

**SULTAN CITY COUNCIL  
AGENDA ITEM COVER SHEET**

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ITEM NO: A-4

DATE: December 2, 2010

SUBJECT: Sultan Basin Road and US 2 Realignment  
Profile and Staging revisions and Supplemental Agreement No. 5

CONTACT PERSON: Mick Matheson, P.E. Public Works Director

**ISSUE:**

The issue before the city council is to discuss lowering the proposed road profile to reduce construction costs and to prepare necessary documents to stage Phase III of the Sultan Basin Road Realignment Project and provide direction to staff. Staging the project will be necessary if construction bids exceed the approved budget to build this phase of the project in its entirety.

If the city council decides to proceed with amending the project design and to prepare for staging the project, city staff have prepared a contract amendment (Supplemental Agreement No. 5) with WHPacific not to exceed \$47,806.

The contract amendment (Attachment A) authorizes WHPacific to revise the plans, specifications and estimates to lower the road profile by using American Association of State Highway Transportation Officials (AASHTO) design standards for vertical curve design. These changes can reduce the project cost by approximately \$350,000. The contract amendment also includes modifying and resubmitting the prospectus to WSDOT and preparing the bid documents with an alternate to accommodate staging if necessary.

**STAFF RECOMMENDATION:**

Discuss the profile and staging revision for Sultan Basin Road Phase III prepared by WHPacific and provide direction to staff.

Authorize the Mayor to sign Supplemental Agreement No. 5 with WHPacific, not to exceed \$47,806 to the contract to revise the plans and specifications to reflect lowering the road profile, resubmit the prospectus to WSDOT, and prepare the bid documents with an alternate to allow staging.

## **SUMMARY:**

The primary issue is that the estimated cost of the project exceeds available funding. It is important to note that the shortfall does not take into account the \$1,000,000 previously appropriated by the office of U.S. Senator Patty Murray in 2010, which may now be in jeopardy due to the recent elections. The total funding available without Senator Murray's appropriation is \$2,551,798.84. The estimated costs for engineering, right-of-way acquisition, wetland banking, and construction are estimated to be \$3,281,590. This estimate assumes a 20% reduction in construction costs previously determined, due to the current bid environment.

The difference between estimated costs and available funding is \$729,791. This differential was anticipated by WHPacific and City staff early in 2010, and arrangements were made to stage the construction of this final phase of the project to allow a portion of the project to be constructed. It is critical that a portion of the project be constructed in 2011, or \$262,048 in federal funding will be withdrawn.

It is the City's desire to build the entire phase of the project without staging. It is possible that in today's business climate, the City may receive a bid that is within the funding amount available.

In light of the City's desire to build the entire phase without staging, and to lower construction costs, WHPacific explored ways to potentially achieve this goal. One of the largest cost elements associated with the project is fill material for the area between Cascade View Drive and US 2. In an effort to reduce the amount of fill, WHPacific investigated designing the road profile using AASHTO standards for stopping sight distance instead of WSDOT standards.

Using AASHTO standards allows shorter vertical curves and lowers the road, thus significantly reducing the amount of fill required. Additional benefits include savings with respect to water main replacement, guardrail costs, and storm drainage costs. The estimated construction cost savings associated with lowering the road is approximately \$350,000.

## **DISCUSSION:**

As mentioned above, the difference between estimated costs and available funding is \$729,791. If the road is lowered, the estimated shortfall is approximately \$380,000. With this in mind, it is staff's intention to have the project bid as both a standalone project, as well as an alternate for just the south stage of Phase III.

If a bid is received that is less than the total funding available (\$2,551,798.84), the project will be awarded and built as a standalone project. If not, then the south stage (Cascade View Drive south to BNRR tracks) will be awarded and constructed, and the north stage (Cascade View Drive north to US 2) will be delayed until funding becomes available. It is critical that construction moves forward in 2011, or the City will have to return \$262,048 in federal funds.

## **FISCAL IMPACT:**

Recommending approval for Supplemental Agreement Number 5 will add \$47,806 to the contract for the project. It is estimated that this will result in construction cost savings of approximately \$350,000.

## **ALTERNATIVES:**

### Alternative No. 1

- Discuss the profile and staging revision for Sultan Basin Road Phase III. Direct staff to notify WHPacific of the council's decision to revise the design.
- Authorize the Mayor to sign Supplemental Agreement No. 5 with WHPacific, not to exceed \$47,806 to revise the plans and specifications to reflect lowering the road profile, resubmit the prospectus to WSDOT, and prepare bid documents with an Alternate to allow staging.

### Alternative No. 2

- Discuss the revised cost estimate for Sultan Basin Road Phase III prepared by WHPacific. Direct staff to notify WHPacific of the council's decision **not** to revise the design.

## **RECOMMENDED ACTION:**

- Discuss the profile and staging revision for Sultan Basin Road Phase III. Direct staff to notify WHPacific of the council's decision to revise the design.
- Authorize the Mayor to sign Supplemental Agreement No. 5 with WHPacific, not to exceed \$47,806 to revise the plans and specifications to reflect lowering the road profile, resubmit the prospectus to WSDOT, and prepare bid documents with an Alternate to allow staging.

## **ATTACHMENT**

A – Supplemental Agreement No. 5

B – Project Detail

C – Sultan Basin Road & US 2 Realignment – Project Description & Budget



<b>Supplemental Agreement Number</b> <u>5</u>	Organization and Address WHPacific 12100 NE 195th Street, Suite 300 Bothell, WA 98011	
	Phone: 425-951-4800	
Original Agreement Number <u>1</u>	Execution Date	Completion Date 12/31/2011
Project Number <u>STPR 31-AK(001)</u>	New Maximum Amount Payable <b>\$ 631,646.00</b>	
Project Title Sultan Basin Road Phase III		
Description of Work Design and Right of Way Acquisition services		

The Local Agency of City of Sultan  
desires to supplement the agreement entered into with WHPacific  
and executed on 9/5/2008 and identified as Agreement No. 1  
All provisions in the basic agreement remain in effect except as expressly modified by this supplement.

The changes to the agreement are described as follows:

I

Section 1, SCOPE OF WORK, is hereby changed to read:  
adds additional services for profile and staging revisions. See attached exhibit A

II

Section IV, TIME FOR BEGINNING AND COMPLETION, is amended to change the number of calendar days for completion of the work to read: is revised to 12/31/11

III

Section V, PAYMENT, shall be amended as follows:  
adds an additional \$47,806 to the contract. See attached exhibit D

as set forth in the attached Exhibit A, and by this reference made a part of this supplement.

If you concur with this supplement and agree to the changes as stated above, please sign in the appropriate spaces below and return to this office for final action.

By: Marc Servizi  
  
Consultant Signature

By: \_\_\_\_\_  
Approving Authority Signature

\_\_\_\_\_ Date

**Exhibit A**  
**Scope of Work**  
**City of Sultan**  
**US2/Sultan Basin Road Improvements Phase III**  
**Supplement #5**

The work to be accomplished with this Supplemental Agreement will be to provide additional engineering design services to the City of Sultan (CITY). WHPacific will modify previously completed Plans, Specifications and Estimate to lower the profile of Sultan Basin Road to reduce construction costs.

The profile (sketch provided earlier) and Design criteria (attached) identifies the proposed profile changes. The construction cost estimate (provided separately) indicates an approximate construction cost savings of \$350,000.

To accommodate Staging, WHPacific will modify and resubmit the prospectus to WSDOT, and prepare the Bid documents with an Alternate.

**Task 1.0 Project Management and Administration**

The CONSULTANT will provide contract management and administration services for the additional work, to include: developing and maintaining project scope and budget, liaison with CITY staff, and preparing monthly narrative progress reports and invoices.

The CONSULTANT will complete a quality control check of all work prior to submitting for the CITY's review.

**Task 2.0 Funding Coordination**

The CONSULTANT will revise and resubmit the Project Prospectus to WSDOT to accommodate staging the project.

The CONSULTANT will prepare a TIP Modification for moving the unobligated funds to the construction phase. We will submit for City's signature and submittal to PSRC.

The CONSULTANT will coordinate and track funding from each of the Agencies. We will provide monthly updates to the City to include Received, Spent and Obligated funds. This service will be provided for the remainder of the Design Phase, estimated to be complete by the end of March, 2011. After that time, this Task will be included in the Construction Management phase.

**Task 3.0 Plan Updates**

The CONSULTANT will update the plans as follows:

- Cover Sheet: Add Staging Sheet
- Road Plan and Profile (sheets 10-14): Revise profile based on proposed preliminary design
- Revise curb return calculations, limits of construction, pavement removal, guardrail limits
- Remove new driveway to storage unit, revise north driveway (if possible to retain).

- Storm Drainage and Grading Plan and Profile (sheets 15-19): Revise plans including storm drain plan and profile to accommodate the lowered roadway profile.
- Revise location of infiltration trench to reduce impact of construction limits.
- Utility Plan and Profile (sheets 25-28): These plans will be revised to show the new proposed profile. Redesign Sewer, including removal of proposed sewer. Indicate proper connection points.
- Revise water system to retain existing system where possible.
- Wall Plans, Sections and Details (sheets 30-41): Revise retaining wall profile and section for Wall along south side of Bowman driveway.
- Create an additional sheet to indicate Staging the Project.

#### **Task 4.0 Contract Specifications**

The CONSULTANT will update the contract specifications to meet the current WSDOT Standard Specification for 2010 and to accommodate plan revisions made.

The CONSULTANT will update the contract specifications to include an Alternative for Staging the project.

#### **Task 5.0 Contract Estimate**

The CONSULTANT will update quantity calculations and the construction estimate to match plan revisions.

The CONSULTANT will create an additional Alternate Estimate for Stage 1 of the work.

#### **Task 6.0 Storm Drainage report**

The CONSULTANT will update the Drainage Report in order to ensure consistency between the revised plans and the report. Any modifications to the storm drainage plans will be addressed in the Revised Drainage Report.

#### **Schedule**

Upon notice to proceed with this supplement the consultant will submit final plans, specifications and estimate within 6 weeks. See attached proposed schedule for more detail.

#### Attachments:

Consultant Fee Estimate, Supplement #5, dated November 12, 2010

Memorandum Re: Engineering Criteria, dated November 11, 2010

# CONSULTANT FEE ESTIMATE



Exhibit D

Client: **City of Sultan**

Project: **US2 - Sultan Basin Road Phase III Supplement #5**

Date: November 12, 2010

LABOR: Sami/MSV MUS Deva/Boo/BW Tom/Joe

TASK NO.	TASK (Scope of Services)	WHPACIFIC PROJECT TEAM								Task HOURS	Task LABOR COST
		Project Manager	Project Manager	Design Engineer	CADD Technician	Survey Party Chief	Survey - 2 Pers. Crew	Project Coord.	Clerical		
		60.00	55.00	45.00	30.00	40.00	50.00	25.00	22.00		
<b>1.0</b>	<b>Project Management and Administration</b>	18	42	4	0	0	0	4	0	68	<b>\$3,670</b>
	Project Management		24					4			
	Meeting	2	2								
	QA/QC	16	16	4							
<b>2.00</b>	<b>Funding Coordination</b>	14	0	0	0	0	0	0	0	14	<b>\$840</b>
	Prepare & submit Project Prospectus - WSDOT and TIP Mod	4									
	Track funding (5 months x 2 hr/month)	10									
<b>3.00</b>	<b>Plan Updates</b>	12	30.5	46	108	0	0	0		196.5	<b>\$7,708</b>
	Revise Plans:										
	Design new profile	4	8		8						
	Update Design Memorandum	4	4								
	Survey control and alignment plan				4						
	Erosion Control and Site Preparation Plan		0.5	8	8						
	Road Plan and Profile		2		8						
	Curb Returns		1		4						
	Driveway Profiles		1		4						
	Storm Drainage and Grading Plan and Profile		2	16	8						
	Storm Water Plans and Details		2	16	16						
	Sewer Plan and Profile		2		16						
	Water Plan and Profile		2		16						
	Wall Plan, Profile and Details		2	2	8						
	Add Staging Plan	4	4	4	8						
<b>4.00</b>	<b>Contract Specifications</b>	4	0	8	0	0	0	0	0	12	<b>\$600</b>
	Update Specifications for Alternate Staging	4		8							
<b>5.00</b>	<b>Contract Estimate</b>	4	8	8	40	0	0	0	0	60	<b>\$2,240</b>
	Update Cost Estimate for Lowering Profile		4	4	24						
	Create Alternate Estimate Stage 1 & Alternative	4	4	4	16						
<b>6.00</b>	<b>Storm Drainage Report</b>	0	2	8	0	0	0	0	0	10	<b>\$470</b>
	Update Drainage Report		2	8	0						
										360.5	
	<b>Labor Hours Total</b>	52	82.5	74	148	0	0	4	0	360.5	
	<b>Labor Cost Total</b>	<b>\$3,120</b>	<b>\$4,538</b>	<b>\$3,330</b>	<b>\$4,440</b>	<b>\$0</b>	<b>\$0</b>	<b>\$100</b>	<b>\$0</b>	<b>\$15,528</b>	<b>\$15,528</b>

Overhead Percentage: 173.40% x Direct Salary Cost (DSC) \$26,925  
 Fixed Fee Percentage: 32.00% x Direct Salary Cost (DSC) \$4,969  
**Labor Total: \$47,421**

**EXPENSES:**

ITEM	QUANTITY	UNIT COST	EXPENSES COST
Mileage	50	\$0.500	\$25
Plots and Reproductions	120	\$3.00	\$360
<b>Expenses Total:</b>			<b>\$385</b>

**SUBCONSULTANTS:**

SUBCONSULTANT	MARK	SUBCONSULTANT COST
	UP	
<b>Subconsultants Total:</b>		<b>\$0</b>

**TOTAL PROJECT FEE: \$47,806**

## MEMORANDUM

Date: November 11, 2010 RE: Engineering Criteria

To: Mick Matheson, Public Works Director From: Marc Servizi, P.E. Project Engineer

Company: City of Sultan From: Sam Richard, Project Manager

Phone: (360) 793-1114 Project # 36195

Email: \_\_\_\_\_ Project Name Sultan Basin Road Phase III

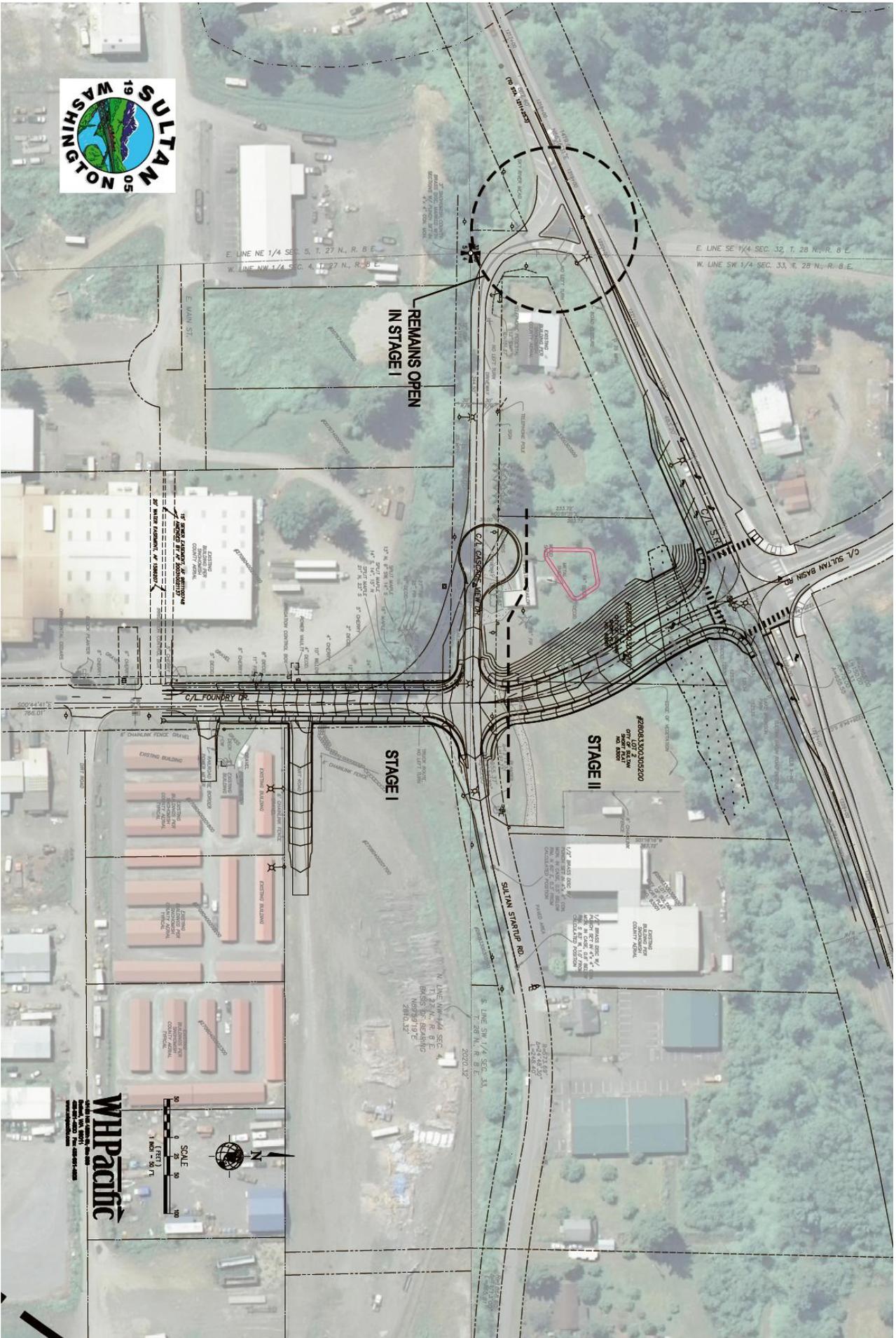
### *Design Criteria and Guidelines*

The following table is a summary of the design criteria used to design Sultan Basin Road. WSDOT Design Manual and the AASHTO Green Book are used to develop design criteria.

*The items listed in italics have been added and or revised.*

	Design Element	US2	Sultan Basin Road	Cascade View Drive	Foundry Road
	Roadway Type <sup>1</sup>	Principle Arterial	Collector	Local Street	Local Street
	Design Speed	45 mph	25 mph	25 mph	25 mph
	Posted Speed	35 mph	25 mph	25 mph	25 mph
	Maximum Superelevation Rate <sup>2</sup>	6%	6%	14%	14%
	Minimum Horizontal Radius <sup>3</sup>	1340 feet	390 feet	190 feet	190 feet
	Maximum Grade <sup>4</sup>	9%	12%	12%	12%
	Curb Radii	NA	55 feet	NA	NA
	Minimum Right-of-Way	120 feet	66 feet	60 feet	60 feet
	Pavement Width <sup>5</sup>	52 feet	48 feet	40 feet	40 feet
	Minimum Intersection Sight Distance <sup>6</sup>	830 feet	460 feet	460 feet	460 feet
	Minimum Stopping Sight Distance <sup>7</sup>	360 feet	155 feet	155 feet	155 feet
	Minimum Decision Sight Distance	450 feet	300 feet	190 feet	190 feet
	Minimum Entering Sight Distance <sup>8</sup>	NA	1190 feet	1190 feet	1190 feet
	Clear Zones (Fig 700-1 WSDOT)	10 Feet	10 Feet	10 Feet	10 Feet
	Design Vehicle	WB-50	WB-50	WB-50	WB-50
	<i>Landing Length<sup>9</sup></i>		<i>125-feet</i>		
	<i>Crest Curve Minimum Object height<sup>10</sup></i>		<i>24-inches</i>		
	<i>Intersection Sag Curve – Minimum length<sup>11</sup></i>		<i>L=AV<sup>2</sup>/46.5</i>		
	<i>Landing slope<sup>12</sup></i>		<i>4%</i>		
	<i>Minimum K=L/A Crest Curve<sup>13</sup></i>		<i>11.1</i>		<i>11.1</i>

	Cross-slope at intersection <sup>14</sup>			8%	
1	all roadways assumed <i>Urban</i>	7	Figure 650-3 & 650-4 (WSDOT DM)		
2	Page 141 & 142 (AASHTO)	8	WSDOT DM page 910-36		
3	Exhibit 3-14 & Exhibit 3-26 (AASHTO)	9	125-feet from TRANSPO Traffic report at US2 intersection		
4	Figure 440-8 (WSDOT DM)	10	AASHTO 2004 pg 127, 268		
5	Width varies to match existing widths.	11	V = 20mph used in Intersections based on AASHTO pg 582. Sno County uses 60-feet min in stopped condition.		
6	Figure 910-22a (WSDOT DM) & AASHTO pg. 663	12	5% per AASHTO pg 400. 4% used due to high volume of Trucks, and per concern of users and City. 4% - 6% max used for last 25-feet of Landing.		
		13	AASHTO Exhibit 3-72, pg 272		
		14	AASHTO page 582		

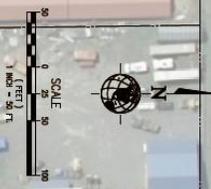


REMAINS OPEN  
IN STAGE I

STAGE I

STAGE II

**WHPacific**  
WILLIAM H. PIERCE & ASSOCIATES  
PLANNERS ARCHITECTS ENGINEERS





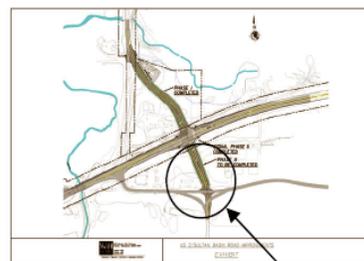
# Sultan Basin Road & US 2 Realignment



## Project Description

This is the 3<sup>rd</sup> and final phase of the US 2 and Sultan Basin Road Realignment Project. The first two phases are complete. Stage II of this final phase is fully funded and shovel ready.

**Planned extension of Sultan Basin Road to Cascade View Dr.**



Phase III

The City's request is to fund the final stage of Phase III to construct and complete the project. This project will accelerate economic development in the industrial park, retaining existing jobs and attracting new business. It will protect people driving on US 2 and complete an important link in the US 2 Safety Corridor Plan. This is a Snohomish County Safety and Puget Sound Regional Council Local Project priority for 2010.

Improvements include additional traffic signals and lighting at US 2 and Sultan Basin Road, left turn lanes on US 2, curb and gutter, sidewalks, storm drainage and treatment.

Currently, all left turns on to US 2 from the industrial park and residential neighborhood are routed to an uncontrolled, substandard access 1/3 mile to the east on Cascade View Drive. This access point enters US 2 in the 50 mile per hour.

## Project Budget

	Updated Nov. 2010	Stage II FULLY FUNDED	Stage I
Design/Environmental	\$ 637,090	\$ 250,000	\$ 387,090
R/W Acquisition	\$ 345,000	\$ 345,000	\$ 0
Construction	\$ 2,299,500	\$ 1,767,000	\$ 532,500
<b>Total</b>	<b>\$ 3,281,590</b>	<b>\$ 2,362,000</b>	<b>\$ 919,590</b>
Secured Federal Funding	\$ (2,207,306)	\$ (2,207,306)	\$ 0
Secured City Match	\$ (344,493)	\$ (154,694)	\$ (189,799)
<b>Shortfall</b>	<b>\$ 729,791</b>	<b>\$ 0</b>	<b>\$ 729,791</b>

**Construction of Stage II (south of Cascade View) will begin in 2011.  
Stage I (north of Cascade View) can begin in 2011 with \$730,000**

For More Information Contact:  
Deborah Knight, City Administrator  
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E-Mail: Deborah.knight@ci.sultan.wa.us

Richard Little, Government Liaison  
Phone: 360-961-2443  
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