



SCOPE OF SERVICES, DOG BAR ROAD AT BEAR RIVER

TABLE OF CONTENTS

TASK 1	PROJECT MANAGEMENT	1
Task 1.1	Project Management	1
Task 1.2	Project Meetings.....	2
TASK 2	SURVEYING AND BASE MAPPING	2
Task 2.4	Title Reports.....	2
Task 2.5	Plat Maps and Legal Descriptions for Acquisitions	2
TASK 3	PRELIMINARY ENGINEERING	3
Task 3.4	Final Bridge Type Selection & Project Approval	3
TASK 4	HYDRAULICS.....	3
Task 4.2	Final Location Hydraulic Study and Floodplain Evaluation Report Summary Form.....	3
Task 4.3	Bridge Design Hydraulic Study Report	3
TASK 5	GEOTECHNICAL	4
Task 5.1	Foundation Investigation and Report	4
TASK 6	QUALITY ASSURANCE	7
Task 6.1	Quality Assurance of All Documentation.....	7
Task 6.2	Quality Assurance Review of 60% Plans and Item List.....	7
Task 6.3	Quality Assurance Review of 90% Plans, Specifications and Estimate	8
Task 6.4	Quality Assurance Review of 100% Plans, Specifications and Estimate	8
TASK 7	ENVIRONMENTAL TECHNICAL STUDIES	8
Task 7.1	Natural Environment Study (NES).....	8
Task 7.2	Cultural Resources	9
Task 7.3	Hazardous Waste Initial Site Assessment (ISA).....	10
Task 7.4	Water Quality Assessment Report.....	10
Task 7.5	Visual Impact Assessment Technical Memorandum	10
TASK 8	NEPA/CEQA ENVIRONMENTAL DOCUMENT	10
TASK 9	BRIDGE DESIGN	11
Task 9.1	60% Bridge Design and Details	11
Task 9.2	90% Bridge (Independent Check)	11
Task 9.3	100% Bridge Design	11
TASK 10	ROADWAY DESIGN.....	12
Task 10.1	60% Roadway Plans	12



Task 10.2 90% Roadway Plans 12

Task 10.3 100% Roadway Plans 12

Task 10.4 Revegetation and Erosion Control Design 12

Task 10.5 Temporary Traffic Signal 12

Task 10.6 Cross Sections and Construction Staking Notes 13

TASK 11 UTILITY COORDINATION..... 13

Task 11.2 Utility Letter "B", Notice of Conflict..... 13

Task 11.3 Utility Certification for Federal Aid 13

TASK 12 RIGHT OF WAY 13

Task 12.1 Right of Way Management and Coordination 14

Task 12.2 Appraisals..... 14

Task 12.3 Acquisition Services 15

Task 12.4 Right of Way Certification 16

TASK 13 ESTIMATE AND QUANTITIES..... 16

Task 13.1 60% Estimate 16

Task 13.2 Draft Detailed Quantities and Estimate (90%)..... 16

Task 13.3 100% Quantities & Estimate 17

TASK 14 SPECIAL PROVISIONS..... 17

Task 14.1 Bid Item List (60%) 17

Task 14.2 Draft Special Provisions (90%) 17

Task 14.3 Final Special Provisions (Including Draft County Bid Book) 17

TASK 15 PERMITS..... 18

Task 15.1 404 Fill Permit 18

Task 15.2 1602 Streambed Alteration Agreement 18

Task 15.3 401 Water Quality Certification 18

Task 15.4 Encroachment Permit from CVFPB 18

TASK 16 FINAL PS&E AND BIDDING SUPPORT 19

Task 16.1 Prepare Final PS&E for Bidding 19

Task 16.2 PS&E Checklist and Certification..... 19

Task 16.3 Contractor Working Day Schedule and Resident Engineer’s File 19

Task 16.4 Bid Support 19



EXHIBIT A1, AMENDMENT 1 SCOPE OF SERVICES

DOG BAR ROAD AT BEAR RIVER

Revised August 29, 2019

The following scope of work is intended to provide all environmental studies, engineering right of way and permitting necessary to obtain ready to advertise plans, specifications and estimates for the Dog Bar Road Bridge Replacement over the Bear River.

Project design will be based upon the Caltrans 2018 Standard Plans and Standard Specifications and the Nevada County Road Standards and Public Works Standard Drawings.

This scope anticipates replacing the bridge directly upstream or downstream of the existing bridge.

TASK 1 PROJECT MANAGEMENT

Dokken Engineering (Dokken) Project Management includes regular in-person meetings, in-person deliveries, presentation of work products, development and monitoring of action items, monthly progress reports, work progress monitoring, budget monitoring, coordination and communication.

The Dokken Project Manager will work closely with the County Project Manager and continuously inform the County Project Manager of all project activities. The duration of the project management effort is expected to be continuous through completion of the job.

The following project management tasks are budgeted to extend through the environmental and design phase of the project.

Task 1.1 Project Management

Coordination – Close contact will be maintained between the Project Manager, all sub-consultants, the County Project Manager, project personnel, and regulatory agencies. The Project Manager will act as the principal liaison between Nevada County and our staff at Dokken.

Communication – Effective communication through in-person visits, focused meetings, telephone calls and e-mails to the County will be performed to discuss specific project issues by the Project Manager. Regular communication with team members, the County and other agency personnel will be facilitated through the Project Manager.

Progress Reports will be submitted monthly to Nevada County. These reports will include the work performed during that period, a discussion of issues/decisions, recommendations to address issues, budget status, and anticipated work for the following month. The progress report will be submitted with the monthly invoice. Dokken Engineering's Project Manager is responsible for maintaining cost control for each task, including our sub-consultants.

Dokken will provide and maintain a detailed Milestone Schedule and a less detailed Microsoft Project Schedule. The Milestone Schedule is a simple one-page schedule to assist in project communication. In addition, a project schedule using Microsoft Project will be prepared that will identify major delivery milestones for the bridge project and identify the construction year. Dokken Engineering's Project Manager will monitor the schedules and discuss updates with the County Project Manager.

Dokken will coordinate with all major stakeholders to obtain their support or acceptance of the project. Stakeholder coordination is anticipated to include:

- Property Owners
- Fire Departments
- Caltrans HQ Structures
- Placer County
- School Districts
- Caltrans Environmental



- Caltrans District 3 (Local Assistance)
- Homeowners Associations
- Nevada Irrigation District
- Permit Agencies under Task 15

Task 1.2 Project Meetings

Monthly Project Delivery Team (PDT) meetings will be held with County staff and other representatives, as necessary, to discuss work progress, decisions made, schedule and considerations for the County. Status meetings will be held at the County. Dokken will prepare the meeting agenda, distribute the agenda prior to the meeting, arrange for appropriate participants to attend, and prepare and distribute the meeting minutes to the participants within five working days after the meeting. All items that appear on the milestone project schedule are included in a handy “Action Item List” prepared at the beginning of the project. The list shows the work item, the date it is due, who is responsible for the task, and the date it was completed. The Action Item List is reviewed and updated at every status meeting.

Dokken will schedule one-on-one meetings with NID to discuss the project description, timing and answer any questions they may have. The County will be invited to attend these meetings. These meetings will be used to keep NID informed during the environmental phase so they are aware of the necessary temporary construction easements and permanent roadway easements necessary when the right of way phase begins.

- Deliverables – Task 1**
- Monthly Progress Report and Invoice
 - Schedule and Updates
 - Meeting Agendas and Minutes
 - Action Item Lists
 - Public Meeting Materials and Facilitation
 - Project Fact Sheet Mailers
 - RFA and HBP Funding Support Information

TASK 2 SURVEYING AND BASE MAPPING

Surveying tasks 2.1 through 2.3 were included with the original contract.

Task 2.4 Title Reports

Dokken will obtain Preliminary Title Reports for 4 parcels impacted by the proposed project.

Task 2.5 Plat Maps and Legal Descriptions for Acquisitions

Dokken will prepare four plat maps and legal descriptions for the right of way in easement and temporary construction easement acquisitions estimated in Task 12. The plat maps and legal descriptions will be prepared and signed under the direction of a licensed land surveyor.

- Deliverables – Task 2**
- Plat Maps and Legal Descriptions
 - Preliminary Title Reports



TASK 3 PRELIMINARY ENGINEERING

Preliminary Engineering tasks 3.1 through 3.3 were included with the original contract.

Task 3.4 Final Bridge Type Selection & Project Approval

Dokken will prepare the Bridge Type Selection and Project Approval Memorandum. This will be similar to the preliminary PSR/PR equivalent scoping documents prepared to accompany the funding applications. The memo will include a layout sheet with the selected alignment and a Bridge General Plan for the selected alternative. However, this memorandum will document the reasons for selecting the preferred bridge type and discuss why the other types were rejected. It is not associated with approval of the CEQA or NEPA documentation, but will be used to describe the project in sufficient detail to facilitate completing the environmental studies.

Deliverables – Task 3

- Draft Bridge Type Memorandum
- Roadway and Bridge Layout Plan
- Type Selection and Project Approval Memo

TASK 4 HYDRAULICS

The Draft Location Hydraulic Study, Task 4.1 was included in the original contract.

Task 4.2 Final Location Hydraulic Study and Floodplain Evaluation Report Summary Form

Comments on the Draft Location Hydraulic Study will be addressed and the Location Hydraulic Study will be updated and finalized. Based on WRECO's preliminary qualitative hydrologic, hydraulic, and geomorphic assessments, the Project may potentially result in a significant floodplain encroachment. Therefore, WRECO will prepare a Floodplain Evaluation Report including the technical information for the Location Hydraulic Study and Floodplain Evaluation Report Summary form to document the investigation and determine the specific impacts to the floodplain.

Task 4.3 Bridge Design Hydraulic Study Report

Wreco will conduct a detailed hydraulic analysis to evaluate the freeboard, overtopping, and stage increases using the 50- and 100-year frequencies as required by Caltrans and Nevada County. Wreco 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.

Wreco will perform a scour analysis that will consider pier, abutment, and contraction scour as appropriate. 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, Wreco will prepare a Draft Bridge Design Hydraulic Study Report to satisfy State and local criteria. The report will be submitted to the County for 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 Hydraulic Design Report will then be updated and finalized.

WRECO will reach out to CVFPB to verify if they have a design flow associated with Bear River at the Project site, and to verify the applicable freeboard criteria for the Project site. WRECO will assist the Project Team in preparing the application package for the CVFPB permit. WRECO will be responsible for preparing the background hydrologic and hydraulic technical information for the permit application package. It is assumed that WRECO will attend one permit application meeting with the CVFPB staff.



Deliverable – Task 4

- Final Location Hydraulic Study
- Draft and Final Bridge Design Hydraulic Report
- Hydraulic section of CVFPB Permit Application

TASK 5 GEOTECHNICAL

NV5 will perform geotechnical investigation and prepare a foundation report as a subconsultant to Dokken. At this time, no Phase II Hazardous Material Investigations are anticipated to be necessary. NV5 will provide traffic control necessary for the field work.

Task 5.1 Foundation Investigation and Report

GEOTECHNICAL INVESTIGATION

NV5 will perform a geotechnical investigation of the project site to characterize the shallow subsurface conditions in the area of the proposed bridge foundation elements. The information gathered during the investigation will be used to prepare geotechnical engineering design recommendations for bridge abutments, foundation elements, and grading associated with adjacent road improvements.

NV5 will perform a map and literature review of published documents pertinent to the project site, including the Bridge Information Report, previous geotechnical reports in the area of the project site, geologic maps and soil survey maps. Following our literature review, we will perform a subsurface investigation to characterize the soil, rock and groundwater conditions encountered at the site.

A representative of NV5 will visit the project site to observe existing surface conditions and evaluate proposed boring locations with regard to drill rig access and road encroachment. The selected boring locations will be marked for review by Underground Service Alert (USA). NV5 will coordinate the review of the locations with USA. If requested, we can retain a private utility locating service to supplement the USA clearance to reduce the risk of encountering unmarked utilities on the site.

Following the site reconnaissance, NV5 will prepare encroachment and boring permit applications, as required by Nevada County, and coordinate the permit process with County representatives.

As currently proposed, we will advance two exploratory borings, using a relatively small, truck-mounted drill rig. Two borings will be in the vicinity of the existing abutments. One additional boring or rock core will be advanced in rock outcropping near the proposed Pier 2 or "bent" for Alternate 1. Initially, the borings will be advanced utilizing maximum 8-inch diameter hollow-stem augers to refusal or maximum depths of 40 feet. If refusal is encountered on resistant rock at shallower depths, we will advance coring equipment with the intent of extending one of the borings at each abutment a minimum of 10 feet into the underlying, resistant rock. The coring will be performed to allow evaluation of the properties of the underlying rock, including determination of rock quality (RQD) and compressive strength testing of collected samples.

An engineer or geologist from our firm will log the subsurface soil and rock conditions encountered, and collect relatively undisturbed and bulk soil samples from the exploratory borings. Collection of soil samples and the sample intervals will depend upon the soil conditions encountered. Samples will be collected at approximate intervals of 2.5 feet or at each change in stratum. The soil samples will be labeled, sealed, and transported to our laboratory where selected samples will be tested to determine their engineering material properties. If groundwater is encountered, the depth to groundwater below the existing road surface will be documented. Surface soil samples will be collected from the bridge approaches for pavement design analysis. Following drilling and sample collection, the borings will be backfilled with grout.

As a part of our investigation, we will perform a seismic refraction survey at the sites to determine the shear wave velocity of the subsurface materials. The shear wave velocity data will be used to determine a Site Class and seismic design parameters. We anticipate that a refraction microtremor (ReMi) approach will be used. A multichannel,



microprocessor control signal enhancement seismograph will be used to record the arrival time of mechanically produced shock waves. Shock waves will be initiated from vehicle traffic or other site generated sources.

We will provide traffic control necessary for field borings. We anticipate closing one lane (shoulder) to traffic during our field investigation.

LABORATORY TESTING

NV5 will perform laboratory tests on selected soil samples to determine their engineering material properties. Laboratory tests will be performed using American Society for Testing and Materials (ASTM) and Caltrans methods as guidelines. Depending on the subsurface conditions encountered, we anticipate that laboratory testing will include:

- D422, Particle Size Determination
- D2216, Moisture Content
- D2487, Unified Soil Classification System
- D2488, Soil Description Visual Manual Method
- D2937, Density
- D3080, Direct Shear Strength
- D4318, Atterberg Plasticity Indices (if appropriate)
- D4829, Expansion Index (if appropriate)
- D1557, Maximum Density Determination (compaction curve)
- D2419, Sand Equivalent
- D1266, Unconfined Compressive Strength, soil and rock
- D2844, Resistance Value
- CTM 417, 422, and 643, Corrosion Parameters Evaluation (pH, minimum resistivity, sulfate, chloride, Redox)

The actual tests performed may vary, depending on the subsurface conditions encountered. For example, if fine-grained soil is encountered during our field investigation, we will perform Atterberg limits and/or expansion index testing in an effort to evaluate expansion potential.

DATA ANALYSIS AND ENGINEERING

Data will be analyzed and engineering calculations will be performed to determine the following:

- Design criteria for foundations, including shallow spread footings, drilled piers, or driven piles, as appropriate. Design criteria will be based on AASHTO LRFD, 4th edition and Caltrans guidelines.
- Lateral earth pressures for abutment, foundation and retaining wall design.
- Review of stability of varying cut and fill slope configurations.
- Soil/rock to concrete friction coefficients.
- Soil/rock shear strength.
- Soil expansion and swell potential (if appropriate).
- Estimated settlement.

NV5 will develop geotechnical engineering recommendations for earthwork and structural improvements and provide applicable recommendations. The geotechnical engineering recommendations will include the following:



Earthwork Improvement Recommendations

- Site clearing and subgrade preparation.
- Mitigation of fill at existing abutment locations, if appropriate.
- Fill moisture conditioning, placement, and compaction requirements.
- Retaining wall backfill specifications.
- Retaining wall drainage.
- Surface water drainage.
- Expansive soil mitigation (if appropriate).
- Temporary construction dewatering methods.
- Recommended cut and fill slope gradients.
- Rock ripability.
- Soil gradation to facilitate scour analysis by others.

Structural Improvements

- Foundation types and embedment depths.
- Shallow foundation design resistance factor and recommended bearing pressure at service limit state.
- Deep foundation design criteria including recommended resistance factors, estimated axial capacity with depth for a given pile section, and recommendations for service limit state, if necessary.
- Recommended design criteria to facilitate lateral analysis of pile response using LPile or similar analysis tools, if necessary.
- Construction recommendations for deep foundations addressing pre- drilling, casing, dewatering, as appropriate, and friction coefficients, if necessary.
- Lateral earth pressure coefficients.
- Rock anchors, tie backs and rock fall netting, where appropriate for steeper cut slopes.
- Seismic design parameters based on the results of measured shear wave velocity at the site and Caltrans ARS curves.
- Design criteria for rock anchors or dowels used to provide uplift or lateral resistance for spread footings founded on resistant rock.

BRIDGE FOUNDATION REPORT

NV5 will prepare the Draft Foundation Report for review. It will present our findings, conclusions, and recommendations. The report will be prepared in general accordance with Caltrans Foundation Report guidelines. The report will include descriptions of site conditions, our field investigation, and laboratory testing; and provide geotechnical engineering recommendations for the proposed earthwork and structural improvements. The report will include a site plan showing the approximate locations of the exploratory borings, a descriptive Log of Test Boring key, and boring logs prepared using the Caltrans Foundation report template. The report appendices will present the laboratory test data. Following initial review by project team members and County, we will prepare the Final Foundation Report for the project.

ASSUMPTIONS AND CLIENT RESPONSIBILITIES

The proposed scope of services is based on the following assumptions:



- NV5 will satisfy prevailing wage requirements.
- NV5 will obtain a County Boring Permit for the proposed investigation. For planning purposes, we have included a budget of \$600 for permitting fees.
- A truck-mounted drill rig will encroach on the existing travelled way during the investigations, requiring the placement of standard signage and cones to delineate the work area. Traffic control is anticipated during the course of the field investigation to allow mobilization of the drill rig to each drilling location and facilitate lane encroachment. However, we are not anticipating closure of the road. If road closure is required, we anticipate that Nevada County personnel maybe able to assist NV5 with this.
- Five copies of the reports resulting from our investigations will be provided. In addition, we will provide a PDF version of the report for electronic distribution.

Geotechnical Summary

Bridge Location	Literature Review	Proposed Subsurface Investigation
Dog Bar Road	Yes	3 Borings

Deliverables – Task 5

- Laboratory Test Results
- Log of Test Borings
- Draft & Final Foundation Report

TASK 6 QUALITY ASSURANCE

Dokken has identified a quality assurance team comprised of the project manager, environmental lead, and two independent senior engineers.

Task 6.1 Quality Assurance of All Documentation

The Project Manager will perform a quality review of all project correspondence and reports. This includes all products prepared by our subconsultants. In addition, the Project Manager will be responsible for the quality control for all products submitted to the County. The environmental manager will be responsible for quality review of all environmental studies, reports and documents as part of Tasks 7, 8 and 15.

Task 6.2 Quality Assurance Review of 60% Plans and Item List

Dokken will assign a senior engineer (not previously involved in the project) to provide independent Quality Assurance (QA) for Tasks 6.2 through 6.4. It is important to utilize the same QA Engineer for each stage to “build” the quality into the subsequent reviews. The QA Engineer will perform a quality review of the design submittal. This includes design support information prepared by our geotechnical and surveying subconsultants.

Any review comments received on the prior submittal will be summarized and a Dokken response will be prepared and the required corrections made. Each comment will be addressed and the required corrections will be made. The QA Engineer will confirm the comment has been addressed and initial the comment form.

At the 60% level, the QA focus will be on the plans, the project layout, staging, utility conflicts, right of way needs, environmental constraints, special detail requirements and review of the bid item list. The project design will be reviewed against the available right of way and the recommendations in the hydraulic and geotechnical reports.



Task 6.3 Quality Assurance Review of 90% Plans, Specifications and Estimate

At the 90% level, the QA focus will be on detailed plans and specification reviews. The review will look at plan call-outs of each item, to make sure it is covered on the plans, addressed in the special provisions and quantified on the item list. The reviewer will confirm that right of way and utility details were added along with traffic handling and quantities for each item. The QA Engineer will look for any uncertainties or discrepancies that need clarification to ensure the project is biddable and buildable. A mark-up of the plans, special provisions and item list will be provided to the Project Manager.

Task 6.4 Quality Assurance Review of 100% Plans, Specifications and Estimate

At the 100% level, the QA focus will be to confirm prior review comments have been adequately addressed and review any new information added since the 90%. New information is likely to include right of way resolutions, utility resolutions, and permitting requirements, and mitigations. A mark-up of the plans, special provisions and item list will be provided to the Project Manager.

Deliverables – Task 6

- Quality Assurance Review Comment Lists
- Review Plans available upon request

TASK 7 ENVIRONMENTAL TECHNICAL STUDIES

Dokken shall perform all required environmental research and analysis necessary for the project, pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) requirements, as well as the policies and procedures contained in Caltrans' Environmental Handbook and Local Programs Manual.

Dokken shall coordinate and prepare all required environmental studies to be incorporated into the environmental document. Dokken will prepare and distribute copies of the technical studies for each of the review cycles and will respond to comments and update the studies as needed for approval. Technical studies include the following:

Task 7.1 Natural Environment Study (NES)

Dokken 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 under review will include federal and State lists of sensitive species and current database records, including the California Natural Diversity Data Base (California Department of Fish and Game [CDFG], 2012) 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 United States Fish and Wildlife Service (USFWS).

Dokken biologists will conduct fieldwork in order to delineate jurisdictional water resources, 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. Dokken will conduct fieldwork appropriate to the season and completing plant surveys during the blooming season. This will maximize our ability to detect and positively identify sensitive species.

Dokken will prepare a Caltrans formatted NES that will include a description of the field methods used and the results of the biological assessment 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, Dokken will prepare an exhibit showing the location of the resource and include this exhibit in the NES. The NES will also identify and assess project impacts on the existing biological resources, including any sensitive species. Minimization and mitigation measures will be included if necessary.



Task 7.2 Cultural Resources

Dokken shall prepare documentation in accordance with Section 106. This work shall include the efforts to record archaeological and historical resources identified within the study area. A Historic Property Survey Report (HPSR) will be prepared to identify and evaluate each cultural resource in the project area and evaluate the potential for impacts this project could have on those resources. The bridge was constructed in 1965 and when it was evaluated by Caltrans, they determined that it is not an eligible resource for historic listing.

Research – A cultural resource records search will be conducted at the North Central Information Center, located in Sacramento. The records search will provide information on known cultural resources and on previous cultural resources investigations within a one-mile radius of the project area. Data sources that will be consulted at the Information Center include archaeological site and artifact records, historic maps, reports from previous studies, and the state's Historic Resource Inventory, which contains listings for National Register of Historic Places, California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.

Native American Coordination– Dokken will contact the Native American Heritage Commission. The commission will provide a list of Native American groups to contact regarding this project. With County approval, Dokken will contact each tribe via certified mail. After 28 days, Dokken will follow up via telephone with those groups that have not responded to the initial letter. Dokken will document all Native American consultation efforts. Native American Consultation will be conducted to comply with both Section 106 and AB52 requirements.

Field Survey – Dokken will conduct a systematic field survey of portions of the APE that are not obscured by asphalt/concrete, specifically focusing on the Bear River banks and terraces and potential historic remains. Historic debris may still be in the area. The ground surface will be visually examined by an archaeologist for evidence of prehistoric (Native American) or historic (non-Native American) archaeological materials and other potential historic resources (e.g., buildings, bridges, railroads, mines, or canals). To meet State standards, any previously unrecorded resources identified during the survey will be recorded on State of California DPR 523 forms.

7.2.1 Area of Potential Effects (APE) Map

Dokken will coordinate with Caltrans cultural staff to develop an APE Map for review and approval. This APE will determine the limits of field surveys and report documentation.

7.2.2 Historic Property Survey Report (HPSR) / Archaeological Survey Report (ASR)

All cultural resource efforts will be completed in compliance with Section 106 of the National Historic Preservation Act (NHPA) and will follow the requirements set forth in the Caltrans Environmental Handbook Volume II, Cultural Resources and the Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the administration of the Federal-aid Highway Program in California.

A Dokken archaeologist will prepare the Archaeological Survey Report (ASR) according to Caltrans specifications. This report will describe: 1) the results of Native American Consultation, 2) research and field methods used in identifying cultural resources, 3) the archaeological and historic resources identified in the project vicinity, and 4) the potential of the project to adversely impact any archaeological or historic resources.

7.2.3 Extended Phase I Testing

The Project's vicinity is potentially sensitive for the presence of buried archaeological resources, pending results of the research, Native American coordination, and field survey. Depending on the information discovered, Caltrans District 3 may mandate that excavation is needed to test for the presence or absence of buried archaeological resources within the Project's Area of Potential Effects. Dokken will prepare an Extended Phase I (XPI) Archaeological Testing Proposal which will outline the appropriate archaeological excavation methodology and testing locations required to identify possible subsurface archaeological resources. Upon approval by the County and Caltrans District 3, Dokken will implement the testing program. Once testing has been concluded, Dokken will prepare an XPI Report documenting the results. As with the XPI Proposal, the XPI Report will be submitted first to the County and then to Caltrans District 3 for review and approval. If the XPI excavation



identifies buried archaeological resources, Dokken will coordinate with Caltrans regarding additional steps required to assess the significance of the archaeological resource; however, this scope assumes the XPI testing will have negative results. Additional scope and cost will be required to conduct significance assessment, and if needed, mitigation.

Task 7.3 Hazardous Waste Initial Site Assessment (ISA)

Dokken’s hazardous waste specialist will prepare an ISA to identify all documented hazardous waste sites located within the project study area, as well as facilities located within the project study area that store, transfer, or utilize large quantities of hazardous materials. Dokken will conduct an agency records search to identify all hazardous waste sites located within the project study area and classified as a hazardous waste site under state law. Dokken will conduct a visual survey of the project area via available public access to identify any obvious area of hazardous waste contamination. If hazardous waste sites are identified within the project study area, Dokken will determine the potential impact to the project and identify subsequent procedures to determine the extent of contamination and remediation requirements.

Concrete and bearing materials from the existing bridge will be sampled and tested for asbestos content.

Task 7.4 Water Quality Assessment Report

Dokken will prepare a Water Quality Assessment Report to address the potential for project impacts on water quality based on current Caltrans guidelines (Environmental Handbook Volume 1, Chapter 9, Water Quality). The report will discuss receiving waters conditions, objectives, and beneficial uses, as well as Caltrans standard best management practices (BMPs) and project design features 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.

Task 7.5 Visual Impact Assessment Technical Memorandum

The project received a Score of below 14 on the Visual Impact Assessment Checklist. A score below 14 means a brief memorandum Visual Impact Assessment is the appropriate level of documentation for this project. This technical memorandum will assess how visual changes as a result of the project could impact viewer groups in the project vicinity. This technical memorandum will include an inventory, including photograph documentation, of the following existing conditions: viewpoints; notable visual resources; the vividness, intactness, and unity of the project area; and the site’s landscape units. Photographs will be taken to be used in the analysis.

- | |
|---|
| <p><u>Deliverables – Task 7</u></p> <ul style="list-style-type: none"> • Natural Environment Study • APE/HSPR/ASR • Extended Phase I Testing • Initial Site Assessment • Water Quality Assessment Report • Visual Impact Assessment Memorandum |
|---|

TASK 8 NEPA/CEQA ENVIRONMENTAL DOCUMENT

Dokken has determined that a draft Initial Study with Mitigation Negative Declaration (IS/MND) under CEQA and a Categorical Exclusion (CE) under NEPA would be appropriate for this project. Nevada County will be the CEQA lead agency and Caltrans will be the NEPA lead agency. NEPA compliance will be necessary due to the use of federal funding.



Dokken has determined that an IS/MND is appropriate as all potentially significant impacts can be minimized or mitigated.

Deliverables – Task 8

- Draft IS/MND
- Notice of Availability / Notice of Completion
- Public Circulation / Response to Comments
- Final IS/MND and Notice of Determination
- Environmental Commitments Record
- Categorical Exclusion NEPA - Caltrans

TASK 9 BRIDGE DESIGN

Dokken will perform the structures design work in accordance with AASHTO LRFD Bridge Design Specifications (8th Edition) with California Amendments current at time of bridge design, Caltrans Bridge Design Details Manual, Caltrans Bridge Design Aids, Caltrans Bridge Memos to Designs, and Caltrans Seismic Design Criteria (SDC). The bridge design work will be performed in English units of measure.

Task 9.1 60% Bridge Design and Details

Upon approval of the bridge type, roadway profile, roadway alignment and construction staging, Dokken will develop the design calculations and prepare plans for the new structure in accordance with Caltrans Bridge Design Manuals, incorporating recommendations from the Structure Foundation Report, environmental documents, and permit requirements. Design will consider all temporary, permanent and transient loading conditions per the bridge design specifications and Caltrans Manuals. A full set of detailed bridge plans and retaining walls will be prepared with consideration for constructability and public safety.

The detailed bridge plans will be quality checked against the 60% roadway, drainage, hydraulic clearances, and utility plans to ensure compatibility with grading, and utilities.

Task 9.2 90% Bridge (Independent Check)

An independent bridge design check will be performed by Dokken. The bridge independent check engineer will use the 60%, unchecked detail plan set as a basis for independent structural calculations. A complete structural analysis will be independently performed with no communication with the designer allowed until this task is complete. A thorough review of the details is performed for clarity, capacity, County standards, and constructability issues. When the independent check is complete, the checker and designer will compare their results and resolve any differences. The calculations will be corrected so that they agree substantially with each other. Agreement is then reached regarding corrections to the plans. After plan corrections, both the designer and checker will review the corrected details to ensure all concerns have been addressed.

Task 9.3 100% Bridge Design

After review comments are received from the 90% Bridge PS&E, Dokken will revise the plans and coordinate the necessary changes to the specifications and estimate. Written responses to the County and Caltrans comments will be prepared and provided with the 100% submittal.

Deliverables – Task 9

- Structure plan sheets (60%, 90%, and 100%)
- Design calculations for bridge
- Independent design check calculations for bridge
- Response to QA, Caltrans and County Comments for each submittal



TASK 10 ROADWAY DESIGN

Task 10.1 60% Roadway Plans

Dokken will prepare the 60% roadway plans, including grading, rock excavation, utilities, drainage, signage, temporary traffic control, and any required stage construction. This submittal will be used to establish utility relocations, confirm permanent right of ways, and identify temporary construction easements necessary for the project. Final ditches, driveways, parking area, removal of the old bridge, and cut and fill slope designs will be completed to ensure adequate right of way exists. The staging plans will address necessary stage construction of the bridge if replacement on the existing alignment is selected. Construction details will be mostly developed with the 90% submittal.

Task 10.2 90% Roadway Plans

Upon receipt of comments on the 60% submittal, Dokken will prepare a written response to each comment from the County and quality assurance reviewer. Resolution of any difficult comments will be facilitated at the following meeting.

Dokken will proceed with the preparation of the 90% roadway submittal. The 90% plans will include specific and unique construction details for driveways, parking areas, minor roadway items, rock excavation, drainage culverts/ditches, fencing, guard rail, quantity sheets, existing conforms and rehabilitation of the removed bridge site. Plan sheets included in the 60% submittal will receive additional annotation, descriptions, and notes. The submittal will include written responses to all comments received on the prior submittal.

Traffic handling plans will be prepared to maintain traffic on the old bridge during construction, as the only detour route is extremely long. The traffic handling plans will depict the location and width of travel lanes, shoulders, to be provided during the stage. Traffic control measures will also be shown. These measures may include: temporary k-rail, delineators, signage, temporary signal and crash attenuators.

It is anticipated that between the 60% and 90% submittals, revisions will be made to the drainage design to coordinate with water Quality permit requirements, revegetation plans and erosion control plans (all of which will be prepared with the 90% submittal).

Task 10.3 100% Roadway Plans

Upon approval of the 90% plans, Dokken will prepare roadway plans for the 100% submittal. The roadway plan updates will include final quantity tables coordinated with the quantity calculations. Any final details required as permit conditions will be added to the plans. All comments from the County, quality assurance and the permit agencies will be responded to in writing and resolution of any challenging comments will be discussed at project meetings.

Task 10.4 Revegetation and Erosion Control Design

Revegetation – the riparian zone impacted by the bridge construction will be restored to a condition suitable to the project area's specific needs. Dokken will prepare the 90% and 100% PS&E submittals for revegetation and erosion control. The purpose of these plans is to stabilize the creek banks and embankments against erosion and to revegetate the slopes in compliance with permits requirements. No irrigation system is anticipated to be necessary for erosion control or revegetation.

Task 10.5 Temporary Traffic Signal

A temporary traffic signal is anticipated for this project. The temporary traffic signal will allow motorists to utilize the existing single lane bridge under reversing stop control. The temporary signals will be located approximately 500 feet farther south on each approach to provide the Contractor some work space on the existing roadway. The proposed temporary traffic signal will be generator operated.



Task 10.6 Cross Sections and Construction Staking Notes

In conjunction with the 90% roadway plan preparation, Dokken will prepare cross sections for the project at 25-foot intervals and at each driveway or unique location. These cross sections will be used to prepare quantity check calculations and verify the roadway design. The cross sections will be updated with the final contract documents for contractor’s use during bidding and construction.

Dokken will prepare the construction staking notes for horizontal and vertical control, clearing limits, line and grade offsets, rough and finishing grades, slope stakes, drainage facilities, grade breaks, angle points, BB, EB, EC, BC, BVC, EVC, PVI transition points and roadway improvements at 25-foot maximum intervals.

<u>Deliverables – Task 10</u>	
• Roadway Plans	• Signing and Striping Plans
• Grading Plans	• Roadway Cross Sections
• Staging and Traffic Handling Plans	• Construction Staking Notes

TASK 11 UTILITY COORDINATION

This task includes confirming there are no utilities on the project site and preparing a no utility certification for federal aid projects to support the right of way certification. Task 11.1 was covered in the original contract.

Task 11.2 Utility Letter “B”, Notice of Conflict

Dokken will prepare “B” letters to utility owners common in the area for County review and approval prior to transmitting them to utility owners. For this project, these letters will confirm with the utility companies that no facilities are located on this site. Two sets of draft plans will be provided to each utility owner as an attachment to the transmittal letter. The transmittal letter will clearly identify this project as a County Project. Dokken will send the plans of the 60% submittal showing the absence of utilities and requesting the utility companies confirmation. This will provide notice to the utility companies of the approved alignment.

Task 11.3 Utility Certification for Federal Aid

Dokken will prepare the utility portion of the Caltrans Local Assistance Right of Way Certification. The utility certification will be coordinated with Caltrans until approval is obtained.

<u>Deliverables – Task 11</u>	
• Utility B Letters	
• Correspondence	
• Utility Certification	

TASK 12 RIGHT OF WAY

Dokken will perform appraisal and acquisition services for the project. The following number of right-of-way acquisitions are anticipated:

Description	# Anticipated
Property Owner Exhibits	3
Roadway Easement from NID	1
Temporary Construction Easements	2
Appraisals	3
Title Reports	3



The Bear River at Dog Bar Road Bridge Replacement Project involves the acquisition of a permanent easement and temporary easement from the Nevada Irrigation District (NID). The County has been working with NID and they have indicated that they are in favor of the County's acquisition of a road easement. It is anticipated that the NID acquisition will not include any complex negotiations and limited time is being allocated to this task per the County's previous conversations with NID. The remaining right of way needed for the project is temporary and affects two (2) private property owners.

Task 12.1 Right of Way Management and Coordination

HBP funding is involved in the County's project. To eliminate any unforeseen issues, Dokken Engineering's team works closely with Caltrans or applicable funding sources to ensure all changes regarding certification, documentation, and procedures are implemented. By coordinating our efforts with Caltrans, Dokken Engineering ensures that all the current documentation and procedures are used for all right of way efforts for local public agency projects.

Dokken Engineering will do the following:

- Attain title reports, maps (engineering plans), plat maps and legal descriptions;
- Review title reports and implement solutions for items that may affect title or cause a delay in escrow;
- Provide all gathered information to the appraiser and attain a detailed timeline to complete the assigned task;
- Monitor progress and provide any additional information to the designated appraiser;
- Review all reports supplied by the appraiser for quality assurance;
- Provide draft reports to the review appraiser for final review and recommendations;
- Prepare draft acquisition documentation for Client review and approval;
- Provide final appraisal report, appraisal review, and acquisition documentation to the Client for final review;
- Prepare staff reports for approval of just compensation;
- Make offers in person to each property owner;
- Attain executed acquisition documentation from each affected property owner;
- Provide possession documentation in lieu of purchase contracts;
- Supply condemnation support, if required;
- Deliver fully executed documentation to escrow/title officers to close escrow and provide title insurance;
- Coordinate the close of escrow and provide original copies of acquisition files to the Client;

Provide the Client with original acquisition files

PROJECT TRACKING TABLE – Jamie Formico will maintain the project tracking table and ensure that it is sent to the Client on the regularly requested schedule. As a component of effective project management and in an effort to keep the project on schedule and the Client current with acquisition data, a project tracking table will be created. This table will outline milestones and supply completion dates, comments and any additional information the Client may request.

ORDER TITLE REPORTS/TITLE RESEARCH – Dokken Engineering will obtain three (3) title reports. The Dokken Engineering right of way team will perform all necessary research for each parcel being acquired. Agents may resolve or oversee resolution of problems relating to unusual circumstances with regard to title or ownership and uncover any flaws, noting any exceptions pertaining to property such as mortgage liens, restrictions, easements and rights of way.

Task 12.2 Appraisals

Valuations will be completed for three (3) affected property owners by licensed General Real Estate Appraisers.

Notice of intent to appraise letters along with acquisition policy brochures will be provided to all impacted property owners. Appraisals will be arranged so that the property owner may accompany the appraiser during the inspection of the property. This allows the property owner the opportunity to provide additional information to the appraiser.



All appraisals will be prepared by an appraiser licensed with the State of California and will comply with all laws applicable to the specific appraisal and the Uniform Standards of Professional Appraisal Practice 49 CFR 24.2(a)(3). Appraisals will include a summary and a complete analysis for all valuation conclusions. Documentation obtained during the inspection, such as pictures, will be included in each report. Title information pertaining to ownership, drawings, and information relative to the parcel will be reviewed by the appraiser. In some insignificant valuation situations, an appraisal may be waived [49 CFR 24.102(c) (2)]. Dokken Engineering will coordinate preparation of Just Compensation packages for approval.

OBTAIN APPRAISAL REVIEW REPORTS – Appraisal Reviews will be completed by a Certified General Real Estate Appraiser. Upon acceptance and approval of the property appraisals, an independent appraisal review will be completed by Dokken Engineering’s subconsultant. The review includes inspecting sales to determine comparability, reviewing appraisal for conformance to Uniform Standards of Professional Appraisal Practice, reviewing “highest and best use” conclusions, examining valuation methods, analyzing exhibits, checking mathematical calculations, and preparing a narrative report that describes the review process and sets forth the reasoning behind the review. An appraisal review is recommended to ensure that the appraisal is based on sound appraisal theory, contains appropriate documentation to support the appraisers’ conclusions and complies with regulatory codes. A recommendation of just compensation is then made based on the reviewed, collected, assembled, correlated, and analyzed data.

APPRAISAL SUMMARY STATEMENT – Dokken Engineering will complete a Summary Statement Relating to the Purchase of Real Property or an Interest Therein (Caltrans Exhibit 8-EX-16) for each property. This document will be delivered to property owners with the offer package during the initial meeting.

Task 12.3 Acquisition Services

NEGOTIATE FOR RIGHT OF WAY – Acquisitions will be required from three (3) property owners. All “Good Faith Negotiations” will be completed by Dokken Engineering’s Right of Way Team. After completion of the appraisal process and just compensation determination, Dokken Engineering will prepare the offer package and meet with all owners in person to present and explain the offer package details. The offer package will include the offer letter, written summary of just compensation with supporting appraisal information, property owner exhibit showing property map with right of way take locations, Title VI information, “Your Property – Your Transportation Project” booklet. Dokken Engineering will negotiate with the property owner to arrive at a mutually agreeable settlement and prepare necessary purchase agreements such as Grant Deeds, Easement Deeds, and Temporary Construction Easement Deeds. Dokken Engineering will obtain receipt of delivery of offer and/or present and secure tenant information statements, as applicable, during the initial meeting.

Dokken Engineering will work closely with the County to aid in the recommendation of the appropriate course of action with regard to the various acquisitions with property owners requesting additional compensation and/or services beyond the initial offer package. Recommended settlement packages with justifications and impasse letters will be provided to the Client for review. Working with the property owners to agreeable terms will be Dokken Engineering’s focus. There may be situations where condemnation is unavoidable, such as clouds in the title. In the event the County will need to attain property through the condemnation process, Dokken Engineering will assist in the preparation of all necessary condemnation reports, letters, and packages.

Additionally, Dokken Engineering will attend, at the request of the County, any Public Community Meetings regarding the project.

Dokken Engineering’s Right of Way Agents hold California Real Estate Salesperson’s Licenses and are working under the direct supervision of a California Real Estate Licensed Broker.



ESCROW COORDINATION – Upon reaching an agreement on the terms and conditions of the acquisition with the property owner, Dokken will be available to assist the Client in opening escrow. Dokken will supply fully executed agreements along with other supporting information to escrow in order to close each transaction. Dokken will work closely with the Client to assist in the timely closing of all transactions. For the convenience of the property owner, our right of way team has a California Notary who will be available to notarize any documentation that is required. Fully executed deeds and easements will be delivered to the Client for acceptance prior to recording. In the event escrow services are not required, Dokken is available to perform these services and record the required documentation.

Task 12.4 Right of Way Certification

Dokken will coordinate with the County and supply all required documentation for the right of way certification. Dokken Engineering will review all acquisition documents for proper and complete execution, including formal acceptance.

PROJECT CLOSE-OUT –The original acquisition file for each affected parcel will be provided to the Client upon completion of the project. Each acquisition file will contain property information, diary report, written correspondence, just compensation documentation, appraisal(s), offer package, negotiations, title documentation, copies of recorded documents, and all applicable documentation.

- | |
|---|
| <p><u>Deliverables – Task 12</u></p> <ul style="list-style-type: none"> • Property Owner Exhibits • Project Tracking Table • Updated Title Reports • Appraisals Reports or Waiver Valuations • Appraisal Review Reports • Caltrans Exhibit 8-EX-16 • Acquisition Documents • ROW Agreements, Deeds, Admin. Settlements • Diaries, Summaries, Impasse Letters • Escrow Documents and Closing Statements • Right of Way Certification • Original Acquisition Files |
|---|

TASK 13 ESTIMATE AND QUANTITIES

Task 13.1 60% Estimate

Dokken will update the estimate based on square footage cost factors for the bridge and roadway work. The estimate will consider unique construction costs such as the temp signals, traffic handling, staging, driveways, revegetation, guard rails, rock excavation and major grading. Also included will be an updated estimate of the right of way costs. The contingency will remain at 25%.

Task 13.2 Draft Detailed Quantities and Estimate (90%)

Dokken will prepare a detailed quantity estimate from the 90% plans. Quantities will be calculated using the roadway design software and checked using hand calculations and the design plans. Quantity calculations and independent quantity check calculations will be prepared for the bridge. Cost data will be based on our experience with other recent similar sized projects. Dokken will update the project cost estimate with a 15% contingency.



Task 13.3 100% Quantities & Estimate

Dokken will update the quantity estimate from the 90% submittal. Quantities will be updated for all items that are changed between the 90 and 100%. The contingency will be reduced to 10% for the final plans. The project quantities will be prepared in a 3-ring binder organized by pay item for use by the Resident Engineer for construction.

Deliverables – Task 13

- 60% Project Estimate
- Detailed Quantity Calculations
- Independent Check Calculations for Bridge Quantities
- Final Quantities in 3-Ring Binder
- 90%, 100% and Final Engineer's Estimate

TASK 14 SPECIAL PROVISIONS

Project Specifications will be based upon the Caltrans 2018 Standard Specifications and Standard Special Provisions, and modified for the Nevada County Road Standards.

Task 14.1 Bid Item List (60%)

A detailed bid item list will be prepared to establish the list of pay items anticipated for the construction contract. The list will separate the roadway and structural items and identify final pay, progress pay and specialty items.

Task 14.2 Draft Special Provisions (90%)

Dokken will prepare a full set of construction specifications for the project in Microsoft Word for the 90% submittal, gathering all necessary input from the subconsultants. The special provisions will encompass all aspects of the construction, including the implementation of the environmental mitigation measures and permit-related requirements.

The draft special provisions will be submitted with hidden text visible and changes tracked to highlight the editing performed by the design team. This editing format will comply with Caltrans procedures for editing special provisions. The draft special provisions will also be submitted in contract version for easier review.

Task 14.3 Final Special Provisions (Including Draft County Bid Book)

Dokken will prepare for the County a "bid book" based on 2018 Standards. The bid book will include the notice to bidders, bid forms, bid bond requirements and sample contract. The bid book will be Book 1 of 3, with the Special Provisions being Book 2 of 3, and Revised Standard Specifications being Book 3 of 3.

Dokken will review the County comments on the draft specifications and meet with the County if necessary, to discuss any revisions. The draft specifications will be updated for the final construction documents. Dokken will ensure that the pay items described in the Project Specifications have been thoroughly checked against all call outs in the plans and that all items of work are fully described.

Deliverables – Task 14

- Project Item List
- Draft Special Provisions
- Draft Bid Book with Notice to Contractors
- Response to County Comments
- Final Bid Book & Special Provisions



TASK 15 PERMITS

Dokken has estimated the approximate cost of permits for this project. A permitting fee allowance is included in this scope of work. The amount is listed in the separate cost proposal.

Task 15.1 404 Fill Permit

Dokken will prepare a Pre-Construction Notification (PCN) for Nationwide Permits 14 (Linear Transportation Crossings) for submittal to the USACE to request authorization for the project under Nationwide Permit 14. Nationwide permit 14 authorizes the discharge of dredged or fill material into waters of the United States for the purpose of construction, modification, or improvement of linear transportation crossings such as roads, provided the discharge does not cause the loss of greater than ½ acre. These nationwide permits are subject to specific and general conditions that must be met for the project to qualify for authorization.

Dokken Engineering will prepare a PCN package that will include the project description, preliminary jurisdictional delineation, construction information, and mapping to show permanent and temporary impacts on waters of the United States. The package will also include attachments of the environmental technical studies and environmental document to demonstrate compliance under Section 7 of the Endangered Species Act, Section 106 of the National Historic Preservation Act, and NEPA and CEQA.

Task 15.2 1602 Streambed Alteration Agreement

A streambed alteration agreement (SAA), in compliance with Section 1602 of the California Fish and Game Code, is required due to potential wetland that will be impacted by the Project. Dokken Engineering will prepare the required notification package for a SAA to be filed with CDFW. The application package will describe, among other items, the project features; construction period; construction methods; impacts on vegetation, fish and wildlife; and the proposed mitigation and restoration plan. Detailed project plans and an application fee also will accompany the notification package. As with the Section 401 water quality certification, CDFW will require evidence of CEQA compliance prior to issuing a SAA for the project.

Task 15.3 401 Water Quality Certification

Section 401 of the CWA requires that the discharge of dredged or fill material into waters of the United States, including wetlands, does not violate state water quality standards. As required by Section 404, water quality certification must be obtained for permit compliance. Dokken Engineering will prepare a Section 401 water quality certification application for filing with the Central Valley RWQCB. The application will include the appropriate fee as determined by the RWQCB fee calculator and evidence of CEQA and NPEA compliance.

Task 15.4 Encroachment Permit from CVFPB

The Bear River at the Dog Bar Road Bridge is within the jurisdiction of the Central Valley Flood Protection Board (CVFPB) authority as a “non-leveed regulated stream listed in California Code of Regulations” and therefore requires an encroachment permit. 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. Dokken Engineering’s environmental team along with WRECO will work closely together to complete this encroachment permit application to minimize the reviewing time required by the CVFPB. WRECO will provide the Dokken Engineering team with the Hydrologic and Hydraulic Technical Documentation for the CVFPB Permit Application. Issuance of the CVFPB Encroachment Permit will also require the project to secure a 408 permit from USACE, which will be completed during processing of the CVFPB permit.

Deliverables – Task 15

- 401 Water Quality Certification



- 402 General Construction Permit
- 404 Nationwide Permit
- 1602 Streambed Alteration Agreement
- Encroachment Permit from CVFPB
- Permitting Fees (not including NPDES)

TASK 16 FINAL PS&E AND BIDDING SUPPORT

Task 16.1 Prepare Final PS&E for Bidding

The Dokken Environmental Lead and Project Engineer will conduct a final site visit to walk through the construction of the project with the 100% plans in hand. During this visit, they will address any constructability issues and look for items that require additional details to stake or construct. Staff from the County will be invited to attend this site visit.

Upon approval of the Final PS&E, Dokken will furnish the County approved Plans, Specification Books 1, 2 and 3, and Estimates to be used for project advertising. The plans, specifications and estimate will be signed by the Engineer in Responsible Charge. Plan submittal to the County will include full and half size bond plots, PDF copy and electronic CADD drawing files. Specification submittal will include a PDF copy and electronic files in Microsoft Word. A hard copy and electronic Microsoft Excel file of the Engineer’s Estimate will be provided.

Task 16.2 PS&E Checklist and Certification

Dokken will complete the PS&E Checklist and certify that the PS&E is ready for advertising using the current version of the Caltrans Local Assistance Forms. These forms will be completed, signed and submitted as part of the Request for Authorization for Construction Package.

Task 16.3 Contractor Working Day Schedule and Resident Engineer’s File

Dokken will prepare a working day schedule for the project to establish a fair and reasonable number of working days for the contract documents. The working day schedule will be aligned with the proposed stage construction.

Dokken will prepare a Resident Engineer’s File with all design information necessary for the construction management personnel. The file will contain the project quantities, estimate, notes about any unique issues the Resident Engineer should be aware of, bridge joint setting calculations, staking notes, 4-scales for setting bridge deck grades, foundation report for the bridges, and typical cross sections for the project. This information will be compiled in multiple 3-ring binders for easy reference.

Task 16.4 Bid Support

Dokken will provide assistance, as required, to the County during the bidding of the project. This work includes answering questions from prospective bidders and providing interpretation and clarification of the construction documents.

Dokken will prepare any necessary Bid Addendums, including revised plan sheets, clarifications or additions to the specifications. Dokken will prepare the complete addendum for County approval and issue to the plan holder list.

- Deliverables – Task 16**
- | | |
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| <ul style="list-style-type: none"> • Approved Plans, Notice to Contractors and Bid Book • Stamped Final Engineer’s Estimate • Bid Support Documents for Bidders Reference • Response to County or Bidder Inquiries | <ul style="list-style-type: none"> • PS&E Checklist and PS&E Certification • Contractor Working Day Schedule • Resident Engineer’s File |
|--|--|

Design Support During Construction shall be considered under this agreement, but it will be contracted in a later amendment when the Construction Phase Funding is authorized.



END OF SCOPE OF WORK

NEVADA COUNTY BRIDGES
Dog Bar Road Bridge over the Bear River
AMENDMENT 1 EXHIBIT B1, COST PROPOSAL SUMMARY by TASK
August 29, 2019

TASK NAME	TOTAL COST
TASK 1 - PROJECT MANAGEMENT	\$37,699.23
1.1 Project Management	\$16,356.09
1.2 Project Meetings	\$21,343.13
TASK 2 - SURVEYING & BASE MAPS	\$10,811.87
2.4 Title Reports	\$3,000.00
2.5 Plat Maps and Legal Descriptions for Acquisitions	\$7,811.87
TASK 3 - PRELIMINARY ENGINEERING	\$12,554.78
3.4 Final Bridge Type Selection & Project Approval	\$12,554.78
TASK 4 - HYDRAULICS	\$36,833.83
4.2 Final Location Hydraulic Study	\$13,306.02
4.3 Bridge Design Hydraulic Study Report	\$23,527.80
TASK 5 - GEOTECHNICAL	\$42,179.79
5.1 Foundation Investigation and Report	\$42,179.79
TASK 6 - QUALITY ASSURANCE	\$22,534.67
6.1 Quality Assurance of All Documentation	\$6,794.70
6.2 QA Review of 60% Plans and Item List	\$4,882.42
6.3 QA Review of 90% PS&E	\$4,882.42
6.4 QA Review of 100% PS&E	\$5,975.15
TASK 7 - ENVIRONMENTAL TECHNICAL STUDIES	\$63,447.64
7.1 Natural Environment Study	\$10,494.29
7.2 Cultural Resources	\$13,094.28
7.2.3 Extended Phase I	\$19,913.28
7.3 Hazardous Waste Initial Site Assessment	\$11,503.27
7.4 Water Quality Assessment Report	\$5,789.15
7.5 Visual Resource Technical Memo	\$2,653.36
TASK 8 - NEPA/CEQA ENVIRONMENTAL DOCUMENT	\$35,419.74
8.1 Draft IS/MND CEQA - County	\$9,883.99
8.2 Public Circulation/Response to Comments	\$9,357.96
8.3 Final IS/MND CEQA - County	\$7,816.65
8.4 Environmental Commitments Record	\$3,031.17
8.5 CE NEPA - Caltrans	\$5,329.97
TASK 9 - BRIDGE DESIGN	\$172,698.03
9.1 60% Bridge Design and Details	\$85,930.52
9.2 90% Bridge Design (Independent Check)	\$51,916.36
9.3 100% Bridge Design	\$34,851.15
TASK 10 - ROADWAY DESIGN	\$80,426.18
10.1 60% Roadway Plans	\$27,225.28
10.2 90% Roadway Plans	\$19,018.17
10.3 100% Roadway Plans	\$17,419.76
10.4 Revegetation and Erosion Control Plans	\$8,881.35
10.5 Temporary Traffic Signal	\$3,440.94
10.6 Cross Sections and Staking Notes	\$4,440.67
TASK 11 - UTILITY COORDINATION	\$5,434.59
11.2 Utility "B" Letters, Notice of Conflict	\$3,917.56
11.3 Utility Certification for Federal Aid	\$1,517.04
TASK 12 - RIGHT OF WAY	\$35,110.96
12.1 Right of Way Management and Coordination	\$6,867.95
12.2 Appraisals	\$11,375.43
12.3 Acquisition Services	\$13,845.14
12.4 Right of Way Certification	\$3,022.45
TASK 13 - ESTIMATES AND QUANTITIES	\$12,723.34
13.1 60% Quantities and Estimate	\$2,929.45
13.2 90% Quantities and Estimate	\$5,940.27
13.3 100% Quantities and Estimate	\$3,853.62
TASK 14 - SPECIAL PROVISIONS	\$18,660.71
14.1 Bid Item List (60%)	\$1,380.45
14.2 Draft Special Provisions (90%)	\$11,781.87
14.3 Final Special Provisions (Including Draft Bid Book)	\$5,898.40
TASK 15 - PERMITS	\$46,692.02
15.1 U.S Army Corps of Engineers NWP (404)	\$5,440.41
15.2 Department of Fish and Wildlife LSA (1602)	\$11,639.13
15.3 Regional Water Quality Control Board WQC (401)	\$7,001.04
15.4 Encroachment Permit from CVFPB	\$22,611.44
TASK 16 - FINAL PS&E & BID SUPPORT	\$14,699.56
16.1 Prepare Final PS&E for Bidding	\$6,196.02
16.2 PS&E Checklist and Certification	\$1,691.41
16.3 Working Day Schedule and RE File	\$2,104.09
16.4 Bid Support	\$4,708.04
TOTAL COST	\$647,926.95

Note: Underline means this task should be charged to the ROW Phase
\$612,815.99
\$35,110.96

EXHIBIT 10-H Cost Proposal For Amendment 1

**NEVADA COUNTY BRIDGES
Dog Bar Road Bridge over the Bear River
Nevada County Contract Exhibit B1**

Contract No.:

CONSULTANT: Dokken Engineering

Date:

August 29, 2019

DIRECT LABOR

Classification	Name	Range	Hours	Initial Hourly Rate	Total
Project Manager	Matthew Griggs, PE	\$70.00 - \$90.00	148	@ \$ 82.00	\$ 12,136.00
Structures Project Engineer 1	Martin Maechler, PE	\$55.00 - \$85.00	291	@ \$ 71.00	\$ 20,661.00
Roadway Project Engineer	Amanda Konieczka, PE	\$45.00 - \$75.00	76	@ \$ 52.00	\$ 3,952.00
Senior Engineer	Staff	\$45.00 - \$85.00	312	@ \$ 70.00	\$ 21,840.00
Associate Engineer	Staff	\$40.00 - \$60.00	874	@ \$ 55.00	\$ 48,070.00
Assistant Engineer	Staff	\$25.00 - \$45.00	372	@ \$ 38.00	\$ 14,136.00
Right of Way Manager	Jamie Formico	\$45.00 - \$75.00	24	@ \$ 58.00	\$ 1,392.00
Senior Right of Way Agent	Staff	\$40.00 - \$60.00	114	@ \$ 46.00	\$ 5,244.00
Prof. Land Surveyor	Terry Fletcher, LS	\$40.00 - \$55.00	56	@ \$ 48.00	\$ 2,688.00
Environmental Manager	Namat Hosseinion	\$55.00 - \$85.00	27	@ \$ 78.00	\$ 2,106.00
Senior Environmental Planner	Staff	\$45.00 - \$75.00	79	@ \$ 57.00	\$ 4,503.00
Associate Environmental Planner	Staff	\$35.00 - \$50.00	284	@ \$ 44.00	\$ 12,496.00
Environmental Planner	Staff	\$20.00 - \$40.00	605	@ \$ 34.00	\$ 20,570.00
Senior CAD/Detailer	Staff	\$40.00 - \$65.00	240	@ \$ 59.00	\$ 14,160.00
Engineering Technician	Staff	\$18.00 - \$40.00	128	@ \$ 22.00	\$ 2,816.00
			<u>3,630</u>		

Subtotal Direct Labor Costs \$ **186,770.00**
Anticipated Salary Increases \$ -

Total Direct Labor Costs \$ **186,770.00**

Fringe Benefit

Rate **Total**
66.92% \$ 124,986.48

Total Fringe Benefits \$ **124,986.48**

Indirect Costs

General and Administrative Overhead **Rate** **Total**
92.16% \$ 172,127.23
5.12% \$ 9,562.62

Total Indirect Costs \$ **181,689.86**

FEE (Profit) (10.00%)

Total Fee (Profit) \$ **49,344.63**

OTHER COSTS

	Quantity	Unit	Rate	Total
• Title Reports	7	Ea	\$750.00	\$5,250.00
• Cultural Record Search	1	Ea	\$400.00	\$400.00
• EDR Report and Testing (for Hazardous Waste ISA)	1	Ea	\$500.00	\$500.00
• Asbestos Test (for Hazardous Waste ISA)	1	Ea	\$1,500.00	\$1,500.00
• Notice of Determination Filing Fee	1	Ea	\$2,260.00	\$2,260.00
• Appraisal Reports (3 reports)	3	Ea	\$2,500.00	\$7,500.00
• Appraisal Reviews (3 reports)	3	Ea	\$1,100.00	\$3,300.00
• 1602 Streambed Alteration Agreement Fee	1	Ea	\$4,920.00	\$4,920.00
• 401 RWQCB Fee	1	Ea	\$2,200.00	\$2,200.00
• CVFPB Encroachment Permit Fee	1	Ea	\$4,500.00	\$4,500.00

Total Other Costs \$ **32,330.00**

TOTAL - Dokken Engineering \$ **575,120.97**

SUBCONSULTANT COSTS

• Holdrege & Kull (NV5) **Total** \$ 39,575.84
• Wreco* \$ 33,230.14

* DBE Firm DBE Participation: 0.051286862

TOTAL - Subconsultants \$ **72,805.98**

TOTAL COST - NOT TO EXCEED \$ **647,926.95**

EXHIBIT 10-H Cost Proposal For Amendment 1

**NEVADA COUNTY BRIDGES
Dog Bar Road Bridge over the Bear River
Nevada County Contract Exhibit B1**

Contract No.:
CONSULTANT: HOLDREGE & KULL

Date: August 29, 2019

DIRECT LABOR

<u>Classification</u>	<u>Name</u>	<u>Range</u>	<u>Hours</u>	<u>Initial Hourly</u>	<u>Total</u>
Principal Engineer	Chuck Kull		30	\$ 85.88	\$ 2,576.40
Project Engineer/Geologist	Justin Castleberry		24	\$ 41.35	\$ 992.40
Project Engineer/Geologist	Daniel Vieira		24	\$ 55.95	\$ 1,342.80
Staff Engineer/Geologist	Janina Smith		24	\$ 21.86	\$ 524.64
Technical Editor	Janina Smith		4	\$ 21.86	\$ 87.44
Project Assistant	Kristin Hope		12	\$ 27.88	\$ 334.56
AutoCAD Operator	Justin Castleberry		16	\$ 41.35	\$ 661.60
Lab Shop Rate	Michelle Holub		6	\$ 30.20	\$ 181.20
			<u>140</u>		

Subtotal Direct Labor Costs \$ **6,701.04**
Anticipated Salary Increases \$ **-**

Total Direct Labor Costs \$ **6,701.04**

Fringe Benefit

Rate 15.85% **Total** \$ 1,062.11

Total Fringe Benefits \$ **1,062.11**

Indirect Costs

General and Administrative Overhead Rate 127.996% Total \$ 8,577.06

Total Indirect Costs \$ **8,577.06**

FEE (Profit) (10.00%)

Total Fee (Profit) \$ **1,634.02**

OTHER COSTS

	<u>Quantity</u>	<u>Unit</u>	<u>Rate</u>	<u>Total</u>
• Mileage	320	EA	\$ 0.58	\$ 185.60
• Moisture Content/Unit Weight	10	EA	\$ 32.00	\$ 320.00
• Sieve Analysis	4	EA	\$ 120.00	\$ 480.00
• Atteberg Limits Dry Method	4	EA	\$ 140.000	\$ 560.00
• Expansion Index	2	EA	\$ 140.00	\$ 280.00
• Direct Shear	2	EA	\$ 280.00	\$ 560.00
• Unconfined Compression	6	EA	\$ 116.00	\$ 696.00
• Corrosion Testing Suite	2	EA	\$ 200.000	\$ 400.00
• Permit Fees	1	EA	\$ 600.00	\$ 600.00
• Seismograph Rental	4	Days	\$ 355.00	\$ 1,420.00
• Traffic Control	2	Days	\$ 1,500.00	\$ 3,000.00
• Drill Rig	3	Days	\$ 3,300.00	\$ 9,900.00
• Rock Coring	1	EA	\$ 2,500.00	\$ 2,500.00
• Seismic Evaluation	4	EA	\$ 175.00	\$ 700.00

Total Other Costs \$ **21,601.60**

TOTAL COST - NOT TO EXCEED \$ **39,575.84**

* DBE Firm

EXHIBIT 10-H Cost Proposal For Amendment 1

**NEVADA COUNTY BRIDGES
Dog Bar Road Bridge over the Bear River
Nevada County Contract Exhibit B1**

Contract No.:
CONSULTANT: WRECO

Date: August 29, 2019

<u>DIRECT LABOR</u>					<u>Initial</u>	
<u>Classification</u>	<u>Name</u>	<u>Range</u>	<u>Hours</u>		<u>Hourly</u>	<u>Total</u>
Principal Engineer	Staff		16	\$	98.24	\$ 1,571.84
Senior Engineer	Staff		42	\$	68.16	\$ 2,862.72
Associate Engineer	Staff		62	\$	46.25	\$ 2,867.50
Staff Engineer	Staff		134	\$	35.00	\$ 4,690.00
Clerical/Technical Editor	Staff		10	\$	28.12	\$ 281.20
			<u>264</u>			
					Subtotal Direct Labor Costs	\$ 12,273.26
					Anticipated Salary Increases	\$ -
					Total Direct Labor Costs	\$ 12,273.26
Indirect Costs					<u>Rate</u>	<u>Total</u>
Overhead					137.25%	\$ 16,845.05
					Total Indirect Costs	\$ 16,845.05
FEE (Profit)	(10.00%)				Total Fee (Profit)	\$ 2,911.83
OTHER COSTS		<u>Quantity</u>	<u>Unit</u>		<u>Rate</u>	<u>Total</u>
• Travel & Per Diem		2	EA		\$ 300.00	\$ 600.00
• Office Reproductions		2	EA		\$ 300.00	\$ 600.00
					Total Other Costs	\$ 1,200.00
SUBCONSULTANT COSTS					<u>Total</u>	
					TOTAL - Subconsultants	\$ -
					TOTAL COST - NOT TO EXCEED	\$ 33,230.14