

**SEATTLE PUBLIC UTILITIES
SEPA ENVIRONMENTAL CHECKLIST**

This SEPA environmental review of Seattle Public Utilities' (SPU) Beaver Dam Management Project has been conducted in accord with the Washington State Environmental Policy Act (SEPA) (RCW 43.21C), State SEPA regulations (Washington Administrative Code [WAC] Chapter 197-11), and the City of Seattle SEPA ordinance (Seattle Municipal Code [SMC] Chapter 25.05).

A. BACKGROUND

1. Name of proposed project:

Beaver Dam Management

2. Name of applicant:

Seattle Public Utilities (SPU)

3. Address and phone number of applicant and contact person:

Steve Damm, Project Manager
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Seattle, WA 98124-4018
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4. Date checklist prepared:

May 10, 2021

5. Agency requesting checklist:

Seattle Public Utilities (SPU)

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

The project would be constructed in 2021 and is expected to take up to three working days per each of the two project sites. The constructed project would be maintained for the life span of the subject beaver dams, which could be many years. SPU and the Seattle Department of Parks and Recreation (SPR) would periodically remove debris from the constructed project at the Thornton Creek dams and the Longfellow Creek dams, respectively. SPU would repair the constructed project at all sites for as long as required.

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

SPU periodically installs other beaver deterrence structures elsewhere within the municipal limits of the City of Seattle and in the City's South Fork Tolt and Cedar River municipal watersheds. Those projects have not been identified at this time and would not be related to this proposal.

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

No environmental information has been prepared or will be prepared.

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.

No applications are pending for governmental approvals of other proposals directly affecting the property covered by this proposal.

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

Hydraulic Project Approvals(Washington State Department of Fish and Wildlife [WDFW])

11. Give a 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.

Beavers have recently constructed two dams immediately upstream of the pedestrian footbridge over Longfellow Creek near 2512 SW Graham Street, in the High Point neighborhood of West Seattle in the City of Seattle, King County, Washington (Attachment A). The dams pose an imminent threat to integrity of the pedestrian footbridge footings by altering the path and velocity of stream flows (Attachment B). The dams may also lead to localized flooding of nearby residential properties during the rainy season.

In addition, beavers have routinely constructed two dams in SPU's Meadowbrook Pond Stormwater Detention and Flood Control Facility in the Meadowbrook neighborhood of the City of Seattle (Attachment C). This constructed stormwater management facility in northeast Seattle is located immediately downstream of the confluence of the north and south branches of Thornton Creek. It contains the 2.0 to 2.7 acre (depending on water level) Meadowbrook Pond that captures and detains some of the stormwater runoff from about 6,840 acres of the upstream watershed. In recent years, resident beavers have constructed dams at the Pond outlets near 39th Ave NE and NE 105th St (Attachment C), which diminish flows to the lower two miles of Thornton Creek during summer low flow periods and endanger resident fish and impede migration of anadromous fish.

This proposal would deploy beaver dam management interventions at both dams at both sites. Specifically, the proposed work would install four pond levelers by notching the dams and then installing exclusion fences (Attachment D). The notched opening would be approximately 3 feet wide and 1.5 feet deep. Once the notch is created, workers would install exclusion fencing such that it forms a box around the notch. The fencing would extend 16 feet upstream from the top of the dam. Notching assists in preventing beavers from detecting stream flow through the dam and the fencing prevents them from effectively plugging the notch. The welded-wire fencing has a mesh size of 4 inches by 6 inches and is typically anchored with metal t-posts.

These interventions are intended to control water levels and flows in Longfellow and Thornton creeks and are preferred alternatives to relocating the beavers or removing or breaching an established beaver dam that maintains hydrology of a nearby wetland or pond.

These pond levelers would be installed at the intended depth, extending upstream and downstream of each dam. The pond levelers would maintain water levels in adjacent wetlands and ponds such that risk of future localized flooding would be minimized. The proposed design provides unimpeded fish passage while preventing beavers from constructing effective dams at the pedestrian bridge at the Longfellow Creek site and in Meadowbrook Pond at the Thornton Creeksite.

- 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.**

The Longfellow Creek site is in the City of Seattle street right-of-way for SW Graham St near 2512 SW Graham St in the High Point neighborhood of West Seattle (T24N, R03E, S24). Work may also occur on parcels 3438501370 and 3438501360 owned and managed by SPR. The first dam is located at latitude 47.546462, longitude -122.364286. The second dam is located 150 feet downstream of the first dam (47.546878, -122.3644265).

The Thornton Creeksite at Meadowbrook Pond is on SPU-owned parcel 2726049129 at 3600 NE 105th St in the Meadowbrook neighborhood of the City of Seattle (T26N, R04E, S27) (47.705080, -122.287960).

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site:

Flat Rolling Hilly Steep Slopes Mountainous
 Other:

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

Both project locations are generally flat. Steep slopes (less than 40%) are associated with the banks of Longfellow and Thornton Creeks.

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.

The general geologic condition of the Puget Sound region is a result of glacial and non-glacial activity that occurred over the course of millions of years. Review of the geologic map covering the project location (Troost *et al.* 2005, available at <http://pubs.usgs.gov/of/2005/1252/>) indicates both project sites are underlain primarily by Vashon till, and advance outwash deposits. Glacial till is a mix of poorly sorted silt, sand, and sub-rounded to well-rounded gravels and cobbles that are transported by the glacier and deposited under the ice resulting in a very dense to over consolidated deposit. Advance outwash consists of well sorted sand and gravel that was transported

by meltwater channels emanating from the toe of the advancing glacier and subsequently overridden by the glacier. However, urban development at and near both project sites over the last 100 years has resulted in a predominance of disturbed native soils/sediments, cut slopes, and large placements of fill material.

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

Portions of the Longfellow Creek site are mapped by the City of Seattle as Potential Slide Environmentally Critical Areas (<https://www.arcgis.com/apps/webappviewer/index.html?id=f822b2c6498c4163b0cf908e2241e9c2>). There are no visible indications of unstable soils on or near this project site or at the Thornton Creeksite.

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

The proposal would not require any filling, excavation, or grading.

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

The proposed work would create no potential for erosion.

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

The proposed work would neither create new impervious surfaces nor demolish existing impervious surfaces.

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

No filling or excavation would take place in or near watercourses or wetlands. If needed, best management practices (BMP) (as identified in the City of Seattle’s Stormwater Code SMC 22.800 through 22.808, Director’s Rule: 2009-004 SPU/16-2009 DPD, and Volume 2 Construction Stormwater Control Technical Requirements Manual) would be used to manage stormwater runoff, construction disturbance, and erosion as needed during construction, but these measures are not expected to be needed.

2. Air

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

Total greenhouse gas (GHG) emissions for the project are summarized in the table below; calculations are provided in Attachment E. The project would produce GHGs in three ways: embodied in materials to be installed on the project; through construction activity (especially as described above); and by regular maintenance and monitoring activities throughout the life of the completed project, estimated (for purposes of this checklist) to be 10 years. Emissions generated during the manufacture of materials used in this

Project are not estimated or otherwise considered in this environmental analysis due to the difficulty and inaccuracy inherent in calculating such estimates.

Construction equipment would include hand-held tools and would not generate GHG emissions. The project would generate GHG emissions during construction in the transport of materials, equipment, and workers to and from the site. The estimates provided are based on assumptions for typical numbers of vehicle operations to execute the work (Attachment E). The completed project would generate GHG emissions through the routine and emergency maintenance and monitoring of the interventions an assumed life expectancy of 10 years. The completed project would not generate odors.

SUMMARY OF GREENHOUSE GAS (GHG) EMISSIONS

Activity/Emission Type	GHG Emissions (pounds of CO ₂ e) ¹	GHS Emissions (metric tons of CO ₂ e) ¹
Buildings	0	0
Paving	0	0
Construction Activities (Diesel)	0	0
Construction Activities (Gasoline)	145.8	.07
Long-term Maintenance (Diesel)	0	0
Long-term Maintenance (Gasoline)	972	.44
Total GHG Emissions	1,117.8	0.51

¹ Note: 1 metric ton = 2,204.6 pounds of CO₂e. 1,000 pounds = 0.45 metric tons of CO₂e

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

No off-site sources of emissions or odors would affect the proposed project.

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

During construction and operation, impacts to air quality would be reduced and controlled through implementation of federal, state, and local emission control criteria and City of Seattle required practices. These would include requiring workers to use BMPs for construction methods, proper vehicle maintenance, and minimizing vehicle and equipment idling.

3. Water

a. Surface:

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

The proposed work would be in and on the banks of Longfellow Creek, a perennial fish-bearing watercourse tributary to Puget Sound, and Thornton Creek, a perennial fish-bearing watercourse tributary to Lake Washington.

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

The project would affect Longfellow and Thornton creeks.

- (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.**

No fill or dredge material would be placed in or removed from surface waters or wetlands.

- (4) Will the proposal require surface water withdrawals or diversions? If so, give general description, purpose, and approximate quantities if known.**

No surface water withdrawals or diversions would be required.

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

The proposal is in and near a designated FEMA-designated floodway and 100-year floodplain on Longfellow and Thornton creeks.

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

The proposal would not discharge waste materials to surface waters.

b. Ground:

- (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.**

No other ground water withdrawals or discharge are anticipated.

- (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.**

This project would not discharge waste material from septic tanks or other sources into groundwater.

c. Water Runoff (including storm water):

- (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.**

There would be no source of runoff during installation of the interventions or from the constructed project.

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

No part of the proposed work involves any discharges of waste materials to surface or ground waters.

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

Once completed, the proposed work would not alter or otherwise affect surface drainage patterns.

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

No surface or ground water and drainage impacts would occur.

4. Plants

a. Types of vegetation found on the site:

<input checked="" type="checkbox"/> Deciduous trees:	<input checked="" type="checkbox"/> Alder	<input checked="" type="checkbox"/> Maple	<input type="checkbox"/> Aspen	<input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Evergreen trees:	<input checked="" type="checkbox"/> Fir	<input checked="" type="checkbox"/> Cedar	<input type="checkbox"/> Pine	<input type="checkbox"/> Other:
<input type="checkbox"/> Shrubs				
<input type="checkbox"/> Grass				
<input type="checkbox"/> Pasture				
<input type="checkbox"/> Crop or grain				
<input type="checkbox"/> Orchards, vineyards, or other permanent crops				
<input type="checkbox"/> Wet soil plants:	<input type="checkbox"/> Cattail	<input type="checkbox"/> Buttercup	<input type="checkbox"/> Bulrush	<input type="checkbox"/> Skunk cabbage
<input type="checkbox"/> Other:				
<input type="checkbox"/> Water plants:	<input type="checkbox"/> water lily	<input type="checkbox"/> eelgrass	<input type="checkbox"/> milfoil	<input type="checkbox"/> Other:
<input type="checkbox"/> Other types of vegetation:				

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

The project would not remove or alter vegetation.

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

According to a review of the Washington Department of Natural Resources (WDNR) Natural Heritage Program’s document called “Sections that Contain Natural Heritage Features, Current as of January 12, 2021” (www.dnr.wa.gov), there are no documented occurrences of sensitive, threatened, or endangered plant species at or near either project site. No federally-listed endangered or threatened plant species or State-listed sensitive plant species are known to occur within Seattle’s municipal limits.

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

Construction of the proposed work would not require plant removal or pruning.

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

No noxious weeds or invasive plant species are known to be at the project site.

5. Animals

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site:

Birds:	<input checked="" type="checkbox"/> Hawk	<input checked="" type="checkbox"/> Heron	<input checked="" type="checkbox"/> Eagle	<input checked="" type="checkbox"/> Songbirds
	<input checked="" type="checkbox"/> Other: crow, pigeon			
<hr/>				
Mammals:	<input type="checkbox"/> Deer	<input type="checkbox"/> Bear	<input type="checkbox"/> Elk	<input checked="" type="checkbox"/> Beaver
	<input checked="" type="checkbox"/> Other: possum, raccoon, squirrel, rat			
<hr/>				
Fish:	<input type="checkbox"/> Bass	<input checked="" type="checkbox"/> Salmon	<input checked="" type="checkbox"/> Trout	<input type="checkbox"/> Herring
	<input type="checkbox"/> Shellfish	<input type="checkbox"/> Other:		

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

Coastal cutthroat trout (*Oncorhynchus clarki*) is known from reaches of Longfellow Creek near that project site and is a State-listed priority species. No other such species are known to be present at or near the Longfellow Creek site based on a check of the WDFW's "Priority Habitat and Species on the Web" database on May 6, 2020 (<https://geodataservices.wdfw.wa.gov/hp/phs/>). WDFW indicates this project site is within an historic occurrence of western pond turtle (*Actinemys marmorata*), a State-listed endangered species. However, there are currently no known populations of western pond turtle in the City of Seattle.

The Thornton Creek site is known to provide habitat for Chinook (*O. tshawytscha*) and coho (*O. kisutch*) salmon and resident coastal cutthroat trout and is upstream of potential habitat for steelhead trout (*O. mykiss*) and sockeye salmon (*O. nerka*). Chinook salmon and steelhead trout are listed as Threatened species under the federal Endangered Species Act (ESA). Coho salmon is a candidate species for listing under ESA. WDFW's "Priority Habitat and Species on the Web" database indicates the Thornton Creek site is near a listed occurrence of little brown bat (*Myotis lucifugus*), a listed sensitive species in Washington.

Both project sites are known to be (but not mapped as being) within the habitat of bald eagle (*Haliaeetus leucocephalus*) and great blue heron (*Ardea herodias*)—priority species in Washington.

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

Seattle is located within the migratory route of many birds and other animal species and is part of the Pacific Flyway, a major north-south route of travel for migratory birds in the Americas extending from Alaska to Patagonia. Also, Puget Sound and Lake Washington are important water migration routes for many animal species.

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

The proposed work would not remove any vegetation.

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

King County lists the European starling, house sparrow, Eastern graysquirrel, and fox squirrel as terrestrial invasive species for these areas in the City of Seattle (<http://www.kingcounty.gov/services/environment/animals-and-plants/biodiversity/threats/Invasives.aspx>).

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.

The constructed project would not require energy.

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

The proposed project does not involve building structures or planting vegetation that would block access to the sun for adjacent properties.

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:

There are no conservation features or proposed measures to reduce or control energy impacts because there would be no such impacts.

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:

The completed project would not create environmental health hazards.

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

Neither project site is known to have contamination or potential contamination from present or past uses.

(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.

There are no known hazardous chemicals or conditions that might affect project development and design.

(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.

There are no toxic or hazardous chemicals would be stored, used, or produced at any time during the operating life of the constructed project.

(4) Describe special emergency services that might be required.

No special emergency services would be required during construction or operation of the project.

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

There would be no environmental health hazards during the instillation process.

b. Noise

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

Noise that exists in the area would 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.

Noise levels in the vicinity of project construction would temporarily increase during installation due to hammering with hand-held tools. Short-term noise from construction equipment would be limited to the allowable maximum levels of applicable laws, including the City of Seattle's Noise Control Ordinance [SMC Chapter 25.08.425—Construction and Equipment Operations]. Within the allowable maximum levels, SMC 25.08 permits noise from construction equipment between the hours of 7 a.m. and 7 p.m. weekdays, and 9 a.m. and 7 p.m. weekends and legal holidays. The completed project would generate no additional noise from equipment used for operation or maintenance.

(2) Proposed measures to reduce or control noise impacts, if any:

Motorized construction equipment would not be used. SMC Chapter 25.08 (which prescribes limits to noise and construction activities) would be enforced while the project is being constructed and during operations, except for emergencies.

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.

The proposed work at the Longfellow Creeksite would be in unimproved public right-of-way and SPR-owned open space parcels. The proposed work at the Thornton Creek site would be on an SPU-owned parcel dedicated to stormwater management and

community open space. Adjacent property uses at both sites are single-family and low-rise residential (some of which may contain home-based occupations).

- 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 non-forest use?**

Neither project site has been recently used for agricultural purposes.

- (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?**

The proposed work would neither be affected by nor affect surrounding working farm or forest land normal business operations because there are no such operations at or near either project site.

- c. Describe any structures on the site.**

The proposal is associated with an existing pedestrian bridge over Longfellow Creek.

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

The project would not demolish any structures.

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

Single Family 5,000 and Low-Rise Residential (LR1)

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

Longfellow Creek site: Single Family, Multi-family Residential, and City-owned Open Space. Thornton Creeksite: Single Family Residential

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

Neither project site is in a Shoreline Management district.

- h. Has any part of the site been classified as an “environmentally critical” area? If so, specify.**

Both project sites are in Riparian Management, Wetland, Wetland Buffer, Liquefaction-prone, and Flood-prone Environmentally Critical Areas associated with Longfellow and Thornton creeks, as identified and mapped by the City of Seattle (<https://www.arcgis.com/apps/webappviewer/index.html?id=f822b2c6498c4163b0cf908e2241e9c2>).

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

No people would reside or work in the completed project.

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

The project would not displace any people.

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

There would be no displacement impacts.

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

The project would be compatible with existing and projected land uses and plans.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

There are no nearby agricultural and forest lands of long-term commercial significance.

9. Housing

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

The proposed project would not construct any housing units.

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

The proposed project would not eliminate any housing units.

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

No measures are proposed because there would be no housing impacts.

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?

All constructed structures would be less than four feet tall.

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

No views would be altered or obstructed.

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

No such measures are proposed because there would be no aesthetic impacts.

11. Light and Glare

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

The constructed project would not produce light or glare. Project installation would occur during workday working hours of 8 a.m. to 5 p.m.

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

The project would not create light or glare.

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

There are no existing off-site sources of light and glare that would affect the proposal.

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

No measures are needed to reduce or control light and glare impacts because no impacts would occur.

12. Recreation

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

No parks or other designated recreational opportunities are in the immediate vicinity of the Longfellow Creek site. However, the proposed work at that site is near a pedestrian trail and bridge used for informal recreational activities such as dog-walking, walking, jogging, and bicycling.

At the Thornton Creeksite, the Meadowbrook Pond facility is used by the Meadowbrook community for passive recreational uses such as walking, jogging, non-motorized biking, photography, and wildlife-watching. The Meadowbrook Community Center and Nathan Hale High School and its athletic fields are more than 400 feet west of the Facility, on the west side of 35th Ave NE.

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

The proposed work would not displace any existing recreational uses.

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

The project would not affect any vehicle or pedestrian routes or access.

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? If so, specifically describe.

There are numerous residential and other structures over 45 years old located near each project site, most of which have not been evaluated for cultural/historic significance. However, no buildings or structures would be disturbed by the project. Otherwise, no known cultural/historic resources are located on or near the project sites.

- 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.**

According to the information sources listed in section B.13.c of this checklist, there are no additional archaeological or cultural resources beyond those listed in section B.13.a that have been documented to exist on or near the project sites.

- 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 Archaeology and Historic Preservation, archaeological surveys, historic maps, GIS data, etc.**

To determine if any project sites are located on or near properties listed, or documented to be eligible for listing, on federal, state, or local cultural/historical registers, the project sites were checked against the following registers on May 6, 2021:

- Washington Information System for Architectural & Archaeological Research Data (WISAARD) maintained by the Washington State Department of Archaeology and Historic Preservation (<https://wisaard.dahp.wa.gov/>)
- King County and City Landmarks List maintained by the King County Historic Preservation Program, (https://www.kingcounty.gov/~media/services/home-property/historic-preservation/documents/resources/T06_KCLandmarkList.ashx?la=en)
- Landmark List, and Map of Designated Landmarks, maintained by the City of Seattle, Department of Neighborhoods, accessed May 6, 2021 (<http://www.seattle.gov/neighborhoods/programs-and-services/historic-preservation/landmarks/landmarks-map>)

- 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.**

The proposed work would not affect buildings or known cultural resources and would not create ground disturbance. The proposed work's avoidance of ground disturbance reduces the chance of encountering contextually significant archaeological materials. Should evidence of cultural artifacts or human remains, either historic or prehistoric, be encountered during excavation, work in that immediate area would be suspended and the find would be examined and documented by a professional archaeologist. Decisions regarding appropriate mitigation and further action would be made at that time.

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.**

The Longfellow Creek site is in City-owned street right-of-way near 2512 SW Graham St. The Thornton Creek site is near 39th Ave NE and NE 105th St.

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?

The proposed project would not affect public transportation. At the Longfellow Creek site, the nearest bus stop is located on Delridge Way SW more than 300 feet east of the project location. Metro bus routes 120, 14, and the D-line operate on Delridge Way SW.

At the Thornton Creeksite, the Meadowbrook Pond facility is close to public transportation. Metro Transit routes 64 and 65 travel on 35th Ave NE. The nearest transit stop is located on 35th Ave NE at NE 105th St, approximately 500 feet west of the facility's south entrance.

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

At both sites, parking is currently on-street, free parking managed by the City of Seattle. The proposal would neither create new, nor eliminate existing parking spaces. There are ample on-street parking spots available near the project site and most nearby residences have their own off-street parking.

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).

The project would not add any new roads, streets, or driveways.

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

The proposed project would not use or occur near water, rail, or air transportation.

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 non-passenger vehicles). What data or transportation models were used to make these estimates?

Project construction would generate a total of six round-trips due to workers and materials being transported to and from the site during the estimated six working-day construction period. The constructed project would be inspected twice per year for its 10-year lifespan by SPR and SPU maintenance staff. During those inspections, accumulated trash would be removed and disposed appropriately. Thus, maintenance and inspection of the completed project would generate an estimated 40 round 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.

The proposal would not interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area.

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

There would be no transportation impacts. Access for emergency-response vehicles would be maintained at all times. No alternative routes for pedestrians, bicyclists, and those with disabilities would be required.

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.

The project would not create an increased need for public services.

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

The proposed work would not have any impact on public services.

16. Utilities

a. Check utilities available at the site, if any:

- None
- Electricity Natural gas Water Refuse service
- Telephone Sanitary sewer Septic system
- Other: stormwater drainage; fiber optic; cable

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.

Construction is not expected to interrupt, relocate, or reconstruct other utilities such as sewer, water services, or natural gas. No other construction-related interruptions to utility services are expected.

C. SIGNATURE

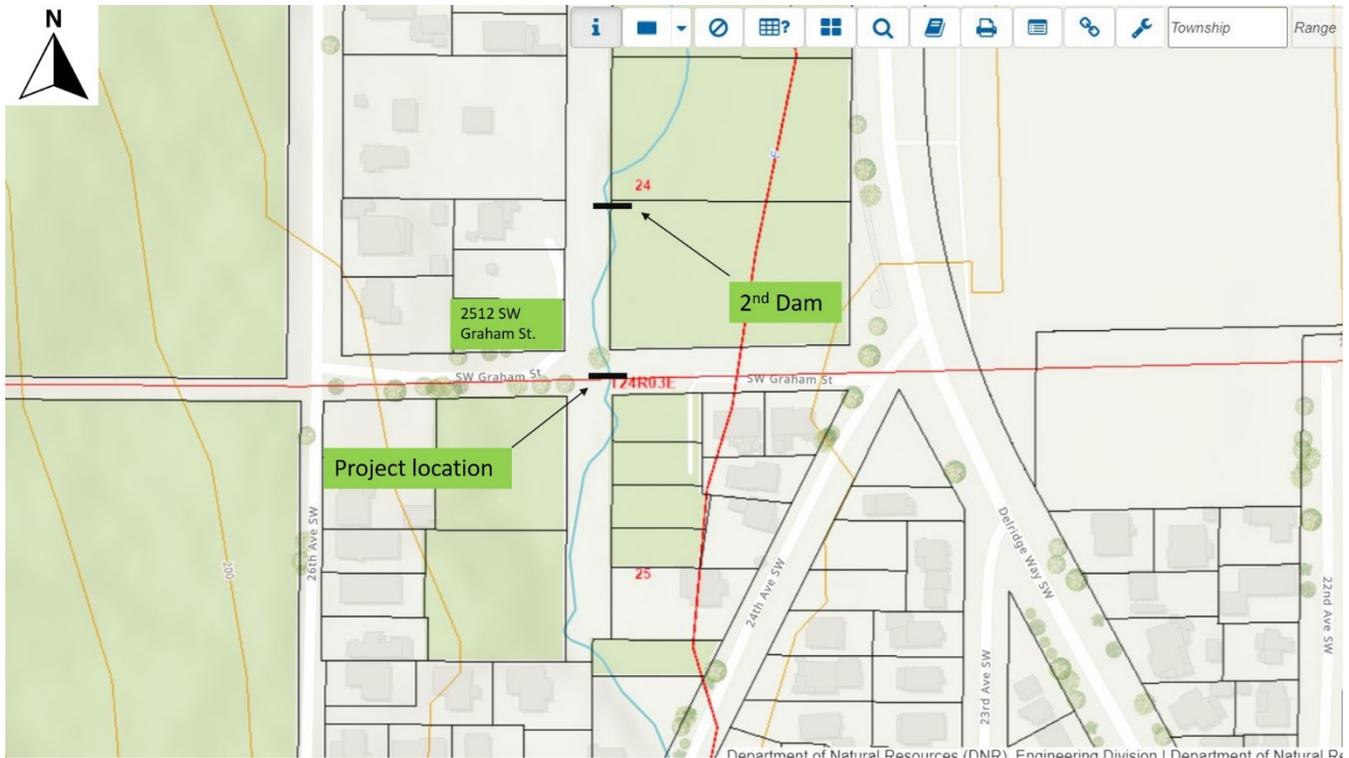
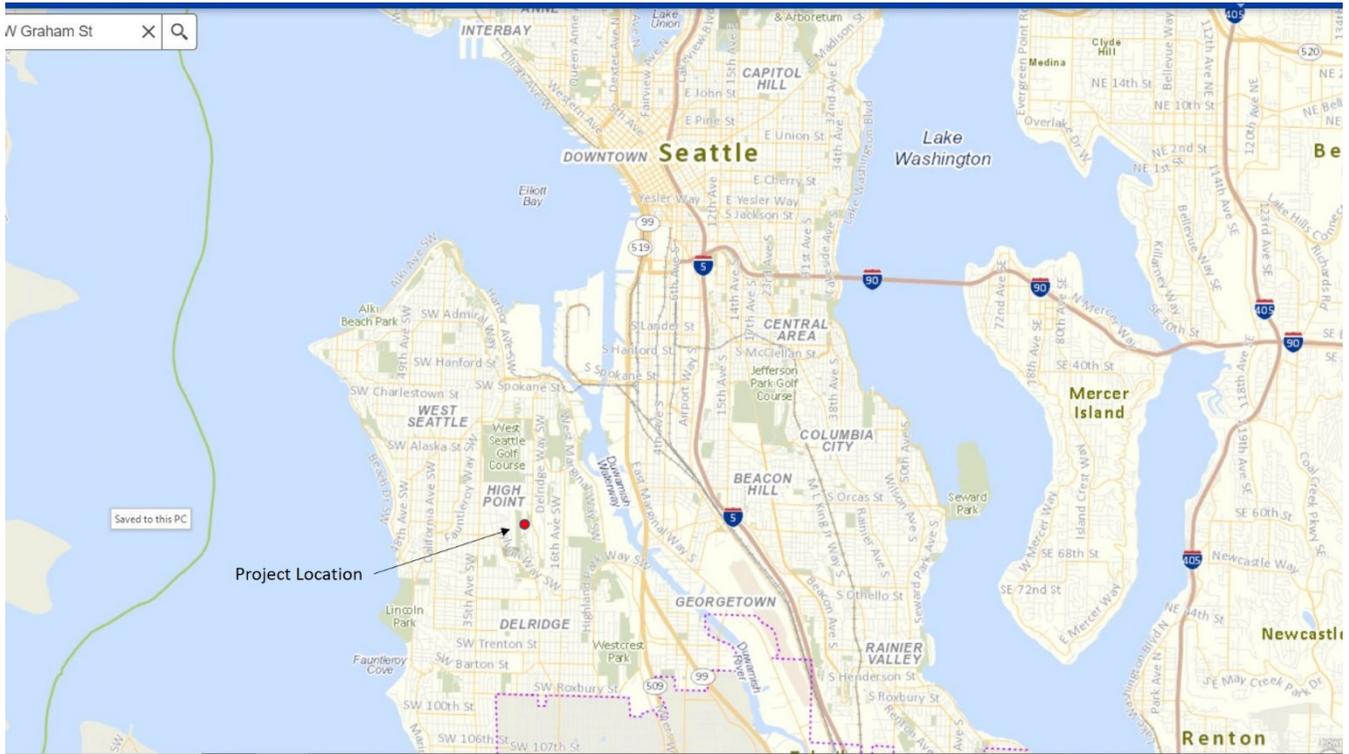
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____
Steve Damm, Project Manager

ATTACHMENTS

- A: Location and Site Maps for Longfellow Creek Site
- B: Location and Site Maps for Thornton Creek Site
- C: Photograph of Longfellow Creek Site
- D: Photograph of a Pond Leveler
- E: Greenhouse Gas Emissions Worksheet

Attachment A: Location and Site Maps for Longfellow Creek Site

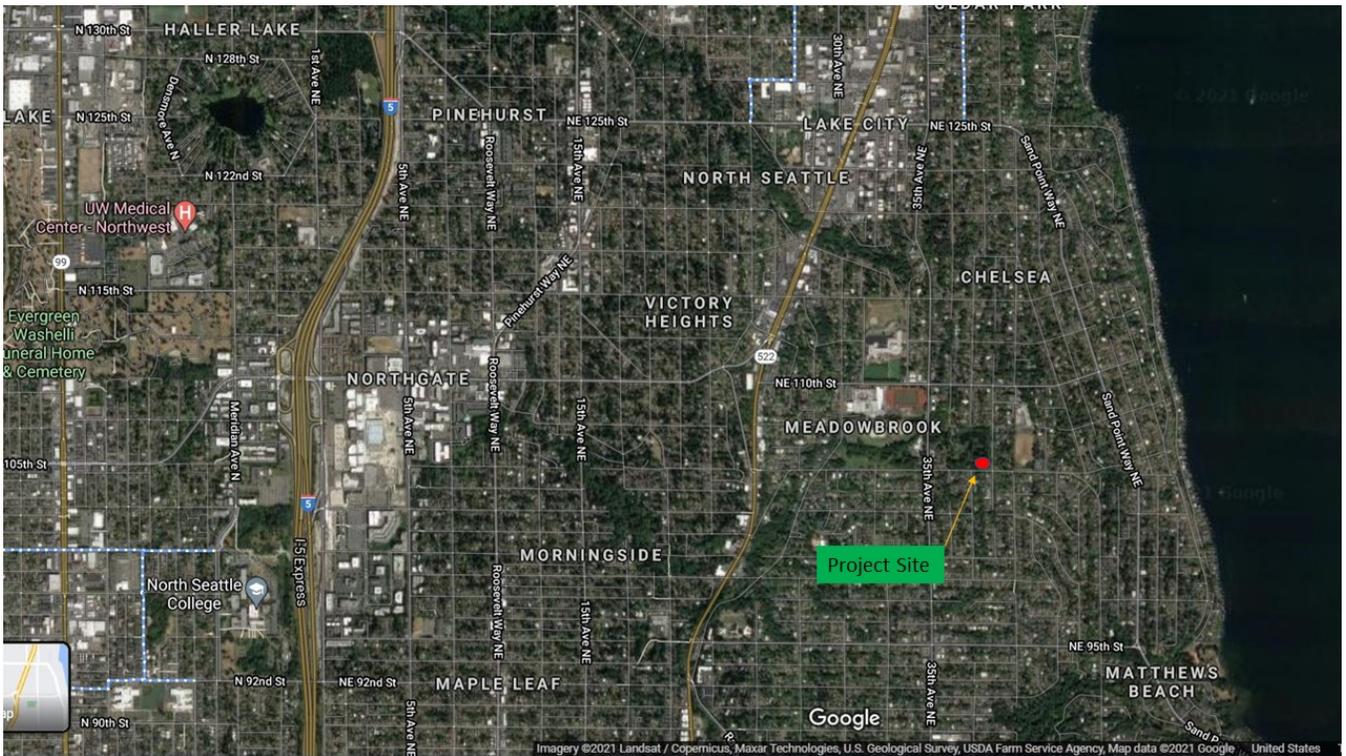


Attachment B: Photograph of Longfellow Creek Site

Photograph of the pedestrian bridge and first beaver dam, looking east.



Attachment C: Location and Site Maps for Thornton Creek Site



Attachment D: Photograph of a Pond Leveler

Photograph of a pond leveler installation at an unknown location in Western Washington.



Attachment E: Greenhouse Gas Emissions Worksheet

Section I: Buildings						
			Emissions Per Unit or Per Thousand Square Feet (MTCO _{2e})			
Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Embodied	Energy	Transportation	Lifespan Emissions (MTCO _{2e})
Single-Family Home	0		98	672	792	0
Multi-Family Unit in Large Building	0		33	357	766	0
Multi-Family Unit in Small Building	0		54	681	766	0
Mobile Home	0		41	475	709	0
Education		0.0	39	646	361	0
Food Sales		0.0	39	1,541	282	0
Food Service		0.0	39	1,994	561	0
Health Care Inpatient		0.0	39	1,938	582	0
Health Care Outpatient		0.0	39	737	571	0
Lodging		0.0	39	777	117	0
Retail (Other than Mall)		0.0	39	577	247	0
Office		0.0	39	723	588	0
Public Assembly		0.0	39	733	150	0
Public Order and Safety		0.0	39	899	374	0
Religious Worship		0.0	39	339	129	0
Service		0.0	39	599	266	0
Warehouse and Storage		0.0	39	352	181	0
Other		0.0	39	1,278	257	0
Vacant		0.0	39	162	47	0
TOTAL Section I Buildings						0

Section II: Pavement						
						Emissions (MTCO _{2e})
Pavement (sidewalk, asphalt patch)						
Concrete Pad (50 MTCO _{2e} /1,000 sq. ft. of pavement at a depth of 6 inches)		0 sq ft, 6 inches thick (0 CY)				0
TOTAL Section II Pavement						

Section III: Construction						
						Emissions (MTCO _{2e})
(See detailed calculations below)						
TOTAL Section III Construction						.07

Section IV: Operations and Maintenance						
						Emissions (MTCO _{2e})
(See detailed calculations below)						
TOTAL Section IV Operations and Maintenance						.44

TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT (MTCO_{2e})						.51
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Attachment E: Greenhouse Gas Emissions Worksheet, continued

Section III Construction Details		
Construction: Diesel		
Equipment	Diesel (gallons)	Assumptions
Subtotal Diesel Gallons	0	
GHG Emissions in lbs CO ₂ e	0	26.55 lbs CO ₂ e per gallon of diesel
GHG Emissions in metric tons CO ₂ e	0	1,000 lbs = 0.45359237 metric tons

Construction: Gasoline		
Equipment	Gasoline (gallons)	Assumptions
Pick-up Trucks or Crew Vans	6	6 workdays x 1 truck x 1 round-trip/day x 20 miles/round-trip ÷ 20 mpg
Subtotal Gasoline Gallons	6	
GHG Emissions in lbs CO ₂ e	145.8	24.3 lbs CO ₂ e per gallon of gasoline
GHG Emissions in metric tons CO ₂ e	.07	1,000 lbs = 0.45359237 metric tons

Construction Summary		
Activity	CO ₂ e in pounds	CO ₂ e in metric tons
Diesel	0	0
Gasoline	145.8	.07
Total for Construction	145.8	.07

Section IV Long-Term Operations and Maintenance Details		
Operations and Maintenance: Diesel		
Equipment	Diesel (gallons)	Assumptions
Subtotal Diesel Gallons	0	
GHG Emissions in lbs CO ₂ e	0	26.55 lbs CO ₂ e per gallon of diesel
GHG Emissions in metric tons CO ₂ e	0	1,000 lbs = 0.45359237 metric tons

Operations and Maintenance: Gasoline		
Equipment	Gasoline (gallons)	Assumptions
	40	2 times per year for 2 sites for 10 years x 1 truck x 1 round-trip/event x 20 miles/round-trip ÷ 20 mpg
Subtotal Gasoline Gallons	40	
GHG Emissions in lbs CO ₂ e	972	24.3 lbs CO ₂ e per gallon of gasoline
GHG Emissions in metric tons CO ₂ e	.44	1,000 lbs = 0.45359237 metric tons

Operations and Maintenance Summary		
Activity	CO ₂ e in pounds	CO ₂ e in metric tons
Diesel	0	0
Gasoline	972	.44
Total Operations and Maintenance	972	.44