

**AGREEMENT FOR PROFESSIONAL SERVICES
(Design Professional – Architects, Engineers & Landscape Designers)**

THIS AGREEMENT is made and entered into this ____ day of _____, 2020, by and between the City of Merced, a California Charter Municipal Corporation, whose address of record is 678 West 18th Street, Merced, California 95340, (hereinafter referred to as “City”) and Dokken Engineering, a California Corporation, whose address of record is 110 Blue Ravine Road, Suite 200, Folsom, California 95630, (hereinafter referred to as “Consultant”).

WHEREAS, City is undertaking a project to widen Highway 59 from 16th Street through the Black Rascal Creek Bridges; and,

WHEREAS, Consultant represents that it possesses the professional skills to provide project approval, environmental documents and plans, specifications and estimates in connection with said project.

NOW, THEREFORE, the parties hereto, in consideration of the mutual covenants hereinafter recited, hereby agree as follows:

1. **SCOPE OF SERVICES.** The Consultant shall furnish the following services: Consultant shall provide the services described in Exhibit “A” attached hereto.

No additional services shall be performed by Consultant unless approved in advance in writing by the City, stating the dollar value of the services, the method of payment, and any adjustment in contract time. All such services are to be coordinated with City and the results of the work shall be monitored by the City Engineer or designee. However, the means by which the work is accomplished shall be the sole responsibility of the Consultant.

2. **TIME OF PERFORMANCE.** All of the work outlined in the Scope of Services shall be completed in accordance with the Schedule outlined in Exhibit “B” attached hereto and incorporated herein by reference. By mutual agreement and written addendum to this Agreement, the City and the Consultant may change the requirements in said Schedule.

3. **TERM OF AGREEMENT.** The term of this Agreement shall commence upon the day first above written and end on December 31, 2023.

4. **COMPENSATION.** Payment by the City to the Consultant for actual services rendered under this Agreement shall be made upon presentation of an invoice detailing services performed under the Scope of Services, in accordance with the fee schedule set forth in Exhibit "C" attached hereto and incorporated herein by reference. The Consultant agrees to provide all services required under the Scope of Services in Exhibit "A" within the compensation amount set forth in Exhibit "C". For Consultant's services rendered under this Agreement, City shall pay Consultant the not to exceed sum of Two Million Three Hundred Ninety-Nine Thousand Two Hundred Twenty-Three Dollars and One Cent (\$2,399,223.01).

5. **METHOD OF PAYMENT.** Compensation to Consultant shall be paid by the City after submission by Consultant of an invoice delineating the services performed.

6. **RECORDS.** It is understood and agreed that all plans, studies, specifications, data magnetically or otherwise recorded on computer or computer diskettes, records, files, reports, etc., in possession of the Consultant relating to the matters covered by this Agreement shall be the property of the City, and Consultant hereby agrees to deliver the same to the City upon termination of the Agreement. It is understood and agreed that the documents and other materials including but not limited to those set forth hereinabove, prepared pursuant to this Agreement are prepared specifically for the City and are not necessarily suitable for any future or other use.

7. **CONSULTANT'S BOOKS AND RECORDS.** Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services or expenditures and disbursements charged to the City for a minimum of three (3) years, or for any longer period required by law, from the date of final payment to the Consultant to this Agreement. Any records or documents required to be maintained shall be made available for inspection, audit and/or copying at any time during regular business hours, upon oral or written request of the City.

8. **INDEPENDENT CONTRACTOR.** It is expressly understood that Consultant is an independent contractor and that its employees shall not be employees of or have any contractual relationship with the City. Consultant shall be responsible for the payment of all taxes, workers' compensation insurance and unemployment insurance. Should Consultant desire any insurance protection, the Consultant is to acquire same at its expense.

In the event Consultant or any employee, agent, or subcontractor of Consultant providing services under this Agreement is determined by a court of competent jurisdiction or the California Public Employees Retirement System (PERS) to be eligible for enrollment in PERS as an employee of the City, Consultant shall indemnify, protect, defend, and hold harmless the City for the payment of any employee and/or employer contributions for PERS benefits on behalf of Consultant or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of City.

9. INDEMNITY.

A. Indemnity for Professional Liability. When the law establishes a professional standard of care for Consultant's Services, to the fullest extent permitted by law, Consultant shall indemnify, protect, defend, and hold harmless City and any and all of its officials, employees and agents from and against any and all losses, liabilities, damages, costs, and expenses, including legal counsel's fees and costs but only to the extent the Consultant (and its Subconsultants), are responsible for such damages, liabilities and costs on a comparative basis of fault between the Consultant (and its Subconsultants) and the City in the performance of professional services under this agreement.

B. Indemnity for Other Than Professional Liability. Other than in the performance of professional services and to the full extent permitted by law, Consultant shall indemnify, defend, and hold harmless City, and any and all of its employees, officials and agents from and against any liability (including liability for claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged or threatened, including legal counsel's fees and costs, court costs, defense costs, and expert witness fees), where the same arise out of, are a consequence of, or are in any way attributable to, in whole or in part, the performance of this Agreement by Consultant or by any individual or City for which Consultant is legally liable, including, but not limited to officers, agents, employees, or subcontractors of Consultant.

10. INSURANCE. During the term of this Agreement, Consultant shall maintain in full force and effect at its own cost and expense, the following insurance coverage:

a. **Workers' Compensation Insurance.** Full workers' compensation insurance shall be provided with a limit of at least One Hundred Thousand Dollars (\$100,000) for any one person and as required by law, including Employer's Liability limits of \$1,000,000.00 per accident. The policy shall be endorsed to waive the insurer's subrogation rights against the City.

b. **General Liability.**

- (i) Consultant shall obtain and keep in full force and effect general liability coverage at least as broad as ISO commercial general liability coverage occurrence Form CG 0001.
- (ii) Consultant shall maintain limits of no less than One Million Dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage.
- (iii) The City, its officers, employees, volunteers and agents are to be named as additional insureds under the policy, as respects liability arising out of work or operations performed by or on behalf of the Consultant.
- (iv) The policy shall stipulate that this insurance will operate as primary insurance for work performed by Consultant and its sub-contractors, and that any other insurance or self insurance maintained by City or other named insureds shall be excess and non-contributory.
- (v) Consultant shall maintain its commercial general liability coverage for three (3) years after completion of the work and shall add an additional insured endorsement form acceptable to the City naming the City of Merced, its officers, employees, agents and volunteers for each year thereafter for at least three (3) years after completion of the work. Copies of the annual renewal and additional insured endorsement form shall be sent to the City within thirty (30) days of the annual renewal.

c. Automobile Insurance.

- (i) Consultant shall obtain and keep in full force and effect an automobile policy of at least One Million Dollars (\$1,000,000) per accident for bodily injury and property damage.
- (ii) The City, its officers, employees, volunteers and agents are to be named as additional insureds under the policy, as respects automobiles owned, leased, hired or borrowed by the Consultant.
- (iii) The policy shall stipulate that this insurance will operate as primary insurance for work performed by Consultant and its sub-contractors, and that any other insurance or self insurance maintained by City or other named insureds shall be excess and non-contributory.

d. Professional Liability Insurance. Consultant shall carry professional liability insurance appropriate to Consultant's profession in the minimum amount of One Million Dollars (\$1,000,000). Architects and engineers' coverage is to be endorsed to include contractual liability.

e. Qualifications of Insurer. The insurance shall be provided by an acceptable insurance provider, as determined by City, which satisfies all of the following minimum requirements:

- (i) An insurance carrier admitted to do business in California and maintaining an agent for service of process within this State; and,
- (ii) An insurance carrier with a current A.M. Best Rating of A:VII or better (except for workers' compensation provided through the California State Compensation Fund).

f. Certificate of Insurance. Consultant shall complete and file with the City prior to engaging in any operation or activity set forth in this Agreement, certificates of insurance evidencing coverage as set forth above and which shall provide that no cancellation or expiration by the insurance company will be made during the term of this Agreement, without thirty (30) days written notice to City prior to the effective date of such cancellation—including cancellation for nonpayment of premium. In addition to any other remedies City may have, City

reserves the right to withhold payment if Consultant's insurance policies are not current.

11. **ASSIGNABILITY OF AGREEMENT.** It is understood and agreed that this Agreement contemplates personal performance by the Consultant and is based upon a determination of its unique personal competence and experience and upon its specialized personal knowledge. Assignments of any or all rights, duties or obligations of the Consultant under this Agreement will be permitted only with the express written consent of the City.

12. **TERMINATION FOR CONVENIENCE OF CITY.** The City may terminate this Agreement any time by mailing a notice in writing to Consultant that the Agreement is terminated. Said Agreement shall then be deemed terminated, and no further work shall be performed by Consultant. If the Agreement is so terminated, the Consultant shall be paid for that percentage of the phase of work actually completed, based on a pro rata portion of the compensation for said phase satisfactorily completed at the time the notice of termination is received.

13. **CONFORMANCE TO APPLICABLE LAWS.** Consultant shall comply with its standard of care regarding all applicable Federal, State, and municipal laws, rules and ordinances. No discrimination shall be made by Consultant in the employment of persons to work under this contract because of race, color, national origin, ancestry, disability, sex or religion of such person.

Consultant hereby promises and agrees to comply with all of the provisions of the Federal Immigration and Nationality Act (8 U.S.C.A. 1101 *et seq.*), as amended; and in connection therewith, shall not employ unauthorized aliens as defined therein. Should Consultant so employ such unauthorized aliens for the performance of work and/or services covered by this Agreement, and should any agency or instrumentality of the federal or state government, including the courts, impose sanctions against the City for such use of unauthorized aliens, Consultant hereby agrees to, and shall, reimburse City for the cost of all such sanctions imposed, together with any and all costs, including attorneys' fees, incurred by the City in connection therewith.

14. **WAIVER.** In the event that either City or Consultant shall at any time or times waive any breach of this Agreement by the other, such waiver shall not constitute a waiver of any other or succeeding breach of this Agreement, whether of the same or any other covenant, condition or obligation. Waiver shall not be deemed effective until and unless signed by the waiving party.

15. **INCONSISTENT OR CONFLICTING TERMS IN AGREEMENT AND EXHIBITS.** In the event of any contradiction or inconsistency between any attached document(s) or exhibit(s) incorporated by reference herein and the provisions of the Agreement itself, the terms of the Agreement shall control.

Any exhibit that is attached and incorporated by reference shall be limited to the purposes for which it is attached, as specified in this Agreement. Any contractual terms or conditions contained in such exhibit imposing additional obligations on the City are not binding upon the City unless specifically agreed to in writing, and initialed by the authorized City representative, as to each additional contractual term or condition.

16. **AMBIGUITIES.** This Agreement has been negotiated at arms' length between persons knowledgeable in the matters dealt with herein. Accordingly, any rule of law, including, but not limited to, Section 1654 of the Civil Code of California, or any other statutes, legal decisions, or common-law principles of similar effect, that would require interpretation of any ambiguities in this Agreement against the party that drafted this Agreement is of no application and is hereby expressly waived.

17. **VENUE.** This Agreement and all matters relating to it shall be governed by the laws of the State of California and any action brought relating to this agreement shall be held exclusively in a state court in the County of Merced.

18. **AMENDMENT.** This Agreement shall not be amended, modified, or otherwise changed unless in writing and signed by both parties hereto.

19. **INTEGRATION.** This Agreement constitutes the entire understanding and agreement of the parties and supersedes all previous and/or contemporaneous understanding or agreement between the parties with respect to all or any part of the subject matter hereof.

20. **AUTHORITY TO EXECUTE.** The person or persons executing this Agreement on behalf of the parties hereto warrants and represents that he/she/they has/have the authority to execute this Agreement on behalf of their entity and has/have the authority to bind their party to the performance of its obligations hereunder.

21. COUNTERPARTS. This Agreement may be executed in one or more counterparts with each counterpart being deemed an original. No counterpart shall be deemed to be an original or presumed delivered unless and until the counterparts executed by the other parties hereto are in the physical possession of the party or parties seeking enforcement thereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first above written.



CITY OF MERCED
A California Charter Municipal
Corporation

BY: _____
City Manager

ATTEST:
STEVE CARRIGAN, CITY CLERK

BY: _____
Assistant/Deputy City Clerk

APPROVED AS TO FORM:

BY:  
City Attorney Date

ACCOUNT DATA:

BY: _____
Verified by Finance Officer

CONSULTANT
DOKKEN ENGINEERING,
A California Corporation

BY: 
(Signature)

Richard T. Liptak
(Typed Name)

Its: CEO
(Title)

BY: 
(Signature)

Cathy Chan
(Typed Name)

Its: Secretary
(Title)

Taxpayer I.D. No. 68-0099664

ADDRESS: 110 Blue Ravine Rd.
Suite 200
Folsom, CA 95630

TELEPHONE: (916) 858-0642
FAX: (916) 858-0643
E-MAIL: jramos@dokkenengineering.com

SCOPE OF WORK – HIGHWAY 59 PHASE 1 and HIGHWAY 59 BLACK RASCAL BRIDGE PROJECT (COMBINED)

The **Dokken Engineering Team** (CONSULTANT) will perform professional and technical engineering services to prepare a Project Report, Environmental Document, Permitting and Final PS&E Contract Documents for the Highway 59 Phase 1 and Highway 59 Black Rascal Bridge project.

The below Scope of Work assumes the CITY will provide the following services:

- The City has sent out Utility "A" Letters and will provide the as-built responses.
- The City will be responsible for right of way appraisals and acquisition.
- The City will negotiate permanent entitlement rights, construction access rights, right of entries from BNSF and UPRR, agreements and process PUC GO 88 Application.
- The City will pay directly all permit fees.
- The City will waive City permit fees.
- The City will supply contact information for property owners.
- City will provide Value Analysis performed as part of previous project work.
- All construction support, including a Resident Engineer File, will be provided under a separate scope of work.
- No City permit will be required for tree removal.
- All existing utilities needing relocation are within Franchise without a Caltrans Master Agreement.
- The City will provide an orthorectified aerial image.
- No environmental sampling within the BNSF or UPRR right of way is included in the is scope of work.
- The existing two structures for Black Rascal Creek will be replaced with pipe(s) for the southern structure and a bridge for the northern structure.

TASK 1.0 | PROJECT MANAGEMENT

Task 1.1 | General Administration and Coordination

CONSULTANT will designate a Project Manager to oversee all aspects of the project. The CONSULTANT Project Manager will manage the full scope of services and ensure all components of the project meet federal, state and local design and contract requirements. The CONSULTANT Project Manager will coordinate directly with the City Project Manager regarding the project as well as all stakeholders and subconsultants.

Task 1.2 | Project Meetings

CONSULTANT will organize, attend, and facilitate meetings as necessary to provide progress updates, coordinate between technical disciplines, and facilitate overall project communication. For each meeting, CONSULTANT will provide meeting notices, prepare meeting materials and agenda, attend and facilitate the meeting and prepare meeting minutes. CONSULTANT will consult with the City's project manager prior to each meeting to get input regarding the agenda. The following meetings are anticipated for this project:

Kickoff Meeting | At the start of the project, CONSULTANT will organize a kickoff meeting with all key personnel on the project. The purpose of this meeting will be to review the goals and objectives of the project, discuss each team member's roles and responsibilities, identify critical project issues and obtain consensus on task durations, particularly reviews and overall schedule. The kickoff meeting will ensure that everyone on the project team is on the same page regarding project delivery and execution.

EXHIBIT A

PDT Meetings | The project development team (PDT) meetings will serve as the primary forum for reviewing the status of the project and identifying and resolving project issues. Attendees will include CONSULTANT'S Project Manager and task leads as needed, City and Caltrans staff and other stakeholders as necessary.

Technical Coordination Meetings | CONSULTANT will coordinate technical issues with the City, Caltrans and others through meetings and correspondence. CONSULTANT will prepare for and facilitate technical meetings as necessary.

- **Deliverables:** Meeting Notices, Meeting Agendas, and Meeting Minutes

Task 1.3 | Monthly Invoice and Progress Reports

CONSULTANT will prepare monthly invoices of expenditures for the Project. CONSULTANT will prepare progress reports to record the progress of the project and as supporting data for invoices presented monthly to the City. The Progress Report will include accomplished tasks for the month, anticipated progress for the next month, pending issues and schedule completion target dates. CONSULTANT will include the progress reports with delivery of the monthly invoices.

- **Deliverables:** Monthly Invoices and Progress Reports

Task 1.4 | Project Schedule

CONSULTANT will provide a detailed project baseline schedule, indicating milestones, major activities and deliverables, to the City for review and comments, and will update the schedule on a monthly basis, to coincide with the PDT meetings, or as required.

- **Deliverables:** Project Schedule

Task 1.5 | Quality Control

CONSULTANT will have a quality control plan in effect during the entire course of the project and will develop a plan establishing a process to ensure design calculations are independently checked. Exhibits and plans will also be checked, corrected and back checked for accuracy and completeness. CONSULTANT will review subconsultant submittals to ensure that appropriate background information, study methodology, interpretation of data, format and content are completed in accordance with current standards.

- **Deliverables:** Quality Control Plan

Task 1.6 | Public Meetings

CONSULTANT will organize and attend up to three (3) public information meetings with City staff, Caltrans, other and appropriate team members to update the public and interested parties of the Project status and to obtain information from the public. The meetings will be held using the open house format. The format of an open house is informal, allowing attendees to speak directly with City/ CONSULTANT/Caltrans representatives about their thoughts on the Project. One of these public meetings is anticipated to be held during circulation of the environmental document.

CONSULTANT will schedule and make all necessary arrangements for the meeting facilities, issue meeting notices, and prepare all necessary meeting exhibits, handouts and other materials. All distributed materials will be provided in Spanish language and/or bilingual interpretation services will be provided for the meetings. CONSULTANT will provide a summary of the public comments from the meetings and provide a written response for use by the City.

- **Deliverables:** Public meeting notices, exhibits, handouts and other necessary materials, summary and responses to public comments

Task 1.7 | City Council Meetings

CONSULTANT will attend up to three (3) City Council meetings to support City staff in making presentations and updates on the project. CONSULTANT will provide necessary exhibits for use during the meetings and will assist in answering questions, as needed.

Task 1.8 | Funding Assistance

CONSULTANT will assist the City, as necessary, in obtaining additional funding to cover any project improvements not included in the current project funding.

TASK 2.0 | SURVEYING AND RIGHT OF WAY MAPPING

Task 2.1 | Record Research

CONSULTANT will perform record research at Merced County, City and Caltrans to locate recorded control maps, right of way maps, records of survey, corner records, and other official maps of record.

Task 2.2 | Record Calculations

CONSULTANT will calculate record right of way lines and property lines located within the project limits in accordance with record maps, record deeds, and documents as required to calculate field search positions for existing right of way monuments, street survey monuments, and parcel corner monuments.

Task 2.3 | Preliminary Title Reports

CONSULTANT will obtain Preliminary Title Reports for twenty-five (25) parcels affected within the project area. CONSULTANT will review the Preliminary Title Reports for use in preparing the right of way base mapping.

Task 2.4 | Right of Way and Control Field Survey

CONSULTANT will perform a topographic and right of way survey to provide design control and right of way mapping for the project. CONSULTANT will set horizontal and vertical control points for project mapping in accordance with Merced County and the City horizontal and vertical control requirements. All surveying and mapping will follow the provisions of the Professional Land Surveyors Act, Sections 8700 to 8805 Business and Professions Code; the provisions of the California Coordinate System, Sections 8801 to 8819 of the Public Resources Code; and any other applicable code in the State of California. The horizontal datum will be based on the North American Datum 1983 (NAD 83). The vertical datum will be based on the North American Vertical Datum of 1988 (NAVD 88) and closed network bench loops will be run through the control monuments. CONSULTANT will perform a field survey to search and locate existing survey monuments and physical evidence required to establish existing rights of way and property lines at those locations where any portion of the project infringes upon the required setback limits or lies within 50 feet of project improvements, work areas, storage, and staging areas. CONSULTANT will perform calculations for the right of ways based on the found monumentation and lines of occupation located with the field survey.

Task 2.5 | Topographic Survey

CONSULTANT will perform a detailed field survey of the existing roadways, physical improvements, creek and access roads, structures, visible utilities, and drainage features. Cross-sections and tie-in surveys at the conform lines will ensure an accurate design and smooth transitions from existing roadway and infrastructure features. All work and files will be based on project coordinate control in accordance with Merced County and the City requirements for the preparation of documents and maps. Topographic field survey will locate existing site improvements and visible utilities including, but not limited to: buildings, trees, ground shots, railroad, Highway 59, 16th Street, Olive Avenue, Cooper Avenue, North Bear Creek Drive cross-sections, striping, fences, driveways, pavement elevations, guard rails, utilities, irrigation pipelines, ditch & structures, and other miscellaneous visible features. Cross-sections will be taken at 50-foot intervals along each roadway except in areas of vertical curves where cross sections will be taken on 25-foot intervals. Road cross-sections will include cross-sections extending 200-feet beyond the project limits. Existing creek cross-sections will be taken at each side of the bridge crossing and at distances 100-feet, 200-feet, and 400-feet upstream and downstream from the edge of existing structures. Creek cross-sections will extend to 50-feet outside the top of bank. Consultant will coordinate with property owners to gain "right of entry" during the field survey.

A total of eight (8) river cross sections will be taken for utilization in HEC-RAS hydraulic study. Four (4) cross sections will be taken upstream from the bridge, four (4) downstream from the bridge, one (1) being at the upstream edge of the proposed bridge, and one (1) being at the downstream edge of the proposed bridge crossing.

The Survey data will be processed and rendered into a Digital Terrain Model (DTM) and CAD base map. The CAD map shall exhibit 1-foot contours, spot elevations, all pertinent surface features, tree measurements, and utilities.

➤ **Deliverables:** Topographic Mapping

Task 2.6 | Color Orthorectified Aerial Photo

CONSULTANT will incorporate the City provided color orthorectified aerial image recently flown into the topographic mapping base drawing. CONSULTANT will locate and tie into the aerial control utilized for the aerial image for verification and insertion into the drawing.

➤ **Deliverables:** Color Orthorectified Aerial Photo

Task 2.7 | Record of Survey

CONSULTANT will prepare and file a Record of Survey for any new right-of-way required and/or for any other triggers specified in the Professional Land Surveyors Act. Set monumentation for new right-of-way as shown on the Record of Survey.

➤ **Deliverables:** Record of Survey

TASK 3.0 | GEOTECHNICAL STUDIES

Task 3.1 | Geotechnical Design and Materials Report

CONSULTANT will prepare of a Preliminary Geotechnical Design & Materials Report (PGDR) for the roadway work. The PGDR will include the 4-lane highway, soundwall (potential), various signs, lighting, storm water basin, culvert pipes, and check structure at Black Rascal Creek.

Detail scope for preparing this report is as follows:

- **Research and Data Collection:** Review of readily available geologic and soil literature in the vicinity of the site.
- **Visual Pavement Condition Survey:** A visual survey of the existing pavement conditions will be undertaken, and the findings summarized in the PGDR.
- **Permits/USA Clearances:** CONSULTANT will comply with local permit requirements. Borings are assumed to be performed within the Caltrans right-of-way for the proposed widening, which will require Caltrans and City encroachment permits. In addition, City boring permit and California Department of Fish and Wildlife Stream Alteration Agreement will be obtained to complete the proposed investigation. CONSULTANT assume permit fees will be assessed for the Caltrans Encroachment Permit and California Department of Fish and Wildlife Stream Alteration Agreement, however fees for the City permit(s) are assumed to be waved. Discussions with Caltrans District 10 Permits Division indicate that daytime shoulder closure will be required for borings in the shoulder areas, nighttime lane closure for borings within the right-of-way, and nighttime road closure for the borings planned north of Olive Avenue due to the narrow road width at Black Rascal Creek. CONSULTANT will field locate the borings, call for Underground Service Alert (USA), and use GPR for clearance of utilities at boring locations. CONSULTANT also assume that the City will provide access to the undeveloped land where the storm water basin is proposed.
- **Field Exploration:** CONSULTANT plans on performing the borings and for both the roadway widening and creek crossings concurrently. The boring program for the borings associated with the roadway widening is provided in the table below.

Project Element	Number of Explorations	Approximate Depths
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Roadway Pavement and Widening Areas	11 Borings	10 - 15'
Check Structure	2 Borings	15'
Railroad Early Warning Signs	2 Borings ¹	15-20'
Storm Water Basin	1 Boring 2 Backhoe Pits ²	30' up to 15'

Note:

1) Two borings locations to provide information for both roadway and soundwall design.

2) A double ring infiltration test will be performed in each backhoe pit.

- The explorations will provide an evaluation of pavement structural section and subsurface conditions for the proposed roadway portion of the project. The boring and test pit locations will depend upon the available access and any boring data from previous studies. CONSULTANT anticipates using a truck mounted drill rig for our work. The test pits are proposed to be excavated with a backhoe.
- Classify and continuously log subsurface soil conditions encountered in each test boring and test pit at the time of exploration. Obtain "relatively undisturbed" and bulk samples of substrata from test borings. The borings will be drilled and backfilled with soil cuttings (< 5 feet depth) or cement grout (> 5 feet depth) unless directed otherwise and patched with rapid set concrete dyed black if performed in the existing asphalt.
- Laboratory Testing: Perform laboratory tests on representative soil samples such as moisture density, direct shear, gradation analyses, R-value tests, maximum density/optimum moisture, corrosion tests and Plasticity Index test, as necessary. In addition, Full Depth Reclamation with cement (FDR-C) mix design tests including cement treated proctor and unconfined compressive strength will be performed.

Based on engineering evaluation and analysis of the field and laboratory data a PGDR will be prepared. The PGDR will summarize the field and laboratory programs and provide comments and preliminary recommendations to support the Geometric Concept Drawing and will follow Caltrans guidelines. The PGDR will be updated as necessary to produce the final GDR for support of the final design of the roadway. It is anticipated the GDR will include:

- A description of the proposed project, including a site vicinity map showing the location of the project alignment and a site plan showing the approximate locations of the exploration points for this study;
- General description and characteristics of the subsurface materials along the roadway alignment, including boring logs;
- Summary of the visual Pavement Condition Survey;
- A summary of the field exploration and laboratory testing programs;
- Discussion of regional and local geology, including faults and seismicity;
- Comments on use of culverts;
- Comments and recommendations for site preparation and earthwork grading;
- Recommendations for new roadway structural sections including green pavement alternative using FDR-C;
- Recommendations for slope stability (embankment and creek channels);
- Recommendations for pole foundations for signs, lighting, and signals;
- Comments on the general corrosion potential of on-site soils to buried metal and concrete.

The PGDR will be updated as necessary to produce a final GDR for support of the final design of the roadway

Task 3.2 | Bridge Foundation Reports

Following is a task breakdown for the proposed bridge crossings at Black Rascal Creek. The Foundation Report may be subject to Caltrans review and will follow Caltrans format. It is anticipated the bridges may require a type selection meeting with Caltrans.

- **Research and Data Collection:** Review of readily available geologic and soil literature in the vicinity of the site including review of any as-built drawings and existing LOTB.
- **Permits/USA Clearances:** Borings are will be performed within the Caltrans right-of-way at Black Rascal Creek, which will require Caltrans and City encroachment permits. In addition, City of Merced boring permit and California Department of Fish and Wildlife Stream Alteration Agreement will be obtained to complete the proposed investigation. CONSULTANT assumes permit fees will be assessed for the Caltrans Encroachment Permit and California Department of Fish and Wildlife Stream Alteration Agreement, however fees for the City permit(s) are assumed to be waived. Borings will be performed along the shoulders of Highway 59 and through the roadway and existing bridge deck for the proposed creek crossing. Based on discussions with Caltrans the borings in this section will require a detour to close the road due to the narrow width between the metal guard rails at this location. CONSULTANT will field locate the borings and call for Underground Service Alert (USA) and perform GPR scanning for clearance of utilities at boring locations.
- **Field Exploration:** Because of high costs associated with performing field borings CONSULTANT plans on performing the borings for both the project structures at the same time as the borings for the GDR. The boring program for the FR is provided in the table below.

Project Structure	Number of Explorations	Approximate Depths
Black Rascal Creek	4 Auger/Rotary Borings ¹ 1 to 2 Minute Man Auger Borings ²	75' and 85' 15'

Note: 1) Two boring locations will be performed through the existing bridge deck.

2) Borings will be performed on the island area of Black Rascal Creek for the purpose of assessing the upper sediments for placement embankment fill and foundations.

- **Classify and continuously log subsurface soil conditions** encountered in the test borings at the time of drilling. Obtain "relatively undisturbed" and bulk samples of substrata from test borings. The borings will be drilled and backfilled with neat cement grout.
- **Laboratory Testing:** Perform laboratory tests on representative soil samples such as moisture density, direct shear, gradation analyses, corrosion tests and Plasticity Index test, as necessary.
- Allowance has been made to attend two team meetings or conference calls.

Based on engineering evaluation and analysis of the field and laboratory data, a Preliminary Foundation Report (PFR) will be prepared for the bridge structure. The final Foundation Report (FR) will be prepared for the structure once the bridge and foundation geometry and loads have been finalized and all review comments have been received. The report will follow basic Caltrans LRFD guidelines and the current AASHTO Bridge Design Specifications and Caltrans Amendments. The FR will present final comments and recommendations to aid in design of the bridge. It is anticipated that the following specific items will be included in the FR:

- A description of the proposed project;
- Discussion of the field and laboratory testing programs;
- Comments on the regional geology and site engineering seismology, including the potential for liquefaction and seismically induced settlement.
- Recommended peak ground acceleration and ARS curve based on Caltrans Seismic Design Criteria 2.0;

- Recommended parameters for use in design of the selected foundation type. Pile Data Table would be provided for drilled or driven piles Caltrans Standard piles or a Footing Data Table would be provided for spread footings.
- Recommendations for design of laterally loaded piles by the bridge designer, including LPILE profile;
- Recommended gross and net permissible contract stress associated with tolerable settlements and bearing capacity and design footing elevations of spread footing foundations, as appropriate;
- Recommendations for lateral capacity of spread footings (passive pressure and frictional coefficient), as appropriate;
- Comments on soil stiffness and ultimate equivalent lateral pressure for resisting dynamic loading of abutment walls.
- Comments on the corrosion potential of foundation soil.
- Log of Test Boring drawings suitable for inclusion into the contract drawings.

➤ **Deliverables:** Preliminary Foundation Report, 65% Submittal Foundation Reports, 95% Submittal Foundation Reports, Final Foundation Reports

Task 3.3 | Initial Site Assessment

CONSULTANT will perform an Initial Site Assessment (ISA) of the subject site located along the corridor/alignment on California Highway 59 from West 16th Street to south of Black Rascal Creek, Merced, California.

The ISA will be performed in general accordance with:

- The American Society of Testing and Materials (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (Standard E-1527-13),
- Caltrans "Preparation Guidelines for Initial Site Assessment (ISA) Checklist for Hazardous Waste",
- Union Pacific Railroad (UPRR) guidelines; and
- BNSF Railway guidelines.

The purpose of the ISA is to provide City with knowledge of potential or known hazardous wastes, materials, and/or contamination, within or adjacent to the project corridor, that may impact project design, decisions, and provide information on preexisting environmental conditions. Tasks included in the assessment are the Project Screening and ISA Determination.

Project Screening | CONSULTANT will review reasonably ascertainable records that will help identify Recognized Environmental Conditions (RECs) in connection with the Site. These records include federal and state regulatory agency lists of hazardous waste generators, leaking underground storage tanks (USTs), landfills, military reservations, contaminated surface waters, and Superfund sites. These lists, as well as reasonably ascertainable existing documentation as cited below, will be reviewed to assess whether there were prior investigations or events and conditions, or institutional or engineering controls on the property and in the immediate vicinity, relating to spills, discharges, or other activities resulting in contamination or presence of hazardous materials. CONSULTANT will review previously conducted environmental assessments of the subject site (as provided by the City) and standard environmental record sources, which include published lists of regulatory agency investigations and/or enforcement actions, for facilities located near the Site.

CONSULTANT will enhance and supplement the standard environmental record sources with local and/or additional state or tribal records when, in our judgment, such additional records are readily ascertainable, sufficiently useful, accurate, and complete in light of the record review objective, and are generally obtained, pursuant to local good commercial or customary practice, in ISAs in the type of commercial real estate transaction involved.

Sources of such records may include the local department of health/environmental division, fire department, planning department, building permit/inspection department, local regional pollution control agency, local/regional water control agency, and local electric utility company.

Physical Setting Review | The physical setting review is required by the Standard Practice to include a current United States Geological Survey (USGS) 7.5 Minute Topographic Map. The review may also include discretionary physical setting sources, e.g. for geologic and hydrogeologic information. This information may provide insight to the significance of offsite sources of contamination in relation to the Site. When discretionary hydrogeologic information is available and reviewed, where possible CONSULTANT will estimate the regional direction of groundwater flow and discuss how this might affect the potential for identified offsite sources of contamination to impact the Site. Specific sources of physical setting information may include:

- United States Geological Survey reports and maps;
- Information provided by public agencies (e.g., state department of water resources, local flood control district, local or county water agency);
- Information from previous CONSULTANT experience in the area; and
- Information provided by the City (e.g., previous investigation or soils reports).

Historical Land Review | CONSULTANT will research historical information sources to develop a history of general types of previous uses of the Site and surrounding area (e.g., office, retail, residential, industrial, and manufacturing). Obvious uses of the Site will be identified from the present back to the Site's first developed use, or back to 1940, whichever is earlier. The review will include as many standard historical sources as are necessary and both reasonably ascertainable and likely to be useful. For the purpose of this review, "developed use" includes agricultural use and placement of fill dirt. The review will include documentation of gaps in the history of use.

Uses of the area surrounding the Site will be identified only to the extent that this information is revealed in the course of researching the Site itself. The following information sources may be used, as necessary, to research the Site history:

- Aerial photographs;
- USGS topographic maps;
- Fire insurance maps (e.g., The Sanborn Library, LLC Fire Insurance Maps);
- Local street directories;
- Property tax files;
- Recorded land title records;
- Building department records; and
- Zoning/land use records.

Site Reconnaissance | CONSULTANT will perform a reconnaissance of the Site by driving along the project corridor. Where appropriate and safe, CONSULTANT will perform additional Site reconnaissance on foot. It is assumed that no structures are included in the project area and interior observations of structures are not included. CONSULTANT will observe the property and its current use with the unaided eye, and thereby obtain information indicating the likelihood of identifying evidence of RECs in connection of the Site. The Site property located on the Site will be observed to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles. The periphery of the Site will be viewed from all adjacent public thoroughfares. If roads or paths with no apparent outlet are observed on the Site, the use of the road or path will be identified to assess whether it was likely used as an avenue for disposal of hazardous substances or petroleum products. During the site inspection, CONSULTANT will photographically document conditions at the time of the Site visit.

Vicinity Survey | CONSULTANT will perform a reconnaissance of immediately adjoining properties to observe the properties' current use and past use(s) to the extent that past uses are discernible. This survey will be performed to note facilities that have an obvious potential to affect the environmental conditions at the Site. However, these properties may be observed without physical access.

Interviews | CONSULTANT will interview past and present owners and occupants, with the objective of obtaining information indicating RECs in connection with the Site. The interviews should include a "Key Site Manager," a

person with good knowledge of the uses and physical characteristics of the property. The City will be responsible for supplying the contact information, including name and telephone number, of the Key Site Manager. If reasonably possible, CONSULTANT will attempt to interview the Key Site Manager at the time of the Site visit.

CONSULTANT will also make a reasonable attempt to interview at least one staff member of the local fire department that serves the property, the local/regional office of the health agency that serves the area, the local/regional agency having jurisdiction over hazardous waste disposal, or the local/regional agency responsible for the issuance of building permits or groundwater use permits.

Report and ISA Determination | CONSULTANT will provide a final report that will include an evaluation of the information obtained from the ISA. The report will include findings, opinions, and conclusions. The report will include illustrations and pertinent regulatory agency documentation regarding the Site.

The report will also include the ISA Checklist and "Yes or No" Determination from Caltrans Project Development Procedures manual (07/01/99), Appendix DD-Hazardous Waste.

➤ **Deliverables:** Initial Site Assessment

Task 3.4 | Aerially Deposited Lead Survey

CONSULTANT will provide environmental consulting services for the assessment of aerially deposited lead (ADL) survey for the Highway 59 Widening project (Project) between 16th Street and Black Rascal Creek in Merced, California (Site). The ADL study will be conducted along the Project alignment to investigate the potential for ADL in exposed soils that may be disturbed as part of the Project. The scope of work included below assumes that the 2016 "Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils" (ADL Agreement) between Caltrans and the California Department of Toxic Substances Control (DTSC) will be used for the Project. The scope of work presented herein is assumed to include one round of Caltrans involvement in the review/approval of the ADL survey and associated documentation.

Work Plan and Health and Safety Plan Preparation | CONSULTANT will prepare a work plan and health and safety plan for review and approval by the City. The work plan will state the purpose of the ADL investigation, the scope of work, and the proposed methods and procedures for sampling and analysis. CONSULTANT standard sampling protocols will be included in the work plan. The health and safety plan will be included within the work plan and will include information relevant to the Site, and appropriate health and safety procedures to be followed during completion of the field work portion of the investigation.

Field Work and Laboratory Analysis | Prior to soil sampling activities, the soil sampling locations will be marked in white paint and marking flags. CONSULTANT will contact Underground Service Alert (USA) three days prior to conducting field work to notify local utilities of the proposed subsurface work. USA provides a partial location service free of charge for major utility lines. In addition, CONSULTANT will retain a utility-locating contractor to mark potential utilities and subsurface interferences.

Traffic control, consisting of up to three days of shoulder closures, will be utilized in order to safely access each sample location. Field work will be conducted during daylight hours.

Soil sampling borings will be located on the shoulders of Highway 59 within the Caltrans right of way. Boring locations will be spaced at approximately 300-foot intervals along the alignment within the unpaved shoulders (where appropriate), between approximately 4 to 8 feet from the edge of pavement. Soil borings will be advanced in all areas of the proposed widening except for the areas extending approximately 500 feet north and south from Cooper Avenue, which have previously been widened to four lanes. Field activities will include the advancement of up to 22 soil borings to a depth of 2.5 feet, or refusal, whichever occurs first. Borings will be advanced by CONSULTANT personnel or a subcontractor using hand auger drilling equipment. Soil samples will be collected in glass jars at three intervals from each 2.5-foot soil boring: surface to 0.5 feet, 1 to 1.5 feet, and 2 to 2.5 feet.

CONSULTANT anticipates the following analyses will be performed on the soil samples collected as part of this investigation:

- A total of 66 primary soil samples will be submitted for total lead analysis using United States Environmental Protection Agency (USEPA) Method 6010B.

- The 66 primary soil samples will be analyzed for pH using USEPA Method 9045C or the equivalent,
- CONSULTANT will collect field duplicate samples at a rate of 10 percent of the total samples collected (7 duplicate samples). The duplicate samples will be analyzed for total lead and pH, as in the primary samples.
- CONSULTANT will collect one equipment blank samples per day (3 samples). The field blanks will be analyzed for lead and pH.

Soil samples reported to contain total lead concentrations in excess of 50 milligrams per kilogram (mg/kg) will be further analyzed for soluble lead using the California Waste Extraction Test (CA-WET) method, and samples in excess of 100 mg/kg will be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP). At a minimum, the sample with the highest total lead concentration will be analyzed for soluble lead by CA-WET and TCLP. CONSULTANT has assumed for cost estimating purposes that approximately 75 percent of samples (55 samples) will be analyzed for soluble lead using the CA-WET method and 20 percent (15 samples) will be analyzed for soluble lead using the TCLP method.

Additional analysis for soluble lead (CA-WET or TLCP) beyond the quantities listed above will be charged at a unit price of \$120 per sample, and in accordance with CONSULTANT'S current hourly fee schedule for sample handling, laboratory coordination, and results assessment. Costs are not included for analyzing samples using a deionized water Waste Extraction Test (DI-WET). If DI-WET analysis is requested additional charges will be incurred. If DI-WET testing is requested, CONSULTANT will contact the City and discuss costs for additional follow up analysis.

The samples will be analyzed on a standard laboratory turnaround time requiring approximately 5 to 10 working days for completion. Please note that if CA-WET and TCLP analyses are required, an additional 5 to 10 day working days beyond the initial laboratory turnaround will be required to complete those analyses.

Residual soil generated during the soil sampling activities will not be contained but will be placed back into the sample boreholes. Wash water will be disposed on the ground in areas not associated with drainage systems. Disposal of soil cuttings and wash water is not included in the cost estimate.

Data Analysis and Report Preparation | Upon completion of soil sampling, and receipt and review of analytical results, CONSULTANT will tabulate the soil sample analytical data generated during the investigation. The data will be keyed to field locations and represented on Site maps. The report will include:

- A description of field activities, observations, and protocols;
- Tabulated results of the soil sample analysis with copies of certified analytical laboratory results and chain-of-custody documentation;
- Description and documentation of quality assurance/quality control (QA/QC) procedures employed for field and laboratory work;
- A graphical representation of soil sampling locations showing laboratory results;
- Statistical analysis (Pro-UCL) performed on ADL sampling results; and,
- Conclusions and recommendations regarding soil management options based on the data acquired.

➤ **Deliverables:** Aerially Deposited Lead Survey

Task 3.5 | Lead Based Paint and Asbestos Containing Material Surveys

CONSULTANT will perform an asbestos-containing materials (ACM) survey at the two bridges over Black Rascal Creek that will be widened/replaced during the project. Additionally, CONSULTANT will perform a survey of traffic striping materials along Highway 59 project alignment to assess the striping for lead and chromium content. CONSULTANT'S proposed scope of work includes:

Work Plan and Health and Safety Plan Preparation | Preparation of an Asbestos and Traffic Striping Survey Workplan and Site-Specific Health and Safety Plan prior to commencement of field activities.

Field Work and Laboratory Analysis | Perform an ACM survey at the two bridges over Black Rascal Creek. Up to 20 bulk samples will be collected from the bridge structures for analysis by Polarized Light Microscopy (PLM). The ACM survey will be performed by a California Certified Asbestos Consultant (CAC).

Perform a traffic striping survey along the Highway 59 project alignment. Up to 6 samples of yellow and white traffic striping will be collected (i.e., three of each color striping) for analysis of lead content. The 3 samples of yellow traffic striping will also be analyzed for chromium content. The traffic striping survey will be performed by a California Department of Public Health (CDPH) regulations by a CDPH-certified lead inspector/assessor (LIA).

Data Analysis and Report Preparation | Preparation of an Asbestos Survey Report by the CAC/LIA conducting the field surveys, which will include:

- Tabulated results of laboratory analyses for asbestos and total lead.
- Description of locations, conditions, and estimated quantities of identified ACM and lead-containing traffic striping.
- Sample location maps,
- Site and sample location photographs, and
- Copies of laboratory analytical reports.

➤ **Deliverables:** Lead Based Paint and Asbestos Containing Material Survey

Task 3.6 | Soundwall Addition [OPTIONAL]

CONSULTANT will perform additional work for the Geotechnical Design and Materials Report to incorporate testing and recommendations for a soundwall, if required based on environmental analysis and requirements.

Detail scope for preparing this report is as follows:

- Research and Data Collection: Review of readily available geologic and soil literature in the vicinity of the site.
- Permits/USA Clearances: Borings are will be performed within the Caltrans right-of-way of Hwy 59, which will require Caltrans, City of Merced encroachment, and City of Merced boring permits. CONSULTANT assumes permit fees will be assessed for the Caltrans Encroachment Permit, however fees for the City of Merced permit(s) are assumed to be waved. Borings will be performed along the shoulders of Highway 59 and through the roadway. CONSULTANT will field locate the borings and call for Underground Service Alert (USA) and perform GPR scanning for clearance of utilities at boring locations.
- Field Exploration: Because of high costs associated with performing field borings we plan on performing the sound wall borings at the same time as the borings for the GDR. The boring program for the sound wall is provided in the table below.

Project Element	Number of Explorations	Approximate Depths
Soundwall	2 Auger/Rotary Borings	20' and 25'

- Classify and continuously log subsurface soil conditions encountered in the test borings at the time of drilling. Obtain "relatively undisturbed" and bulk samples of substrata from test borings. The borings will be drilled and backfilled with neat cement grout.
- Laboratory Testing: Perform laboratory tests on representative soil samples such as moisture density, direct shear, gradation analyses, corrosion tests and Plasticity Index test, as necessary.

Based on engineering evaluation and analysis of the field and laboratory data, a determination will be made if a separate Foundation Report is required due to the foundation type. Preliminary Foundation Report (PFR) will be prepared for the sound wall structure if appropriate, or else, recommendations will be included in the GDR.

The report will follow basic Caltrans LRFD guidelines and the current AASHTO Bridge Design Specifications and Caltrans Amendments. The FR will present final comments and recommendations to aid in design of the sound wall. It is anticipated that the following specific items will be included in the FR:

- A description of the proposed project;

- Discussion of the field and laboratory testing programs;
- Comments on the regional geology and site engineering seismology, including the potential for liquefaction and seismically induced settlement.
- Recommended peak ground acceleration and ARS curve based on Caltrans Seismic Design Criteria 2.0;
- Recommended parameters for use in design of the selected foundation type. Pile Data Table would be provided for drilled Caltrans Standard piles or a Footing Data Table would be provided for spread footings.
- Recommendations for design of laterally loaded piles by the bridge designer, including LPILE profile;
- Recommended gross and net permissible contact stress associated with tolerable settlements and bearing capacity and design footing elevations of spread footing foundations, as appropriate;
- Recommendations for lateral capacity of spread footings (passive pressure and frictional coefficient), as appropriate;
- Comments on soil stiffness and ultimate equivalent lateral pressure for resisting dynamic loading of abutment walls.
- Comments on the corrosion potential of foundation soil.
- Log of Test Boring drawings suitable for inclusion into the contract drawings.

➤ **Deliverables:** Soundwall Preliminary Foundation Report,
Soundwall Foundation Report

Task 3.7 | Falling Weight Deflectometer Testing [OPTIONAL]

CONSULTANT will subcontract with Applied Research Associates, Inc. (ARA) to perform Falling Weight Deflectometer (FWD) testing and analysis on the two-way two-lane segment of Highway 59 in the City of Merced, CA. Project limits are between Black Rascal Creek and 16th Street including only main lanes for each traveling direction. The test length is approximately 6,600-ft long. ARA will provide a Heavy Weight Deflectometer (HWD) and a qualified operator to perform the field testing (note that an HWD is simply an FWD with a higher test load capacity). Data collected in the field will be analyzed by our experienced team of pavement engineers and will be submitted to CONSULTANT. In addition, a Google Earth map showing the FWD test locations, a set of right of way pictures, and Arc-GIS online map showing pavement rehabilitation options will be provided to CONSULTANT.

FWD testing will be conducted using an HWD at 100-ft testing intervals for the main lanes and the analyses will be performed using the Caltrans Test Method (CTM) 356. Each FWD test point will be geo-referenced using our sub-meter accurate GPS system. The tests will be staggered between the lanes to increase the coverage of each section. The approximate total number of test points is 132. Due to traffic control complexity and 8 hrs./night working hours, CONSULTANT estimates that it will take one night to perform the testing. The FWD will have a reference calibration performed within a year prior of the date of the testing.

ARA will also collect images of pavement surface during testing at 20-ft intervals. The results of the structural evaluation will be combined with the visual information to develop rehabilitation alternatives that are consistent with typical pavement maintenance and rehabilitation procedures.

➤ **Deliverables:** FWD Data in .mbd and FWD Format, Pavement Photos and FWD Test Locations, KML Files Showing All Locations Tested, FWD Data Analysis, Pavement Rehabilitation and Design, Pavement Report

TASK 4.0 | PRELIMINARY ENGINEERING STUDIES

Task 4.1 | Existing Data Collection and Field Review

CONSULTANT will obtain and review available data related to the project from the City, County, Caltrans, and other stakeholders. Existing data includes, but not limited to as-built plans, current planning documents, previous

engineering and other technical studies, funding reports, etc. CONSULTANT will also conduct a field review, within the confines of the existing roadway, to identify and document physical features, potential design constraints and environmental considerations. Field information will be recorded using field notes and digital photos.

Task 4.2 | Preliminary Geometrics

Based on existing data gathered, field review notes, previous geometric alignments, project mapping, preliminary traffic analysis results, and input from the City and Caltrans, CONSULTANT will evaluate and develop and refine the proposed project geometrics. CONSULTANT will work with the City and Caltrans to obtain consensus on design criteria, including design speed and functional classification. CONSULTANT will review and obtain comments from the City, Caltrans and other stakeholders, as approved by the City. CONSULTANT will prepare exhibits showing the proposed preliminary geometrics for review and for establishing the environmental footprint for subsequent environmental studies.

➤ **Deliverables:** Preliminary Geometric Exhibit

Task 4.3 | Preliminary Cost Estimates

CONSULTANT will develop a preliminary construction cost estimate for the proposed project developed from the preliminary geometrics. The estimate will be presented in a Caltrans 11-page estimate format.

➤ **Deliverables:** Preliminary Cost Estimates

Task 4.4 | Traffic Operations Analysis Report

CONSULTANT will document the traffic analysis approach and methodology in an assumptions memorandum that will be submitted to Caltrans District 10 staff for review and approval.

CONSULTANT will analyze up to ten (10) intersections as part of the analysis for a weekday AM and PM peak hour. In lieu of traditional traffic counts that may be affected by the COVID-19 pandemic, counts at up to ten (10) intersections will be performed using the StreetLight Data intersection turning movement count product; data from Fall 2019 will be used as the basis of the counts. The intersections will be analyzed using a microsimulation model developed in the Synchro/SimTraffic software analysis package. An Existing Conditions scenario microsimulation model will be built for the AM and PM peak hour based on 2019 count volumes, geometries, and intersection control devices (including signal timings), and the Existing Conditions model will be calibrated and validated to Caltrans District 10 standards. Measures of effectiveness (MOEs) such as intersection Level of Service, network-wide vehicle-hours of delay, network-wide vehicle-miles of travel, and Hwy 59 corridor travel speeds and travel times will be output. Updated collision data from the Caltrans TASAS database will be summarized. An Existing Conditions Report summarizing overall study methodology, data collection, and microsimulation model calibration, validation and outputs will be submitted to Caltrans District 10 staff for review and approval.

CONSULTANT will utilize the Three County Travel Demand Model (TCTDM) in the development of future year AM and PM peak hour traffic volume forecasts and estimates of vehicle-miles of travel (VMT) by speed bin. The latest version of the TCTDM will be used for the analysis. As a first step, CONSULTANT will review the base year model land use and roadway network to determine if modifications are needed. Using the Existing Conditions volumes as a basis, CONSULTANT will calibrate and validate the base year TCTDM to the criteria listed in the 2017 Caltrans Regional Transportation Plan Guidelines. A base year model validation memorandum will be completed and submitted to Caltrans District 10 for review and approval.

The horizon year for the TCTDM is year 2042, and, after approval of the calibrated and validated base year model, CONSULTANT will prepare Year 2042 TCTDM model runs for the No Build and Build scenarios. Using data from these models, CONSULTANT will forecast Opening Year and Design Year volumes for the No Build and Build scenarios. CONSULTANT will also output VMT by speed bin data for use in the Air Quality, Greenhouse Gas, and Energy CEQA analyses; the VMT values will also be used to inform potential environmental impacts of the project consistent with Senate Bill 743, if required by Caltrans District 10. The forecasts and VMT information will be submitted in a forecasting technical memorandum, which will be submitted to Caltrans District 10 staff for review and approval.

CONSULTANT will develop Opening Year and Design Year microsimulation models for the No Build scenario and Build scenario; the Build scenario models will include the full suite of project improvements (i.e. no phasing of the

project is assumed).. These future year models will be developed using data about the project and other background improvements (e.g. the reconfiguration of the Hwy 59/16th Street intersection) from published plans. CONSULTANT will review the plans for the project to assess if any modifications should be made based on the approved forecasts. The approved traffic volume forecasts for the Opening Year and Design Year will be used in these analyses. MOEs will be output from the microsimulation models to assess project benefits. A qualitative discussion regarding project benefits to pedestrians, bicyclists and the transit system will also be provided. CONSULTANT will also produce an Intersection Control Evaluation analysis and memorandum for Caltrans review and approval.

CONSULTANT will document the future year traffic operations analysis and all other analyses in a Traffic Operations Analysis Report (TOAR). An Administrative Draft TOAR will be developed and submitted to the project team for review and comment. A Draft TOAR will be submitted to Caltrans District 10 staff for review and comment. After reviewing and responding to Caltrans comments, CONSULTANT will prepare and submit a Final TOAR for Caltrans approval.

- **Deliverables:** Intersection Control Evaluation, Draft and Final TOAR

Task 4.5 | Preliminary Drainage Report

CONSULTANT will conduct a preliminary drainage investigation to determine the existing drainage patterns and storm drain facilities in the project area, including existing channels/ditches, pipe/culvert locations, sizes, local rainfall intensities, and flows. This information will be obtained through a combination of field reconnaissance, City/Caltrans staff, as-built records and the project files prepared by the City/Caltrans. After reviewing the existing drainage conditions, on- and off-site hydrologic and hydraulic analyses will be conducted for the existing and post-project condition, emphasizing the primary objective of maintaining existing flow patterns and runoff amounts.

The on-site analyses will include identifying where new facilities are needed and where existing facilities can be reused, developing drainage boundaries for the areas within the project limits, developing flows for each facility based on Caltrans hydrology standards, and identifying where new/retrofitted storm drain facilities are needed. A comparison of existing versus proposed peak flows will also be performed and will become the basis of the retention design.

Upon review of the project site, CONSULTANT does not anticipate the need for an off-site analysis as cross drainage does not currently exist, with the exception of Black Rascal Creek.

A Draft Preliminary Drainage Report for the project will be prepared to document the hydrologic and hydraulic analysis and will provide a detailed discussion of the following: existing conditions and facilities in the project area, the on-site hydrologic analyses, existing and post-project drainage patterns, flood conditions, results of the on-site hydraulic analyses (including retention basin sizing) and any issues of special concern or significance. The draft report will be submitted to Caltrans and the City for review prior to approval of the Draft Project Report.

CONSULTANT will obtain review comments from Caltrans and the City on the Draft Preliminary Drainage Report. A summary matrix with comment responses will be prepared and the report will be updated in accordance with the comments received. The Final Preliminary Drainage Report will be submitted for review and approval with the Final Project Report.

- **Deliverables:** Draft and Final Preliminary Drainage Report

Task 4.6 | Location Hydraulic Study

The widening of Hwy 59 will involve encroachment on the base floodplain. As a result, the federal guidelines provided in Executive Order 11988 - Floodplain Management require that a Location Hydraulic Study and Floodplain Evaluation Report Summary be prepared to supplement the environmental document. These studies will be performed to evaluate the impact of the proposed improvements on the floodplain during 100-year flood conditions.

Using the base flood elevations in the project area provided in the FEMA Flood Insurance Study, CONSULTANT will assess the impacts of the roadway improvements on the floodplain of Black Rascal Creek as well as the risk to floodplain values and adjacent properties.

CONSULTANT will prepare a Draft Location Hydraulic Study and Floodplain Evaluation Report Summary to discuss the results of the analysis and compare the impacts/risks of each project being considered. The study will include a discussion of the following items, commensurate with the significance of the risk or environmental impact:

- The risks associated with implementation of the action.
- The impacts on natural and beneficial flood-plain values.
- The support of probable incompatible flood-plain development.
- The measures to minimize flood-plain impacts associated with the action.
- The measures to restore and preserve the natural and beneficial floodplain values impacted by the action.
- An evaluation and discussion of the practicability of alternatives to any longitudinal encroachments
- Evaluation and discussion of the practicability of alternatives to any significant encroachments or any support of incompatible floodplain development.

This document will be submitted to the City and Caltrans for review. Comments on the draft report will be addressed and the Location Hydraulic Study will be updated and finalized.

➤ **Deliverables:** Draft and Final Location Hydraulic Study

Task 4.7 | Life Cycle Cost Analysis

In support of the Project Report, CONSULTANT will prepare a Life Cycle Cost Analysis (LCCA) for roadway improvements for Hwy 59 using the most recent Caltrans RealCost program (currently Version 2.5.4CA). The LCCA will identify the lowest cost pavement alternative for the roadway improvements among different pavement types, design periods with relevant costs which include initial construction, future maintenance and rehabilitation, and user costs (public's time and vehicle costs). The results of the LCCA will be documented on Caltrans' Life Cycle Cost Analysis Form.

➤ **Deliverables:** Life Cycle Cost Analysis

Task 4.8 | Bridge Design Hydraulic Study

CONSULTANT will utilize the existing and proposed condition hydraulic models prepared for the Location Hydraulic Study to conduct a detailed hydraulic analysis for the selected project alternative. The objective of this analysis will be to evaluate the freeboard, overtopping, and stage increases using the 50-, 100- and 200-year frequencies as required by the various agencies with jurisdiction in this project area (Caltrans and Central Valley Flood Protection Board). CONSULTANT will use the preliminary results of this analysis to optimize the selected structure design such that upstream and downstream impacts are reduced and/or eliminated as needed to satisfy Federal, State, and local requirements. The optimization will include consideration of alternative pier types and spacing and will also consider the construction condition.

The scour analysis will consider pier, abutment, and contraction scour. The potential for aggradation or degradation will also be evaluated based on a review of any recent survey data together with historic data collected from USGS quadrangles.

Based on the results of the hydraulic and scour analyses, CONSULTANT will prepare a Draft Bridge Design Hydraulic Study to satisfy State. The report will be submitted to the City and Caltrans for one round of comments. During the final design phase, comments on the draft report will be addressed and a final hydraulics run for the bridge structure will be performed, incorporating any design changes made since completion of the draft report. The Bridge Design Hydraulic Study will then be updated and finalized.

➤ **Deliverables:** Draft and Final Bridge Design Hydraulic Study

Task 4.9 | Noise Abatement Decision Report

In support of the Project Report, CONSULTANT will prepare a Noise Abatement Decision Report (NADR) using the results of the Noise Study Report. The NADR will determine whether a noise abatement measure is feasible and reasonable using a cost-benefit analysis. If both feasible and reasonable, abatement measures will be incorporated into the project to reduce potential noise impacts to a less than significant level. The NADR will be submitted to the City and Caltrans for review, and the comments will be incorporated into the final NADR.

- **Deliverables:** Draft and Final Noise Abatement Decision Report

Task 4.10 | Design Support for Environmental

CONSULTANT will support the environmental process by providing engineering data and graphics to the environmental team, reviewing submittals for consistency with the design, and reviewing mitigation measures to ensure that they are reasonable and can be implemented.

- **Deliverables:** Engineering Data and Graphics to Support Environmental Documentation

Task 4.11 | Letter of Map Revision [OPTIONAL]

CONSULTANT will prepare a FEMA Letter of Map Revision (LOMR) if the project improvements result in an increase of more than 1-foot in water surface elevations. CONSULTANT will provide the documentation required to submit the LOMR to FEMA. The tasks associated with this effort include the following:

- MT-2 Forms 1, 2, and 3: CONSULTANT will prepare the MT-2 Forms for submittal. FEMA requires that the community (City) sign and submit the package.
- Hydraulic Assessment: Based on CONSULTANT'S modeling efforts, CONSULTANT will determine the upstream and downstream tie-ins of the hydraulic model. CONSULTANT will also formalize the bridge loss calculations and format the complete model for submittal.
- Prepare Workmaps: CONSULTANT will prepare the workmaps for submittal.
- Property Owner Notification: CONSULTANT will identify all parcels that are impacted by decreases to the water surface elevation or floodplain boundaries, prepare, and send the notification letters.

- **Deliverables:** Letter of Map Revision

Task 4.12 | Traffic Analysis Year Design Exception [OPTIONAL]

Based on previous analyses, there exists the possibility that the project may not meet a 20-year design life (i.e. provide acceptable traffic operations 20 years after construction) and a design life exception will be necessary to advance the project forward. As part of the design life exception, a 10-year (or other interim year) analysis would be necessary to determine the actual service life of the project.

Under this optional task the following subtasks would be performed:

- Determine AM and PM peak hour traffic forecasts for interim year
- Develop interim year peak hour traffic analysis models to determine MOEs consistent with other analysis scenarios
- Incorporate analysis results for the interim year in the TOAR

- **Deliverables:** Design Year Exception

TASK 5.0 | ENVIRONMENTAL DOCUMENTATION

Task 5.1 | Air Quality Report

CONSULTANT will prepare an Air Quality Report following the guidelines in the Caltrans Standard Environmental Reference, Chapter 11. The Air Quality Report will cite the projects' listings in the Regional Transportation Plan (RTP) and Federal Improvement Program (FTIP). Consistency with the project proposal and RTP/FTIP project

description listing will be key in gaining approval. The Air Quality Report will include the attainment status of the project area and analysis of long-term operational and short-term construction impacts. As part of the report, a Particulate Matter Hot Spot Analysis Project Summary Form will be prepared and presented to the Stanislaus Council of Governments and Interagency Consultation Partners. This Interagency Consultation process will determine if the project is a Project of Air Quality Concern under U.S. Environmental Protection Agency's regulations 40 CFR 93.123 (b) (1). It is anticipated that the project will not be found a Project of Air Quality Concern based on expected traffic volumes. The Air Quality Report will also include an analysis using the Caltrans Carbon Monoxide Protocol and estimated construction emissions using the standard Roadway Construction Emissions Model. The report will be provided to the City and Caltrans for comment, review, and approval.

➤ **Deliverables:** Draft and Final Air Quality Report

Task 5.2 | Air Quality Conformity Analysis

CONSULTANT will prepare an Air Quality Conformity Analysis (AQCA) following the guidelines in the Caltrans Standard Environmental Reference, Chapter 11. The AQCA will include a summary of the Interagency Consultation, results of the Air Quality Report, the project's consistency with the State Implementation Plan, and identification of mitigation measures as needed.

➤ **Deliverables:** Draft and Final AQCA

Task 5.3 | Community Impact Assessment

CONSULTANT will prepare a Community Impact Assessment (CIA) to evaluate document the potential impacts to the community, minority, and low-income populations which are currently present within the project area. Pursuant to NEPA requirements, impacts to low income population will be evaluated consistent with federal Environmental Justice policy. The CIA will discuss social impacts, business and residences affected by the project, and community resources, such as the LifePlace Church, parks, and emergency services. The CIA will be provided to the City and Caltrans for comment, review, and approval.

➤ **Deliverables:** Draft and Final CIA

Task 5.4 | Visual Impact Assessment

The project's preliminary score on the Visual Impact Assessment (VIA) Guide (Caltrans Standard Environmental Reference [SER] Chapter 27 Visual and Aesthetics Review) is 14, which is on the border of VIA memorandum and a Minor VIA. As a result, CONSULTANT will prepare a Minor VIA to document and assess the visual changes to Highway 59 and Black Rascal Creek as a result of the widening. The Minor VIA will include the following graphics: a vicinity map, representative photographs, and a map of representative photograph locations. The VIA will be provided to the City and Caltrans for comment, review, and approval.

➤ **Deliverables:** Draft and Final Minor VIA

Task 5.5 | Noise Study Report

CONSULTANT will prepare a Noise Study Report (NSR) that assesses the project's potential effects on existing and future noise conditions, including construction impacts, and will review applicable Caltrans and City noise and land use compatibility criteria for the project area. As part of the NSR preparation, CONSULTANT will conduct a reconnaissance of the project area to determine existing land use activities, developed lands, undeveloped lands, sensitive receptors, and appropriate noise measurement sites, per the guidance provided in the Caltrans TeNS document. One (1) long-term measurement and five (5) short-term measurements will be taken to characterize the existing environment and to assist with model calibration.

Noise modeling will be conducted to predict current, future no-build and one (1) build alternative noise levels using the appropriate noise predictive model TNM 2.5. Prediction is based on inputs such as projected traffic volume (average daily traffic), traffic mix (percentage of truck traffic), topography and distance of the project from the receptors. Peak hour noise in the design year for the proposed project will be modeled at selected noise sensitive receptors based on forecast traffic volumes. Modeling must be adequate to accurately predict the noise levels at each of the receptors, assess the number of properties within 500 feet of the project that are impacted or will be impacted and determine the increase in traffic noise. Predicted noise impacts for the future

build alternatives will be compared to the future no-build alternative to determine if a noise impact will occur. If noise impacts occur, noise abatement will be considered.

A construction noise analysis will be performed to evaluate the noise impacts during construction activities for the proposed project for California Environmental Quality Act (CEQA) evaluation. The construction noise analysis will assist in addressing whether construction activities will result in a substantial permanent increase in ambient noise levels in the project vicinity above levels without the project. For the predictive analysis, information will be obtained regarding construction sequencing, the type of construction activities that would be occurring, the type of construction equipment that will be utilized, and construction traffic haul trips to assess impacts. Maximum noise levels expressed as Lmax at a reference distance of 50 feet will be obtained and then adjusted for the actual distance to the receptor as well as the time (or usage factor) that the equipment is predicted to produce noise. The FHWA Roadway Construction Noise Model (RCNM) will be used to predict noise levels using this methodology. The NSR will be provided to the City and Caltrans for comment, review, and approval.

➤ **Deliverables:** Draft and Final NSR

Task 5.6 | Water Quality Assessment Report

CONSULTANT will prepare a Water Quality Assessment Report to address the potential for project impacts on water quality to Black Rascal Creek based on current Caltrans guidelines. The report will disclose that Black Rascal Creek is on the Clean Water Act Section 303(d) list and will develop Caltrans standard best management practices (BMPs) and project design features to prevent construction and project related impacts to the creek and other water sources, as required in accordance with the current Caltrans Statewide Storm Water Management Plan.

In accordance with the National Pollution Discharge Elimination System (NPDES) general construction activity stormwater discharge permit, applicable requirements will be identified. Likewise, compliance with Section 401 of the Clean Water Act will ultimately be necessary (water quality certification). To comply with Section 401 requirements, specific mitigation measures, including BMPs specified in Caltrans' Storm Water Quality Handbook - Planning and Design Guide, will be identified for water quality impacts that may occur during construction. The report will be provided to the City and Caltrans for comment, review, and approval.

➤ **Deliverables:** Draft and Final Water Quality Assessment Report

Task 5.7 | Natural Environmental Study Report

CONSULTANT will conduct field surveys and extensive literature research to assist in determining the existence or potential occurrence of sensitive plant and animal species on the project site or in the vicinity. Literature review will include federal and State lists of sensitive species and current database records, including the California Natural Diversity Data Base (CDFW, 2015) and the California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California (Skinner, et al., 2004). In accordance with Caltrans guidelines, a list of threatened and endangered species known in the project vicinity will be obtained from the USFWS.

CONSULTANT biologists will conduct fieldwork in order to assess the presence/absence of sensitive biological resources (e.g., species or habitats), and to determine the potential for occurrence of such resources that may not be detectable when the fieldwork is conducted. The location of any sensitive biological resources present onsite, including plants and plant communities, will be mapped. Based on initial research and experience with projects in this area, it is expected that this project could impact Swainson's hawk, Valley elderberry longhorn beetle (VELB), California tiger salamander (CTS), vernal pool habitat, and wetland habitats. For optimal results, CONSULTANT will conduct fieldwork appropriate to the season and will conduct rare plant surveys during the blooming season. This will maximize our ability to detect and positively identify sensitive species.

CONSULTANT will prepare a Natural Environment Study (NES) consistent with the Caltrans (Standard Environmental Reference) SER that will include a description of the field methods used and the results of the biological studies of the project area. The report will list plant and animal species present, along with a general description of the plant communities occurring within the project area. If any sensitive resources are found, CONSULTANT will prepare an exhibit showing the location of the resource and include this exhibit in the NES. The report will also identify and assess project impacts on the existing biological resources, including any sensitive species.

Minimization and mitigation measures will be included as necessary. The report will be provided to the City and Caltrans for comment, review, and approval.

- **Deliverables:** Draft and Final NES

Task 5.8 | Biological Assessment and Endangered Species Act Consultation

The project may impact habitat for federally listed species VELB, vernal pool crustaceans, and CTS. Consultation with USFWS is anticipated regarding potential impacts to these species, under Section 7 of the Endangered Species Act (ESA). CONSULTANT will prepare Biological Assessments to document existing conditions and potential for federally listed species to be present for Caltrans' use in initiating consultation with USFWS. While habitats for these federally listed species may be present, it is anticipated the project will not adversely affect the species, which would allow for information consultation. After completion Section 7 consultation, USFWS will issue a Biological Opinion regarding the specific threatened or endangered species that could incur impacts to their habitat or to the species themselves. For any State listed species, a Section 2081 Incidental Take Permit will be obtained, or a consistency determination will be acquired through the CDFW Section 2080 process. The report will be provided to the City and Caltrans for comment, review, and approval. This task assumes that FHWA funding would be utilized and Caltrans would be designated as the lead NEPA agency who would be responsible for Section 7 consultation. If FHWA funding is not pursued, then the NEPA lead agency would be the US Army Corps and Section 7 consultation would occur during PS&E.

- **Deliverables:** Draft and Final Biological

- **Deliverables:** Draft and Final Biological Assessment; Biological Opinion

Task 5.9 | Historic Property Survey Report/Archaeological Survey Report

Cultural resource identification and evaluation efforts for the project were previously conducted in 2002 and 2005. As a result of these previous efforts, historic-era resources located within the anticipated construction footprint have been either evaluated and determined ineligible for listing on the National Register of Historic Places and the California Register of Historical Resources or were considered exempt from evaluation. A preliminary review of these past determinations found that they are still applicable. As a result, no additional historic-era resources which require evaluation are anticipated. CONSULTANT will prepare an Area of Potential Effects (APE) Map for Caltrans' review and signature which will define the archaeological and historic architectural survey limits. Upon approval or information confirmation of an approved APE, CONSULTANT will request a search of the Sacred Lands File through the Native American Heritage Commission, supplement an existing cultural resource records search conducted for this area through the Central California Information Center (CCIC), and conduct an archaeological survey of the APE. CONSULTANT will also assist Caltrans with Native American consultation efforts required under Section 106 of the National Historic Preservation Act by preparing project notification letters and coordinating any requested meetings to discuss potential impacts. All cultural resource identification efforts will be documented in a Caltrans formatted Historic Property Survey Report and Archaeological Survey Report. Based on previous efforts in this area, this task assumes that no Native American cultural resource evaluations are required. The reports will be provided to the City and Caltrans for comment, review, and approval.

- **Deliverables:** Draft and Final Historic Property Survey Report and Archaeological Survey Report; Signed APE Map; Native American Notification Letters

Task 5.10 | Section 4(f) Evaluation

The project will minorly impact existing multi-use paths which are part of the Black Rascal Creek and the Michael O'Sullivan bikeway systems. As this multi-use path is the type of property protected by Section 4(f) of the US Transportation Act of 1966, CONSULTANT will prepare a Section 4(f) analysis in accordance with FHWA and Caltrans guidelines. As it is anticipated that the project will only minorly impact the multi-use pathway, the analysis will result in a temporary use or *de minimis* impact and finding. CONSULTANT will coordinate directly with the City to obtain concurrence on this finding, as they are the owners of the resource. Further, CONSULTANT has confirmed that there are no 4(f) resources located within the project area. The report will be provided to the City

and Caltrans for comment, review, and approval. This task assumes that FHWA funding will be utilized. If funding is not pursued, then Section 4(f) analysis will not be required.

- **Deliverables:** Draft and Final Section 4(f) Evaluation Memorandum

Task 5.11 | CEQA Draft Initial Study with Mitigated Negative Declaration

The appropriate level of CEQA analysis for this project is an Initial Study with Mitigation Negative Declaration (IS/MND). CONSULTANT will incorporate the purpose and need, project description, and data from the technical studies into the draft environmental document. CONSULTANT will submit the draft IS/MND to the City for review and comment.

- **Deliverables:** Draft IS/MND

Task 5.12 | CEQA AB52 Native American Consultation

CONSULTANT will prepare initial project notification letters and maps for the City's use in their AB 52 Consultation Process. CONSULTANT will assist the City with any requested meetings, recommend any requested avoidance and minimization measures, and document all consultation efforts and conclusions within a consultation log for the City's files. The results of the AB 52 consultation will be detailed in the IS/MND.

- **Deliverables:** AB 52 Initial Project Notification Letters; AB 52 Consultation Log

Task 5.13 | CEQA IS/MND Public Circulation

Once the draft IS/MND has been approved by the City, CEQA guidelines require public circulation for a period of 30 days so that the public and applicable local and federal agencies with jurisdiction in and adjacent the project area can review and provide comment. Pursuant to CEQA requirements, CONSULTANT will prepare a Notice of Intent (NOI) to Adopt an MND which will be sent to residents and businesses in the project area and will also be published in the Merced Sun-Star or Merced County Times. CONSULTANT will file copies of the NOI and draft environmental document at the County Clerk and California State Clearinghouse. The City will be responsible for payment of the County Clerk filing fees. CONSULTANT will provide copies of the environmental document for public use at City Hall and the Merced County Public Library during the 30-day public circulation and review period. During the 30-day public review period, CONSULTANT will assist the City in holding a Public Meeting to solicit comments about the project. CONSULTANT will provide meeting materials and attend this hearing to answer any questions regarding the project, any potential environmental impacts, as well as the environmental schedule. All comments at this hearing will be recorded for inclusion in the final environmental document.

- **Deliverables:** NOI; Copies of Draft IS/MND; Public Meeting Materials

Task 5.14 | CEQA IS/MND Response to Comments

At the close of the public review period for the IS/MND, CONSULTANT will meet with City staff to review any comments on the IS/MND that were received, and to discuss potential responses to these comments. CONSULTANT will then formulate responses to the comments and submit them to the City for review and comment. The final version of the response to comments will be incorporated into the Final environmental document.

- **Deliverables:** Draft and Final Responses to Public Comments

Task 5.15 | CEQA Final IS/MND

CONSULTANT will prepare the final IS/MND, which will include all edits required as part of the response to comments and final mitigation/minimization/avoidance measures. CONSULTANT will also prepare the Mitigation Monitoring and Reporting Program (MMRP) as an attachment and for the CITY's use. CONSULTANT will assist the City with City Council staff reports required to approve the Final IS/MND and adopt the MMRP. Within five days of City Council approval and adoption, CONSULTANT will prepare and file a Notice of Determination, together with

the Final IS/MND at the County Clerk and the State Clearinghouse. The City will be responsible for payment of the County Clerk filing fees and the California Department of Fish and Wildlife fees. CONSULTANT will provide final electronic and hard copies of the County Clerk and State Clearinghouse stamped NOD and Final IS/MND for the City's files.

- **Deliverables:** NOD; MMRP, Final IS/MND

Task 5.16 | NEPA Categorical Exclusion

CONSULTANT will coordinate with Caltrans environmental staff to prepare the NEPA Categorical Exclusion (CE). The CE will summarize the findings in the technical studies and will include a review of both state and federal standards, potential measures for any impacts, and will ensure these measures reduce all impacts below a level of significance for NEPA. A memorandum for justification of the CE will also be sent to Caltrans along with the summary of findings and a draft Environmental Commitments Record. The NEPA process will be completed upon obtaining Caltrans signature on the CE and will occur concurrently with the CEQA IS/MND process. This task assumes FHWA funding will be utilized. If FHWA funding is not pursued, then this task will not be required.

- **Deliverables:** CE Memorandum; Signed CE; Environmental Commitments Record

TASK 6.0 | UTILITY COORDINATION

Task 6.1 | Utility Mapping

Based on Utility "A" letter responses from the utility companies provided by the City, CONSULTANT will incorporate the obtained maps and utility information to compile a utility base map.

- **Deliverables:** Utility Base Mapping

Task 6.2 | Utility Potholing

CONSULTANT will review the utility base map with the proposed improvements, field verify the information provided by the utility companies, and evaluate the extent of any potential utility conflicts. If necessary, CONSULTANT will arrange to perform up to 30 potholes to establish the horizontal and vertical location of critical underground utility lines.

- **Deliverables:** Potholing Report

Task 6.3 | Utility B Letters

CONSULTANT will prepare Utility 'B' packages, which will include 65% design plans and a City-approved letter notifying the utility companies of conflicts between existing utility facilities and the proposed work. The letter will also ask the utility companies to provide conflict maps, notify them of the need to relocate their facilities and request verification of prior rights.

Depending on the extent and significance of the relocations, CONSULTANT will schedule a meeting with the affected utility companies to develop a coordinated relocation plan. CONSULTANT will coordinate with the utilities to facilitate development of their relocations, discuss construction staging and work windows, and will review/verify submitted relocation plans to ensure that the conflicts are resolved.

- **Deliverables:** Utility B Letters

Task 6.4 | Liability Determination

CONSULTANT will work with the utility companies and the surveyor to determine existing easements or prior rights. CONSULTANT will prepare and send a request for liability claim letter to each utility company. The response from each utility company will be documented in a Claim Letter and will be used with the Reports of Investigation.

- **Deliverables:** Request for Liability Claim Letter

Task 6.5 | Reports of Investigation

Caltrans will require the preparation of a Report of Investigation (ROI) for all utilities in conflict with the project. The ROI consists of the following components:

- Report of Investigation form
- Claim letter
- Utility relocation plans
- Project narrative
- Draft Notice to Owner

CONSULTANT will prepare each ROI in accordance with Chapter 13 of the Caltrans Right of Way Manual. The ROI packages will be submitted to Caltrans for review. CONSULTANT will address any review comments received and submit to Caltrans for final approval.

➤ **Deliverables:** Report of Investigation

Task 6.6 | Notice to Owner

CONSULTANT will send a copy of the Utility C Letter, Final Plans and the Notice to Owner letter to the utility companies at the 100% milestone. The letter will be the final notification to the utility companies that the project is going to construction and will request final verification that there are no conflicts with the project or, in the event that relocations were necessary, will request the utility owner to relocate their facilities.

➤ **Deliverables:** Utility C Letter and Plans, Notice to Owner

Task 6.7 | Additional Utility Coordination [OPTIONAL]

Should the utility companies provide prior rights information that contradicts the assumption they were in franchise, CONSULTANT will assist with the final determination of liability related to the relocation costs.

In the event there is a cost sharing agreement or the need for reimbursement between the City and any of the utility companies, a utility agreement will be drafted in accordance with Chapter 13 of the Caltrans Right of Way Manual. The agreement will be submitted to the City and utility company for review and approval.

➤ **Deliverables:** Liability Determination; Utility Agreements

TASK 7.0 | RAILROAD COORDINATION

Task 7.1 | Railroad Coordination and Exhibits

CONSULTANT will assist the City in coordinating with the Burlington Northern Santa Fe (BNSF) Railway on issues related to the project impacts at the at-grade crossing and with the Union Pacific Railroad (UPRR) for any project impacts related to their spur right of way paralleling Hwy 59. It is anticipated that the following agreements will be required from the BNSF and UPRR for the project:

- Agreement for plan reviews and approvals
- Easement for proposed at-grade crossing improvements
- Temporary construction licenses for project construction
- A Construction and Maintenance Agreement for project construction and ongoing grade crossing maintenance
- Rights of entry for field visits, utility potholing, surveying, and other design activities
- Public Utilities Commission (PUC) GO 88 Application

CONSULTANT will develop the necessary exhibits and attachments to obtain approval from the BNSF and UPRR for all the above agreements.

CONSULTANT will provide the 65% plans for the proposed project including plans and site pictures for BNSF and UPRR review and feedback. The plans for BNSF will include the proposed at-grade crossing improvements with project location and site pictures in all directions including, but not limited to North, East, South and West. The plans for UPRR will include the proposed project with potential right of way impacts with project location and site pictures in all directions including, but not limited to North, East, South and West. Additionally, CONSULTANT will prepare exhibits for project meetings and coordination. The exhibits are intended to show design information on an easy to read and discuss format for use in meetings. This task also includes the cost of up to five (5) days of BNSF and UPRR flagging services to allow survey and potholing work in the two-railroad right of ways.

➤ **Deliverables:** Project Exhibits

TASK 8.0 | RIGHT OF WAY ENGINEERING

Task 8.1 | Caltrans Encroachment Permit

To perform the necessary field work for the project (i.e. environmental studies, surveying, geotechnical sampling, etc.), CONSULTANT will prepare and submit encroachment permit applications to Caltrans to obtain permission to work in the State right of way.

➤ **Deliverables:** Caltrans Encroachment Permit

Task 8.2 | Permit to Enters

CONSULTANT will obtain Permit to Enters from each of the private properties to perform necessary field investigations, including topographic survey, environmental studies, and geotechnical investigations. CONSULTANT will prepare exhibits and a letter showing the property owner the area where access is necessary and identify the type of activities that will take place on their property. As necessary, CONSULTANT will meet with the property owners to discuss the field investigations to assist in obtaining access.

➤ **Deliverables:** Permit to Enters

Task 8.3 | Right of Way Requirement Maps

CONSULTANT will prepare Right of Way Requirements Maps based on the right of way requirements for the project. The Right of Way Requirements Maps will define all existing right of way and easements as well as property acquisitions and easement areas required for the project. CONSULTANT will submit the Requirement Maps to Caltrans for review and approval.

➤ **Deliverables:** Right of Way Requirement Maps

Task 8.4 | Plat and Legal Descriptions

CONSULTANT will prepare plats and legal descriptions as required for the project. This will include right of way acquisition and easement documents. The exact number will be determined upon design and project needs. Upon initial assessment, CONSULTANT has determined eighteen (18) properties will require right of way acquisition. Additionally, per Chapter 13 of the Caltrans Local Assistance Procedures Manual (LAPM), a Permit to Enter and Construct (PTEC) is allowed for access/use of a grantor's property accommodate construction/work activity when all of the following conditions exist: 1) the subject property is located within the project area; however, the work identified is not within the construction project scope, 2) Access to subject property is not required in order to construct the project, 3) The access is to the grantor's benefit and not the benefit of the project, 4) Construction of the project can be completed without the need to condemn for subject access. Therefore, CONSULTANT has assumed the necessity of Temporary Construction Easements (TCE) for properties where construction is required due to the project. CONSULTANT will prepare plats and legal descriptions for temporary construction easements for twenty-one (21) parcels. Thirty-nine (39) plats and legal descriptions will be assumed for this project. All documents will be prepared according to CITY standards and requirements. CONSULTANT will use AutoCAD linework and property owner exhibits from design team for the preparation of all plats and legal descriptions. CONSULTANT will prepare preliminary plats and legal descriptions for design and agency review. CONSULTANT will address all comments and prepare final signed and stamped plats and legal descriptions for

recordation. CONSULTANT will field locate right of way, as necessary, to assist in property owner right of way negotiations.

- **Deliverables:** Plats and Legal Descriptions

Task 8.5 | Right of Way Certification

CONSULTANT will certify that the project Right of Way has been acquired in conformance with State and Federal acquisition requirements. Right of Way certification will be documented using appropriate forms in the Project Development Procedures Manual and Caltrans Right of Way Manual.

- **Deliverables:** Right of Way Certification Documentation

Task 8.6 | Right of Way Staking [OPTIONAL]

CONSULTANT will set preliminary right-of-way stakes for right-of-way and easement negotiations with Property Owners for a total of eighteen (18) proposed permanent right-of-way dedications and twenty-one (21) proposed temporary construction easements. Stakes will be set on 100-foot intervals along tangents, 50-foot intervals along curves, and include stakes at points of curvature and angle points. Stakes will be marked and flagged for Property Owners review.

- **Deliverables:** Right of Way Stakes

TASK 9.0 | PROJECT REPORT

Task 9.1 | Geometric Concept Drawing (GCD)

CONSULTANT will utilize the preliminary geometric layouts developed, and as-built information and records to identify all non-standard features of the existing facility and proposed project improvements. As-built information and records will be obtained from Caltrans as part of this task. CONSULTANT will prepare a Draft GCD at 1" = 100' scale for up to two (2) build alternatives utilizing existing available right of way information and topographic mapping. The GCD will include layouts, profiles, super-elevations, typical sections and traffic volume turning diagrams.

CONSULTANT will prepare a comparison of the environmental, right-of-way, and construction costs for the purpose of reviewing with Caltrans. CONSULTANT will meet with Caltrans District 10 Design to present and discuss the existing and proposed non-standard features so that consensus can be achieved in advance of preparing Design Standard Decision Documents.

- **Deliverables:** Geometric Concept Drawing

Task 9.2 | Design Standard Decision Documents

CONSULTANT will evaluate the build alternative for all non-standard features that are identified in the Caltrans Design Information Bulletin (DIB) 78. The DIB 78 will be used in conjunction with the Caltrans Highway Design Manual and compared to boldface and underlined standards. CONSULTANT will prepare Design Standard Decision Documents (DSDD) for any non-standard feature. The DSDD will be prepared in accordance with Chapter 21 of the Project Development Procedures Manual, "Design Standard Decisions." The DSDD will be submitted to the City and Caltrans for review, and the comments will be incorporated into the final DSDD.

- **Deliverables:** Draft and Final Design Standard Decision Document

Task 9.3 | Location Map, Layouts, Profiles, and Typical Sections

CONSULTANT will prepare the necessary attachments for the Project Report, including a Location Map, Layouts, Profiles, and Typical sections. CONSULTANT will utilize the GCD developed to prepare 11" x 17" plan sheets of project layout, profiles, and typical sections.

- **Deliverables:** Location Map, Layouts, Profiles, Typical Sections

Task 9.4 | Storm Water Data Report

Compliance with Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ) will be documented in the Storm Water Data Report (SWDR). The SWDR will be prepared during the PA&ED phase to ensure that the programmed project includes sufficient right-of-way and budget for the required storm water controls.

While it is anticipated that the SWDR prepared by Caltrans as part of previous PA&ED efforts will provide useful information, SWDR requirements have changed significantly since the original version was prepared. As a result, CONSULTANT will develop a long-form PA&ED-level SWDR in accordance with the latest Caltrans Project Planning and Design Guide. The document will include:

- A description of the project and the major engineering features.
- A preliminary estimate of the Total Disturbed Soil Area (DSA), New Impervious Surface (NIS) Area, and Post Construction Treatment (PCT) Area.
- A determination of Risk Level and requirement for Treatment BMPs.
- A discussion of the stormwater quality issues specific to this project.
- A description of the probable design pollution prevention BMPs.
- A description of the probable permanent treatment BMPs, if required.
- A description of the probable maintenance and construction site BMPs.
- SWDR Summary Spreadsheets
- Maps and exhibits

CONSULTANT will work with the Caltrans District Storm Water Coordinator to circulate the draft document through the Maintenance, Landscape, and Storm Water units during review of the draft PR. One round of comments will be addressed, and the final document will be submitted for approval. This scope assumes that Rapid Stream Assessment is not applicable to this project, since the PID document was approved prior to the 2013 permit.

- **Deliverables:** Draft and Final Storm Water Data Report (PA&ED Level)

Task 9.5 | Traffic Management Plan Checklist

CONSULTANT will develop a conceptual plan for traffic handling to ensure that traffic operations are not adversely impacted at the project site including any California Highway Patrol (CHP) enforcement areas, and other systems related equipment. CONSULTANT will develop the Transportation Management Plan (TMP) Checklists to reflect the approved design elements and construction activities. The TMP Checklists will discuss the project's staging activities, traffic handling concepts and other impacts to the public. CONSULTANT will submit the TMP Checklists to Caltrans for approval. CONSULTANT will coordinate comments and input from Caltrans and the City to ensure the TMP covers the combined traffic impacts and plans to mitigate those impacts.

- **Deliverables:** TMP Checklist

Task 9.6 | Cost Estimates

CONSULTANT will prepare the Caltrans standard '11-page' format cost estimate for improvements within Caltrans right of way for up to two (2) build alternatives. CONSULTANT will include information on pavement structural section, drainage, retaining walls, erosion control and water pollution control BMPs, traffic signals, ramp metering, signage, traffic management plan, structures, and right of way costs in the estimate.

- **Deliverables:** Caltrans 11 Page Cost Estimate

Task 9.7 | Risk Register

CONSULTANT will prepare a risk register for the project in Caltrans Level 2 format. The risk register will identify the project risk, risk rating and mitigation. The risk register will be presented to the City and Caltrans for comment. Once all comments are satisfactorily resolved the risk register will be finalized.

- **Deliverables:** Draft and Final Risk Register

Task 9.8 | Right of Way Data Sheets/Utility Information Sheets

CONSULTANT will prepare the Right of Way Data Sheets for up to two (2) build alternatives for inclusion in the Draft and Final Project Report. CONSULTANT will prepare the Right of Way Utility Estimate Worksheet and Utility Information Sheets to support the Right of Way Data Sheets.

- **Deliverables:** Right of Way Data Sheet, Utility Information Sheet

Task 9.9 | Stage Construction Concept

CONSULTANT will complete a stage construction plan for up to two (2) build alternatives. The stage construction concept will assist in determining constructability, staging sequencing, potential detours, construction schedule duration, project footprint, and costs associated with the project staging.

- **Deliverables:** Stage Construction Concept

Task 9.10 | Advanced Planning Study

CONSULTANT will prepare Advance Planning Studies (APS) for up to three structure types per alignment, which encompasses bridges and box culverts. The plans will adhere to current Caltrans detailing and formatting requirements as specified in Section 3-2 "Advance Planning Studies" of Caltrans OSFP Information and Procedures Guide as well as in Caltrans Memo to Designers 1-8 "Advance Planning Studies".

In general, the APS consists of a single plan sheet, an itemized structure cost estimate and completion of the "Consultant Prepared Structures Advance Planning Study Checklist" for each alternative alignment for each required bridge, culvert or retaining wall. The APS plan sheet (typically 11" x 17") includes a plan view, elevation view and typical section of the structure with sufficient detail to determine structure limits, feasible structure type, structure depth, foundation locations and costs. The APS will include assessment of Accelerated Bridge Construction (ABC) implementation. The itemized structure cost estimate will be based on approximate quantity estimates using tables from Caltrans Bridge Design Aids manual.

- **Deliverables:** Advanced Planning Study

Task 9.11 | Draft Project Report

CONSULTANT will prepare the Draft Project Report for the project in accordance with Caltrans "Preparation Guidelines for Project Report." The document will discuss the proposed project, purpose and need, and provide an overview of impacts including environmental impacts and potential right of way impacts.

This task includes the preparation of a draft and final report for the DPR with a recommendation for circulation of the Environmental Document. The draft will be submitted to Caltrans and the City for review and comment. CONSULTANT will address the comments and produce the final report. Additional reviews and comments by Caltrans, the City, or other agencies are not included in this scope.

CONSULTANT will meet with Caltrans and City for comments resolution and make updates to the DPR submit for approval and circulation with the Draft Environmental Document.

- **Deliverables:** Draft Project Report

Task 9.12 | Project Report

After circulation of the DPR, CONSULTANT will prepare a draft and final Project Report with the recommendation of approval of the project. The draft will be submitted to Caltrans and the City for review and comment. CONSULTANT will address the comments and produce the final Project Report. Additional reviews and comments by Caltrans, the City, or other agencies are not included in this scope.

CONSULTANT will meet with Caltrans and City for comments resolution and make updates to the Project Report and submit for approval.

➤ **Deliverables:** Project Report

TASK 10.0 | FINAL ENGINEERING STUDIES

Task 10.1 | Drainage Report

The Preliminary Drainage Report developed during the PA&ED phase will be updated to include the more detailed hydraulic analysis developed in the final design phase. This report will document the drainage analysis based on Caltrans criteria and will provide a detailed discussion of the existing conditions, post-project drainage patterns and conditions, results of the on- and off-site hydraulic analyses and any issues of special concern or significance. A draft version of the report will be submitted to the City and Caltrans for one round of comments at the 65% milestone and will be finalized upon completion of the 100% PS&E.

➤ **Deliverables:** Draft and Final Drainage Report

Task 10.2 | Storm Water Data Report

The PA&ED level Storm Water Data Report will be updated during the PS&E phase to reflect the final proposed project improvements. Any new information, changes, and/or refinements to the project design will be addressed as part of the following tasks:

- Updating the project description and significant features.
- Finalizing calculations related to the project DSA, NIS and PCT areas.
- Confirming the feasibility of selected design pollution prevention, treatment, maintenance, and construction BMPs and ensuring that they are reflected in the project plans, specifications, estimates, and right of way acquisition documents.
- Finalizing BMP sizing and cost estimates.
- Updating the SWDR Summary Spreadsheets and completing the SW, DPP, T, and CS checklists.
- Completing the RUSLE2 Summary Sheet.
- Completing the SWDR Attachment for SMARTS Input.
- Preparing supporting calculations and BMP deployment plans.

CONSULTANT will submit the draft document for review by Caltrans Maintenance, Landscape, and Storm Water units. One round of comments will be addressed, and the final document will be submitted for approval.

➤ **Deliverables:** Draft and Final Storm Water Data Report (PS&E Level)

Task 10.3 | Transportation Management Plan

CONSULTANT will prepare and submit to Caltrans a Transportation Management Plan (TMP) checklist request for preparation of the TMP. Based on the TMP request, Caltrans will then provide Lane Closure Charts and Standard Special Provisions for temporary traffic control during construction for inclusion in the final contract documents.

➤ **Deliverables:** Transportation Management Plan Request (PS&E Level), Lane Closure Charts

TASK 11.0 | FINAL DESIGN

Task 11.1 | Type Selection Report

Dokken Engineering will revise and update the Advanced Planning Studies for the recommended bridge type. The Bridge General Plan will show the plan, profile and typical section views. Denoted on these views will be the

construction staging sequence, utility locations on the bridge, column sizes, foundation types, barrier types, lighting, aesthetic treatments, slope protections and lane/shoulder widths.

Dokken Engineering will prepare a Type Selection Report for the City and Caltrans approval, documenting the recommended bridge type. The Type Selection Report will follow Caltrans procedures outlined in Memo to Designers 1-29, "Structure Type Selection", and OSFP Information and Procedures Guide, Section 4-2 "Structure Type Selection. The Report will include discussions of the following: bridge types considered, site geometric and hydraulic constraints, site geotechnical data, costs of considered alternatives, environmental impacts, community concerns, construction duration, accelerated bridge construction potential, staging considerations and maintenance requirements.

Specific bridge aesthetic treatment ideas that will be discussed include abutment and barrier formliners and lighting.

A meeting to confirm the selected bridge type and functional/aesthetic features will be scheduled at Caltrans Structures prior to the start of detailed design. Meeting minutes will be developed and the Final Bridge Type Selection Report will be submitted to Caltrans.

- **Deliverables:** Type Selection Report and Type Selection Meeting at Caltrans Structures (Sacramento)

Task 11.2 | 65% Roadway Plans, Specifications and Estimate

Based on the Geometric Concept Drawings, CONSULTANT will prepare 65% plans. The title sheet will include an index of sheets, approval signatures, the project description, location map, begin/end work, begin/end construction, and limits of work.

The typical section sheets will include original ground, traveled way, shoulders, cut/fill slopes, drainage, right of way, and existing/recommended structural sections. Project Control sheet will include control for design and construction data.

The plans will include the preliminary geometric data required to construct the project. Horizontal callouts will include a centerline station line, bearings/distances of tangents, horizontal curve data, conform stations, angle points, roadway dimensions and the identification of any physical features such as edge of pavement, AC dike, fences, barriers, etc. The plan view will include all right of way and easements, both permanent and temporary. The profile will include original ground and profile grade information. Super elevation diagram sheets will also be prepared.

The plans will include construction details for detailed conform tie-ins, grades of curb and gutters, and other details not included in the Standard Plans.

Drainage design will be shown on the drainage plans and will include existing drainage features, inlet/manhole locations with station and offset, pipe layouts and sizes, ditch alignments, infiltration basins, rock slope protection, and end treatments where appropriate. Drainage details will be identified on the detail sheets for details not covered in the Standard Plans.

Staging and traffic handling plans will include location of construction staging by each stage and temporary traffic handling devices used for traffic control. Traffic handling plans will conform to the provisions in the latest edition of the California Manual of Uniform Traffic Control Devices (MUTCD).

Pavement Delineation and signing plans will be part of this submittal to identify striping configuration and overall signage location. Pavement delineation and signage will conform to the latest edition of the California MUTCD.

Erosion control sheets and temporary water pollution control plans will be prepared to stabilize and restore disturbed areas. Design of these facilities shall include current Best Management Practices and will conform to the City, Caltrans and Regional Water Quality Control Board.

CONSULTANT will prepare electrical plans to modify existing signal and illumination systems, as necessary. CONSULTANT will coordinate with BNSF engineers regarding electrical design and communication with the railroad preemptive system.

The list of sheets will include, as necessary:

- Title Sheet
- Typical Sections
- Demolition Plans
- Layouts
- Profiles/Superelevation Diagrams
- Construction Details
- Drainage Plans, Profiles and Details,
- Utility Plans
- Water Pollution Control Plans
- Stage Construction Plans
- Traffic Handling Plans
- Detour Plans
- Pavement Delineation Plans
- Signing Plans
- Erosion Control Plans
- Electrical Plans

CONSULTANT will prepare and engineer's estimate of construction costs will be based on preliminary quantity takeoffs and current unit prices. A reasonable upward adjustment will be applied to all bid quantities that may vary during construction to allow for any necessary design adjustments.

CONSULTANT will prepare draft special provisions to supplement the Standard Specifications. The specifications will be based on the current Standard Specification version.

- **Deliverables:** 65% Roadway Plans (3 copies 24"x36" and pdf), Estimate (pdf and Excel spreadsheet), and Special Provisions (pdf and Word)

Task 11.2.a | 65% Landscape Plans [OPTIONAL]

CONSULTANT will prepare planting and irrigation concept plans and any necessary construction details.

CONSULTANT will prepare and engineer's estimate of construction costs will be based on preliminary quantity takeoffs and current unit prices. A reasonable upward adjustment will be applied to all bid quantities that may vary during construction to allow for any necessary design adjustments.

CONSULTANT will prepare draft special provisions to supplement the Standard Specifications. The specifications will be based on the current Standard Specification version.

- **Deliverables:** 65% Landscape Plans (3 copies 24"x36" and pdf), Estimate (pdf and Excel spreadsheet), and Special Provisions (pdf and Word)

Task 11.2.b | 65% Soundwall Plans [OPTIONAL]

CONSULTANT will prepare soundwall plans, if necessary, as a mitigation measure due to noise impacts. The soundwall plans will include aesthetic features, determined in coordination with the City.

CONSULTANT will prepare and engineer's estimate of construction costs will be based on preliminary quantity takeoffs and current unit prices. A reasonable upward adjustment will be applied to all bid quantities that may vary during construction to allow for any necessary design adjustments.

CONSULTANT will prepare draft special provisions to supplement the Standard Specifications. The specifications will be based on the current Standard Specification version.

- **Deliverables:** 65% Soundwall Plans (3 copies 24"x36" and pdf), Estimate (pdf and Excel spreadsheet), and Special Provisions (pdf and Word)

Task 11.3 | 65% Bridge Plans, Specifications and Estimate

Following the approval of the General Plans, structure plans and structural design calculations will be prepared by CONSULTANT. CONSULTANT will perform the structures design work in accordance with Caltrans Bridge Design Specifications - 2017 (Eight Edition) LRFD, Bridge Design Details Manual, Bridge Design Aids, Bridge Memos to Designers, and Caltrans Seismic Design Criteria (SDC). All plans and calculations shall conform to Caltrans' requirements. In close coordination with the City and Caltrans, CONSULTANT will assemble the calculations, plans, bid item list, and edited technical special provisions into the 65% submittal.

One bridge structure is assumed, a three-span, cast-in-place, reinforce concrete flat slab. No retaining walls are anticipated.

CONSULTANT will prepare detailed quantity calculations from the 65% plans. Unit prices will be estimated from Caltrans cost data, other CONSULTANT projects recently advertised and other recent regional project bid results.

- **Deliverables:** 65% Bridge Plans (3 copies 24"x36" and pdf), Estimate (pdf and Excel spreadsheet), Special Provisions (pdf and Word) and Estimate (pdf)

Task 11.4 | Stormwater Pollution Prevention Plan

Because the total disturbed area (including staging) is anticipated to exceed 1 acre, a National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit will be required. To obtain coverage under this permit, Dokken Engineering's Qualified Stormwater Developer (QSD) will prepare and enter the information associated with the Notice of Intent (NOI) into the Regional Water Quality Control Board's SMARTS database. In addition, the QSD will prepare and upload the Storm Water Pollution Prevention Plan (SWPPP) to the SMARTS system.

Preparation of the NOI will include calculating the total disturbed and percent impervious area of the project site and evaluating the risk level classification of the project. It is assumed that all permit fees will be paid directly by the City.

Preparation of the SWPPP will involve the following tasks:

- Developing a detailed project information exhibit;
- Identifying the sources that could add pollutants to storm water discharges or could result in non-storm water discharges;
- Selecting risk level appropriate Best Management Practices (BMPs) that will control each of the identified pollutants;
- Preparing Water Pollution Control Drawings;
- Identifying the required construction site monitoring efforts and, dependent on risk level, preparing a monitoring and sampling exhibit;
- Integrating appropriate post-construction storm water BMPs;
- Developing a maintenance, inspection and repair program.

A draft SWPPP will be provided to the City for review and comment at the 95% PS&E milestone. Upon receipt of City's comments, CONSULTANT will make the necessary modifications to the SWPPP and prepare a final SWPPP for use in obtaining the NPDES permit. CONSULTANT will provide QSD services through the issuance of the Waste Discharge Identification Number.

- **Deliverables:** Stormwater Pollution Prevention Plan

Task 11.5 | 95% Roadway Plans, Specifications and Estimate

CONSULTANT will prepare 95% plans and estimates based on the 65% plans and review comments. CONSULTANT will prepare a response to comments matrix with each comment received and response regarding how the comment was addressed/incorporated.

All additional design and detail sheets will be included for a full project design. The list of sheets will include, as necessary:

- Title Sheet
- Typical Sections
- Demolition Plans
- Layouts
- Profiles/Superelevation Diagrams
- Construction Details
- Drainage Plans, Profiles and Details,
- Utility Plans
- Water Pollution Control Plans
- Stage Construction Plans
- Traffic Handling Plans
- Detour Plans

- Pavement Delineation Plans
- Signing Plans
- Erosion Control Plans
- Electrical Plans

CONSULTANT will prepare an engineer's estimate of construction costs, based on detailed quantity takeoffs and current unit prices. A reasonable upward adjustment shall be applied to all bid quantities that may vary during construction to allow for any necessary design adjustments. The final estimate format shall be the standard Caltrans estimating system. Quantities for all contract items, including cost of lump sum items, shall be substantiated by calculations. Quantity calculations shall be neat and orderly and shall show all sketches, diagrams and dimensions necessary to allow them to be independently used by field engineers. All quantity calculations shall be independently checked and substantiated with independent calculations.

CONSULTANT will prepare draft special provisions to supplement the Standard Specifications. The specifications will be based on the current Standard Specification version. The special provisions will include all environmental mitigation and permitting measures required for the project.

- **Deliverables:** 95% Roadway Plans (3 copies 24"x36" and pdf), Estimate (pdf and Excel spreadsheet), Special Provisions (pdf and Word) and Response to Comments Matrix

Task 11.5.a | 95% Landscape Plans [OPTIONAL]

CONSULTANT will prepare 95% planting and irrigation plans and estimates based on the 65% plans and review comments. CONSULTANT will prepare a response to comments matrix with each comment received and response regarding how the comment was addressed/incorporated.

- **Deliverables:** 95% Landscape Plans (3 copies 24"x36" and pdf), Estimate (pdf and Excel spreadsheet), Special Provisions (pdf and Word) and Response to Comments Matrix

Task 11.5.b | 95% Soundwall Plans [OPTIONAL]

CONSULTANT will prepare 95% soundwall plans and estimates based on the 65% plans and review comments. CONSULTANT will prepare a response to comments matrix with each comment received and response regarding how the comment was addressed/incorporated.

- **Deliverables:** 95% Soundwall Plans (3 copies 24"x36" and pdf), Estimate (pdf and Excel spreadsheet), Special Provisions (pdf and Word) and Response to Comments Matrix

Task 11.6 | 95% Bridge Plans, Specifications and Estimate

CONSULTANT will conduct the independent bridge design checks for the bridges and walls. The independent check will be performed by a California registered engineer, completely independent from the structure design engineer. The independent check will begin as soon as the 65% plans are completed for the structures. Checking will include the preparation of an independent set of structural design check-calculations and review of the PS&E. A full set of stamped independent structural check calculations will be prepared. The checker will address any comments received from Caltrans on the review of check calculations and make resubmittals of the calculations as necessary to obtain Caltrans approval of the check.

CONSULTANT will revise the 65% submittal from the comments received by the Independent Design Checker and the reviewers of the 65% submittal and prepare the 95% PS&E. The 95% PS&E will be submitted to the City and Caltrans for review and comment.

CONSULTANT will prepare two independently prepared sets of quantity takeoff calculations for each structure. After differences in the two sets of quantities are resolved, an engineer's estimate of construction costs will be based on 95% plan quantity takeoffs and current unit prices.

CONSULTANT will prepare draft special provisions to supplement the Standard Specifications. The specifications will be based on the current Caltrans Standard Specification version.

- **Deliverables:** 95% Bridge Plans (3 copies 24"x36" and pdf), Estimate (pdf and Excel spreadsheet), Special Provisions (pdf and Word) and Response to Comments Matrix

Task 11.7 | 100% Plans, Specifications and Estimate

CONSULTANT will prepare 100% plans, specifications and estimate based on the 95% submittal and review comments. CONSULTANT will prepare a response to comments matrix with each comment received and response regarding how the comment was addressed/incorporated.

CONSULTANT will prepare cross sections for the project at 50-foot intervals. Additional cross sections will be prepared at specific unique locations along the project, as needed. The cross sections will show existing and proposed grades, structural section, roadway improvements, cut/fill limits, and conform limits.

All digital CAD files in appropriate City format will also be provided to the City.

- **Deliverables:** 100% Plans (5 copies 24"x36", pdf and CAD), Estimate (pdf and Excel spreadsheet), Special Provisions (pdf and Word) and Response to Comments Matrix, Cross Sections

Task 11.7.a | 100% Landscape Plans [OPTIONAL]

CONSULTANT will prepare 100% planting and irrigation plans, specifications and estimate based on the 95% submittal and review comments. CONSULTANT will prepare a response to comments matrix with each comment received and response regarding how the comment was addressed/incorporated.

- **Deliverables:** 100% Landscape Plans (5 copies 24"x36", pdf and CAD), Estimate (pdf and Excel spreadsheet), Special Provisions (pdf and Word) and Response to Comments Matrix, Cross Sections

Task 11.7.b | 100% Soundwall Plans [OPTIONAL]

CONSULTANT will prepare 100% soundwall plans, specifications and estimate based on the 95% submittal and review comments. CONSULTANT will prepare a response to comments matrix with each comment received and response regarding how the comment was addressed/incorporated.

- **Deliverables:** 100% Soundwall Plans (5 copies 24"x36", pdf and CAD), Estimate (pdf and Excel spreadsheet), Special Provisions (pdf and Word) and Response to Comments Matrix, Cross Sections

Task 11.8 | Final Contract Documents

CONSULTANT will prepare Final Contract Documents ready for advertisement. The Final Contract Documents will incorporate comments received on the 100% PS&E.

- **Deliverables:** Final Contract Documents

TASK 12 | ENVIRONMENTAL PERMITTING

Task 12.1 | U.S. Army Corps of Engineers Nationwide Permit

Project impacts to US waters are anticipated to be less than one-half acre, which qualifies the project for U.S. Army Corps of Engineering (USACE) Nationwide Permit 14. Should project impacts be exceed the one-half acre threshold, the project would still qualify for a Nationwide Permit 23, which is utilized for FHWA/Caltrans categorically exempted projects. CONSULTANT will prepare and submit a Nationwide Permit application with all required supporting documentation and will coordinate with USACE and City staff to obtain the signed permit. The City will be responsible for all mitigation fees.

- **Deliverables:** USACE Nationwide Permit Application and Final Permit

Task 12.2 | Central Valley Regional Water Quality Control Board Water Quality Certification

As the Project impacts waters regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB), CONSULTANT will prepare and submit a Water Quality Certification Application with all required supporting documentation and will coordinate with CVRWQCB and City staff to obtain the certification. The City will be responsible for all permitting fees and mitigation fees.

- **Deliverables:** CVRWQCB Water Quality Certification Application and Final Certification

Task 12.3 | California Department of Fish and Wildlife Streambed Alteration Agreement

As the Project will impact waters and riparian habitat governed by the California Department of Fish and Wildlife (CDFW), CONSULTANT will prepare and submit a Streambed Alteration Agreement Application with all required supporting documentation and will coordinate with CDFW and City staff to obtain the final Streambed Alteration Agreement. The City will be responsible for all permitting fees and mitigation fees.

- **Deliverables:** Streambed Alteration Agreement Application and Final Agreement

Task 12.4 | Central Valley Flood Protection Board Encroachment Permit

As Black Rascal Creek is waterway regulated by the Central Valley Flood Protection Board (CVFPB), CONSULTANT will prepare and submit an Encroachment Permit Application with all required supporting documentation. Early consultation with the CVFPB is especially important because this agency completes a great deal of engineering design review and is often critical of projects that revegetate within the floodway. CONSULTANT's environmental and engineering teams will work closely together to complete this encroachment permit application to minimize the reviewing time required by the CVFPB. The City will be responsible for all permitting fees.

- **Deliverables:** CVFPB Encroachment Permit

TASK 13.0 | BIDDING SUPPORT

Task 13.1 | Bidding Support

CONSULTANT will provide assistance, as required, to the City during bidding of the project. This work may include answering questions from prospective bidders, attending a pre-bid meeting, preparation of addenda to the PS&E during advertisement period, and providing consultation and interpretation of the construction documents. CONSULTANT will perform a bid tabulation, analysis and review of the received bids.

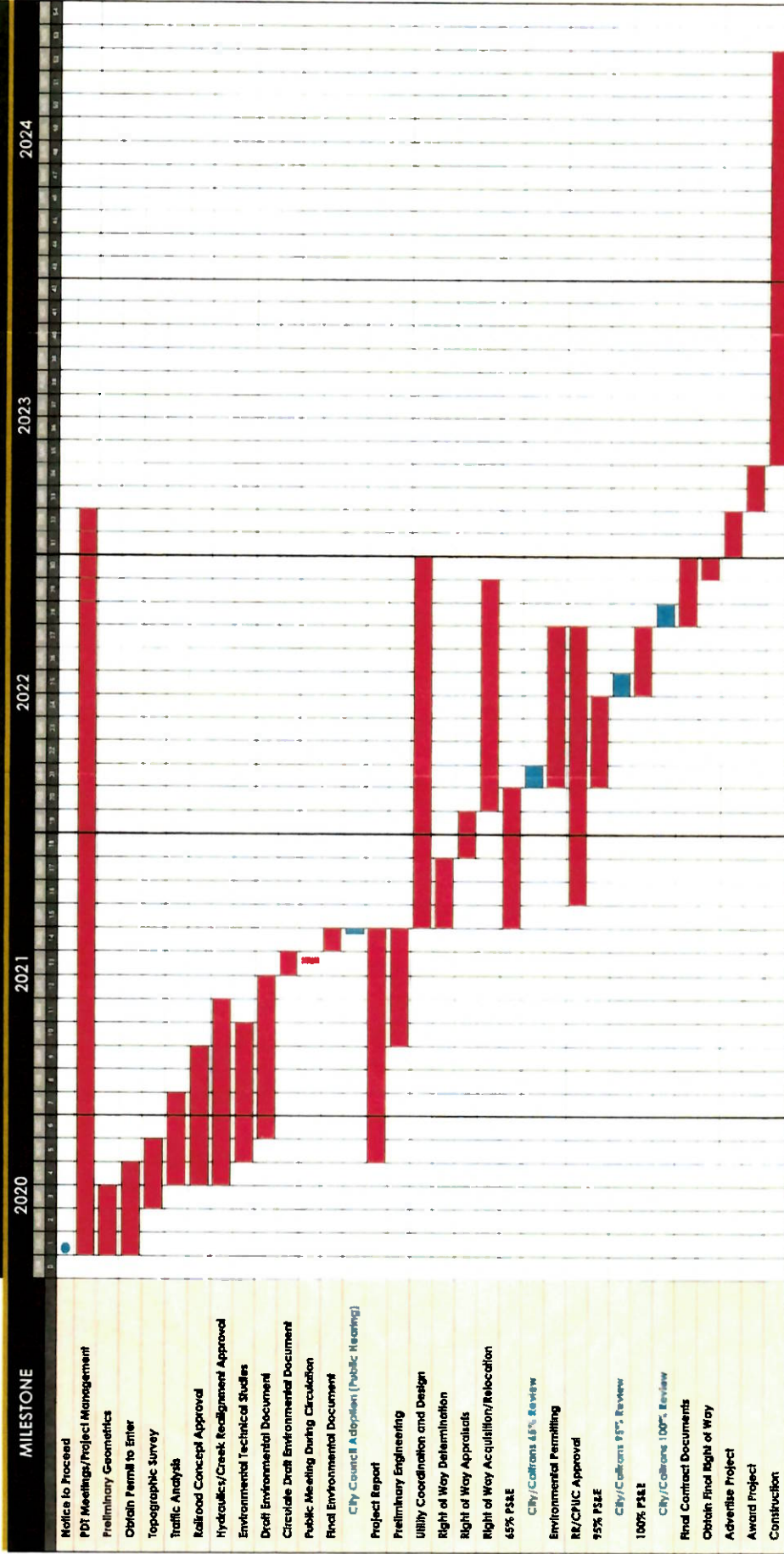
- **Deliverables:** Bidding Addenda, Response to Bidder Questions, Bid Tabulation and Analysis
-



MERCED

PA&ED and PS&E
COMBINED PROJECT SCHEDULE

HIGHWAY 59 PHASE 1 WIDENING and
HIGHWAY 59 BRIDGE WIDENING over BLACK RASCAL CREEK



HIGHWAY 99 PHASE 1 WIDENING AND BRIDGE WIDENING OVER BLACK RASCAL CREEK						
	Dukken Engineering	Kleinfelder	OTDelt Engineering	Fehr & Peers	NorthStar	Grand Total
TASK 1 - PROJECT MANAGEMENT	\$ 173,380.00	\$ -	\$ -	\$ -	\$ -	\$ 173,380.00
1.1 General Administration and Coordination	\$ 35,400.00	\$ -	\$ -	\$ -	\$ -	\$ 35,400.00
1.2 Project Meetings	\$ 48,900.00	\$ -	\$ -	\$ -	\$ -	\$ 48,900.00
1.3 Monthly Invoice and Progress Reports	\$ 16,500.00	\$ -	\$ -	\$ -	\$ -	\$ 16,500.00
1.4 Project Schedule	\$ 10,500.00	\$ -	\$ -	\$ -	\$ -	\$ 10,500.00
1.5 Quality Control	\$ 15,000.00	\$ -	\$ -	\$ -	\$ -	\$ 15,000.00
1.6 Public Meetings	\$ 21,920.00	\$ -	\$ -	\$ -	\$ -	\$ 21,920.00
1.7 City Council Meetings	\$ 13,760.00	\$ -	\$ -	\$ -	\$ -	\$ 13,760.00
1.8 Funding Assistance	\$ 11,400.00	\$ -	\$ -	\$ -	\$ -	\$ 11,400.00
TASK 2 - SURVEYING AND RIGHT OF WAY MAPPING	\$ 8,790.00	\$ -	\$ -	\$ -	\$ 80,080.00	\$ 88,870.00
2.1 Record Research	\$ 1,180.00	\$ -	\$ -	\$ -	\$ 1,480.00	\$ 2,660.00
2.2 Record Calculations	\$ 1,180.00	\$ -	\$ -	\$ -	\$ 6,940.00	\$ 8,120.00
2.3 Preliminary Title Reports	\$ 840.00	\$ -	\$ -	\$ -	\$ 23,065.00	\$ 23,905.00
2.4 Right of Way and Control Field Survey	\$ 1,180.00	\$ -	\$ -	\$ -	\$ 11,670.00	\$ 12,850.00
2.5 Topographic Survey	\$ 2,840.00	\$ -	\$ -	\$ -	\$ 28,240.00	\$ 29,080.00
2.6 Color Orthorectified Aerial Photo	\$ 390.00	\$ -	\$ -	\$ -	\$ 1,380.00	\$ 1,770.00
2.7 Record of Survey	\$ 1,180.00	\$ -	\$ -	\$ -	\$ 9,305.00	\$ 10,485.00
TASK 3 - GEOTECHNICAL STUDIES	\$ 15,420.00	\$ 307,486.76	\$ -	\$ -	\$ -	\$ 322,906.76
3.1 Geotechnical Design and Materials Report	\$ 4,300.00	\$ 117,247.89	\$ -	\$ -	\$ -	\$ 121,547.89
3.2 Bridge Foundation Reports	\$ 5,060.00	\$ 109,963.31	\$ -	\$ -	\$ -	\$ 115,023.31
3.3 Initial Site Assessment	\$ 2,020.00	\$ 16,726.68	\$ -	\$ -	\$ -	\$ 18,746.68
3.4 Aerially Deposited Lead Survey	\$ 2,020.00	\$ 62,426.28	\$ -	\$ -	\$ -	\$ 64,446.28
3.5 Lead Based Paint and Asbestos Containing Materials Surveys	\$ 2,020.00	\$ 1,120.00	\$ -	\$ -	\$ -	\$ 3,140.00
3.6 Soundwall Addition	\$ -	\$ 24,088.00	\$ -	\$ -	\$ -	\$ 24,088.00
3.6 Environmental Sampling Along Railroads [OPTIONAL]	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3.7 Falling Weight Deflectometer Testing [OPTIONAL]	\$ 3,860.00	\$ 27,892.00	\$ -	\$ -	\$ -	\$ 31,752.00
TASK 4 - PRELIMINARY ENGINEERING STUDIES	\$ 156,700.00	\$ -	\$ -	\$ 143,511.25	\$ -	\$ 300,211.25
4.1 Existing Data Collection and Field Review	\$ 2,840.00	\$ -	\$ -	\$ -	\$ -	\$ 2,840.00
4.2 Preliminary Geometrics	\$ 15,800.00	\$ -	\$ -	\$ -	\$ -	\$ 15,800.00
4.3 Preliminary Cost Estimates	\$ 11,240.00	\$ -	\$ -	\$ -	\$ -	\$ 11,240.00
4.4 Traffic Operations Analysis Report	\$ 3,540.00	\$ -	\$ -	\$ 143,511.25	\$ -	\$ 147,051.25
4.5 Preliminary Drainage Report	\$ 35,380.00	\$ -	\$ -	\$ -	\$ -	\$ 35,380.00
4.6 Location Hydraulic Study	\$ 23,960.00	\$ -	\$ -	\$ -	\$ -	\$ 23,960.00
4.7 Life Cycle Cost Analysis	\$ 11,000.00	\$ -	\$ -	\$ -	\$ -	\$ 11,000.00
4.8 Bridge Design Hydraulic Study	\$ 27,260.00	\$ -	\$ -	\$ -	\$ -	\$ 27,260.00
4.9 Noise Abatement Decision Report	\$ 6,080.00	\$ -	\$ -	\$ -	\$ -	\$ 6,080.00
4.10 Design Support for Environmental	\$ 19,800.00	\$ -	\$ -	\$ -	\$ -	\$ 19,800.00
4.11 Letter of Map Revision [OPTIONAL]	\$ 55,860.00	\$ -	\$ -	\$ -	\$ -	\$ 55,860.00
4.12 Value Analysis [OPTIONAL]	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4.12 Traffic Analysis Year Design Exception [OPTIONAL]	\$ 5,080.00	\$ -	\$ -	\$ 36,400.00	\$ -	\$ 41,480.00
TASK 5 - ENVIRONMENTAL DOCUMENT	\$ 183,500.00	\$ -	\$ -	\$ -	\$ -	\$ 183,500.00
5.1 Air Quality Report	\$ 8,000.00	\$ -	\$ -	\$ -	\$ -	\$ 8,000.00
5.2 Air Quality Conformity Analysis	\$ 3,600.00	\$ -	\$ -	\$ -	\$ -	\$ 3,600.00
5.3 Community Impact Assessment	\$ 8,000.00	\$ -	\$ -	\$ -	\$ -	\$ 8,000.00
5.4 Visual Impact Assessment	\$ 6,700.00	\$ -	\$ -	\$ -	\$ -	\$ 6,700.00
5.5 Noise Study Report	\$ 24,700.00	\$ -	\$ -	\$ -	\$ -	\$ 24,700.00
5.6 Water Quality Assessment Report	\$ 8,040.00	\$ -	\$ -	\$ -	\$ -	\$ 8,040.00
5.7 Natural Environmental Study Report	\$ 19,080.00	\$ -	\$ -	\$ -	\$ -	\$ 19,080.00
5.8 Biological Assessment and Endangered Species Act Consultation	\$ 14,280.00	\$ -	\$ -	\$ -	\$ -	\$ 14,280.00
5.9 Historic Property Survey Report/Archaeological Survey Report	\$ 16,600.00	\$ -	\$ -	\$ -	\$ -	\$ 16,600.00
5.10 Section 4(f) Evaluation	\$ 6,040.00	\$ -	\$ -	\$ -	\$ -	\$ 6,040.00
5.11 CEQA Draft Initial Study with Mitigated Negative Declaration	\$ 29,840.00	\$ -	\$ -	\$ -	\$ -	\$ 29,840.00
5.12 CEQA AB52 Native American Consultation	\$ 7,460.00	\$ -	\$ -	\$ -	\$ -	\$ 7,460.00
5.13 CEQA IS/MND Public Circulation	\$ 9,060.00	\$ -	\$ -	\$ -	\$ -	\$ 9,060.00
5.14 CEQA IS/MND Response to Comments	\$ 8,900.00	\$ -	\$ -	\$ -	\$ -	\$ 8,900.00
5.15 CEQA Final IS/MND	\$ 7,300.00	\$ -	\$ -	\$ -	\$ -	\$ 7,300.00
5.16 NEPA Categorical Exclusion	\$ 5,900.00	\$ -	\$ -	\$ -	\$ -	\$ 5,900.00
TASK 6 - UTILITY COORDINATION	\$ 87,920.00	\$ -	\$ -	\$ -	\$ -	\$ 87,920.00
6.1 Utility Mapping	\$ 2,500.00	\$ -	\$ -	\$ -	\$ -	\$ 2,500.00
6.2 Utility Pot-holing	\$ 48,960.00	\$ -	\$ -	\$ -	\$ -	\$ 48,960.00
6.3 Utility B Letters	\$ 5,360.00	\$ -	\$ -	\$ -	\$ -	\$ 5,360.00
6.4 Liability Determination	\$ 4,260.00	\$ -	\$ -	\$ -	\$ -	\$ 4,260.00
6.5 Reports of Investigation	\$ 14,440.00	\$ -	\$ -	\$ -	\$ -	\$ 14,440.00
6.6 Utility Agreements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6.6 Notice to Owners	\$ 12,400.00	\$ -	\$ -	\$ -	\$ -	\$ 12,400.00
6.7 Additional Utility Coordination [OPTIONAL]	\$ 20,981.25	\$ -	\$ -	\$ -	\$ -	\$ 20,981.25
TASK 7 - RAILROAD COORDINATION	\$ 15,900.00	\$ -	\$ -	\$ -	\$ -	\$ 15,900.00
7.1 Railroad Coordination and Exhibits	\$ 15,900.00	\$ -	\$ -	\$ -	\$ -	\$ 15,900.00
7.2 BNSF Railway Concurrence Letters and Agreements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.3 Union-Pacific Railroad Concurrence Letters and Agreements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7.4 Public Utilities Commission Exhibits and GO 55 Application	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TASK 8 - RIGHT OF WAY ENGINEERING	\$ 29,260.00	\$ -	\$ -	\$ -	\$ 39,105.00	\$ 68,365.00
8.1 Caltrans Encroachment Permit	\$ 2,700.00	\$ -	\$ -	\$ -	\$ -	\$ 2,700.00
8.2 Permit to Enters	\$ 6,280.00	\$ -	\$ -	\$ -	\$ -	\$ 6,280.00
8.3 Right of Way Requirement Maps	\$ 12,020.00	\$ -	\$ -	\$ -	\$ 4,165.00	\$ 16,185.00
8.4 Plat and Legal Descriptions	\$ 4,220.00	\$ -	\$ -	\$ -	\$ 34,940.00	\$ 39,160.00
8.5 Right of Way Certification	\$ 4,040.00	\$ -	\$ -	\$ -	\$ -	\$ 4,040.00
8.6 Right of Way Staking [OPTIONAL]	\$ 2,060.00	\$ -	\$ -	\$ -	\$ 11,790.00	\$ 13,850.00
TASK 9 - PROJECT REPORT	\$ 194,760.00	\$ -	\$ -	\$ -	\$ -	\$ 194,760.00
9.1 Geometric Concept Drawing	\$ 26,750.00	\$ -	\$ -	\$ -	\$ -	\$ 26,750.00
9.2 Design Standard Decision Documents	\$ 19,150.00	\$ -	\$ -	\$ -	\$ -	\$ 19,150.00
9.3 Location Map, Layouts, Profiles, and Typical Sections	\$ 11,880.00	\$ -	\$ -	\$ -	\$ -	\$ 11,880.00
9.4 Storm Water Data Report	\$ 31,040.00	\$ -	\$ -	\$ -	\$ -	\$ 31,040.00
9.5 Traffic Management Plan Checklist	\$ 3,680.00	\$ -	\$ -	\$ -	\$ -	\$ 3,680.00
9.6 Cost Estimates	\$ 8,120.00	\$ -	\$ -	\$ -	\$ -	\$ 8,120.00
9.7 Risk Register	\$ 6,360.00	\$ -	\$ -	\$ -	\$ -	\$ 6,360.00
9.8 Right of Way Data Sheets/Utility Information Sheets	\$ 9,640.00	\$ -	\$ -	\$ -	\$ -	\$ 9,640.00
9.9 Stage Construction Concept	\$ 10,320.00	\$ -	\$ -	\$ -	\$ -	\$ 10,320.00
9.10 Advanced Planning Study	\$ 29,380.00	\$ -	\$ -	\$ -	\$ -	\$ 29,380.00
9.11 Draft Project Report	\$ 21,700.00	\$ -	\$ -	\$ -	\$ -	\$ 21,700.00
9.12 Project Report	\$ 16,940.00	\$ -	\$ -	\$ -	\$ -	\$ 16,940.00
TASK 10 - FINAL ENGINEERING STUDIES	\$ 84,840.00	\$ -	\$ -	\$ -	\$ -	\$ 84,840.00
10.1 Drainage Report	\$ 51,680.00	\$ -	\$ -	\$ -	\$ -	\$ 51,680.00
10.2 Storm Water Data Report	\$ 30,700.00	\$ -	\$ -	\$ -	\$ -	\$ 30,700.00
10.3 Transportation Management Plan	\$ 2,460.00	\$ -	\$ -	\$ -	\$ -	\$ 2,460.00
TASK 11 - FINAL DESIGN	\$ 808,850.00	\$ -	\$ -	\$ -	\$ -	\$ 808,850.00
11.1 Type Selection Report	\$ 30,440.00	\$ -	\$ -	\$ -	\$ -	\$ 30,440.00
11.2 65% Roadway Plans, Specifications and Estimate	\$ 317,020.00	\$ -	\$ -	\$ -	\$ -	\$ 317,020.00
11.2.a 65% Landscape Plans [OPTIONAL]	\$ -	\$ -	\$ 37,230.00	\$ -	\$ -	\$ 37,230.00
11.2.b 65% Soundwall Plans [OPTIONAL]	\$ 4,720.00	\$ -	\$ -	\$ -	\$ -	\$ 4,720.00
11.3 65% Bridge Plans, Specifications and Estimate	\$ 69,770.00	\$ -	\$ -	\$ -	\$ -	\$ 69,770.00
11.4 Stormwater Pollution Prevention Plan	\$ 19,530.00	\$ -	\$ -	\$ -	\$ -	\$ 19,530.00
11.5 95% Roadway Plans, Specifications and Estimate	\$ 172,390.00	\$ -	\$ -	\$ -	\$ -	\$ 172,390.00
11.5.a 95% Landscape Plans [OPTIONAL]	\$ -	\$ -	\$ 16,355.00	\$ -	\$ -	\$ 16,355.00
11.5.b 95% Soundwall Plans [OPTIONAL]	\$ 6,720.00	\$ -	\$ -	\$ -	\$ -	\$ 6,720.00
11.6 95% Bridge Plans, Specifications and Estimate	\$ 79,720.00	\$ -	\$ -	\$ -	\$ -	\$ 79,720.00
11.7 100% Plans, Specifications and Estimate	\$ 90,220.00	\$ -	\$ -	\$ -	\$ -	\$ 90,220.00
11.7.a 100% Landscape Plans [OPTIONAL]	\$ -	\$ -	\$ 11,620.00	\$ -	\$ -	\$ 11,620.00
11.7.b 100% Soundwall Plan [OPTIONAL]	\$ 4,630.00	\$ -	\$ -	\$ -	\$ -	\$ 4,630.00
11.8 Final Contract Documents	\$ 29,760.00	\$ -	\$ -	\$ -	\$ -	\$ 29,760.00
TASK 12 - ENVIRONMENTAL PERMITTING	\$ 55,800.00	\$ -	\$ -	\$ -	\$ -	\$ 55,800.00
12.1 U.S. Army Corps of Engineers Nationwide Permit (404)	\$ 16,200.00	\$ -	\$ -	\$ -	\$ -	\$ 16,200.00
12.2 Central Valley RWQCB Water Quality Certification (401)	\$ 15,100.00	\$ -	\$ -	\$ -	\$ -	\$ 15,100.00
12.3 CDFW Streambed Alteration Agreement (1602)	\$ 15,100.00	\$ -	\$ -	\$ -	\$ -	\$ 15,100.00
12.4 Central Valley Flood Protection Board Encroachment Permit	\$ 9,400.00	\$ -	\$ -	\$ -	\$ -	\$ 9,400.00
12.5 City of Merced Tree Permit	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TASK 13 - BIDDING SUPPORT	\$ 13,920.00	\$ -	\$ -	\$ -	\$ -	\$ 13,920.00
13.1 Resident Engineer File	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13.1 Bidding Support	\$ 13,920.00	\$ -	\$ -	\$ -	\$ -	\$ 13,920.00
TASK 14 - CONSTRUCTION SUPPORT	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14.1 Design Support During Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14.2 Structural Verification/Inspection Support During Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14.3 Environmental Support During Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14.3.1 Mitigation Credit Coordination	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14.3.2 Permit Agency Coordination	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14.3.3 MARB/VECR Implementation and Documentation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
14.4 As-Built	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal (Excluding Optional Tasks)	\$ 1,629,040.00	\$ 307,486.76	\$ -	\$ 143,511.25	\$ 119,185.00	\$ 2,399,223.01
Optional Total	\$ 103,421.25	\$ 51,980.00	\$ 64,605.00	\$ 36,400.00	\$ 11,790.00	\$ 268,196.25
Grand Total	\$ 1,932,461.25	\$ 359,466.76	\$ 64,605.00	\$ 179,911.25	\$ 130,975.00	\$ 2,667,419.26

Cells with hour and/or cost change
Task Name
Task removed since original proposal fee