

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

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.

Instructions for Lead Agencies:

Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

Please complete all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. ADDITION, complete the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). For nonproject actions.

A. BACKGROUND

1. Name of proposed project, if applicable:
Soos Creek Fish Hatchery Redevelopment
2. Name of applicant:
Washington Department of Fish and Wildlife
3. Address and phone number of applicant and contact person:
600 Capitol Way N, Olympia, WA / (360) 902-8383 / Douglas Mackey
4. Date checklist prepared:
10/18/13

Figure 1 - Vicinity Map



5. Agency requesting checklist:

Washington Department of Fish and Wildlife

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

This redevelopment project proposes new facilities of approximately 72,100 square feet and the removal of approximately 99,100 square feet of existing facilities. The full cost of the redevelopment is estimated to be between 16 and 20 million dollars and therefore will be accomplished over a period of years. Restoration of in-water and shoreline ecological functions are outlined for phase one with the all phases generally described as follows:

Phase I: Replace the in-water structures including the water intake, adult pond, and creation of a fish ladder. Phase one is scheduled for calendar years 2014 and 2015, primarily March through October.

Phase II: Redevelop the remainder of the hatchery fish rearing facilities. Phase two is scheduled to occur in 2016 or 2017.

Phase III: Construct two staff residences and public amenities. Phase three is scheduled to occur as soon as funds are received following construction of phase two.

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

The project is proposed to be constructed in three phases as outlined. Phase II and III are dependent upon funding from the Washington State Legislature. The agency now ranks the Soos Creek Hatchery redevelopment project as its number one priority among hatchery capital projects.

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

Joint Aquatic Resource Permit Application (for two agencies)

Shoreline and Wetland Report

Biological Assessment

Historic Property Evaluation, Historic Property Inventories, and Cultural Resources Report.

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.

Hatchery Genetic Management Plans (HGMPs) have recently been updated and are either approved or being reviewed by the National Marine Fisheries Service.

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

Federal

Section 404 Permit (Clean Water Act - Corps)

- **Section 7 Endangered Species Act Compliance/Consultation (USFWS and NMFS)**
- **National Environmental Policy Act (NEPA) Compliance (Corps)**
- **Section 106 National Historic Preservation Act Compliance/Consultation**
- **Magnuson–Stevens Fishery Conservation and Management Act**

State

Section 401 Water Quality Certification (Ecology)

General Construction Stormwater NPDES (Ecology)

Hydraulic Project Approval (WDFW)

King County

- **Shoreline Master Program (Shoreline Substantial Development Permit)**
- **Critical Areas Clearances (Steep Slopes Variance anticipated)**
- **Building, Demolition, and Engineering Permits**
- **Clearing and Grading Permit**

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.)

The Soos Creek Hatchery was the seventh fish hatchery to be built in the state of Washington. Beginning operation in 1901 as the White River Hatchery it was soon renamed the Green River Hatchery, and officially renamed the Soos Creek Hatchery in 1948. The hatchery is consistently reported to be one of the most important hatcheries in the state's system primarily due to its responsibility for rearing up to 20% of the Puget Sound Chinook harvested in many years. The official name of the creek is Big Soos Creek, though is more commonly known as Soos Creek and will be referred to as such in the remainder of this document.

The entire complex is in need of redevelopment as most facilities have reached their life-expectancy. Natural resource management and other environmental issues must be addressed that are a result of the original, outdated, site planning. Several of the facilities reside directly in Big Soos Creek (known as Soos Creek and others within regularly flooded areas. The complex was designed and constructed before environmental concerns had become part of fish hatchery planning.

The Soos Creek Hatchery Redevelopment design has been guided by environmental engineering principles. The facility's structures are being moved away from the creek and especially out of flood zones. The phased project is consistent with hatchery reform measures developed by the Hatchery Scientific Review Group (HSRG). The Puget Sound and Coastal Washington Hatchery Reform Project, authored by the HSRG, outlined the following capital project facility recommendations:

- **Design and construct an adult holding and sorting pond that is not in the mainstem of Soos Creek.**
- **This new facility should include bypass facilities for efficiently passing adult fish upstream, and a weir for diverting upstream migrating fish into the holding pond.**
- **Create elevated or moved (relocated) raceways.**
- **Include bird netting.**
- **Include educational signage, etc.**
- **Upgrade the pollution abatement system.**
- **Develop a pre-settling pond for the intake.**

The first phase includes redevelopment of the critical functions of hatchery operation that are located in or immediately adjacent to Soos Creek. The second phase includes the remaining important elements of the hatchery operation. The third phase completes the redevelopment with support facilities such as staff housing and public amenities that serve visitor needs.

Detailed facility drawings illustrating proposed removal and corresponding construction are in Appendix A – Project Drawings; and Appendix B – Project Phasing.

Phase I: Replace the in-water structures including the water intake, adult pond, and creation of a fish ladder. Phase one new construction is scheduled for calendar year 2014, primarily March through October. Removal of the in-water structures including existing lower adult pond weir, existing intake and existing diversion dam (sheet pile) would occur in 2015 once the new structures have proven viability.

- **Demolish and remove the existing lumber shed.**
- **Improve the northern bridge crossing of Soos Creek with timber curbs and hand railing**
- **Construct a fish ladder providing fish passage through the adult ponds with a connection back into Soos Creek.**
- **Construct a new water intake facility with associated pipelines throughout the hatchery facility.**
- **Construct adult ponds in a near-by upland location. One of these five adult ponds may serve temporarily as the abatement pond for the new adult ponds (see also Additive Alternates).**
- **Remove the diversion dam and the existing intake.**
- **Remove and restore the adult pond including removal of the downstream weir, and restoration of the creek environment at the existing adult pond to the historic bankfull width.**

Phase I Additive Alternates: These structures will be constructed depending upon bids from prospective contractors. Otherwise they will be part of Phase II.

- **Replace approximately 50% of the upstream weir with a new diversion dam with a tainter gate,**
- **Construct the abatement pond.**
- **Replace the northern bridge crossing of Soos Creek**

Phase II: Redevelop the remainder of the hatchery fish rearing facilities. Phase two is scheduled to occur in 2016 and/or 2017.

- **Complete Additive Alternates of Phase I, if not yet completed.**
- **Construct settling ponds.**
- **Convert temporary abatement pond to adult pond, if necessary.**
- **Construct two sets of rearing ponds.**
- **Construct a new hatchery building with incubation racks, rearing troughs, and offices.**
- **Construct fish feed storage building.**
- **Remove the rearing ponds on the southern part of property and restore to wetland habitat.**
- **Demolish hatchery buildings and structures scheduled for removal including: hatchery building, concrete and asphalt rearing ponds, and abatement pond.**

Phase III: Construct two staff residences and public amenities. Phase three is scheduled to occur as soon as funds are received following construction of phase two.

- **Demolish the Old Auburn Maintenance Buildings including: main maintenance building, lumber shed, equipment storage building, and another storage building.**
- **Construct two residences, parking areas, kiosks, restrooms, and paved connections.**

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, "and county" 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.

The Soos Creek Hatchery street address is: 13030 SE Auburn-Black Diamond Road, Auburn, WA 98092. The hatchery is in King County and is located in the North East ¼ of Township 21N Range 05E Section 16. A vicinity map is on page one.

**The Property Parcel number is 162105-9005, and the legal description reads:
SE 1/4 OF NE 1/4 LESS NP R/W LESS CO RD & LESS ST HWY**

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site

(circle one): Flat, rolling, hilly, steep slopes, mountainous,

other: **The project area is generally flat as the lands supporting the hatchery follow the slope of Soos Creek's flood plains from northern higher ground to the lower components farther south. The small portion of the land proposed for development slopes upward to the west, including slopes in excess of 40%.**

b. What is the steepest slope on the site (approximate percent slope)?

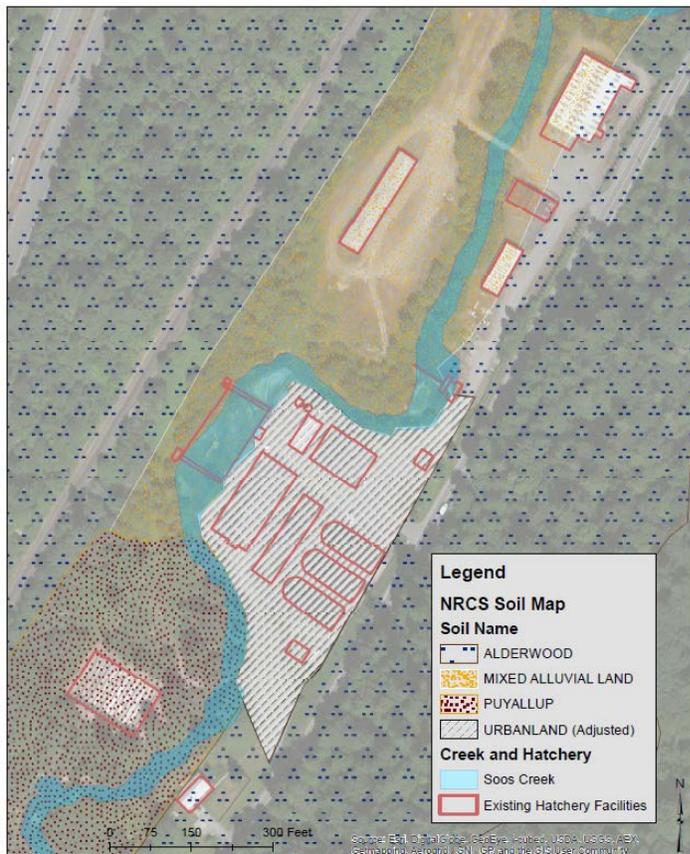
The project area steep slopes are about 55% at their steepest locations in the area developed outside of the creek channel. Some built features such as the armored banks are sloped at about 100%.

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.

The area proposed for redevelopment on this property is primarily "mixed alluvial lands" per the Natural Resources Conservation service (NRCS) data. Two other true soil types are found at the site: "alderwood" and "Puyallup," with "urbanland" or pavement comprising the final 'soil type' in the areas where the project will occur.

Figure 2 – Soil Map

Soos Creek Hatchery Soils and Existing Facilities



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

King County’s database posts the following designations, see Table 1, for the hatchery property:

Table 1

King County planning and critical areas designations			
King County zoning	A-10	Potential annexation area	does not apply
Development conditions	None	Rural town?	No
Comprehensive Plan	ag	Water service planning area	does not apply
Urban Growth Area	Rural	Roads MPS zone	379 and 380
Community Service Area	SE King County Area	Transportation Concurrency Management	pass
Community Planning Area	Soos Creek	Forest Production district?	No
Coal mine hazards?	None mapped	Agricultural Production district?	No
Erosion hazards?	Yes	Critical aquifer recharge area?	Class 2
Landslide hazards?	Yes	100-year flood plain?	None mapped
Seismic hazards?	Yes	Wetlands at this parcel?	None mapped

The landslide hazard zones are to the east and west of the floodplain of Soos Creek where the hatchery redevelopment project is proposed. The settling pond and abatement ponds are proposed for locations at the base of the western landslide hazard zone.

A Geotechnical Report was completed in August of 2013 for the project by PanGEO Inc. Soil conditions and corresponding construction recommendations are summarized at the beginning of this report:

In general, the site for the redevelopment is underlain by fill and alluvium with intermediate drift deposits at depth. The hillside slopes on the west side of the property are generally underlain by mass wasting deposits (old landslide debris). Additional fill will be placed on the site to elevate the hatchery above the 100 year flood. Settlement tolerant structures, such as the hatchery building and ponds, may be supported on shallow foundations bearing on the new or old fill while settlement intolerant structures, such as the intake and pump house as well as the new bridge to the hatchery should be supported on steel pipe piles driven to the intermediate drift deposits. Steel sheet piles will be used for the permanent walls of the fishway.

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

Re-grading will be required on much of the site including excavation for the fish ladder, modifications to the upper weir, the new water intake, the foundations of all buildings, and the water utility infrastructure. Special excavation of outdated in-water facilities: the adult pond weirs, the diversion dam and the old intake pieces must occur *after* the new facilities are in place and fully tested. Some modest over-excavation may be necessary to address the structural requirements in this earthquake zone.

Removal of substrates, or land cuts, for Phase I and II total approximately 13,100 cubic yards (CY) of soils, riprap, and historic landfills (concrete), with fill material estimates of about 13,500 CY of fill. Cuts and fills of approximately 1,050 CY for Phase III are estimated. Local quarries will provide suitable fill material with some reuse of creek-side boulders used during previous construction activity.

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

Yes. The excavation and grading activities during construction will disturb soils. However, this area is largely composed of imported fill material (gravels and riprap). Clearing for the construction of the new bridge, fish ladder, intake facility and abatement/settling ponds will require removal of vegetation, though this will be minimized. Post-construction erosion will be minimal as the site re-developed near water will be stabilized with riprap where required or re-vegetated with riparian and wetland restoration planned for several locations.

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

The property will experience an overall reduction in coverage by impervious surfaces once all phases have been constructed. This 120,379 ft², or 8.1%, decrease in developed areas will represents at least enhancement, and in several instances, restoration of vegetated areas including wetlands. See Table 2 below.

Table 2

Development Footprints	All quantities are in square feet	Existing	Proposed	Net Gain (Loss)
Structures		102456	82,784	(17,633)
Roads, drives, parking		272073	169,327	(102,746)
Total		374529	254,150	(120,379)
Percent of Project Area	1469650 = 100%	25.5%	17.3%	(8.1%)

- g. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
Construction will occur primarily during the summer months when precipitation is lower. Construction BMPs will be in-place to minimize the erosion potential and to protect Soos Creek. Sediment control measures, such as silt fencing, straw bales, and covering fill materials will be in place. Stockpiled materials will be stored away from Soos Creek and all stormwater drainages. Materials will be covered, as appropriate, to minimize erosion. Land clearing will be kept to the minimum necessary to complete the project. Exposed soils will be revegetated post-construction.

The intake facility and the reconstruction of the upper weir have been engineered to stabilize the creek bed of Soos Creek upstream and downstream of the intake.

2. Air

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

Emissions will occur from construction equipment operation. No post-construction emissions will occur other than those already present in the form of periodic use of a generator.

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

No

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

Standard emission control converters and mufflers would be in use by construction vehicles.

3. Water

a. Surface Water:

- 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.

The project will occur within and adjacent to Soos Creek, a tributary to the Green River.

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

Yes. Essentially all hatchery buildings and support structures are within 200' of ordinary high water. With the exception of the existing maintenance building, all buildings and structures will be replaced during one of the phases of the hatchery redevelopment. See attached site plans.

The existing bridge that provides vehicle access to the storage shed on west side of Soos Creek will be expanded and elevated to provide good emergency access and minimize effects of the existing bridge to the floodplain.

- 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.

Phase I: Dredge and/or fill activities in surface waters

Excavation below Ordinary High Water (OHW)

Proposed Intake: 800 cubic yards

Proposed Fishway: 300 cubic yards

Remove existing intake facility (including old metal and concrete parts of the intake facility materials): 230 cubic yards

Remove existing lower weir of existing Adult Pond (including concrete footings): 170 cubic yards

Total in-water excavation: 1,500 cubic yards

Fill below Ordinary High Water (OHW)

Proposed Intake 550 cubic yards

Proposed Fishway: 300 cubic yards

Restoration/Fill to approximate full bankwidth at old intake facility (including old metal and concrete parts of the intake facility materials): 450 cubic yards

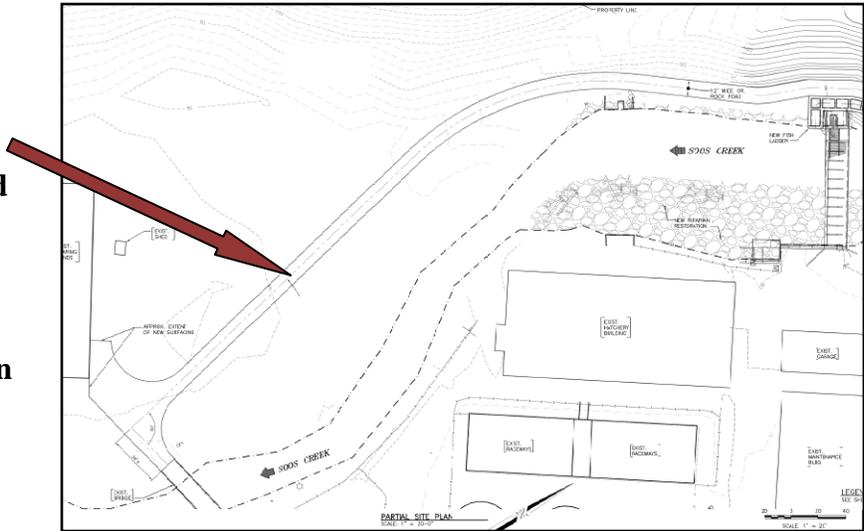
Restoration/Fill to approximate full bankwidth of existing Adult Pond, includes old lower weir: 1,500 cubic yards

Total in-water fill: 2,800 cubic yards

Construction access will be substantially better by improving the existing maintenance access road, see Figure 2, on the west side of Soos Creek. This road would require some additional fill with construction entrance road materials. WDFW is committed to mitigating for any adverse impacts that this temporary access might create and is addressing this (potential) fill and restoration plan in the wetland report.

Figure 2

Construction access on an existing rudimentary railroad maintenance road



Phase II: Wetland restoration

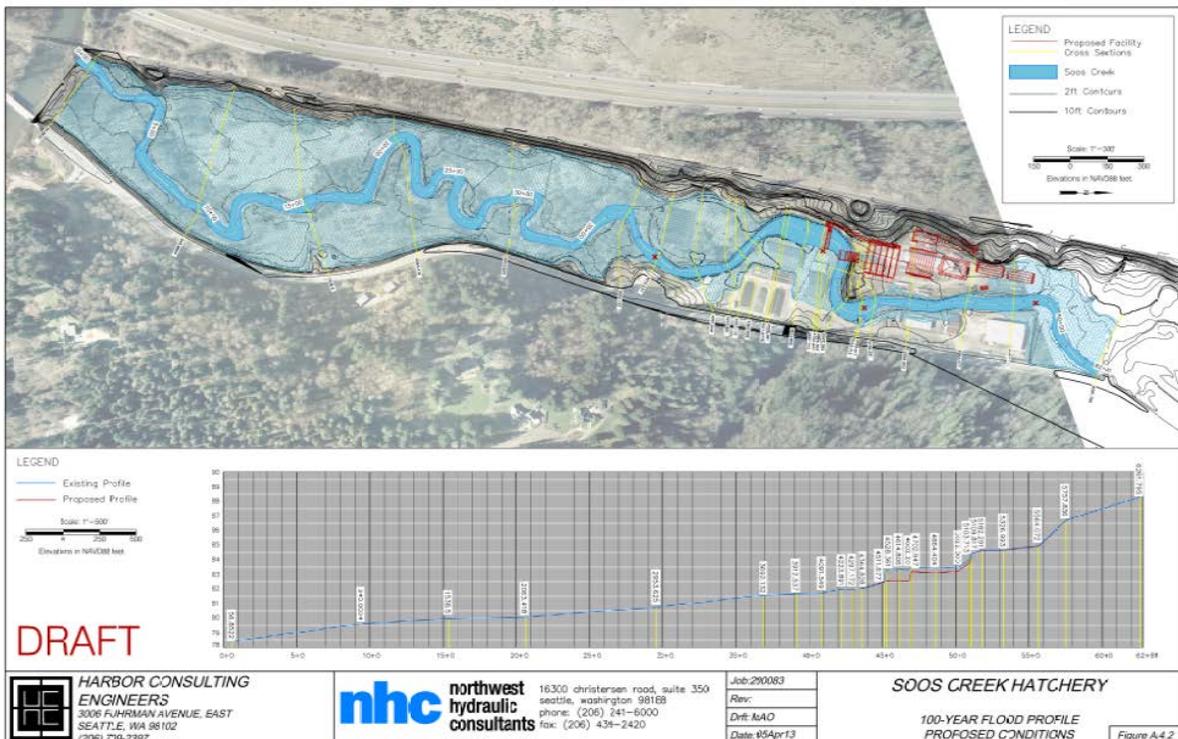
Approximately 750 cubic yards of concrete and foundation gravel will be excavated from the below grade area to remove the south rearing ponds. A slightly larger quantity, 800 cubic yards, of wetland soils would be available to restore wetland habitat at this location.

On-site excavated materials will be reused to the extent possible; primarily rock and boulder material. Import of new, clean, fill material will be sourced locally.

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

The proposed project will not change the existing surface water withdrawal quantities occurring to operate the Soos Creek Hatchery. The locations of the intake and outfall(s) will change per the project drawings.

Figure 3 – Flood Mapping – Illustrating the 100-year from NHC’s modeling



5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
FEMA flood data is not yet available for this portion of the Soos Creek basin. Local experience and flood modeling performed by Northwest Hydraulic Consultants (NHC) identified a proposed 100-year flood zone using the USACE HEC-RAS model, shown above in Figure3. This HEC-RAS generated flood plain is also reflected on the site plans.

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.
No new discharges are planned. Hatchery water quality needs functionality will be greatly enhanced by including two ponds. The project includes rebuilding the water lines throughout the hatchery facility providing added flexibility; but no change in water use or hatchery operation is planned. Per requirements of the hatchery NDPEs discharge permit, WDFW will notify the Department of Ecology (ECY) of minor changes and work with ECY and other interested agencies with regard to design changes in the settling and abatement ponds.

b. Ground Water:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.
No.
- 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.
Two single family residences, with corresponding fully-compliant on-site treatment, are planned for the property that will be constructed during phase three.

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.
Site planning has been accomplished to avoid the need for any stormwater treatment facilities once the project is constructed. The stormwater pipes currently discharge to Soos Creek are expected to be able to continue to discharge to Soos Creek following an engineered plan for the distribution of stormwater. Phases I and II will likely involve ground disturbing work in over an acre of project activity therefore NPDES permits will be secured accordingly.

Rain water that enters the construction site, including water pumped from dewatering cofferdam areas, will be isolated until sediments have settled, and then discharged to Soos Creek. After June an empty chamber of one of the hatchery's existing ponds may be able to utilized for this purpose. These ponds are designed to allow settlement of solids and then discharge the clarified water. Settled solids will be removed from the pond post-construction and disposed of at an upland location.

Post-construction adverse impacts are not anticipated from stormwater as the volumes associated with the impervious surfaces will be addressed with filterstrips or a small bioswale. Roof water of the buildings will be engineered for treatment where needed or allowed to infiltrate into the ground.

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

The possibility of waste materials entering ground or surface waters is very low given the full range of best management practices planned for construction.

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

To minimize impacts to surface water stormwater runoff will be managed utilizing sandbags, geofabric and/or other methods around stockpile and excavation areas to prevent runoff of sediments. Silt fencing will be placed along the upland areas of work adjacent to Soos Creek to prevent run-off water or sediments from entering Soos Creek. All stockpiles and excavation areas shall be protected from release of sediment. In any area where vegetation has been removed or has experienced land disturbing activities and where no work will be conducted for over 48 hours will be stabilized with mulching, grass planting or approved erosion control treatment. The fishway and intake area will be isolated from Soos Creek by cofferdams. The work area within the cofferdams will be dewatered by pumping the water to a settling area prior to discharge to the creek. Any stormwater entering the excavation area will be routed to a temporary holding/settling pond, before discharging to Soos Creek. Work will be conducted in the dry within the cofferdam. Wet concrete will be allowed to cure sufficiently prior to any contact with Soos Creek. Precast concrete will be utilized as much as possible to minimize the use of wet concrete and to shorten the duration of construction. All erosion and sedimentation control devices shall be installed prior to the first stage of construction. The stormwater facilities will be inspected by the contractor daily and will remain in place until the final site stabilization is achieved.

4. Plants

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

deciduous tree: **alder, maple**, aspen, other: **willow, cottonwood**

evergreen tree: **fir, cedar**, pine, other

shrubs: **willow, blackberry, salmonberry, snowberry**

grass

pasture

crop or grain

wet soil plants: cattail, buttercup, bullrush, skunk cabbage, **other**

water plants: water lily, eelgrass, milfoil, other

other types of vegetation

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

Vegetation to be removed includes several dozen shrubs including blackberry, salmonberry, and snowberry; and the following trees: Douglas fir, cedar, maple, alder, cottonwood, and cherry. A tree count conducted in July of 2013 identified the following 60 trees to be removed:

Phase One	Type	Estimated dbh (in)	Number of Plants (24)
Intake/Mechanical Building	Alder	8; 12	3; 1
Adult Ponds	Maple	12	2
	Douglas Fir	12	1
	Alder	8	2
Fishway and vehicle path	Maple	12	1
	Alder	8; 10	7; 2
	Cedar	20	1
Construction Access Road (may, or may not be rebuilt)	Alder	8	3
	Cherry	8	1
Phase Two	Type	Estimated dbh (in)	Number of Plants (36)
Settling Ponds & Abatement Pond	Maple	8; 12; 14; 16; 20; 24	4; 4; 11; 3; 1; 1
	Alder	8; 10	1; 3
	Cedar	20	4
	Cottonwood	8	4

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

The Natural Heritage Program (NHP) databases as well as the state (WDFW) and federal agency listings (USFWS) were examined for threatened or endangered plants on September 27, 2013. There are no listed plants of concern within 1.25 miles of the project area.

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

Throughout all phases native vegetation will be planted where ground-disturbing activities take place. Landscape, enhancement, and restoration areas are shown on sheets in Appendix B. All project areas along the stream corridor where structures are being removed will be restored to a pre-hatchery character with the exception of those portions of creek bank where stabilization in place is required to create the hydraulic character necessary to operate the intake within the specifications prepared by the project's hydrologists.

Vegetation proposed includes the following native species (selected for tolerance to moist soils and shade, and their soil binding capabilities): Salmonberry, Pacific Ninebark, Snowberry, Nootka Rose, Big Leaf Maple, Cottonwood, Western Red Cedar and Alder.

Estimated plant quantities (not including wetland restoration):

Plant Type	Spacing (foot on-center)	Number of Plants
shrubs	6	120
trees	10	80
TOTAL		200

5. Animals

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

birds: **hawk, heron, eagle, waterfowl, songbirds**, other :
mammals: **deer, bear, elk, beaver**, other:
fish: **bass, salmon, trout**, herring, shellfish, other:

- b. List any threatened or endangered species known to be on or near the site.
Three threatened fish species (ESUs) occur in Soos Creek or the near-by the Green River at this location:
Chinook Salmon (*Oncorhynchus tshawytscha*) – including critical habitat
Steelhead trout (*Oncorhynchus mykiss*) – critical habitat has now proposed including this part of Soos Creek (NMFS)
Coastal-Puget Sound Bull trout (known occurrence in the Green River, assumed limited use of Soos Creek by sub-adults).
Coho Salmon (*Oncorhynchus kisutch*) are listed as a Species of Concern.
- Priority Habitat and Species data (PHS, per WDFW, 8/5/13) show three wetland areas within two miles of the site. These include the Green River Wetlands (Lower River and Upper River) and Coal Creek Wetlands. The closest is southwest 1/3 mile on the Green River. The PHS data also show this site is near the edge of the Green/Cedar River Elk Range.**
- c. Is the site part of a migration route? If so, explain.
The site is considered part of the Pacific Flyway used by migratory birds. Soos Creek is a migration route for several species of salmon and steelhead trout.
- d. Proposed measures to preserve or enhance wildlife, if any:
The proposed project provides needed upgrades to a hatchery that is responsible for spawning and rearing fish that listed on the Endangered Species List. Replacement of the in-stream adult with a fishway, attraction flows, and upland holding ponds will reduce stress on adult fish, eliminate manual handling, netting, and transport of bloodstock, and will greatly reduce impacts to returning wild fish.

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.
None
- b. Would your project affect the potential use of solar energy by adjacent properties?
If so, generally describe.
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:
None are included.

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.

During construction wet cement will be utilized and uncured cement and cement leachate are toxic to fish. A leak or spill of oil, diesel, or hydraulic fluid could occur from construction equipment.

- 1) Describe special emergency services that might be required.
None

- 2) Proposed measures to reduce or control environmental health hazards, if any:
All wet cement will be properly cured prior to exposure to Soos Creek. A cofferdam will be constructed to isolate the work area from Soos Creek. Construction equipment will be staged and fueled at a safe away from Soos Creek. All construction equipment will be inspected daily for fluid leaks.

- b. Noise

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

SR 18 is approximately .2 miles to the west of project site and the Auburn-Black Diamond Road is on the east side immediately adjacent to the project site. Noise from highway traffic will not affect the project.

- 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.

Short-term noise will occur from construction equipment and pile driving. Long-term noise is limited to the air-compressor for the surface water intake screen cleaning. The air compressor will be housed within the mechanical building and will operate as needed to keep the intake screen free of debris.

Hours of construction will be limited to those allowed by King County noise code requirements (Chapter 12.88.040). Construction noise is limited based on noise levels and time of day. Typical noise generated from construction equipment can occur during daytime hours only, which are defined as 7am to 10pm on weekdays and 9am to 10pm on weekends.

Sheet piling is proposed for several structures in the proposed redevelopment. These will be installed using vibratory pile driving techniques, but may require impact pile driving where certain engineered specifications must be met.

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

Construction equipment will be outfitted with mufflers in good working order. Pile driving activity will be restricted to vibratory techniques to the greatest extent possible.

The air compressor will be housed within the mechanical building.

8. Land and shoreline use

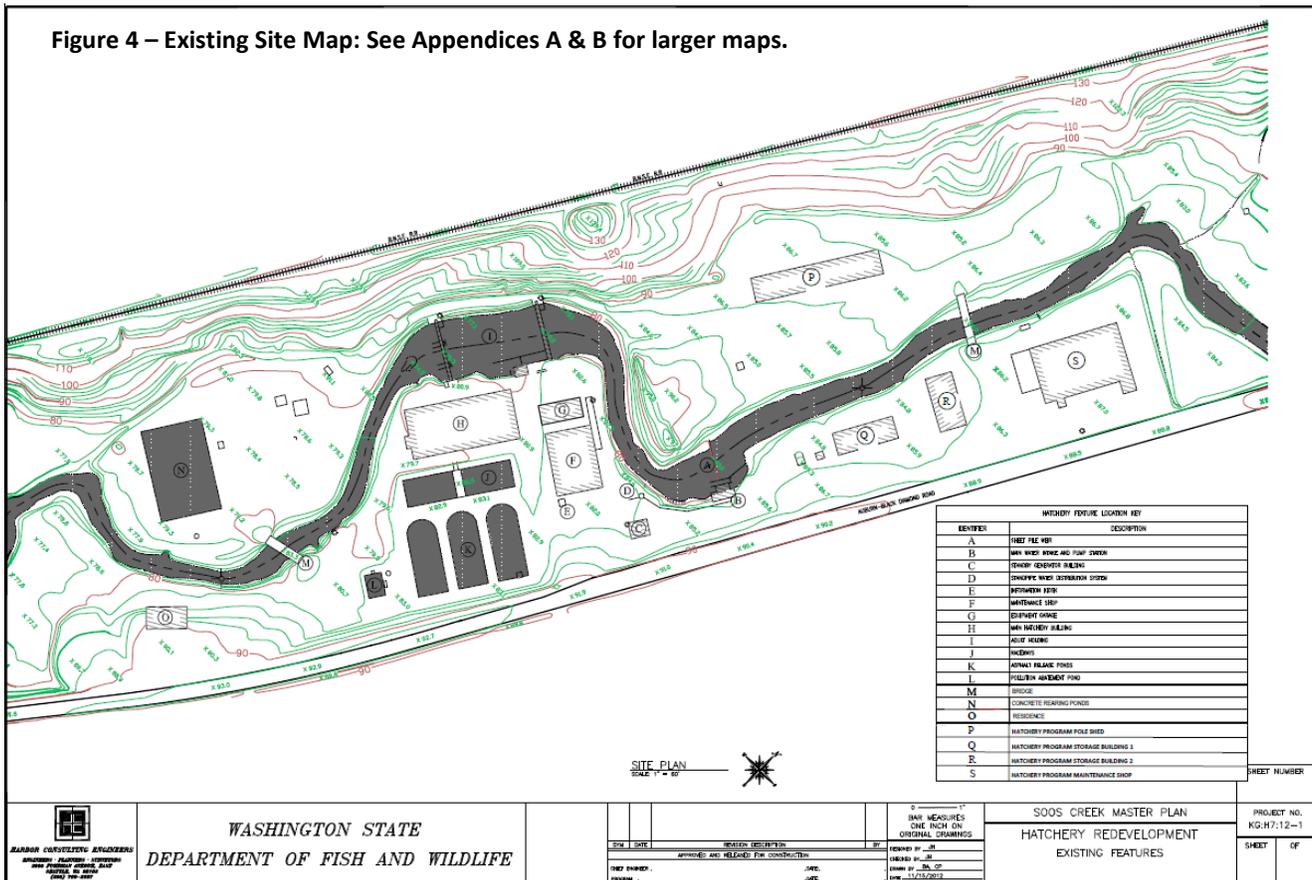
- a. What is the current use of the site and adjacent properties?

The site is currently utilized as a fish hatchery or for “aquaculture” as defined in King County Code. The adjacent property uses include rail road and State Highway 18 to the west, private residential properties to the north, east, and south, as well as a county “park”, the Hatchery Natural Area, to the southeast.

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

The site is used for traditional aquacultural purposes. Though by most common accounts this is not viewed as a traditional agricultural use. The “aquaculture” purpose is an approved water-dependent use under the King County Shorelines Master Program.

Figure 4 – Existing Site Map: See Appendices A & B for larger maps.



c. Describe any structures on the site.

The Soos Creek Fish Hatchery is comprised of the main hatchery building, an adult holding pond bounded by upper and lower picket weirs, a sheet pile dam spanning the width of Soos Creek, with an intake structure that connects to an extensive labyrinth of above- and below-ground water pipes. Other hatchery facilities include rearing ponds, asphalt release ponds, a pollution abatement pond, a maintenance shop, equipment garage buildings, outfall, and collection ladder. Four abandoned buildings that once served as the WDFW agency Maintenance Shop are still standing and are scheduled for demolition and a subsequent restoration of land to

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

Phase I

- Demolish and remove the existing lumber shed.
- Remove/demolish the diversion dam and the existing intake.
- Remove/demolish the southern or downstream weir in order to restore the creek to an average bankfull width

Phase I - Additive Alternates: These structures will be demolished depending upon bids from prospective contractors. Otherwise they will be part of Phase II.

- **Replace/demolish the northern bridge crossing of Soos Creek**
- **Replace approximately 50% of the upstream weir with a new diversion dam with a tainter gate,**

Phase II - Redevelop the remainder of the hatchery fish rearing facilities. Phase two is scheduled to occur in 2016 and/or 2017.

- **Complete Additive Alternates of Phase I, if not yet completed.**
- **Remove/demolish the rearing ponds on the southern part of property and restore to wetland habitat.**
- **Demolish hatchery buildings and structures scheduled for removal including: hatchery building, concrete and asphalt rearing ponds, abatement pond, and pavement areas identified for enhancement.**

Phase III

- **Demolish the Old Auburn Maintenance Buildings including: main maintenance building, lumber shed, equipment storage building, another storage building, and pavement areas identified for enhancement.**

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

A-10 - Agricultural, one DU per 10 acres

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

The King County Comprehensive Plan was updated in 2012 and the Soos Creek Hatchery property remained A-10 Agricultural, though it is not part of the "Agricultural District."

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

The land above Ordinary High Water (OHW) is designated "Resource Shoreline"; the substrate below OHW is designated "Aquatic Shoreline."

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

The King County identifies the area of the hatchery in the following sensitive areas: landslide hazard; erosion hazard; and steep slope hazard. The project is within the Aquatic Area buffer which for the Soos Creek basin is 165 feet plus a 15-foot set-back. The project site is in a Class 2 Salmonid stream with high susceptibility to groundwater contamination and Chinook distribution.

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

Up to 15 workers can be staffing the facility when co-managers from the Muckleshoot Tribe and DFW staff are at full strength. Two families will use the two residences planned for phase three.

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

None

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

None

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

None

9. Housing

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

Two residences are planned for this redevelopment. Management of fish hatcheries requires a quick response time to emergencies by trained staff that live near-by. The housing will be middle-income housing.

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

None

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

None

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?

The tallest building will be hatchery building at 26 feet tall (to the roof's ridgeline), with a weather vane on a small cupola that will reach 33 feet in height. The steel stud framing will be covered with a Split-face Concrete Masonry Unit (CMU) Veneer Wainscoat base and AEP Span Mini-V-beam Siding.

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

The view-scape of, and from, the hatchery will change considerably through the redevelopment. There are no territorial views, per se, and the views specific to the public's hatchery experience will change since the gathering of adult fish in the existing "adult pond" will shift to the views of fish entering the fish ladder and swimming in the upper adult ponds. A simple viewing platform is scheduled for visitors along one of the adult ponds in Phase I. Other visitor use areas will be constructed as part of Phase III.

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

None

11. Light and glare

- a. What type of light or glare will the proposal produce? **None.** What time of day would it mainly occur?

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

No

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

None

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

None

12. Recreation

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

The closest recreation areas to the hatchery are King County Natural Areas, including the 23-acre Hatchery Natural Area which is just downstream adjacent to the Soos Creek Hatchery.. Visitors use the Hatchery Natural Area for fishing. Use appears to be from light to moderate fishing for all sport fisheries between June 1 and August 31. The site is available for passive recreation activities such as walking, fishing or hiking. Three other Natural Areas (NA) are nearby on the Green River including, Auburn Narrows NA, Porter Levee NA, and Neely Bridge NA. The hatchery grounds are public lands and are open to visitors with some areas restricted for safety reasons.

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

No, not in the long term, though there will be a construction period when the facility will be closed to public visitation.

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

None

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.

The Washington Department of Fish and Wildlife completed the Soos Creek Historic Property Evaluation, July 15, 2013 by David M. Hansen. (Available upon request) This evaluation addressed all of the structures on the property including those used by the agency's statewide maintenance facility housed on the north end of the same property from the late 1960's to 2002. The main hatchery building is the only structure believed to be eligible for listing on the National Register of Historic Places, though its location within the floodplain will require it be removed. The Soos Creek Historic Property Evaluation has been submitted to the Department of Archaeology and Historic Preservation and is available from WDFW upon request.

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

The main hatchery building was constructed in 1949 and was evaluated in Historic Property Evaluation mentioned above. Historic Property Inventory data is being filed by WDFW as part of the redevelopment permitting process and will be reviewed by the Department of Archaeology and Historic Preservation. It is anticipated that a photographic report will be required prior to the demolition of the structure. None of the other structures at the site

An archaeological investigation is planned in concert with the US Army Corps of Engineers review of the project under their Section 106 in cooperation with the Muckleshoot Tribe.

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

WDFW will work with the Muckleshoot Indian Tribe and the US Army Corps of Engineers archaeologists to determine the appropriate investigations and methods of managing any potential adverse impacts of the redevelopment.

14. Transportation

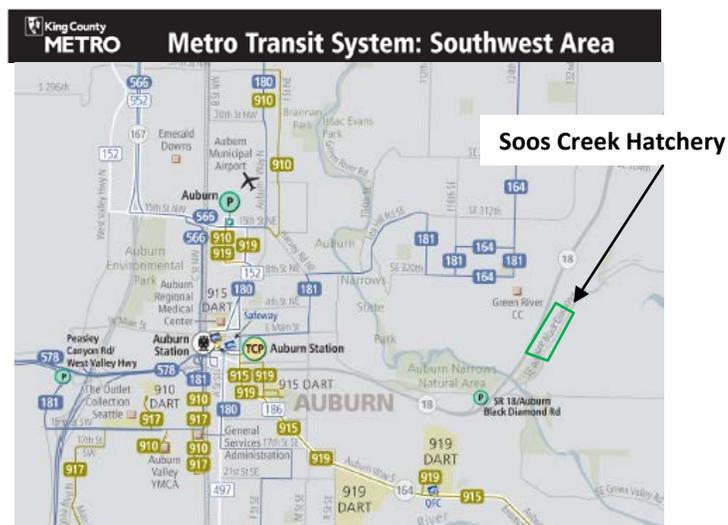
- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The site is accessed from the SE Auburn-Black Diamond Road. The project will utilize the existing access routes to the site with an on-site bridge improvement planned for the north bridge.

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

The site is not served directly by public transit. The nearest King County Metro Bus service can be found on routes 16 and 181 (see Figure 5, below). Public School busses do, from time to time, plan trips to the hatchery for educational purposes.

Figure 5 - Public Transit near hatchery



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

Parking at the hatchery is currently adequate to meet parking needs in designated areas with non-delineated parking stalls. The proposed redevelopment will delineate several parking stalls as well as establish designated general areas for parking.

- 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).

No, none are required that we are aware of at this time, though the widening of the north bridge is being considered and is a topic of discussion between King County and WDFW.

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

No

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

None

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

None

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.

Phase II calls for relocating the hatchery building and fire protection needs will accompany this component of hatchery redevelopment.

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

Phase II, and possibly Phase I as an additive alternate, will include widening of the north bridge that crosses Soos Creek.

16. Utilities

a. Circle (**emboldened**) utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system,

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.

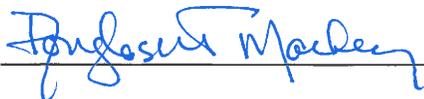
Electrical power is needed primarily to pump run water through the hatchery facilities that support fish rearing with other electrical systems for lighting. Electrical system components will be upgraded or expanded in each phase to service the new facilities as they are constructed.

The two residences planned for the last phase of development will require an inspection and possible redevelopment of the on-site sewer system that served the hatchery program's maintenance program staff. There was, not too long ago, adequate capacity for two households.

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: _____



Name of signee: Douglas W. T. Mackey

Position and Agency/Organization: Fish and Wildlife Biologist, Washington Department of Fish and Wildlife

Date Submitted: **October 18, 2013**