ENVIRONMENTAL CHECKLIST
2021 FLOWLINE OUTAGE

A. BACKGROUND [HELP]

1. Name of proposed project, if applicable: [help]

   Cascade Water Alliance 2021 Flowline Outage Project ("Flowline Outage")

2. Name of applicant: [help]

   Cascade Water Alliance

3. Address and phone number of applicant and contact person: [help]

   520 112th Ave NE, Suite 400
   Bellevue, WA 98004
   Phone: (425) 453-0930

   Attn: Alison Bennett, Intergovernmental & Communications Director and SEPA Responsible Official

4. Date checklist prepared: [help]

   July 1, 2021

5. Agency requesting checklist: [help]

   Cascade Water Alliance

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

   The Flowline Outage will begin at the end of August, 2021 with the dewatering of the Flowline and will be completed in approximately twelve to sixteen weeks. Rewatering of the Flowline will occur as allowed by Army Corps of Engineers ("Corps") construction activities adjacent to Cascade's headgates into the Flowline, but not before January of 2022. The routine annual refill of Lake Tapps using the Flowline is anticipated to begin in mid-February/early March 2022.

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

   Dewatering the Flowline and performing sediment removal and other necessary maintenance and repair activities is required every few years to ensure proper operation of the Flowline and White River-Lake Tapps Reservoir Project ("Project").

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

- Temporary Erosion & Sediment Control Plan and Stormwater Management Plan – currently being prepared by Parametrix
- Flowline – Fish Screens to Pipeline Intake Vegetation Report, Kemp West (May 7, 2021)
- Technical Memorandum: Critical Areas Review for Proposed Maintenance Excavations at Lake Tapps Flume Rock Chute No. 2, HDR (September 27, 2017)

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. [help]

No applications are known to be pending. However, there is an ongoing construction project adjacent to Cascade's headgates into the Flowline on the White River. The Corps operates a fish barrier and collection facility adjacent to Cascade's headgates. This Corps-owned facility is being replaced as part of a court-ordered settlement. As part of this construction, the Corps will reconfigure Cascade's point of diversion of water from the White River, including constructing an additional gate structure just upstream of Cascade's existing headgates. The timing of the Corps' work may overlap, and be coordinated with, the Flowline Outage. The Corps is responsible for maintaining a flow rate of 250 cfs into the Flowline by January 30th, 2022.

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

Washington State Department of Fish and Wildlife – Scientific Collection Permit
U.S. Fish and Wildlife Service/National Marine Fisheries Service – Section 10(a)(1)(A) Endangered Species Act scientific collection permit (issued to the Puyallup Tribe of Indians)
City of Buckley – Land Disturbing Permit
Pierce County – Site Development 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.) [help]

The White River-Lake Tapps Reservoir Project comprises facilities that divert water from the White River and supply it to the Lake Tapps Reservoir ("Reservoir"). Facilities include a headworks intake structure, a fish screen, a fish settling pond, two rock chutes, and approximately 7.5 miles of a concrete flume, soil-lined flume, canals, dikes, sediment settling basins, and a pipeline intake into buried pipes that then discharge to the surface at a valve house. Collectively, these facilities are referred to as the "Flowline." Cascade uses these facilities to operate the Reservoir for recreational purposes as it works toward its goal of developing the Project into a future source of municipal water supply.

Since it acquired the Project from Puget Sound Energy in December 2009, Cascade has performed maintenance on the Flowline on a regularly scheduled basis to keep existing facilities in good operational condition. During Flowline outages, Cascade dewaters the Flowline and performs inspections and maintenance of its components. Flowline outages also provide an opportunity for Cascade to complete any improvement or repair projects that require the Flowline to be dry. The most recent Flowline outage was conducted by Cascade in 2014.

This 2021 Flowline Outage will be like past Flowline outages. Cascade will perform the following maintenance, repair, and improvement activities, described in more detail in the attached Scope of Work and map:

- Remove accumulated sediments where necessary to restore water conveyance capacity;
- Clean and inspect Project components to identify any needed repairs;
- Remove vegetation growing adjacent to the Flowline that presents a risk to operation of the Project;
- Repair the concrete apron in the concrete flume near headgate #2;
- Repair a crack in the concrete flume;
- Install protection against damage from water impact on the interior walls of the valve house;
- Install a debris boom at the pipeline intake;
- Repair a surface-mounted stormwater culvert adjacent to the Flowline;
- Repair and re-grade the gravel road from the fish recovery pond to the White 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. [help]

The Project is located in northern Pierce County, Washington, approximately 30 miles southeast of Seattle and 18 miles east of Tacoma in Section 2, Township 19 North, Range 6 East. See attached map.

B. ENVIRONMENTAL ELEMENTS [help]

1. Earth

a. General description of the site: [help]

The White River - Lake Tapps Reservoir Project includes a managed lake supplied with water from the White River and includes a headworks intake structure, a fish screen, a fish settling pond, rock chutes, and approximately 7.5 miles of a concrete flume, soil-lined flume, canals, dikes, sediment settling basins, and a pipeline intake into buried pipes that then discharge to the surface at a valve house. The topography in the area of the 2021 Flowline Outage work is generally flat to rolling.

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

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

There are some sloped areas adjacent to the basins and in the sediment storage areas. The slope of the stockpile areas will not be greater than 3H:1V.

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 agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [help]

Nearly level, poorly drained soils that formed in the Osceola mudflows; on uplands. Alderwood gravelly sandy loam, Buckley loam, Indianola loamy sand, Kapowsin gravelly loam, Pilchuck fine sand, Puyallup fine sandy loam, Greenwater loamy sand, Aquic erofluvents, and Semiahmoo muck (USDA, 1979).

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

No.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [help]

Following dewatering, the Flowline will be cleaned by removing accumulated sediments where necessary to restore water conveyance capacity. The amount of sediment removed will vary depending on location within the Flowline, but is estimated at between 60,000 and 85,000 cubic yards. This material will be stockpiled at existing sediment storage locations adjacent to the Flowline, including Wolslegal Basin, Dingle Basin, and the Fish Screen Facility. See the attached map for specific removal and storage locations.

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

Based on weather conditions, minor localized erosion could occur during construction activities.

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

No new impervious surfaces are proposed as part of this project.

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

All Flowline Outage activities will be completed in accordance with the Temporary Erosion and Sedimentation Control (TESC) plan currently being prepared by Parametrix.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [help]

Emissions and dust from construction vehicles will occur during sediment removal and repair/improvement activities.

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

None.

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

A water truck will be employed if there is excessive dust during construction activities.

3. **Water**

a. Surface Water: [help]

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. [help]

Yes. The Flowline includes water diverted from the White River, a Type S waterbody. The Flowline itself is an artificial channel. Two wetlands and a pond are located near the concrete flume and Rock Chute #2. See the Technical Memorandum completed by HDR in 2017.

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. [help]

Yes; to accomplish the maintenance, repair, and improvement activities, the diversion of water from the White River will be temporarily terminated and the Flowline will be dewatered. Dewatering of the Flowline will occur as set forth in question (4) below.

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. [help]

No fill or dredge material will be placed in the Flowline or adjacent surface water bodies. Following dewatering, sediments will be removed using a variety of methods, to include: removal by vactor truck, dragline, track hoes, dozer, and manual means. Up to 10 cubic yards of sediment will be removed from the Rock Chute #2 plunge pool and ditch, which is adjacent to wetlands (see Technical Memorandum completed by HDR in 2017).

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

As stated in question (2) above, the Flowline Outage requires that diversion of water from the White River be temporarily terminated. Following closure of the headgates to stop this diversion, dewatering of the Flowline will proceed as described in the attached Scope of Work.

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

Yes; the entirety of the Flowline is designated as Zone A (regulatory floodplain).

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. [help]

No discharge of waste materials will occur as a result of this project. During dewatering of the Flowline, water quality monitoring will be performed to ensure compliance with Department of Ecology water quality standards for turbidity.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. [help]

No groundwater will be withdrawn as a result of this project.

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. [help]

No waste material will be discharged into the ground as a result of this project.

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. [help]

During the Flowline Outage, stormwater will be collected and disposed of according to the Stormwater Management Plan currently under development by Parametrix. No permanent changes to discharge patterns are proposed as part of this project.

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

No waste materials should enter ground or surface waters as a result of this project

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No.

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

On-site stormwater management BMPs will be incorporated according to the Stormwater Management Plan and TESC in order to reduce the risk of downstream flooding and impacts from erosion. The volume and flow rate of stormwater leaving the site is not anticipated to increase due to the proposed project.

4. **Plants** [help]

a. Check the types of vegetation found on the site: [help]

_x__deciduous tree: alder, maple, aspen, other
_x__evergreen tree: fir, cedar, pine, other
_x__shrubs
_x__grass
_____pasture
_____crop or grain
_____ Orchards, vineyards or other permanent crops.
_x__ 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? [help]

Cascade will remove vegetation growing adjacent to the Flowline that presents a risk to operation of the Project. This includes removal of invasive shrubs and small trees (less than 6" diameter-at-breast-height (DBH)) along an approximately 1.2-mile stretch of the Flowline between the fish screen facility and the pipeline intake (see Kemp West 2021 report), and adjacent to the concrete flume between the headgates and the Corps bridge. Cascade will also clear and grub the area immediately north of Wolslegal Basin to allow for sediment disposal.

c. List threatened and endangered species known to be on or near the site. [help]

None known.

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

No landscaping is proposed as part of the project. Where applicable, construction limit fencing will be installed to ensure that the construction area is limited to areas that have been previously disturbed. A silt fence will be installed along the entire northern edge of the Wolslegal Basin sediment disposal area in order to protect the adjacent Riparian Corridor.

e. List all noxious weeds and invasive species known to be on or near the site.

Ramsey Ragwort, Himalayan Blackberry

5. **Animals**

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include: [help]

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

b. List any threatened and endangered species known to be on or near the site. [help]

Chinook salmon, bull trout, and steelhead are present in the White River and may inadvertently enter the Flowline and be returned to the White River via the fish screen and fish return pipe or during the dewatering process be returned during a fish recovery process describe in d. below.

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

The site is located within the Pacific Flyway migratory bird route, which extends the length of coastal North America.

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

During and immediately following dewatering, a significant fish recovery effort will be undertaken in cooperation with the Puyallup Tribe of Indians. The goal of this effort is to collect, transport, and return fish present in the Flowline safely back to the White River. The fish recovery methods to be used are anticipated to be similar to the 2010 and 2014 Fish Recovery Plan that was prepared and used in consultation with the National Marine Fisheries Service, the United States Fish and Wildlife Service, the Puyallup Tribe of Indians, the Muckleshoot Indian Tribe, and the Washington Department of Fish and Wildlife.

e. List any invasive animal species known to be on or near the site.

None known.

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. [help]

None.

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

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: [help]

Not applicable.

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. [help]

No environmental health hazards should occur as a result of this project.

1) Describe any known or possible contamination at the site from present or past uses.

There are areas of known historic contamination on adjacent lands owned by Puget Sound Energy and included in the Project; however none of these areas will be disturbed or affected by the Flowline Outage activities.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Toxic or hazardous chemicals will not be stored, used, or produced during this project other than fuels and lubricants utilized in standard construction equipment that will be used for the planned maintenance, repair, and improvement activities.

4) Describe special emergency services that might be required.

None.

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

None.

b. **Noise**

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

None.

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. [help]

Some noise will occur as sediments will be removed by a variety of methods, to include: removal by vactor truck, dragline, track hoes, dozer, and by manual means. Noise will also

occur from construction vehicles and construction activities associated with the planned concrete repairs.

3) Proposed measures to reduce or control noise impacts, if any: [help]

Noise associated with construction is not anticipated to be at levels of concern due to the isolation of the project area. All activities will comply with local noise regulations.

8. **Land and shoreline use**

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [help]

The White River-Lake Tapps Reservoir Project, including the Flowline, are to be developed and operated as a source of municipal water supply for Cascade's Members and for the region. The Flowline Outage is intended to keep the Project facilities in working order as Cascade works toward that goal. The proposal will not affect current land uses on nearby or adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? [help]

The project site is not working farmlands or working forest lands.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

Various parcels adjacent to the Flowline have been used or are currently used for agricultural purposes, but will be unaffected by the Flowline Outage. The Flowline Outage will not be affected by surrounding agricultural uses.

c. Describe any structures on the site. [help]

From east to west, the structural components of the Project that will be involved in the Flowline Outage include:

- Headgates #1 and #2
- Rock chutes #1 and #2
- Concrete flume
- 6' valve in Wolslegal Basin
- Fish screen and adjacent operation building
- Twin large-diameter concrete pipes
- Valve house

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

No.

e. What is the current zoning classification of the site? [help]

Pierce County: The majority of the Flowline is within the Agricultural Resource Land (ARL) zoning designation, with small areas within the Rural 10 (R10) zoning designation. City of Buckley: The majority of the Flowline is within the Environmentally Sensitive Areas (S) zoning designation, with a portion of the area by the headgates within the Public (P) zoning designation.

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

Pierce County: Agricultural Resource Land and Rural
City of Buckley: Urban Lower Density

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

No part of the proposal is within shoreline jurisdiction.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [help]

As described in Section 3 above, the entire Flowline is designated as regulatory floodway. Additionally, the entire area contains hydric soils and is therefore flagged for critical area review by Pierce County. Within the City of Buckley, two wetlands have been identified in the vicinity of the concrete flume (see Technical Memorandum, HDR 2017).

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

None.

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

None.

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

Not applicable.

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

None necessary. The Flowline is an existing facility that is being maintained and repaired.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

None necessary.

9. **Housing**

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

Not applicable.

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

Not applicable.

c. Proposed measures to reduce or control housing impacts, if any: [help]

Not applicable.

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? [help]

No new structures are proposed, and no structures are proposed for exterior modification.

b. What views in the immediate vicinity would be altered or obstructed? [help]

None.

c. Proposed measures to reduce or control aesthetic impacts, if any: [help]

None necessary.

11. **Light and glare**

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

None.

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

No.

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

None.

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

None.

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity? [help]

Recreational use on Lake Tapps is seasonal and includes water sports, boating, picnicking, fishing, and golf. There are several private and county parks located in the Lake Tapps Reservoir Project area. There is no recreational use of the Flowline itself.

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

No, the project is not anticipated to impact recreational water levels at Lake Tapps during the defined recreational season provided in the Lake Tapps Management Agreement between Cascade and the Lake Tapps Homeowners. The Flowline will not be dewatered west of the valve house. Prior to rewatering in early 2022 the water level in the Lake Tapps Reservoir will be dependent on weather conditions, but the water level is expected to remain in the range of 541.5 to 543 feet per the Lake Tapps Community Agreement.

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

Rewatering will occur in early 2022 to ensure that water levels at Lake Tapps are at recreational levels during peak recreation season.

13. **Historic and cultural preservation**

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. [help]

There are no listed buildings, structures, or sites located on or near the site. In November 1983, Puget Sound Power and Light (prior owner) submitted a cultural resource assessment to FERC as part of a license application. Subsequently, FERC and the State Historic Preservation Officer (SHPO) concurred that the White River Project was eligible for the National Register of Historic Places and the entire White River Project was recorded by the National Park Service Historic American Engineering Record staff and file with the Library of Congress.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [help]

None that are known. In 1995, during replacement of the fish screens west of Dingle Basin, an archaeologist monitored construction, including vegetation clearing. No cultural features were observed during construction.

A review of the Washington State Department of Archaeology and Historic Preservation (DAHP) WISAARD portal's predictive model of Environmental Factors with Archaeological Resources Results shows that the western portion of the Flowline is categorized as "Survey Highly Advised: Very High Risk." The area between Dingle Basin and the Headgates is categorized as "Survey Highly Advised: High Risk."

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [help]

See responses to (a) and (b) above.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

No excavation is proposed as part of the Flowline Outage, and no historic or cultural resources will be disturbed.

14. **Transportation**

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [help]

The Flowline will be accessed at various existing maintenance points along the Flowline. Construction traffic will access the Flowline from Highway 410 and city streets.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? [help]

Not applicable. No public transit is necessary or will be affected by this project.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [help]

None; the Flowline Outage will not generate a need for nor eliminate any parking spaces.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [help]

The Flowline Outage will not generate a need for new roads or streets or improvements to existing roads or streets.

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

No.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? [help]

The completed project will not generate vehicular trips.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No. This project will not interfere with, affect, or be affected by the movement of agricultural or forest products.

h. Proposed measures to reduce or control transportation impacts, if any: [help]

None.

15. **Public services**

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

No, this project would not result in increased need for public services.

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

No proposed measures are necessary for this project.

16. **Utilities**

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

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. [help]

None.

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: Alison Bennett

Alison Bennett, Intergovernmental & Communications Director and SEPA Responsible Official, Cascade Water Alliance

Date Submitted: July 7, 2021

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*: [help]**

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:* [help]**

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer 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. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

Cascade Water Alliance
White River-Lake Tapps Reservoir Project
2021 Flowline Outage

Introduction and Background

This document describes the scope of work for the 2021 Flowline Outage at the White River-Lake Tapps Reservoir Project ("Project"), to be undertaken by Cascade Water Alliance. The Project is located in northern Pierce County, Washington, approximately 30 miles southeast of Seattle and 18 miles east of Tacoma in Section 2, Township 19 North, Range 6 East. The Project comprises facilities that divert water from the White River and supply it to the Lake Tapps Reservoir. Facilities include a headworks intake structure, a fish screen, and approximately 7.5 miles of flumes, canals, dikes, basins, and pipes. Collectively, these facilities are referred to as the "Flowline."

The intake headgates are located on the White River in Buckley and were operated by Puget Sound Energy (PSE) from 1911 to 2004 for the primary purpose of hydroelectric power generation. When PSE ceased power generation in 2004, it continued to divert water from the White River into the Lake Tapps Reservoir for recreational purposes.

Cascade Water Alliance ("Cascade") purchased the Project from PSE in 2009. Cascade acquired these assets from PSE as a future source of municipal water supply for its Members and the region. As it works toward this goal, Cascade continues to operate the Lake Tapps Reservoir for recreational purposes. Both now, during the interim, pre-water supply period, and after Cascade develops the Lake Tapps Reservoir into a source of municipal water supply, Cascade intends to continue to use and maintain the existing infrastructure acquired from PSE.

Since 2010, Cascade has performed maintenance on the Flowline on a regularly scheduled basis to keep existing facilities in good operational condition. Cascade has conducted several Flowline Outages since it acquired the Project in 2009. During Flowline Outages, Cascade dewaters the Flowline and performs inspections and maintenance of its components. Flowline Outages also provide an opportunity for Cascade to complete any improvement or repair projects that require the Flowline to be dry. The most recent Flowline Outage was conducted by Cascade in 2014.

Purpose and Need for the 2021 Flowline Outage

Cascade's Flowline Outage is coordinated with the Army Corps of Engineers' ("Corps") schedule for its Mud Mountain Dam Fish Passage Project. The Corps operates a fish barrier and collection facility adjacent to the headgates on the White River. This Corps-owned facility is being replaced as part of a court-ordered settlement. As part of this construction, the Corps will

reconfigure the Project's point of diversion of water from the White River, including constructing new headgates just upstream of the existing headgates.

Cascade plans to take advantage of the Corps' schedule to perform ordinary maintenance, necessary repairs, and improvement activities. Over the course of normal operation, sediment accumulates in the Flowline and settling basins. Failure to remove accumulated sediment would ultimately render the Flowline unusable due to decreased flow-carrying capacity and potentially increase the risk of structural failure. Such a failure would result in the inability to maintain recreational water levels on Lake Tapps, potentially cause local flooding and soil erosion, and potentially result in fish stranding and mortality. Dewatering the Flowline also allows for cleaning, inspection, and repair of Project components not otherwise accessible during normal operations.

Should the Corps' schedule be delayed, Cascade will proceed with the Flowline Outage and perform at least those ordinary maintenance, necessary repairs, and improvement activities that require the Flowline to be dewatered.

Flowline Dewatering

During the 2021 Flowline Outage, the Flowline will be dewatered between the White River intake headgates, west to the valve house at the outlet of the twin pipelines just above Printz Basin. The headgates will be closed and all valves, rock chutes, and outlets will be opened to allow water in the Flowline to drain into the White River and Lake Tapps (see "Work Schedule and Sequence," below). The segment of the Flowline located immediately west of the valve house (including Printz Basin) will not be dewatered. Prior to rewatering in early 2022 the water level in the Lake Tapps Reservoir will be dependent on weather conditions, but the water level in the lake is expected to remain in the range of 538 to 540 feet.

During dewatering, Cascade will open the six-foot valve in Dingle Basin. This will likely cause a temporary increase in the flow level in the White River downstream of the discharge outlet into the White River from Dingle Basin. Cascade will coordinate with the Corps and contractor Kiewit to ensure that public notice and notice to the Puyallup Tribe of Indians and the Muckleshoot Indian Tribe is given well in advance of the dewatering as an important safety precaution.

Water quality has also been an issue with Cascade's past dewatering and Cascade will communicate to the Corps and contractor Kiewit that monitoring for water quality standards for turbidity may be required.

Water Quality Monitoring

The Washington Department of Ecology has established water quality standards for the discharge of waters into a natural stream or river. Monitoring turbidity levels in the White River prior to and during the dewatering process is necessary to ensure compliance with these standards. If the Flowline Outage is coordinated with the Corps' construction schedule, this monitoring will be performed by the Corps' contractor, Kiewit. If Cascade proceeds with the Flowline Outage independently, Cascade will perform the monitoring. Monitoring components will include:

- Prior to dewatering the Flowline, monitoring of turbidity in the White River just upstream of the Rock Chute 2 release point to establish baseline turbidity levels in the receiving waterbody;
- During Flowline dewatering, visual monitoring for any discharge of sediment at the release point at Rock Chute 2 and the Fish Recovery Pond Outlet; and
- In the event that sediment discharge is observed, additional monitoring on the White River approximately 300 feet downstream of the Fish Recovery Pond Outlet release point to establish the change in turbidity following sufficient time for mixing.

Fish Recovery

During and immediately following dewatering, a significant fish recovery effort will be undertaken. The goal of this effort is to collect, transport, and return fish present in the Flowline safely back to the White River. If the Flowline Outage is coordinated with the Corps' construction schedule, the Corps will be responsible for fish recovery from the Headworks to the Fish Screen facilities and associated planning and permitting for the 2021 Flowline Outage. If Cascade proceeds with the Flowline Outage independently, Cascade will take on this responsibility. This scenario could also result in potentially two fish recovery periods. Cascade anticipates that either party will use fish recovery methods similar to those described in the 2010 Fish Recovery Plan that was prepared and used in consultation with the National Marine Fisheries Service, the United States Fish and Wildlife Service, the Puyallup Tribe of Indians, the Muckleshoot Indian Tribe, and the Washington Department of Fish and Wildlife.

Planned Ordinary Maintenance, Repair, and Improvement Activities

The following activities are divided into (1) ordinary maintenance on the Flowline that is performed on a regularly scheduled basis to keep existing facilities in good operational condition; and (2) repair and improvement activities.

Ordinary Maintenance Activities

The following ordinary maintenance activities require that the Flowline be dewatered and will be conducted regardless of the Corps' construction schedule.

1. **Sediment removal**
   Following dewatering, the Flowline will be cleaned by removing accumulated sediments where necessary to restore water conveyance capacity. The amount of sediment removed will vary depending on location within the Flowline, and is estimated below in cubic yards ("CY") by location. Sediment removal will focus on the following areas:
   a. Flowline and concrete flume (5,000 – 10,000 CY);
   b. Wolslegal Basin (50,000 – 75,000 CY);
   c. Rock Chutes 1 & 2 and associated plunge pool and ditch (up to 10 CY);
   d. Fish screen facility (up to 150 CY); and
   e. Fish return pond adjacent to Dingle Basin (up to 5 CY).

   Sediments will be removed using a variety of methods, to include: removal by vactor truck, dragline, track hoes, dozer, and manual means. Sediments removed from the Flowline and concrete flume, Wolslegal Basin, and Rock Chute 2 will be stockpiled at an existing sediment storage site located immediately north of Wolslegal Basin. Sediment from Rock Chute 1 (up to 2 CY) will be flushed to the White River. Sediment removed from the Fish Screen Facility will be stockpiled either at the existing sediment storage site located adjacent to the Facility, or at the existing sediment storage sites located immediately north and south of Dingle Basin.

2. **Cleaning and Inspections**
   Following sediment removal, Project components will be cleaned and inspected to identify any needed repairs.

3. **Vegetation management**
   Cascade will remove vegetation growing adjacent to the Flowline that presents a risk to operation of the Project. This will include removal of invasive shrubs and small (2-3" diameter at breast height) trees along an approximately 1.2-mile stretch of the Flowline between the fish screen facility and the pipeline intake, and adjacent to the concrete flume between the headgates and the Corps bridge. These trees present a hazard to Project operations by falling into the Flowline or growing into the concrete flume and compromising its structural integrity. In addition to removal of vegetation along the Flowline, Cascade will clear and grub the area immediately north of Wolslegal Basin to allow for sediment disposal. A silt fence will be installed along the entire northern edge of the Basin in order to protect the adjacent Riparian Corridor.

Repair and Improvement Activities

Cascade has identified and plans to complete the following needed repair and improvement activities. Inspections conducted during the Flowline Outage may identify additional repair activities not listed below. As needed, and to the extent practicable, Cascade will conduct those

additional repairs and if necessary, declare an emergency for SEPA and procurement purposes and seek emergency approvals.

1. **Repair concrete apron at headgate #2**
   The concrete floor of the Flowline inside headgate #2 has deteriorated due to abrasion from debris in rushing water. Cascade will dewater the area by pump and construct a dam wall between the headgate #1 and #2 aprons to prevent leakage during repair activities. Cascade will then pressure wash the area before pouring high-strength concrete over an area of approximately 1,000 square feet. The work will not change the footprint of the apron structure. This method was used successfully to repair the concrete floor inside headgate #1 in 2018.

2. **Repair crack in concrete flume**
   A small crack in the seam of the newer concrete flume located approximately a half-mile west of the headgates is allowing sediment and water to escape the Flowline. The crack will be inspected, and the best repair method identified and conducted.

3. **Install valve house wall protection**
   Cascade will modify the interior walls of the valve house outlet structure to provide protection from damage caused by water impact. Selection of the wall protection method will occur following cleaning and inspection of the outlet structure and may include application of epoxy or installation of steel sheets. In the case of steel sheets, the sheets will be transported and installed using a boom truck and mounted using a block and tackle with hooks inside the concrete outlet structure.

4. **Install debris boom at pipeline intake**
   Cascade will install a debris boom, previously used at Dingle Basin, at the pipeline intake to catch and corral debris in the Flowline before it is caught by the trash rack or enters the twin pipelines. Placement of the boom will require installation of one 6'x4' concrete block on each side of the Flowline. Similar debris booms are installed and used at Dingle Basin and the fish screen facility

5. **Repair culvert next to Corps bridge**
   Cascade owns a surface-mounted culvert that drains stormwater sheet flow from the south bank of the Flowline just west of the Corps bridge. Water from this culvert currently flows under the bridge and into the Flowline. Cascade will repair or replace the culvert in-kind.

6. **Repair gravel road from fish recovery pond to White River.**
   Cascade owns an easement across the City of Buckley property that contains the fish screen bypass pipe and recovery system, including its discharge point on the White River. The gravel road across this property requires repair and re-grading in preparation for fish recovery. Cascade will add gravel as needed and roll the road back to 20% grade.

Work Schedule and Sequence

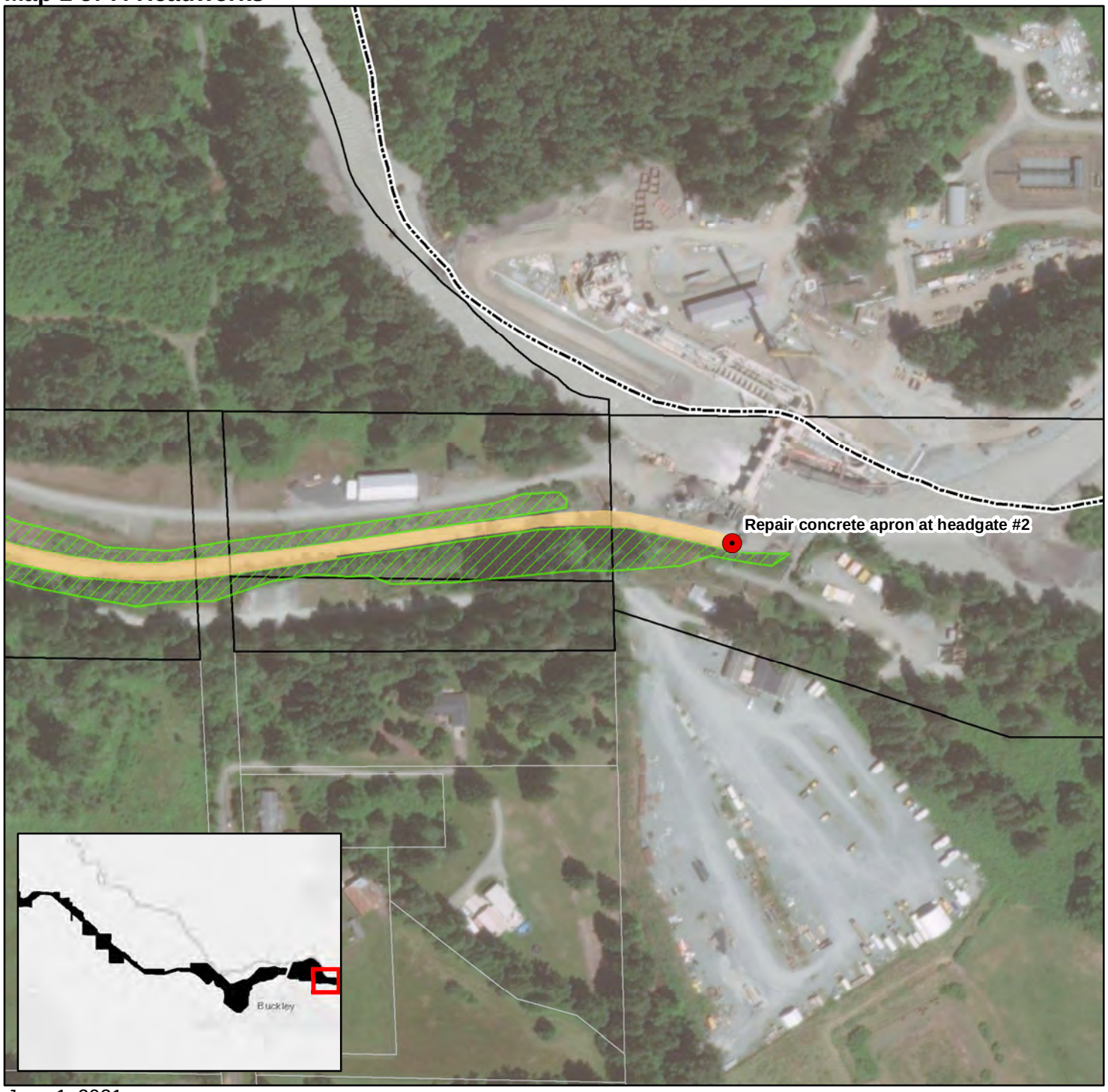
The 2021 Flowline Outage will begin in September or October of 2021 according to the following sequence. Unless noted otherwise, all tasks will be performed by Cascade or contractors working for Cascade. Some activities can be performed in parallel:

1. Prepare for dewatering and fish recovery.
   a. Install all required Temporary Erosion and Sediment Control measures.
   b. Remove sediments surrounding Dingle Basin fish recovery system drain by vactor truck to ensure proper drain operation during dewatering.
   c. Conduct road repair to the gravel road from the fish recovery pond to the White River (see #6 in previous section).
   d. Install sandbags along gravel road and dispersal chamber from fish recovery pond to White River (to be conducted by the party responsible for fish recovery).
   e. Place sandbags or other similar barrier in the concrete flume immediately west of where Rock Chute 2 connects to the flume.
2. Dewater the Flowline (described in sequence from east to west).
   a. Open the valves at the valve house to allow the pool elevation at the fish screen facility to lower.
   b. Close the Intake Headgates, shutting off the diversion of water from the White River into the Flowline.
   c. Open Rock Chute 1 to allow any seepage past the Headgates to exit the Flowline and return to the White River.
   d. Open Rock Chute 2 to direct and remove any remaining water from the concrete flume.
   e. Open the six-foot valve located in Wolslegal Basin to allow Flowline water to flow back into the White River.
   f. Open the fish recovery pond outlet structure gates in Dingle Basin to allow Flowline water back into the White River. Open Dingle Basin valves and allow water to flow out of the ditch and drain line.
   g. Allow Flowline Fish Screen water to drain through the Fish Return Pipeline and back into the White River.
   h. Pump Flowline water out of the Twin Pipeline Intake Structure located at the upstream end of the twin pipelines into the adjacent (northern) County drainage ditch and into Lake Tapps.

    i. Allow remaining Flowline water to drain through the twin pipelines and into Lake Tapps.
3. Recover fish (to be Corps or Cascade responsibility).
4. Remove sediment from Flowline and Project facilities and deposit according to sediment plan.
5. Clean and inspect Flowline and exposed Project facilities.
6. Perform remaining "Planned Maintenance, Repair, and Improvement Activities" (see above) and any additional activities identified during inspections.
7. Re-water the Flowline.
    a. If Corps construction activities are complete, open the Headgate to resume diversion of water from the White River. Otherwise, coordinate with the Corps to accept pumped water from the White River into the Flowline.
    b. Check to see that Project facilities are operating properly.

Cascade anticipates that sediment removal activities will be completed within approximately eight to ten weeks. Other maintenance and repair activities will be undertaken as necessary. Rewatering will occur as allowed by Corps construction activities, but not before January of 2022. Refill of Lake Tapps using the Flowline is anticipated to begin in mid-February/early March 2022. Should Corps construction be incomplete at this time, the Corps will be responsible for pumping Cascade's allocated water from the White River into the Flowline to ensure proper functioning of the Project.

Map 1 of 7: Headworks



Legend

Ordinary maintenance activities

- Sediment removal
- Sediment storage
- Vegetation management

- Repair and improvement activities

- Project Parcels (owned by Cascade or PSE)
- Parcels
- City Boundary

0 180 360 feet

Conceptual Site Plan

Cascade Water Alliance

2021 Flowline Outage

June 1, 2021

Map 2 of 7: Concrete flume

Legend

Ordinary maintenance activities

- Sediment removal
- Sediment storage
- Vegetation management

- Repair and improvement activities

- Project Parcels (owned by Cascade or PSE)
- Parcels
- City Boundary

0 250 500 feet

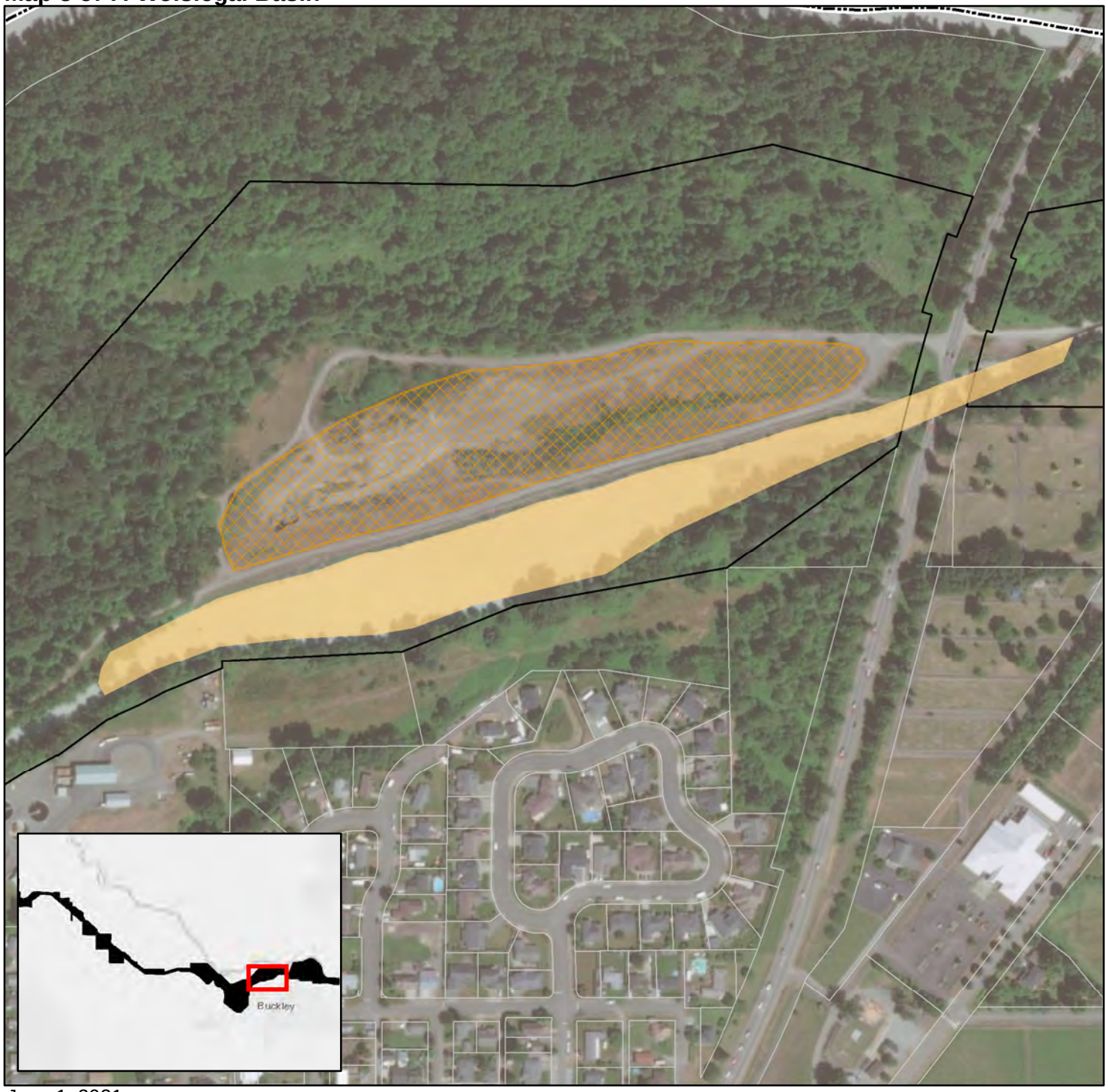
Conceptual Site Plan

Cascade Water Alliance

2021 Flowline Outage

June 1, 2021

Map 3 of 7: Wolslegal Basin



Legend

Ordinary maintenance activities

- Sediment removal
- Sediment storage
- Vegetation management

- Repair and improvement activities

- Project Parcels (owned by Cascade or PSE)
- Parcels
- City Boundary

0 280 560 feet

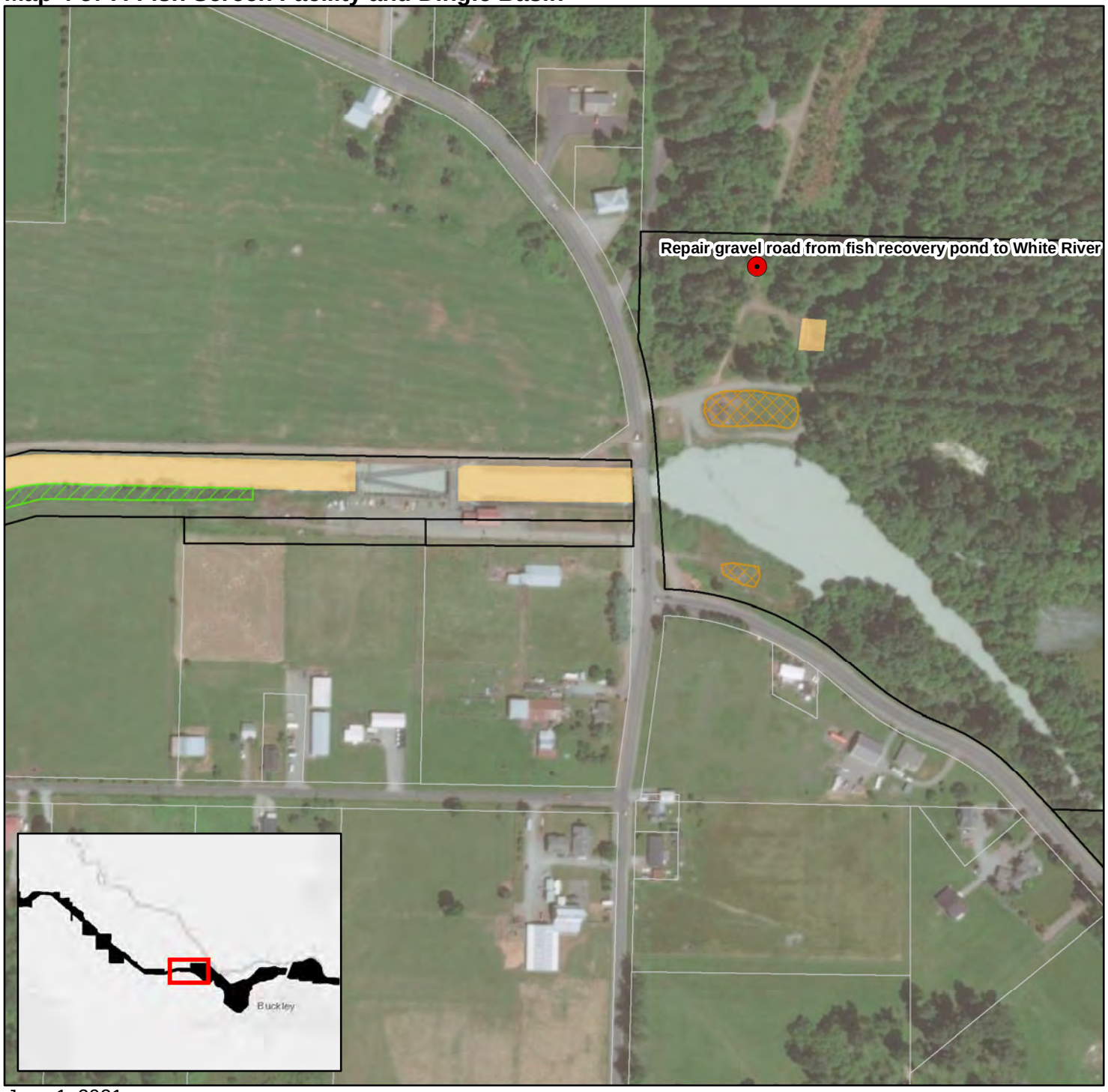
Conceptual Site Plan

Cascade Water Alliance

2021 Flowline Outage

June 1, 2021

Map 4 of 7: Fish Screen Facility and Dingle Basin



Legend

Ordinary maintenance activities

- Sediment removal
- Sediment storage
- Vegetation management

- Repair and improvement activities

- Project Parcels (owned by Cascade or PSE)
- Parcels
- City Boundary

0 250 500 feet

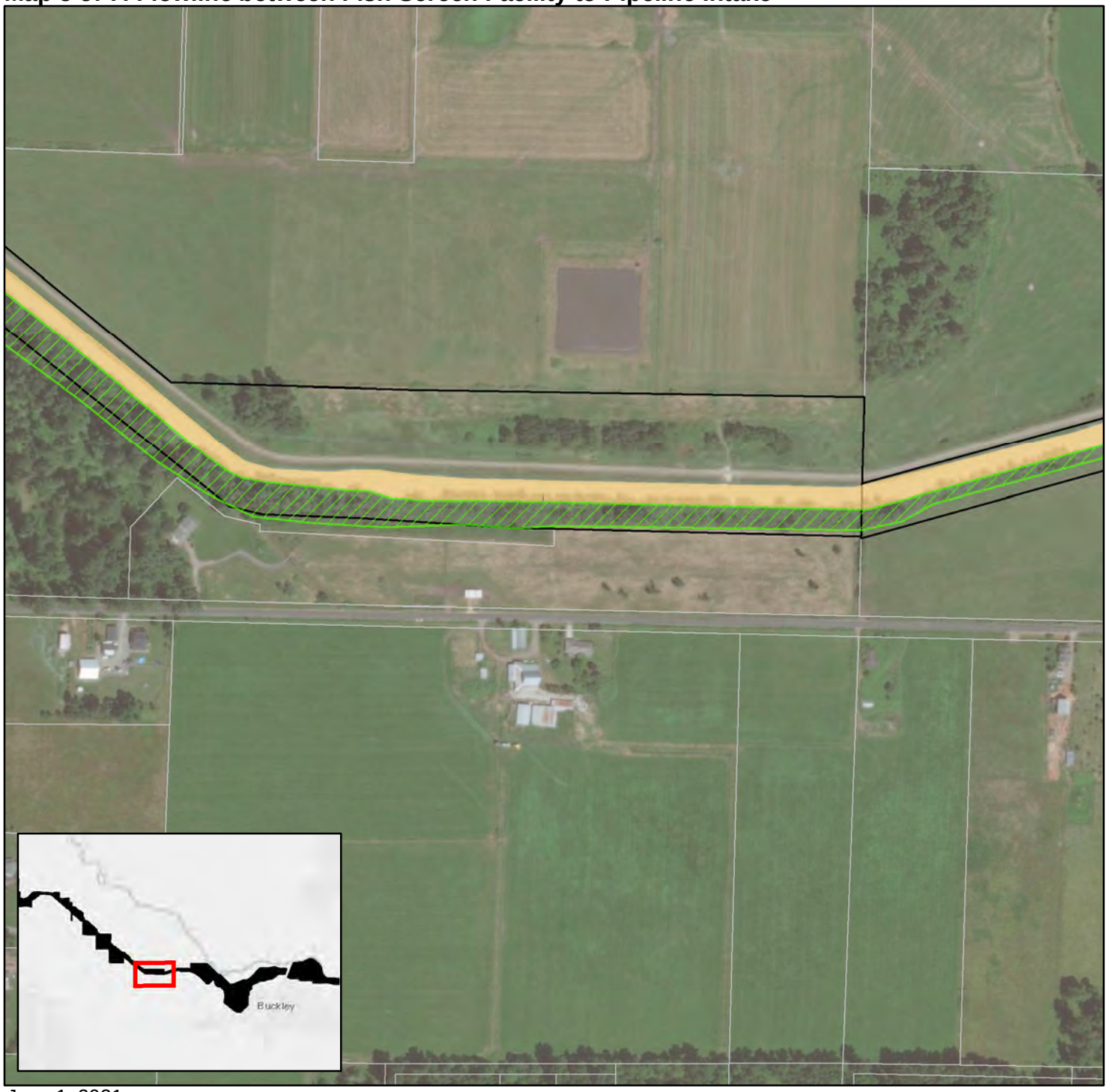
Conceptual Site Plan

Cascade Water Alliance

2021 Flowline Outage

June 1, 2021

Map 5 of 7: Flowline between Fish Screen Facility to Pipeline Intake



Legend

Ordinary maintenance activities

- Sediment removal
- Sediment storage
- Vegetation management

- Repair and improvement activities

- Project Parcels (owned by Cascade or PSE)
- Parcels
- City Boundary

0 310 620 feet

Conceptual Site Plan

Cascade Water Alliance

2021 Flowline Outage

June 1, 2021

Map 6 of 7: Pipeline Intake

Legend

Ordinary maintenance activities

- Sediment removal
- Sediment storage
- Vegetation management

- Repair and improvement activities

- Project Parcels (owned by Cascade or PSE)
- Parcels
- City Boundary

0 250 500 feet

Conceptual Site Plan

Cascade Water Alliance

2021 Flowline Outage

June 1, 2021

Map 7 of 7: Valve House

Legend

Ordinary maintenance activities

- Sediment removal
- Sediment storage
- Vegetation management

- Repair and improvement activities

- Project Parcels (owned by Cascade or PSE)
- Parcels
- City Boundary

0 250 500 feet

Conceptual Site Plan

Cascade Water Alliance

2021 Flowline Outage

June 1, 2021