use of a third-party facilitated meetings, if agreed to by both parties, maybe used to assist in resolving unresolved Baseline Schedule issues. The Consultant shall notify the Prime Construction Contractor in advance if a “performance failure withholds” will be taken for failure to submit a satisfactory schedule.

These required services may vary based on the applicable provisions set forth in a particular Construction Project contract. The Consultant must review and understand the applicable Construction Project contract’s progress schedule requirements as a predecessor to performing technical progress schedule analyses. The Task Order will identify the specific Consultant services to be performed on each Construction Project within the Task Order and may include the following:

1. Prime Construction Contractor’s Practical Progress Schedule – Reviews & Analyses
    a. Depending on the Construction Project size and number of working days, and when required by the Construction Project contract special provisions, the Prime Construction Contractor shall submit to the Resident Engineer a practicable progress schedule within twenty (20) working days of approval of the Construction Project contract, and within ten (10) working days of the Resident Engineer’s written request at any other time.
    b. The Contractor’s practical progress schedule shall show the order in which the Prime Construction Contractor proposes to carry out the work, the dates on which the Prime Construction Contractor will start the several salient features of the work including procurement of materials, plant, and equipment, and the contemplated dates for completing those salient features. The progress schedules submitted shall be consistent in all respects with the time and order of work requirements of the Construction Project contract.
    c. The CPM scheduling is used by the field personnel in their daily task of verifying, monitoring, and analyzing the Prime Contractor's schedules in accordance with the Construction Project contract documents, specifications, and performance.
    d. Subsequent to the time that submittal of a progress schedule is required in accordance with said Construction project specifications, no progress payments will be made for any work until a satisfactory schedule has been submitted to the Resident Engineer.
2. Pre-Construction Scheduling Conference

a. Depending on the Construction project size and number of working days, and when required by the special provisions, CPM schedule requirements include a preconstruction scheduling conference shortly after the Construction Project contract approval.

b. The Construction Scheduling Support Consultant shall review and analyze the Prime Construction Contractor's time-scaled logic diagram submittal identifying major activities, sequence of planned operations, and any proposed changes to described staging prior to the preconstruction scheduling conference. The Resident Engineer will provide the Prime Construction Contractor's submittal for Construction Scheduling Support Consultant review and analysis a minimum of three (3) business days prior to the preconstruction scheduling conference.

c. Review and analysis to include proposed staging, time constraints, work windows, work sequence, and completeness of work activities in comparison to Construction Project contract requirements and constraints. Preparation of a findings report of review and analysis of time-scaled logic diagram provided to the Resident Engineer a minimum of two (2) business days prior to the preconstruction scheduling conference. Report shall clearly identify time-scaled logic diagram concerns and deficiencies in relation to Construction Project contract requirements.

d. The Construction Scheduling Support Consultant may be directed to participate in the preconstruction scheduling conference with the Prime Construction Contractor and present time-scaled logic diagram review findings. Resident Engineer will provide a minimum of two (2) business days' notice for the Construction Scheduling Support Consultant's participation at the preconstruction scheduling conference.

e. The Construction Scheduling Support Consultant may be directed to participate in the preconstruction conference when no preconstruction scheduling conference is required, for the purpose of presenting Construction project specific CPM scheduling requirements and assisting in Caltrans Responsible Charge Construction Engineer ("CRCCE") response to CPM schedule inquiries.

f. Note that the described staging in the Construction Project contract may not be revised without an approved change order or an authorization to proceed issued in advance of the change order. This conference should assist all parties in developing, reviewing, and accepting the Baseline Schedule submittal that follows.

g. The Construction Scheduling Support Consultant shall discuss with the Prime Construction Contractor the items in Section 8-1.03, "Preconstruction Conference," of the Standard Specifications and refer to Section 5-003, "Preconstruction Conference with the Contractor," of the Caltrans Construction Manual for additional guidance and review the job with

Caltrans personnel before the start of job site activities, and refer to Section 5-002, “Preconstruction Conference with Caltrans Personnel,” of the Caltrans Construction Manual.

3. Review and Analysis of Contractors Preliminary Baseline Schedule
   a. The Construction Scheduling Support Consultant has a primary role of reviewing and analyzing the Prime Construction Contractor’s CPM Baseline Schedules for Prime Construction project(s).
   b. The Construction Scheduling Support Consultant will document schedule review findings, prepare draft recommendations response letters to the Resident Engineer on Construction Project contract scheduling issues, and maintain project files relating to schedule submittals, review reports, and communication records.
   c. The Construction Scheduling Support Consultant may be directed to participate on behalf of the Caltrans in baseline schedule meetings with the Prime Construction Contractor and present baseline schedule review findings. Multiple iterations of Construction Scheduling Support Consultant review and analyses of Prime Construction Contractor Baseline Schedule submittals may be required until the Resident Engineer accept the baseline schedule.
   d. The Construction Scheduling Support Consultant participation in weekly baseline schedule resolution meetings may be required until the Resident Engineer accept the Baseline Schedule. When a third-party facilitated meeting is used to assist contractual parties with resolving Baseline Schedule issues, Construction Scheduling Support Consultant may be directed to participate on behalf of the Department and present Baseline Schedule review findings. The Resident Engineer will provide a minimum of one (1) business day notice for the Construction Scheduling Support Consultant’s participation in these meetings.
   e. It is critical for the Construction Scheduling Support Consultant to thoroughly review and analyze the Baseline Schedule for the various construction work activities by performing the following typical duties:
      i. Review and Analyze Planned Salient Work Operations and Logistics:
         1) Verify that the Baseline Schedule was submitted timely.
         2) Check the completeness of the Baseline Submittal and review narrative report, plots, and other similar documents.
         3) If required in the project Special Provisions, the Construction Scheduling Support Consultant shall verify that the Baseline Submittal includes a written statement certifying that each subcontractor, major fabricators, and suppliers have concurred with the Prime Construction Contractor’s CPM Baseline Schedule.

4) Check the overall sequence of work having a logical flow from beginning to end and the work sequence complies with the order of work section of the Prime Construction Project Special Provisions.

5) Look into the various individual crews (i.e., clearing & grubbing, curb & gutter, paving, excavation, pile driving, rebar, concrete, or other similar work activities that are tied together to reflect a continuous flow of work for that particular Prime Construction Contractor's subcontractor) otherwise the schedule may reflect sporadic work over a period of time which would indicate multiple mobilization and de-mobilization.

6) Verify that the Baseline Schedule includes a punch list or final clean-up activity.

7) If required in the project Special Provisions, check if Baseline Schedule includes State-Owned Float activity as the second to last activity.

8) Validate that the original duration for all field work activity does not exceed the twenty (20) workdays.

9) The Construction Scheduling Support Consultant shall check the activity descriptions to be clear and well defined. If not, request the Prime Construction Contractor revise the description so that the scope of work assigned to that activity is not ambiguous (what signifies the start and finish of that activity). Assure the description to include the location and area of work (stationing, eastbound/westbound, lift #3, #4, and other appropriate descriptions).

10) Assure each construction activity description is unique as to avoid confusion and ambiguity with other construction work including work activity ID, description and coding consistent are well defined to make sorting and filtering of the schedule possible.

11) The Construction Scheduling Support Consultant to recommend Baseline Schedule filename sequencing to be easily recognizable in cases where multiple re-submittals are made. The Consultant shall recommend similar filing nomenclature for the initial Baseline submittal ("BAS0"), compared to the re-submittal to be named BAS1 or BAS2 and so forth.

12) Check to see that the Baseline CPM Schedule does not contain any negative lags.

13) If applicable, validate that the Baseline Schedule reflects all structural work required durations specified in the plan sheets (for example order of work, pour and cure time requirements,

settlement durations, release requirements, jacking sequences, stressing, and alternate construction methods). Check with Caltrans Office of Structure Construction's structure representative to see which structures work activities have specified timelines.

14) Validate if the Baseline Schedule has been calculated and Baseline Scheduling Method is set to "Retained Logic."

15) Check if the Baseline Schedule (plot) is properly labeled identifying the project name, job number, Prime Construction Contractor's name and denoted as the Baseline Schedule.

16) As applicable, assure there are mobilization activity identified and illustrated in the Baseline Schedule along with various activities are coded to determine which party is responsible (for example Prime Construction Contractor, State, subcontractor, railroad company, or other entity).

17) Check the inclusion of all utility related activities and if any utility work falls on the critical path. The Construction Scheduling Support Consultant shall identify such critical path activities and confirm with the agencies and personnel associated with the utility work and be prepared to meet the critical path deadlines.

18) Assure that the Baseline Schedule includes activities for major material fabrication with long-lead times and their delivery timelines. These activities should be properly tied as a predecessor to its associated construction work activity.

19) Validate that construction work is not illustrated on the CPM schedule as being performed prior to the Notice to Proceed milestone.

20) Check to see if there are any start-to-finish relationships. If any, then highlight the "start-to-finish" relationships in the Baseline CPM schedule since such relationship types are rarely needed.

21) Review all log notes and statements associated with the Baseline Schedule for consistency with Department's policies, procedures, and standards.

ii. Dates Review and Analyze:

1) Assure that the Prime Construction project start, and finish date is correct.

2) The Baseline Schedule shall have a data date of the day prior to the first working day of the Construction Project contract. There should be no actual dates.

3) Check that all Prime Construction Contractor's project milestone, stage, phase dates are in compliance.

4) Filter for all constrained activities and question why the activity is constrained if unclear. As a general rule, constraints should be kept to a minimum.

iii. Calendar Review and Analyze:

1) Check all calendars to see if they are necessary. As a general rule, calendars should be kept to a minimum. Check to see if calendar correctly shows all project non-workdays (Caltrans Holidays) if project is a five (5) day workweek.

2) Check to see if calendar correctly reflects non-work periods and similar restrictions.

3) Calendars should not reflect anticipated weather days.

4) Assure each calendar is probably named for easy identification.

iv. Submittals Review and Analyze:

1) Verify that the Baseline Schedule includes activities for all major submittals and their review.

2) Confirm "Submittal" activity descriptions to specify whether the activity is a "submit" activity which would typically be the responsibility of Prime Construction Contractor, or a "review" activity which would be the responsibility of the Construction Scheduling Support Consultant (reviewed on behalf of Caltrans).

3) Check to see if the review time reflects the time specified in the specifications and to see if the Prime Construction Contractor needs to account for a re-review time if the original submittal is rejected.

4) Verify if all of the submittals being submitted or starting at the same time. The Construction Scheduling Support Consultant to question Prime Construction contractor whether this is realistic and suggest the submittals show a staggered start.

5) Verify the Baseline Schedule reflect submittals of various permits required by outside agencies with their respective review times.

6) Confirm that the Baseline Schedule shows all required submittals, permits and testing to facilitate and authorize the respective work to begin.

v. Critical Path Review and Analyze:

1) Verify the critical path total float to be zero (0) days unless the Prime Construction Contractor is showing an early completion in

which case the total float will be positive. The Baseline Schedule should not show the critical path with a negative total float.

2) Check critical path for logical work sequence, reasonable durations, work through wet season, and other critical elements such as Department review, outside agency dependency, groundwork, or other similar activity.

3) Check secondary critical path for example work path with total float of twenty (20) days and less. Check for potential problem areas which may push the work path to criticality.

4) Check to see if the critical path is being artificially directed towards known problem areas the Department is responsible for.

vi. Resources Review and Analyze:

1) When reviewing for resources, if the Baseline Schedule shows an early completion in approximately less than 85 percent of the approved project working days then the Baseline Schedule shall be resource loaded to show how the Prime Construction Contractor plans to meet the early completion with their planned labor and equipment.

2) Verify if the Baseline Schedule (more importantly the critical path) shows multiple activities occurring simultaneously. If so, then inquire and validate with the Construction Scheduling Support Consultant whether the concurrent work is resource feasible. Ask how many independent crews & equipment the Prime Construction Contractor is planning on to meet the demand of concurrent work (for example multiple pours, excavation, pile driving and other similar activity simultaneously).

3) If activities are shown to occur simultaneously, the relationship is usually defined as a start-to-start or finish-to-finish with zero lag. In many instances the activities don’t all simultaneously start on the same day, typically the succeeding activity starts a little later (because of space or area limitations), in which case the relationship should show a 1- or 2-day lag associated with the start-to-start or finish-to-finish tie.

4) Analyze and validate if the durations are reasonable while assuming production rate reflected in the Baseline Schedule. For example, if an AC paving activity has a duration of ten (10) days and the activity covers 5 miles of a 2-lane highway, the assumed average production rate would be about 1 mile of lane per day. If this is based on two independent paving crew, it may be possible. However, if this is work that can only be performed during limited night hours (for example less than 8 hours) or the production rate

is based upon just one paving crew, the duration maybe low and reported accordingly.

5) Check with experienced office personnel to see if durations or production rates assumed in the Baseline Schedule is reasonable.

6) Even if the specifications do not require the Baseline Schedule to be resource loaded, the Consultant Construction Scheduling Support Analyst can always ask the Prime Construction Contractor how many laborers and equipment are planned for a particular operation or the average production rate (measure mile) they expect to achieve.

4. Time Impact Analysis ("TIA")

a) The Construction Scheduling Support Consultant shall refer to Section 8-1.02C(8)(b), "Time Impact Analysis Submittal," of the Standard Specifications for more information. For an example of a TIA reference on Form CEM-4903, "Change Order Memorandum," refer to the example "Compensation for Critical Delay (Payment Adjustment)" at: https://dot.ca.gov/programs/construction/change-order-information/change-order-examples.

b) The Prime Construction Contractor is required to submit monthly update schedules to evaluate alterations to the critical path or an adjustment to the completion date including a written analysis to the Resident Engineer with each time adjustment request.

c) The Construction Scheduling Support Consultant shall review Prime Construction Contractor' TIAs and or development of independent TIAs for evaluation of time-related effects of potential changes, dispute issues, or resolution of deferred time change orders upon Resident Engineer's request and approval of the Caltrans Resident Engineer or CRCCE.

d) The Construction Scheduling Support Consultant shall review and analyze the TIA including a written analysis illustrating the effect of each change on the scheduled completion date or an internal milestone. The Construction Scheduling Support Consultants review will include the analysis for logic and duration effects to determine the time adjustment or perform an independent analysis to determine the time adjustment.

e) The Construction Scheduling Support Consultant will hold monthly meetings to discuss the update schedule submittal, including narrative report, progress to date, changes in schedule, unresolved time issues and need for additional schedule changes.

f) The Construction Scheduling Support Consultant will recommend an updated baseline schedule – by taking the current schedule developed from the Baseline Schedule or subsequent schedule through regular monthly

reviews to incorporate as-built progress and any planned and approved Prime Construction Contractor changes.

g) For claims related CPM Schedule impacts:

i. The Construction Scheduling Support Consultant will assist Resident Engineer in schedule related claims and assure that all claims and responses to the claims are accurately and promptly prepared and presented to the Caltrans Construction Engineer.

ii. The Construction Scheduling Support Consultant will provide Resident Engineer the analysis, reports, presentations, and recommendations for claim resolutions.

iii. The Construction Scheduling Support Consultant will coordinate the progress of schedule related claim issues to assure that the claim information is complete and that the claim filing is done in a timely manner.

5. Develop As-built Construction Schedules

a) The Construction Scheduling Support Consultant shall refer to Section 8 of the Standard Specifications.

b) The Construction Scheduling Support Consultant shall coordinate with the field office engineers on determination of working days and controlling operations on weekly statement of working days during Prime Construction Contractor's contract administration.

c) The Construction Scheduling Support Consultant will verify weekly schedules reflecting the monthly Update schedules.

d) The Construction Scheduling Support Consultant Office Engineer will assist the Resident Engineer to verify completed work with field personnel and diaries and maintain an accurate as-built schedule throughout the duration of the project.

6. Project Action Responsibility Matrix

To establish clear lines of responsibility, the following table summarizes the separation of Construction Scheduling Support and management duties.

Construction Management duties	Separation of Duties		
	Consultant Scheduling Support	Resident Engineer	CRCCE
Request Prime Construction Contractor's Practical Progress Schedule	Support role	X	

Facilitate Pre-Construction Scheduling Conference	Support role	X	
Review and Analyze Prime Construction Contractors Preliminary Baseline Schedule and monthly CPM schedule updates	Support role	X	
Review and analyze TIA, generation and analysis	Support role	X	
Develop as-built construction schedules	Support role	X	
Acceptance of Baseline CPM schedules and monthly CPM schedule updates			X
Acceptance of TIAs			X
Develop as-built construction schedules	X		

X – includes this as a primary role of the position.

Support role – includes assisting with the development and administration of, and not having the responsible charge nor the approval authority of said task.

C. Required Services – 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

270.66 Technical Support

295.20 Project History File

D. Consultant Personnel Requirements

1. Responsible Person – Consultant Construction Scheduling Support Analyst Responsible (Registered)

a. The Consultant Construction Scheduling Support Analyst responsible person (other than the Consultant Contract Manager) 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. Responsible Person shall have the independent control and direction, by the use of initiative, skill, and independent judgment, of the investigation, inspection or design of professional engineering work or the direct engineering control of such projects.

b. The Consultant Construction Scheduling Support Analyst 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. The Consultant Construction Scheduling Support Analyst responsible person shall have documented a minimum of five (5) years of demonstrated experience acceptable to Caltrans in Construction Scheduling and shall have a minimum of two (2) of these five (5) years in a responsible position.

c. The cumulative five (5) years minimum years of experience, gained from multiple projects at various times, shall be in serial, with the total time not accounting for double-counting or any overlapping. Relative experience shall be detailed for each relevant project listed in the resume section of the Statement of Qualifications (Section E of the Standard Form 330 ["SF 330"]). SF 330 Resume shall provide a brief description of each project and include significant details of the previous role that best demonstrates the person's capability and experience relevant to his/her proposed role in this Contract and consistent with the RFQ.

d. In addition to other specified responsibilities, the Consultant Scheduling Support responsible person shall be knowledgeable for all matters related to the Construction Scheduling support work and the Prime Construction Contractor's operations including, but not limited to, the following:

    i. Preparing reports, plots, exhibits, and other presentation materials and items related to scheduling.

    ii. Expertise in usage of CPM software, with Primavera Project Planner ("P3," "P6"), SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; Microsoft Project; and Microsoft Office (Word, Excel, PowerPoint, and others) software. The Construction Scheduling Support Consultant shall have access to use additional industry standard CPM software, used by the contractors.

    iii. Principles of effective communication and supervision.

    iv. General knowledge of construction process, terminology and timelines, contract document CPM schedule requirements, and working knowledge of Caltrans's construction process and filing system.

    v. Caltrans's timeline for claims resolution.

    vi. Analyzing construction scheduling and providing expert assessment for merit of entitlement and estimating costs. Working knowledge of Caltrans's plans, specifications, and manuals (including, but not limited to, Standard Plans, Standard Specifications, Construction Manual, Bridge Construction Records and Procedures Manual, Standard Test Methods, Manual of Traffic Controls for Construction

and Maintenance Work Zones, and State of California contract law); and provisions as listed in this Contract.

vii. Generating and analyzing CPM schedules with respect to time, resource and cost pertaining to construction claims analysis. The personnel shall possess the experience and skills to conduct detailed schedule analysis.

viii. Analyzing TIA, perform TIA and write narrative.

ix. Analyze CPM schedules and Time Impact Analyses for Construction Project contract compliance, acceptance, and relevant entitlement. Conduct independent TIA generation and evaluation when appropriate. Understanding of CPM construction scheduling.

x. Understanding of Caltrans Progress Schedule Specifications.

xi. Familiar with various scheduling and schedule comparison software.

xii. Self-motivated and adaptable.

xiii. Possess good computer, verbal and written communication, analytical, and organizational skills.

xiv. Possess construction field experience and knowledge of construction method and production rates on typical Caltrans projects.

xv. Ability to understand and utilize the project plans and specifications to determine the merit of schedule related issues.

xvi. Ability to act independently in carrying out all duties assigned.

2. Consultant Construction Scheduling Support Analyst

a. The Consultant Construction Scheduling Support Analyst shall meet one of the following minimum qualifications (Either I, or II, or III 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 in lieu of the first division of the examination as an engineer may be substituted for the required education. A documented minimum five (5) years of demonstrated experience acceptable to Caltrans in construction scheduling.

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 ABET. A documented

minimum five (5) years of demonstrated experience acceptable to Caltrans in Construction Scheduling.

OR

III) A documented minimum ten (10) years of demonstrated experience acceptable to Caltrans in Construction Scheduling.

b. The Consultant Construction Scheduling Support Analyst shall be knowledgeable and experienced in the following:

i. Preparing reports, plots, exhibits, and other presentation materials and items related to scheduling.

ii. Expertise in usage of CPM software, with Primavera Project Planner ("P3," "P6"), SureTrak, or any updated version, as a minimum; Scheduler Analyzer Pro; Microsoft Project; and Microsoft Office (Word, Excel, PowerPoint, and others) software. The Consultant shall have access to use additional industry standard CPM software, used by the contractors.

iii. Principles of effective communication verbal and written.

iv. General knowledge of construction process, terminology and timelines, contract document CPM schedule requirements, and working knowledge of Caltrans's construction process and filing system.

v. Knowledge of Caltrans's timeline for claims resolution.

vi. Working knowledge of Caltrans's plans, specifications, and manuals (including, but not limited to, Standard Plans, Standard Specifications, Construction Manual, Bridge Construction Records and Procedures Manual, Standard Test Methods, Manual of Traffic Controls for Construction and Maintenance Work Zones, and State of California contract law); and provisions as listed in this Contract.

vii. Generating and analyzing CPM schedules with respect to time, resource and cost pertaining to construction claims analysis. The personnel shall possess the experience and skills to conduct detailed schedule analysis.

viii. Analyze CPM schedules and Time Impact Analyses CPM Schedule for Construction Project contract compliance, acceptance, and relevant entitlement. Conduct independent TIA generation and evaluation when appropriate.

ix. Self-motivated and adaptable.

x. Possess good computer, analytical, and organizational skills.

xi. Possess construction field experience and knowledge of construction method and production rates on typical Caltrans projects.

xii. Ability to understand and utilize the project plans and specifications to determine the merit of schedule related issues.

xiii. Ability to act independently in carrying out all duties assigned.

E. Construction Scheduling Support Consultant Construction Scheduling Support Deliverables

1. All Construction Scheduling Support Consultant Construction Scheduling Support analytical results, estimates, notes, calculations, analysis, reports, graphics, drawings, visual simulations, studies, product, data, details, deliverables, backup documents, other documents, and other items required by this Contract performed on computer or hardcopy shall be delivered to Caltrans.

Attachment H – Roadway Construction Management – Consultant Resident Engineer

SCOPE OF WORK/DELIVERABLES ROADWAY CONSTRUCTION MANAGEMENT – CONSULTANT RESIDENT ENGINEER

For Caltrans, Division of Construction, District 4

On-Call Contract

A. General – Roadway Construction Management Services

1. Purpose of Work

   Under the direction of the Caltrans Area Senior Construction Engineer, referenced here below as the Caltrans Responsible Charge Construction Engineer ("CRCCE"), the Consultant Resident Engineer will be in charge of and perform a wide variety of difficult and complex transportation engineering work. The Consultant Resident Engineer shall perform professional and technical services required for the administration of the Roadway Construction Contract executed between Caltrans and the Prime Construction Contractor, construction management in addition to other scope identified in Attachment 1, Roadway Construction Services base template, on an "as-needed" basis to support Caltrans, Division Construction, District 4, in the construction of proposed Caltrans transportation facilities. The Consultant will provide construction management Consultant Resident Engineer services including other scope identified in Attachment 1, Roadway Construction Services base template, utility coordination, and monitoring compliance with Construction Project contract plans and specifications for the Construction Project contract. The Consultant Resident Engineer shall provide all scheduling and administration services for construction management undertaken by internal and outside entities in connection with the project (see Attachment E), as well as the monitoring and implementation of all permits, utility relocations, and agreement provisions that may be associated with the Construction Project contract.

2. Role of Caltrans Responsible Charge Construction Engineer ("CRCCE")

   Under Federal-aid regulations and state policy, the primary responsibility for general supervision of construction must remain with the CRCCE who shall be a full time Caltrans Senior Transportation Engineer. The CRCCE must be a registered civil engineer, must be knowledgeable of the project's progress, and assure that the work is performed in accordance with the approved Construction Project contract plans and specifications. The CRCCE will review and assure that all Construction Project contract files are available and stored in Falcon Document Management System ("DMS") with any and all project

documentation and backup records (e.g., over-time, progress payments, project records, field reviews, Disadvantaged Business Enterprise / Disabled Veteran Business Enterprise ("DBE / DVBE"), extra work, and other work products that require CRCCE approvals as required by the Construction Project contract).

3. Explanation of Work
   a) Consultant personnel must be familiar with the terms of the Construction Project contract and may be assigned to the Construction Project as the Consultant Resident Engineer. The Consultant Resident Engineer, utilizing the Consultant Inspectors, shall provide quality assurance while monitoring the performance of the Prime Construction Contractor and coordinate with its inspectors to determine appropriate priorities for sampling, testing, and inspection of work quality based on the Prime Construction Contractor-proposed order of work for the shift. The Consultant will administer the Construction contract, which includes the following areas:
      i. Inspection, testing, and documenting the contractor's compliance with Construction Project contract requirements.
      ii. Assisting the CRCCE in administering the timely and accurate Construction Project contract payments
   b) All major decisions and actions that require Caltrans' approval or authority that binds the Prime Construction Contractor with Caltrans, the Consultant Resident Engineer shall get written approval and general direction from the CRCCE, when administrating the Construction Project contract for all assigned Construction Projects. The Consultant Resident Engineer must follow the authority of:
      i. The State Contract Act
      ii. Section 5-1.03, "Engineer's Authority," of the Standard Specifications
      iii. The Caltrans Construction Manual
      iv. Any other applicable administrative instructions from the CRCCE
4. Exclusion of Work

   The following activities will be performed by Caltrans' staff or its other consultants and are excluded from this Contract. The Consultant must include the excluded activities in the project schedule to be submitted to Caltrans for approval. The Consultant further agrees to provide the necessary information in a timely manner to facilitate the successful completion of the excluded tasks listed below:

   a) All major decision-making tasks in administering the Construction Project contract are excluded; however, the Consultant Resident Engineer shall provide technical and administrative supporting documents to the CRCCE for final approval. See the Project Action Responsibility Matrix below.

b) All Bridge Structure Construction inspections work

c) See Attachment 1, Roadway Construction Services base template, for additional exclusions of work.

B. Required Services – Consultant Roadway Construction Management – Consultant Resident Engineer

1. General Services

a) The Consultant Resident Engineer will perform the duties with a team of inspectors, materials testers, consultants, and office personnel. These duties change through the course of the job while giving instructions to Prime Construction Contractors as the Prime Construction Contractor works on many tasks and completes many items of work on a Construction project. These construction activities are covered by complex specifications, and the Consultant must interpret and enforce the State's requirements to assure compliance with the Construction Project contract.

b) The Consultant Resident Engineer has a primary role of administering the Construction Project contract and, when required, obtaining approval from the CRCCE. The assistant resident engineer (Inspector) has a primary role of field inspection of the Prime Construction Contractor's quality of work (See SOW – Attachment A through G). The Consultant Resident Engineer coordinates with Inspectors to determine appropriate priorities for testing and inspection of work quality based on the Prime Construction Contractor-proposed order of work for the shift. The Consultant shall utilize the appropriate Caltrans Construction Engineering Management ("CEM") form to memorialize and document all Prime Construction Contractor work.

2. Attainment of Caltrans Construction Management (CRCCE) Approval

a) The Consultant Resident Engineer shall work closely with Caltrans Construction management and receive all applicable approvals from the CRCCE, when administering the Construction Project contract between Caltrans and the Prime Construction Contractor.

b) Any correspondence letters that order suspension of the Prime Construction Contractor work must include references to applicable sections of the specifications and, if possible, state the conditions under which work may be resumed. Such action is taken only after careful consideration of all aspects of the problem and shall be approved by the CRCCE.

c) In the absence of a Caltrans policy on a specific Construction Project problem, the Consultant Resident Engineer shall seek guidance from the CRCCE and authority of the CRCCE will prevail.

d) The Consultant Resident Engineer shall hold short staff meetings each workweek with the CRCCE to brief Caltrans Construction management on the planned operations, announce any changes or new assignments of

responsibility, and discuss any other subjects deemed pertinent. The Consultant Resident Engineer shall always promptly send one copy of the daily report to the CRCCE for review.

e) The Caltrans Task Order Manager shall obtain approval from the Federal Highway Administration's construction program manager before the Consultant Resident Engineer can start work on any federally funded project.

3. Safety and Traffic

a) The Consultant Resident Engineer has the responsibility and authority for administering the traffic control plan and all other aspects of safety on Construction Projects and confirms that the Prime Construction Contractor's activities are compatible with the TMP that affects the Construction Project.

b) The Consultant Resident Engineer may coordinate with the Caltrans District's construction safety coordinator ("CSC"), who acts as a technical advisor to construction field personnel.

c) The Consultant Resident Engineer shall assure that the Prime Construction Contractor is responsible for providing for public safety, and a safe access to Caltrans employees.

d) The Consultant Resident Engineer shall periodically monitor the Prime Construction Contractor's construction safety program for compliance with Safety Audits and all State and Federal laws, policies, and procedures.

e) The Consultant Resident Engineer shall verify that the Prime Construction Contractor complies with all aspects of the Construction Project contract, including applicable safety orders found in the California Code of Regulations Title 8 "Industrial Relations," and of any imminent and serious hazards.

f) When an imminent hazard is found or the Prime Construction Contractor permits repeated occurrences of a hazardous condition, the Resident Engineer whenever it is necessary to suspend a Prime Construction Contractor's operation, notify the Caltrans District's construction safety coordinator, CRCCE, and the construction engineer of the hazardous condition and the actions taken.

g) The Consultant Resident Engineer shall be familiar with Section 124 of the California Streets and Highways Code AND shall coordinate and obtain approval from the CRCCE to close or restrict the use of any state highway whenever it considers such actions necessary for the following reasons.

i. To protect the public.

ii. To protect the highway during construction, improvement, or maintenance operations.

iii. To protect the highway from damage during storms.

h) The Consultant Resident Engineer shall review and approve the Prime Construction Contractor's construction contingency plan, to identify alternative or additional equipment, materials, or workers necessary to allow continuing activities and timely reopening of closures if a problem occurs.

i) The Consultant Resident Engineer shall be familiar with detailed reporting guidelines, referenced in Chapter 19, "Special Reporting of Serious Injury, Illness, or Fatality," of the Caltrans Safety and Health Manual, for reporting of major incidents and accidents on construction projects.

j) The Consultant shall complete a project safety review report every week and file it in Category 6, "Safety," of the project records using Form CEM-0606, "Construction Safety Checklists," and either Form CEM-4501, "Resident Engineer's Daily Report Asst. Resident Engineer's (Inspectors) Daily Report," or Form CEM-4601, "Assistant Resident Engineer's (Inspectors) Daily Report," to support the project safety review report.

k) The Consultant Resident Engineer shall maintain awareness of safety and health requirements including but not limited to: familiarity with the Caltrans Injury Illness and Prevention Plan ("IIPP") and development of Construction Project specific Code of Safe Practices ("COSP"); assigning a project safety representative; be knowledgeable about federal and state safety requirements and regulations associated with the type of work being performed; be responsible for completing and/or reviewing project safety reviews; administer the project's Construction Zone Enhanced Enforcement Program ("COZEEP") and budget; be knowledgeable and familiar with Caltrans' work zone safety strategies and policies, for example, use of COZEEP and positive protection requirements.

4. Construction Project Details

a) The Consultant Resident Engineer must thoroughly study the assigned Construction Project, becoming familiar with all its facets.

b) The Consultant Resident Engineer must analyze the plans, estimates, and preliminary quantity calculations and determine if the estimated quantities cover all work items contemplated.

c) The Consultant Resident Engineer must also thoroughly study the requirements of environmental commitments and permits, including pollution and erosion control plans.

d) The Consultant must verify that the performance of assigned work complies with the requirements of the plans, Standard Specifications, and special provisions and must maintain complete and accurate project records.

e) Identifying actual and potential problems associated with the Construction Project work and recommending sound engineering solutions in a timely manner.

f) The Consultant Resident Engineer must work with the Inspectors to review and approve the shoring plans.

g) The Consultant Resident Engineer shall review and monitor the Prime Construction Contractor's schedule (including notifying all stakeholders of any deviations) through weekly meetings and prepare daily inspection records, weekly status reports, and correspondence related to project activities. Provide construction engineering updates to CRCCE.

h) The Consultant Resident Engineer shall provide time impact analyses ("TIAs") of the project schedule and provide recommendations associated with the review or provision of TIAs.

i) The Consultant personnel shall maintain good lines of communication with the Prime Construction Contractor when discovering, discussing potential problems, and recommending sound engineering solutions in a timely manner during all phases of construction.

5. As-built Information

a) The Consultant Resident Engineer will coordinate with the various Inspectors to fulfill the as-built plans. See Attachment A – Roadway Construction Inspection and Office Engineer, Section B – Required Services – the Consultant Roadway Construction Inspection and Office Engineer Required Services, sub-section "5 – As-built information" to compile the as-built drawings.

b) Caltrans requires accurate and timely as-built plans for all District-prepared plan sheets to the District Construction Closeout Coordinator. The Consultant Resident Engineer should target submission of the As-builts within thirty (30) days of contract acceptance, but no later than ninety (90) days after contract acceptance. See Section 5-104D "As-Built Plans" of the Construction Manual and Chapter 15, Section 3 "Project Completion" of the Project Development Procedures Manual.

6. Construction Contract Administration

a) Before the start of construction, the Consultant Resident Engineer should conduct a Preconstruction Conference review of the job with the various Caltrans functional unit personnel.

b) Before the start of construction, the Consultant Resident Engineer should conduct a Preconstruction Conference with the Prime Construction Contractor to review the job.

c) The Consultant Resident Engineer's duties include keeping accurate and complete records of the construction work performed. The Consultant Resident Engineer shall obtain all forms used in administering a Construction Project and maintain records in accordance with instructions contained in Caltrans manuals.

d) The Consultant Resident Engineer shall make every effort possible to reach an agreement with the Prime Construction Contractor and avoid any delays and time for protest.

e) If the Consultant Resident Engineer discovers any major discrepancies, the engineer must take appropriate action and notify the CRCCE.

f) The Consultant Resident Engineer will assist Caltrans to complete Construction Projects within the planned scope, allotted time, and projected budget including project allotment and contingency funds for unforeseen expenses or unknown factors encountered during construction.

g) The Consultant Resident Engineer must track project expenditures, forecast future costs, determine the need for additional funds, and immediately notify the CRCCE of any apparent funding shortfalls.

h) The Consultant Resident Engineer must not allow Construction Project work to proceed that would require the encumbrance of additional funds before those funds have been approved and added to the Construction Project contract allotment.

i) When the Consultant Resident Engineer determines that additional funds are needed, the Consultant Resident Engineer must consult with the CRCCE and discuss additional funds and potential alternatives to complete the project within budget.

j) If it becomes apparent at any time that the probable unobligated balance of funds, with regard to work remaining, is not sufficient to complete the Construction Project, the Consultant Resident Engineer must bring the situation to the attention of the assigned CRCCE.

k) The Prime Construction Contractor may submit notice of the dispute using the three-part Potential Claim Record process to dispute on a disagreement between the Prime Construction Contractor and Caltrans over the interpretation of plans, specifications, bid proposals, material handouts, other documents, ask for a time extension, or to protest the Resident Engineer's decision. The Consultant Resident Engineer shall respond to the request within the specified time and shall acknowledge receipt of the dispute and begin the process of analyzing and resolving said claim, AND try to avoid a contract dispute

l) The Consultant Resident Engineer shall partner with the Prime Construction Contractor within the confines of the Construction Project contract, maintain a professional and respectful relationship through the completion of the construction project, minimize the number and size of disputes and claims with the timely resolution of any dispute(s).

m) The Consultant Resident Engineer shall review the Prime Construction Contractor's written potential claim record when the Prime Construction Contractor believes additional compensation is due in accordance with Section 5-1.43, "Potential Claims and Dispute Resolution," of the Standard

Specifications and follow the potential claim record process when protested issues and disputes are not resolved.

n) The Consultant Resident Engineer shall facilitate the Dispute Resolution Board Progress Meetings.

o) The Consultant Resident Engineer shall follow Section 9-1.04, “Force Account,” of the Standard Specifications that specifies the force account method of payment used to determine payment for extra work, consisting of adding specified markups to the actual cost of labor, equipment, and material used to perform the extra work.

p) The Consultant Resident Engineers must transmit to the district construction office the documents and information required to prepare progress payment vouchers. The Consultant shall follow Section 9-1.16, “Progress Payments,” of the Standard Specifications to make an estimate of work completed each month.

q) The Consultant Resident Engineer shall be available to provide support to Caltrans Legal Division in all Construction Project contract arbitration(s).

r) When the Prime Construction Contractor submits a request for information, in accordance with Section 5-1.42, “Requests for Information” of the Standard Specifications, the Consultant Resident Engineer shall exercise every effort to provide a complete response to the Prime Construction Contractor’s request and respond to requests for information within the time specified. See Attachment D “Construction Claims Support” and Section 3-521, “Requests for Information and Potential Claim Records,” of the Construction Manual.

s) The Consultant Resident Engineer shall facilitate the final Inspection and Contract Acceptance in accordance with Section 5-1.46, “Final Inspection and Contract Acceptance,” of the Standard Specifications.

t) The Consultant Resident Engineer shall follow Section 5 – “Change Order and Extra Work services” of the Base SOW and the Caltrans Construction Manual for all Change Order and Extra Work.

7. General Provisions

a) The Consultant Resident Engineer shall verify that the Prime Construction Contractor provides quality control over the execution of the Construction Project, and the Prime Construction Contractor performs the actions necessary to assess and adjust production and construction processes to control the level of quality produced in the end product or facility and fulfill specified requirements.

b) The Consultant Resident Engineer must monitor issues that may affect the progress of the work and may result in an excusable or critical delay. All possible efforts shall be made to avoid or mitigate the effects of delays, and the Consultant Resident Engineer must initiate action to avoid delays.

c) Termination of control may occur only when a Prime Construction Contractor fails to supply an adequate work force, fails to supply material of proper quality, fails to make proper and timely payments to subcontractors, or fails in any other respect to perform the work with the diligence and force specified by the Construction Project contract. If the Consultant Resident Engineer suspects termination of control may be necessary, the Consultant Resident Engineer must immediately notify the CRCCE and Caltrans Construction Manager.

d) Termination of Construction Project contracts is rare. The Caltrans Division of Construction must be notified to assure that all necessary steps are taken in handling Construction Project contracts terminated for the best interests of Caltrans. To assure special handling of these types of terminated contracts, the Consultant Resident Engineer shall identify all communication between the Consultant and Caltrans related to them with the words “Convenience Termination” under the job’s file reference and copy the CRCCE.

e) The Consultant Resident Engineer will utilize accurate weighing and measuring through inspection, and forward all measurement and payment of bid items, work, and change order work, partial payments, and payment for Prime Construction Contractor to the CRCCE for approval after Construction Project contract acceptance.

f) The Consultant Resident Engineer shall develop and recommend construction management staffing plan and project management plans for the construction and completion of capital improvement projects in accordance with Construction Project plans and specifications for Caltrans Contract Manager approval.

8. Environmental Stewardship – General

a) The Consultant Resident Engineer will review the Environmental Commitments Record (“ECR”) with the Caltrans environmental construction liaison or Caltrans District Environmental Unit or the Architecture and the Engineering (“A&E”) Environmental consultant during the preconstruction meeting with Caltrans personnel before meeting with the Prime Construction contractor to assist with discussing the requirements at the preconstruction meeting. The Consultant Resident Engineer shall monitor the progress of all construction-related environmental commitments on an ongoing basis throughout the life of the Construction Project contract and verify their implementation.

b) Commitments completed during construction should follow and monitor the ECR for all relevant environmental compliance information and Permits, Licenses, Agreements, and Certifications (“PLAC”) requirements; basic project information, including each environmental commitment, person, or unit responsible for commitment completion; timing and manner of

implementation; location; and a commitment reference document and other commitment requirements. The ECR is part of the Resident Engineer's pending file and is necessary to oversee and track the project environmental commitments and shall also be used to prepare the Certificate of Environmental Compliance ("CEC") during Construction Project contract acceptance.

c) The Consultant Resident Engineer must verify implementation and enforcement of all environmental mitigation measures included in the Construction Project approval and shall be fully informed of the environmental mitigation measures, commitments, or concerns on Construction Projects that are related to environmental commitments and must review the environmental commitment record and meet with the assigned Caltrans environmental staff or the A&E environmental consultant.

d) The Consultant Resident Engineer is responsible for using all available assistance and expertise to understand and meet the commitments listed in the ECR. This assistance may come from the environmental construction liaison, stormwater coordinators, project biologist, or other functional areas in the Caltrans District or region (such as design, cultural resources, hazardous waste, paleontology, hydraulics, or public information office).

e) At the preconstruction meeting, the Consultant Resident Engineer shall confirm and follow up on the permitted disposal of project hazardous waste disposal site(s) and its ability to dispose of the waste.

f) The Consultant Resident Engineer must be familiar with the recording, reporting requirements of the Aerial Deposited Lead ("ADL") Agreement AND aware of the requirements of the ADL Agreement, including excavating, placing, stockpiling, transporting, managing, burying soil containing ADL, and coordinating and communicating with the district ADL coordinator before, during, and after construction.

g) The Consultant Resident Engineer is responsible for memorializing on the as-built plans the locations where ADL was buried.

9. Environmental Stewardship – Water Pollution Control

a) The Consultant Resident Engineer shall verify that the Prime Construction Contractor's plan to control water pollution has been approved and implemented before beginning work. Refer to Section 13, "Water Pollution Control," of the Standard Specifications.

b) Conduct a preconstruction meeting with the Prime Construction Contractor to discuss all required stormwater measures and requirements. Depending on the Construction Project's size and complexity, this preconstruction meeting may be used exclusively for discussing water pollution prevention or the topic may be included in a general preconstruction meeting.

c) Assure that the construction of any special items for erosion control complies with the Construction Project contract. This review must include

items on the Prime Construction Contractor's approved plan for controlling water pollution.

d) During the course of construction work, the Consultant Resident Engineer will verify that the Prime Construction Contractor conforms to the water pollution control plan in handling any water discharged from subsurface drains.

e) During the course of work, the Consultant Resident Engineer must maintain a copy of the authorized Stormwater Pollution Prevention Plan ("SWPPP") or Water Pollution Control Program ("WPCP") on the Construction Project site and assure inspection the Prime Construction Contractor's operations for compliance with the specifications and the authorized SWPPP or WPCP, including deployment of best management practices measures.

f) If the situation constitutes noncompliance with the permit, the Consultant Resident Engineer must conduct a verification inspection, and if a noncompliance condition exists, a noncompliance report shall be submitted to the District construction stormwater coordinator, District NPDES stormwater coordinator and must require the Prime Construction Contractor to amend the WPCP or the SWPPP, if necessary, and to employ additional BMP measures.

g) The Consultant Resident Engineer must review the Prime Construction Contractor's proposed revised WPCP or SWPPP amendment for completeness and conformance with the revised conditions and give written authorization to the contractor if the amendments are acceptable. The authorized revised SWPPP must be uploaded into Storm Water Multiple Application and Report Tracking System ("SMARTS").

h) The Consultant Resident Engineer shall evaluate selection, installation, and maintenance of Best Management Practices ("BMP"); review and/or perform SWPPP inspections and document corrective actions; and perform inspections and create documentation to support preparation of the Notice of Termination ("NOT") package. In addition, the Consultant shall conduct storm water monitoring to comply with fulfilling all permit obligations, and other activities as deemed appropriate; and prepare and/or assure preparation of documents such as reports for Caltrans, Regional Water Quality Control Board(s) ("RWQCB"), and other agencies as appropriate. Provide construction engineering updates to CRCCE.

10. Employment and Labor Compliance

a) State and federal laws require construction contractors working on public works contracts to pay prevailing wages to their employees. Prevailing wages are predetermined hourly rates for each craft that are set by both the California Department of Industrial Relations and the U.S. Department of Labor.

b) The Consultant Resident Engineer's duties regarding California Labor Code requirements and the U.S. Fair Labor Standards Act, shall follow Chapter 8 - "Employment Practices," of the Caltrans Construction Manual.

c) Although the Caltrans District labor compliance office administers labor compliance policy and procedures in the enforcement of the labor requirements in the Construction Project contract, at the Construction project level, the Consultant Resident Engineer must have adequate working knowledge of the Construction Project contract labor requirements.

d) The Consultant Resident Engineer may assist in resolving minor issues, such as clerical errors or inadvertent acts, at the project level. However, if the issue(s) are not resolved in a timely manner, the Consultant Resident Engineer is responsible to bring labor compliance issues to the attention of the Prime Construction Contractor and the Caltrans District labor compliance office immediately upon detection.

e) The Consultant Resident Engineer Project responsibilities includes ensuring that labor compliance, equal employment opportunity ("EEO"), and DBE or DVBE requirements are discussed at the preconstruction conference and request that district labor compliance staff attend and communicate these topics.

f) The Consultant Resident Engineer shall forward all labor compliance, EEO, DBE, and DVBE documents submitted by the Prime Construction Contractor or any subcontractor to the Caltrans District labor compliance office and refer all employee complaints regarding EEO or wage underpayments to the Caltrans District labor compliance office and verify that required posters are properly displayed at the job site.

g) The Consultant Resident Engineer shall assure documentation of the presence of Prime Construction Contractor employees and owner-operators at the job site on the Inspector's daily report.

h) The Consultant Resident Engineer is responsible for tracking the apprentices used on the Construction Project contract and recording that information in daily reports. Caltrans District labor compliance staff will verify that apprentice classifications are correctly identified on certified payroll records and that the type of work and ratio of apprentices to journeyman meet the requirements of the apprenticeship agreement on file with the Division of Apprenticeship Standards.

11. Public Relations and Communications

a) Consultant personnel should at all times conduct themselves professionally, expresses oneself clearly in all forms of communication, give feedback, be receptive to feedback received and understand that listening is essential.

b) The Consultant Resident Engineer shall hold short Construction Project meetings each workweek to brief assistant Resident Engineers (Inspectors)

on planned operations, announce any changes, and discuss any other subjects deemed pertinent.

c) The Consultant Resident Engineer and their Inspectors shall take a clear position when communicating with the Prime Construction Contractor and the Prime Construction Contractor's personnel, as such start on a basis of administering the Construction Project contract firmly in accordance with the plans and specifications. The Consultant Resident Engineer shall promote good relations with the Prime Construction Contractor's personnel.

d) The Consultant Resident Engineer should make early personal contact and establish a good working relationship with the staff of affected utility companies and other agencies.

e) In coordination and with consent of the CRCCE, the Consultant Resident Engineer shall display good public relations and exercise courteously when dealing with the people living or working near the project who are most affected by construction operations. The Consultant Resident Engineer shall exercise courteously by listening and addressing questions and concerns in good faith with the general public or individuals.

f) Through close communication and under the direction of the Caltrans Contract Manager, Consultant lead staff shall address public inquiries and construction related impacts as they affect the project's stakeholders, traveling public and surrounding residential and business community.

12. Utility Coordination

a) The Consultant Resident Engineer shall review all documents for the utility relocation work, including the "notice to owner" forms, encroachment permits, special provisions, contract plans, and correspondence about utilities not shown on the plans.

b) The Consultant shall provide proactive on-site coordination with utility companies for the scheduling and execution of utility relocations, which must occur before, during, or after the construction effort. In addition, the Consultant Resident Engineer shall coordinate plan approval, installation, and testing services with the utility owners and contractors, as needed. The Consultant Resident Engineer shall provide construction engineering updates to the CRCCE.

c) The Consultant Resident Engineer shall coordinate closely with and provide adequate notice to adjacent property owners and businesses to assure contractual access requirements are being met, right-of-way agreements are complied with, and stakeholder concerns are being addressed and provide construction engineering updates to CRCCE.

d) The Consultant Resident Engineer shall coordinate with the Caltrans District utility coordinator and get advice on when utility relocation work warrants full-time inspection and maintain records of utility relocation work on Form CEM-4601, and report in Inspectors Daily Report.

e) In cases where the discovery of an underground facility not indicated on the plans or in the special provisions, the Consultant Resident Engineer shall document written notification from the contractor, document the location of the underground facility, and include this documentation in a written confirmation sent to the Prime Construction contractor.

f) The Consultant Resident Engineer shall notify the Caltrans District utility coordinator immediately in cases where the utility facility is in conflict with the planned work and follow with written notification. Notification shall include drawings or plan sheets showing the location of the existing facility, the affected work, recommended action, and the estimated date when the conflict will begin to affect the contractor's work activities and time of completion. The Consultant Resident Engineer shall work with the Caltrans District utility coordinator to administer relocation work necessary with the Prime Construction Contractor to resolve conflicts.

13. Construction Surveys

a) Standard Specifications, Section 5-1.24, "Construction Surveys," requires Caltrans to place stakes and marks necessary to permit satisfactory completion of the construction work. For information on construction surveys, refer to Chapter 12, "Construction Surveys," of the Caltrans Surveys Manual.

b) The Consultant Resident Engineer shall coordinate with Caltrans District Surveys Unit to set the construction marks and stakes when the area is ready and start setting marks and stakes within two (2) business days of receiving the request for construction stakes.

c) Before work begins, the Consultant Resident Engineer will consult with the Caltrans project engineer to confirm that the Construction Project site has not significantly changed since the original survey was performed. If there are changes in the project area terrain that could affect earthwork quantities, the Consultant Resident Engineer shall request that the district Surveys field check the area. Any new data should be added to the existing digital terrain model ("DTM") and communicated with Caltrans District Design to calculate new earthwork quantities based on a revised DTM.

d) The Consultant Resident Engineer shall perform 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." The Consultant Resident Engineer shall perform surveying services using the latest technological equipment, including Global Positioning System ("GPS") and other tools associated with automated machine guidance ("AMG"). The information shall be submitted in digital formats as requested.

e) When applicable, the Consultant Resident Engineer shall inform the district Surveys that the Prime Construction Contractor intends to use AMG.

Resident Engineer will request that a representative from the Caltrans District Surveys attend the preconstruction conference, or separate AMG meeting, to discuss at a minimum the following: AMG requirements with the Prime Construction Contractor, contractor's AMG quality-control plan, Global Navigation Satellite Systems ("GNSS") rover along with just-in-time ("JIT") training and Project control verification.

f) During the course of work, the Consultant Resident Engineer shall notify the Prime Construction Contractor of any errors or revisions in the lines and grades and whether a revised DDM file will be provided, or whether Caltrans District Surveys will provide conventional staking for the area involved. Notify Caltrans District Surveys of any changes in construction staking requirements.

g) During the course of work, the Consultant Resident Engineer shall verify that the Prime Construction Contractor is performing quality-control grade checking at the minimum frequency specified in Section 5-1.26, "Grade Quality Control," of the special provisions and ask district Surveys unit to provide additional stakes to assist the Consultant Resident Engineer in performing grade checking where increased accuracy is needed.

14. Construction Project Action Responsibility Matrix

To establish clear lines of responsibility, the following table summarizes the separation of construction inspection and management duties.

Construction Management Duties	**Separation of Duties**		
	Consultant Inspector	**Consultant Resident Engineer**	**CRCCE or Higher**
Perform day to day routine contract administration (exceptions identified below)		X	
Develop and recommend construction management staffing plan		X	
Approve construction management staffing plan			X
Prepare weekly statement of working days		X	
Review and approve baseline monthly CPM schedule updates		X	
Review and concur with baseline and monthly CPM schedule updates			X

Construction Management Duties	Separation of Duties		
	Consultant Inspector	Consultant Resident Engineer	CRCCE or Higher
Provide change order recommendations	X	X	
Submit and process change orders		X	
Change order approval and payment			X
Manage Request for Information (RFI) Process	X		
Monitor and document claims	X	X	
Perform claim resolution process	X	X	
Final approval of claims resolution			X
Dispute resolution process		X	X
Perform material acceptance sampling & testing	X	X	
Perform project safety reviews and compliance administration	X	X	
Review and authorize quality control plans (Asphalt concrete, PCC, etc.,)		X	
Perform Independent Quality Assurance (IQA)			X
Construction control surveys			X
Construction surveys	X		
Obtain utility agreements and encroachment permits during design phase			X
DVBE/DBE goal administration		X	
Process DVBE/DBE substitutions and terminations		X	
Approve DVBE/DBE substitutions and terminations			X

Construction Management Duties	Separation of Duties		
	Consultant Inspector	Consultant Resident Engineer	CRCCE or Higher
Process Commercial Useful Function (CUF) determination for Caltrans approval		X	
Request and submit progress pay estimates & payments		X	
Sign off on progress pay estimates & payments			X
Oversee public relations activities			X
Seek contract acceptance concurrences from stakeholders		X	
Issue contract final acceptance			X
Request, review, and report lane closures		X	
Address emergencies (roadway crashes, jobsite emergencies, etc.)	X	X	
Communicate with other Caltrans functional units – part of contract administration		X	
Approve changes in consultant's key personnel			X
Schedule and attend progress and project review meetings (including project records review) with RE			X
Administer governmental activities including, but not limited to, Consultant Contract negotiation, Consultant Contract payment, and evaluation of compliance, performance, and quality of services provided by Consultant			X
Assure consultant costs billed are allowable in accordance with the Federal			X

Construction Management Duties	Separation of Duties		
	Consultant Inspector	Consultant Resident Engineer	CRCCE or Higher
cost principles and consistent with the contract terms			
Assure acceptability and progress of the consultant's work			X
Document consultant contract monitoring activities and supporting contract records			X

X – includes this as a primary role of the position.

Support role – includes assisting with the development and administration of, and not having the responsible charge nor the approval authority of said task.

C. Required Services – 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 Construction Staking Package and Control
270.10.10 Construction Staking Package
270.10.20 Project Control for Construction
270.15 Construction Stakes
270.15.30 Final Grade Stakes
270.22 Contract Administration
270.33 Construction Inspection
270.44 Control of Materials
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 permits.
- COMP Compliance to regulations not included in the 401 permits.

- VIO Response to alleged PLAC violation(s) not under 401 permits
- 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.

280.10	PLAC Compliance
280.40	PLAC Violations
280.50	Other Environmental Compliance
280.60	Other Environmental Violations
280.70	Updated Environmental Commitments Record
280.80	Updated PLACs
285	Change Order Administration
285.05	Change Order ("CO") Process
285.10	Functional Support
285.10.10	Staking for Change Order
285.10.15	Other Functional Support
290	Resolve Contract Claims
290.40	Potential Claim Record
290.50	Alternative Dispute Resolution
290.60	Claim Resolution
290.70	Arbitration
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. Consultant Personnel Requirements

1. Consultant Resident Engineer
   a) The Consultant Resident Engineer shall be licensed as a Registered Civil 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 with a minimum of six (6) years' experience leading construction management of roadway or highway projects. The Consultant Resident Engineer shall have performed all functions and responsibilities of a Resident Engineer in administering the Construction Project contracts they have been assigned.
   b) The Consultant Resident Engineer is responsible for reporting to the CRCCE.
   c) The Consultant Resident Engineer shall also have the following experience:
      i. Knowledge and experience in contract administration and construction management services work.
      ii. Knowledge and experience with testing procedures to assure 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.
      iii. Knowledge and experience with maintaining and organizing project files for record tracking and auditing.
      iv. Knowledge and experience with developing, organizing, facilitating, and attending coordination meetings.
      v. Knowledge and experience with implementing and maintaining quality control procedures to manage conflicts, assure product accuracy, and identify critical reviews and milestones.
      vi. Knowledge and experience with all applicable safety measures required.
      vii. Knowledge and experience with invoice requirements for accuracy and completion before requesting Caltrans approval.
      viii. Knowledge and experience with monitoring and maintaining required DBE or DVBE involvement.
      ix. Knowledge and experience in project partnering.
      x. Knowledge and experience with compliance of the provisions in this Contract and all specific Task Order requirements.
      xi. Knowledge, experience, and familiarity with prevailing wage issues and requirements of the State of California.
      xii. Knowledge and experience in reviewing the Critical Path Method ("CPM") schedules and providing expert comments.

xiii. Knowledge and experience with the health and safety of personnel working in a hazardous environment in accordance with all applicable Federal, State, and Local regulations.

Attachment 1A. List of Proposed Projects

EA	PROJECT ID	County	County-Route	Post Mile	Project Description
0G3604	0400000326	ALA	880	30.47/31.61	IMPROVE INTERCHANGE
0J5504	0414000012	ALA	084	17.2/17.2	REPLACE BRIDGE AND REALIGN ROADWAY
04-1K510	0416000256	ALA	084	16.9/16.9	DRAINAGE SYSTEM RESTORATION
04-0P910	0418000025	ALA	680	10.2/10.2	BRIDGE SCOUR MITIGATION
04-0Q280	0418000067	ALA	880	13/14.2	OPERATIONAL IMPROVEMENT TO I-880 AT WHIPPLE & AT INDUSTRIAL PKWY
04-3Q820	0419000266	ALA	580	R7.8/18.8	TO PROVIDE RAIL CONNECTIVITY BETWEEN BART & ALTAMONT COMMUTER
04-0W050	0420000167	ALA	VAR	0/0	INSTALL BEST MANAGEMENT PRACTICES
04-0W200	0420000191	ALA	580	44.5/44.5	BRIDGE HEALTH
04-0W510	0420000253	ALA	580	43.48/43.48	POLYESTER CONCRETE OVERLAY
04-1W710	0421000077	ALA	680	.4/1	INSTALL DRAINAGE INLETS AND GUARDRAIL TO REDUCE WET COLLISIONS.
04-3W200	0421000325	ALA	580	R32.132/45.76	UPGRADE MEDIAN CONCRETE BARRIER & INSTALL FREEWAY SAFETY LIGHTING
04-3W290	0421000334	ALA	580	5.926/29.45	REPLACEMENT OF VEHICLE DETECTION SYSTEMS (VDS)
04-3W800	0422000041	ALA	580	14.983/10.693	OVERCROSSING RESURFACING IMPROVEMENTS
3W9104	0422000078	ALA	980	1.2/1.2	DESIGN-BUILD CONTRACT TO REPLACE ELECTRONIC COMPONENTS
04-4W030	0422000102	ALA	238	13.957/16.696	ASHPHALT PAVEMENT MINOR REHABILITATION (CAPM)
04-4W190	0422000122	ALA	880	2.5/31.5	INSTALL FULL TRASH CAPTURE DEVICE IN ALAMEDA COUNTY
04-0Q303	0422000123	ALA	680	10.6/21.9	CONSTRUCT LANDSCAPE IMPROVEMENT ON SOUTHBOUND I-680
04-0Y930	0422000378	ALA	580	R35.19/42.622	INSTALL BEST MANAGEMENT PRACTICES – FULL TRASH CAPTURE DEVICES
04-1Y480	0422000496	ALA	580	.82/34.93	INSTALL BROADBAND CONDUIT AND FIBER AND OTHER INFRASTRUCTURE(S)
04-2Y340	0423000103	ALA	980	1.178/1.178	PROVIDE ADVANCE MITIGATION WETLANDS AND WATERS CREDITS
04-2Y780	0423000158	ALA	260	R1.1/R1.8	POSEY TUBE 33-0106R AND WEBSTER TUBE 33-0106L - VENTILATION UPGRADE
04-3Y730	0423000300	ALA	013	4.94/9.99	UPGRADE RED PAVEMENT MARKER
04-4Y770	0423000446	ALA	880	0/35.797	TRASH CAPTURE PARTNERSHIP PROJ TO MEET SF WATER BOARD
04-0J540	0414000011	CC	024	R5.8/R6.2	STRUCTURE REHABILITATION-BRIDGE HEALTH
04-2K730	0417000016	CC	680	12.6/21.2	PAVEMENT PRESERVATION (CAPM)
04-1Q720	0418000321	CC	004	0/25.46	INSTALL & UPGRADE FIBER OPTIC CABLE, RAMP METERING...
04-1J031	0419000124	CC	004	15.5/18.5	SR4 OPERATIONAL IMPROVEMENTS.
04-0AA81	0419000569	CC	242	0/3.4	CAPM - PAVEMENT PRESERVATION
04-0W090	0420000171	CC	680	R18.7/24.9	MINOR PAVEMENT REHABILITATION
1Q7214	0423000277	CC	680	0/25.46	INSTALL & UPGRADE FIBER OPTIC CABLE,RAMP METERING SYSTEM
04-4J890	0416000023	SCL	082	19.2/26.4	OVERLAY EXISTING AC PAVEMENT, REPAIR FAILED AC, PCC PAVEMENT
04-1K554	0417000234	SCL	101	26/41	CONVERTING HOV LANES TO EXPRESS LANES
04-0Q110	0418000052	SCL	680	M0/M9.9	REHABILITATE PAVEMENT, UPGRADE GUARDRAIL, CONSTRUCT...
04-4Q740	0419000433	SCL	237	R0/11.08	PAVEMENT REHABILITATION, PROVIDE BIKE LANE & IMPROVE INTERSECTION
04-3AC00	0420000126	SCL	009	0/0	UPDATE CURVE WARNING SIGNS
04-0W060	0420000168	SCL	085	0/0	INSTALL BEST MANAGEMENT PRACTICES - FULL TRASH CAPTURE DEVICES
04-4W040	0422000103	SCL	101	.028/T4.455	PAVEMENT RESURFACING
04-4W050	0422000104	SCL	152	R21.908/R35.16	PAVEMENT REHABILITATION AND A POTENTIAL WILDLIFE PASSAGE BRIDGE
04-4W570	0422000167	SCL	101	4.216/R11.363	REPLACE BOX BEAM SIGN STRUCTURES AND INSTALL NEW SIGN PANELS
04-4W580	0422000168	SCL	082	9.841/20.67	REPLACE 93 EXISTING TRAFFIC SIGNAL SYSTEMS (TMS)
04-4W610	0422000171	SCL	082	9.781/26.341	UPGRADE CURB RAMPS AND SIDEWALKS