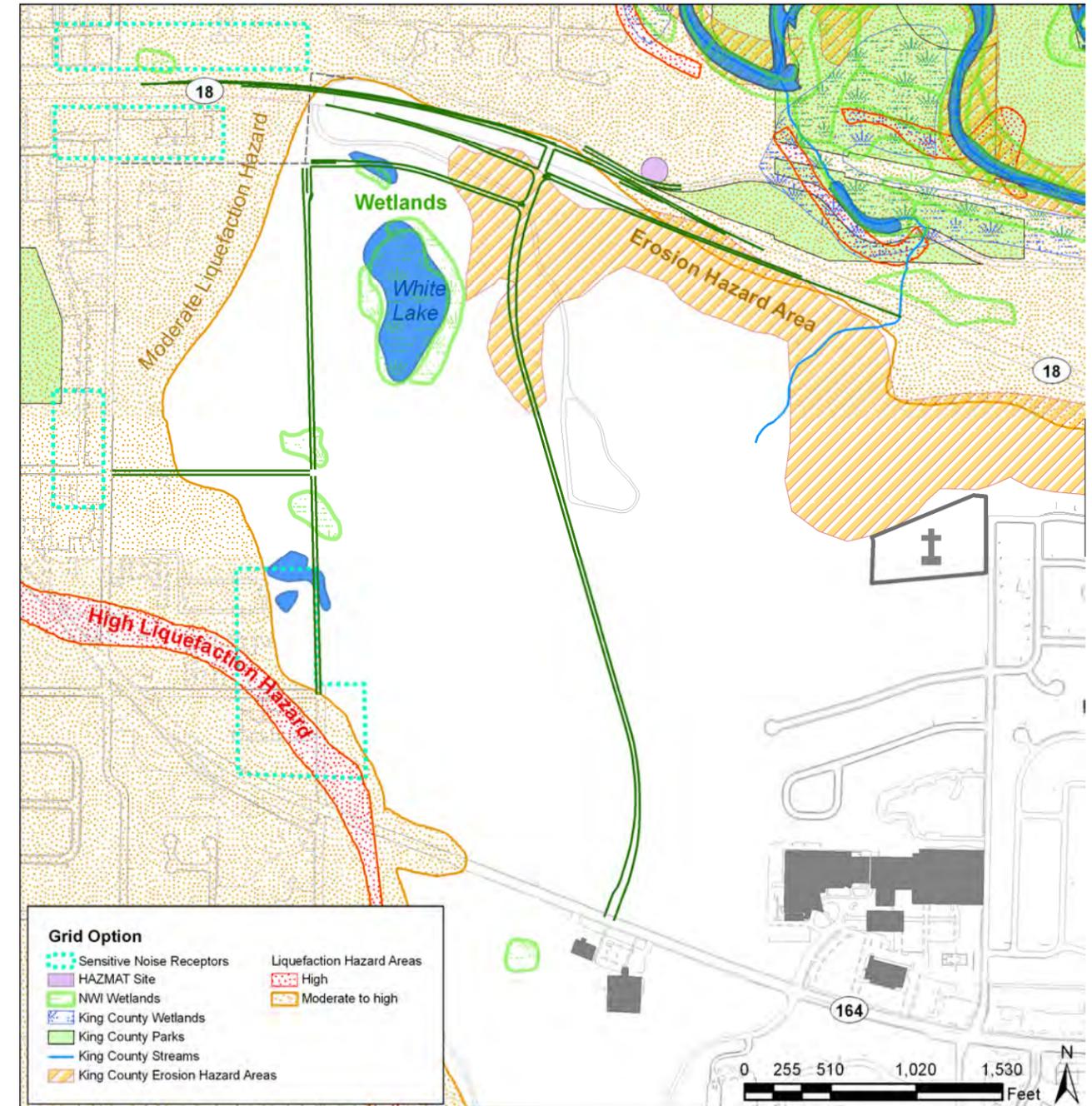
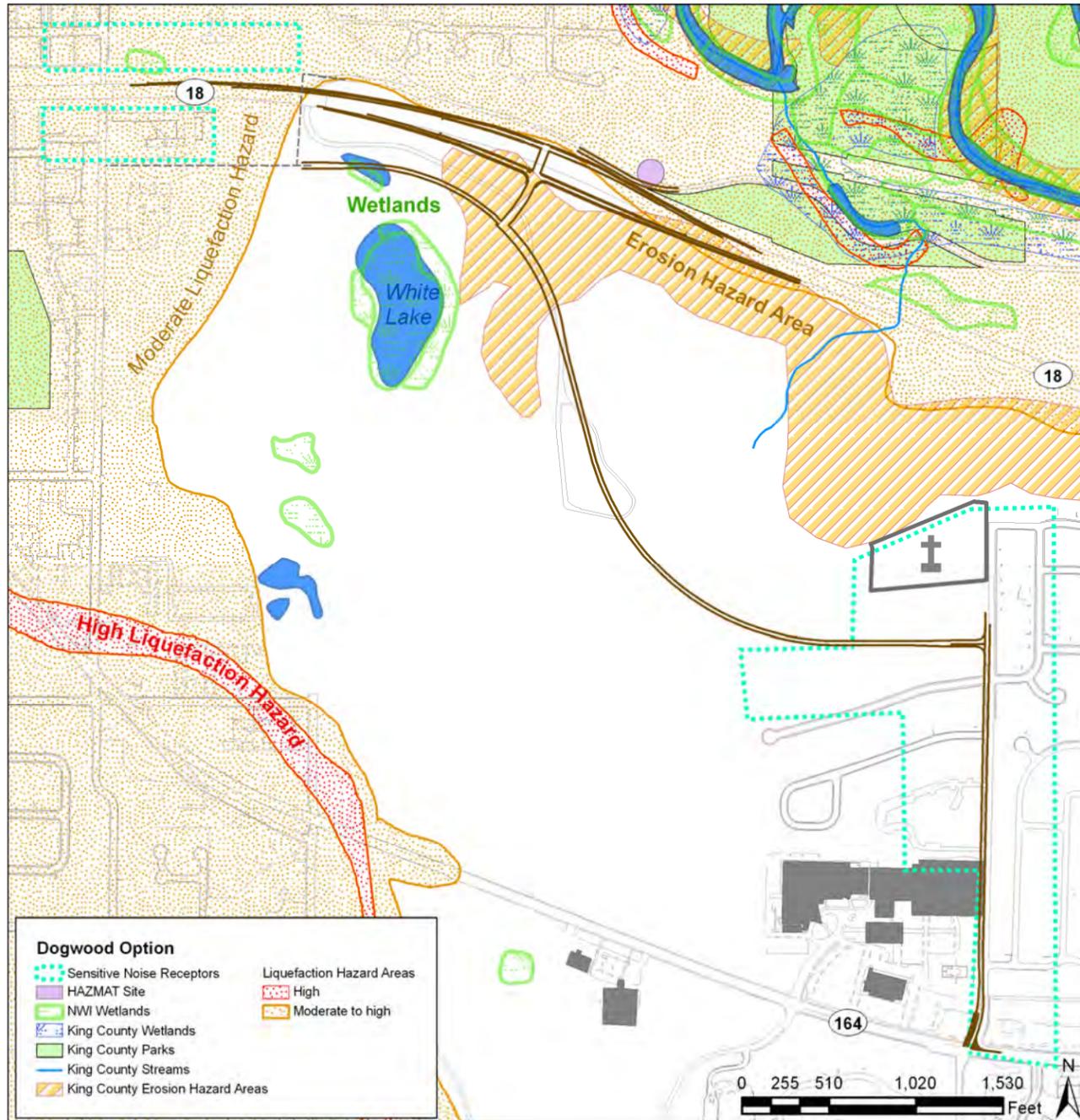


# Appendix C: Environmental Review Summary Map

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Data Sources: WSDOT, 2008 and King County, 2008.



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# Appendix D: Cost Estimate

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# Appendix E: Cost-effectiveness

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# SR 164 Bypass Feasibility Study

## Summary of Project Cost Effectiveness

Travel Times	No-Action (Baseline)	Grid Option	Grid - Baseline	Dogwood Option	Dogwood - Baseline	Dogwood-Grid
<i>AM Peak Hour</i>						
EB	6.2 min	6.5 min	<b>0.0 min</b>	6.5 min	<b>0.0 min</b>	<b>0.0 min</b>
WB	9.4 min	7.8 min	<b>1.6 min</b>	6.3 min	<b>3.1 min</b>	<b>1.5 min</b>
<i>PM Peak Hour</i>						
EB	14.0 min	7.8 min	<b>6.2 min</b>	6.3 min	<b>7.7 min</b>	<b>1.5 min</b>
WB	7.7 min	6.5 min	<b>1.2 min</b>	6.3 min	<b>1.4 min</b>	<b>0.2 min</b>

### Benefits/Cost Calculations

#### Grid Option

<i>AM Peak Hour</i>	Travel Time Difference	Volume Served	Veh-Min	Daily Value	Yearly	20 Years
EB	0.0 min	450	0.0	0.0	0	0 veh-min
WB	1.6 min	600	960.0	3840.0	1002240	20044800 veh-min
<i>PM Peak Hour</i>						
EB	6.2 min	900	5580.0	22320.0	5825520	116510400.0 veh-min
WB	1.2 min	800	960.0	3840.0	1002240	20044800 veh-min
<i>Totals</i>						<b>156600000 veh-min</b>

#### Dogwood Option

<i>AM Peak Hour</i>	Travel Time Difference	Volume Served	Veh-Hours	Daily Value	Yearly	20 Years
EB	0.0 min	500	0.0	0.0	0	0 veh-min
WB	3.1 min	925	2867.5	11470.0	2993670	59873400 veh-min
<i>PM Peak Hour</i>						
EB	7.7 min	900	6930.0	27720.0	7234920	144698400 veh-min
WB	1.4 min	750	1050.0	4200.0	1096200	21924000 veh-min
<i>Totals</i>						<b>226495800 veh-min</b>

#### Construction Cost

Grid	Dogwood
\$92,300,000	\$78,500,000

#### Cost Effectiveness

**1.7**

**2.9**

<<< In veh-min saved per dollar invested



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# Appendix F: Evaluation Matrix

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## Evaluation Summary

Evaluation Criteria	Dogwood Option	Grid Option
<b>Mobility &amp; Accessibility</b>		
<b>Traffic Operations</b>		
- Level of Service	Summary of level of service (LOS) for targeted study area intersections: <u>AM Peak</u> LOS A: 5 intersections LOS B: 2 intersections LOS C: 2 intersections LOS D: 0 intersections LOS E: 2 intersections LOS F: 0 intersections <u>PM Peak</u> LOS A: 1 intersections LOS B: 3 intersections LOS C: 4 intersections LOS D: 1 intersection LOS E: 1 intersection LOS F: 1 intersection	Summary of level of service (LOS) for targeted study area intersections: <u>AM Peak</u> LOS A: 2 intersections LOS B: 3 intersections LOS C: 3 intersections LOS D: 2 intersections LOS E: 1 intersection LOS F: 0 intersections <u>PM Peak</u> LOS A: 1 intersections LOS B: 3 intersections LOS C: 2 intersections LOS D: 2 intersections LOS E: 2 intersections LOS F: 1 intersection
- Travel Times	Travel Time between SR164/SR18 interchange and SR164/Dogwood Street via Bypass: <u>AM Peak</u> : EB - 6.5 min, WB - 6.3 min <u>PM Peak</u> : EB - 6.3 min, WB - 6.3 min	Travel Time between SR164/SR18 interchange and SR164/Dogwood Street via Bypass: <u>AM Peak</u> : EB - 6.5 min, WB - 6.7min <u>PM Peak</u> : EB - 7.8 min, WB - 6.5min
<b>Access Management</b>	New interchange on SR 18 (one-mile east of existing Auburn Way interchange) would be subject to state added-access review. Bypass connection to Dogwood Street would not require a new break in access for SR 164.	New interchange on SR 18 (one-mile east of existing Auburn Way interchange) would be subject to state added-access review. Bypass connection to SR 164 would be at Muckleshoot Plaza (an existing signalized intersection). Therefore, no break in access for SR 164 would be required.
<b>Environmental Effects</b>		
<b>Built Environment</b>		
- Land Use	13.7 acres of residential/public use land to roadway use. Five residences would be acquired	22.8 acres of residential, office, and heavy industrial use land to roadway use. No residences would be acquired.
- Cultural and Archaeological resources	Approximately 12.2 acres of land within the Muckleshoot Indian Reservation boundaries would be acquired for this option. Five residences could be owned by the Tribe.	Approximately 14.1 acres of land within the Muckleshoot Tribe Realty Trust Services would be acquired for roadway use.
- Farmlands	Designated farmlands along the bypass alignment include: 3.8 acres of farmland of statewide importance and 0 acres of prime farmland if drained, and 8.9 acres of prime farmland if irrigated (includes gravel pit)	Designated farmlands along the bypass alignment include: 12.2 acres of farmland of statewide importance, 0.3 acres of prime farmland if drained, and 3.0 acres of prime farmland if irrigated (includes gravel pit)
- Public Facilities	Roadway widening along Dogwood Street SE would require adjustments to existing utilities resulting in minor adverse effects.	A Puget Sound Energy substation is located adjacent to the alignment at the intersection of 12th Street SE and M Street SE. Future coordination with Puget Sound Energy would be needed to ensure that the alignment maintains necessary setbacks at the substation. Any adjustments to the existing utilities would result in minor adverse effects from relocation or temporary disruptions in service.

<b>Evaluation Criteria</b>	<b>Dogwood Option</b>	<b>Grid Option</b>
- Environmental Justice populations	Minority and low-income populations may be displaced as a result of the five residential acquisitions. All populations would experience similar project-related effects, such as increases in traffic noise.	All populations would experience similar project-related effects, such as increases in traffic noise.
- Hazardous materials	One site with a past Leaking Underground Storage Tank incident and current UST in operation is located within the design alignment along Auburn-Black Diamond Road, north of SR 18.	One site with a past Leaking Underground Storage Tank incident and current UST in operation is located within the design alignment along Auburn-Black Diamond Road, north of SR 18.
- Air Impacts	No anticipated effect on air quality	No anticipated effect on air quality
- Noise Impacts	White Lake Cemetery and residential areas located at SR 18 and M Street SE and along Dogwood Street SE may experience an increase in traffic noise.	Residential areas located at SR 18 and M Street SE, west of M Street SE and 12th Street SE, and at the 17th Street SE and R Street SE intersection may experience an increase in traffic noise.
<b>Natural Environment</b>		
- Impacts to wildlife & habitat	Protected species and/or habitat are not expected within the design alignment.	Protected species and/or habitat are not expected within the design alignment.
- Surface Water	Surface water totaling 0.35 acres is located within the design alignment.	Surface water totaling 0.62 acres is located within the design alignment.
- Wetlands	Wetlands totaling 0.17 acres are located within the design alignment.	Wetlands totaling 0.97 wetland acres are located within the design alignment.
- Groundwater	Entire study area is considered to be in a critical aquifer recharge area	Entire study area is considered to be in a critical aquifer recharge area
- Erosion Hazards	Erosion Hazard areas of 5.35 acres are located within the design alignment.	Erosion Hazard areas of 6.61 acres are located within the design alignment.
- Liquefaction zones	Moderate Liquefaction Hazards areas of 16.9 acres are located within the design alignment. No High Liquefaction Hazard areas are located within the design alignment.	Moderate Liquefaction Hazards areas of 26.0 acres are located within the design alignment. High Liquefaction Hazard areas of 0.73 acres are located within the design alignment.
<b>ROW Acquisition &amp; Displacements</b>		
<b>Right of Way</b>		
- Private Land ROW (Tribal)	530,000 ft <sup>2</sup>	615,000 ft <sup>2</sup>
- Public ROW Needs	66,000 ft <sup>2</sup>	380,000 ft <sup>2</sup>
<b>Residential/Business Displacements</b>		
- Residential Units (Full Acquisitions)	5 (49,000 ft <sup>2</sup> )	0
- Businesses (Full Acquisitions)	0	1 (27,000 ft <sup>2</sup> )
<b>Construction Cost</b>		
<b>New SR 18 Interchange</b>		
- Capital Construction Costs	\$29,180,000	\$29,180,000
- Other Costs (ROW, contingencies, etc)	\$18,970,000	\$18,970,000
- Total Interchange Costs	\$48,150,000	\$48,150,000
<b>Bypass Roadway</b>		
- Capital Construction Costs	\$9,310,000	\$8,270,000
- Other Costs (ROW, contingencies, etc)	\$20,950,000	\$19,570,000
- Total Bypass Roadway Costs	\$30,260,000	\$27,840,000
<b>Secondary Roadways</b>		
- Capital Construction Costs	\$0	\$3,460,000
- Other Costs (ROW, contingencies, etc)	\$0	\$12,900,000
- Total Secondary Roadway Costs	\$0	\$16,360,000
<b>Total Bypass Option Cost</b>	<b>\$78,410,000</b>	<b>\$92,350,000</b>
<b>Cost Effectiveness</b>		
<b>Travel Delay Benefits (over 20 years)</b>	226,495,800 veh-min	156,600,000 veh-min
<b>Total Construction Cost</b>	\$78,410,000	\$92,350,000
<b>Projected Cost Effectiveness</b>	2.89 veh-min saved/\$	1.70 veh-min saved/\$

# Appendix G: Corridor Working Group Meeting Summaries

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## SR 164 Bypass Study Corridor Working Group Kick-Off Meeting Summary

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Tuesday, September 9, 2008  
9:30 a.m. – 12:30 p.m.  
City of Auburn Council Chambers

### Meeting Attendees:

**City of Auburn:** Dennis Dowdy, Chris Hankins, Pablo Para, and Rich Wagner

**City of Enumclaw:** Rand Black

**King County:** David Gualtieri

**Muckleshoot Tribe:** Eddy Chu and Steve Taylor

**Parsons Brinckerhoff:** Tony Lo, Carrie Oshiro, and Madhavi Sanakkayala

**TSI:** David Markley

**WSDOT:** Rob Brown, Jean Mabry, Richard Warren, and Stephanie Weber

### Meeting Objectives

WSDOT Project Manager Jean Mabry welcomed the group and the attendees introduced themselves.

Jean then reviewed the meeting objectives, which included:

- Review SR 164 Route Development Plan (RDP) work on bypass options
- Review the SR 164 Bypass Feasibility Study schedule and key milestones
- Adopt Corridor Working Group (CWG) guiding principles
- Endorse project goals and objectives
- Review environmental elements
- Review existing and 2030 no-build traffic analysis
- Select conceptual alignment options for evaluation

### Bypass Options Overview

Jean Mabry reviewed the SR 164 Route Development Plan (RDP) work. The SR 164 Bypass Feasibility Study is a result of the RDP's recommendation to further analyze the feasibility of adding a connector or access road between SR 164 and SR 18 in Auburn. The Washington State Legislature provided \$500,000 in the 2005 transportation budget to conduct the SR 164 Bypass Feasibility Study. Work for the study must be completed by June 30, 2009. Eight bypass options were developed, screened, and analyzed in the RDP with the RDP recommending two options within the City of Auburn.

The bypass feasibility study area was discussed at a meeting in March 2008 among WSDOT, Auburn, and the Muckleshoot Tribe. It was agreed at the March meeting that the feasibility study

will evaluate two alignment options within one study area. The study area is now defined as a trapezoid area between R Street SE and Riverwalk Drive SE along SR 164 in the south to SR 18 between R Street SE and V Street SE in the north. The Corridor Working Group (CWG) asked that the study area include the area north of SR 18 to the railroad tracks to show the area for a new interchange (I/C).

## **Project Overview**

Jean and Parsons Brinckerhoff Project Manager Tony Lo then reviewed the SR 164 Bypass Feasibility Study project schedule and summarized the key project milestones for the study. Additional CWG meetings are scheduled for November and March. Improvement strategies and options will be developed in October and November. The two options will be refined and screened in December and January. The environmental overview and analysis summary report will be completed in February with recommendations finalized in March. The draft summary report will be written in February, WSDOT and CWG will review the report in March, and a final summary report will be issued in May 2009.

## **CWG Operating Guidelines**

Jean Mabry reviewed the draft CWG operating guidelines for the group. Rich Wagner brought up the importance of keeping legislators informed about this study. Jean said that letters will be distributed to update legislators after today's meeting. Richard noted the importance of the CWG's role in keeping their decision-makers and elected officials informed about the study's status, which the CWG agreed to do. Jean said that outreach includes a project webpage that is a sub-page to the SR 164 RDP webpage and one set of briefings to the councils. The CWG agreed that letters to the legislators, briefings, and project web is sufficient outreach. These guidelines were then adopted by the Corridor Working Group.

## **Corridor Study Vision and Goals**

Jean Mabry reviewed the project goals and objectives, which were identified to balance environmental, community, and transportation needs. Steve Taylor reminded the CWG that the Muckleshoot Tribe purchased land for increased development in the south part of the study area. The tribe does not want the alignment of a future bypass to preclude the tribe's future development here, which may include housing, retail, and/or a convention center. Steve agreed to provide the project team with information on the tribe's plans for this area as soon as possible. The group discussed the need to add cultural resources to the project goals because it was not listed in them. The team agreed to add cultural goals to the list of project goals. The CWG endorsed the goals and objectives with that addition.

## **Environmental Elements**

Tony Lo and Carrie Oshiro reviewed the environmental elements of the study. Carrie used GIS layers to provide analysis of the land area and interchanges. The level of detail on the environmental map provided to the group was discussed. Carrie explained that she had maps with additional detail that can be provided in the future. Rand Black requested soil type identification on future maps. The CWG asked for the inclusion of cultural resources to the list of critical environmental elements.

## **Traffic Analysis**

Tony Lo reviewed the nine study intersections and existing (year 2006) and future (year 2030) intersection and level-of-service maps for the SR 164 corridor. He and Madhavi Sanakkayala then described the AM and PM peak hour 2006 traffic conditions and 2030 no-build traffic

conditions. The 2030 no-build baseline includes the improvements recommended by the RDP. Tony noted that M Street SE and SR 18 I/C are the chokepoints now and in the future. Several members of the CWG requested additional detail on level-of-service such as delay time and length of queues for the LOS F classification. Delay time may be added to the analysis by including the hours of delay for 2006 and 2030 traffic conditions.

Steve Taylor said the tribe wants full traffic movements included in the analysis and asked that the analysis be provided to tribe and their consultant TSI. Rich Wagner reminded the group to include event traffic generated by the White River Amphitheatre in the study. Jean said that the study budget can not accommodate event traffic analysis but the study will note that any future environmental process should examine event traffic. Rand Black mentioned the importance of including traffic generated by Green River Community College. The group also requested increased detail on the SR 18 I/C.

### **Conceptual Alignments**

Tony Lo and Jean Mabry explained two alignment options; the R Street Option and the One Mile Separation Option. Jean noted that a third option, operational improvements at the SR 18 I/C, will also be analyzed in the study. Rand Black submitted an additional alignment option for the group's consideration. The CWG had a lengthy and productive discussion regarding alignment at the southern end of the proposed options (Muckleshoot Plaza, Riverwalk Drive/Casino Drive, Dogwood Street), right-of-way issues, property ownership, casino access, and the future development of tribal land. The importance of connectivity between the proposed SR 164 Bypass and 12<sup>th</sup> Street SE and 17<sup>th</sup> Street SE was also discussed.

Dennis Dowdy facilitated the discussion process by using the city's projector to show a large GIS aerial map of the bypass feasibility study area. The group was able to view the property and distances in the study area and discuss the geometrics of different alignments. The CWG removed the Riverwalk Drive/Casino Drive alignment for further consideration due to geometric constraints and intersection spacing requirements. The proposed location for the southern terminus of the two alignment options will be at the existing signalized intersection at the Muckleshoot Plaza (Smoke Shop). The R Street option will include access to 12<sup>th</sup> Street SE as proposed by Rand but 17<sup>th</sup> Street SE will not be extended east to the new alignment due to geographic constraints. Rob Brown noted that the new I/C ramps and alignments must comply with full design standards and that the CWG will need to discuss ownership of the new road. The CWG requested a bullet list of what each alignment does. Steve agreed to discuss the proposed alignments with the tribal council and property owners as soon as possible.

### **Next Steps**

The CWG meeting schedule was reviewed. The group agreed that the Auburn City Council Chambers was a good location for future meetings. Dennis will check on the availability of the room for future meetings and schedule them. Richard Warren reminded the CWG to include himself and Stephanie Weber on e-mails and all correspondence to Jean Mabry in her absence. The two option alignments, study area map and project goals will be revised and sent to the CWG along with this meeting summary.



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## SR 164 Bypass Study Corridor Working Group Alignment Meeting Summary

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Tuesday, October 28, 2008  
1:30 p.m. – 4:00 p.m.  
WSDOT Urban Planning Office Conference Room 350

### Meeting Attendees:

**City of Auburn:** Dennis Dowdy, Chris Hankins, and Rich Wagner

**City of Enumclaw:** Rand Black

**King County:** David Gualtieri

**Muckleshoot Tribe:** Eddy Chu and Steve Taylor

**Parsons Brinckerhoff:** Tony Lo, Carrie Oshiro, and Madhavi Sanakkayala

**TSI:** Andy Dempsey

**WSDOT:** Paul Bennett, Rob Brown, Jean Mabry, Chris Picard, Richard Warren, and Stephanie Weber

### Introductions and Meeting Objective

WSDOT Project Manager Jean Mabry welcomed the group and stated the objective of the meeting was to finalize the selection of the conceptual alignments for evaluation. The attendees then introduced themselves to the group.

### Previous Conceptual Alignments

Parsons Brinckerhoff Project Manager Tony Lo reviewed the two alignment options that were discussed and selected for evaluation at the SR 164 Corridor Working Group (CWG) meeting held on September 9, 2008. Maps for the R Street and One Mile Separator Options were reviewed. Tony also reviewed traffic conditions and the geometric, right-of-way, access and design standard issues considered during the development of the two options. The study area was defined at that time as a trapezoid area between R Street SE and Riverwalk Drive SE along SR 164 in the south to SR 18 between R Street SE and V Street SE in the north.

### Muckleshoot Tribe Alignment Concerns

Steve Taylor, Muckleshoot Tribal Planner, discussed these proposed alignments with the Muckleshoot Tribal Council and property owners after the last CWG meeting. He said that the tribe does not want the bypass to impact R Street SE between 17<sup>th</sup> Street SE and SR 164 because of the tribal residents living there. They also don't want it to go through King George property and do not accept either of the two proposed alignments.

Andy Dempsey, TSI consultant for the Muckleshoot Tribe, provided handouts to the group and described a new proposed alignment option that would not go through King George property or connect to the light at Muckleshoot Plaza. The new alignment would head southeast from the

either the proposed One Mile Separation or R Street Interchanges to connect to a new roundabout south of the cemetery at Dogwood Street SE and continue down Dogwood to the existing traffic signal at SR 164.

Steve and Andy explained that the Muckleshoot Tribe may move or expand their casino on tribal property to the northwest in the next 5 to 10 years. The larger facility may include a hotel and additional amenities. The tribe does not want the proposed new alignments to preclude any future development that may occur within the bypass study area.

### **Project Need**

Paul Bennett, WSDOT Assistant State Design Engineer, questioned the need for the SR 164 bypass. He said that when he reviewed the history of this project and the SR 164 Route Development Plan (RDP) that there was no justification for the bypass. Dennis Dowdy, City of Auburn Director of Public Works, responded that the need for the bypass was related to the lack of emergency vehicle access to the plateau due to the failure of the road at Academy Drive and delay of emergency vehicle response due to congestion on SR 164. Dennis also said that cost-efficient solutions need to be found for increased congestion from amphitheater events and an alternative route off the hill should be identified.

Dennis and Steve also noted that there was modeling conducted during the RDP which assumed no bypass with SR 164 widened to six lanes from M Street to the existing SR 18/SR 164 Interchange (I/C). That analysis showed six lanes did not help congestion enough and that a bypass was beneficial in addressing congestion in Auburn. The RDP then included analysis of potential bypass alignments.

The need for viable options that could go forward to an environmental process was discussed. The Dogwood alignment would need to address Environmental Justice (EJ) issues since the alignment would go through a residential neighborhood when other alignments that don't impact residences are available. Another concern is that all of the proposed alignments may not have a positive benefit/cost (B/C) ratio. The group discussed the need for the bypass to provide benefits and to define what the study will achieve. Paul noted that a no action option might be the more viable one because of issues that include cost, environmental, and traffic which must be identified and resolved before moving forward.

### **Design Standards**

Rob Brown, WSDOT Northwest Region Assistant Traffic Engineer, noted that new interchange ramps and alignments must comply with full design standards. He identified ramp design and interchange spacing requirements for a new interchange. Rob said there is a minimum urban spacing of one mile between current and proposed new interchanges. He noted that a new interchange should probably be at the one mile separation location and not R Street. The group agreed that a new interchange at SR 18 for the proposed new alignments should be at the one mile separation location. He also discussed collector-distributor, braided ramps, or SPUI with a narrow footprint that may be needed to address design standards related to ramps for a new interchange. An undercrossing with a tunnel at the one mile separation location was also discussed.

### **Funding Constraints & Ownership of New Alignment**

Chris Picard, WSDOT's Urban Planning Manager, raised the issue of a lack of state funding for the project. He noted that WSDOT would not fund the bypass, and that while funding for a

bypass could be sought from the legislature, the bypass is unlikely to be competitive for state funding. Chris also noted that the bypass will not be a new state route, but a local road.

The group acknowledged that a new alignment would be a local road and then discussed funding opportunities. It was noted that a partnership might be the best option for funding a bypass due to financial constraints of not only the state, but the cities. Rich Wagner, Auburn City Council Member, suggested a partnership with the federal government, the state, cities, and the Muckleshoot Tribe. Paul said the most viable option may be no action or an option that is 100% tribal financed if the Dogwood Option doesn't B/C out. He said that concurrence and low cost improvements are needed for this project. It was noted that local street improvements with connections at the two state highways may be the outcome of the study.

### **Selected Conceptual Alignments**

Tony noted that M Street SE and two SR 18 interchange ramps are chokepoints now and will be in the future with the highest volumes near the SR 18 I/C. He also emphasized the benefits to enhancing the local street grid by providing connections to a new parallel facility to M Street. He said that this type of lower cost improvements can help mitigate traffic on M Street and SR 164 and suggested that they be considered in the study. The importance of connectivity between the proposed SR 164 Bypass and 12<sup>th</sup> Street SE and 17<sup>th</sup> Street SE was then discussed. It was noted that a street connection is not helpful if there is not a parallel facility to M Street. Rand Black, City of Enumclaw Transportation Engineer, emphasized the need for regional access, connectivity, and redundancy in the alignments.

The group discussed the Dogwood option and agreed that it would be a three lane facility on Dogwood to address EJ issues and because it would be a local road and not a state facility. A connection to the casino may also be explored in this option. The R Street option would be the previous one mile separation option but with connections to M and R streets. Rich expressed concern about traffic coming from the south from Lake Tapps on R Street and asked whether the model included Pierce County projects. Madhavi Sanakkayala of Parsons Brinckerhoff will work with Dennis to confirm which projects in the TIP are in the model. The group also agreed that the study needs to examine improvements at the existing SR 18/SR 164 I/C.

The study area for the SR 164 Bypass Feasibility Study will be extended to the east to Dogwood Street SE. The three options that the group agreed will move forward for further study include:

1. One Mile Separation Option with connection to R Street between 12<sup>th</sup> and 17<sup>th</sup> Streets to SR 164 (connection to R Street north of 12<sup>th</sup> may be explored)
2. One Mile Separation Option with Dogwood Street Alignment
3. SR 18/SR 164 Interchange Reconfiguration

The study will examine how these options help alleviate traffic congestion at the SR 18/SR 164 I/C and on SR 164 from the interchange to Dogwood Street SE. The options will also be compared to a no action option. The study will provide the findings of the technical analysis of each option and will also document the issues that need to be addressed before a new alignment could proceed to an environmental process. The group acknowledged that the two bypass options agreed to may not be acceptable to all in the group. Jean reiterated that the options should be viable for proceeding to an environmental review process. It was noted that the study may not identify an alignment that could go forward to an environmental review process, but that documenting how improvements perform and identifying issues that need to

be addressed before going to an environmental process is important. No action may be the recommendation.

### **Next Steps**

The group agreed to reschedule the November project team and CWG meetings. The meetings will be pushed out at least 4 weeks. Dates of the meetings will be determined the first week of November. Andy will send Jean the Dogwood alignment CADD file for the handout he provided at the meeting. Madhavi Sanakkayala will follow-up on TIP projects in the model. Jean will email the meeting summary, new alignment maps, and new meeting dates to the CWG in first week of November.



# SR 164 BYPASS MEETING

03-24-09

City of Auburn

Council Chambers

9:30 a.m. – 12:30 a.m.

## ATTENDEES:

<u>NAME</u>	<u>AGENCY</u>
Richard Warren	WSDOT
Paul Bennett	WSDOT Design
Rob Brown	WSDOT, NWR, Traffic
Rick Roberts	WSDOT, NWR, Traffic
Steve Taylor	Muckleshoot Tribe
David Markley	TSI
Dennis Dowdy	Auburn
Rand Black	Enumclaw Public Works
Jeff Dixon	City of Auburn Planning
Madhavi Sanakkayala	PB
Hussein Rehmat	PB
Pablo Para	City of Auburn
Rich Wagner	City of Auburn
Robin Mayhew	PSRC

Richard Warren called the meeting to order and there were introductions around the table. He also stated that:

- Jean Mabry had retired and that he had taken on the project management responsibilities for the study
- Depending on today's outcomes, this should be the last CWG meeting
- The findings will be incorporated into the SR 164 RDP, likely as a technical report
- The last meeting was October 2008 and based on the results of that meeting the project management team have developed two options for the CWG to consider
- Those options are the Dogwood and Grid Options

Richard turned the meeting over to Tony Lo to review the two options.

### Dogwood Option:

Tony stated this option:

- Was developed after discussions with the Muckleshoot Tribe
- Circumvents the King George and Tribal properties
- Is a 2 lane facility

- Keeps within the WSDOT one mile separation between interchanges standard (SR 18/SR 164 interchange)
- Would elevate above SR 18
- The project team considered going under SR18 but the terrain would require cuts of 70-80 feet
- Retaining walls and fill would still be needed with the elevated structure
- Alignment stays high on the bluff
- It is a full diamond interchange with SR 18
- Ties directly into the M Street bypass project – being done by Auburn
- Capacity will be sufficient to handle traffic volumes
- Channel on dog wood ma change
- Does not include “R” St. connection and “M” St. improvements

Steve Taylor: Could alignment be closer to SR 18? Tony: standards likely will not allow that. Intersection signals would have to be timed to allow for smooth traffic movement.

Rich Wagner: What are the assumptions for Dogwood Street? Tony: Dogwood St. would need to be widened based on conservative estimates of roadway requirements. With a 60’ Right of Way (ROW) and 48’ needed, on-street parking and sidewalks on both sides may be lost. It is possible that there will be a sidewalk and parking only on one side of the street. Tony stated that we should design to standards and full-width lanes at this point and revisit the design plans more closely if a Dogwood option is selected in the future.

Steve: It looks like Dogwood would need to be rebuilt.

Tony: Various options were looked at in terms of lane configurations and intersection control (signals versus stop signs) but the current design layout appears to accommodate traffic demands fairly well.

Steve: Would “M” Street connection still be needed? Tony: The assumption is that Auburn Black Diamond Road connects to “M” Street.

Rich Wagner: Would ROW takings on Dogwood Street be to the east or west of the street? Tony: It could go either way.

### **Elevation:**

Keith Nakano reviewed the design profile and explained that it is a 140’ drop in elevation from SR 164 to SR 18 140’ with a mostly 6% slope. The elevations for the ramps and overcrossings at the new interchange vary from 20’ to 60.’

Rich Wagner: Does the 6% slope meet WSDOT standards for freight routes? Rob Brown: It is considered rolling terrain so it would meet the standard.

Rich Wagner: Do the cost estimates include bike lanes? They are becoming an important issue for the city, especially with the “M” Street improvements. Tony: Bike lanes are not included in the cost estimates. Richard W: The final report can reference that this needs to be looked at in final design.

Rand Black: What is the design speed? Keith: 40 mph.

### **Grid Option:**

Tony stated that this option:

- Also held to the WSDOT standard of one mile separation between interchanges
- Does go through Tribal and King George properties, thus avoiding the residential areas impacted by the Dogwood alignment
- Is more of a direct route to SR 164
- Is a 2 Lane facility
- Goes over SR 18 and would require cut on the south side of fill on the north side of SR 18
- Can get to or across SR 164 at Muckleshoot Plaza
- Has intersection controls

- Did not look at an “R” St. connection
- Is cutting through steeper terrain
- Remains at the 6% maximum grade standard

Tony further stated that the main difference between the options is where to connect to SR 18 and SR 164 and that neither option fully captures the entire travel market since the access to communities and neighborhoods is different.

Rich Wagner: Which option does better for event traffic? Tony: Dogwood option is better for taking traffic off SR 164 and the Grid Option is better for internal circulation.

Steve Taylor: The Event managers would like a parking garage within the study area and then they would bus event goers to the Amphitheatre. In response to Councilmember Wagner’s question, he has not had an opportunity to present these options to the Tribal Council. Steve also wondered if it was possible for the Grid Option to connect directly to the Casino.

Paul Bennett: Provided a review of the group’s collective understanding of local politics and what would be considered acceptable to the communities. Based on that observation the study moved forward with two viable options. Paul also stated that from WSDOT’s perspective a bypass is not needed but WSDOT also sees that it does not create negative impacts to SR 164 and SR 18. In response to Steve’s question, Paul replied that WSDOT would not support a bypass if it had no connections to SR 164.

Rich Wagner: Does SR 164 being a Highway of Statewide Significance make a difference in the State’s position?

Paul Bennett: “No.”

Rich Wagner: Event Traffic should have been modeled in the RDP. He recalled the meeting with WSDOT modelers where it was explained that this could not be done due to the infrequency of Amphitheatre events. Still, Councilmember Wagner believes this is an issue being overlooked and by modeling such traffic it could compel WSDOT to support a bypass.

Steve Taylor: There are about 7 to 8 events per year.

Paul Bennett: The Event traffic is more of a local rather than a WSDOT issue.

Rich Wagner: Confirmed that he does not want to reopen the RDP to do Event traffic modeling but does want the RDP to reference such traffic. He offered that Denny Swanson, a private citizen, may have aerial photos of Event traffic.

Robin Mayhew: Asked about utilizing Intelligent Transportation Systems (ITS) and Active Traffic Management (ATM) and even rerouting Event traffic.

Richard Warren: A reference to the Amphitheatre and Event traffic can be put in the RDP as well as ITS, ATM and an aerial photo.

Rich Wagner: He and Dennis Dowdy will contact Denny Swanson to get an aerial photo of Event traffic.

#### Traffic Modeling:

Tony: Explained modeling efforts for the years 2005 and 2030. The baseline includes all RDP improvements and assumes 40% to 50% growth within the next 25 years along the SR 164 corridor

Dennis: Does the Baseline from Dogwood to Academy include 5 lanes with center turn lane?

Tony confirmed that it does include these assumptions. He also stated that the RDP did model 6 lanes on SR 164 through Auburn and the road was failing LOS standards.

Tony: Reviewed the handouts with the volumes, turning movements and travel times.

- There are 3 major choke points: two at the existing SR 164/SR 18 interchange and one at “M” Street
- Delays are still significant, especially at “M” St. however,
- Delays still accrue but are more manageable and tolerable, and
- More free flow after “M” St.

Rich Wagner: For the Grid Option, does not having a light at the extension make it less appealing? Tony stated not necessarily; there are higher delays at Casino Dr. and Muckleshoot

Plaza so both options are a wash regarding delays. It comes down to where the system “floods” and there are benefits of shifting traffic further away from the SR 18/ SR 164 interchange.

Rich Wagner: Commented that previously modeling with “R” St. showed more dramatic shifts in volumes than what is being shown with the Grid option.

Rich Wagner: Did the RDP show LOS at intersections?

Richard Warren: Yes

Dennis: Commented that either option appears to benefit event traffic.

It was agreed that:

- The report would show that 5 lanes are needed to Academy Drive to obtain full benefits of either option, and
- The report will have a table comparing traffic volumes between the two options.

#### Travel Time:

Tony:

- Travel time shown on the handout is in both directions for both a.m. and p.m. peak periods.
- Assumptions use the SR 164 RDP Baseline improvements.
- Travel time in the p.m. peak (eastbound) along SR 164 improves with either option.

Rick Roberts: Asked why there was not more balance between the travel times if the routes are parallel to each other?

Tony: the differences in travel time between staying on SR 164 and using the bypass reflect the different travel markets being served. The bypass serves a more singular function while SR 164 itself distributes traffic all along the corridor – as such, the bypass will generally accommodate “bypass” centric traffic more efficiently. Also, the lack of signals along the bypass results in faster speeds and lower delays. Under equilibrium of travel demand, you would still expect to see some advantage of using the bypass over staying on SR 164.

Rich Wagner: Does the Tribe have plans to develop the quarry?

Steve Taylor: No

#### Environmental Review:

Hussein reviewed, stating that most elements are the same between options except:

- Dogwood: noise maybe more of an issue given proximity to neighborhood
- Grid: Noise could be an issue due to the 500’ buffer, which may be too much but was retained for planning purposes
- Auburn - Black Diamond Rd. realign could impact King County park land
- Purple DOT: Is a Hazmat site that has been remedied.
- GRID: some wetlands may exist; how much and if they are legitimate not known.

Rich Wagner: Asked why cultural resources are not shown since this was a key reason some options were rejected

Steve Taylor: Thought any impacts to cultural sites would be negligible but suggested that Tony’s group talk to Laura Murphy, The Tribe’s Cultural Liaison.

#### EVALUATION MEASURES: (No handouts)

Tony: These measures are:

- High level
- Cover travel times, LOS, and volumes
- A tech appendix or summary memo

Tony will send the measures to WSDOT for review after which WSDOT will send them to the CWG for review. Conclusions will likely be that there will not be one option over the other; either option is feasible and has no fatal flaws.

Rich Wagner: Wanted to see more cost estimates and suggested another meeting might be needed to review that material.

Tony: A full benefit/cost ratio is not being done for this effort; instead it will be a cost effectiveness measure.

Dennis: Wanted to ensure emergency access is considered in the cost effectiveness since it is an issue important to both the City and the Tribe.

Rich Wagner: Suggested the project team review how safety evaluations were done for the Cross Base Highway project.

Richard Warren: Stated that internally he gets "push back" when trying to rate future safety improvements.

Rob Brown: Will either council be adopting one of the options? It was confirmed by Dennis and Steve this was not the intent of the study.

Rick Roberts: Will analysis show reducing mainline queuing? Tony: Analysis will only show ramp queuing.

Steve Taylor: The report should mention that whatever is built will have multiple connections.

David Markley: Suggested the report should also talk about the functionality of the bypass.

Rob Brown: Suggested the report should also mention that this is not intended to be a limited access facility.

The group agreed to another possible meeting in mid-May, depending upon the review of the cost effectiveness material; which will be sent, reviewed and commented upon via email. With no further business the CWG adjourned.



**Washington State  
Department of Transportation**

# Appendix H: Hazardous Materials Inventory

This appendix contains additional hazardous materials information in support of the analysis presented in Chapter 4.

The sites listed in Exhibit H-1 were reviewed from the Washington State Department of Ecology's Facility Site/Atlas database to determine the reported environmental history and current site status. As detailed in Chapter 4, nine of the ten sites listed below are not of concern because they are not near the footprint of either design option, are not associated with an active environmental release, or are sites that treat, store, or handle hazardous materials but are not involved in a documented hazardous material release or environmental violation. The one site that is a concern and lies within the footprint for both design options, Continental Dirt Contractors, is described in Chapter 4.

**Exhibit H-1 Hazardous Materials Sites near the SR 164 Bypass Study Area**

Option	Site	Ecology ID Number	Street Address	Status	Site Description
Both	No Site Name	89653585	1342 SE 3 <sup>rd</sup> Street	Inactive	Hazardous waste generator
Both	Arco 6093	2520	2790 Auburn Way S.	Inactive	Hazardous waste generator, Hazardous waste management, Emergency/Haz Chem Rpt TIER2, Independent Remedial Action Program
Both	Art Fetter Logging Co. Inc.	15264683	525 R Street SE	Inactive	Underground storage tank
Dogwood	Circle K	24847836	2802 Auburn Way S.	Inactive	Hazardous waste mgmt, Emergency/Haz Chem Rpt TIER2
Both	Continental Dirt Contractors Inc.	53666486	10526 Auburn-Black Diamond Hwy	Inactive Active	Leaking underground storage facility Underground storage tank
Dogwood	Forest Villa Cleaners	55912273	2908 Auburn Way S.	Inactive	Hazardous waste generator
Both	Green River Homes	15827666	1103 9 <sup>th</sup> Street SE	Inactive	Underground storage tank
Grid	Mike's Honda	8592585	2015 R Street	Inactive	Hazardous waste generator

<b>Option</b>	<b>Site</b>	<b>Ecology ID Number</b>	<b>Street Address</b>	<b>Status</b>	<b>Site Description</b>
	Parts Inc.		SE		
Grid	PCL Construction Services Inc.	77145631	1201 M Street	Inactive	Hazardous waste generator
Dogwood	US FAA	2394196	3101 Auburn Way S.	Active Inactive	Emergency/Haz Chem Rpt TIER2 Hazardous waste mgmt, Hazardous waste generator

Source: Washington State Department of Ecology, Facility/Site Atlas, May 2009.