

KITITITAS COUNTY
DEPARTMENT OF PUBLIC WORKS
AGENDA STAFF REPORT

AGENDA DATE: July 18th, 2017

ACTION REQUESTED: Approve the Chairman's Signature on Formal Task Order Document Number 008 with KPFF Consulting Engineers

BACKGROUND: Public Works was awarded Rural Arterial Program (RAP) funds from the County Road Administration Board (CRAB) for the replacement of the No. 6 Road Bridge in 2013.

The bridge replacement project over Town Ditch was awarded \$684,900 of RAP funds. The bridge was built in 1955 and rebuilt in 1963 and at the time of the grant application the bridge had a poor sufficiency rating of 27.82. Additionally the bridge is approximately four feet narrower then the road approach on either side.

The cost for engineering services has been negotiated with KPFF Consulting Engineers for the structural design of the replacement. Public Works is in agreement that a not to exceed \$87,500.00 is a fair cost for delivery and will keep the project at budget.

Currently the schedule for deliver indicates design will be completed March 2018 with advertisement and award for construction commencing May 2018. It is anticipated that construction for the replacement bridge will occur Fall 2018 through Spring 2019.

INTERACTION: Public Works

RECOMMENDATION: Move to approve the Chairman's Signature on Formal Task Order Document Number 008 with KPFF Consulting Engineers

HANDLING: Return one (1) copy to Public Works

ATTACHMENTS: Formal Task Order Document Number 008

LEAD STAFF: Lucas Huck, County Engineer

**BOARD OF COUNTY COMMISSIONERS
COUNTY OF KITTITAS
STATE OF WASHINGTON**

RESOLUTION NO. 2017 - _____

**TO AUTHORIZE THE CHAIRMAN'S SIGNATURE ON FORMAL TASK
ORDER DOCUMENT NUMBER 008 WITH KPFF CONSULTING ENGINEERS**

WHEREAS: Public Works was awarded Rural Arterial Program (RAP) funds from the County Road Administration Board (CRAB) for the replacement of the No. 6 Road Bridge in 2013; and

WHEREAS: The bridge replacement project over Town Ditch is expected to have a total cost of \$684,900; and

WHEREAS: KPFF Consulting Engineers was selected as a civil on call consultant and is under contract with Public Works through agreement number KCPW 2017-19ENG2; and

WHEREAS: Kittitas County Public Works negotiated Task Order Number 008 with KPFF Consulting Engineers to perform the structural design of the replacement structure; and

NOW, THEREFORE BE IT RESOLVED that the Board of County Commissioners, in the best interest of the public, does hereby authorize the Chairman's signature on Task Order Document Number 008 with KPFF Consulting Engineers, as attached.

DATED on this 18th day of July, 2017, at Ellensburg, Washington.

BOARD OF COUNTY
COMMISSIONERS
KITTITAS COUNTY, WASHINGTON

Paul Jewell, Chairman

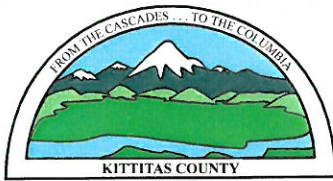
Attest:

☐ Clerk of the Board- Julie Kjorsvik

Laura Osiadacz, Vice-Chairman

☐ Deputy Clerk of the Board- Mandy Buchholz

Obie O'Brien, Commissioner



KITTITAS COUNTY
DEPARTMENT OF PUBLIC WORKS

Formal Task Order Document

(KPFF)

Task Order Number 008

Maximum Amount Payable \$87,500 **Completion Date** 3/31/2019

The general provisions and clauses of Local Agency Agreement Number (KCPW 2017-19ENG2) shall be in full force and effect for this Task Order.

Location of Project: Kittitas County

Project Title: Road 6 Bridge Design (PS&E)

Description of Work:

Kpff shall perform the engineering analysis and design of the Road 6 Bridge to prepare for bidding advertisement date of April 2018.

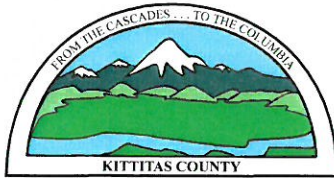
Scope of Work:

Perform appropriate analysis and design calculations in accordance with the general and specific guidelines and specifications as contained in the WSDOT Bridge Design Manual (BDM) and if applicable or necessary to the LRFD AASHTO Design Specifications, and the Local Agency Design Manual. In all cases the most current edition, manual, guidelines or specifications shall provide criteria and minimal guidelines as required to meet all FHWA funding requirements.

The work and fee are divided into 4 segments:

Management

The specific line items are provided in the Consultant Fee Determination sheet. In general Kpff will manage the development of the PLANS, SPECS & ENGINEERING COST ESTIMATE (PS&E) in such a manner to ensure the County is able to achieve the desirable bidding date. This effort will include appropriate in-house duties such as invoicing, contract compliance assurance, file and staff organization, client communications (emails and telephone), and general project oversight and coordination of concepts to be followed in design, staffing, schedule and progress management.



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Meetings

One meeting is budgeted at the County either on site or at the Public Works Office in Ellensburg.

Bridge Design & Development of Contract Documents

Perform all analysis, design and development of the plans, specifications, and engineer's cost estimate to be used for the construction of the bridge and serve as the basis of the contract bid documents.

Perform the necessary quality assurance and checks as deemed appropriate for this project.

Provide load rating for bridge upon completion of the design or construction as requested by County.

Estimate 10-11 plan sheets.

Civil Design & Development of Contract Documents

- Develop plans and drawings as needed for final profile, super elevation, roadway cross-sections on the north and south approach and driveway grades, detour plan and temporary erosion control.
- Assist to write deviations as needed for the potential guardrail alignments and radius.
- Review and assist in guardrail design and layout.
- Develop / advise on specs related to civil items including cost estimate.

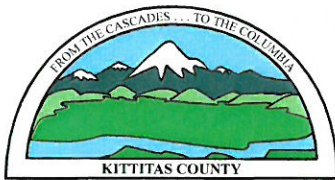
Construction Support

Provide on-call construction support services as requested by the County. At this time Kpff assumes we will perform shop-drawing reviews, some RFI reviews (assume 10 max), and provide consultation and quick response to contractor and County questions during the course of construction. One site visit is budgeted.

Assumptions:

This Scope and Fee are premised on the following assumptions:

1. County to provide all environmental permitting and Cultural Resource's and regulatory coordination for this project.
2. County to provide Kpff with a base survey map including utility types and locations from which Kpff can perform the most cost effective bridge layout. County will collect additional data as necessary per request by Kpff. Contours shall be in at least 2 ft increments and shall preferably extend at least 100 feet to the north, south, east and west of the bridge to include all driveways, ditches, and other items which are reasonable likely to impact the bridge layout and design.
3. County to provide geotechnical data for the design of the foundation. Currently it is believed that a pile cap foundation will provide the most cost effective design. However, a spread footing



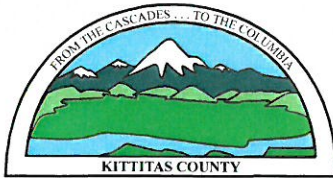
KITTITAS COUNTY DEPARTMENT OF PUBLIC WORKS

layout will be quickly reviewed to ensure this is the case. Kpff to discuss the pros and cons with the County before proceeding with a final decision and design.

4. Kpff to layout new bridge to ensure, as best as possible, that no right-of-way takes will be required.
5. Kpff to design guardrail layout in collaboration with the County. Guardrail on the bridge will meet current WSDOT/AASHTO design specifications and criteria based on road use and speed. Guardrail off the bridge will follow as best as possible the WSDOT Standard Plans for guardrail layout. The final guardrail alignment will achieve a best fit between the WSDOT Standard Plans and the actual space available to fit it. Based on early site visits it appears that the rail will need to make some very short radius turns to fit into the irrigation canal access roads and nearby residential driveways.
6. KPFF will provide all necessary Civil engineering effort including specifications, quantities and costs as needed for the development of these plans. This is assumed to include roadway sections, grade profiles, drainage issues, utility concerns, and shoulder and ditch layouts. County to coordinate with Kpff regarding guardrail off the bridge.
7. Kpff to provide specifications related to the PS&E they develop only. An effort will be made to consolidate all specs on to the plans to work in conjunctions with the WSDOT Standard Specifications (2016 and all amendments and GSP revisions to the latest date possible – likely January of 2018).
8. The bridge will be closed during construction.
9. Currently the new bridge is assumed to be designed for two 12 foot lanes, and two 2 foot shoulders. The width shall meet approach widths at a minimum, and as prescribed by the County.
10. No sidewalks.
11. County will inform Kpff if curbs are required and if they are what type, size, and the extent of layout beyond the bridge is desirable.
12. Bridge superstructure will have a 2% crown from the centerline of the roadway, or as prescribed by the County.
13. Stripping and final channelization of the approach and bridge will be provided by the KPFF.
14. There will be no drains on the bridge.
15. Bridge will be a single span.
16. Voided pre-cast box slabs with a 5 inch topping and overlay will likely provide the most cost effective design and will serve as the basis of the Kpff design unless prescribed differently by the County.
17. Kpff, as EOR, to make use of the Sargent concept development plans for efficiency to the extent possible but are not obligated to follow the Sargent layout and design explicitly.

Milestones:

Kpff will provide a PDF of the plans for the 30%, 75%, and 100% design at the dates shown below. For efficiency, the design will continue following milestone submittal while the county performs review of



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the submitted plans. The county will endeavor to complete and return to Kpff all comments asap following receipt of them, but in no case more than 10 days following the milestone date - this is to reduce the likely-hood of redesign.

| Mile Stone | Milestone Delivery Date | Description |
|-------------------------|-------------------------|--|
| 30 % | October 2017 | Permit set. 3 sheets estimated. Layout, Elevation, Cross-section, basic notes |
| 75 % | January 2018 | 10 sheets, all items including further development of the notes, specs, and quantities. |
| 100 % Draft | March 2018 | 10-11 sheets, all items developed and ready for construction, pending final review by county. Complete PS&E. |
| 100% Stamped and Signed | April 2018 | Stamped and Signed Contract Documents – bid ready. |

Cost Breakdown: See Attached

Completion Date: March 31, 2019

Agency Signature: _____

Date: _____

Consultant Signature: _____

Thomas H. Whiteman

Date: July 12, 2017

Thomas H Whiteman, Associate / Project Manager

| CONSULTANT FEE DETERMINATION BY KPFF FOR KITTITAS COUNTY ON CALL | | | | | | | | | |
|--|--|--|--------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|-------------------------------|-------------------------------------|------------------|
| ROAD 6 BRIDGE PS&E | | ESTIMATION OF MANAGEMENT AND ENGINEERING HOURS | | | | | | | COST |
| TASK ORDER 8 | | Principal (Dave McMullen) | Project Manager (Tom Whiteman) | Technical Specialist (Tom Whiteman) | Senior Engineer (Structural & Civil) | Design Engineer (Structural & Civil) | CAD Tech (Structural & Civil) | Project Administrator (A. Fernando) | MULTIPLIER |
| ITEM | SCOPE OF WORK | \$62.50 | \$69.23 | \$69.23 | \$42.40 | \$35.16 | \$39.00 | \$26.48 | 2.6552 |
| 1 CONTRACT MANAGEMENT AND COORDINATION | | | | | | | | | |
| | Contract Compliance & Organization | 1.5 | 2 | | | | | 2 | \$757 |
| | Client Communications | | 8 | | | | | | \$1,471 |
| | Staff, Files & General Project Coordination | | 18 | | | | | 4 | \$3,590 |
| | Subconsultant Coordination | | 0 | | | | | | |
| | Invoicing & Project Summaries | 1.5 | 6 | | | | | 8 | \$1,914 |
| | | | | | | | | | |
| | Labor Subtotal 1: | 3 | 34 | 0 | 0 | 0 | 0 | 14 | \$7,732 |
| | | | | | | | | | \$0 |
| 2 SITE OR CLIENT VISIT (AS REQUESTED OR NEEDED) | | | | | | | | | |
| | Travel (RT) | | 4 | | 4 | 4 | | | \$1,559 |
| | Prep, Meet w/ Cnty. | | 2 | | 4 | 2 | | | \$1,005 |
| | Labor Subtotal 2: | | 6 | 0 | 8 | 6 | 0 | 0 | \$2,564 |
| | | | | | | | | | \$200 |
| 3 DEVELOPMENT OF PS&E - CONTRACT BID DOCUMENTS | | | | | | | | | |
| | Sheet 1 - Cover | | | 1.0 | 3.0 | | 10.0 | | \$1,557 |
| | Sheet 2 - Gen Notes, Quantities, Specs, Cross Section | | | 4.0 | 24.0 | 8.0 | 20.0 | | \$6,255 |
| | Sheet 3 - General Plan, Layout & Elevation | | | 6.0 | 22.0 | 8.0 | 28.0 | | \$7,226 |
| | Sheet 4 - Foundation, Abutment, W.Walls 1 | | | 2.0 | 4.0 | 20.0 | 20.0 | | \$4,756 |
| | Sheet 5 - Foundation, Abutment, W.Walls-2 | | | 2.0 | 4.0 | 16.0 | 18.0 | | \$4,176 |
| | Sheet 6 - Framing Plan and Girders 1 | | | 3.0 | 4.0 | 16.0 | 20.0 | | \$4,567 |
| | Sheet 7 - Girders 2, Bearings, Joint | | | 2.0 | 4.0 | 16.0 | 18.0 | | \$4,176 |
| | Sheet 8 - Approach Slab(s) | | | 1.0 | 2.0 | 8.0 | 18.0 | | \$3,020 |
| | Sheet 9 - Bridge Rail & Guardrail 1 | | | 3.0 | 20.0 | 4.0 | 20.0 | | \$5,248 |
| | Sheet 10 - Guard Rail 2 & Misc | | | 1.0 | 12.0 | 4.0 | 18.0 | | \$3,772 |
| | Plan and Calculation Quality Control Checks and Reviews | 6.0 | | 8.0 | 24.0 | 4.0 | 12.0 | | \$6,784 |
| | Plan Coordination with County (Survey, Civil, Geotechnical) | | | 6.0 | 10.0 | 2.0 | 4.0 | | \$2,830 |
| | Load Rating | | | 2.0 | 20.0 | 4.0 | | | \$2,993 |
| | Civil Engineering (road x-sec, profile, grades, access roads, detour plan, deviations, guardrail review, Stripping, TESC, drainage review, misc) | | 8.0 | | 40.0 | 40.0 | 36.0 | | \$13,436 |
| | Labor Subtotal 3: | 6 | 8 | 41 | 193 | 150 | 242 | 0 | \$70,794 |
| | | | | | | | | | \$0 |
| 4 CONSTRUCTION SUPPORT - OPTIONAL | | | | | | | | | |
| | Consultation, RFI and Shop Review, Questions | 1 | | 4 | 12 | 12 | 6 | 1 | \$4,064 |
| | Site or County Visit | | | | | | | | |
| | Labor Subtotal 4: | 1 | 0 | 4 | 12 | 12 | 6 | 1 | \$4,064 |
| | | | | | | | | | |
| TOTAL LABOR | | | | | | | | | |
| | | 10 | 48 | 45 | 213 | 168 | 248 | 15 | \$ 85,154 |
| TOTAL REIMBURSABLE | | | | | | | | | |
| | | | | | | | | | \$ 200.00 |
| MANAGEMENT RESERVE (OPTIONAL) | | | | | | | | | |
| | | | | | | | | | \$ 2,000 |
| GRAND TOTAL - NOT TO EXCEED | | | | | | | | | |
| | | \$625 | \$3,323 | \$3,115 | \$9,031 | \$5,907 | \$9,672 | \$397 | \$ 87,354 |