KITTITAS COUNTY
DEPARTMENT OF PUBLIC WORKS

AGENDA STAFF REPORT

AGENDA DATE: **September 17, 2013**

ACTION REQUESTED: Approve and sign the professional engineering task assignment for the Westside Road project and terminate the existing task assignment dated July 17, 2013.

BACKGROUND: The County Road Administration Board (CRAB) provides state funding for road improvements projects on a bi-annual basis.

Public Works submitted a grant proposal for road improvements to Westside Road. The project is funded. Previously, the safety enhancement project was awarded $3,800,000. Kittitas County withdrew the project from the Rural Arterial Program after CRAB reimbursed the county for $106,052.07. CRAB authorized KCPW to retain these funds provided we commit to pursue improvements that utilize existing preliminary engineering for the project prior to October 2014.

Public Works is planning to terminate the existing task assignment for engineering services and assign a new one to complete the design process.

On November 10, 2011 the BOCC approved the chair to sign the on-call engineering services contract. On July 17, 2012, Board of County Commissioners (BOCC) approved Task Assignment 10 for Sargent Engineers to perform preliminary engineering services amounting to $349,396 of which $83,234.75 was paid leaving $266,161.25.

The new Task Assignment 26 for professional services to complete this design was prepared for BOCC approval. This task assignment totals $166,889. The estimate reduction resulted from simplified design requirements.

Public Works plans to use road funds to pay for the remainder of the design.

INTERACTION: Public Works and Sargent Engineers

RECOMMENDATION:	BOCC to approve chair signature of the professional engineering task assignment and terminate the existing task assignment dated July 17, 2013 for Westside Road.
HANDLING:	Return two signed task assignments to Public Works
ATTACHMENTS:	Professional Engineering Services Task Assignment for Westside Road
LEAD STAFF:	Douglas D'Hondt County Engineer

BOARD OF COUNTY COMMISSIONERS
COUNTY OF KITTITAS
STATE OF WASHINGTON

RESOLUTION NO. _____

TO AUTHORIZE CHAIR SIGNATURE FOR PROFESSIONAL ENGINEERING TASK ORDER FOR WESTSIDE ROAD PROJECT

WHEREAS: County Road Administration Board (CRAB) awarded to Kittitas County Public Works (KCPW) $3,800,000 for safety enhancements to Westside Road; and

WHEREAS: Kittitas County withdrew the project from the Rural Arterial Program after the CRAB reimbursed the county for $106,052.07; and

WHEREAS: CRAB authorized KCPW to retain these funds provided we commit to pursue improvements that utilize existing preliminary engineering for the project prior to October 2014; and

WHEREAS: On July 17, 2012, Board of County Commissioners (BOCC) approved Task Assignment 10 for Sargent Engineers to perform preliminary engineering services amounting to $349,396; and

WHEREAS: Sargent Engineers performed services totaling $83,234.75 with $266,161.25 remaining; and

WHEREAS: Sargent Engineers provided Task Assignment 26 to complete project engineering design amounting to $161,889; and

WHEREAS: Public Works is requesting the BOCC terminate Task Assignment 10; and

WHEREAS: Public Works is planning to use County Road Funds for financing the remainder of the engineering services; and

WHEREAS: On November 1, 2011 the BOCC approved the chair to sign an on-call engineering services contract through Resolution 2011-108.

NOW, THEREFORE BE IT RESOLVED that the Board of County Commissioners, in the best interest of the public, does hereby authorize the chair to sign the task assignment for professional engineering services for the Westside Road project.

DATED this 17th day of September, 2013, at Ellensburg, Washington.

BOARD OF COUNTY COMMISSIONERS
KITTITAS COUNTY, WASHINGTON

_____
Obie O'Brien, Chair

_____
Paul Jewell, Vice-Chair

_____
Gary Berndt, Commissioner

ATTEST:

_____
Clerk of the Board

Formal Task Assignment Document

Task Number: 26

The general provisions and clauses of Agreement BOCC Res. No. 2011-108 shall be in full force and effect for this Task Assignment.

Location of Project: Westside Road

Project Title: Westside Road Improvements

Maximum Amount Payable Per Task Assignment: $161,889.00

Completion Date: May 30, 2014

Description of Work:
(Note attachments and give brief description)
Prepare the plans, specifications, and estimate for the improvement of Westside Road. The scope of work is attached.

Agency Project Manager Signature _____ Date: 09/10/13

Oral Authorization Date: _____ See Letter Dated: _____

Consultant Signature: _____ Date: 8/28/13

Agency Approving Authority: _____ Date: _____

Consultant: Sargent Engineers, Inc.
320 Ronlee Lane NW
Olympia, WA 98502
(360) 867-9284

Westside Road Improvements
Scope of Work

Kittitas County would like to improve Westside Road from mile post 1.98 to mile post 5.81. The improvements will include: widening the road, improving shoulder slopes, improving guardrails, beveling culverts, and improving sight distance at intersections. Sargent Engineers has been asked to complete the environmental documentation, complete the geotechnical study, and develop the plans, specifications, and estimate for the project. This project was previously started under a different task order. In order to do this, Sargent Engineers will perform the following tasks:

Land Survey
Additional survey will be performed at the west end of the project. This survey will be sufficient to add approach rails to the bridge that crosses the Hiline canal. This will be added to the base map that has already been prepared for the project.

Hydraulic Analysis
There is only one stream that crosses Westside Road and that culvert is not to be disturbed. So there will not be any hydraulic analysis for this project.

Drainage Design
Improved drainage is not part of the prospectus for the project. Therefore, the natural drainage will be preserved and enhanced, but no treatment, detention, or retention of the stormwater is planned. A formal drainage analysis will not be performed.

Geotechnical Study
PanGEO will perform all geotechnical engineering for the project. PanGEO will need to provide site specific recommendations for cut and fill slopes that are steeper than typical standards, and they will need to provide design recommendations for gravity (ecology) block walls and soldier piles walls at other locations where steepened slopes are not feasible.

Geotechnical Engineering Analyses
Geotechnical recommendations for design of the roadway widening will be developed in general accordance with load and resistance factor design (i.e., AASHTO LRFD Bridge Design Specifications, 2nd Edition, with Interims and the current WSDOT Bridge Design Manual). The analyses will include:

Widening Alternatives Analysis – Considering the roadway geometry and underlying soil and groundwater conditions, they will develop schematic widening support options for the County road that will include cantilever soldier pile walls, gravity (ecology block) walls, and cut and fill slopes. Because of the right of way constraints, they will conduct a site reconnaissance to assess the feasibility of using steeper than normal cut slopes at different locations along the alignment to remain within the right of way and avoid the use of walls. They will prepare sketches of these options for review and concurrence before developing specific design recommendations for viable alternatives.

Wall Design Recommendations - Pending concurrence on feasible alternatives for the roadway widening, they will develop recommendation for the embankment support including:

- Cut and Fill Slopes

- Lateral Earth Pressures
- Minimum Foundation Embedment
- Foundation Soil Bearing Capacity
- Coefficient of Base Friction
- Passive Earth Pressures
- Soldier Pile Design Parameters
- Drainage Considerations
- Constructability Considerations
- Wall Backfill Material Type and Compaction
- Embankment Fill Stability (static & seismic)

Seismic Site Characterization – This will include developing recommendations for design peak ground accelerations that have a 7% probability of exceedance in 75 years in accordance with AASHTO and the WSDOT Bridge Design Manual. The acceleration will be recommended based on existing seismic hazard mapping. Site-specific ground response analysis will not be performed. The appropriate AASHTO soil profile type will be identified.

Construction Considerations and Advisory Specifications – Construction considerations will be identified and discussed for the feasible foundation types. Where appropriate, advisory specifications consistent with the current WSDOT Standard Specifications, General Special Provisions or Bridge Special Provisions will be developed for inclusion in the contract special provisions regarding geotechnical issues and ground conditions expected to be encountered.

Draft Geotechnical Report

A draft geotechnical report will be prepared and submitted for review by Sargent and Kittitas County. PanGEO will meet with the design team to discuss any revisions that may be necessary for the final report.

Final Geotechnical Report

PanGEO will incorporate comments or revisions to the draft report and submit a final geotechnical report for the project.

The scope of work does not include evaluation of chemical properties of soil and groundwater, or the potential presence of hazardous materials on site.

Roadway Design

The consultant will prepare the design to improve the road by widening the present road section. This will include the improvement of the design of retaining walls, the improvement of slopes, the improvement of guard rails, the improvement of obstacles near the road, and improvement of culvert ends.

Retaining Wall Design

Sargent Engineers will propose wall types in the vicinity of Banti Creek Road and Tree Haven Road with the assistance of PanGEO. There will also be walls along the alignment to contain the widened road. The preliminary details of these walls will be developed so that a final selection can be made for final design. The final details for the walls will be developed for the plans, specifications, and estimate.

Plans

The consultant will prepare the plans for the improvement of the road. The plans will follow the format that the County desires. They shall include at a minimum:

- Cover Sheet
- Quantities Sheet
- Roadway Sections
- Plan and Profile Sheets
- Guard Rail Details
- Drainage Details
- Retaining Wall Layouts
- Retaining Wall Details

Specifications
The consultant will prepare the specifications in WSDOT format using WSDOT bid items.

Estimate
The consultant will prepare an estimate for the project.

Environmental Permits
Environmental permits will be completed by Widener and Associates.

Wetland Delineation
The wetland report will be completed for the project.

Deliverables

- Three copies of a revised draft Wetland Delineation Report, incorporating comments by USACE, for submittal for approval.

Section 106 Report (Cultural and Historic Resources)
The cultural study will be completed for the project.

Deliverables

- Three copies of a draft Section 106 Report will be prepared to describe cultural resources identified in the project area to meet state and federal standards for reporting as outlined in the guidelines provided by the OAHP. The report will include summary background information appropriate to a cultural resources assessment of the project area, including environment, previous cultural resources studies, ethnography/ethno history, and history. A discussion of agency and Tribal consultation, methodology, the results of the investigation, and a map of located archaeological sites will be provided. Recommendations will also be extended to any cultural resources that may be significant. Monitoring of construction excavation recommendations may also be included. The historic structures inventory form and/or archaeological site inventory form will be attached to the report as an appendix.
- Three copies of a revised draft Section 106 report incorporating County comments.
- Three copies of a final Section 106 report incorporating WSDOT comments.

Bidding and Construction Administration
The County will conduct the bidding and administer construction.

The consultant will submit plans for review to the County at the 60%, and 90% stages for review and comment.

Consultant Fee Determination

Project: Westside Road

	Principal	Senior Engineer	Senior Project Engineer	Project Engineer	Design Engineer	Drafter II	Clerical	Task Cost
Rate:	$154.00	$120.00	$109.00	$106.00	$85.00	$82.00	$61.00	
Project Management	8							$1,232
60% Documents								
Attend 1 meetings	7							$1,078
Perform final roadway design					80			$6,800
Prepare cover sheet					1	8		$741
Prepare quantities sheets					1	8		$741
Prepare roadway plans (42 sheets)					42	84		$10,458
Prepare roadway cross-sections and details (5 sheets)					20	100		$9,900
Prepare erosion control plans (42 sheets)					21	84		$8,673
Prepare signing and striping plan (42 sheets)					10	84		$7,738
Prepare final retaining wall design					40			$3,400
Prepare retaining wall layout					8	60		$5,600
Prepare retaining wall details					2	16		$1,482
Prepare bridge rail retrofit					16			$1,360
Prepare bridge rail details					4	16		$1,652
Prepare special provisions					32			$2,720
Prepare quantities					16			$1,360
Prepare cost estimate					4			$340
90% Documents								
Attend 1 meetings	7							$1,078
Check final roadway design				40				$4,240
Check cover sheet				0.5		4		$381
Check quantities sheets				0.5		4		$381
Check roadway plan and profiles				21		42		$5,670
Check roadway cross-sections				10		50		$5,160
Check erosion control plans				10.5		42		$4,557
Check signing and striping plans				5		42		$3,974
Check retaining wall design				20				$2,120
Check retaining wall layout				4		30		$2,884
Check retaining wall details				1		8		$762
Check bridge rail retrofit				8				$848
Check bridge rail details				2		8		$868
Check special provisions				16				$1,696
Check quantities				16				$1,696
Check cost estimate				4				$424
Plans, Specifications and Estimate								
Make changes to plans, specifications and estimate	16			40	40	40		$13,384
Produce bid document originals				16	8	16		$3,688
Total Direct Salary Cost	38	0	0	214.5	345	746	0	$119,086
Direct Costs								
Mileage	$354.82							
Complete Geotechnical Study	$29,897.00							
Complete Environmental Permitting	$9,551.50							
Additional Survey at West End of Project	$3,000.00							
Total Direct Costs								$42,803
Total								**$161,889**