

WAC 197-11-960 Environmental Checklist

ENVIRONMENTAL CHECKLIST

Purpose of checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable: Deschutes Watershed Center
2. Name of applicant: Washington State Department of Fish and Wildlife (WDFW)
3. Address and phone number of applicant and contact person:
Mr. Steve Wright, 360-902-8378
Engineering Division
600 Capitol Way North
Olympia, WA 98501-1091

4. Date checklist prepared: November 8, 2004

5. Agency requesting checklist: N/A

6. Proposed timing or schedule (including phasing, if applicable):

Project Planning: Environmental Compliance/permitting/design- current through June 2006

Phase 1: Construction of hatchery portion – groundbreaking May/June 2007

- Hatchery infrastructure at Pioneer Park
- Hatchery infrastructure at Tumwater Falls and Fish Ladder(s)

Phase 2: Construction of Watershed Center – 2008/2009

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes. It is anticipated that project features associated with the Watershed Center will occur for a number of years. The Deschutes Watershed Center is envisioned to provide community educational facilities, including such features as; classroom learning, general community meeting areas, interpretive displays, interpretive trails and plantings at the park, and a watershed trail along the Deschutes River. An initial strategy for developing community support for the Deschutes Watershed Center has been the creation of a nonprofit, community-based organization called *Friends of Deschutes Watershed Center* (FDWC). The FDWC interim board and officers are representatives of organizations that have demonstrated a commitment to the project, including the City of Tumwater, Olympia-Tumwater Foundation, Squaxin Island Tribe, Trout Unlimited, Puget Sound Anglers, Northwest Indian Fisheries Commission, and WDFW. Interim elected officers of the organization are representatives of the City, the Tribe, and Trout Unlimited. The goal of the FDWC is to promote watershed stewardship and educational opportunities within the Deschutes River watershed, and surrounding communities. This group will work to obtain private sponsorship for educational displays, interpretive signage and development of the Watershed Center. This project will provide a building for educational purposes, while internal furnishings and education supplies/materials will be obtained over time through funding generated by the FDWC. Additionally, the draft Master Plan states WDFW's support for an interpretive trail, which is envisioned to provide pedestrian access along the Deschutes River corridor from Pioneer Park to planned pedestrian trails from Tumwater Falls Park to Budd Inlet. However, the trail is not a formal component of this project, and thus will not be covered under this SEPA Checklist nor permitting associated with the watershed center facilities.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

- Deschutes Master Plan Part 1 – Initial Site Assessment. January 2002. Prepared for WDFW. Prepared by FishPro, Inc.
- A Master Plan for the Deschutes Watershed Center. December 2002 (draft). Prepared for WDFW. Prepared by FishPro, Inc.
- Wetland Delineation Report. June 2004. Prepared for WDFW through FishPro/HDR Engineering. Prepared by Nisqually Environmental.
- Cultural Resources Assessment. June 2004. Prepared for WDFW through FishPro/HDR Engineering. Prepared by Western Shore Heritage Services, Inc.
- Floodplain Delineation and Detailed Flood Study. Prepared for WDFW, August 2004 by FishPro/HDR Engineering.

In addition, the project has undergone preliminary review with City, County, State, Tribal, and community entities including:

1. Department of Ecology – effluent discharge issues and potential discharge limitations; National Pollutant Discharge Elimination System (NPDES) permitting requirements; water right permitting; ordinary high water mark delineation; and WDFW participation in on-going water quality studies on the Deschutes River
 2. City of Tumwater, Thurston County, and Federal Emergency Management Agency (FEMA) - Floodplain fill and compensatory flood storage at Pioneer Park and Tumwater Falls Park
 3. City of Tumwater and Department of Ecology - wetland buffer impacts. Wetland buffers are areas adjacent to wetlands that serve as buffer zones to provide increased protection of wetlands in their transitional zone to uplands. All buffers are measured from the wetland boundary as surveyed in the field. The width of the wetland buffer zone shall be determined according to wetland category and the proposed land use.
 4. U.S. Army Corps of Engineers (COE) - In-water work activities (intake placement) and NEPA requirements
 5. Squaxin Island Tribe and Washington State Office of Archaeology and Historic Preservation - Cultural resources assessment and review; submittal of site assessment report
 6. Squaxin Island Tribe - Overview of the proposed project and tribal support of project
 7. Washington State Legislature – Natural Resources sub-committee (9/21/04) Presentation of project status
 8. City of Tumwater City Council - Presentations of project overview
 9. City of Tumwater – Pre-application meeting for permitting requirements and follow-up meeting on project status
 10. Stream Team - discussions regarding the Deschutes Watershed Center educational center
9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

Pioneer Park: The Pioneer Park site is owned by the City of Tumwater and is utilized as a recreational facility with baseball and soccer fields, and walking trails. Water right applications for drinking water (ground water) sources are currently submitted by the City of Tumwater for this location.

Tumwater Falls Park: None known.

10. List any government approvals or permits that will be needed for your proposal, if known.

City of Tumwater Permits and Approvals

- a. Wetland and wetland buffer permit
- b. Critical Areas permits
 1. Fish and Wildlife Protection Plan
 2. Geologically Hazardous areas report
 3. Tree/vegetation removal permit
- c. Shoreline Substantial Development Permit
- d. Floodplain permit
- e. Stormwater Drainage and Erosion Control Plan
- f. Grading permit
- g. Building permit

- h. Land clearing permit
- i. Certificate of Appropriateness
- j. Facility must meet accessibility requirements
- k. Zoning Text Amendments for Aquaculture use at Pioneer Park (currently zoned as open space) and Tumwater Falls Park (currently zoned as historic commercial)

Other Permits/Approvals

- a. 404 COE permit/Joint Aquatic Resources Permit Application for in-water work
- b. 401 water quality certification
- c. WDFW – Hydraulic Project Approval (HPA)
- d. Coastal Zone Management
- e. Section 106 of National Historic Preservation Act
- f. Endangered Species Act (ESA) issues: U.S. Fish and Wildlife Service (USFWS)/ NOAA Fisheries – this project will require a Biological Assessment
- g. NPDES Stormwater Permit for construction actions may be necessary.
- h. NPDES Permit for Aquaculture Facility.
- i. NEPA compliance document. The COE will prepare an Environmental Assessment.
- j. FEMA permit or approval (potentially apply for a Letter of Map Revision – LOMAR)

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

WDFW proposes to relocate Chinook salmon and steelhead trout production currently occurring in Percival Cove and Capitol Lake to a new facility at Pioneer Park (the Deschutes Watershed Center) and to an upgraded facility at the Tumwater Falls Park (upgrade adult holding, juvenile rearing capacity and install pollution control system). Relocation of this production is expected to have the following benefits:

- Transfer of fish between basins could be halted, thereby complying with the Co-Managers Fish Health Policy
- Water quality in Percival Cove and Capitol Lake would be improved, thereby satisfying a request by the Department of Ecology that WDFW cease fish rearing operations in Percival Cove by May 30, 2007

Pioneer Park Site

The Pioneer Park site is located on the north side of the Deschutes River downstream of the Henderson Boulevard Bridge. The Pioneer Park site, to the south of the sports fields, is approximately 44 acres; the proposed project would utilize approximately 8.5 acres. Pioneer Park has existing City water and sewer hookups, access roads and public parking. Preliminary conversations with the City of Tumwater have taken place to discuss the use of potable water and sewer for public and staff bathroom facilities associated with this proposed project. The City has provided tentative approval for these uses. As the project moves forward in the design phase, future conversations with the City will be held to develop agreements and usage terms.

Facilities proposed for the Pioneer Park site include: hatchery building, maintenance building, Watershed Center building (future educational phase), six 10ftx100ft rearing ponds, four 20ftx145ft rearing ponds, one 40ftx200ft rearing pond, fish outlet channel, surface (river) water intake structure and associated pipeline, groundwater wells, headtank pumphouse, 0.5 acre steelhead trout/public fishing pond, expanded parking area, effluent treatment buildings (drum screen filtration), effluent clarifier pond, and engineered effluent treatment wetlands. The Pioneer Park site will incubate eggs and complete early rearing through release of Chinook salmon and steelhead trout. Additionally, this facility will provide juveniles for final rearing and release at the Tumwater Falls Park facility. Approximately 3,000,000 sub-yearling and 200,000 yearling Chinook salmon as well as 25,000 steelhead trout would be directly released from the Pioneer Park facility into the Deschutes River. The facility will utilize a maximum of 2.2 cubic feet per second (cfs) of groundwater and 21 cfs of surface water. Water usage for fish rearing will be returned to the Deschutes River within 30ft of the surface water withdrawal location. All facility water will be treated prior to discharge back into the Deschutes River in compliance with an individual NPDES permit. Rearing water will be routed to a primary treatment system, consisting of a disc filter that will remove phosphorus laden solids from the water. Backwash water used to remove the solids from the screens of the disc filter will be routed to a clarifier for settling. Solids may also be manually removed from the rearing units using a vacuum system. Vacuum cleaning water will be routed to the clarifier for settling. Decanted flow from the clarifier (estimated at less than 5% of total facility flow) will be routed to the engineered wetland polishing ponds for final treatment.

The Department of Ecology has generally considered the use of water for WDFW aquaculture facilities as non-consumptive if the water volume utilized is returned to the source of origin. Under Ecology's definition, water usage at the facility will likely be considered non-consumptive for the purpose of the water right. Evaporation and spillage from hatchery facilities is generally considered less than 2% of the total flow. This issue will be discussed further with the Department of Ecology in the water rights permitting phase of this project.

Tumwater Falls Park Site

The Tumwater Falls Park site is located on the Deschutes River at Tumwater Falls on Deschutes Way. The Park is owned by the Olympia-Tumwater Foundation, and WDFW currently has an easement for fishery operations within the park. The Tumwater Falls Park is approximately 16 acres, with WDFW currently utilizing 1.5 acres. Development of additional facilities would disturb no more than 0.5 acres. Existing park facilities at this location include: access roads, public parking, walking trails, picnic/play areas, restrooms and an Olympia/Tumwater Foundation office/shop building. Existing fish culture facilities at this site include: fish ladders, two adult holding ponds, spawning area, surface water intake and pump station, and an office/storage building. Currently, adult salmon are collected at this site, held until spawning and then eggs are collected and shipped to a number of hatcheries outside of the Deschutes watershed and health management zones. Juveniles are returned to the site for limited acclimation prior to release. Proposed new facilities include: two 19ftx153ft adult holding ponds with fish viewing windows, a new adult fish ladder connecting to the existing ladder at the falls, re-located surface water intake and pump station (to alleviate sedimentation and future phase trail access issues), effluent treatment clarifier, public viewing area, and possible remodel/relocation of the WDFW office to accommodate visitor usage. Proposed actions will also repair elements of three existing fish ladders, which are nearing the end of their lifespan. The proposed Tumwater Falls Park site will continue to collect and spawn returning hatchery-origin Chinook salmon (egg incubation will occur within health management zone at the proposed Pioneer Park facility), and acclimate and release Chinook salmon juveniles. Approximately 800,000 sub-yearling Chinook salmon would be released from the Tumwater Falls Park facility. The facility will utilize an existing water right for a surface water supply of 54 cfs (9 cfs for rearing and 45 cfs for operation of the fish ladders). Water

usage for fish rearing will be non-consumptive and will be returned to the Deschutes River through the fish ladders.

The Pioneer Park and Tumwater Falls facilities will only collect and rear fish of hatchery origin, and the Co-Managers Fish Health Policy that regulates movements of eggs and fish between management zones will be adhered to. The release of 4.025 million fish in the Deschutes River is the current production program and the proposed project does not increase the number of fish released within the Deschutes River.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

Pioneer Park is located at 5749 Henderson Blvd SE Tumwater, WA 98501. Sections 1, 2, 35 and 36; Township 17 and 18N, Range 2W. Three parcels, owned by the City of Tumwater, may be impacted by the proposed project, including parcels 12701210201, 12702110100, and 12701220200.

Tumwater Falls Park is located at Deschutes Way and C Street. 114 Deschutes Way SW, Tumwater, WA 98501. Section 26 Township 18N, Range 2W. Parcel number: 09470001000.

See attached vicinity map and site plans. Please note that the location of all structures on the site plan is approximate.

B. ENVIRONMENTAL ELEMENTS

1. **Earth**

- a. General description of the site (circle one): **Flat**, rolling, hilly, steep slopes, mountainous, other
- b. What is the steepest slope on the site (approximate percent slope)?

Pioneer Park: The site is generally flat with no steep slopes. The 6-8 foot high banks of the Deschutes River at the proposed intake and outfall location are currently armored with riprap and almost vertical. The proposed project will not alter the current condition or contribute to erosion of the armored bank. **Tumwater Falls Park:** This site is flat with no steep slopes with the exception of the armored banks along the Deschutes River.

- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Pioneer Park: As mapped by NRCS: 41 Godfrey silty clay loam (hydric), 84 Pilchuck loamy sand, 89 Puyallup silt loam, 115 Sultan silt loam.

Tumwater Falls Park: clay, silt, sand, gravel, bedrock basalt and peat. Depth to bedrock in the area ranges from 4.5 ft to 15.5 ft. Soils as mapped by NRCS (Pringle 1990) 46 Indianola loamy sand and 48 Indianola loamy sand.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Pioneer Park: Preliminary geotechnical investigations (FishPro 2002) have indicated that the site soils are likely subject to liquefaction during earthquake activity. City of Tumwater personnel have verified that this area is within a geologic hazard area that is subject to liquefaction.

Tumwater Falls Park: Soft clay and peat occur on the western edge of the Deschutes River. These soils are moisture sensitive and are prone to settlement when loaded.

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Pioneer Park: It is estimated that approximately 3,000 cubic yards (cy) of fill will be added to the site (one to two feet of fill over an area measuring roughly 130ft by 600ft). Fill will be composed of structural fill material. Fill will be an approved source, to be identified following geotechnical studies to be conducted on site. If possible, fill may be supplemented with on-site materials that are excavated during construction.

Grading will occur to level the site and prepare the area for construction. Approximately 8.4 acres of upland grasslands dominated by tall fescue would be disturbed during construction activities, and approximately 0.03 acres of riparian forest would be disturbed during pipeline and surface water intake installation.

Tumwater Falls Park: No fill (excluding the intake structure) is anticipated to be necessary for improvements at Tumwater Falls. Raceways will be sited outside of the floodway and the 100 year floodplain (if possible).

Grading will occur on site to prepare the area for construction. The disturbed area is estimated to not exceed 0.5 acres.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

There is a potential for erosion to occur during land clearing and construction activities as soils will be exposed. The extent of erosion is anticipated to be minimal as construction areas are flat and Best Management Practices (BMPs) such as silt fencing, placement of straw bales, and protection of exposed soils will be implemented.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Pioneer Park: Approximately 1.1 acres of impervious surface will be added to the site due to raceways, buildings, parking lot additions, and a raceway access road.

Tumwater Falls Park: Approximately 0.23 acres of impervious surface will be added to the site.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Pioneer Park and Tumwater Falls Park: Use of silt fencing, placement of straw bales, and protection of exposed soils would be implemented during construction. Disturbed soils will be re-vegetated following construction. Since public education is an important feature of this project, native plant demonstration areas may be incorporated into the landscape plan. Topsoil removed during construction would be stockpiled for use elsewhere on the site. Erosion potential would be reduced during construction by directing surface water runoff to on-site stormwater facilities. Erosion control plans and maintenance guidelines for sediment removal facilities would be submitted with City of Tumwater in clearing, filling and grading permits. A drainage plan will be prepared in accordance with City of Tumwater guidelines, which follow the Drainage Design and Erosion Control Manual for the Thurston Region, and the Department of Ecology’s 2001 Stormwater Management Manual (SMM) for Western Washington. The project will also include a stormwater pollution prevention plan.

The City of Tumwater Municipal Zoning Code Chapter 18.38 precludes construction of most structures or placement of fill within the 100-year floodplain, but does allow construction of aquaculture facilities in the floodplain. Results of the floodplain analysis have determined that the entire project site is within the 100-year floodplain. For additional information refer to the “*Deschutes River Floodplain Analysis: Deschutes Watershed Center*” (HDR 2004) prepared for this project. Part 18.38.080 of the code requires two feet of vertical space between the lowest floor and the base flood elevation. Base floors of all inhabited buildings will be elevated to provide the two foot vertical separation. Part 15.28 of the City of Tumwater Municipal Code requires that structures designed on the floodplain be flood-proofed in accordance with the COE’s Floodproofing Regulations and the other requirements cited in the code. In compliance with this code, all structures will be flood-proofed, where required.

Part 18.38.080 and Part 15.28.110 of the City of Tumwater Municipal Code requires that floodplain fill may not “increase flood hazards”. All City of Tumwater municipal codes addressing floodplain impacts and floodplain fill will be met. Compensatory storage for mitigation of floodplain impacts will be required and determined by the City of Tumwater. Impacts will likely require a 1:1 compensatory mitigation of any 100-year floodplain fill by excavation of additional floodplain storage. Such compensatory mitigation will be provided on-site within the 100-year regulatory floodplain of Pioneer Park, as determined through the recent floodplain analysis (HDR 2004, provided upon request). A variety of additional methods by which to compensate for lost storage may also be incorporated into the final design. These include:

- Lowering or regrading portions of the site to allow for additional flood storage;
- Minimizing the site footprint to the extent possible;
- Elevating some buildings (educational, hatchery and maintenance building) on pilings or stilts so that flood storage is still possible beneath buildings;
- Avoiding the use of fill wherever possible (i.e.: between raceways);
- Addition of flood storage ponds or vegetated swales; and
- Excavating wetland buffers to create larger contiguous on-site wetland systems.

The raceways will be placed above the 100-year floodplain to minimize risk to fish rearing operations. Based on observations at existing WDFW hatcheries, raceways are typically self-settling and fill with sediments during flood events. Sediments are not flushed from raceways during flooding and therefore will not pose a threat to Deschutes River water quality. Engineered wetland treatment areas, proposed as nutrient removal units, contain few, if any solids. Cleaning waste water that has already gone through two levels of treatment will be routed to these areas,

not solids. Therefore, adverse impacts to water quality of the Deschutes River are not anticipated due to flooding.

Thurston County Code 14.38 provides specific requirements governing development in floodplains. Thurston County will be consulted through the SEPA process to determine if the County will enforce any of the code provisions, or if the County will require compliance with the floodplain code as part of their environmental review.

FEMA regulates fill placed within the floodway. To comply with this regulation, the final project design will be planned with minimal placement of fill within the floodway (limited to the intake structure and discharge pipeline). Additionally, all in-water work adjacent to the floodway will be regulated by the COE.

Finally, building design and construction must adhere to International Building Code earthquake requirements.

2. Air

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Pioneer Park and Tumwater Falls Park: Temporary, localized increases in atmospheric concentrations of carbon monoxide, nitrogen dioxide, volatile organic compounds, and particulate matter, the typical pollutants in engine exhaust, would result from construction vehicle use, diesel generators, and other construction equipment. The scale of construction activities would be considered minor and emission would be unlikely to exceed the boundaries of the construction site.

During project construction, suspended particulate emissions (dust) would occur, particularly during excavating and grading. Particulates would also result from emissions from gasoline and diesel-fired engines. Dust could also be created from construction-related truck traffic entering the site. The impacted area would be minor and PM-10 (greater than 10 microns) generation would be unlikely to exceed air quality standards. The effects of construction activities on air quality would be temporary and would not lead to permanent degradation of air quality in the site vicinity.

Post construction emissions would be limited to engine exhaust from hatchery vehicles and site visitors. Hatchery staff vehicular traffic is not anticipated to increase over the existing condition, and may decrease as haul distances between hatchery facilities will be substantially reduced with the fish being reared within the Deschutes watershed.

Odor generated from operational activities will be limited to periods of maintenance and cleaning of the clarifier ponds at the two sites. These ponds will be utilized to remove settleable solids (fish feces, feed particles and solids entering from the river). This material is concentrated within the clarifier. During maintenance events (approximately duration is three to four days, two times per year) the clarifier cell will be taken off-line and clarified water is drained into discharge pipelines.

Settled solids are allowed to dehydrate and then removed using a front-end loader or similar equipment. Solids from the clarifier will be disposed of at an approved sanitary landfill. This action would result in infrequent localized odor. Based on experience at other urban aquaculture facilities, and the proximity of the proposed facilities to adjacent properties, odor is not anticipated to be a problem for surrounding residences.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Pioneer Park and Tumwater Falls Park: None.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Pioneer Park and Tumwater Falls Park: Grading that causes dust during dry periods will be mitigated by watering or covering exposed soils and minimizing the duration and extent of exposure. Potential for tracking dirt and dust off-site could be reduced by minimizing off-site trips and cleaning vehicles before they enter public streets.

3. Water

- a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Pioneer Park and Tumwater Falls Park: The Deschutes River flows adjacent to both project sites. This river flows into Capitol Lake and then enters Puget Sound near downtown Olympia and the 4th Avenue Bridge.

- 2) Will the project require any work over, in, or adjacent to (within 200 ft) the described waters? If yes, please describe and attach available plans.

The project will require work within the Deschutes River at both locations. Although Category II and III wetlands occur on-site, no work within wetlands is anticipated to occur. According to Mr. Chris Carlson, City of Tumwater Senior Planner, the proposed facilities would be considered low-intensity, requiring 100 foot, and 50 foot buffers for Category II and III wetlands, respectively. At Pioneer Park approximately 15,000 square ft of Category II wetland buffers would be impacted. At Tumwater Falls Park approximately 7,970 square ft of Category II wetland buffers would be impacted. The project will have no direct impacts to wetlands. In accordance with WDFW recommended mitigation policies, all wetland buffers will be avoided to the extent feasible. However, if wetland buffer impacts are unavoidable, there are several mitigation options: 1) wetland buffer averaging to reduce impacts to buffers, and 2) mitigation for impacts to wetland buffers through on-site enhancement. WDFW will abide by WDFW mitigation policies and mitigate per the City of Tumwater municipal code Chapter 16.28.

Pioneer Park: Proposed facilities within 200 ft of the river include: surface water intake and pump vault, fish outlet channel or pipe (also serves as the hatchery discharge channel), surface water head tank, a portion of the 40ft by 200ft rearing pond, and a foot trail replacing existing trails disrupted by the project. All of these facilities will be located in the southeast corner of the site.

Installation of the intake would require the placement of a cofferdam using plastic liner tarps, ecology blocks and washed gravels and associated dewatering structures to isolate the construction area. The total estimated length of cofferdam required at this site is approximately 100ft long by 10 to 15ft wide depending on the stage of the river during construction (width is typically 1.2-1.5 times the water depth for cofferdam). Portable pumps would maintain a dry work area. Pump discharge would be routed through an upland sediment basin prior to discharge into the Deschutes downstream of the construction site. Although fish passage would still be available, cofferdam placement would result in a temporary reduction in available habitat for fish that reside within the river or that are migrating upstream or downstream during the construction period. Diverted flow is not expected to affect water temperatures. Cofferdamming activities have a temporary effect on sedimentation but subsequent flows would have the ability to scour away light deposits. According to Waters (1995), most construction projects done essentially at a point on a stream, such as these projects, would have temporary effects and fish would generally repopulate quickly.

As previously mentioned (Section B.1.e), the Pioneer Park site is located entirely within the Deschutes River 100-year floodplain. Riverine wetland swales, often located in forested habitats with a herbaceous and shrubby understory, occur in depressed areas that are frequently subjected to river floodflow. These wetlands are hydrologically connected to the river, and are dominated by deciduous trees and shrubs. Several narrow emergent swales are located landward of upland habitat in areas that are topographically depressed compared to the surrounding landscape. These swales are primarily dominated by grasses that can occur both in wetlands and uplands, with reed canary grass occurring in patches throughout the swales.

Tumwater Falls Park: All proposed facilities would be located within 200 ft of the river. These include: improvements to the existing fish ladders, surface water intake, new adult fish ladder to new rearing ponds (connected to existing), raceway viewing area, two 19ft by 153ft raceways and effluent treatment facilities. In-water work to repair the existing fish ladders would require the use of a cofferdam. Impacts related to the use of the cofferdam would be similar to those described for intake installation at the Pioneer Park site (above).

Wetlands at the Tumwater Falls site are limited to the riparian fringe, in areas that are frequently subjected to floodflow. These areas contain scattered willows and thick wetland soils comprised of alluvial deposition. Little emergent vegetation occurs as these areas are often scoured.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Pioneer Park: Preliminary designs estimate the amount of cut required for the intake structure and outfall/release pipeline:

Intake: excavation - 94 cy dredge	Outfall/release: excavation – 47 cy dredge
structure – 56 cy fill	structure – 1 cy fill
backfill – 45 cy fill	backfill – 32 cy fill
bank stabilization – 10 cy fill	bank stabilization – 10 cy fill

Tumwater Falls Park: Preliminary design estimate for relocation of the intake structure:

Intake: excavation – 50 cy dredge
structure – 26 cy fill
backfill – 24 cy fill

bank stabilization – 10 cy fill

Fill will come from an approved upland source. No fill in wetlands will occur at either location. All in-water work for placement of these structures will require a 404 permit from the COE.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

Pioneer Park: A surface water intake will be placed in the Deschutes River approximately 450ft downstream of the Henderson Boulevard bridge. The intake will be sized to withdraw up to 21 cfs of surface water for year-round continuous use. The intake would be screened to meet NOAA-Fisheries and WDFW fish screening criteria. It would also be constructed to withstand impacts from large woody debris mobilized during high flow events. An ability to withstand inundation with river sediment load, also known to be significant during high flow and flood events, would also be considered in design of the screen and pump facilities. The surface water would be utilized for fish rearing needs on site in a non-consumptive manner. The majority of the surface water would be returned to the Deschutes River through the fish outlet channel which would be located approximately 30ft downstream of the intake. The resulting diversion reach (from water withdrawal point to water return point) would be approximately 30ft. A small portion (0.5 cfs of process flow) would be returned to the river as overflow from the engineered effluent treatment wetlands. This flow would enter the river approximately 1,500ft downstream from the intake. No outfall structure will be constructed for this discharge. A vegetated channel would convey the overflow from the wetlands to the river.

A new well (ground water) would be drilled on site and 2.2 cfs would be utilized for fish rearing needs from June through February. This water would be discharged to the Deschutes River, with the majority (2.1 cfs) to be returned at the fish outlet channel to supplement returned surface water. Therefore, during periods of well use (June through February), the amount of water returned to the river at the fish channel would slightly exceed the amount of surface water being withdrawn at the intake, making up for the 0.5 cfs discharged farther downstream, as described above. When ground water is not being utilized (March through May), Deschutes River flows are typically more than sufficient to accommodate withdrawals for the facility with no measurable reduction of instream habitat.

WDFW typically monitors surface water at the intake and outfall of hatchery facilities to determine if the rearing facility has any impacts to various parameters, including flow, temperature, and suspended and settleable solids. WDFW will implement these monitoring activities for this project. Impacts to instream flows will be limited to the diversion reach between the intake and outfall locations (approximately 30ft). The design goal is to minimize the length of the diversion reach by minimizing the distance between the intake and outfall. This reach may be decreased during final design; however, it is not desirable to place the intake and outfall immediately adjacent to each other due to the potential of pulling the discharged water from the facility back in through the intake.

The Deschutes River is subject to low flows during drought years, and during summer months. WDFW will provide instream flow requirements for the Deschutes River. Minimum instream flow requirements for the Deschutes will not be violated by this project. The Pioneer Park facility will utilize river water during the typically higher flow months, November through May. From June through February the facility will utilize groundwater for incubation, early rearing and yearling Chinook salmon and steelhead trout production. The use of ground water will minimize

the need for the use of river water. The ground water will be discharged to the Deschutes River creating an increase in flow during the critical low flow period. The well water on site is artesian from a deeper aquifer and use of this supply will not impact instream flows in the Deschutes. Surrounding wells (City of Tumwater ownership) will be monitored for impacts.

Tumwater Falls Park: A surface water intake currently exists at this location, and WDFW holds a 54 cfs water right for withdrawals from the Deschutes River. Of this water right a maximum of 45 cfs is required for operation of the existing fish ladders. Nine cfs would be required for operation of the fish facility (juvenile rearing and adult collection). This project proposes to relocate the intake structure and pump station downstream from the present location to a site close to the top of the falls and fish ladder structure. This location should provide sufficient water flows to clean fish screens and would reduce maintenance efforts for sediment removal. The intake would be screened to meet NOAA-Fisheries and WDFW fish screening criteria. Water would be diverted from the river at the falls and returned to the river through the fish ladders.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Pioneer Park: HDR Engineering recently completed a detailed flood study for the Pioneer Park site. This study delineated both the 100-year floodplain and the floodway for the project site (See HDR Engineering, Inc. 2004. Deschutes River Floodplain Analysis - Deschutes Watershed Center). According to the floodplain study, all proposed project components would be located within the 100-year floodplain. Although the facility will be located within the 100-year floodplain, the construction footprint will be minimized to the extent practicable to limit the amount of fill necessary within the floodplain. Change in the flood storage on site will be mitigated at a 1:1 ratio to provide compensatory flood storage in compliance with City of Tumwater regulations. Flood storage compensation may take various forms, including: a flood storage pond, lowering the elevation of portions of the site, vegetated swales, or elevation of structures on pilings to allow for continued flood attenuation beneath proposed buildings.

The use of fill material will be minimized to decrease compensatory flood storage mitigation requirements. Pilings or similar structures may also be used to elevate buildings above the floodplain to minimize impacts. With the exception of the intake structure and fish release pipeline, which, by necessity must be located on the riverbank, all structures will be located outside of the FEMA-regulated floodway.

Tumwater Falls Park: A portion of the site is within the FEMA designated 100-year floodplain. The relocated intake structure would encroach the 100-year floodplain. Although the proposed raceways are immediately adjacent to the floodplain boundary, every effort will be made to site them as far from the floodplain as functionally possible.

The City of Tumwater Municipal Code (18.38.055), states that aquaculture is a permitted use within the 100-year floodplain. This was confirmed by Mr. Mike Matlock, City of Tumwater Director of Planning and Facilities (personal communication, 11/1/04).

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

The Deschutes River is a 303(d) listed stream which is impaired due to elevated temperatures, discharge of water that is warmer than receiving waters is considered a pollutant. Discharge will

meet the requirements of the individual NPDES permit, issued by Department of Ecology for aquaculture facilities, for all parameters, including temperature. Due to the flow through nature of the facility and rearing unit turnover rate (once per hour) the raceways will not be subject to measurable solar thermal gain. Surface water temperature will be monitored at the intake and outfall locations as part of this project to ensure that no impacts will occur. Water temperature monitoring has been conducted, according to the guidelines set by the Department of Ecology, by WDFW at various hatchery facilities in the state. Results of the monitoring indicated that surface water discharge from tested hatcheries had no impact on in-stream surface water temperatures. As a result of these monitoring tests, Department of Ecology no longer requires WDFW to monitor for surface water temperature impacts at WDFW facilities (H. Michael, Environmental Scientist, WDFW, personal communication 10/18/04).

Pioneer Park: Cleaning waste effluent from the facility will be treated by filtration, settling and a final polishing pond (treatment wetlands) prior to discharge to the river. The facility will apply for and operate under an individual NPDES permit for Upland Fin Fish facilities. An individual permit for the facility will be applied to the project as it would discharge into a 303(d) listed waterbody that is currently undergoing tests to establish Total Maximum Daily Loads (TMDLs) for discharge parameters. Discussions with the Department of Ecology regarding TMDLs are currently on-going.

To control fungal infections, formalin may be used on adults and juveniles. Formalin is a form of formaldehyde and breaks down quickly in water to form carbon dioxide and water molecules. Formaldehyde does not persist, bioaccumulate or biomagnify in the environment (www.dfw.state.or.us/public). Parasite-S, the U.S. Food and Drug Administration approved formalin product for aquaculture activities, requires dilution prior to discharge into natural waters. For incubation applications a 100 fold dilution is required. Incubation water will be diluted within the full-flow of the facility to achieve this level of treatment. For fish application a 10 fold dilution is required. This dilution will be achieved by treating individual rearing units independently and diluting discharge from the rearing unit within the full flow of the facility. In completing the labeling requirements for Parasite-S, the Center for Veterinary Medicine analyzed environmental safety and concluded (through the preparation of an Environmental Assessment [EA] and amendments to the EA) that no environmental impacts are expected provided that treatment water is diluted 10-fold prior to discharge (100-fold dilution for egg treatments) (Western Chemical NADA 140-989). Formalin would be administered according to label directions, under an Investigational New Animal Drug (INAD) permit or by veterinary prescription. WDFW hatchery managers may move away from the use of formalin in the near future potentially substituting salt for adults and tamed iodophor for incubating eggs. Both of these compounds are approved for use in aquaculture.

There will be no dyes or flavor enhancers used in feed. All use of therapeutants will be conducted by FDA approved label direction, under an INAD, or by veterinary prescription.

Tumwater Falls Park: Management of wastes will be the same as described for the clarifier at Pioneer Park. Solids will be manually removed from the rearing units using a vacuum system. Vacuum cleaning water will be routed to the clarifier for settling, and decanted water (solids settled out) will be discharge to the Deschutes River.

The Tumwater Falls facility currently uses two compounds (formalin and erythromycin), both of which are included on the list of compounds requiring use disclosure for the NPDES permit for the facility and are utilized according to approved label direction, under an INAD, or by veterinary prescription.

b. Ground:

- 1) Will ground water be withdrawn, or will water be discharged to ground water?
Give general description, purpose, and approximate quantities if known.

Pioneer Park: Approximately 2.2 cfs (1000 gpm) of groundwater would be withdrawn to provide a pathogen-free water source for incubating eggs and for early rearing of juvenile salmonids. Of the 2.2 cfs withdrawn, approximately 2.1 cfs would be returned to the Deschutes River through a discharge pipeline that would be located 30 ft downstream of the intake structure. The remaining groundwater would be returned to the river following final polishing in the treatment wetlands. WDFW has applied to the Department of Ecology for a groundwater right for well water, which will be processed after completion of SEPA.

Tumwater Falls Park: No groundwater will be utilized at this site.

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Pioneer Park: Supernatant from the clarifier would be routed to treatment wetland(s) that will be designed to function as final polishing ponds for the removal of dissolved constituents. Waste solids will be removed prior to the treatment ponds. Limited water (not quantified at this time) from these ponds will infiltrate into the ground at this site.

Tumwater Falls Park: None.

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Pioneer Park: Stormwater from the new parking areas, gravel paths, roofs of the educational center and hatchery buildings would be directed to onsite stormwater facilities. Such facilities would comply with City of Tumwater codes and may include vegetated bioswales for treatment prior to entering the Deschutes River. Runoff water quality from the Pioneer Park facility would be managed through implementation of a Stormwater Pollution Prevention Plan (SWPPP) to reduce the contribution of pollutants into offsite waterways during construction.

Tumwater Falls Park: Proposed new facilities at the Tumwater Falls site include a new adult fish ladder (to the new raceways), two new raceways, and an additional viewing area. Runoff from the new viewing area roof is anticipated to be minimal and would be directed to stormwater treatment facilities.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

Pioneer Park: Discharge waters containing waste materials would be treated (as described above) prior to entering surface waters. Solids would be removed through filtration and settling. Dissolved

components would be partially removed through the wetland treatment ponds. Dissolved components would include; phosphorus, ammonia, and nitrogen. Discharge parameters of concern would be regulated through Department of Ecology administered permits.

Tumwater Falls Park: Discharge waters containing waste materials would be treated prior to entering surface waters. Solids would be removed through settling. Dissolved components would be discharged to the Deschutes River. Discharge parameters of concern would be regulated through Department of Ecology administered permits.

- d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

Pioneer Park: Washington State and the City of Tumwater require that new projects meet state and city stormwater management standards. These standards reference treatment standards outlined in the Washington State Department of Ecology's Stormwater Management Manual (SMM) for Western Washington (2001). The 2001 SMM requires either stormwater attenuation or stormwater infiltration of runoff from new or redeveloped facilities, with infiltration as the preferred option. Water quality treatment of runoff from pollution-generating surfaces on the site, as well as the implementation of source control practices is also required. New on-site stormwater conveyance systems are required to carry the contributing flow from the 100-year, 24-hour storm event. New projects are also required to incorporate Best Management Practices (BMPs) for stormwater management as outlined in the SMM, along with preparation and implementation of a Temporary Erosion and Sedimentation Control Plan (TESC) and a SWPPP.

A gravity conveyance system is one option under consideration to collect runoff from the developed portions of the site and carry it to the appropriate treatment and/or dispersal facilities. Biofiltration swales would provide treatment for rooftops, parking lot, and gravel driveway runoff, which are the only pollution-generating surfaces proposed on the site.

Tumwater Falls Park: During construction, BMPs similar to those described above would be employed to minimize impacts to surface and groundwater.

4. Plants

- a. Check or circle types of vegetation found on the site:

Pioneer Park:

- deciduous tree: **alder, maple**, aspen, other
- evergreen tree: **fir, cedar**, pine, other
- shrubs (riparian shrubs located along perimeter of grassland meadow)**
- grass**
- pasture
- crop or grain
- wet soil plants:** cattail, buttercup, bulrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

Vegetation within the open, grassy portions of the site is dominated by tall fescue (*Festuca arundinacea*), bentgrass (*Agrostis* sp.), creeping buttercup (*Ranunculus repens*), reed canarygrass,

and scattered Scot's broom (*Cytisus scoparius*) and hawthorn (*Crataegus monogyna*). Forested portions of the site are characterized by Douglas fir, black cottonwood (*Populus balsamifera*), red alder (*Alnus rubra*), Oregon ash (*Fraxinus latifolia*) and western red-cedar (*Thuja plicata*) in the overstory and red-osier dogwood (*Cornus stolonifera*), salmonberry (*Rubus spectabilis*), willows (*Salix* spp.), snowberry (*Symphoricarpos albus*), rose (*Rosa* sp.), and Indian plum (*Oemleria cerasiformis*) in the woody understory.

A wetland delineation of the proposed project footprint was completed in February 2004. Although forested and herbaceous wetlands occur adjacent to the site, no wetlands occur within the proposed construction area. Wetland buffers do extend into the area proposed for construction. At Pioneer Park approximately 15,000 square ft of Category II wetland buffers would be impacted. At Tumwater Falls Park approximately 7,970 square ft of Category II wetland buffers would be impacted. Wetland buffer averaging or on-site enhancement would occur at both locations to mitigate for impacts. Such mitigation is consistent with long-term planning goals for the areas (Chuck Denney, City Parks and Recreational Director, City of Tumwater, personal communication 11/1/04).

Tumwater Falls Park:

- deciduous tree: **alder, maple**, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs (willows on riverbank)**
- grass (maintained lawn)**
- pasture
- crop or grain
- wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

A wetland delineation of the proposed project footprint was completed in February 2004. Wetlands at the Tumwater Falls site are limited to the riparian fringe, in areas that are frequently subjected to floodflow. These areas contain scattered willows and thick wetland soils comprised of alluvial deposition. Little emergent vegetation occurs as these areas are often scoured.

b. What kind and amount of vegetation will be removed or altered?

Pioneer Park: Approximately 8.4 acres of upland grasslands dominated by tall fescue would be disturbed during to construction activities. In addition, approximately 0.03 acres of riparian forest would be disturbed during pipeline and surface water intake installation. No mature trees would be removed from the forested area. A new trail system is proposed to replace existing trails that would be impacted by construction activities. The new trail system would be incorporated into the watershed center layout and would traverse grasslands and upland shrub communities dominated by Indian plum, willow, and snowberry. Several dead cedar saplings that have been planted as part of a riparian enhancement program would also be removed in this location.

The riparian zone of the Deschutes River is an important habitat component for fish and wildlife; therefore any impacts to the area will be mitigated within the riparian zone. According to Mr.

Mike Matlock, City of Tumwater Director of Planning and Facilities, proposed changes to the City's municipal code include the addition of a defined riparian buffer. Along the Deschutes River, this buffer would extend 250 ft from the Ordinary High Water Mark, likely as defined by Department of Ecology. A 25% reduction of this buffer (resulting in a 187 ft buffer) may be possible if the zone is enhanced or revegetated. It is likely, however, that support facilities, including the intake and outfall structures would be permitted within the riparian zone. Approximately 1,200 square ft of riparian zone will be disturbed due to installation of the intake, outfall and water conveyance lines. However, most of the area proposed for the location of the intake and outfall is currently riprapped and impacts to riparian vegetation are anticipated to be minimal. Pipeline corridors and intake/outfall structures will be staked in the field to avoid the removal of mature trees and damage to root systems. The removal of trees from the riparian zone will be limited to those less than 10 inches of diameter breast height. It is anticipated that approximately 10 immature alders would be removed for pipeline and intake installation. No trees would be removed during construction of the educational center, steelhead trout pond, treatment wetlands, clarifier, hatchery building, headtank/pumphouse, raceways or maintenance building.

Although wetlands occur in the immediate vicinity of the project footprint, none would be impacted by activities. Based on the current site plan, impacts to Category II wetland buffers (approximately 15,000 square ft) would occur as a result of project activities. The City of Tumwater has stated that disturbance of the wetland buffers due to trail placement may not require mitigation if new trails are designed to be pervious. Additionally, wetland buffer averaging is proposed in all areas of encroachment; buffers that would not be impacted may be extended and enhanced with suitable native species, while impacted buffers may be decreased to allow for encroachment. Impacts to vegetation, including wetland buffers, would be mitigated at a 1:1 ratio (disturbance: replacement) through the planting of native shrubs and trees, and potentially the enhancement of existing wetland buffers in adjacent areas.

The treatment wetlands would function solely for waste treatment and would claim no mitigation for impacts to wetlands (none will be disturbed) or their associated buffers; however, they may be used as demonstration areas in which the public could observe wetland ecology. Harvest of wetland plants may occur by Tribal and educational groups. Therefore, regulating authorities, including the Department of Ecology would not likely consider these ponds to be jurisdictional wetlands. However, if over the course of operations the ponds cease to be fed by effluent (due to a change in waste treatment), but have been excavated to a depth that allows periodic Deschutes River overflow to serve as wetland hydrology, the COE may view these areas as wetlands "under normal circumstances" and may then assert jurisdiction. WDFW is aware of this possibility.

Tumwater Falls Park: Herbaceous vegetation disturbance at the Tumwater Falls Park site would be limited to the removal of approximately 0.07 acres of maintained lawns. Five big leaf maple (*Acer macrophyllum*) and one alder that occur in the proposed raceway footprint would also be removed. No wetland vegetation would be impacted. However, approximately 7,970 square ft of Category II wetland buffers would be impacted. Wetland buffer averaging will occur to mitigate for impacts.

Impacts to the proposed riparian zone (defined by the City of Tumwater as 250 ft or 187 ft as described above) will be mitigated through on-site vegetation enhancement.

c. List threatened or endangered species known to be on or near the site.

Pioneer Park: There are no known threatened or endangered plant species on or near the site.

Tumwater Falls Park: There are no known threatened or endangered plant species on or near the site.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Pioneer Park and Tumwater Falls Park: The overall approach to mitigation for potential natural habitat impacts is to first avoid impacts to the extent possible, through careful site design, planning, construction techniques, and strict adherence to BMPs. If avoidance is not possible, mitigation measures to minimize impacts to vegetation communities are proposed to compensate for alterations to the vegetation from the proposed activity. The removal of riparian vegetation, both trees and understory, will be mitigated through plantings within the riparian zone. If avoidance is not possible, the removal of trees will be mitigated by planting of trees within the riparian zone as stipulated by the City of Tumwater. Impacts to grasslands, wetland buffers and the riparian zone will be mitigated on-site through vegetation plantings and wildlife habitat creation. A mitigation plan for all habitat impacts will be prepared upon completion of the SEPA process. All impacts will be mitigated in accordance with the City of Tumwater's municipal code:

- Chapter 16.08 Protection of Trees and Vegetation
- Chapter 16.28 Wetland Protection Standards (for impacts to wetland buffers)
- Chapter 16.32 Fish and Wildlife Habitat Protection

Detailed mitigation plans, including planting lists, locations and contingencies, will be prepared in compliance with the City of Tumwater's Fish and Wildlife Habitat Protection Plan, as well as a wetland buffer impact mitigation plan. These plans will document habitat improvement plans, including hydroseeding of disturbed soils and revegetation of disturbed sites with native plantings, as well as plans for the removal and control of invasive and noxious weeds, where possible.

5. Animals

- a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

Pioneer Park:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other: rodents, insectivores,
raccoon, opossum, coyote, rabbits, squirrels

fish: bass, salmon, trout, herring, shellfish, other:

Terrestrial wildlife usage in the vicinity of the proposed hatchery and educational center is limited due to the frequent presence of domestic dogs that join their owners on walks along the gravel trails to the Deschutes River.

A species of special concern, the shorthead sculpin (*Cottus confusus*), is known to inhabit the upper reaches of the Deschutes River (Bisson 1977). The shorthead sculpin may be the most temperature-sensitive fish in the state of Washington (DOE 1980). It is impacted by high temperatures, and therefore can be affected by dramatic decreases in flow that result in elevated temperatures. However, because facility use would be non-consumptive, elevated temperatures are not anticipated to occur due to this project. The addition of cool well water during the summer low flow condition is anticipated to improve and not degrade the existing condition within the

Deschutes River.

The following species have been documented as occurring in the vicinity of the project action area by the WDFW Priority Habitat Species database (2002): the Olympic mudminnow (*Novumbra hubbsi* Schultz), western pocket gopher (*Thomomys mazama*), Oregon vesper sparrow (*Poocetes gramineus*), streaked horned lark (*Eremophila alpestris strigata*), and wood duck (*Aix sponsa*). Both the Oregon vesper sparrow and horned lark are known to occur near the Olympia airport, which is located approximately 5 miles southwest of the Pioneer Park site. Because these species are not known to occur in the immediate vicinity of the project area (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04), they will not be discussed further in this document.

Populations of the Olympic mudminnow are found entirely within portions of the Olympic Peninsula and central Washington. A rare endemic fish, the Olympic mudminnow (*Novumbra hubbsi* Schultz) inhabits sloughs and oxbow lakes, including the oxbow that occurs between Henderson Boulevard and the golf course in Tumwater (DOE 1980). Extended periods of drought or low flows may cause dewatering in oxbows threatening mudminnow survival. Because hatchery surface water use would be non-consumptive, and withdrawal rates would equal discharge rates into the Deschutes River, flows downstream of the proposed Pioneer Park facility would not be impacted. The oxbow slough downstream of the site that serves as habitat for the mudminnow would not be affected by facility operations.

A pocket gopher mound was identified near the Munn Lake fishing access, approximately 0.5 to 0.75 miles upstream of Pioneer Park (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04). An additional pocket gopher mound was identified in the vicinity of Yelm Highway (WDFW 2002). This mound was located in habitat dominated by rolling topography with deep, fine soils containing very little gravel. The open lowland prairies utilized by the gopher are present on the Pioneer Park site, although they have been disturbed by historical agricultural activities and prairie vegetation is no longer present in this urban setting. Because key elements of pocket gopher habitat are relatively dry soils that are loose enough to burrow through, it is unlikely that they occur in the footprint of the Pioneer Park site. Although the soils are alluvial in nature and tend to drain quickly they are frequently saturated during the winter and would not serve as suitable habitat for the gophers. Additionally, no evidence of the gophers has been documented in the frequently utilized park (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04).

Due to the relatively swift flow of the Deschutes River in the vicinity of Pioneer Park, wood ducks are not likely to utilize habitat in the vicinity of the proposed project (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04). Breeding sites (nesting cavities) for the wood duck may occur within the forested riparian areas to the south and west of the proposed watershed center location. No mature deciduous trees would be removed from the riparian corridor. Therefore, impacts to the wood duck, if any, would be limited to disturbance by construction noise and equipment.

Tumwater Falls:

birds: **hawk, heron, eagle, songbirds**, other: **shorebirds in vicinity**
mammals: **deer**, bear, elk, **beaver**, other: **mink, opossum,
rabbits, squirrels**
fish: bass, **salmon, trout**, herring, shellfish, other: **sculpin**

The following species have been documented as occurring in the vicinity of the project action area by the WDFW Priority Habitat Species (PHS) database (2002): wood duck, mink (*Mustela vison*), purple martin (*Progne subis*), great egret (*Casmerodius albus*), green heron (*Butorides virescens*), vaux's swift (*Chaetura vauxi*), and riffle sculpin (*Cottus gulosus*).

Because wood ducks do not prefer swift moving water, as is present at the Tumwater Falls site, they do not likely utilize the Deschutes in the vicinity of the falls. No known wood duck nesting cavities occur in the immediate vicinity of Tumwater Falls (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04) and no potential nesting trees would be removed due to renovation activities.

The mink is a predatory, semi-aquatic mammal that is generally associated with stream or riverbanks, lakeshores, marshes or marine shore habitats. Its diet varies and includes aquatic, semi-aquatic, and terrestrial animals. The mink is known to occur in the vicinity of Tumwater Falls as suitable habitat is present and prey items are available (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04). However, no impacts to the mink or its habitat are anticipated as a result of hatchery renovation activities.

In the lowlands of western Washington, the purple martin is most frequently known to nest in man-made structures near cities and towns. Historically, they likely bred in abandoned woodpecker cavities in dead trees. Only a few such nests remain as most martins are now associated with nesting boxes. Purple martin nest boxes occur on pilings in Percival Landing on Budd Inlet in downtown Olympia (WDFW 2002), about 4.5 miles downstream of Pioneer Park. These box nests occur at the southern end and eastern lob of the inlet. No known nesting boxes occur in the immediate vicinity of Pioneer Park (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04), and therefore no impact to martins is anticipated as a result of this project.

Great egrets are open water or wetland feeders whose diet consists primarily of aquatic invertebrates and fish. In Washington, great egrets are mostly seen in the fall from the Potholes Wildlife Area south through the wetlands around McNary National Wildlife Refuge. According to the PHS database (WDFW 2002), an egret was observed on the shore of Budd Inlet behind Market Foods in Olympia from 1977-1982. Observations have also occurred near Percival Creek and Capitol Lake; however these records are dated and egrets are not currently known to utilize the lake and are not known to occur in the immediate vicinity of Tumwater Falls (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04).

The green heron is a wetland/open water feeder whose diet consists primarily of aquatic invertebrates and fish. According to the PHS database, green heron were observed in the late 1970s near Percival Creek and Capitol Lake. Additionally, single pairs likely occasionally nest in the vicinity of Capitol Lake. Suitable feeding areas for herons are present immediately downstream of Tumwater Falls (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04). Impacts to green herons, if they utilize the area downstream of the falls, would be limited to disturbance during construction activities at the fish ladders. There is ample feeding habitat downstream of the project site to accommodate herons and therefore no impact to the species is anticipated as a result of this project.

Vaux's swift is a summer resident in wooded areas of Washington, nesting in mature old-growth coniferous forests and chimneys. Old-growth forests do not exist in the urban park setting of the Tumwater Falls Park site and the six deciduous trees that will be removed for raceway construction are not likely suitable to the species. According to WDFW district wildlife biologist Kelly

McAllister, Vaux's swifts are not known to nest in the buildings of the old Brewery or the Tumwater Falls site; however swifts likely use chimneys in adjacent neighborhoods. Therefore, no impacts to the swifts are anticipated as a result of the proposed action.

In 2000, a riffle sculpin was captured in the minnow trap at the Tumwater Falls hatchery. Sculpin are captured annually in upstream traps near the falls, however, they are not identified to species (P. Topping, fisheries biologist, WDFW, personal communication, 4/15/04) and therefore an estimate of the abundance of riffle sculpin in the vicinity of Tumwater Falls is not available. If the riffle sculpin does occur in the vicinity of proposed instream upgrades to the existing fish ladders, they may be temporarily displaced from the area during cofferdamming activities. Downstream sedimentation is likely to occur during the installation and removal of the cofferdam. However, according to Waters (1995), most such construction projects, done essentially at a point on a stream, will have temporary effects on aquatic species. If subsequent flows within these river systems are high enough to scour away light deposits, as is the case in the Deschutes River, fish will generally repopulate quickly (Waters 1995). Therefore, no impacts to the riffle sculpin are anticipated as a result of project activities.

b. List any threatened or endangered species known to be on or near the site.

**Pioneer Park and Tumwater Falls:
Terrestrial Wildlife**

According to information received from the USFWS (2004) and WDFW's Priority Habitat Species (PHS) database, the state and federally threatened bald eagle (*Haliaeetus leucocephalus*) may occur within the vicinity of the project. Review of the USFWS listing and the WDFW PHS database indicates that there are two known bald eagle nesting territories located in the vicinity of the project. The nesting territories are located north of Tumwater Historical Park (approximately 0.5 miles north of the Tumwater Falls Park hatchery site) with the closest nest site less than a half mile from the Historical Park (WDFW 2002). Based on discussions with the WDFW raptor biologist, bald eagles in the vicinity of the project forage all along the river corridor with significant use occurring in the open water areas adjacent to the Historical Park but not in the immediate vicinity of Tumwater Falls Park or Pioneer Park (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/30/02; 4/12/04).

Due to the amount of information on bald eagle nesting locations in the project vicinity, their tolerance of disturbance, and recent downlisting activities by the State, no timing restrictions were recommended by the local raptor biologist (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/30/02). However, construction timing restrictions and other conservation measures may be required by the USFWS if determined to be necessary during their review of potential impacts to listed species under the ESA.

The USFWS has indicated that both the Northern spotted owl (*Strix occidentalis caurina*) and the marbled murrelet (*Brachyramphus marmoratus*) may occur within Thurston County. However, no known habitat for either species occurs in the vicinity of Pioneer Park or Tumwater Falls and the closest populations most likely occur far from the project sites, in the vicinity of Mount Rainier National Park (K. McAllister, District Wildlife Biologist, WDFW, personal communication 4/12/04).

The state endangered, federal candidate mardon skipper (*Polites mardon*) also may occur in the vicinity of the project areas. The mardon skipper is a small, tawny-orange butterfly currently known from only four areas in Washington, Oregon, and California. The mardon skipper population in Washington is known from nine geographically isolated sites; three in Puget Sound

and six in the southern Cascades (Potter et al. 1999). In the Puget lowlands, the mardon skipper is found on glacial outwash prairies where it inhabits open grasslands with abundant Idaho fescue (*Festuca idahoensis*) interspersed with early blue violet (*Viola adunca*). Although currently occupied sites are known to occur in Thurston County, none are within the urbanized areas of Tumwater, Olympia, or Lacey. As previously described, each of the sites is a developed park located in an urban setting. No areas of remnant prairie vegetation were noted at any of the sites during field investigations, and vegetation management is a significant aspect of maintenance activities occurring at each of the sites.

Aquatic Species

The Deschutes River watershed has documented use by fall Chinook (*Oncorhynchus tshawytscha*) and coho salmon (*Oncorhynchus kisutch*), winter steelhead (*Oncorhynchus mykiss*) and sea-run and resident cutthroat trout (*Oncorhynchus clarki*; WDFW 2002).

Chinook Salmon

Puget Sound Chinook salmon were listed as threatened under the ESA in March 1999, and may be present in the project vicinity (NMFS 2002). The Puget Sound Chinook salmon Evolutionarily Significant Unit (ESU) includes all naturally spawned spring, summer and fall runs of Chinook salmon populations residing below impassable natural barriers in the Puget Sound region from the North Fork Nooksack River to the Elwha River on the Olympic Peninsula (NMFS 1999). Designated critical habitat for Puget Sound Chinook salmon was previously defined as all marine, estuarine and river reaches accessible to Puget Sound Chinook salmon (NMFS 1999). However, that rule was set aside in federal court litigation. At this time, there is no designated critical habitat for Puget Sound Chinook salmon.

Although natural Puget Sound Chinook salmon may be present within the Deschutes system, it is more likely that Deschutes Chinook salmon are representatives of the South Sound Tributaries fall Chinook salmon hatchery stock. (Due to the presence of Tumwater Falls, which was a natural barrier to anadromous fish passage prior to construction of the fish ladder in the 1950s, it is without question that anadromous fish passage present in the system are of hatchery-origin – originally Green River stock, now Deschutes stock.) Adult Chinook salmon returns to the Deschutes River/Capitol Lake watershed stem from large releases from a number of South Sound hatcheries, whose origin is mostly Soos Creek Hatchery Chinook salmon (Green River) (WDFW 2003). WDFW releases of hatchery Chinook salmon in the Deschutes/Capitol Lake watershed have ranged from over 12,000,000 sub-yearlings and 1,000,000 yearlings in 1973 to 3,800,000 sub-yearlings and 200,000 yearlings, currently released each spring (FishPro 2002). South Sound tributaries, such as the Deschutes, are streams that historically did not possess sustainable populations of natural Chinook salmon. South Sound Tributary Chinook salmon are principally a late summer to early fall run that spawn from late September through October in McAllister Creek, the Deschutes River, Percival Creek and other independent tributaries (WDFW 2003).

As of the time of this writing the ESA listing status of naturally spawning Deschutes River Chinook salmon has not yet been ruled upon by NOAA Fisheries.

Studies during 2001 (Fuss 2001) reported that the migration of Chinook salmon fry from the Deschutes occurs from late January through April, with increasing migration during the latter portion of March. Peak migration occurred on March 19 when 34,743 fry passed through a trap near the falls. In contrast, the migration of smolts was fairly constant throughout May and early June, with peak migration occurring in mid-May (Fuss 2001).

In the Deschutes River, from just upstream of the Pioneer Park site downstream to the falls, there were 95 redds per mile and 112 redds per mile in 2002 and 2003, respectively (J. Long, South Sound District Fish Biologist, WDFW, personal communication, 4/12/04). In the immediate vicinity of the proposed intake structure (~450 downstream of Henderson Boulevard bridge), the river is relatively deep with a high sediment load (J. Long, South Sound District Fish Biologist, WDFW, personal communication, 4/12/04). Over the past two seasons, no redds have been observed in this area; however, there have been redds observed approximately 700 – 800 ft downstream of the bridge (250-350 ft downstream of the intake location). Juvenile Chinook salmon holding areas, including pools and undercut banks, occur in the immediate vicinity, as well as upstream and downstream of the intake location.

Coho Salmon

In 1999, the Puget Sound/Strait of Georgia ESU of coho salmon were classified as a federal candidate species for listing under the ESA. In April 2004, NOAA Fisheries revised this status and now considers this ESU to be a Species of Concern (69 FR 19976, April 15, 2004). Puget Sound coho salmon are known to utilize tributaries of the mainstem Deschutes River. The Deschutes coho salmon stock is a non-native stock with some wild production. No coho salmon spawned in the Deschutes River prior to construction of a fish ladder at Tumwater Falls in 1954. All coho salmon present in the system are descendants of hatchery plants introduced largely from the Soos Creek Hatchery (WDFW 2003). The founding population was started through hatchery plants in the 1970s and 1980s, although changes in coho salmon programs have significantly reduced off-station fry plants in the area.

Current returns of coho salmon to the basin are from a self-sustaining population that has naturally reproduced over several generations. Adult coho salmon enter the Deschutes River from August to December, and spawning occurs from late October through early January in all accessible tributaries (WDFW 2003). Deschutes coho salmon spawn throughout the Deschutes River watershed and in independent tributaries to Capitol Lake including Percival Creek and Black Lake Ditch (WDFW 2003). Spawning also occurs in several tributaries of the mainstem Deschutes River including Mitchell, Huckleberry, Johnson, and Thurston creeks (DOE 1980). Juvenile coho salmon remain in the freshwater streams for one year prior to migrating to salt water.

The Deschutes River coho salmon population is managed as a non-native stock with wild production (WDFW 1993). Although classified as Healthy in 1992 based on escapement data (WDFW and WWTIT 1994), WDFW rated this stock as Critical in 2002 based on a severe short-term decline in escapement from 1995 to 2001, chronically low escapements, and an observed long-term negative trend in smolt abundance (WDFW 2003).

Bull Trout

According to the USFWS, bull trout may occur within Thurston County; however bull trout have not been documented to occur in the Deschutes system (WDFW 1998). In over 27 years of operation of a downstream juvenile trap in the Deschutes, no bull trout have been captured (P. Topping, Fisheries Biologist, WDFW, personal communication, 4/15/04). In over 25 years of WDFW spawning ground surveys in the upper Deschutes, no bull trout have been observed (J. Long, South Sound District Fish Biologist, WDFW, personal communication, 4/12/04). The closest reported population of bull trout occurs in the Nisqually River (although the existence of this population is questionable), approximately 15 miles northeast of the project sites. The potential for bull trout presences is low and no bull trout have been observed in the Tumwater Falls fish ladders (P. Topping, Fisheries Biologist, WDFW, personal communication, 4/15/04).

Steelhead Trout

Winter steelhead trout spawn from early January to early April in the Deschutes system. These fish are the result of hatchery plants, which originated from a south Puget Sound early stock returning to Chambers Creek near Steilacoom. This stock is managed only to provide a harvest fishery and has no escapement objective (WDF 1993). There is currently no evidence that steelhead trout are successfully reproducing naturally in the Deschutes system.

Sea-run Cutthroat Trout

Hatchery-origin cutthroat trout were released in the Deschutes River for several years (Blakley et al. 2000). However, existing populations of south Sound coastal cutthroat trout are considered native because hatchery origin fish are not expected to be present due to the limited releases of hatchery fish, high catch rates on hatchery fish and the poor survival from previous hatchery releases. The anadromous life history form is likely to be found in most of the systems of south and western Puget Sound, but presence and distribution in freshwater may be seasonal because of summer and fall low flows. The resident form of this stock complex is present in virtually all perennial streams in western South Puget Sound (Blakley et al. 2000). The Deschutes River stock is maintained by wild production and the population has been ranked as “good” during stock assessments conducted by WDFW (Blakley et al. 2000).

c. Is the site part of a migration route? If so, explain.

Pioneer Park and Tumwater Falls Park: Both sites are considered adult immigration and juvenile emigration routes for anadromous fish species including Chinook and coho salmon, and sea-run cutthroat trout. In addition, both sites are located within the Pacific Flyway for migratory waterfowl. Therefore, during the migratory season each site, both of which are located adjacent to the water, could contain migrating waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

Pioneer Park and Tumwater Falls Park: As required under Chapter 16.32 of the City of Tumwater’s municipal code, Fish and Wildlife Habitat Protection, a habitat protection plan is required when protected habitats will be impacted by construction activities. Protected habitats include rivers planted with game fish, specifically, the Deschutes River, as well as areas with which listed species have a primary association. In accordance with these regulations, a Habitat Protection Plan will soon be developed to comply with City regulations. This plan will detail native vegetation plantings and mitigation strategies intended to preserve important plants and habitats. As required by the City, seasonal restriction of construction activities within protected habitats will occur. Based on the known presence of salmonids in the Deschutes mainstem, a general work window of June 15 through September 15 may be appropriate for project construction to avoid impacts to both juveniles and adults. However, all in-water work will be limited to the construction window developed in conjunction with the WDFW Area Habitat Biologist and implemented by the HPA, which will be obtained for the project.

At the Pioneer Park site, fall Chinook salmon are known to spawn approximately 250-350 ft downstream of the proposed intake location (150-250 ft downstream of the fish outlet channel) in late September through October (J. Long, South Sound District Fish Biologist, WDFW, personal communication, 4/12/04). Therefore, to avoid impact to adult spawners and upstream migrants, instream work will be completed in the beginning of the proposed instream work window for the Deschutes (June 15 – September 15), or at the discretion of WDFW biologists. During instream work, including installation of the intake/screen, the outlet channel and the polishing pond discharge

structure, a cofferdam will be used to isolate the construction area and allow for work in the dry. Downstream sedimentation is likely to occur during the installation and removal of the cofferdam. However, according to Waters (1995), most such construction projects, done essentially at a point on a stream, will have temporary effects on aquatic species. If subsequent flows within rivers are high enough to scour away light deposits fish will generally repopulate quickly (Waters 1995). This is likely the case in the Deschutes as average late fall flows are more than adequate to move fine sediment out of the system.

Although fish in the immediate vicinity of instream activities may be temporarily disturbed, passage would still be possible as only one side of the river would be cofferdammed. All impacts to instream habitat would be temporary and are not anticipated to result in long-term adverse impacts to populations of listed or sensitive species on a watershed scale. The discharge pipeline and fish outlet channel will be located within the same pipeline corridor. The outlet channel has not been fully designed at this time, but will not change the river bank profile. Juvenile fish will be released in the spring during higher flows; the fish outlet channel will be constructed to release fish beneath the surface of the water to ensure a safe delivery of smolts to the river. The discharge pipeline outfall will be placed to prevent scouring of the riverbed. Placement and utilization of these structures will not result in erosion to the streambed or banks as they will be designed to dissipate flow energy to avoid impacts to redds that may be constructed in the vicinity.

The proposed actions would improve water quality in Percival Cove by eliminating the current net pen operation, as has been requested by the Department of Ecology. Additionally, the project would bring the current Deschutes Chinook salmon production programs into compliance with WDFW fish health and disease transfer policies.

Bald eagles construction timing measure would be implemented as required by the USFWS.

6. Energy and Natural Resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Pioneer Park: The Pioneer Park site is currently served by electric power. The proposed project would continue to use this source. The primary energy needs would be for surface water pumping, heating and site lighting.

Tumwater Falls Park: The Tumwater Falls Park site is currently served by electric power and natural gas and the proposed renovations would continue to use these sources to meet energy needs. The primary energy needs would be for surface water pumping, heating and site lighting.

- b. Would your project affect the potential use of solar energy by adjacent properties?
If so, generally describe.

Pioneer Park: No.

Tumwater Falls Park: No.

- c. What kinds of energy conservation features are included in the plans of this proposal?
List other proposed measures to reduce or control energy impacts, if any:

Pioneer Park: Design and development of the Deschutes Watershed Center will incorporate the principles of sustainable design, using guidelines established by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. Innovative green building will include sustainable designs to:

- Minimize site impacts by placing facilities in locations that will allow for vegetative filters for runoff,
- Optimize the use of daylight to minimize the need for artificial lighting (potentially install sky lights in hatchery and educational buildings; if available, enter into a power contract with a utility that purchases green power),
- Minimize the use of natural resources and minimize waste by using certified wood or recycled building materials and resources, and
- Optimize occupant comfort and health within the educational facility by using natural light and controlling indoor air quality and humidity.
- Meet Washington State Energy Code requirements

Tumwater Falls Park: Where possible, similar LEED principles as described above will be applied at the Tumwater Falls Park facility.

7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Discharge of residual amounts of chemicals would occur due to fish rearing operations at the facilities. Formalin may be used to help prevent pre-spawning mortality by controlling fungal infections that can affect adult fish. (See discussion in Section 3.a.6)

- 1) Describe special emergency services that might be required.

Pioneer Park and Tumwater Falls Park: No special emergency services are anticipated to be necessary at either site.

- 2) Proposed measures to reduce or control environmental health hazards, if any:

Pioneer Park and Tumwater Falls Park: No measures to control environmental health hazards would be necessary.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Pioneer Park: Short-term noise impacts would occur from operation of construction equipment. Noise levels from construction equipment are projected to be 70-90 dBA, as is typical of construction equipment, at 100 ft from the source. Noise levels in the vicinity of the recreational ball fields may exceed 60 dBA for short periods during construction. Noise during the construction period would be confined to daytime hours. Construction noise is exempt from

Washington State Noise Standards contained in WAC 173-60.

Tumwater Falls Park: Short-term noise impacts would occur from operation of construction equipment. Noise levels from construction equipment are projected to be 70-90 dBA, as is typical of construction equipment, at 100 ft from the source. Noise levels at adjacent structures and in the park may exceed 60 dBA for short periods during construction. Noise during the construction period would be confined to daytime hours. Construction noise is exempt from Washington State Noise Standards contained in WAC 173-60.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Pioneer Park and Tumwater Falls Park: Noise sources during construction would include heavy equipment, potentially well drilling equipment, air compressors and back-up indicator alarms. Short-term noise levels and expected durations associated with construction are described above. Post-construction noise would be regulated by Washington State noise standards (WAC 173-60). Noise levels at residential receiving properties cannot exceed 57 dBA during the day and 47 dBA between the hours of 10:00 p.m. and 7:00 a.m. Long-term noise sources would be those related to operation of the facility, including noise from pumps, stand-by generator, increased vehicular traffic, and park visitors.

The increase in sound levels corresponding to slight increase in traffic volume at the Pioneer Park site would not likely be considered a noise impact according to Washington State Department of Transportation and the Federal Highway Administration criteria.

- 3) Proposed measures to reduce or control noise impacts, if any:

Pioneer Park and Tumwater Falls: To reduce temporary construction noise associated with the project, contractors would be required to comply with all applicable regulations. The following measures should be employed to reduce construction noise:

- All equipment should have sound-control devices no less effective than those provided on the original equipment.
- No equipment would have an unmuffled exhaust.
- Equipment should be turned off when not in use and not left idling.

Warning devices such as back-up alarms are exempt from noise regulations. Additionally, construction will comply with the Tumwater Municipal Code noise ordinance.

Operation-Related Mitigation

Pioneer Park: Operational noise from the stand-by generator at the pumphouse would be minimized by placing the generator within a building. The generator would operate only when necessary to provide emergency power during outages. The unit would be small and well muffled inside the building; therefore, disturbance from noise at the pumphouse is anticipated to be minimal. Noise from other on-site equipment, such as diesel haul trucks, may produce a level of noise that would be heard off-site. This would be infrequent, limited to the daytime and during seasonal operations. No additional noise mitigating measures are proposed.

Tumwater Falls Park: Operational noise is not likely to exceed that of the current facility. Therefore, no mitigation for operational noise is proposed.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Pioneer Park: Currently, the northern portion of the park is developed with soccer and baseball fields, with an associated parking lot, storage facility and public restrooms. The southern portion of the park, which is proposed for use by this project, is generally undeveloped with the exception of several traversing gravel trails and some areas of native plantings near the riparian zone of the Deschutes River. The undeveloped portion consists of open grassland field and patches of riparian forests.

Adjacent land uses include a golf course to the north, and privately owned residential properties to the south, west and east.

Tumwater Falls Park: The Tumwater Falls Park site is currently occupied by the WDFW Tumwater Falls fish hatchery. Adjacent land uses include the Tumwater Falls Park, and office building for the Olympia-Tumwater Foundation, public restrooms and hiking paths for access to the falls. The Falls Terrace Restaurant is located nearby.

b. Has the site been used for agriculture? If so, describe.

Pioneer Park: Historically, the site was likely used for agriculture for the production of hay.

Tumwater Falls Park: Unknown. If so, not for many years.

c. Describe any structures on the site.

Pioneer Park: As described above, the northern portion of Pioneer Park currently houses public restrooms and a storage building associated with the recreational ball fields. The southern portion of the site, proposed for project use, contains several gravel trails and an artesian well casing.

Tumwater Falls Park: The Tumwater Falls Park site is currently occupied by the WDFW Tumwater Falls fish hatchery, including a hatchery building, office, pump station, fish raceways, and associated gravel walkways. The Olympia/Tumwater Foundation office and shop are located in the northwestern corner of the park.

d. Will any structures be demolished? If so, what?

Pioneer Park: No.

Tumwater Falls Park: Yes. The existing intake structure and adult/juvenile ponds will be removed. The existing Tumwater Falls fish ladders will be upgraded so that they will continue to be operational for many years to come. No changes to the integrity of the ladders are proposed, only upgrades to existing structures that currently operate inefficiently and are near the end of their life expectancy.

e. What is the current zoning classification of the site?

Pioneer Park: The Pioneer Park site is zoned as “open space” with a floodplain overlay zone (C. Carlson, Planner, City of Tumwater, personal communication 4/19/04).

Tumwater Falls Park: The Tumwater Falls Park site is zoned as “historic commercial” with a floodplain overlay zone (C. Carlson, Planner, City of Tumwater, personal communication 4/19/04).

f. What is the current comprehensive plan designation of the site?

Pioneer Park: The current comprehensive plan designation of the Pioneer Park site is: Deschutes neighborhood, shoreline environment (C. Carlson, Planner, City of Tumwater, personal communication 4/19/04).

Tumwater Falls Park: The current comprehensive plan designation of the Tumwater Falls Park site is: Deschutes neighborhood, shoreline environment (C. Carlson, Planner, City of Tumwater, personal communication 4/19/04).

g. If applicable, what is the current shoreline master program designation of the site?

Pioneer Park: The current shoreline master program designation of the Pioneer Park site is: South reach of the Deschutes River special management area with a “riverine corridor designation”. A riverine corridor is an area within a specified distance from the Deschutes River, as defined by the City of Tumwater’s shoreline master program mapping (C. Carlson, Planner, City of Tumwater, personal communication 4/19/04).

Tumwater Falls Park: The current shoreline master program designation of the Tumwater Falls Park site is: North reach of the Deschutes River special management area with a “riverine corridor designation” (defined above).

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

Pioneer Park: Within the City of Tumwater, protected habitats include rivers planted with game fish, specifically, the Deschutes River, as well as areas with which listed species have a primary association. According to City code, therefore, the Deschutes River and adjacent riparian corridor would be considered environmentally sensitive. Impacts to environmentally sensitive areas would be limited to the surface water supply intake structure, the fish outlet and water discharge pipeline, and a small water discharge pipeline from the treatment wetlands to the river. Instream work would be completed within one season and would occur with an approved instream work window. Based on the known presence of salmonids in the Deschutes mainstem, a general work window of June 15 through September 15 may be appropriate for project construction to avoid impacts to both juveniles and adults. However, all in-water work will be limited to the construction window developed in conjunction with the WDFW Area Habitat Biologist and implemented by the HPA, which will be obtained for the project.

Tumwater Falls Park: The existing hatchery site is adjacent to the Deschutes River, which is considered a protected habitat by the City of Tumwater, as described above. Instream work to upgrade the existing fish ladders will involve work, within a cofferdam, in the Deschutes River (a sensitive area). All in-water work will be limited to the construction window developed in

conjunction with the WDFW Area Habitat Biologist and implemented by the HPA, which will be obtained for the project.

i. Approximately how many people would reside or work in the completed project?

Pioneer Park: Upon project completion, there will be four full time WDFW personnel on site year round. During the fall and early winter, an additional two temporary staff members will be required to assist with spawning and incubation. Personnel from this location will also staff the Tumwater Falls Park site.

Tumwater Falls Park: Currently three full time and two part time staff work at this facility. When the project is complete this site will be staffed jointly with personnel at the Pioneer Park site.

j. Approximately how many people would the completed project displace?

Pioneer Park and Tumwater Falls Park: No people would be displaced as a result of the proposed project.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Pioneer Park and Tumwater Falls Park: No displacement impacts are anticipated.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Pioneer Park: Aquaculture is not permitted in areas zoned as “open space”. To this end, Mr. Mike Matlock, the City’s Planning and Facilities Director, recommended that WDFW submit a letter to the City requesting a zoning text amendment. This request letter has recently been submitted by WDFW to the City to initiate this change. This is a City-driven process and will likely result in a successful change to the zoning designation by mid 2005. Tumwater Parks Director Mr. Chuck Denney and Water Resources Program Manager Ms. Kathy Callison, have been closely involved with the master planning process and should continue to play key roles in the development of the watershed center. Tumwater Senior Planner Mr. Chris Carlson has been involved in the project since the initial stages of permitting and will continue to play an integral role in determining what WDFW must do to comply with City regulations throughout the process. The Tumwater City Council is expected to approve the use of land in Pioneer Park sufficient for hatchery and education center facilities. The Tumwater Stream Team will be a valuable resource in the development of educational displays and programs.

Tumwater Falls Park: Although the Tumwater Falls Hatchery currently exists on site, aquaculture is not permitted in areas zoned as “historic commercial”. As described above for Pioneer Park, WDFW has recently submitted a request for a zoning text amendment to the City of Tumwater to allow aquaculture uses within this area.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Pioneer Park and Tumwater Falls Park: No residential units would be provided.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No residential units would be eliminated at either site.

- c. Proposed measures to reduce or control housing impacts, if any:

No housing impacts are anticipated at either site.

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Pioneer Park: The tallest structure proposed at the Pioneer Park site is the headtank, which will stand no more than 20ft high. New lighting structures would be installed at ground level and only shielded lights will be used. Exterior building material would be wood and masonry siding.

Tumwater Falls Park: The new raceways and adult fish ladder would be elevated to allow for public viewing. The height of these structures would match the height of existing elevated raceways, which are approximately ten vertical feet off the ground. Exterior building material would be primarily concrete.

- b. What views in the immediate vicinity would be altered or obstructed?

Pioneer Park: From the northern recreational area of the Park, southern views of undeveloped grasslands would be altered. There are no direct views of the Deschutes River that would be impacted by the proposed project. The Deschutes River is currently obstructed from view by a thick riparian corridor consisting of riparian and wetland trees, shrubs and herbaceous vegetation.

Tumwater Falls Park: From the existing parking lot area, the new raceways would obstruct the view of approximately 120ft the Deschutes River. No obstruction of the river views from residential or commercial establishments would occur.

- c. Proposed measures to reduce or control aesthetic impacts, if any:

Pioneer Park: No mitigation measures for disturbance to views of the open grasslands are proposed. The proposed treatment wetlands would be planted with native wetland vegetation, providing a more complex habitat compared to existing conditions. New trails would allow continued access across the southern portion of the park and to the Deschutes River. Mitigation for impacts to wetland buffers and grasslands may include the enhancement of existing herbaceous wetland buffers and the addition of shrubs and wetland tree species. These additions will likely improve the aesthetics in the eastern-most corner of the park.

To maintain the environmental theme of the facility, all proposed structures will likely have metal roofs and wood siding to fit into the wooded and park environment. Interpretive displays throughout the site would be dominated by earth tones. The sweeping grassland meadow views would be maintained along the eastern portion of the site, and the existing entrance would take

advantage of these views. The large grove of fir trees would be preserved. In addition, the City of Tumwater’s aesthetic theme for the site, “early agricultural”, would be maintained in the design.

Tumwater Falls Park: Views of the Deschutes River would be easily accessible if one walked around the raceways, or if visitors utilized existing walking trails that run adjacent to the river. Viewing opportunities of Deschutes River Chinook salmon would be enhanced through the proposed action as a public viewing area would be provided to observe fish at eye-level from the elevated raceways.

11. Light and Glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Pioneer Park: The proposed project would include outdoor lighting at the educational center, the hatchery building and the pedestrian walkways that traverse through the educational center to the raceways. Additional lighting will be provided for the new parking areas. Lights would be on at dark, during park operating hours. Some security lighting would remain illuminated throughout the night (dark) hours, but this lighting will be minimal and shielded.

Tumwater Falls Park: Existing onsite lighting will be adequate to provide for security and facility operations.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

Pioneer Park and Tumwater Falls Park: Lighting associated with the proposed project would not be a safety hazard.

- c. What existing off-site sources of light or glare may affect your proposal?

Pioneer Park and Tumwater Falls Park: None.

- d. Proposed measures to reduce or control light and glare impacts, if any:

Pioneer Park: Only a limited portion of the watershed center and hatchery would have outdoor lighting, reducing the area of potential impact. To address potential view impacts, use of lighting technologies such as timers or downward light deflectors could be used. All new structures would be designed to be compatible with the City of Tumwater Parks guidelines for lighting.

Tumwater Falls Park: Additional lighting is anticipated to be minimal and will not likely produce more glare impact than currently exists on the site.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?

Pioneer Park: As previously described, the Pioneer Park site is used by the public as a recreational facility in both the northern and southern portions of the site. The northern portion of the site is currently used for soccer and baseball activities, kite flying, and general open space uses.

Additionally, a small children's play area, containing climbing bars, swings, and a slide occur near the existing parking lot. The southern portion of the site is designated open space and is used extensively by outdoor enthusiasts who enjoy the trail systems that traverse the site and lead to the Deschutes River. These users often bring their dogs, often off-leash. Swimming along the western portion of the property occurs during the summer months, and rod fishing occurs seasonally.

Tumwater Falls Park: There are several recreational opportunities in the immediate vicinity of the Tumwater Falls Park including walking, picnicking, fish viewing at the hatchery and within the Deschutes, and wildlife and bird watching.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Pioneer Park: Most park users utilize the designated trails, some of which will be displaced by facility structures. Trails will be replaced and enhanced as part of this project. Use of a large portion of the existing grasslands, primarily by park-goers and their dogs, would no longer be available.

Tumwater Falls Park: The maintained lawn area proposed for raceway development would no longer be available for recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Pioneer Park: To compensate for lost trail systems, new trails would be established to connect to existing trails. Trails will be enhanced with educational displays, and incorporation of native plantings. The hatchery facility would be open to the public to walk through and visit. Educational displays are planned for the facility. Use of open grasslands on the eastern-most portion of the park would still be available, and connections to trails that are located immediately adjacent to the river would remain intact.

Recreational fishing opportunities for children and persons with disabilities would be accommodated by the steelhead trout fishing pond, co-sponsored by Trout Unlimited. Additional recreational opportunities in the form of the educational center and hatchery fish viewing would be provided by the proposed action. Visitors, including school children and families, would be able to participate in interactive programs and display exhibits intended to educate and inform the public about the ecosystem, particularly salmon, the role of hatcheries, and the importance of preserving and protecting the Deschutes River Watershed.

Tumwater Falls Park: Although some maintained lawns would no longer be available, there is ample area for recreation in the park. Increased educational opportunities, in the form of new fish viewing windows, would provide improved educational and recreational use of the hatchery. Removal of the existing ponds will improve access to river, and relocation of the existing intake structure will improve the viewing area of the falls.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

Pioneer Park: Based on a search at the State Office of Archaeology and Historic Preservation (OAHP), no archaeological sites were identified within the project area. Concurrent with this

information, the testing of the proposed projects footprints indicated prehistoric occupation of the area; however, no further testing is deemed necessary.

Recent investigations at the Pioneer Park project area did not reveal any archaeological materials (WSHS 2004). The dynamic nature and shifting positions of the Deschutes River axis indicate that the area has been frequently flooded and the sediments relocated. Although no artifacts were encountered during testing, the area was an opportune location for specialized subsistence activities.

Tumwater Falls Park: The mouth and falls of the Deschutes River both have a high likelihood for hunter-fisher-gatherer or historic Indian archaeological sites (LAAS 1997). The Deschutes River falls were referred to as “Stehtsamish” by the Nisqually Indians, and the vicinity may have been occupied for 500 or more years prior to settlement by Euroamericans as a summer village site for shellfish and salmon harvesting (Stevenson 1996). The principal ethnographic group inhabiting the project vicinity at the time of Euroamerican contact was the Puyallup-Nisqually Indians. They were divided into four major groups, comprised of the Sahehwamish, Squaxin, Puyallup and the Nisqually (Masten 1987). The Sahehwamish group was predominant around the lower Nisqually River and near Hammersley, Totten, Eld and Budd Inlets. The presence of two hunter-fisher-gatherer archaeological sites in the Tumwater area suggest that it was used intensively by aboriginal populations, possibly for seasonal shellfish or salmon processing and curing, trading, and other activities (LAAS 1997). In addition to known sites, unidentified archaeological resources representing winter village occupations, seasonal campsites and shellfish, fish, plant and terrestrial mammal processing areas could be found in the area.

In 1845, the first permanent American settlement on Puget Sound, called “New Market,” was established at Tumwater Falls. The early economy of New Market, which became known as Tumwater in 1863, was built on milling lumber, flour and cedar shingles for export (LAAS 1997). Intensive Euroamerican settlement created tension among settlers and Indian leaders. Delegates of the Nisqually, Puyallup, Steilacoom, Squaxin, S’Homamish, Stehchass, T’Peeksin, Squi-aitl, and Sahehwamish tribes negotiated and signed the Treaty of Medicine Creek in 1854 to dissipate the increasing tension. Many of the Tribes were unhappy with the terms of the Treaty and joined the Indian Wars of 1855-1856. After the Indian Wars, many of the Sahehwamish of Budd Inlet moved to the Nisqually Reservation, while others settled around the present Squaxin Island Indian Reservation (LAAS 1997).

The vicinity of the Deschutes River falls has the potential for a wide variety of historic archaeological resources related to the development of the historic settlement of Tumwater. However, based on the absence of identified archaeological materials or deposits during Western Shore Heritage Services, Inc. (WSHS) cultural resources assessment, the proposed project is not anticipated to have any effect on cultural resources. However, the extensive use in the immediate vicinity of Tumwater Falls Park provides concern. Given the historic development and the prehistoric land use of the area, it is likely that archaeological material is present, perhaps at a greater depth than that which was tested by the shovel probe methodology. Furthermore, some areas of the proposed project were unable to be systematically tested. If the project were to proceed as planned, archaeological monitoring is recommended at the Tumwater Falls Project area.

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

Pioneer Park: A professional archaeological survey was completed for the Pioneer Park site on April 29, 2004 by WSHS. The following is an excerpt from that report:

Field investigations at Pioneer Park consisted of 33 shovel probes spaced throughout the field areas anticipated to be disturbed based on current site plans. Areas investigated included the raceways, surface water intake, new trails throughout the project area, effluent treatment buildings and the maintenance building. Shovel probes were spaced to get maximum coverage from the areas anticipated to be affected and generally were spaced every 15m.

No archaeological material was identified within the Pioneer Park project area. An angular piece of basalt and a possible basalt flake were identified in one of the shovel probes adjacent to the river; however, further testing and examination of the unit indicated that basalt rip-rap was located directly adjacent to the probe leading to the notion that the material was not associated with any prehistoric deposit. Most other shovel probes spaced throughout the project area were free of any disturbed material. Small to medium gravels were the only inclusions in the heavy soil.

Tumwater Falls Park: A professional archaeological survey was completed for the Tumwater Falls site on April 30th by WSHS. The following is an excerpt from that report:

Field investigations at Tumwater Falls Park consisted of 10 shovel probes spaced throughout the areas anticipated to be disturbed based on current site plans. Areas investigated included the raceways, surface water intake and the new trail on the eastern side of the project area (trail is not included in this action). Portions of the new raceway were unable to be tested because of the current raceways on the northern portion, and the parking lot on the southern portion.

Of the 10 shovel probes excavated, no units contained archaeological material. Areas closest to the river such as the surface water intake and the southeastern segment of the new recreational trail under the Capitol Boulevard Bridge were highly disturbed and contained modern garbage including plastic bottles, bottle caps, glass, and metal wire. Shovel probes placed along the recreational trail to the west of the Capitol Boulevard Bridge were free of archaeological material, but also contained evidence of disturbance to a depth of 50cm, although this degree of disturbance was not consistent over the entire area. The numerous shovel probes located in the planned raceway footprints also failed to locate any archaeological material.

c. Proposed measures to reduce or control impacts, if any:

Pioneer Park and Tumwater Falls Park: Monitoring of construction activities is deemed necessary at the Tumwater Falls Park site, but not at the Pioneer Park site. WSHS visited both project areas with Larry Ross of the Squaxin Island Tribe in April 2004, with no project-specific archaeological concerns expressed over field methodologies or findings. In the event that ground disturbing or other construction activities result in the inadvertent discovery of archaeological resources, work should be halted in the immediate area, and contact made with city and county officials, the OAHF's State Historic Preservation Officer (SHPO), and appropriate Squaxin Island Tribal officials. Work should be halted until further investigation and appropriate consultation is concluded. In the unlikely event of the inadvertent discovery of human remains, work should be immediately halted in the discovery area, the remains covered and secured against further disturbance, and communication established with county administrative and law enforcement personnel, the office of the SHPO, and authorized Squaxin Island Tribal representatives.

14. Transportation

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Pioneer Park: The Pioneer Park site is wholly within the City of Tumwater and is accessed via Henderson Boulevard. The intersection of Henderson and 58th Avenue is located immediately north of the park entrance. The site would continue to be serviced via Henderson Boulevard. (designed to meet City of Tumwater commercial roadway standards) and no changes to the existing external road system are proposed.

Tumwater Falls Park: The Tumwater Falls Park is owned by the Olympia-Tumwater Foundation and is bounded by Interstate-5 and accessed via Deschutes Way. The site would continue to be serviced via Deschutes Way and no changes to the existing road system are proposed.

- b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Pioneer Park: The City of Tumwater is served by Intercity Transit. Routes 12, 13, 14, and 15 have stops at Tumwater Square and the intersection of Henderson Boulevard. and Yelm Highway, about 2 miles from Pioneer Park. There are no public transit stops in the immediate vicinity of the park.

Tumwater Falls Park: There are no public transit stops in the immediate vicinity of the park. The closest stop is at Tumwater Square, approximately one mile from the site.

- c. How many parking spaces would the completed project have? How many would the project eliminate?

Pioneer Park: No existing parking spaces would be eliminated. A new parking area would extend south from the existing parking lot located just south of the western-most soccer field (see site plan). It is anticipated that the new parking area would accommodate approximately 30 spaces, including two spaces designed to accommodate wheelchair access. This plan has been reviewed and preliminarily accepted by Chuck Denney, City Parks and Recreation Director.

Tumwater Falls Park: No new parking is proposed for the Tumwater Falls site.

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Pioneer Park: No.

Tumwater Falls Park: No.

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Pioneer Park: No.

Tumwater Falls Park: No.

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Pioneer Park: A relatively low number of daily truck and employee trips would be generated. Haul trucks would deliver materials such as fish feed and tank transfer trucks would carry juvenile Chinook salmon to the Tumwater Falls facility. Total vehicular traffic associated with hatchery activities is estimated at 12 round trips per day during typical operations. All loading would occur within the site access road area. Compared to the current program, the proposed program at Pioneer Park would result in fewer total haul trips over significantly decreased distances. The anticipated WDFW traffic generation for the site would not impact the existing Thurston County roadway system.

Vehicular trips per day for watershed center activities are estimated to average at about eight over the year. The watershed educational center would attract more visitors, particularly during the summer when the park is used most extensively.

Tumwater Falls Park: Total vehicular traffic associated with hatchery activities is estimated at six round trips per day during typical operations. The addition of educational facilities and viewing windows at the Tumwater Falls site may result in an increase in the number of visitors at the Tumwater Falls Park site. Peak visitor traffic currently occurs during the fall spawning activities when numerous school/educational groups tour the facility.

- g. Proposed measures to reduce or control transportation impacts, if any:

Pioneer Park: Managers of the educational center would coordinate with the City of Tumwater's Parks and Recreation department in order to assure that major activities at the center do not coincide with other site activities.

Tumwater Falls Park: Facility improvements are not anticipated to result in a transportation problem, no transportation mitigation measures are proposed.

15. Public Services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

Pioneer Park: Project actions are not anticipated to require additional staff from the City of Tumwater Police Department and Tumwater Fire Department to provide police and fire protection services.

Tumwater Falls Park: Because the Tumwater Falls site is already extensively used by the public, the proposed renovations and the addition of raceways is not anticipated to increase the need for public services.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

Pioneer Park and Tumwater Falls Park: No impacts are anticipated.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Pioneer Park: phone, electricity, water, sewer, natural gas on Henderson Boulevard.

Tumwater Falls Park: Phone, natural gas, electricity, water, refuse service, sewer are all currently available on site.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Pioneer Park: The Pioneer Park site would require connection to the City sewer line, electricity, possibly gas to heat the educational center and hatchery building (if electricity is not used), phone service, and refuse service.

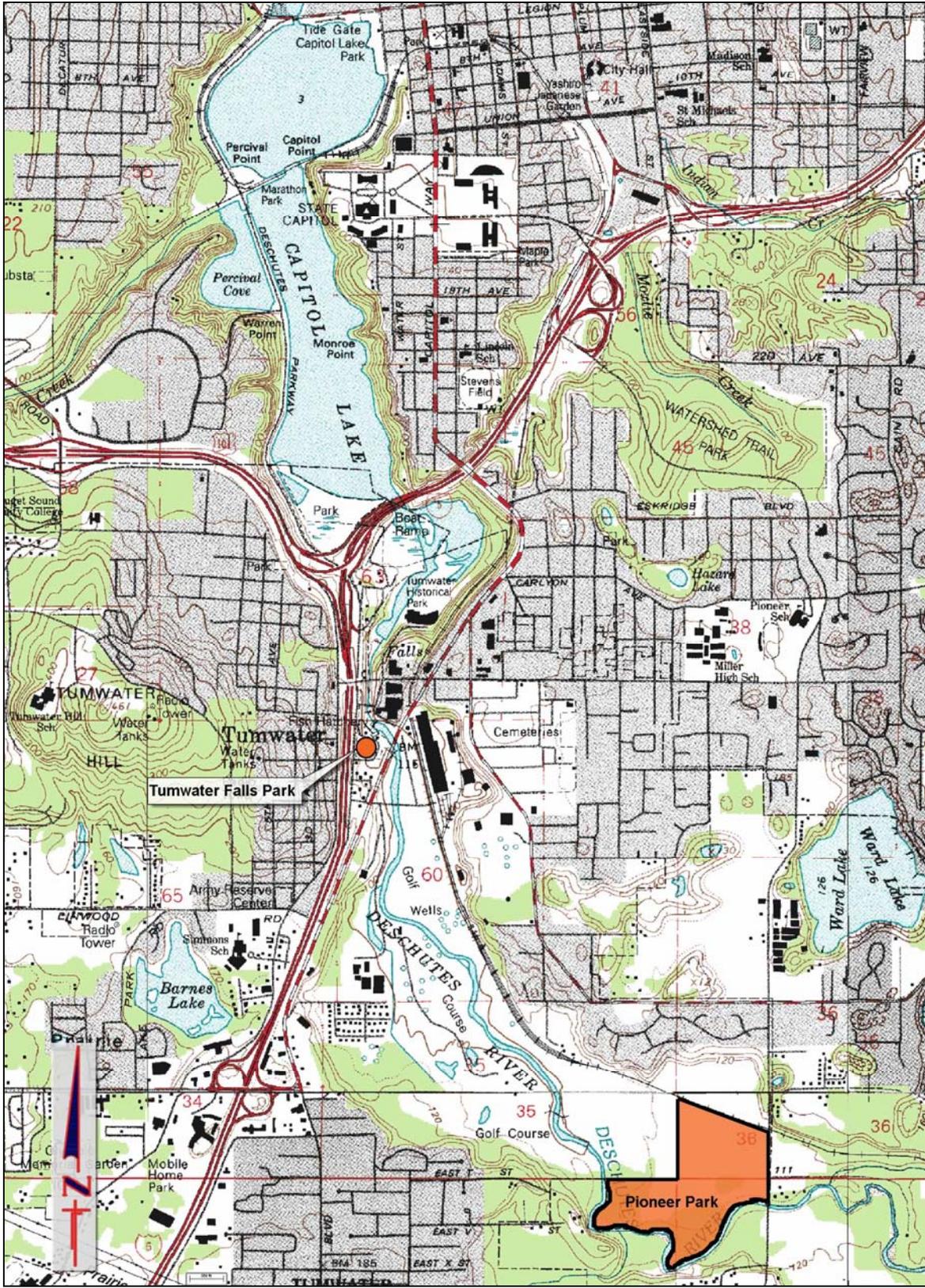
Tumwater Falls Park: No additional utilities would be required at this site.

C. SIGNATURE

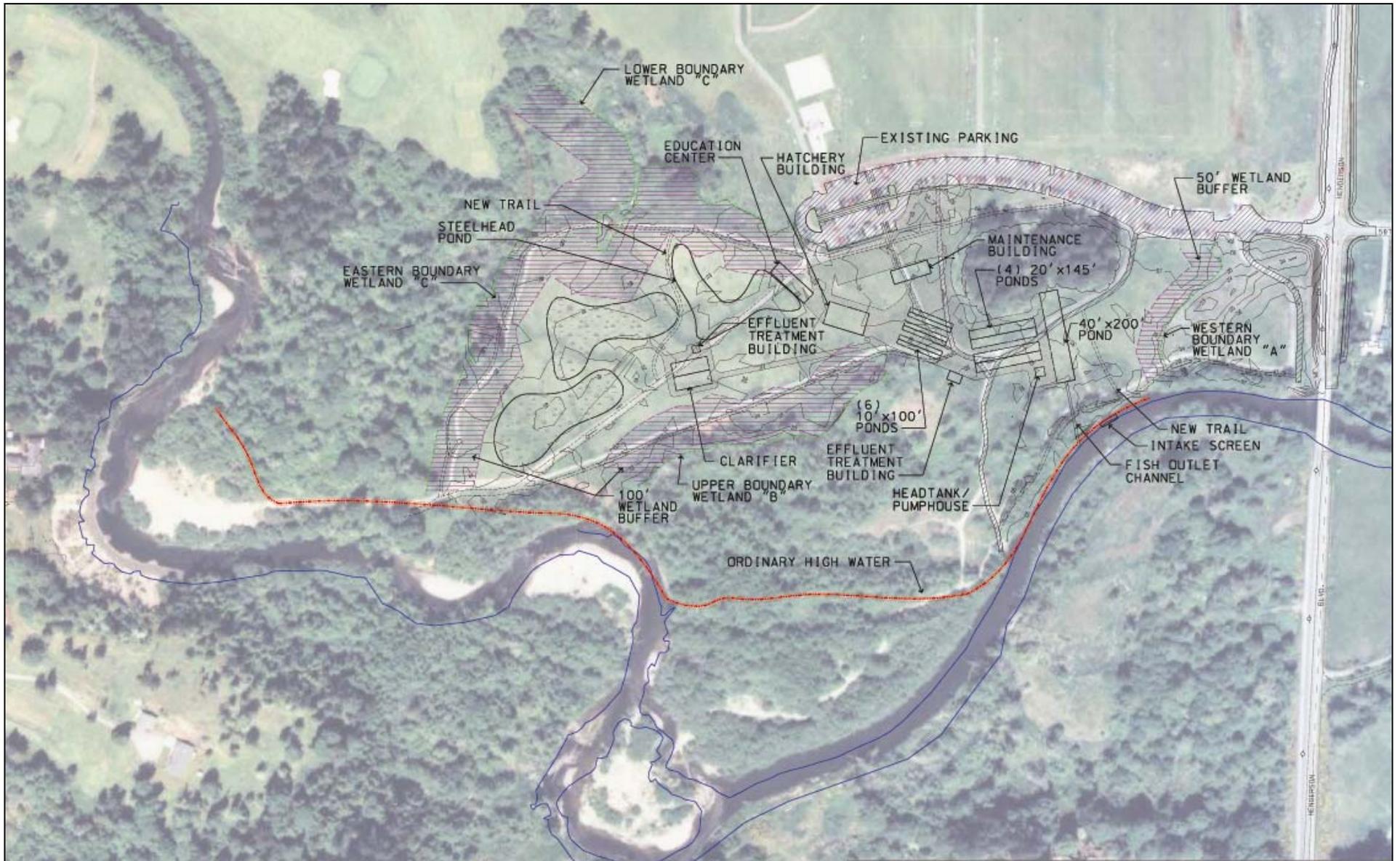
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:

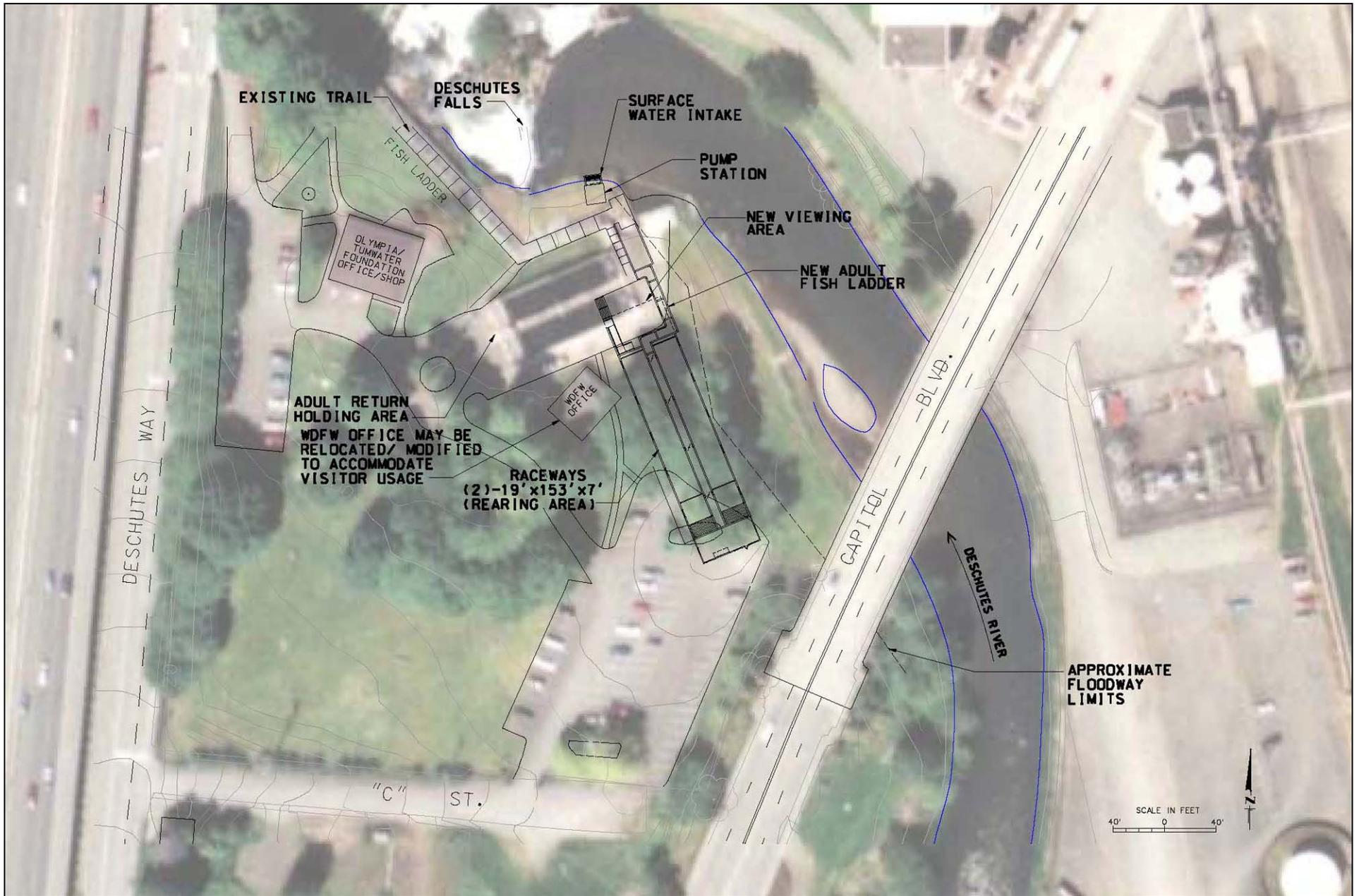
Date Submitted:



Vicinity Map



Pioneer Park Proposed Site Plan



Tumwater Falls Park Proposed Site Plan