SEATTLE PUBLIC UTILITIES
SEPA ENVIRONMENTAL CHECKLIST

This SEPA environmental review has been conducted in accord with the Washington State Environmental Policy Act (SEPA) (Revised Code of Washington Chapter 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

A1. Name of proposed project:

Northeast 93rd Street Culvert Repair Project

A2. Name of applicant:

Seattle Public Utilities

A3. Address and phone number of applicant and contact person:

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A4. Date checklist prepared:

March 29, 2013

A5. Agency requesting checklist:

Seattle Public Utilities (SPU)

A6. Proposed timing or schedule (including phasing, if applicable):

The project is scheduled to be constructed between July 1, 2013 and October 31, 2013 and is expected to require 20 working days.

A7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

SPU understands that replacing the culvert with a new culvert will be required at some point in the future due to the culvert's poor condition. However, SPU currently has no specific plans for such future replacement.

A8. List any environmental information you know about that has been prepared, or would be prepared, directly related to this proposal.

CivilTech Engineering. 2013 (February 4). Basis of Design Memo, Northeast 93rd Street Culvert Repair.

Kennedy/Jenks Consultants. 2013 (January 9). Peer Review of Northeast 93rd Street Culvert Repair.

Osborn Consulting, Inc. with CivilTech Engineering. 2012 (July 25). Northeast 93rd Culvert Condition Assessment. Technical Memorandum.

Pace Engineers, Inc. with Icicle Creek Engineers. 2010 (December 31). Conceptual Design for Northeast 93rd Street Culvert Replacement.

SPU Geotechnical Engineering. 2013 (February 20). Geotechnical Recommendations, Thornton Creek Culvert Repair Project, King County, Washington.

Tabor, Roger, D.W. Lantz, and S. Sanders. 2010 (January). Distribution and habitat use of fish in Seattle's streams. Final Report, 2005 and 2006.

Troost, K.G., D.B. Booth, A.P. Wisher, and S.A. Shimel. 2005. Geologic map of Seattle. U.S. Geological Survey Open File Report 2005-1252.

A9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

SPU is not aware of other applications or approvals that would directly affect the property covered by this proposal.

A10. List any government approvals or permits that would be needed for your proposal, if known.

- Seattle Department of Transportation (SDOT), Street Use Permit
- Seattle Department of Transportation (SDOT), Major Utility Permit
- City of Seattle, SPU, Exemption from the City of Seattle Environmentally Critical Area provisions
- King County Wastewater Treatment Division, Wastewater Discharge Permit
- Washington State Department of Fish and Wildlife, Hydraulic Project Approval
- Seattle Department of Parks and Recreation (Parks) may require a Revocable Use Permit if project staging occurs on a Parks parcel.

A11. 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. (Lead agencies may modify this form to include additional specific information on project description.)

SPU has evaluated and ranked culverts under City of Seattle roadways for likelihood and consequences of failure and has implemented a proactive culvert repair and replacement program to reduce cost and risk. That program targets high priority culverts while considering life cycle costs and multiple drainage benefits. The culvert conveying Thornton Creek under Northeast 93rd Street was identified as among the City's most at-risk culverts for failure. The structure is a concrete 3-sided box culvert with footings and wingwalls and

measures approximately 7 feet tall (including footings) by 10 feet wide by 35 feet long. The culvert has no bottom surface and only modest footings. The roadway surface of Northeast 93rd Street on top of the culvert is about 8 feet above the bed of Thornton Creek. The culvert is believed to have been constructed in the early 1930s.

The culvert has documented structural deficiencies caused primarily by erosive forces of Thornton Creek that have undermined culvert footings and eroded away the bottom of the channel through the culvert. As a result, the culvert is demonstrating obvious structural fatigue. Structural evaluations suggest the culvert is subject to high risk of catastrophic failure especially during larger storm events. Consequences of such failure are high and could include possible loss of human life, property damage, and environmental damage. Because implementation of a culvert replacement project would require a multi-year process, SPU has chosen to proceed with this proposed repair that would immediately stabilize the culvert and extend its lifespan for 10 to 20 years.

The goals of this culvert repair project are to:

- Immediately limit additional settlement and cracking of the culvert;
- Immediately limit additional rotation of the culvert walls;
- Create structural support for the culvert to accommodate future channel erosion or undermining of footings;
- Avoid any in-water work in Thornton Creek and Maple Creek to avoid and minimize water quality impacts and physical disturbance to the stream environment; and
- Avoid and minimize impact to the use of or access to Matthews Beach Park and private residences

The project would install five steel H-piles (minimum 35 feet long) set vertically and adjacent to the east wall of the culvert. The culvert wall would ultimately be affixed to the piles. Each pile would be installed by first drilling a large-diameter shaft through the Northeast 93rd Street roadway. The lower third of each shaft would be cased (up to the top elevation of the culvert wall footing) and the pile then inserted. The lower third of the shaft would be filled with concrete density fill or concrete. (The casing is intended to prevent water in Thornton Creek from entering the shaft and to prevent concrete from escaping the shaft into Thornton Creek.) The upper two-thirds of the shaft would then be temporarily backfilled with gravel. When that pile was completed, the roadway area above would be temporarily patched with asphalt or covered with steel plate. The work would then move to the next pile to repeat the process until all piles have been so installed.

Once all piles have been installed, the temporary gravel fill at each pile would be excavated and steel through-rods would be installed through the pile and culvert wall and fastened tight. The remaining open shaft would then be filled with structural concrete. All piles would be treated individually in this fashion. When one pile was completed, the roadway area above would be temporarily patched with asphalt or covered with steel plate. The work would then move to the next pile to repeat the process until all piles have been so treated. Once all piles have been affixed to the culvert wall and their shafts filled with concrete, the roadway would be restored in accord with SDOT standard plans.

For purposes of evaluating environmental impacts in this Checklist, SPU estimates that the repaired culvert would continue to be inspected as appropriate, most likely once or twice per year over its remaining lifespan (estimated to be 10 to 20 years).

A12. 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 culvert is located within the improved street right-of-way of Northeast 93rd Street approximately 150 feet east of Sand Point Way Northeast and near Matthews Beach Park. There is no street address for this project. It is approximately 1,000 feet upstream of the Thornton Creek confluence with Lake Washington. The project is in the Matthews Beach neighborhood in the City of Seattle, King County (zip code 98115) (Figures 1 and 2). The project location is in the southeast quarter of Section 34, Township 26N, Range 4E and within the Cedar/Sammamish Water Resource Inventory Area (WRIA 8).

B. ENVIRONMENTAL ELEMENTS

B1. Earth

a. General description of the site: *[Check the applicable boxes]*

☒ Flat ☐ Rolling ☐ Hilly ☐ Steep Slopes ☐ Mountainous
☐ Other: Sloping, submersed

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

The project is located above and around Thornton Creek, at an elevation that corresponds to the original shoreline of Lake Washington (prior to the construction of the Hiram M. Chittenden Locks on the west end of Salmon Bay). The banks of Thornton Creek dip steeply (at more than 45% slopes) from the Northeast 93rd Street roadway elevation to the stream bed. Otherwise, the project area is flat.

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

The project is located on the former shoreline of Lake Washington above and around Thornton Creek. A review of the geologic map of Seattle (Troost, et al. 2005) indicates the project location is underlain primarily by Holocene lake and alluvial deposits and pre-Olympia glacial deposits. Holocene lake deposit soils are typically silt and clay with local sand layers, peat and other organic sediments that are deposited in slow flowing water. Alluvium is generally sand, silt, gravel and cobbles deposited by running water and may contain trace organics. Pre-Olympia glacial deposits consist of silt, sand, gravel and till of glacial origin. However, road construction and urban development in the project location over the last 100 years have resulted in a predominance of disturbed native soils/sediments and placements of large areas of fill (primarily medium-dense, silty sandy gravel). The entire project location and immediately surrounding area have been completely developed and disturbed in this way. The project location has never been has never been used for agricultural purposes.

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

There are no surface features (such as head scarps, hummocky terrain, seepage along steep slope surfaces, bulging at the bases of slopes and/or evidence of permeable strata over relatively impermeable strata) that indicate unstable soils or past or possible future slide activity in the immediate project location.

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

Project construction would require excavation of approximately 500 cubic yards of soil and backfilling with approximately 500 cubic yards of temporary gravel backfill, concrete density fill, and/or concrete. All pile shafts would be shored. All exported excavated material would be disposed of at an approved upland location or used as fill material (if suitable) at sites approved for filling and grading. Imported bedding aggregate and clean fill would be obtained from a supplier licensed by the State of Washington to purvey such materials.

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

No significant erosion is anticipated during or as a result of the proposed work. A temporary erosion and sedimentation control plan would be prepared and implemented.

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

The proposed project would disturb approximately 1,400 square feet of ground. Of that, approximately 1,200 square feet (86%) is existing asphalt surface and would be replaced with the same amount of new asphalt. Approximately 200 square feet (14%) of disturbance would occur in a grassy road shoulder.

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

A temporary erosion and sedimentation control plan would be prepared and implemented. Best Management Practices (BMPs) identified in the City of Seattle's Stormwater Code [SMC 22.800 through 22.808 and Director's Rule 2009-004 SPU/16-2009 Department of Planning and Development (DPD)] and Construction Stormwater Control Technical Requirements Manual (Volume 2) would be used to manage stormwater as needed during construction.

B2. 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 and when the project is completed? If any, generally describe and give approximate quantities if known.

Mobile and stationary equipment would be used to construct and maintain the proposed project, thus generating emissions due to the combustion of gasoline and diesel fuels (such as oxides of nitrogen, carbon monoxide, particulate matter and smoke, uncombusted hydrocarbons, hydrogen sulfide, carbon dioxide, and water vapor). Some dust may also be created by project construction. Emissions related to construction are expected to be minimal, localized, and temporary.

This project would generate carbon dioxide and other greenhouse gas (GHG) emissions in three ways: use of steel piles and casings, concrete, and asphalt (embodied); construction activity; and post-construction inspection activity. Total GHG emissions for the project are estimated to be 1,450.4 metric tons of carbon dioxide emission (MTCO2e). GHG emission calculations are shown in Attachment A. One metric ton is equal to 2,205 pounds.

The project would use five 35 foot long steel H-piles and five short steel casings, pour about 500 cubic yards of concrete, and apply approximately 22 cubic yards of asphalt (1,200 square feet, 6 inches thick). The cradle-to-gate embodied energy in the steel piles and casings is crudely estimated to be 8 MTCO2e [based on estimates for steel with average recycled content (= 1.42 kg CO2/kg) found at http://www.greenspec.co.uk/embodied-energy.php) and a weight of 29 kg per linear foot for 12x63 H-pile]. Total embodied energy in all concrete and asphalt is estimated to be 1,410 MTCO2e

This project would generate GHG emissions during the estimated 20 working-day construction period through the operation of diesel- and gasoline-powered equipment and to transport materials, equipment, and workers to and from the site. Because project construction methods were not completely known at the time this Checklist was prepared, the estimates provided here are based on daily vehicle operation times for the estimated project duration (20 working days); actual times may be less. Construction activities would generate an estimated 32 MTCO2e.

The project would also generate GHG emissions through the inspection of the project over its estimated 20 year lifespan. For purposes of estimating GHG emissions, the project is estimated to generate one or two vehicle round-trips every year for inspection as appropriate. The total GHG emission generated from annual inspection is estimated to be 0.4 MTCO2e.

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

There are no known off-site sources of emissions that may affect this proposal.

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

During construction, impacts to air quality would be reduced and controlled through implementation of standard federal, state, and local emission control criteria and City of Seattle construction practices. These would include requiring contractors to use best available control technologies, proper vehicle and engine maintenance, and minimizing vehicle and equipment idling.

B3. 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 or water body it flows into.

The project would occur above and around Thornton Creek, a perennial tributary of Lake Washington. Maple Creek is a tributary to Thornton Creek and confluences immediately downstream of the project culvert.

(**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.**

Depending on construction means and methods, minor hand labor activities would be required below the mean high water mark of Thornton Creek. Workers would need to enter the Creek and project culvert to tighten and weld bolts on the ends of through-rods affixing the culvert all to the piles.

(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 below the ordinary high water mark of Thornton Creek.

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

The project would not require surface water withdrawals or diversions.

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

The project would occur in the 100 year floodplain of Thornton Creek and its tributary, Maple Creek.

(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 project would not produce or discharge waste materials to surface waters.

b. Ground:

(1) Will ground water be withdrawn, or would water be discharged to ground water? If so, give general description, purpose, and approximate quantities if known.

During geotechnical investigations for this project, depths to groundwater ranged from 6 to 15 feet below the ground surface. Limited dewatering of shafts and temporary trenches may be needed and will be discharged to the King County sewer system as approved by King County.

(2) Describe waste material that would be discharged into the ground from septic tanks or other sources, if any (*e.g.*, domestic sewage; industrial, containing the following chemicals…; agricultural, *etc.*). Describe the general size 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.

No waste material would be discharged to ground water for this project.

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 would this water flow? Would this water flow into other waters? If so, describe.

Stormwater runoff would be managed during construction to prevent sediment from entering and leaving the construction site. Any stormwater that lands on the construction site would be contained on-site and allowed to infiltrate. Other methods of storm water runoff collection and disposal could include collection and treatment such as Baker Tank or obtaining permit to discharge to the nearby King County sewer system. Barriers such as sand bags would be used to prevent runoff from entering the construction zone. Once construction is complete, temporary erosion control measures would be removed.

The proposed project would not change the current flow path or destination of stormwater in any way. The completed project would repair demolished and damaged sections of existing asphalt, but would not create a need to manage additional stormwater runoff beyond currently existing conditions.

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

There would be no waste materials from this project that could enter ground or surface waters.

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

No adverse impacts to surface water, ground water, or runoff water are anticipated. Puget Creek would be pumped-and-bypassed around the work area. BMPs identified in the City of Seattle's Stormwater Code (SMC 22.800 through 22.808 and Director's Rule 2009-004 SPU/16-2009 DPD) and Construction Stormwater Control Technical Requirements Manual (Volume 2) would be used to control erosion and sediment transport from and to the project location during construction.

B4. Plants

a. Types of vegetation found on the site: *[check the applicable boxes]*

☒ Deciduous trees: ☐ Alder ☒ Maple ☐ Aspen ☐ Other:
☐ Evergreen trees: ☐ Fir ☐ Cedar ☐ Pine ☐ Other:
☐ Shrubs:
☒ Grass
☐ Pasture
☐ Crop or grain
☐ Wet soil plants: ☐ Cattail ☐ Buttercup ☐ Bulrush ☐ Skunk cabbage ☐ Other:
☐ Water plants: ☐ water lily ☐ eelgrass ☐ milfoil ☐ Other:
☐ Other types of vegetation:

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

The project would disturb approximately 1,200 square feet of currently paved surface. About 200 square feet of grassy road shoulder be would be disturbed. Construction would also require excavating into the root zone of a large big-leaf maple (*Acer macrophyllum*) tree, the stem of which lies within approximately 10 feet of the nearest shaft excavation area. That tree is approximately 36 inches in diameter at breast height and thus meets the definition of an Exceptional Tree in the City of Seattle [as defined by SMC Chapter 25.11 (Tree Protection) and further elaborated by DPD Director's Rule 16-2008].

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

The project location is essentially completely filled and previously disturbed; most of it is paved. There is no habitat for threatened or endangered plants. No federally-listed endangered or threatened plant species or State-listed sensitive plant species are known to occur within the municipal limits of the City of Seattle.

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

Generally, the project would minimize the size of disturbance areas and restore those areas once construction is complete. Because this project requires excavation of vertical shafts (rather than trenches or tunnels, for example), there are limited options to avoid excavation in the root zone. As a means to preserve the health of the big-leaf maple, minimizing impacts to the root zone would be achieved by requiring the contractor to construct the feasibly smallest-diameter shafts in the two excavation locations closest to the big-leaf maple. Also, no excavation or other disturbance would be allowed to occur within 10 feet of the stem and that area and the stem would be protected by construction fencing or other barriers to prevent inadvertent damage. The contractor would be required to prepare and submit to SPU for approval a Tree, Vegetation, and Soil Protection Plan (TVSPP) that complies to the extent feasible with City of Seattle Standard Specification 8-01.3(2)B (http://www.seattle.gov/util/groups/public/@spu/@engineering/documents/webcontent/01_011336.pdf). The TVSPP would include the contractor's proposed general and specific protective measures intended to avoid and minimize damage to the tree's crown and roots. The project's construction drawings will add "Protect Tree" and "Protect Roots" to draw attention to SPU's desire to protect the big-leaf maple.

B5. Animals

a. Birds and animals that have been observed on or near the site or are known to be on or near the site: *[check the applicable boxes]*

Birds:	☒ Hawk	☒ Heron	☒ Eagle	☒ Songbirds
☒ Other: crow, pigeon, gull				
Mammals:	☐ Deer	☐ Bear	☐ Elk	☐ Beaver
☒ Other: raccoon, squirrel				
Fish:	☐ Bass	☒ Salmon	☒ Trout	☐ Herring
☐ Shellfish	☒ Other: stickleback, perch			

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

The project is located on Thornton Creek approximately 1,000 feet above Lake Washington. Endangered Species Act listed species known to use Thornton Creek Lake Washington, and Puget Sound (PS) are Chinook salmon (*Oncorhynchus tshawytscha*, Threatened PS) and steelhead (*O. mykiss*, Threatened PS). Bull trout (*Salvelinus confluentus*, Threatened PS) is known to use Lake Washington but not Thornton Creek.

A check of the Washington Department of Fish and Wildlife's "Priority Habitat Species on the Web" database on March 19, 2013 indicates the project location is habitat for the fish species mentioned above in addition to coho salmon (*Oncorhynchus kisutch*) and sockeye salmon (*Oncorhynchus nerka*). The project location is 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.

Lake Washington and the Seattle area are within the migratory routes of many bird, fish, and other animal species.

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

The project would minimize disturbance areas. If required as a condition of project permitting, in-water work [as referenced in Section B3.a.(2)] would be conducted within an agency-approved in-water construction window (probably July 1 to August 31, 2013) to protect fish. This project would also use BMPs identified in the City of Seattle's Stormwater Code (SMC 22.800 through 22.808 and Director's Rule 2009-004 SPU/16-2009 DPD) and Construction Stormwater Control Technical Requirements Manual (Volume 2) to generally protect fish and wildlife and manage stormwater. For example, equipment to be used for construction activity would be cleaned and inspected before it arrives at the project location to avoid and minimize potential for fuel or lubricant leaks.

B6 Energy and Natural Resources

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

The completed project would not require any supplementary energy to operate.

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

The 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.

B7. 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:

Materials likely to be present during construction, operation, and maintenance would include gasoline and diesel fuels, hydraulic fluids, oils, lubricants, and other chemical products. A spill of one of these chemicals could potentially occur during construction, operation, and/or maintenance as a result of either equipment failure or worker error.

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

No special emergency services would be required as part of this proposal, either during construction or once the project is completed. Typical emergency services required for medical emergencies during construction would be provided by the Seattle Fire Department. Typical security services during construction would be provided by the Seattle Police Department, Seattle Public Utilities, and the project contractor.

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

A Spill Control Plan would be developed to control and manage spills during construction. Any soils contaminated by spills would be excavated and disposed of in a manner consistent with the level of contamination, in accordance with federal, state and local regulatory requirements, by a qualified contractor(s) and/or City staff. During construction, SPU or its Contractor would use BMPs identified in the City of Seattle's Stormwater Code (SMC 22.800 through 22.808 and Director's Rule 2009-004 SPU/16-2009 DPD) and Construction Stormwater Control Technical Requirements Manual (Volume 2) to reduce or control environmental health hazards. Equipment would be inspected for leaking hoses, mechanical joints, and hydraulic pistons. Temporary control measures for both erosion and hazardous material spills would be installed to minimize access pathways to Thornton Creek in the event of a spill or leak. Hazardous material spill response materials would be available on the construction site for the duration of the construction work.

As required by the Washington Department of Labor and Industries (WAC 296-843), a Health and Safety Plan would be prepared by SPU's contractor before work commences. The plan would address proper employee training, use of protective equipment, contingency planning, and secondary containment of hazardous material. It would identify measures to ensure construction worker safety, outline emergency medical procedures, and reporting requirements.

b. Noise

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

Noises that exist 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 construction would temporarily increase during construction activities. Short-term noise from construction equipment would be limited to the allowable maximum levels of City of Seattle's Noise Control Ordinance (SMC Chapter 25.08), which prescribes limits to noise and construction activities.

Per SMC 25.08, elevated noise from construction equipment would be allowed only between the hours of 7 am and 7 pm weekdays, and between 9 am and 10 pm on weekends and legal holidays. For this project, construction typically would take place between 7 am to 7 pm on weekdays, except for emergencies that may occur before or after those times. Periodic inspection activity may cause noise that is within the levels allowed by SMC Chapter 25.08.

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

Construction equipment would be muffled in accordance with the applicable laws. SMC Chapter 25.08 would be enforced while the project is being constructed and during operations, except for emergencies.

B8. Land and Shoreline Use

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

The proposed project is located in an improved street right-of-way used for vehicle and pedestrian travel. Adjacent property uses are utility (sewage pump station), public park, and single family residential.

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

The project location has never been used for agricultural purposes.

c. Describe any structures on the site.

Aside from the culvert subject of this project, there are no other structures in the project location.

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

No building structures would be demolished.

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

The project is entirely located in the Single Family zone (SF 5000).

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

The current comprehensive plan designation of the project location is Single Family residential.

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

The project location is not within a Shoreline management district.

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

The project is located in Peat Settlement, Riparian, Wildlife, and Flood-prone areas—Environmentally Critical Areas as mapped by DPD.

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

No people would reside or work in the completed project because the project location is in street right-of-way.

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

No people would be displaced by the project.

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

There are no mitigation measures proposed because there are no adverse impacts related to displacement.

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

The project is consistent with current land uses and plans. SPU would self-exempt the project from applicable aspects of the City of Seattle Environmentally Critical Area provisions, as allowed by SMC 25.09.045, but would still comply with the general development standards for projects located in environmentally critical areas and the specific development standards applicable in the affected environmentally critical areas.

B9. Housing

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

The 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 project would not remove 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.

B10. Aesthetics

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

No building structures or other above-ground structures are proposed for this project.

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

No views would be altered or obstructed by the project. The project involves an existing outfall pipe located underwater and in an intertidal zone.

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

There would be no adverse aesthetic impacts as a result of this project.

B11. Light and Glare

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

The project would be constructed during daylight hours. The completed project would not produce glare.

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

The completed project would not produce 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:

Because neither the completed project nor its construction would produce glare, no mitigation measures are being proposed.

B12. Recreation

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

The project is located adjacent to Matthews Beach Park, a City of Seattle park. This is a large, passive and active use park providing public access to Lake Washington. Northeast 93rd Street provides access to the south entrance to the Park and is used by pedestrians, joggers, and bicyclists. The project is also located more than 400 southeast of the Burke-Gilman Trail, a busy regional bicycle and pedestrian facility. The proposed project would not change current patterns of access or use either at the Park or on the Burke-Gilman Trail.

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

Project construction would temporarily detour vehicles, pedestrians, joggers, and bicyclists around the work area using single lane closures. While traffic may be periodically and temporarily reduced to a single lane during project construction, Northeast 93rd Street would never be completely closed to access during that period. The completed project would not interfere with access or use of Matthews Beach Park or Northeast 93rd Street and would not permanently displace any 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:

Project construction would temporarily detour vehicles, pedestrians, joggers, and bicyclists around the work area. The completed project would not interfere with access or use of Matthews Beach Park or Northeast 93rd Street and would not permanently displace any recreational uses. Because the proposed project does not have any permanent recreational impacts, no measures to reduce or control recreational impacts are proposed.

B13. Historic and Cultural Preservation

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

The project location was checked using the King County Historic Preservation Program's archaeological and ethnographic databases on March 25, 2013. The project location was also checked against the following registers on March 19, 2013.

• City of Seattle Landmarks

http://www.cityofseattle.net/neighborhoods/preservation/landmarks_listing.htm

• Washington Heritage Register and National Register of Historic Places [via the WISAARD search engine (http://www.dahp.wa.gov/learn-and-research/find-a-historic-place) to determine if National Register or Washington Heritage properties are located in or adjacent to the project area].

No structures are designated Seattle Landmarks adjacent to or near the project location. The WISAARD database indicates that no historic register properties are located in or adjacent to the project location. No objects considered to be of historic or cultural importance are located in or near the project location. No buildings or building sites would be affected by this project.

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

The project location was checked using the King County Historic Preservation Program's archaeological and ethnographic database on March 25, 2013. Although the project is located in a "very high" probability landscape setting for discovering such resources (based on King County's predictive landscape model), no landmarks or evidence of historic, archaeological, scientific, or cultural importance is known from or near the project location.

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

No known archaeological or cultural resources or historic properties would be affected by this project. Although much of the project area has been disturbed by road-building and residential development, including placement of fill, the project would excavate undisturbed (native) soil and soil sediments. In addition, the project is located in a "very high" probability landscape setting for discovering archaeological resources. These circumstances combine to increase the project's chance of encountering undisturbed archaeological materials. As a result, the project would use a professional archaeologist to monitor excavations that disturb or potentially disturb native soil and soil sediments. 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 the professional archaeologist. Decisions regarding appropriate mitigation and further action would be made at that time.

B14. Transportation

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

The project is located within the improved street right-of-way for Northeast 93rd Street. The project is located more than 150 feet east of this roadway's intersection with Sand Point Way Northeast.

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

The project location is not served by public transportation. The closest transit stop is for Metro Route 75, more than 500 feet north of the project location on Sand Point Way Northeast. This bus route or access to bus stops would not be affected by construction of the proposed project.

c. How many parking spaces would be unavailable during project construction? How many spaces would the completed project have? How many would the project eliminate?

The project may require construction staging in a portion of the Matthews Beach parking lot and/or in a portion of an informal roadside parking area (within the street right-of-way for Northeast 93rd Street) 100 feet east of the project location. This roadside parking area is often used as overflow parking when the parking lot at Matthews Beach Park is full. Should such staging occur, this roadside parking area would be temporarily unavailable during construction, but would not be permanently eliminated. An estimated total of 20 parking spaces would be made temporarily unavailable.

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

The project does not require the construction of any new roads or street or improvements to existing roads or streets.

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

The project would not use or occur in the immediate vicinity of water, rail, or air transportation.

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

Project construction would generate an estimated total of approximately 215 vehicle round-trips due to workers and materials being transported to and from the site during the total 20 working day construction period. Most of those trips would occur during business hours (between 7 am and 7 pm) on weekdays (Mondays through Fridays).

The completed project would not have any impact on existing traffic patterns and volumes and would not generate any additional vehicle trips. The culvert is currently and routinely inspected several times per year. The repaired culvert would continue to be inspected as appropriate, most likely once or twice per year over its remaining lifespan.

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

Temporary closures and emergency access would comply with relevant policies administered by SDOT, as part of the Major Utility and Street Use permitting processes.

B15. Public Services

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

The project would not create increased need for public services.

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

No mitigation is being proposed because the completed project would have no adverse impacts on public services.

B16. Utilities

a. Check utilities available at the site, if any: *[check the applicable boxes]*

☒ Electricity ☒ Natural gas ☒ Water ☒ Refuse service
☒ Telephone ☒ Sanitary sewer ☐ Septic system
☒ Other: Fiber/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.

☒ **None**

Existing utilities in and along Northeast 93rd Street in the project location include elevated telephone and electrical lines, buried cable and fiber optics, a buried distribution water main that runs parallel to and under Northeast 93rd Street, and active water service lines feeding perpendicularly from the water main. A King County sewage pump station is located 120 feet north of the project (4820 Northeast 93rd Street; tax parcel 3426049191). No new utilities are being proposed. No interruptions of utilities or services are anticipated as a result of project construction or the completed project. Vehicle access to the King County pump station would be maintained at all times.

C. SIGNATURE

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

Signature: _____ Date: 3/29/13

Holly McCracken, Project Manager

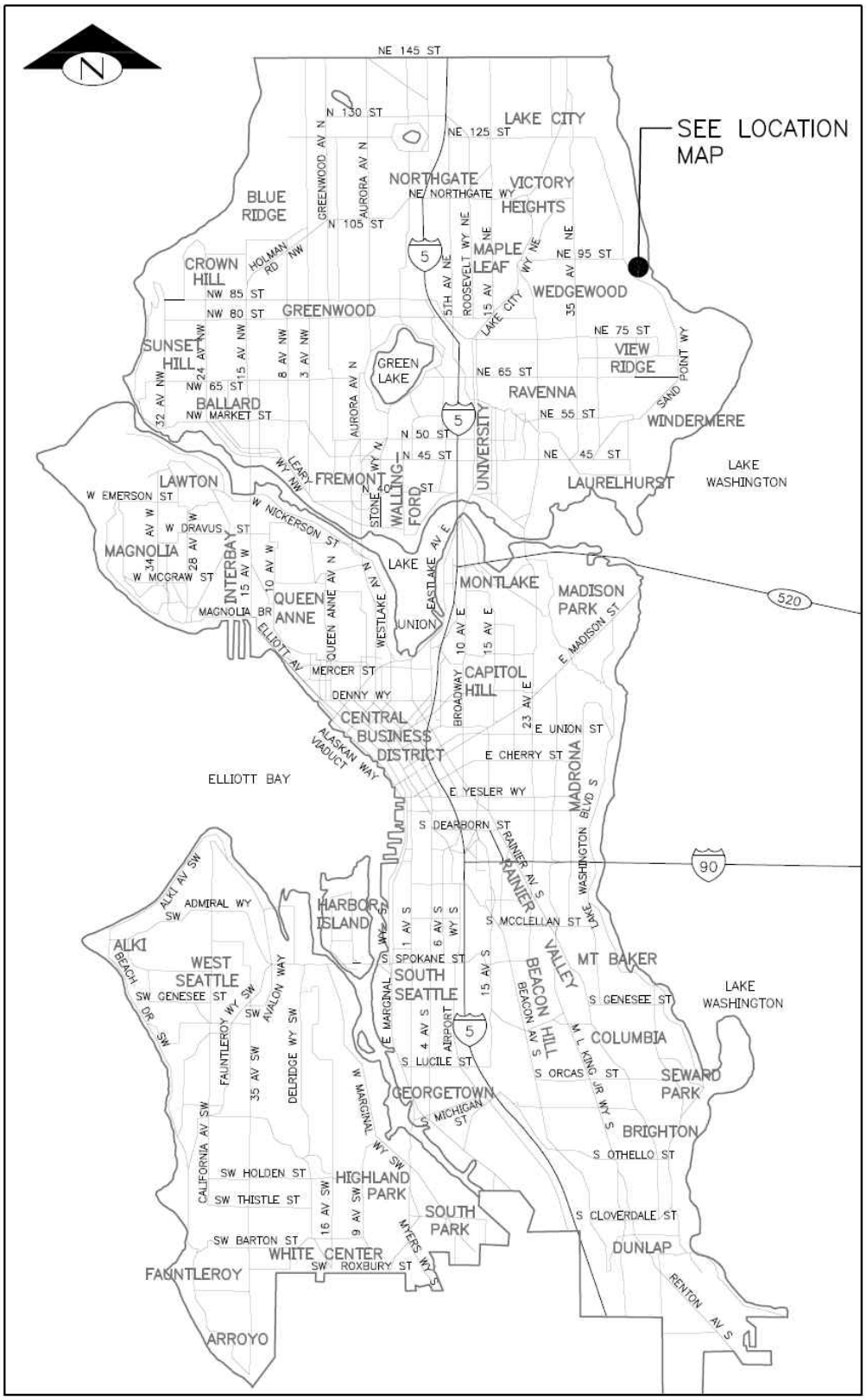

FIGURE 1: VICINITY MAP

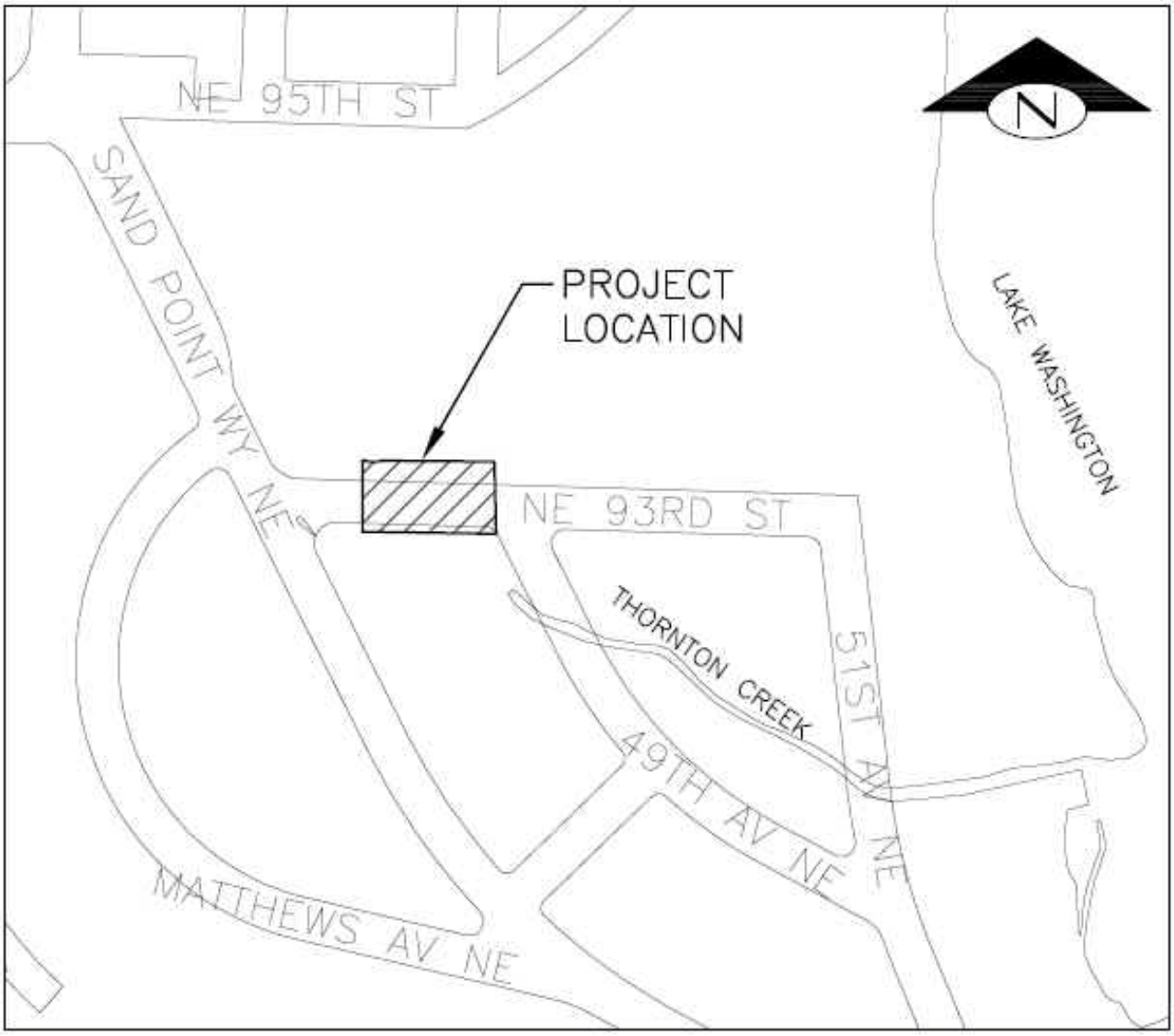

FIGURE 2: LOCATION MAP

Attachment A: 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	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 and Steel						
						Emissions ($MTCO_2e$)
Concrete/Asphalt (50 $MTCO_2e$/1,000 sq ft of pavement, 6 inches thick)*		500 cubic yards concrete and 1,200 square feet (6 inches thick) asphalt				**1,410**
Steel (12x63 H-pile and short casings)		63 pounds per foot of length of H-pile; 1.42 kg CO2/kg for section steel w/ average recycled content				**8**
					TOTAL Section II Pavement and Steel	**1,418**

*King County SEPA GHG emissions Worksheet Bulletin 26, Version 1.7, December 26, 2007

Section III: Construction	
(See detailed calculations below)	**Emissions ($MTCO_2e$)**
TOTAL Section III Construction	**32**

Section IV: Operation and Maintenance	
(See detailed calculations below)	**Emissions ($MTCO_2e$)**
TOTAL Section IV Operations and Maintenance	**0.4**

TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT ($MTCO_2e$)	**1,450.4**

Section III Construction Details		
Construction: Diesel		
Equipment	**Diesel (gallons)**	**Assumptions**
Backhoe/Excavator	1,600	80 hours x 20 gallons/hour (345 hp engine)
Drill rig	200	10 hours x 20 gallons/hour (345 hp engine)
Front-end Loader	280	40 hours x 7 gallons/hour (345 hp engine)
Vibratory Roller	8	10 hours x 0.8 gallons/hour (185 hp engine)
Asphalt Paver	36	8 hours x 4.5 gallons/hour (80 hp engine)
Asphalt Truck	16	4 round trips x 20 miles/round trip ÷5 mpg
Flat-bed Truck	20	5 round trips x 20 miles/round trip ÷5 mpg
Dump Truck and Pup (17 cubic yard/load)	200	50 round trips x 20 miles/round trip ÷ 5mpg
Concrete truck (10 cubic yard capacity)	200	50 round trips x 20 miles/round trip ÷ 5mpg
Subtotal Diesel Gallons	2,560	
GHG Emissions in lbs CO_2e	67,968	At 26.55 lbs CO_2e per gallon of diesel
GHG Emissions in metric tons CO_2e	31	1,000 lbs = 0.45359237 metric tons

Construction: Gasoline		
Equipment	**Gasoline (gallons)**	**Assumptions**
Pick-up Trucks	100	20 workdays x 5 trucks x 1 round-trip/day x 20 miles/round-trip ÷ 20 mpg
Subtotal Gasoline Gallons	100	
GHG Emissions in lbs CO_2e	2,430	At 24.3 lbs CO_2e per gallon of gasoline
GHG Emissions in metric tons CO_2e	1	1,000 lbs = 0.45359237 metric tons

Construction Summary		
Activity	**CO_2e in pounds**	**CO_2e in metric tons**
Diesel	67,968	31
Gasoline	2,430	1
Total for Construction	70,398	**32**

Section IV Long-Term Operation and Maintenance Details		
Operation and Maintenance: Diesel		
Equipment	**Diesel (gallons)**	**Assumptions**
Subtotal Diesel Gallons	0	
GHG Emissions in lbs CO_2e	0	At 26.55 lbs CO_2e per gallon of diesel
GHG Emissions in metric tons CO_2e	0	1,000 lbs = 0.45359237 metric tons

Operation and Maintenance: Gasoline		
Equipment	**Gasoline (gallons)**	**Assumptions**
Pick-up Truck	40	40 events (twice annually for 20 years) x 1 round-trip/event x 20 miles/round-trip ÷ 20 mpg
Subtotal Gasoline Gallons	40	
GHG Emissions in lbs CO_2e	972	At 24.3 lbs CO_2e per gallon of gasoline
GHG Emissions in metric tons CO_2e	0.4	1,000 lbs = 0.45359237 metric tons

Operation and Maintenance Summary		
Activity	**CO_2e in pounds**	**CO_2e in metric tons**
Diesel	0	0
Gasoline	972	0.4
Total Operations and Maintenance	972	**0.4**