EXHIBIT "A"

PRELIMINARY SCOPE OF WORK- SJCDPW-RFP-26-05

San Joaquin County Department of Public Works (SJCDPW) Preliminary Scope of Work for the Frazier Road Bridge No. 29C-272 Replacement Project.

The local bridge is situated on Frazier Road approximately 1.5 miles west of Clements Road north of Linden in the eastern portion of San Joaquin County. The structure was built in 1956 and is 20 feet wide and 32 feet long with a corrugate steel decking on asphalt concrete. The speed limit is Prima Facia 55 MPH.

San Joaquin County proposes to replace the existing Frazier Road Bridge No. 29C-272 over Mosher Creek with a two-cell reinforced concrete box culvert system featuring a 90-degree headwall and flared wingwalls. The proposed culvert configuration is based on the results of the Hydrologic and Hydraulic Study prepared by HDR and is intended to safely convey the 50- and 100-year storm events while minimizing scour potential and long-term maintenance requirements. Another alternative that will be evaluated is a single span reinforce concrete structure or a permanent single span prefabricated structure on abutment and pile support. A bridge type selection report will be prepared to determine the preferred structural type.

The proposed replacement will improve hydraulic performance, reduce scour vulnerability, and enhance structural reliability and safety. The project will also include roadway approach improvements, channel grading as needed, and installation of appropriate scour countermeasures.

SJCDPW, Bridge Engineering Division, will hire a consultant to complete the preliminary engineering phase of the project. Design activities will include environmental documentation (CEQA only), bridge and roadway design, preparation of 100 percent plans, specifications, and estimates (PS&E), public outreach, hydrology and hydraulic analyses, if addition analysis is needed, geotechnical investigations, topographic surveying, utility coordination, and obtain approval of all required regulatory permits.

SJCDPW will solicit qualified consultants to provide professional and technical engineering services for the design of the proposed Frazier Road Bridge No. 29C-272 Over Mosher Creek (Project).

The selected firm (Consultant) will be requested to enter into a Consultant Services Agreement with SJCDPW as set forth in the Request for Proposal. Consultant will be required to perform the following tasks:

- Project Management
- Project Surveying, Mapping and Control
- Evaluation of Bridge Type Selection/Roadway Alignment
- Public Outreach Program
- Geotechnical Analysis Report
- CEQA Approval only
- Hydraulic and Hydrology Analysis (If additional analysis is needed)
- Permitting Compliance and Approval
- Utility Coordination and Relocation Plan
- Right-of-Way Engineering
- Plans, Specifications, and Engineer's Estimate (PS&E)
- Bidding and Post Award Assistance

The Consultant will be required to provide all labor, equipment, tools, and facilities necessary for the completion of the Project's design and environmental clearance.

A consultant firm responding to this Scope of Work for Public Works must submit the following information in their submittal.

A site-specific project proposal for Frazier Road Bridge containing:

- A Scope of Work (i.e. approach/work plan)
- Task Effort Work Sheet(s)
- Schedule

Public Works reserves the right to eliminate or reduce the Scope of Work if sufficient funds are not available for the Project. Proposed costs must be submitted for each of the tasks and subtasks identified here within the Scope of Work.

The preliminary Scope of Work described in this Request for Proposal is provided for guidance only. The Proposal needs to be detailed and defined in order to accomplish each task successfully. All work must comply with County Standards and Policies, MUTCD, Latest AASHTO Bridge Design Specification, Caltrans Bridge Design Guide, Highway Design Manual, and AASHTO A Policy on Geometric Design of Highways and Streets.

Engineering services will include, but not be limited to, the following:

TASK 1.0 PROJECT MANAGEMENT

TASK 1.1 COORDINATION / MEETINGS ADMINISTRATION

Project Management: The Project Manager will be responsible for directing the Project team during the development and execution of the Project, as well as communication with County staff, and documenting the progress and decisions made during the entire Project. This involves all aspects of Project management including budget tracking, scope creeping, schedule, task orders, and quality control.

The Consultant shall implement and maintain quality control procedures during the preparation of memoranda, working documents, reports, plans, and drawings for the Project. The quality control procedures shall be in effect during the entire time work is being performed for the Project. The quality control procedures will establish a process whereby any calculations are independently checked, plans are checked and corrected, and all Project related memoranda, work documents, and reports are routed and received by the affected persons and then bound in appropriate files. All work products submitted to Public Works Project Management staff for review are required to be marked clearly as fully checked, and that the preparation of the material followed the established quality control procedures.

Project Kick-off Meeting: A Project "Kick-off" meeting will be held following the Notice to Proceed. This meeting includes representatives from the County, Consultant, Sub-consultants, and other involved agencies. The primary meeting objectives will be to present the Project and its goals, review the Project scope and action items list, explain the Project schedule, identify key Projects issues, and facilitate discussions and ideas regarding the completion of the Project.

Project Development Meetings: A coordination and status conference call with key staff members will be held on a monthly basis. The project development team meetings will be held to review Project status, design, and budget to obtain required County input, make decisions, and discuss issues that have the potential of affecting the Project design, budget, or schedule. The Consultant will provide an updated Project schedule as necessary. The schedule will be prepared in Microsoft Project and will identify the beginning dates and duration of each task.

Consultant will prepare all meeting notes, agendas, and minutes. This includes attendees contact information, meeting content, and action items to be completed, and will be reviewed by Public Work's Project Manager.

Progress Reports: On a monthly basis, progress reports will be issued with invoices to the County detailing major items worked on during the billing period and percentage completion for each task, with substantiation for backup.

TASK 2.0 PROJECT SURVEYING, MAPPING AND CONTROL

TASK 2.1 SURVEYING

The Consultant will perform a topographic survey and base mapping necessary for the design and engineering for the Project. In addition, the survey will establish horizontal and vertical control at the Project site.

The survey will include the following:

- Control surveys will locate all existing survey monuments (pins, nails, bench marks, etc.) within the Project area. These monuments will be shown on the plans. Survey control will provide, at a minimum, two on-site control points (horizontal and vertical) for the Project, and tie the vertical control to local datum. North American Datum of 1983 and North American Vertical Datum of 1988 will be used unless otherwise noted.
- Perform a detailed aerial topographic survey to encompass the proposed realignment, new bridge location, and existing bridge location. The aerial topographic survey, along with a supplemental ground survey, shall include the following: existing utilities, adjoining structures, ditches, irrigation facilities, driveways, access roads, trees, the bridge structure, areas around and under abutments to locate grade breaks, abutment lines, and bridge supports.
- The detailed aerial topographic survey shall include Mosher Creek at the existing and proposed bridge location, the existing bridge structure, existing roadway alignment and new road alignment conforming to the existing roadway on the north and south end.
- Proposed road alignment shall be cross-sectioned at every 25-foot interval to include a 50-foot swath width and extend to the proposed conform limit on the north and south end of the Project.
- Provide Mosher Creek cross section at the existing and proposed bridge locations.
    1. Channel cross sections at 25-feet on center starting at the edge of bridge and extending 100-feet upstream and downstream of bridge.
    2. Then 50-feet on center extending an additional 300-feet; upstream and downstream.
    3. The channel cross sections will extend 20-feet beyond top of bank. Consultant shall reference the cross sections from a line that runs parallel to the channel at the top of the bank. Cross sections shall be set perpendicular to the reference line.
- Prepare topographic and boundary maps in AutoCAD, using the latest version. A 3D digital terrain model and contours at 1-foot intervals will be shown along with spot elevations.

- Provide an electronic drawing and Portable Document Format (PDF) of the completed topographic survey and digital terrain model.

TASK 2.2 RIGHT-OF-WAY SURVEY

- Determination of the existing right-of-way and parcel boundaries for the existing and proposed bridge and roadway alignment. The survey will identify the existing right-of-way lines and to prepare any legal descriptions, easements and exhibits for the Project area.
- Perform field search to locate existing survey markers and monuments in the proximity of the Project to determine the Project right-of-way.
- Review record maps, notes, field books, deeds, and reports to determine search locations for existing monuments, control points, and benchmarks that may be utilized for determining the road right-of-way location, parcel boundaries, and/or potential disturbances during Project construction.
- Identify the found property corners to determine the Project right-of-way.
- Provide document search of right-of-way maps that can be used to determine the need for preparation of temporary construction easements.
- Assessor's Parcel Number, owner's name, and street address will be shown for properties that will be affected by the Project improvements.

TASK 2.3 RECORD OF SURVEY (OPTIONAL TASK)

If during the record map search, there is insufficient documentation in the Project area to plot the right-of-way, additional research for monuments and boundary evidence outside of the Project area is needed to make a mathematical boundary determination. Should this be the case, and the field surveys fail to recover sufficient documentation or boundary evidence to plot the right-of-way, and/or if a material discrepancy is discovered, additional field work and preparation of a Record of Survey will be required.

TASK 3.0 EVALUATION OF APPROVED BRIDGE TYPE

The Consultant will evaluate the recommendation of a single span bridge, two cell concrete box culvert, or a permanent single span prefabricated structure on abutment and pile support, and select a preferred alignment. The feasibility study will evaluate three bridge types and two alignment alternatives. The selection of the bridge type and alignment will be based on the most economical, environmentally friendly, and ease of construction. A construction cost estimate will be prepared for the alternative type selections based upon Caltrans's cost data, using quantities and associated cost similar to the Project and information available from recent projects within the County.

TASK 4.0 PUBLIC OUTREACH PROGRAM

Consultant will identify and produce a database of stakeholders and create notification letters to each stakeholder regarding the upcoming Project. The letters will describe the Project scope and anticipated construction schedule. Distribution of letters will commence after completion and approval of the feasibility study. A list of all stakeholders, including available contact information, will be provided to the County. Consultant will provide electronic copies of a notification letter and the mailing list of all stakeholders. **Please do not contact property owners during the RFP process.**

TASK 4.1 PUBLIC INVOLVEMENT PROGRAM

Consultant will facilitate one (1) public meeting for the presentation of concepts and design features to the public. The meeting will be held in a facility near the Project vicinity to present the Project to neighboring residents for the exchange of information about the design and related issues. The meeting will be structured to provide information on the Project status and features, impacts to adjacent properties, farmland, staging, detours, and construction scheduling.

Consultant will schedule public meetings, make arrangements for facilities, prepare exhibits to illustrate design concepts and Project features, issue meeting notices, and prepare agenda and minutes. Consultant will document public questions and comments, and provide appropriate responses.

TASK 5.0 GEOTECHNICAL ANALYSIS REPORT

Consultant will obtain all geotechnical and/or geological information necessary for the design of the Project. Geotechnical and/or geologic exploration will be of sufficient detail to facilitate planning and detailed design of the Project. The Consultant will provide a draft foundation report for structure type selection. The geotechnical report and analysis will include, but not be limited to the following:

(1) Site investigation;
(2) Subsurface exploration
(3) In-situ soil sampling, boring and laboratory tests;
(4) TI and R-Values
(5) Foundation recommendation and geotechnical design parameters;
(6) Recommendation on Scour protection;
(7) Traffic control measures as required for field sampling operation.
(8) A Caltrans Standard Practices Seismic Assessment
(9) Log of test borings.
(10) Boring permit from Environmental Health
(11) Obtain permit to enter from property owners
(12) Notify all affected agencies and Underground Service Alert of all sampling work.

A final foundation report will be prepared to aid in determining the proposed Bridge replacement configuration based upon final span length, predicted scour, environmental constraints and anticipated construction sequencing. The foundation report will also provide site geology and subsurface conditions, construction considerations and cost data. Consultant will provide a draft copy and a final geotechnical report for the Bridge and roadway design.

TASK 6.0 ENVIRONMENTAL CLEARANCE

The PROJECT must obtain environmental clearance in accordance with the California Environmental Quality Act (CEQA) guidelines. The CONSULTANT will conduct environmental constraints analysis of the PROJECT area of potential effect sufficient to identify obstacles of significance for each alternative. CONSULTANT will identify environmental issues (such as traffic, noise, air quality, aesthetics, etc.) that might indicate additional studies by the CONSULTANT. These issues will be considered in evaluating PROJECT alternatives.

TASK 6.1 ENVIRONMENTAL DOCUMENTATION - INITIAL STUDIES

The CONSULTANT will develop a project description and be responsible for conducting all research and coordinating with all resource agencies to complete an Initial Study in accordance with California Environmental Quality Act (CEQA) guidelines. The Initial Study will determine the level of environmental clearance required for the project. The project description must describe project characteristics and objectives, and show the project location on detailed maps.

The CONSULTANT will prepare the Initial Study and determine the work effort needed to secure environmental clearance. The CONSULTANT will deliver the appropriate environmental documentation indicated by the Initial Study, but for the purpose of responding to this RFP only, the CONSULTANT will include the anticipated work effort to complete a Mitigated Negative Declaration.

P*repare Administrative Draft Initial Study:* After technical studies have been completed Consultant will use studies and additional minimal research conducted to complete the remaining checklist issue topics to prepare an administrative version of the draft Initial Study/Mitigated Negative Declaration (IS/MND).

Consultant will analyze air quality and climate change impacts associated with the preferred alternative and document the results in the IS/MND. The format of the IS/MND will either use a Consultant-provided template, or a clean work template provided by the Project Development Team that does not require any additional formatting by Consultant.

The environmental checklist section will include responses for each question in the different issue areas followed by a discussion of the potential impacts including direct and indirect as well as cumulative impacts. The responses will provide the basis for the determination provided in the checklist. Consultant will provide a PDF copy of the administrative draft for County review.

Prepare Public Draft IS/MND: Consultant will incorporate one (1) set of comments on the administrative draft IS/MND from County and will prepare the revised draft (PDF) for approval prior to printing the public draft IS/MND. Consultant will prepare the Notice of Intent to adopt and arrange for the necessary public filing/distribution. Consultant will provide a camera-ready PDF of the public draft IS/MND for County duplication and mailing to the County's public/agency mailing list. Consultant will prepare and deliver necessary copies to the County Recorder’s office.

Assist with Public Comments: Following the 30-day public comment period, Consultant will review comments received. The Consultant must address the comments received prior to approving the Project.

Consultant will prepare and file the Notice of Determination with the County Clerk and pay the Department of Fish and Wildlife CEQA filing fee.

Prepare Mitigation Monitoring Plan: Consultant will prepare the mitigation monitoring plan. The format and features of the Project's mitigation monitoring plan will be developed in consultation with the County.

Deliverables:

- Administrative Draft and Revised Draft Initial Study
- Public Draft IS/MND

TASK 7.0 PERMIT PROCESS

Consultant shall identify all permitting requirements and, in conjunction with Public Works staff, establish how these requirements will be implemented. The incorporation of all permitting requirements including environmental mitigations and construction methods shall be incorporated in the final PS&E and implemented during construction.

Consultant shall prepare permit applications. The Consultant, in close coordination with the Public Work's project manager, shall serve as the liaison between Public Works and other concerned agencies.

TASK 7.1 PERMITTING

The proposed Project may affect wetlands or other jurisdictional waters in Mosher Creek that may be under the jurisdiction of the Army Corps of Engineers, Regional Water Quality Control Board (RWQCB), California Department of Fish and Game, and/or California Department of Fish and Wildlife.

Mosher Creek is a non-federal levees which are not part of the State Plan for Flood Control; therefore, an encroachment permit from the Central Valley Flood Protection Board is not required. However, since the channel is maintained by the County, a watercourse encroachment permit from the County's Flood Control Management Division will be required.

Nationwide Permit Verification (Clean Water Act, Section 404): Under Section 404 of the Clean Water Act, a permit is required from the Corps for the placement of dredged or fill material into waters of the United States, including wetlands. Projects may be authorized under existing general permits or may require an individual permit. A "Nationwide Permit Preconstruction Notification" will be prepared to meet Corp's requirements for processing nationwide permits. One meeting with the Corps to clarify the conditions of permit approval should be included in this scope.

Under Section 10, of the Rivers and Harbors Act, the Corps regulates activities in, under, or over navigable waters of the Unites States, except for the construction of bridges. The County anticipates a Section 10 permit unless the new Bridge incorporates a feature (such as a power line), that is not fully integrated into the Bridge design, and affects navigable waters. Under this latter situation, the Corps would issue a combined Section 404/10 permit.

Water Quality Certification (Clean Water Act, Section 401/Porter-Cologne Water Quality Act):
A Water Quality Certification will be required from the RWQCB for the proposed Project, should it affect wetlands or other waters of the State, to certify that the Project is consistent with water quality goals and objectives. Consultant will prepare an application package for submittal to the RWQCB. A processing fee must be included with the submittal (to be paid by the consultant budget and will be invoiced to the County), amount to be determined based on a detailed written and drawn description of the final design (60%) provided by the engineering team prior to the start of application preparation. A single combined set of comments on the draft application will be received and addressed prior to submission of the application to the agency.

Streambed Alteration Agreement (Fish and Game Code, Section 1602): The proposed Project will require notification of proposed streambed alteration to the California Department of Fish and Wildlife if work will modify the bed or bank of Mosher Creek associated riparian vegetation. On site visit with the Department of Fish and Wildlife Environmental Scientist must be included. Consultant will prepare a

notification package for submittal to California Department of Fish and Wildlife. A notification fee must be included with the submittal (to be paid by the consultant and will be invoiced to the County, amount to be determined based on Project cost). The application will be based on a detailed written and drawn description of the final design (60%) provided by the engineering team prior to the start of application preparation. A single combined set of comments on the draft application will be received and addressed prior to submission of the application to the agency.

Watercourse Encroachment Permit (San Joaquin County Public Works Flood Control Management Division): The proposed project will require a Watercourse Encroachment Permit from the San Joaquin County Public Works (SJCPW) Flood Control Management Division. This permit is required for any proposed modifications or improvements to levees, embankments, channels, dams, stream gauges, or stream protection works within the County's jurisdiction.

The Consultant will prepare and submit a complete Watercourse Encroachment Permit Application Package through the SJCPW Flood Control Management Division's online portal. The Application Package will include the following:

- Completed online Watercourse Encroachment Permit Application
- Environmental Assessment Questionnaire
- All supporting project information and exhibits required for review and authorization by the SJCPW Flood Control Management Division
- Required permit review fees

The Consultant will serve as the primary point of contact with SJCPW throughout the encroachment permitting process, including preparation and online submittal of the Application Package, coordination with agency staff, and response to comments or requests for additional information. Agency liaison services will be provided through all stages of the permitting process, up to the budgeted amount.

Deliverables:

- All draft Permit Applications
- Copy of each Final Permit Application

TASK 8.0 HYDRAULIC AND HYDROLOGY ANALYSIS (UPDATE AS NEEDED)

TASK 8.1 COLLECT HYDROLOGIC AND HYDRAULIC INFORMATION

Consultant will review the existing Hydraulic and Hydrology (H&H) Report previously prepared by HDR, along with current hydrologic data, tidal data, as-built plans, and the Flood Insurance Study, to determine if the existing structure meets the County's minimum freeboard requirements and no flooding impacts. Consultant will evaluate the existing report for completeness and identify any gaps or updates needed to support the proposed improvements.

TASK 8.2 HYDRAULIC ANALYSIS FOR EXISTING CONDITION

Consultant will review and utilize the HEC-RAS hydraulic model from the HDR H&H Report as the basis for establishing existing hydrologic and hydraulic conditions for the Bridge. Consultant will refine the model as needed based on updated survey data, tidal effects for potential flow reversal, low tide, and full channel flow conditions. Any updated information from the Federal Emergency Management Agency

Flood Insurance Study will be reviewed to confirm design flows. Refinements to the existing model will be documented and incorporated into the updated report. This information will be used to establish existing hydrologic and hydraulic conditions.

TASK 8.3 PROPOSED HEC-RAS MODEL FOR SELECTED ALTERNATIVE

Consultant will build upon the HDR H&H Report and the refined existing conditions model to provide a comprehensive updated report for the Bridge to include recommended improvements. Proposed conditions, back-up calculations, and HEC-RAS graphics will be added as appendices. The report will be in accordance with Caltrans local project study criteria as a location hydraulic study and will include: a base condition and project description, hydrologic results, existing and proposed conditions, hydraulic model results, scour potential, and recommended hydraulic and scour measures.

TASK 8.4 SCOUR ANALYSIS

Consultant will use the hydraulic results from Tasks 8.2 and 8.3, and the geotechnical report to perform scour calculations at the abutment and pier (if any) for the proposed Bridge crossing. Potential scour depths will be determined and presented in the H&H report. Consultant will also evaluate and provide mitigation measures to prevent excessive scour.

TASK 8.5 BRIDGE DESIGN HYDRAULIC STUDY REPORT

Consultant will prepare an updated Hydraulic Study Report as needed based on the refined HDR H&H Report, summarizing the hydraulic model output, recommendations for Bridge scour countermeasures, and potential hydraulic impacts during construction, such as channel restrictions due to shoring and turbidity due to in-channel construction work. Evaluated mitigation measures and special construction methods will be identified to minimize these effects.

TASK 9.0 UTILITY COORDINATION AND RELOCATION PLAN

Consultant will be responsible for all utility coordination, and relocation arrangements on the Project.

TASK 9.1 UTILITY LETTERS "A","B", AND "C"

The Consultant will prepare utility "A","B", and "C" letters, and associated exhibits to provide to the County for review and approval prior to sending them to utility agencies. Utility letters should identify potential conflicts, determine clearance and relocation requirements, and establish the schedules for required utility relocations. The Consultant will be responsible for Project review coordination, permitting, and other coordination necessary with Public Works, and utility companies. The Consultant will meet with utility and conduct field meetings as necessary to coordinate the design of the Project.

TASK 10.0 RIGHT-OF-WAY ENGINEERING

Consultant will prepare right-of-way maps, easements, and legal descriptions for the proposed right-of-way acquisition. It is anticipated that up to three parcels will require an acquisition and/or easements. Plat maps shall be provided in CAD drawing and PDF format along with closure calculations. Consultant will obtain preliminary title reports, and deeds necessary to acquire the proposed right-of-way.

TASK 11.0 CONSTRUCTION GENERAL PERMIT AND NPDES REQUIREMENT STUDY MEMO

Consultant will identify soil and water quality impacts related to the proposed improvements and determine the disturbance area. The proposed improvements must be designed to meet current Construction General Permit and NPDES requirements. Proposed improvements will be designed for pre and post-construction Best Management Practice requirements, water quality requirements, source control, volume reduction measures, and treatment control if necessary. The water quality requirement study memo must provide calculations for the disturbance area and design features of the Best Management Practice for water quality requirements. The proposed water quality design must comply with the County Stormwater Quality Control Criteria Plan and be incorporated into the design plans.

Deliverables:

- Draft Water Quality Requirements Study Memo (PDF and 3 hard copies)
- Final Water Quality Requirements Study Memo (PDF and 3 hard copies)

TASK 12.0 PLANS, SPECIFICATIONS AND ENGINEER'S ESTIMATE (PS&E)

TASK 12.1 PRELIMINARY ENGINEERING (35% SUBMITTAL)

The Consultant will prepare and submit to Public Work's preliminary plans and drawings for the Bridge replacement preferred alternative and roadway realignment improvements. The drawings will be scaled to 1"=20', and all plans submitted will be prepared in accordance with Public Work's design criteria. The (35%) design submittal for review and approval by Public Works will include, but is not limited to the following:

1. Preliminary Plans and Cost Estimates
   The Consultant will prepare preliminary Bridge plan, roadway plan and profile, utilities plans, cost estimates, and right-of-way boundary for the preferred type selection.

2. Create Base Plan and Cross Sections

Consultant will develop a base plan drawn in latest AutoCAD version at a 1 to 1 scale. Base map must include imported points from survey. Points must be labeled (provide a legend for point labels) for identification. Line work will be drawn on separate layers with different line types and will include but are not limited to roadway centerline, construction centerline (if different from roadway centerline), edges of pavement, existing right-of-way, driveways, field entrances, fences, utility lines, top of channel bank, channel bank toe and ditches, also including contours. Other features surveyed such as monuments, agricultural irrigation equipment (pumps), or utility pedestals will be labeled or shown with symbols that are identified in the legend. Cross sections will be plotted at 50-foot intervals and significant features labeled.

TASK 12.2 PREPARATIONS OF 65% (PS&E)

The purpose of this task is to perform the detailed design of the recommended Project alternative, obtain design approval, produce construction drawings, special provisions, and construction estimate required for the construction documents. The PS&E will be prepared to Caltrans latest standards and in accordance with Public Works policies, procedures, manuals, and standards.

1. Roadway Alignment and Cost Estimates

Consultant will prepare roadway plan and profile, utilities plan, quantity estimates, right-of-way boundary, and other associated details. These plans will include all details necessary to construct the approach roadway realignment and conform to existing levee, street crossing including grading, drainage, and conform. The Consultant will prepare PS&E and will include the following minimum items listed below (Add more plan sheets if needed):

- Title/Cover Sheet (Public Works format)
- Layout Plan and profile for roadway including conform to affected levees and cross street
- Roadway Typical Sections
- Channel Layout Plan and Profile
- Detour Plan or Traffic Staging Plan (if required)
- Traffic Signing and Striping Plans
- Construction details
- Construction area Sign Plans
- Design and Design Support Calculations
- Quantity Support Calculations
- Roadway Cross-Section at 50-foot interval and significant features label.
- Construction Staging Plans (if required)
- Erosion Control Plans (if required)
- Specifications with Working Day Schedule
- Engineer's Estimates

2. Bridge Design

The Consultant will prepare the Bridge layout and complete the design calculations for the replacement structure in accordance with Caltrans Bridge Design Specifications, Design Aids, and Memos to Designers. The Bridge layout will be reviewed with the County. The design will be based on the AASHTO LRFD Bridge Design Specification method with HL-93 and permit truck design live loads. Seismic design must be considered in accordance with the Bridge Design Specifications and the latest available seismic design criteria from the Caltrans Earthquake Research group. The design will incorporate recommendations from the Hydraulics Study Report and the Geotechnical Report. The Bridge PS&E will include, but not limited to the following (Add more plan sheets if needed):

- Index to plans and general notes
- Demolition Plan
- Deck Contours
- Plan and profile for the Bridge
- Typical Sections
- Foundation Plan
- Abutment layout and details
- Railing Plan and Details including approach railings at four Bridge corners per Caltrans Standard Plans
- Joint seal assembly
- Channel Protection Detail
- Log of test boring
- Design and design support calculations

- Quantity support calculations
- Prepare and submit Bridge special provisions in accordance with Caltrans requirements

3. Pavement Striping, Traffic Signage, and Construction Staging Plans

The Consultant will survey all existing pavement delineation and markers over the Project limits. Pavement legends will also be surveyed and depicted on plans. The Consultant will identify on plans of any existing delineation, markers and legends to be removed or remained in place. The Consultant will prepare the design and layout of a final pavement striping plan and temporary pavement stripping with station and offset.

A meeting will be held after the review of the 65% submittal to discuss both the Bridge and roadway plans, which will facilitate the development of 90% PS&E. The Consultant will provide the following deliverables for PS&E @ 65% stage:

- Electronic full size (22x34) set of plans
- Electronic Word Document of the Specifications
- Electronic Excel Document of the Engineer's Estimates
- Working Days Schedule
- Public Work's original red-lined set of 35% comments

TASK 12.3 TECHNICAL SPECIAL PROVISIONS

Project technical specifications must use the latest Caltrans Standards, including special provisions based on Caltrans Standard Special Provisions and County provided boilerplate specifications to be developed in Microsoft Word. The County will provide their boilerplate specifications for the Consultant to combine with the technical specifications for the 65%, 95% and 100% (final) submittal.

TASK 12.4 INDEPENDENT DESIGN CHECK

An independent check of the Bridge design will be performed. Using 65% Bridge and roadway plans, bridge engineers who are not involved in the design will perform a complete independent analysis of the Bridge design. This is a big part of the Team's Quality Assurance/Quality Control Plan and must be identical to the Caltrans/Local Agency process. Based on the independent check and agreed revisions by the County and designers, the plans will be revised.

TASK 12.5 PREPARATIONS OF 95% (PS&E)

The draft PS&E package, along with design, check, and quantity calculations, will be submitted to the County for their review. This submittal will also include any design exceptions proposed for the Project.

Deliverables @ 95% stage:

- Electronic full size (22x34) set of plans
- Electronic Word Document of the specifications
- Electronic Excel Document of the Engineer's Estimates
- Working Days Schedule
- Public Work's original red-lined set of 65% comments

TASK 12.6 PREPARATIONS OF 100% (FINAL PS&E)

Upon receiving review comments from the County and other agencies, each comment will be reviewed, discussed, and addressed in writing. Appropriate modifications will then be made to the PS&E, which will be submitted to the County, who will compile and reproduce bid documents for advertising.

Deliverables @ 100% (Final) stage:

- Electronic full size (22x34) set of plans
- Electronic Stamped Contract specifications
- Electronic Excel document of the Engineer's Estimates
- Design and design check calculation
- Quantity check backup calculation
- 1 set 24x36 wet signed plans on Mylar (or Public Works approved equivalent)
- 1 set unbound Stamped Contract specification
- Working Days Schedule
- Public Works original red-lined set of 95% comments

Electronic files will be a version of the applicable software as specified below.

- AutoCAD format electronic files - plans and drawings
- Microsoft Word format electronic files - specifications
- Microsoft Excel format electronic files - Engineer's Estimate, structural design calculations, quantity check calculations and working day schedule.

TASK 13.0 BIDDING AND POST AWARD ASSISTANCE

The Consultant will provide assistance during the construction bidding process and construction phase.

TASK 13.1 BIDDING ASSISTANCE

The Consultant will provide assistance during the advertising and bidding phase. Assistance will involve providing clarification or answering questions received from prospective bidders, attendance at pre-bid meeting, and assistance in preparing addendum, if necessary. This assistance could include design revisions if Public Works deems it necessary. Public Works will be responsible for receiving all inquiries and providing all responses to questions received during the bidding period.

TASK 13.2 CONSTRUCTION DESIGN ASSISTANCE

It is anticipated that the Consultant will provide design assistance during construction, primarily consisting of field reviews and meetings (assume four), as requested by Public Works, plus responding to requests for information and reviewing shop drawings. The Consultant and, if necessary, appropriate design team members are expected to attend the following meetings: a preconstruction meeting; post construction meeting; construction coordination meetings in the field when necessary; and final punch list and job walk meeting. Construction management will be provided by Public Works or a firm selected by Public Works to provide construction management services. Others will be responsible for inspection, materials testing, processing payment requests, etc.

The Consultant will provide to Public Works or a construction management firm, selected by Public Works, all engineering records, survey information and data, cross sections, design memorandums,

record of meetings conducted with area residents and business owners, and other information required to construct the Project. If questions arise during construction over the intent of the design, the Consultant and appropriate design team members will be expected to respond to such questions in a timely fashion. The Consultant will review, comment, and make recommendations on the construction contractor's material submittals and shop drawings. The Consultant will take measure to assure the appropriate design team members' services during construction are included as required.