



Request for Agency Comments City of Woodinville

Development Services Department
 425-489-2754 • 17301 133rd Avenue NE • Woodinville, WA 98072
 Desk Hours • Monday – Thursday 7:30am – 5:00pm • Friday 7:30am – 4:00pm

EXHIBIT 7
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DATE: December 12, 2011

	CITY OF WOODINVILLE:		COUNTIES:
X	City of Woodinville (Building)		King County Assessors Office
X	City of Woodinville (Planning)	X	King County DDES, Land Use Services Division
X	City of Woodinville (Fire Marshall - WFR)	X	King Co. Depart of Transp. Road Services Div.
X	City of Woodinville (Public Works)	X	King County Metro Transit
X	City of Woodinville (Police)	X	King County Natural Resources and Parks
	City of Woodinville (Administration)		King County Historic Preservation Officer
	City of Woodinville (Parks and Recreation)	X	King County Water and Lands Resource Division
	City of Woodinville (Executive)	X	Public Health – Seattle & King County
	Ogden, Murphy, Wallace (Greg Rubstello)		Snohomish County PDS
	STATE/FEDERAL AGENCIES:		
X	Army Corps of Engineers (Seattle Dist.)		OTHERS:
X	DAHP, Local Agency Archaeologist	X	Comcast of Washington
	Washington State Department of Commerce	X	Frontier
X	Washington State Depart. of Ecology DOE		Olympic Pipeline
X	Washington Dept of Fish & Wildlife (WDFW)	X	Puget Sound Energy
X	Washington State DNR		Puget Sound Regional Council
	WSDOT		
	United States Postal Service		CONSULTANTS:
			Makers
			Otak/EagleEye
	SPECIAL DISTRICTS:		
	Alderwood Water & Wastewater District		
	Lake Washington School District		
X	Northshore School District		TRIBES:
X	Preston, Gates & Ellis (NSSD)	X	Muckleshoot Tribe (Tribe Preservation Program & Tribe Fisheries Division)
	Northshore Utility District	X	Sauk-Suiattle Tribe
	Port of Seattle	X	Snoqualmie Tribe
	Puget Sound Clean Air Agency	X	Snohomish Tribe
X	Woodinville Water District	X	Stillaguamish Tribe
X	Sound Transit Authority	X	Tulalip Tribes
X	Community Transit		
			NOTICE OF APPLICATION ONLY:
	CITIES:	X	Applicant/Contact Person (Notice Only)
	City of Bothell (Planning Director)		Parties of Record (Notice Only)
	City of Kirkland (Planning Director)		Adjacent Property Owners (Notice Only)
	City of Kenmore (Planning Director)	X	Property Owners within 500' (Notice Only)
	City of Redmond (Planning Director)	X	Woodinville Weekly (Notice Only)

FILE NO.: SEP11018

PROPONENT: City of Woodinville

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PROJECT NAME: Woodinville-Duvall Road Widening Project

PROJECT ADDRESS: NE Woodinville-Duvall Road from approximately 400 feet west of 156th Avenue NE to the east City limits 50 feet east of 171st Place NE

PROJECT DESCRIPTION: Construction includes the widening of NE Woodinville-Duvall Road to a three-lane configuration. Construction will include a center turn lane and pedestrian and bicycle facilities; as well as drainage, traffic signal, street lighting, landscaping improvements. SEPA is required due to the presence of wetlands and streams in the project area. Mitigation for impacts to existing wetlands is also proposed.

ATTACHED IS:

<input checked="" type="checkbox"/>	Notice of Application		Plat Map (Reduced)
	DNS	<input checked="" type="checkbox"/>	Site Plan (Reduced)
<input checked="" type="checkbox"/>	Environmental Checklist		Location Map
<input checked="" type="checkbox"/>	Application	<input checked="" type="checkbox"/>	Vicinity Map
	Narrative Statement(s)	<input checked="" type="checkbox"/>	Other: ECS

Please review this project as it relates to your area of concern and return your comments with this cover sheet by Wednesday, December 28, 2011 to the City of Woodinville, Development Services Department, Attn: Erin Martindale, 17301 133rd Avenue NE, Woodinville, WA 98072 or erinm@ci.woodinville.wa.us. Call the assigned Planner at 425-877-2283 with any questions.

Erin Martindale
Planner

Date

RESPONSE SECTION:

_____ Comments Attached

_____ No Comments

COMMENTS: _____

Signature

Date

Agency / Company

FILE NO.: SEP11018

PROPONENT: City of Woodinville

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Erin Martindale
Planner

Date

RESPONSE SECTION:

Comments Attached

No Comments

COMMENTS: _____

Daniel Beal

Signature

12/14/11

Date

CITY OF Woodinville / Public Works

Agency / Company

**WOODINVILLE-DUVALL ROAD WIDENING PROJECT
CITY OF WOODINVILLE
SEPA REVIEW
FILE NO.: SEP11018**

EXHIBIT 7
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December 14, 2011

Daniel Beck, P.E., Senior Engineer 
Public Works Department
SEPA Review Comments

The Public Works Department has reviewed the SEPA application and supporting documents for the Woodinville-Duvall Road Widening Project – SEP11018.

Review Comments:

1. Item 7. – ENVIRONMENTAL HEALTH, Section b. NOISE: Night work on a limited basis for certain construction work. Project is predominately residential area. Recommend obtaining a variance/exemption pertaining to the City's Noise Ordinance.
2. Item 16 – UTILITIES, Section b. Recommend distinguishing what agency is performing the relocation work for each utility. Unclear that the City is performing the construction work on behalf of Woodinville Water District for the replacement of the existing 8-inch AC water main. What agency is relocating/adjusting the PSE gas main and valves?
3. Geotechnical Engineering Report, page 11 (Fill Walls-General): "This will result in excavations that will extend beyond the current right-of-way". How is this being handled? Are the homeowners that are fronting the placement of the walls aware of the potential impacts of the excavation limits?
4. Geotechnical Engineering Report, page 17 (Concrete Block Retaining Walls): "Several of the explorations disclosed loose and/or organic soils which would be inadequate for the support of the walls, in our opinion. It is currently expected that additional field exploration would be required in terms of better defining wall subgrade conditions and the need for subgrade improvement." Has this been or is currently being addressed in the design phase? Recommend supporting documents to be submitted the SEPA file.

Development Services

Plan Review

To: Rachel Spear

From: Ron Braun, Building Plans Examiner

CC:

Date: December 14, 2011

Re: Initial Review of Application SEP11018 – Wood-Duvall Rd Widening

The review of the application listed above has been completed. The applicant will need to resubmit additional information along with a copy of this comment letter addressing the following review comments:

1. There is no mention on the plans for the project conforming with Ordinance 232, the adopted 1999 Transportation Infrastructure Standards and Specifications handbook.
2. There is no deviation from standards paperwork located within the permit documents.
3. The demolition drawings show trees being removed beyond the right of way limits in many areas yet the supporting paperwork does not detail how that can occur.
4. Engineering for the soldier pile wall has not been included within these drawings.
5. There are no ADA compliance construction details on these plans.

MEMORANDUM

TO: Project File SEP11018
FROM: Erin Martindale, Senior Planner *EMM*
SUBJECT: Planning Review – Woodinville-Duvall Road Widening Project
DATE: *December*
May 26, 2011

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The Planning Department has the following comments on this permit:

1. Please provide a restoration plan for those critical area or buffers directly impacted by construction. Only native species may be planted within the critical area or buffer.
2. Planning understands that the mitigation work at Woodin Creek includes 600 square feet of mitigation for direct impacts to Wetlands 3 and 4, as well as in-stream work to mitigate not-changing a culvert on Cold Creek, per WDFW requirements. WMC 21.24.360 allows for the filling of Wetlands 3 and 4. The total size of these wetlands is 570 square feet, and if they were filled, a total of 855 square feet of mitigation would be required. You may consider, as part of this project, filling Wetlands 3 and 4, with the appropriate documentation required by City Code, and expanding the mitigation work at Woodin Creek.
3. The planting plan for the mitigation area is required to meet the City's Mitigation Guidelines (enclosed). The mitigation plan must include the requirements listed in the guidelines, and meet the planting specifications.

The Planning Department will add the following conditions to the permit:

1. All walls on private property over four (4) feet in height, or that carries a surcharge is required to obtain a separate building permit.
2. The stream biologist shall be on-site at all times during the use of heavy equipment with Woodin Creek, or its buffer.
3. Tree removal on private property requires a tree removal permit and Tree Plan IV.
4. The final street tree plan shall provide for the equivalent of street trees an average of 25 feet on-center.
5. The final irrigation plan shall provide for coverage as required by WMC 21.16.110.

Erin Martindale

From: Usen, Mike [Mike.Usen@kingcounty.gov]
Sent: Tuesday, December 27, 2011 8:50 AM
To: Erin Martindale
Cc: Hahn, LG; Kittredge, Lori; Kriedt, Gary
Subject: KC Metro comments on File No. SEP11018

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RE: KC Metro comments on File No. SEP11018, Woodinville-Duvall Road Widening Project

King County Metro has reviewed the Notice of Application for the proposed Woodinville-Duvall Road Widening Project, File No. SEP11018 and has the following comments:

Metro operates transit service through the segment of NE Woodinville Duvall Road impacted by the project. Three pairs of zones (bus stops) are located within the project area at the intersections of: 156th Avenue NE; 106th Avenue NE, and; 168th Avenue NE. This road widening project provides the opportunity to improve pedestrian safety and transit access by replacing the existing passenger facilities with new concrete landing pads that comply with Metro's design requirements. We request that Metro be consulted during the design and construction process to review plans and provide design guidance including Metro's standard construction details as well as to coordinate impacts on transit service during construction. Please use the following contact information:

Plan Review:

PlansReview@kingcounty.gov
Plans Review Office
Transit Route Facilities
Metro Transit Division
KSC-TR-0413
Lori Kittredge
(206) 263-3751

Construction Coordination: All construction impacts need to be mitigated through Metro Construction Information Center <http://www.kingcounty.gov/transportation/kcdot/MetroTransit/Construction.aspx>
<<http://www.kingcounty.gov/transportation/kcdot/MetroTransit/Construction.aspx>>

Project construction needs to follow Metro's Construction Notification Guidelines:
<http://www.kingcounty.gov/transportation/kcdot/MetroTransit/~//media/transportation/kcdot/MetroTransit/Cc>

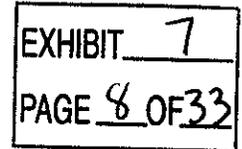
Thanks for the opportunity to comment on this application.

Mike Usen, AICP

Senior Environmental Planner
King County Metro Transit
Design and Construction Section
MS ksc-tr-0431
206.684.1168

Erin Martindale

From: Karen Walter [KWalter@muckleshoot.nsn.us]
Sent: Tuesday, January 03, 2012 4:26 PM
To: Erin Martindale
Cc: Jamie Bails
Subject: RE: Woodinville-Duvall road widening project notice of application
Attachments: coho and intermittent streams.pdf



Erin,
 Thank you again for granting us additional time to review the Wetland Report and Mitigation Concepts Figure, along with the other Notice of Application Materials for the proposed Woodinville-Duvall Road NE widening project.

We have reviewed these materials and have the following questions and/or initial comments as noted below:

1. Water Typing

We are concerned that the affected section's of Cold Creek may not be correctly classified as Type 4, non-fish bearing waters. According to Table 8 from the Wetland and Stream Report, all four reaches within the project area are classified by the City as Type 4, non-fish bearing waters. The Wetland and Stream Report notes that the WDNR classifies Reaches 2,3, and 4 of Cold Creek as Type F waters. What is the City's basis for the Type 4 classification?

There is nothing in the Wetlands and Streams Report that verifies the classification as no physical measurements were taken due to dry stream conditions. We recommend that the stream be reassessed to determine if it meets the physical criteria for presumed fish use based on WAC 222-16-031, which is likely what WDNR used to make their determination. Furthermore, with an identified fish passage barrier culvert at 167th Avenue NE (described in Table 8 of the Wetland and Stream report), the stream upstream of this culvert should be assessed to determine its average bankfull width in at least six locations where it is unconfined by human built structures, as well as the stream gradient. If the results of the new survey provide data to show that project area portion of Cold Creek's bankfull width is at least 2 feet and the stream gradient is 16% or less, then these stream sections would meet the physical criteria as presumed fish habitat. It should also be noted that intermittent streams can provide coho salmon with habitat (see attached paper).

2. Project Area culverts

If any portion of Cold Creek in the project area is determined to meet the physical criteria for presumed fish use based on WAC 222-16-031 described above, then the culverts conveying those portions of the stream need to be assessed for their fish passage status using WDFW's Barrier Assessment (see <http://wdfw.wa.gov/publications/pub.php?id=00061>).

Any culvert that is determined to convey Cold Creek, with presumed fish habitat from the new assessment, and is a barrier should be fixed as part of this project. It appears that NE Woodinville-Duvall Road near 160th Avenue NE and the 167th Avenue NE crossing just south of NE Woodinville-Duvall road would be the two culverts that should be assessed based on the outcome of item 1. The 167th Avenue NE crossing may have already been assessed. According to Chapter 5, Impact and Mitigation, it was determined that the 167th Avenue NE culvert is a fish passage barrier and WDFW would require replacement of this culvert with a fish passable culvert or some alternative mitigation. The report continues to indicate that the culvert cannot be replaced with a fish passable culvert using any of the three design methods prescribed by WDFW because of utilities and site constraints. We need additional information regarding these constraints. For example, why can't the natural gas utilities at the 167th Avenue NE crossing site be relocated? Many of the culvert projects that improve fish passage have this type of constraint and can find a way to relocate utilities to accommodate the new culvert. One example is the SR 520 road widening project in Medina where almost all of the remaining stream crossing culverts in the project area will be made fish passable using WDFW's stream-simulation design method. SR 520 is considerable larger than this road project, yet somehow WSDOT was able to design fish passable culverts. In summary, we need more details regarding the design constraints for not constructing fish passable culverts in the project area.

We also need more information regarding the proposed mitigation in lieu of fish passage culverts. The CD you sent included a single drawing of what appears to be a log weir proposed for Woodin Creek. It is not clear what this mitigation is for, where the mitigation is proposed, and how the log itself will not become a fish passage barrier in the future. Additional information is needed regarding this mitigation, too.

We appreciate the opportunity to review this proposal and look forward to the City's responses. Please let me know if you have any questions.

Thank you,
Karen Walter
Watersheds and Land Use Team Leader

*Muckleshoot Indian Tribe Fisheries Division
39015 172nd Ave SE
Auburn, WA 98092
253-876-3116*

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From: Erin Martindale [mailto:Erinm@ci.woodinville.wa.us]
Sent: Wednesday, December 21, 2011 3:31 PM
To: Karen Walter
Subject: RE: Woodinville-Duvall road widening project notice of application

Ok, how about you have comments back to me by January 4th?

From: Karen Walter [mailto:KWalter@muckleshoot.nsn.us]
Sent: Wednesday, December 21, 2011 3:30 PM
To: Erin Martindale
Subject: RE: Woodinville-Duvall road widening project notice of application

Erin,
We received the CD in today's mail. With the pending holidays here at the Tribe, I will likely need an extra day or two beyond the 12/28 NOA deadline to review the information.

Thanks,
Karen Walter
Watersheds and Land Use Team Leader

*Muckleshoot Indian Tribe Fisheries Division
39015 172nd Ave SE
Auburn, WA 98092
253-876-3116*

From: Erin Martindale [mailto:Erinm@ci.woodinville.wa.us]
Sent: Monday, December 19, 2011 12:11 PM
To: Karen Walter
Subject: RE: Woodinville-Duvall road widening project notice of application

Hi Karen,
The CD will go out in today's mail.

Erin

From: Karen Walter [mailto:KWalter@muckleshoot.nsn.us]
Sent: Thursday, December 15, 2011 10:07 AM
To: Erin Martindale
Subject: RE: Woodinville-Duvall road widening project notice of application

Thank you!

Karen Walter
Watersheds and Land Use Team Leader

Muckleshoot Indian Tribe Fisheries Division
39015 172nd Ave SE
Auburn, WA 98092
253-876-3116

EXHIBIT <u>7</u>
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From: Erin Martindale [mailto:Erinm@ci.woodinville.wa.us]
Sent: Thursday, December 15, 2011 10:04 AM
To: Karen Walter
Cc: Rachel Speer
Subject: RE: Woodinville-Duvall road widening project notice of application

Hi Karen,

We will be sending you a CD of the reports, they are too big to email. When you receive them, please let me know how much additional time you will need to review and provide comments.

Erin

From: Karen Walter [mailto:KWalter@muckleshoot.nsn.us]
Sent: Tuesday, December 13, 2011 1:30 PM
To: Erin Martindale
Subject: Woodinville-Duvall road widening project notice of application

Erin,
We have received the NOA materials for the Woodinville-Duvall road widening project. We need additional information to fully evaluate this project and would appreciate copies of the following documents referenced in the materials but not included in our packet:

1. Wetland and Stream Assessment report;
2. Conceptual Stream and Wetland Mitigation Memo and Design.

We prefer electronic copies if available. If not, please have hard copies sent to the email below.

Thank you,
Karen Walter
Watersheds and Land Use Team Leader

Muckleshoot Indian Tribe Fisheries Division
39015 172nd Ave SE
Auburn, WA 98092
253-876-3116

Coho salmon dependence on intermittent streams

PJ Wigington Jr^{1*}, JL Ebersole¹, ME Colvin², SG Leibowitz¹, B Miller³, B Hansen⁴, HR Lavigne⁵, D White¹, JP Baker^{1,6}, MR Church¹, JR Brooks¹, MA Cairns^{1,7}, and JE Compton¹

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In February 2006, the US Supreme Court heard cases that may affect whether intermittent streams are jurisdictional waters under the Clean Water Act. In June 2006, however, the cases were remanded to the circuit court, leaving the status of intermittent streams uncertain once again. The presence of commercial species, such as coho salmon (*Oncorhynchus kisutch*), can be an important consideration when determining jurisdiction. These salmon spawn in the upper portions of Oregon coastal stream networks, where intermittent streams are common. In our study of a coastal Oregon watershed, we found that intermittent streams were an important source of coho salmon smolts. Residual pools in intermittent streams provided a means by which juvenile coho could survive during dry periods; smolts that overwintered in intermittent streams were larger than those from perennial streams. Movement of juvenile coho into intermittent tributaries from the mainstem was another way in which the fish exploited the habitat and illustrates the importance of maintaining accessibility for entire stream networks. Loss of intermittent stream habitat would have a negative effect on coho salmon populations in coastal drainages, including downstream navigable waters.

Front Ecol Environ 2006; 4(10): 513–518

Intermittent streams only flow during part of the year and are often under-appreciated as aquatic resources. In the western US, over 65% of total stream length is intermittent (Stoddard *et al.* 2005). Whether intermittent streams are included under the jurisdiction of the Clean Water Act (CWA) is not clear. Under the CWA, the definition of “waters of the United States” is vague, leading to substantial debate in the courts and federal agencies about the geographic scope of the statute (Downing *et al.* 2003). Until recently, regulatory interpretations were fairly broad, but a 2001 US Supreme Court ruling (*Solid Waste Agency of Northern Cook County v US Army Corps of Engineers*, 531 US 159 [2001]) re-emphasized the importance of a water body’s navigability and its “significant nexus” with navigable waters. In June 2006, the Court issued decisions in two additional cases (*United States v John Rapanos and June Carabell v United States Army Corps of Engineers and United States Environmental Protection Agency*, slip op, 547 US ___ [2006]) that concerned the jurisdictional status of non-navigable waters. An issue that remains unresolved is whether a tributary to a navigable waterbody must be perennial to be included, or whether it can be intermittent. Research documenting the impact of intermittent streams on interstate or foreign commerce in navigable waters, in particular, could influence whether such systems are protected under the CWA.

Pacific salmon are extremely important to the ecosystems and economies of the Pacific Northwest and support valuable commercial and recreational fisheries. Salmon populations have experienced major declines and local extinctions, due in part to loss of freshwater habitat (Lichatowich 1999; CENR 2000). Coastal coho salmon (*Oncorhynchus kisutch*), which use headwater areas where intermittent streams are common, have experienced declines similar to other Pacific salmon and have been the focus of major restoration efforts (Oregon Watershed Enhancement Board 2005). The potential importance of intermittent streams to coho and other salmonids has been documented (Everest 1973; Erman and Hawthorne 1976; Kralik and Sowerwine 1977; Cederholm and Scarlett 1982; Brown and Hartman 1988), but quantitative data are limited.

Coho salmon commonly have an 18-month freshwater life cycle. Adult coho return from the ocean in late fall, when streamflows increase, and spawn in the upper portions of coastal stream networks. Coho fry emerge in late winter and remain in these streams through the summer and winter before migrating (as smolts) to the ocean the following spring. Juvenile survival during winter flood events is one of the most important factors controlling smolt production (Nickelson *et al.* 1992). High streamflows can physically displace or fatally injure fish unable to find suitable, low-velocity refugia. Larger smolts tend to have higher ocean survival rates (Holtby *et al.* 1990). Thus, both the number and size of smolts affect the size and biomass of adult populations.

In this paper, we quantify the contributions of intermittent streams to coho salmon production in an Oregon coastal watershed. Specifically, we provide estimates of

¹US Environmental Protection Agency, Corvallis, OR 97333 *(wigington.jim@epa.gov); ²Independent contractor, Corvallis, OR 97333; ³Oregon Department of Fish and Wildlife, Charleston, OR 97420; ⁴USDA Forest Service, Corvallis, OR 97333; ⁵Dynamac Corp, Corvallis, OR 97333; ⁶Current address: Beavercreek, OR 97004; ⁷Current address: Independence, OR 97351

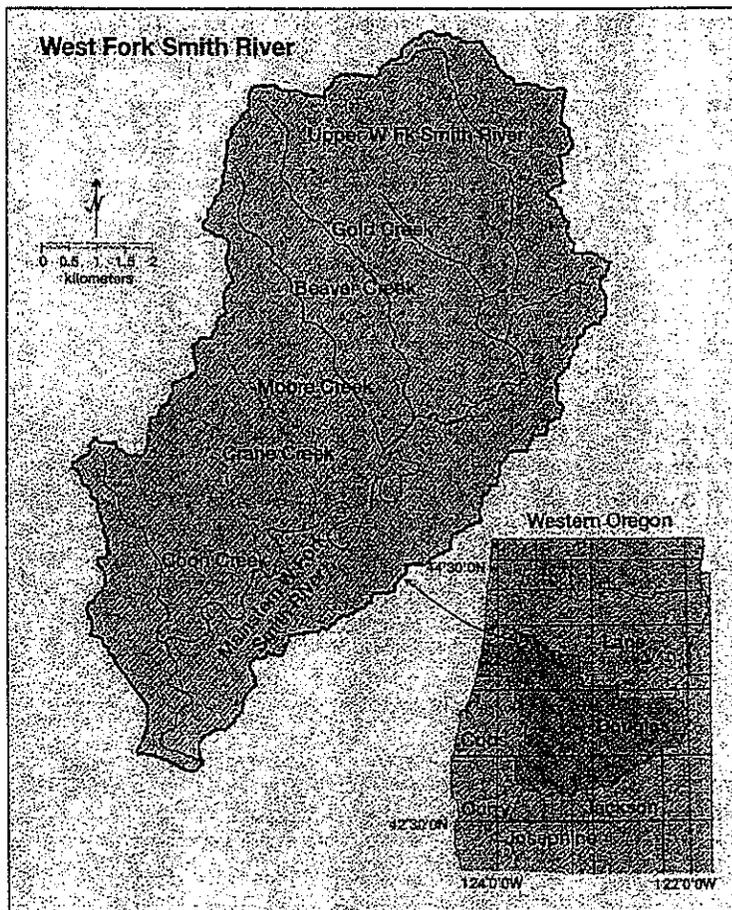


Figure 1. West Fork Smith River watershed and stream network. Intermittent streams are shown with dashed lines.

the (1) proportion of spawning that occurred in intermittent streams, (2) movement of juveniles into intermittent streams, (3) juvenile survival in intermittent and perennial streams during winter, and (4) relative size of smolts produced from intermittent and perennial streams. This effort is part of a larger study that is examining how coho use habitat in the whole stream network of an Oregon coastal watershed during their freshwater life cycle (Ebersole *et al.* in press).

Methods

Since 2002, we have studied survival and movement of juvenile coho salmon in the stream network of the West Fork Smith River (WFSR), a 67 km² forested drainage in coastal Oregon (Figure 1). The watershed supports a wild coho salmon population, and produced an average of 24 000 coho salmon smolts per year during 2002–2005 (Jepson *et al.* 2006). The stream network consists of a mainstem and six major tributaries (Figure 1). Two tributaries, Moore Creek and Crane Creek, have intermittent flow during many summers and represent 9% of the total stream network.

Douglas County has measured streamflow continuously on the mainstem WFSR, near the mouth, since 1981. During 2003–2005, we periodically measured streamflow in tributary streams using Swoffer flowmeters (Swoffer Instruments, Seattle, WA) mounted on wading rods (Gordon *et al.* 1992). We compared mainstem and tributary streamflows to establish mainstem threshold values below which intermittent tributaries ceased to flow. We also deployed an array of Onset Stowaway Tidbit (Onset Computer Corporation, Bourne, MA) temperature data loggers in 43 pools in the WFSR stream network (Cairns *et al.* 2005), and made recordings at 30-minute intervals.

Adult coho salmon spawner abundance was calculated from surveys conducted by Oregon Department of Fish and Wildlife (ODFW) personnel, using established field survey protocols (ODFW 2005). Area under the curve estimates were obtained from repeated ODFW surveys throughout the spawning period, and were converted to estimates of abundance assuming a 75% observation probability (Jacobs 2002). Because estimates of observation and associated variance are not available at the stream level (Jacobs 2002), we developed confidence intervals for the estimate of adult coho spawners using intermittent streams. A confidence interval was constructed using the difference between the spawner estimate and the actual number of

coho observed during stream surveys to create upper and lower bounds for each stream. This confidence interval corresponds to an assumed range of observation probabilities from 50% to 100%.

Coho salmon juveniles were individually tagged from August to October each year, with 11 mm passive integrated transponder (PIT) tags (PIT Tag Steering Committee 1999). We collected coho for tagging by seining (Ebersole *et al.* in press); fish were recaptured as they left the watershed using a rotary screw trap that was operated continuously (February through June, except for brief periods during extremely large hydrologic events), with a trap efficiency of 33–39% (Jepson *et al.* 2006). Each fish was measured for fork length (distance from tip of snout to indentation in caudal fin) at time of tagging and at time of recapture at the smolt trap. From August to October 2003, we PIT tagged an average of 328 coho salmon (range = 94 to 469) in each of eight reaches located in the upper and lower sections of Crane, Moore, Beaver, and Gold Creeks, and at ten reaches within the mainstem. Each tributary reach was 800 m long and each mainstem reach was 400 m long. In total, 3977 coho salmon were tagged in the mainstem, 1214 were tagged in

the perennial tributaries, and 400 were tagged in the intermittent tributaries. During August to October 2004, we established 30 PIT-tagging reaches, spaced systematically across the WFSR stream network. Each reach was 300m long. We tagged an average of 149 coho salmon (range = 86 to 185) within each reach, tagging a total of 3012 coho salmon in the mainstem, 2010 coho salmon in the perennial tributaries, and 1156 coho salmon in the intermittent tributaries.

We estimated overwinter survival for each tagged group per reach by dividing the number of fish recovered at the rotary screw trap by the number released, after correcting for trap efficiency and the proportion scanned for PIT tags. Variance estimates for overwinter survival were derived using a bootstrap method (a technique for estimating the sampling distribution of an estimator by resampling with replacement from the original sample; Thedinga *et al.* 1994).

Movement of PIT-tagged coho salmon between the mainstem and four tributaries (two perennial: Beaver and Gold, and two intermittent: Moore and Crane) was monitored using stationary PIT-tag monitoring stations positioned in the tributary near the junction with the mainstem West Fork Smith River. All four antennae were in operation for the winters of 2003–2004 and 2004–2005. Each monitoring station consisted of a Destron-Fearing (South St Paul, MN) FS1001 transceiver powered by deep-cycle batteries. A rectangular antenna (3.3 m x 1.2 m) was positioned in the stream and bracketed with weir panels to capture all but the highest streamflows. PIT-tagged fish passing through the antenna field were recorded (PIT-tag identification number, date, and time) continuously on a laptop computer attached to the transceiver. Coho salmon smolts PIT tagged during the autumns of 2003 and 2004 were classified according to the recapture history (where they were located within the stream network during the overwinter period) as (1) mainstem, (2) perennial tributary, or (3) intermittent tributary habitat users.

We used analysis of covariance (ANCOVA; Gotelli and Ellison 2004) to compare the length of PIT-tagged coho salmon smolts recaptured at the smolt trap that used mainstem, perennial tributary, or intermittent tributary stream habitats. We used the year of PIT tagging as a categorical variable to account for between-year variations and coho salmon length at the time of PIT tagging as a covariate to control for variability in initial fish length. Date of recapture at the smolt trap was also included as a covariate, because juvenile coho salmon

Table 1. Estimated number of days with no open channel streamflow for two intermittent streams

Stream	2002	Summer 2003	2004
Moore Creek	65	38	0
Crane Creek	47	21	0

grow rapidly in the spring, and smolts that out-migrate later in the spring tend to be larger. A model of the two covariates and two factors and all interactions for the ANCOVA were fit using the mixed procedure (PROC MIXED) in SAS 9.1 (SAS Institute; Carey, NC). Model fit, structure, and assumptions were visually assessed using diagnostic plots of predicted values and residuals.

Results

We were able to use streamflow data from the summer of 2003 to establish mainstem streamflow thresholds below which streamflow ceased at the mouth of the intermittent tributaries (Moore Creek and Crane Creek). Using these thresholds, we estimated that one or both intermittent tributaries experienced periods with no flow during approximately 14 of the 24 years of streamflow record, with 6 years having no streamflow in intermittent streams for periods of 15 to 87 days. During our study, two summers (2002 and 2003) had extended periods with no streamflow in the intermittent streams, but during the summer of 2004 streamflow did not cease at any time (Table 1).

During periods with no streamflow, residual pools (Figure 2) were present in Moore and Crane Creeks for a considerable period of time after streamflow had ceased. Water temperature data in intermittent and perennial

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Figure 2. Residual pools during a dry summer in a West Fork Smith River intermittent tributary stream.

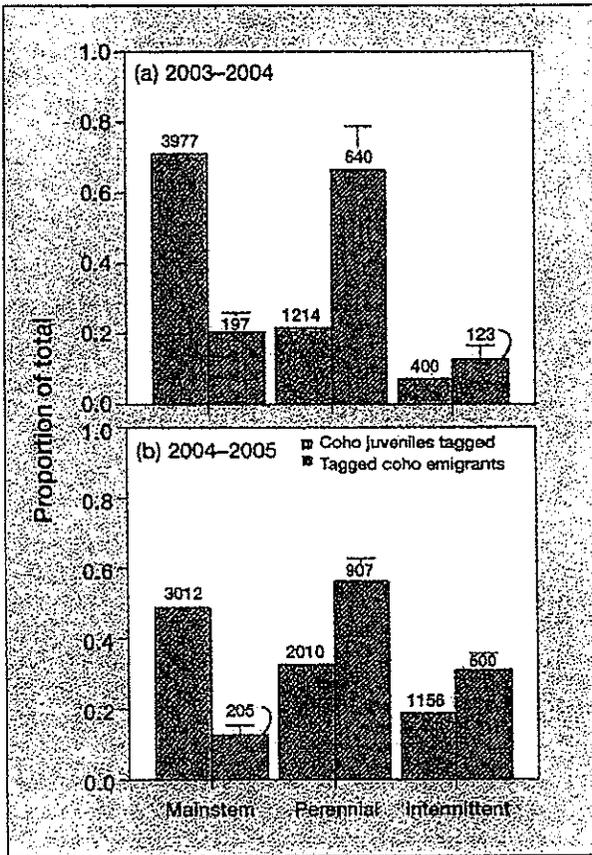


Figure 3. Proportion of juvenile coho tagged during the fall in mainstem, perennial tributaries, and intermittent tributaries, and the estimated proportion of the same tagged coho emigrating from the West Fork Smith River (based on recaptures at the smolt trap) that were classified as mainstem users, perennial tributary users, or intermittent tributary users. (a) Coho tagged in fall 2003 and captured in smolt trap in spring 2004; (b) coho tagged in fall 2004 and captured in smolt trap in spring 2005. The number of coho comprising the bars are shown above the bars. The standard error of the tagged coho smolt emigrants are shown as whiskers above the bars. Coho smolts that were located during the over-winter period exclusively in mainstem habitats were classified as mainstem users; smolts that were originally tagged in or located at some time during the over-winter period in the perennial tributaries were classified as perennial tributary users; and smolts that were originally tagged in or located at some time during the over-winter period in the intermittent tributaries were classified as intermittent tributary users.

streams confirm the presence of residual pools. Diel water temperature patterns were consistent in upper and lower Gold Creek throughout the course of the summer of 2003 and are indicative of perennial streamflow. In contrast, water temperature patterns in Moore Creek show moderately fluctuating temperatures followed by widely fluctuating temperatures, indicative of a dry channel in the lower stretches during that period. We observed cool, constant temperatures, indicative of a residual pool sustained by

groundwater, at an upper Moore Creek site from early July into September.

Intermittent tributaries were used by coho salmon in several ways. During 2002–2004, 11% (confidence interval [CI] = 8 to 14%) to 21% (CI = 16 to 26%) of the adult coho salmon spawned in the two intermittent streams. The total number of spawners in the West Fork Smith were 3451, 3728, and 994 in 2002, 2003, and 2004, respectively. We detected 833 (460 in Moore Creek and 373 in Crane Creek) coho juveniles originally PIT tagged in the mainstem at one or more of the intermittent tributary antennas during the winters of 2003–2004 and 2004–2005. Most mainstem-tagged juvenile coho salmon entered the intermittent tributaries during high streamflows in the fall months. Juvenile coho that had been tagged in or used intermittent and perennial tributary streams comprised a higher proportion of the smolts that were recaptured at the smolt trap during the subsequent smolt migration period than coho that had remained in the mainstem (Figure 3). Overwinter survival of coho salmon PIT tagged in intermittent streams during the winters of 2002 through 2005 was similar to survival rates in perennial tributaries, but higher than mainstem survival rates in all years (Table 2).

After accounting for variation in the length at tagging and smolt migration timing, our statistical analysis showed a significant difference in the length of coho smolts that used perennial (mainstem and tributary) and intermittent tributary habitats ($F_{2,861} = 9.06, P = 0.0001$) during 2004 and 2005. Significant interaction terms complicated direct interpretation of the model, so we evaluated differences in smolt length at lower, middle, and upper values of the covariates used in the model for all habitat user classes and cohort years resulting in a total of 54 comparisons. Statistical significance of the differences was set at a P value < 0.0009 ($0.05/54$ pairwise tests).

Coho smolts that used intermittent tributaries were larger than coho smolts that used perennial tributary habitats during both 2004 and 2005 (Figure 4). This difference was statistically significant throughout the smolt migration period in 2004, but only during the middle portion of the 2005 smolt migration. Coho smolts that used intermittent tributary habitats were larger than coho that used the mainstem during 2004 (Figure 4). This difference was statistically significant for the middle and end of the migration period. On the other hand, coho smolts that had used intermittent tributary streams were significantly smaller than coho

Table 2. Estimated overwinter survival (%) of PIT-tagged juvenile coho salmon in the West Fork Smith River drainage by stream type

Stream type	2002-03	Winter 2003-04	2004-05
Intermittent streams	13	21	41
Perennial streams	12	25	38
Mainstem	9	14	14

smolts that had used mainstem habitats through the early and middle portions of smolt migration during 2005.

Discussion

Although intermittent streams experience periods with no streamflow, they provide valuable habitat for juvenile coho salmon. In the WFSR network, Moore and Crane Creeks provided both spawning and rearing habitat for coho salmon. Even during years in which the streams had extended periods with no streamflow, they accounted for an important component of the coho smolts leaving the WFSR watershed (Figure 3). In addition, overwinter survival rates for juvenile coho originally tagged in the intermittent streams were higher than survival rates in mainstem habitats and equivalent to survival in perennial streams (Table 2). How can intermittent streams produce coho smolts even though the streams have extended periods with no streamflow?

One reason is that if periods without streamflow are not too long, residual pools (see Figure 2) can sustain juvenile coho until streamflow resumes with autumn rains. May and Lee (2004) found that in Oregon coastal streams, gravel-bed pools sustained by hyporheic flow were able to carry over coho juveniles during the summer, but the pools experienced a decrease in juvenile coho abundance of 36% because of fish mortality caused by pool drying.

We observed numerous residual pools in Moore Creek and Crane Creek during late summer periods, when no streamflow occurred at the mouth of the streams. Water temperature patterns in the pools were consistent with two types of pools in Oregon coastal streams identified by May and Lee (2004), which may have the potential to maintain water during periods with no streamflow. One pool type is comprised of gravel pools with bedrock contact for which hyporheic flow is the primary source of water during dry periods. Lower Moore Creek was a location that featured this type of pool; in this case, the pool dried out during late summer, as evidenced by the wide fluctuations of temperature, typical of air temperature fluctuations. Bedrock pools that received no surface flow from upstream but are recharged by groundwater from fractured bedrock represents another class of pools. These have relatively low water temperatures and little diurnal fluctuation.

The importance of residual or isolated pools in sustaining fish populations in intermittent streams has been documented in a wide range of settings. Closs and Lake (1996) found that *Galaxias olidus*, a small salmoniform fish, was able to survive in scattered small pools throughout the upper reaches of an intermittent stream in Australia. Pires et al. (1999) noted that isolated pools were important habitats for fishes in intermittent streams in Portugal. Labbe and Fausch (2000) reported that, during summer drought, permanent pools were important habitats for the Arkansas darter (*Etheostoma cragini*) in two intermittent streams in the Colorado plains.

Another reason that WFSR intermittent streams were

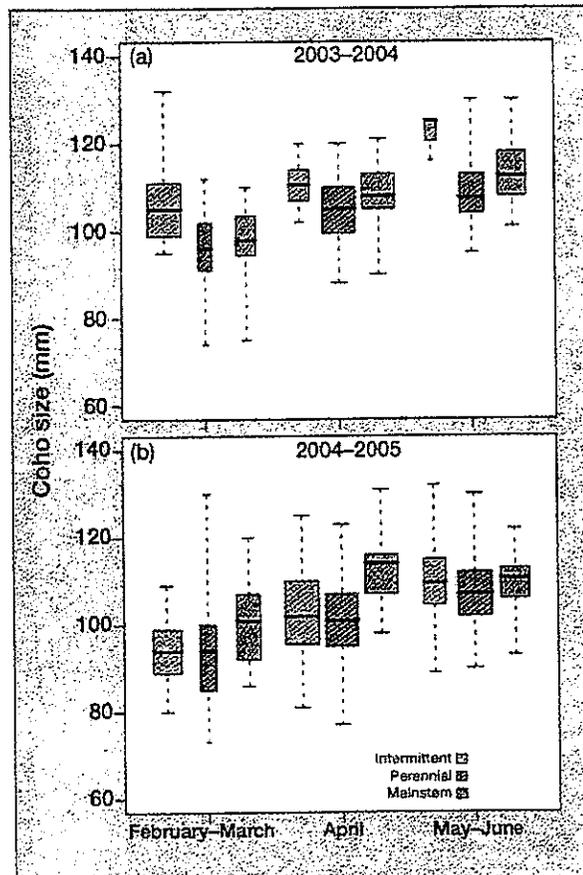


Figure 4. (a) Date of capture and length of coho smolts originally tagged in 2003 and recaptured at the smolt trap in 2004, and (b) originally tagged in 2004 and recaptured in 2005. The width of the box is proportional to the number of coho used to generate the box.

able to produce coho smolts was that some coho tagged in the mainstem moved into intermittent tributaries when streamflow resumed in the fall. Once the intermittent tributaries resumed streamflow, coho that had survived in the residual pools or immigrated in the fall probably experienced lower densities and higher food resources compared to coho in perennial tributaries. We hypothesize that this provides higher survival and growth of coho that overwinter in intermittent streams via release of density dependence (Chapman 1966). Our observation that, following a particularly dry summer in 2003-2004, coho smolts from intermittent streams were considerably larger than smolts that used perennial habitats (Figure 4) is consistent with this hypothesis.

In conclusion, WFSR intermittent streams provided both valuable spawning and rearing habitat for coho salmon. Residual pools in intermittent streams provided one means by which juvenile coho could survive during dry periods. Movement of juvenile coho into intermittent tributaries from the mainstem was another way in which juvenile coho exploited intermittent stream habitat, and illustrates the

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importance of maintaining accessibility of entire stream networks to coho. Under particularly dry conditions, smolts that overwintered in intermittent streams were larger than those from perennial streams. Low-gradient intermittent streams, such as those in the WFSR, are common in watersheds with sedimentary bedrock, which comprise the prime coho salmon habitat among Oregon coastal drainages. Our results demonstrate that loss of intermittent stream habitat would have a negative effect on coho salmon populations in coastal drainages, and in general, our study illustrates the important role that intermittent streams can play in maintaining the biological integrity of navigable waters. Research and methods that demonstrate these interconnections are critical in helping regulators and policy makers respond to recent US Supreme Court decisions.

Acknowledgments

The authors thank S Hendricks, C Oyler, R St Claire, R Emig, N Raskauskas, T Mintkeski, C Meengs, S Davis, and S Orlaineta for tireless field work in support of this project, and P Haggerty of Indus Corp, for GIS support. We thank Roseburg Resources and the USDI Bureau of Land Management (BLM) for providing access to research sites, and P Olmstead with the BLM, who provided encouragement and logistical support. We are very appreciative of the efforts of G Cicchetti, J Hall, R Lackey, B McComb, R Ozretich, D Poon, and J Richardson, who reviewed earlier versions of this manuscript. We also acknowledge D Downing for reviewing our discussion of the Supreme Court cases. This paper was funded by the US Environmental Protection Agency, USDA Forest Service, USDI Bureau of Land Management, and Oregon Department of Fish and Wildlife. It has been subject to Agency review and approved for publication. Reference to trade names does not imply endorsement by the US Government.

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Erin Martindale

From: Karen Walter [KWalter@muckleshoot.nsn.us]
Sent: Thursday, March 01, 2012 3:44 PM
To: Erin Martindale
Cc: Rachel Speer
Subject: RE: Woodinville - Duvall City of Woodinville SEPA Response

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Erin (and Rachel),

Thank you for sending the City's responses to our SEPA comments for the Woodinville-Duvall road project. We have reviewed them and have no further questions or comments. Please note that the information in Otak's responses should have been included with the original SEPA submittal as it was all relevant and important for purposes of reviewing this project and its potential impacts to salmon and their habitats.

Best regards,
Karen Walter
Watersheds and Land Use Team Leader

Muckleshoot Indian Tribe Fisheries Division
39015 172nd Ave SE
Auburn, WA 98092
253-876-3116

From: Erin Martindale [mailto:Erinm@ci.woodinville.wa.us]
Sent: Wednesday, February 29, 2012 7:37 AM
To: Karen Walter
Cc: Rachel Speer
Subject: Woodinville - Duvall City of Woodinville SEPA Response

Karen,

Have you had a chance to review the attached response to your comments on the City's Woodinville-Duvall Road project?

Erin

From: Rachel Speer
Sent: Wednesday, February 01, 2012 8:28 AM
To: kwalter@muckleshoot.nsn.us
Cc: Erin Martindale
Subject: City of Woodinville SEPA Response

Hi Karen,

Attached is the City's response to your SEPA comments.

Thank you,
Rachel

Rachel E. Speer, P.E.
Assistant Public Works Director
City Of Woodinville, WA
(425) 877-2294

Erin Martindale

EXHIBIT 7
PAGE 18 OF 33

From: Kriedt, Gary [Gary.Kriedt@kingcounty.gov]
Sent: Thursday, March 15, 2012 3:25 PM
To: Erin Martindale
Cc: Hahn, LG
Subject: KC Metro Comments on Woodinville-Duvall Road Widening

Attachments: Woodinville Duvall Road Widening KC Metro Transit Notes on Drawings 3-15-2012 .pdf

Hi Erin - King County Metro received the DNS on the Woodinville-Duvall Road Widening Project and we have reviewed the City's design drawings. Attached are sheets from those drawings with bus stop landing pad information for the City's consideration. This is from LG Hahn, Transit Facilities Planner. Please contact Hahn with questions or to discuss further (206-684-1725, lg.hahn@kingcounty.gov). Thank you for the opportunity to review this!

Gary Kriedt, Senior Environmental Planner
Metro Transit
201 South Jackson St., MS KSC-TR-0431
Seattle, WA 98104-3856
(206) 684-1166 cell: (206) 818-8647
gary.kriedt@kingcounty.gov

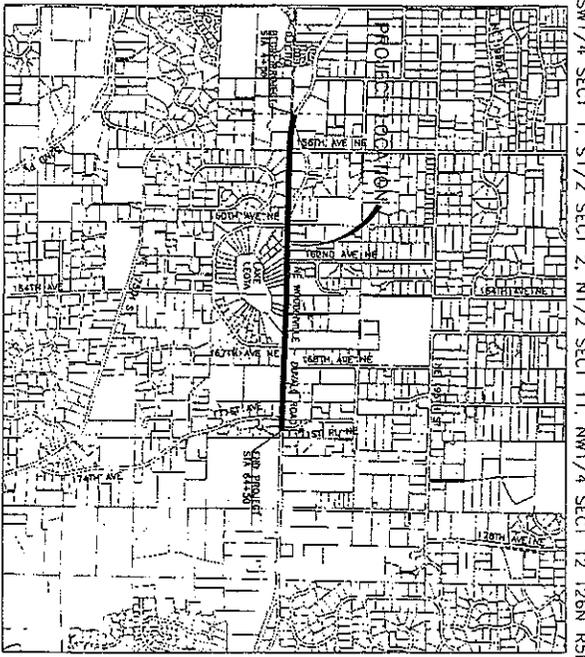
6 construction issues for his step 4 Oct 2011

CITY OF WOODINVILLE

WOODINVILLE-DUVAL ROAD WIDENING PROJECT

85% REVIEW OCTOBER 2011

PROJECT # PW10-XX



VICINITY MAP
NTS

SHEET NO.	DRAWING NO.	SHEET TITLE & DESCRIPTION
1.00		COVER SHEET, VICINITY MAP, AND INDEX
1.01		LEGEND, ABBREVIATIONS, AND SUMMARY OF QUANTITIES
1.02-1.03		RIGHT-OF-WAY, SURVEY, AND HORIZONTAL CONTROL PLAN
2.00-2.06		TESS AND DEMOLITION PLAN
3.00-3.15		ROADWAY AND DRAINAGE PLAN AND PROFILE
3.16		ROADWAY PROFILES
3.17-3.18		DRAINAGE PROFILES
3.20		ROADWAY DETAILS
3.21-3.24		SIGNING AND STRIPING PLAN
4.00-4.07		WALL PLAN AND ELEVATION
5.00-5.06		WALL DETAILS
5.07-5.08		LANDSCAPE PLAN
6.00-6.06		LANDSCAPE DETAILS
6.0X-6.0X		IRRIGATION PLANS
6.10-6.15		IRRIGATION DETAILS
6.16-6.0X		ILLUMINATION AND INTERCONNECT PLAN
7.00-7.06		ILLUMINATION SCHEDULES, NOTES AND DETAILS
7.07		150TH AVE NE SIGNAL PLAN
8.00		160TH AVE NE SIGNAL PLAN
8.01		160TH AVE NE SIGNAL PLAN
8.02		160TH AVE NE SIGNAL NOTES AND DETAILS
8.03		160TH AVE NE SIGNAL POLE CHART
8.04-8.05		160TH AVE NE SIGNAL PLAN
8.11		160TH AVE NE SIGNAL NOTES AND DETAILS
8.12		160TH AVE NE SIGNAL POLE CHART
8.13		160TH AVE NE SIGNAL PLAN
8.14-8.15		160TH AVE NE SIGNAL NOTES AND DETAILS
8.21		160TH AVE NE SIGNAL POLE CHART
8.22		160TH AVE NE SIGNAL PLAN
8.23		160TH AVE NE SIGNAL POLE CHART
8.24-8.25		CONTROLLED/SERVICES/DETAILED
8.31		FOUNDATION AND RISER DETAILS AND SIGNAL NOTES
8.32		VIDEO DETECTION CAMERA DETAILS
8.33		136TH AVE NE TEMPORARY SIGNAL PLANS
8.34		136TH AVE NE TEMPORARY SIGNAL DETAILS
8.35		160TH AVE NE TEMPORARY SIGNAL PLANS
8.36		160TH AVE NE TEMPORARY SIGNAL DETAILS
8.37		WETLAND/SHEWAL CONCEPTUAL MITIGATION
9.01		WOODIN CREEK MITIGATION CONCEPTS
8.37		WATER MAIN REPLACEMENT SHEETS
WI-1W16		

NO.	REVISION	DATE	BY	OR
1				
2				
3				
4				
5				

CALL BEFORE YOU DIG
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PRELIMINARY D

CITY OF WOODINVILLE

CITY OF WOODINVILLE
17301 134th AVE NE
WOODINVILLE, WA 98072
PHONE (425) 469-2300
FAX (425) 468-2300

WOODINVILLE-DUVAL
ROAD WIDENING PROJECT

CITY OF WOODINVILLE
DEVELOPMENT SERVICES

RECEIVED
NOV 29 2011

APPROVED FOR CONSTRUCTION

PROJECT MANAGER
RACHEL E. SPERA, P.E.

PUBLIC WORKS DIRECTOR
THOMAS E. HANSEN, P.E.

CITY MANAGER
RICHARD A. LEAHY

MAYOR
BERNIE TALMAS

DEPUTY MAYOR
JEFF QUACKMAN

COUNCIL MEMBERS
ART FREGLER
PAULETTE BAUMAN
SCOTT HAGEMAN
SUSAN BOUNDY-SAUNDERS
UZ ASPEN

COVER SHEET
VICINITY MAP
AND INDEX

DATE: _____

DESIGNED BY: _____

DRAWN BY: _____

CHECKED BY: _____

DATE: _____

DATE	BY	REVISION



10230 ne points drive, suite 400 • kirkland, washington 98033
(425) 822-4446 • fax (425) 827-9577
www.otak.com

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January 27, 2012

Erin Martindale
City of Woodinville
17301 133rd Avenue NE
Woodinville, Washington 98072

Re: Woodinville-Duvall Road Widening Project—Otak Project No. 31423

Dear Ms. Martindale:

I am writing on behalf of the City of Woodinville Engineering Department in response to the City's SEPA review comments dated January 12, 2012 for the above referenced project. Our responses to the City's SEPA review comments are as follows.

PLANNING

1. *Please provide a restoration plan for those critical area or buffers directly impacted by construction. Only native species may be planted within the critical area or buffer.*

RESPONSE – The landscape plans will be revised to show restoration in these areas and these revisions will be included in the next plan submittal.

2. *In light of comment #1, Planning understands that the mitigation work at Woodin Creek includes 600 square feet of mitigation for direct impacts to Wetlands 3 and 4, as well as in-stream work to mitigate not changing a culvert on Cold Creek, per WDFW requirements. WMC 21.24.360 allows for the filling of Wetlands 3 and 4. The total size of these wetlands is 570 square feet, and if they were filled, a total of 855 square feet of mitigation would be required. You may consider, as part of the project, filling Wetlands 3 and 4, with the appropriate documentation required by City Code, and expanding the mitigation work at Woodin Creek.*

RESPONSE – Wetlands 3 and 4, while limited in size and wetland function, do provide an important function at this location capturing and conveying hillside run-off. Since we need to maintain some amount of a swale behind the sidewalk to capture this run-off, we have determined that additional fill of these wetlands would not benefit the project.

3. *The planting plan for the mitigation area is required to meet the City's Mitigation Guidelines (enclosed). The mitigation plan must include the requirements listed in guidelines, and meet the planting specifications.*

RESPONSE – The mitigation plan submitted previously is a conceptual level mitigation plan only. The intent of the submittal of the conceptual plan was to obtain approval for the proposed mitigation approach prior to completing the design. Once the City has approved the proposed mitigation approach, the plan will be advanced through to final design, incorporating the City's guidelines and specifications.

PUBLIC WORKS

1. *Item 7. – ENVIRONMENTAL HEALTH, Section b. NOISE: Night work on a limited basis for certain construction work. Project is predominantly residential area. Recommend obtaining a variance/exemption pertaining to the City's Noise Ordinance.*

RESPONSE – The City's Engineering Department and the designer are making a considerable effort to limit the amount and duration of impacts to the adjacent residential properties while minimizing delays to traffic on NE Woodinville-Duvall Road. Due to the limited right-of-way width and traffic volumes on NE Woodinville-Duvall, some overnight work will be necessary. The Woodinville Municipal Code appears to exempt this type of work from this requirement as it is a road construction project being administered by the City. If determined, the City's Engineering Department will obtain a noise variance. In addition, we will be meeting with all property owners adjacent to the project this spring to discuss impacts, obtain temporary construction permits where needed, and determine if there is support for additional night work to shorten the overall duration of construction.

2. *Item 16. – UTILITIES, Section b. Recommend distinguishing what agency is performing the relocation work for each utility. Unclear that the City is performing the construction work on behalf of Woodinville Water District for the replacement of the existing 8-inch AC water main. What agency is relocating/adjusting the PSE gas main and valves?*

RESPONSE – It is not known at this time if Woodinville Water District's relocation of the 8-inch water main will be completed separately prior to the road construction or as part of the City's road project. Other work to be completed by others prior to construction includes relocation of portions of the existing gas main by Puget Sound Energy and relocation/consolidation of the existing overhead utilities by Puget Sound Energy, Comcast, and Frontier.

3. *Geotechnical Engineering Report, page 11 (Fill Walls-General): "This will result in excavations that will extend beyond the current right-of-way". How is this being handled? Are homeowners that are fronting the placement of the walls aware of the potential impacts of the excavation limits?*

January 27, 2012

Erin Martindale
Woodinville-Duwall Road Widening Project

RESPONSE – As noted above, the City’s Engineering Department and our designer will be meeting with all property owners adjacent to the project this spring to discuss impacts and obtain temporary construction permits where needed. These discussions will include wall locations and impacts, driveway impacts and grading, and any tree removal that is recommended outside the right-of-way due to wall and grading impacts. Prior to these one-on-one property owner meetings, the City previously held two public meetings, staked right-of-way limits, and sent multiple mailers/letters to adjacent property owners as part of this coordination process.

4. *Geotechnical Engineering Report, page 17 (Concrete Block Retaining Walls): “Several of the explorations disclosed loose and/or organic soils which would be inadequate for the support of the walls, in our opinion. It is currently expected that additional field exploration would be required in terms of better defining wall subgrade conditions and the need for subgrade improvement.” Has this been or is currently being addressed in the design phase? Recommend supporting documents to be submitted for the SEPA file.*

RESPONSE – Additional field exploration was recently completed in these areas. The final Geotechnical report will include the findings and recommendations resulting from this additional field exploration.

FIRE/BUILDING

1. *There is no mention on the plans for the project conforming with Ordinance 232, the adopted 1999 Transportation Infrastructure Standards and Specifications handbook.*

RESPONSE – The roadway section for this project was previously selected by the Woodinville City Council following a considerable community involvement effort which included multiple council meeting discussions, two public meetings, and multiple mailers/letters to adjacent property owners. The roadway section selected does vary from the adopted standards due to right-of-way and project funding constraints. In addition, since this project has been awarded TIB funds for construction, the project has been designed to meet the current WSDOT standard details and specifications in order to satisfy funding requirements.

2. *There is no deviation from standards paperwork located within the permit documents.*

RESPONSE – As discussed in the response to Planning Comment #1 above, the roadway section for this project was previously selected by the Woodinville City Council following a considerable community involvement effort which included multiple council meeting discussions, two public meetings, and multiple mailers/letters to adjacent property owners. The Plans and Specifications for this project will be approved by the City’s Public Works Director prior to construction.

Erin Martindale
Woodinville-Duwall Road Widening Project

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January 27, 2012
33

3. *The demolition drawings show trees being removed beyond the right of way limits in many areas yet the supporting paperwork does not detail how that can occur.*

RESPONSE - As noted above, the City's Engineering Department and our designer will be meeting with all property owners adjacent to the project this spring to discuss impacts and obtain temporary construction permits where needed. These discussions will include wall locations and impacts, driveway impacts and grading, and any tree removal that is recommended outside the right-of-way due to wall and grading impacts.

4. *Engineering for the soldier pile wall has not been included within these drawings.*

RESPONSE - Calculations for the soldier pile walls will be submitted to the City with the next plan submittal. The calculations for the modular block walls, however, will be submitted by the Contractor as part of the construction submittal requirements.

5. *There are no ADA compliance construction details on these plans.*

RESPONSE - All ADA ramps will be constructed per the most current WSDOT Standard Plans at the time of construction. The WSDOT Standard Plans are referenced on plan sheet 3.20 and these details are included in the appendices of the project specifications.

AGENCY(S) COMMENTS

Karen Walter, Muckleshoot Tribe of Indians

1. Water Typing

"We are concerned that the affected sections of Cold Creek may not be correctly classified as Type 4, non-fish bearing waters. According to Table 8 from the Wetland and Stream Report, all four reaches within the project area are classified by the City as Type 4, non-fish bearing waters. The Wetland and Stream Report notes that the WDNR classifies Reaches 2, 3, and 4 of Cold Creek as Type F waters. What is the City's basis for the Type 4 classification?"

There is nothing in the Wetlands and Streams Report that verifies the classification as no physical measurements were taken due to dry stream conditions. We recommend that the stream be reassessed to determine if it meets the physical criteria for presumed fish use based on WAC 222-16-031, which is likely what WDNR used to make their determination. Furthermore, with an identified fish passage barrier culvert at 167th Avenue NE (described in Table 8 of the Wetland and Stream Report), the stream upstream of this culvert should be assessed to determine its average bankfull width in at least six locations where it is unconfined by human built structures, as well as the stream gradient. If the results of the new survey provide data to show that project area portion of Cold Creek's bankfull width is at least 2 feet and the stream gradient is 16% or less, then these stream sections would

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Woodinville-Duvall Road Widening Project

meet the physical criteria as presumed fish habitat. It should also be noted that intermittent streams can provide Coho salmon with habitat (see attached paper)"

RESPONSE – See Technical Memo dated January 27, 2012 attached.

2. Project Area Culverts

"If any portion of Cold Creek in the project area is determined to meet the physical criteria for presumed fish use based on WAC 222-16-031 described above, then the culverts conveying those portions of the stream need to be assessed for their fish passage status using WDFW's Barrier Assessment (see <http://wdfw.wa.gov/publications/pub.php?id=00061>).

Any culvert that is determined to convey Cold Creek, with presumed fish habitat from the new assessment, and is a barrier should be fixed as part of the project. It appears that NE Woodinville-Duvall Road near 160th Avenue NE and the 167th Avenue NE crossing just south of NE Woodinville-Duvall Road would be the two culverts that should be assessed based on the outcome of item 1. The 167th Avenue NE crossing may have already been assessed. According to Chapter 5, Impact and Mitigation, it was determined that the 167th Avenue NE culvert is a fish passage barrier and WDFW would require replacement of this culvert with a fish passable culvert or some alternative mitigation. The report continues to indicate that the culvert cannot be replaced with a fish passable culvert using any of the three design methods prescribed by WDFW because of utilities and site constraints. We need additional information regarding these constraints. For example, why can't the natural gas utilities at the 167th Avenue NE crossing site be relocated? Many of the culvert projects that improve fish passage have this type of constraint and can find a way to relocate utilities to accommodate the new culvert. One example is the SR 520 road widening project in Medina where almost all of the remaining stream crossing culverts in the project area will be made fish passable using the WDFW's stream-simulation design method. SR 520 is considerable larger than this road project, yet somehow WSDOT was able to design fish passable culverts. In summary, we need more details regarding the design constraints for not constructing fish passable culverts in the project area.

We also need more information regarding the proposed mitigation in lieu of fish passage culverts. The CD you provided included a single drawing of what appears to be a log weir proposed for Woodin Creek. It is not clear what this mitigation is for, where the mitigation is proposed, and how the log itself will not become a fish passage barrier in the future. Additional information is needed regarding this mitigation too."

RESPONSE – See Technical Memo dated January 27, 2012 attached.

Mike Unsen, King County Metro Transit

"Metro operates transit service through the segment of NE Woodinville-Duvall Road impacted by the project. Three pairs of zones (bus stops) are located within the project area at the intersections of: 156th Avenue NE; 160th Avenue NE, and 168th Avenue NE. This road widening project provides the opportunity to improve

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pedestrian safety and transit access by replacing the existing passenger facilities with new concrete landing pads that comply with Metro's design requirements. We request that Metro be consulted during the design and construction process to review plans and provide design guidance including Metro's standard construction details as well as to coordinate impacts on transit service during construction."

RESPONSE – The City's Engineering Department and designer has on-going coordination efforts with all utility and service providers. This will include submittal and coordination meetings with KC Metro Transit. The existing pairs of zones have been shown on the project plans and the plans and the details of the landings will be included in the final construction plans.

Several comments above require revisions to the project plans which are to be completed following property owner coordination meetings this spring. We are requesting that the City proceed with their review of the SEPA and issuance of the notice of determination with the condition that these items be submitted prior to permit issuance.

Please contact me at (425) 739-4242 or by email at windi.shapley@otak.com if you have any questions or concerns.

Sincerely,

Otak, Incorporated



Windi A. Shapley, PE
Project Engineer

Attachment

cc: Tom Hansen, City of Woodinville
Rachel Speer, City of Woodinville

Technical Memorandum

EXHIBIT 7
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33



10230 NE Points Drive
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Kirkland, WA 98033
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Fax (425) 827-9577

To: City of Woodinville
From: Kevin O'Brien
Copies: Project File, Nico Vanderhorst, Windi Shapley
Date: January 27, 2012
Subject: Woodinville-Duvall Road Widening Project
Project No.: 31423

This technical memorandum presents responses to comments received from Karen Walters, watershed and land use team leader for the Muckleshoot Indian Tribe, regarding the proposed Woodinville-Duvall Road widening project for the City of Woodinville. Comments were received in an email dated January 3, 2012 and addressed to Erin Martindale at the City and Jamie Bails at WDFW.

There were two comments received from Ms. Walters in her January 3, 2012 email, comprising concerns about stream typing/characterization of the existing stream system in the project vicinity—locally known as Cold Creek—and the culverts that convey the stream system in the project area. The comments are reprinted below, along with responses that address the comments.

1. Water Typing

"We are concerned that the affected sections of Cold Creek may not be correctly classified as Type 4, non-fish bearing waters. According to Table 8 from the Wetland and Stream Report, all four reaches within the project area are classified by the City as Type 4, non-fish bearing waters. The Wetland and Stream Report notes that the WDNR classifies Reaches 2, 3, and 4 of Cold Creek as Type F waters. What is the City's basis for the Type 4 classification?"

There is nothing in the Wetlands and Streams Report that verifies the classification as no physical measurements were taken due to dry stream conditions. We recommend that the stream be reassessed to determine if it meets the physical criteria for presumed fish use based on WAC 222-16-031, which is likely what WDNR used to make their determination. Furthermore, with an identified fish passage barrier culvert at 167th Avenue NE (described in Table 8 of the Wetland and Stream Report), the stream upstream of this culvert should be assessed to determine its average bankfull width in at least six locations where it is unconfined by human built structures, as well as the stream gradient. If the results of the new survey provide data to show that project area portion of Cold Creek's bankfull width is at least 2 feet and the stream

gradient is 16% or less, then these stream sections would meet the physical criteria as presumed fish habitat. It should also be noted that intermittent streams can provide coho salmon with habitat (see attached paper)"

RESPONSE – The City of Woodinville classifies the Cold Creek system in the project vicinity as Type 4 (intermittent, nonfish bearing) waters, based upon the seasonal nature of the stream, lack of fish use in the system when surface flow is present, and the year-round discontinuity in habitat/surface water connectivity with downstream portions of the Cold Creek system in which fish presence has been established. The Cold Creek system in the project vicinity is completely dry during the summer months, and is isolated from downstream portions of the system year-round west of 168th Place NE, due to complete loss of surface flow through infiltration into wetland and forest soils throughout the year. The Cold Creek system in the vicinity of the project and Lake Leota, therefore, is completely isolated from any fish that are present in the lower reaches of the system to the east of 168th Place NE, and is inaccessible to anadromous salmonids throughout the year. No native resident salmonids are associated with Lake Leota, and thus no source population for salmonids is present in the project vicinity. Although non-native warmwater fish species are documented as occurring in Lake Leota (WDFW, 2006—including brown bullhead, yellow perch, largemouth bass, bluegill, and black crappie—there is no evidence of warmwater fish use of the stream system in the project vicinity during the portions of the year when surface flow is present. Ginger Holser, biologist with the Washington Department of Fish and Wildlife (WDFW), confirmed the typing of the Cold Creek system as a seasonal, nonfish bearing stream during a site visit conducted in November 2010.

The fieldwork to investigate the Cold Creek system in the project vicinity was conducted during July and September of 2009, when the entire system was dry and showed no presence of surface water anywhere along its length. The system does not contain residual pools or other aquatic refugia with remnant surface water during the dry months. Bankfull width and depth measurements were taken for the Cold Creek reaches during the fieldwork, and generally the system averaged a bankfull width of 4-5 feet, and a bankfull depth of 0.75-1.5 feet. Occasional and rare deeper pool areas were associated with culvert outfalls and scour—these pool areas displayed bankfull depths ranging from 1-2 feet. Significant portions of the system showed little or no channelization, with surface water (when present) sheet flowing through the system, woody vegetation rooted in the flow path, and the aquatic habitat more closely conforming to wetland conditions rather than fluvial stream habitat. A subsequent visit during the wet winter months, conducted on January 25, 2012, confirmed these bankfull measurements and wetland conditions during a time when surface water was in the system and Cold Creek appeared to be flowing near bankfull conditions. Gradients associated with

the Cold Creek system in the project vicinity tend to be relatively low, and were generally measured at 1% or less.

Although the Cold Creek system met the Washington Administrative Code's (WAC) physical criteria for presumed fish habitat, the seasonal flow regime, lack of native fish source populations, natural and persistent barriers downstream that preclude migration of fish upstream and subsequent colonization, and lack of residual pools, impounded wetlands, or other surface water refugia for fish provide evidence that the Cold Creek stream system in the project vicinity does not support fish presence. Fieldwork and observed conditions during the dry summer months and wet winter period confirmed the City of Woodinville's stream typing of Cold Creek in the project vicinity as a Type 4 seasonal/intermittent, nonfish bearing stream.

2. Project Area Culverts

"If any portion of Cold Creek in the project area is determined to meet the physical criteria for presumed fish use based on WAC 222-16-031 described above, then the culverts conveying those portions of the stream need to be assessed for their fish passage status using WDFW's Barrier Assessment (see <http://wdfw.wa.gov/publications/pub.php?id=00061>).

Any culvert that is determined to convey Cold Creek, with presumed fish habitat from the new assessment, and is a barrier should be fixed as part of the project. It appears that NE Woodinville-Duvall Road near 160th Avenue NE and the 167th Avenue NE crossing just south of NE Woodinville-Duvall Road would be the two culverts that should be assessed based on the outcome of item 1. The 167th Avenue NE crossing may have already been assessed. According to Chapter 5, Impact and Mitigation, it was determined that the 167th Avenue NE culvert is a fish passage barrier and WDFW would require replacement of this culvert with a fish passable culvert or some alternative mitigation. The report continues to indicate that the culvert cannot be replaced with a fish passable culvert using any of the three design methods prescribed by WDFW because of utilities and site constraints. We need additional information regarding these constraints. For example, why can't the natural gas utilities at the 167th Avenue NE crossing site be relocated? Many of the culvert projects that improve fish passage have this type of constraint and can find a way to relocate utilities to accommodate the new culvert. One example is the SR 520 road widening project in Medina where almost all of the remaining stream crossing culverts in the project area will be made fish passable using the WDFW's stream-simulation design method. SR 520 is considerable larger than this road project, yet somehow WSDOT was able to design fish passable culverts. In summary, we need more details regarding the design constraints for not constructing fish passable culverts in the project area.

We also need more information regarding the proposed mitigation in lieu of fish passage culverts. The CD you provided included a single drawing of what appears to be a log weir proposed for Woodin Creek. It is not clear what this mitigation is for, where the mitigation is proposed, and how the log itself will not become a fish passage barrier in the future. Additional information is needed regarding this mitigation too."

RESPONSE – The culvert crossing Woodinville-Duvall Road near 160th Avenue NE conveys a seasonal, nonfish bearing stream. Neither WDFW nor the Washington Department of Natural Resources (DNR) maps or types the Cold Creek stream system in the vicinity of this culvert. The City of Woodinville maps the Cold Creek system associated with the 160th Avenue NE culvert as a Type 4 (intermittent, nonfish bearing) system, and Ginger Holser, biologist with WDFW, confirmed the Type 4 rating for the system at the Woodinville-Duvall Road culvert near 160th Avenue NE during a field visit conducted in November 2010. Due to the nonfish bearing nature of the reaches of Cold Creek associated with the Woodinville-Duvall Road culvert near 160th Avenue NE, this culvert was not assessed for fish passage.

The Woodinville-Duvall Road culvert near 167th Avenue NE was assessed for fish passage, per WDFW protocols (WDFW, 2009). A Level A barrier analysis, conducted during January 2012 when flow in the stream system was present, indicated that the culvert was a fish passage barrier based on culvert conditions, lack of backwatering, and gradient. Although the Cold Creek stream system in the project vicinity is a nonfish bearing system, this culvert had previously been acknowledged as a potential fish passage barrier during project design, and off-site conceptual mitigation was proposed in a memo prepared by Otak in July 2011. Replacement of the Woodinville-Duvall Road culvert near 167th Avenue NE with a fish passable culvert, per WDFW standards, was evaluated during project design. A hydraulic design option was explored, but appropriate culvert sizing and flow velocities meeting the design criteria were not possible. Likewise, a stream simulation design option was considered, but rejected due to the presence of a regular and a high pressure gas main in the roadway, and the physical infeasibility and exorbitant cost of relocating these utilities. Because the Woodinville-Duvall Road culvert near 167th Avenue NE could not be replaced with a fish passable culvert, off-site mitigation was proposed at Woodin Creek Park, near the Sammamish River. Proposed mitigation involves modification of an existing channel-spanning bed log that appears to impose a local gradient barrier to fish. The existing bed log will be modified with a low flow notch, to reduce the hydraulic jump that the log currently presents. Additional minor channel adjustments, installation of stream gravel, and planting of native riparian vegetation in the mitigation site vicinity is proposed to provide stabilization for the bed log and local stream and riparian habitat enhancement. Additional details will be provided as the proposed conceptual mitigation is further evaluated and designed.

Please feel free to contact me if you have any questions or concerns. In addition, we would be happy to meet with Ms. Walters and the City on-site to discuss in further details our findings and walk the project site.

Sincerely,



Kevin O'Brien, Ph.D.
Senior Wildlife Biologist
Otak, Inc.

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Kirkland, WA 98033
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References

Washington Department of Fish and Wildlife. 2005. Warmwater Fishes of Washington. Report #FM 93-9. Washington Department of Fish and Wildlife, Angler Education Program. Olympia, Washington.

Washington Department of Fish and Wildlife. 2009. Fish Passage and Surface Water Diversion Screening Assessment and Prioritization Manual. Washington Department of Fish and Wildlife. Olympia, Washington.