



DETERMINATION OF NONSIGNIFICANCE

TITLE OF PROPOSAL: University Slough Wastewater Overflow Mitigation Project—Phase C

DESCRIPTION OF PROPOSAL: The King County Wastewater Treatment Division (WTD) proposes to complete the third phase of a three-phase project initiated in response to a May 2008 sewer spill into University Slough. During investigation of the sewer spill, WTD learned that during storm events combined storm water and sewage could enter a stream transfer pipe designed to carry Ravenna Creek flow to University Slough. WTD immediately implemented Phase A of the project, which consisted of inserting a plug into the Ravenna Creek stream transfer pipe when wet weather was expected. Phase A continued until mid-2010. Phase B, which took place during summer 2010, involved extending the Ravenna Creek stream transfer pipe and making other modifications to the stream transfer system to ensure that Ravenna Creek flow could travel continuously through an isolated stream pipe to University Slough without risk of cross-contamination with sewage. This Determination of Nonsignificance (DNS) addresses Phase C of the project, which would consist of the installation of three large logs with root wads in University Slough as mitigation for Phases A and B of the project. Phase C would be constructed sometime between July and September of 2011 and take approximately two weeks to complete.

LOCATION OF PROPOSAL, INCLUDING STREET ADDRESS, IF ANY: The proposal is located in northeast Seattle at the University Slough drainage canal between NE 45th Street and NE Clark Road, just south of University Village Shopping Center. The site is located in Section 16, Township 25N, Range 4E.

Responsible Official: Pam Elardo, P.E.
Position/Title: Division Director, King County Wastewater Treatment Division

Address: 201 S. Jackson St., MS KSC-NR-0501
Seattle, WA 98104-3855

Date: 3/7/11

Signature:

Proponent and Lead Agency: King County Department of Natural Resources and Parks
Wastewater Treatment Division

Contact Person: Sue Meyer, Senior Environmental Planner
King County Wastewater Treatment Division
201 S. Jackson St., MS KSC-NR-0505
Seattle, WA 98104;
phone: 206-684-1171; e-mail: sue.meyer@kingcounty.gov

Issue Date: March 14, 2011

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

This DNS is issued under WAC 197-11-340 (2); the lead agency will not act on this proposal for 14 days from the issue date. **Comments must be submitted by March 28, 2011.** Submit comments to Wesley Sprague, Supervisor Community Services and Environmental Unit, King County Wastewater Treatment Division, 201 S. Jackson St., MS KSC-NR-0505, Seattle, WA 98104-3855.

The King County Wastewater Treatment Division has submitted a permit application to the Washington State Department of Fish and Wildlife, thus there is no administrative appeal of this DNS pursuant to RCW 43.21C.075, WAC 197-11-680, KCC 20.44.120 and King County Public Rule 7-4-1. The rule may be viewed at <http://www.kingcounty.gov/operations/policies/rules/utilities/put741pr.aspx>, or contact Sue Meyer at 206-684-1171 or sue.meyer@kingcounty.gov to obtain a copy.

[Statutory authority: RCW 43.21C.110. 84-05-020 (Order DE 83-39), §197-11-970, filed 2/10/84, effective 4/4/84.]



King County

Department of Natural Resources and Parks

Wastewater Treatment Division

King Street Center, KSC-NR-0505
201 South Jackson Street
Seattle, WA 98104

Environmental Checklist

for the

University Slough Wastewater Overflow Mitigation Project—Phase C

March 1, 2011

Prepared in compliance with the State Environmental Policy Act (SEPA) (RCW 43.21C), the SEPA Rules (WAC 197-11), and Chapter 20.44 King County Code, implementing SEPA in King County procedures.

This information is available in accessible formats upon request at 206-684-1280 (voice) or 711 (TTY).

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. Name of proposed project, if applicable:

University Slough Wastewater Overflow Mitigation Project—Phase C

2. Name of applicant:

King County Wastewater Treatment Division (WTD)

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

King County Wastewater Treatment Division
201 South Jackson Street, MS: KSC-NR-0505
Seattle, WA 98104-3855

CONTACT:

Sue Meyer, Water Quality Planner, Telephone: 206-684-1171, Email:
sue.meyer@kingcounty.gov

4. Date checklist prepared:

March 1, 2011

5. Agency requesting checklist:

King County Wastewater Treatment Division

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

The proposed project is being constructed in three phases:

Phase A was implemented in May 2008 and continued until mid-2010. A State Environmental Policy Act (SEPA) environmental checklist and determination of nonsignificance (DNS) were issued for Phase A in September 2008.

Phase B of the project took place during Summer 2010. A SEPA environmental checklist and DNS were issued for Phase B in March 2010.

Phase C of the project, which is the proposal described in this document, would be constructed sometime between July and September of 2011 and take approximately two weeks to complete.

The activities associated with each phase are generally described in Section A.11.

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

Yes. King County would continue to maintain the native plant buffer in and adjacent to the project area that was planted as mitigation for the 2008 wastewater overflow into University Slough.

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

- Ravenna Creek Storm Drainage Project SEPA Environmental Checklist and Nonsignificance (DNS), December 1990
- Ravenna Diversion Structure Modification Project—Phase A SEPA Environmental Checklist and Determination of Nonsignificance (DNS), September 2008
- Ravenna Creek Stream Transfer Pipe Extension Project—Phase B SEPA Environmental Checklist and Determination of Nonsignificance (DNS), March 11, 2010

Water quality sampling was performed by WTD in the Ravenna Creek system between December 2008 and July 2009

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.

None known.

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

The project would require a permit from the Army Corps of Engineers and a Hydraulic Project Approval from the Washington Department of Fish and Wildlife.

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

In 2004, King County day-lighted a section of Ravenna Creek in the southeast corner of Ravenna Park. The County also redirected a portion of the creek flow that was conveyed by the combined sewer system to the West Point Treatment Plant in Magnolia to University Slough. During investigation of a May 2008 sewer spill into University Slough, WTD learned that during storm events combined storm water and sewage could enter the stream transfer pipe that was designed to carry the diverted Ravenna Creek flow to University Slough. The County responded to this incident with the three-phased project that is described in the following paragraphs.

Phase A of the project was implemented immediately after the May 2008 sewer spill into University Slough. It consisted of inserting an inflatable plug into the Ravenna Creek stream transfer pipe (which carries Ravenna Creek flow to University Slough) when wet weather was expected. The purpose of Phase A was to prevent sewage and

storm water from entering the stream transfer pipe during the time that a permanent solution to the problem was designed and constructed (Phase B).

Phase B of the project took place during summer 2010. It involved extending the Ravenna Creek stream transfer pipe and making other modifications to the stream transfer system to ensure that Ravenna Creek flow could travel continuously through an isolated stream pipe to University Slough without risk of cross-contamination with sewage.

Phase C of the project is the proposal evaluated in this environmental checklist. It involves the installation of three large logs with root wads (called "large woody debris" or "LWD") in University Slough as mitigation for the temporary rerouting of Ravenna Creek flow to the combined sewer system instead of University Slough during Phases A and B of the project. Placement of LWD in the Slough would create fish habitat and promote biological diversity. The LWD would consist of three cedar or fir logs with root wads that would be placed in the Slough and its buffer as shown on the attached Site Plan. Each of the logs would be approximately 20 feet long and approximately 16 to 20 inches in diameter at breast height. The bank-side end of each log would be embedded in the ground and anchors would be used to permanently secure the logs in place. The construction area would be dewatered during construction to facilitate installation of the LWD and minimize construction impacts to Slough water quality and fish. Dewatering would be accomplished by placing temporary sandbag isolation dams in the Slough and pumping slough water around and out of the construction area.

- 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 proposal is located in Northeast Seattle at the University Slough drainage canal between NE 45th Street and NE Clark Road, just south of University Village Shopping Center. The site is located in Section 16, Township 25N, Range 4E. See attached Vicinity Map.

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. General description of the site (circle one):** Flat, rolling, hilly, steep slopes, mountainous, other: moderate slopes.

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

The steepest slope on the site is approximately 50 percent.

- 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.**

Soils on the site consist of fill placed on top of municipal solid waste that is part of an abandoned landfill site.

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

Yes. The site is identified as “liquefaction prone” by the City of Seattle.

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

A temporary sandbag isolation dam would be placed at each end of the in-water work area so that the work area could be isolated from Slough flow during construction of the proposed project. A pump placed in the Slough immediately upstream of the upstream isolation dam would be used to pump Slough flow around the isolated work area.

Approximately 35 cubic yards of soil would be excavated so that three logs could be installed in and next to the Slough channel. Each log would be approximately 20 feet long and approximately 16 to 20 inches in diameter at breast height. Earth anchors and cables would be used to permanently secure the logs in place. After the logs were installed, the excavated soil would be used as backfill and existing grades restored.

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

Yes. Excavation activities in and next to the Slough would expose soils, making them susceptible to erosion.

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

None

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

Construction of the proposed project would take place during the dry season to minimize the potential for erosion and sedimentation and temporary erosion and sediment control measures would be employed. For example, isolation dams would be installed in the Slough to separate Slough flow from areas where excavation would take place. Other measures that could be used include covering stockpiles and exposed soils and controlling dust with spray water, if needed.

Additionally, the potential for erosion would be reduced by the use of earth anchors and cables to permanently secure the positions of the logs.

2. Air

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile emissions, odors, industrial wood smoke) during construction**

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

The proposal would involve temporary construction-related air emissions. These would include dust generated by construction activities and exhaust from construction equipment.

A King County Greenhouse Gas Emissions Worksheet is attached.

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

None known

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

Short term construction-related air pollutant emissions would be addressed by requiring proper maintenance of equipment, avoiding prolonged idling of vehicles and equipment, and using spray water to minimize dust if necessary.

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, or wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Yes. The project would take place in University Slough, which is a drainage canal that flows into Union Bay on Lake Washington. The Ravenna Creek stream transfer pipe discharges to University Slough just south of NE 45th Street and north of the project site.

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

Yes. As described in Section B.1.e, the project involves the temporary diversion of University Slough flow around the proposed construction area, installation of temporary sandbag isolation dams in the Slough, excavation in the Slough, and permanent installation of logs in the Slough.

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.

A temporary sandbag isolation dam would be placed at each end of the in-water work area so that the work area could be isolated from creek flow during construction of the proposed project.

Approximately 35 cubic yards of soil would be excavated so that three logs could be installed in and next to the Slough channel. Each log would be approximately 20 feet long and approximately 16 to 20 inches in diameter at breast height. Earth anchors and cables would be used to permanently secure the logs in place. After the logs are installed, the excavated soil would be used as backfill and existing grades restored.

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

Yes, water in University Slough would be temporarily diverted around the in-water work area so that excavation, grading, and other activities required to permanently install the logs in the channel could take place. Flow would be pumped from the area upstream of the upstream isolation dam, routed through a temporary line placed on the west side of the construction area, and discharged downstream of the downstream isolation dam. Water would also be pumped from the construction area, if necessary, and discharged downstream of the downstream isolation dam. The primary source of flow in the Slough is the Ravenna Creek Stream Transfer Pipe, which contributes flow from Ravenna Creek at a rate of approximately 3-5 cubic feet per second.

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

No

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

No waste materials would be intentionally discharged to surface waters. Small amounts of construction-related materials could enter surface waters (For example, oils, greases, lubricants, etc. from construction equipment) as a result of runoff from the site. See Section B.3.d for measures to minimize the potential for these materials to be discharged to surface waters.

b. Ground:

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

No

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

Small spills or leaks of fluids used by construction equipment (For example, motor oil, diesel fuel, hydraulic fluid, and lubricant) could occur during construction. See Section B.3.d for measures to minimize the potential for these materials to be discharged into the ground.

c. Water Runoff (including storm water):

- 1) **Describe 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.**

Stormwater runoff on the site currently infiltrates into the ground or enters University Slough. This would not change as a result of the proposed project.

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

Runoff from construction sites has the potential to contain small amounts of motor oil, diesel fuel, hydraulic fluid, and other equipment-related materials, as well as sediment. These substances could enter ground water or University Slough. See Section B.3.d for measures to minimize this potential.

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

The project would be constructed with applicable federal and state permits, which would specify a range of measures designed to reduce or control potential surface, ground, and/or runoff water impacts. Potential Best Management Practices and other erosion and sediment control measures are described in Section B.1.h.

Flow in University Slough would be temporarily diverted around the construction area during construction. This would reduce the potential for construction-related erosion and sedimentation to adversely impact water quality in the Slough. Any water pumped from the construction area would be monitored and, if necessary, passed through a settling tank before being discharged to the Slough downstream of the construction area. An energy dissipation device would be placed on the end of the hose used to discharge bypassed flow into the Slough downstream of the construction area.

Prior to the commencement of construction activities, construction limits would be staked to minimize the area that is disturbed by the proposed project.

4. Plants

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

deciduous tree: alder, cottonwood
 evergreen tree
 shrubs

- grass
 pasture
 crop or grain
 wet soil plants
 water plants: cattail
 other types of vegetation

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

Parts of the vegetated Slough buffer in the approximately 2,000-square-foot construction area would be removed or disturbed during construction to access the project site and install the LWD. Approximately 6,000 square feet of grass at the edge of the athletic field next to the Slough would be used by construction equipment and crew to access the construction area.

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

None known.

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

The project site was selected to minimize the disturbance to vegetation. Any part of the Slough buffer disturbed during construction would be revegetated with native plants. Grass disturbed by equipment accessing the construction area would also be restored.

5. Animals

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

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

mammals: deer, bear, elk, beaver, other: rodents, domestic cats and dogs

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

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

None known.

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

Yes. The entire Puget Sound area is part of the Pacific Flyway for migratory birds.

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

The proposal, itself, is a measure to enhance wildlife habitat.

During construction, measures would be taken to protect fish and wildlife. These would include the surface water protection measures described in Section B.3.d and the following:

- construction would take place between July and September to minimize the potential for fish to be in the Slough;
- temporary isolation dams and nets would be installed at each end of the construction area to keep fish out of the construction area (the type of fish expected to be in the Slough, if any, include stickleback and sculpin);
- after the isolation dams were installed, any fish in the construction area between the dams would be electroshocked and then relocated downstream of the construction area; and
- the creek bypass hose intake would be covered with nets or another material to prevent fish from being sucked into the hose.

6. Energy and Natural Resources

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

During construction, fossil fuels would power construction vehicles and equipment.

The completed project would not use any energy.

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

No.

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

None.

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.**

No.

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

None would be required.

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

None.

b. Noise

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

Urban traffic noises exist in the project area, but they 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.**

All noise impacts would be temporary and occur during project construction. Construction noise would typically consist of engine noise, reverse gear warning systems, and mechanical noises associated with the use of heavy construction equipment such as an excavator. Typical noise levels generated by this type of equipment range from about 70 to 90 dBA measured at a distance of 50 feet. Except for pumps, construction activities would generate noise at the site during normal weekday working hours.

Noise would also be generated during construction by pumps used to divert water in University Slough and dewater the construction area. These pumps would generate noise levels measuring approximately 80 to 90 dBA at a distance of 50 feet. The pumps would run continuously during the period of project construction.

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

All construction activities would comply with applicable noise regulations.

8. Land and Shoreline Use

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

The site is bordered by a golf driving range, University of Washington athletic field, parking lot, and open space.

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

No

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

There are no structures on the site.

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

No

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

The site's zoning classification is "major institutions overlay, low-rise residential/commercial."

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

The site's comprehensive plan designation is "major institutions."

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

Not applicable.

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

Yes. The site is classified by the City of Seattle as a "geologic hazard area" due to its liquefaction and peat settlement potential, "wetland," and "abandoned landfill."

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

None.

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

None.

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

None needed

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

None needed.

9. Housing

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

None.

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

None.

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

None proposed.

10. Aesthetics

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

No structures are proposed.

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

None.

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

None needed.

11. Light and Glare

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

None.

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

No.

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

None.

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

None proposed.

12. Recreation

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

The site is bordered to the west by a golf driving range and to the east by a University of Washington athletic field.

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

No.

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

None proposed.

13. Historic and Cultural Preservation

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

None known.

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

The site is located in an area classified by the City of Seattle as an "Archaeological Buffer Overlay District."

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

Excavation would not extend beyond fill that sits on top of an abandoned landfill.

14. Transportation

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

The site is served by NE Clark Road. NE Clark Road is accessed from Union Bay Place NE which connects to NE 45th Street. These streets would be used to access the site. Construction equipment would access the site from NE Clark Road by driving on the western edge of the athletic field next to University Slough.

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

Yes. Stops on Metro Transit routes 25, 65, and 75 are located within 0.2 mile of the site.

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

The proposed project would not create or eliminate any parking spaces.

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

No.

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

No.

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

The completed project would not generate any vehicular trips.

During construction, the project would generate approximately eight one-way truck trips.

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

None proposed.

15. Public Services

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

No.

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

None proposed.

16. Utilities

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

The athletic field next to the project site contains sprinklers, but they would not be impacted by construction or operation of the proposed project.

- 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.**

No utilities are proposed for the project.

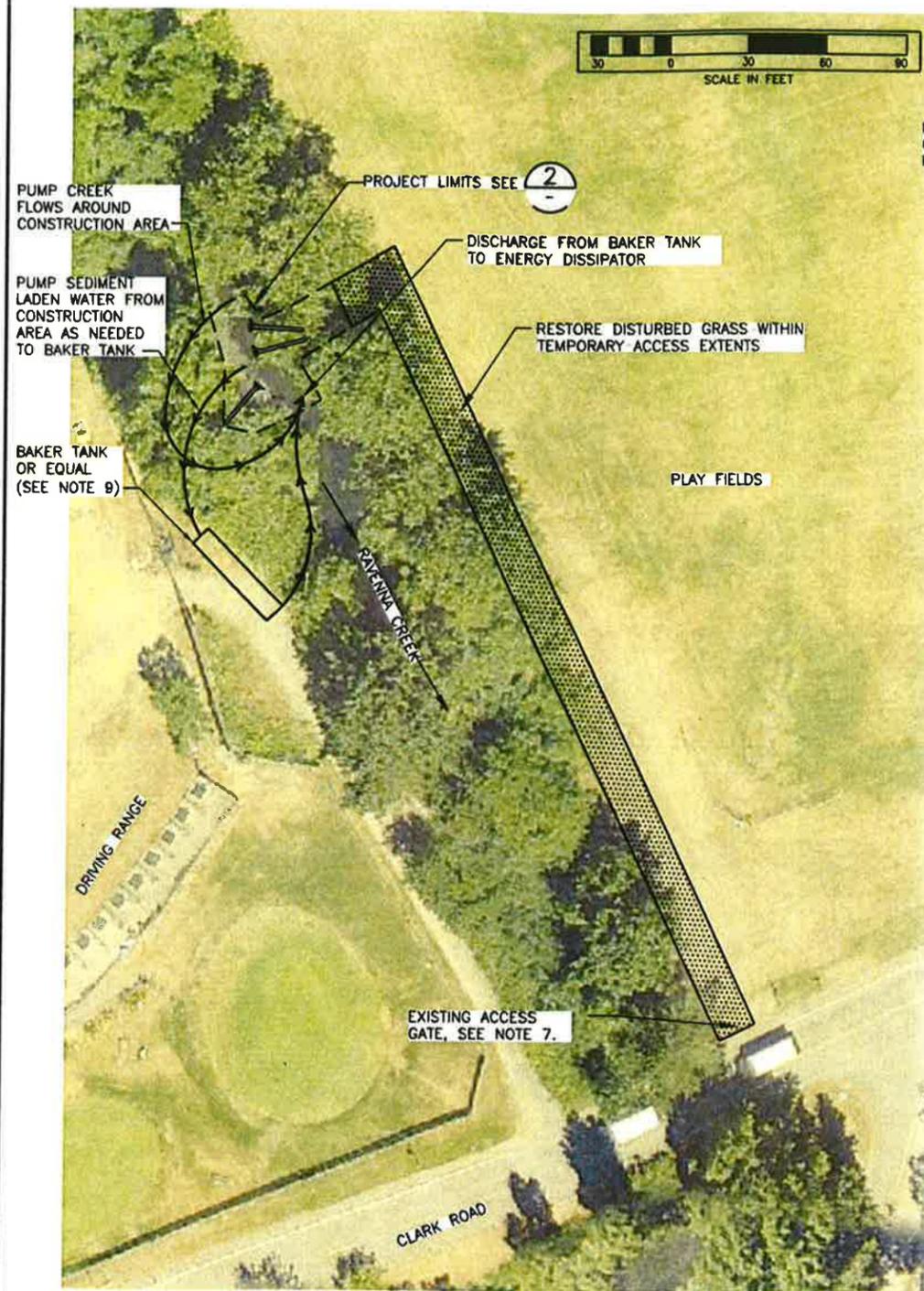
C. SIGNATURE

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.

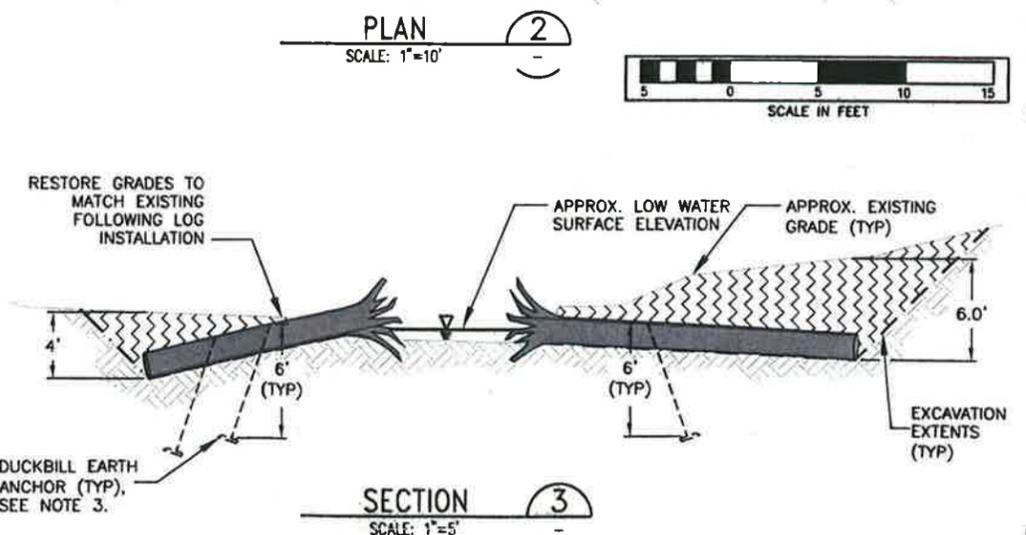
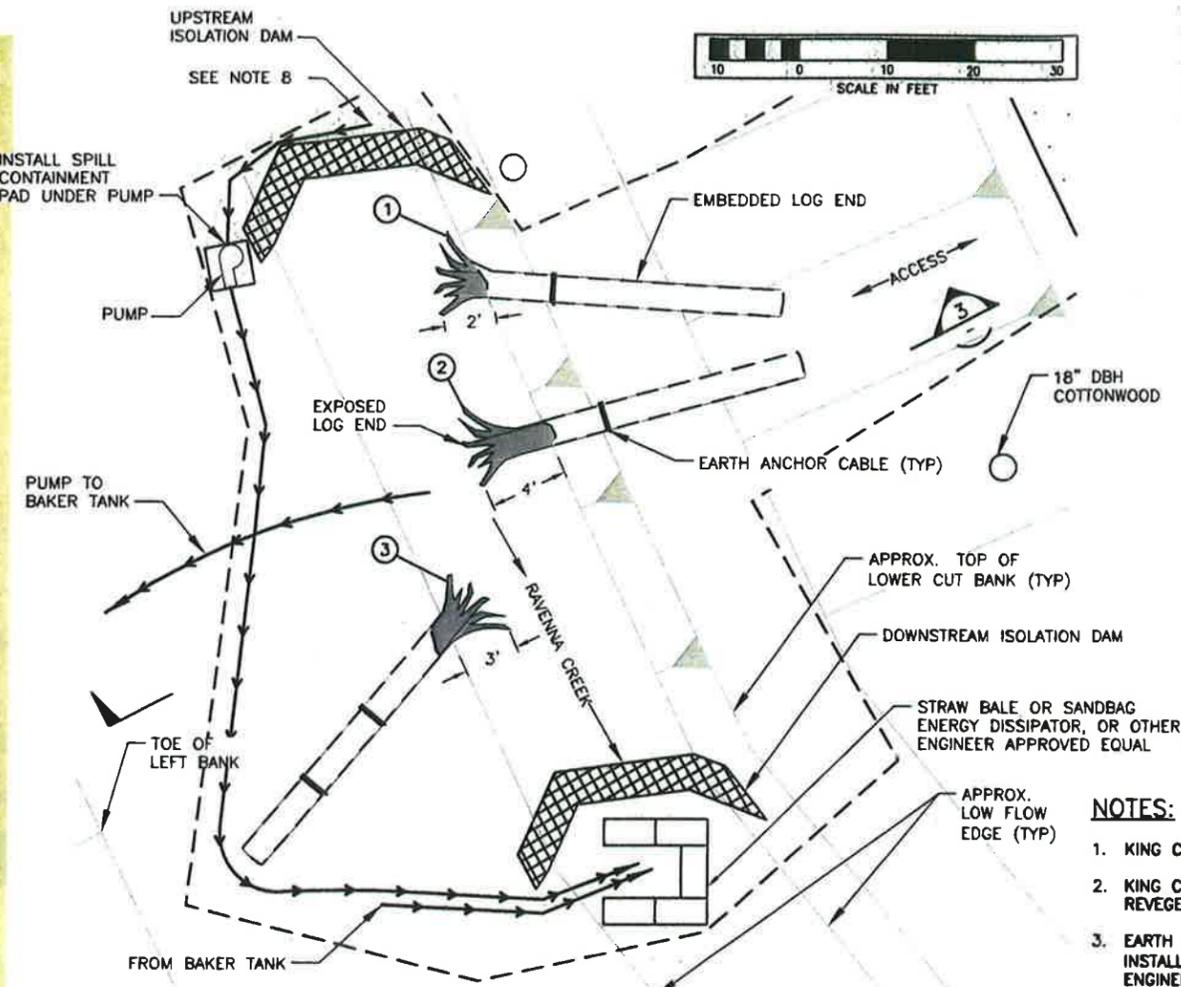
Signature: Wesley Sprague

Date Submitted: 3/4/11

Figure 1. Site Plan
University Slough Wastewater Overflow Mitigation Project—Phase C



SITE PLAN 1
SCALE: 1"=30'



PERMIT PLANS

LEGEND:

- NATIVE SOIL
- BUCKET COMPACTED NATIVE SOIL BACKFILL
- CONSTRUCTION LIMITS
- APPROXIMATE BANK SLOPE LINES
- LOG NUMBER
- TEMPORARY ACCESS
- EXISTING LARGE COTTONWOOD TREES TO BE AVOIDED
- SAND BAG ISOLATION DAM (TYP)

- NOTES:
1. KING COUNTY TO COORDINATE FISH REMOVAL ACTIVITIES.
 2. KING COUNTY TO COORDINATE SITE RESTORATION AND REVEGETATION.
 3. EARTH ANCHORS TO BE A DUCKBILL MODEL 88-DB1, AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS, OR OTHER ENGINEER APPROVED EQUAL.
 4. CONTRACTOR NOT TO EXCEED DESIGNATED CONSTRUCTION LIMITS.
 5. CONSTRUCTION LIMITS TO BE STAKED BY KING COUNTY ECOLOGIST PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
 6. ALL LOGS SHALL BE 20' LONG INCLUDING ROOTWAD, DOUGLAS FIR, AND 16 - 20 INCH DIAMETER AT BREST HEIGHT.
 7. KING COUNTY TO COORDINATE ALL SITE ACCESS.
 8. CONTRACTOR SHALL INSTALL WATER DIVERSION SYSTEM SHOWN IN THE PLANS, OR AN OWNER APPROVED EQUAL PRIOR TO COMMENCING EXCAVATION. CONTRACTOR SHALL MAINTAIN THE WATER DIVERSION SYSTEM THROUGHOUT THE DURATION OF CONSTRUCTION AS NEEDED. DIVERTED CREEK FLOWS AND BAKER TANK FLOWS SHALL BE DISCHARGED DOWNSTREAM OF THE DOWNSTREAM ISOLATION DAM, INTO RAVENNA CREEK. WATER DIVERSION INSTALLATION SEQUENCE:
 - A. INSTALL PUMP AND FISH SCREEN UPSTREAM OF THE UPSTREAM ISOLATION DAM.
 - B. INSTALL THE UPSTREAM ISOLATION DAM.
 - C. INSTALL THE DOWNSTREAM ISOLATION DAM.
 - D. REMOVE FISH FROM THE CONSTRUCTION AREA BETWEEN THE TWO DAMS (SEE NOTE 1).
 - E. PUMP WATER AS NEEDED FROM THE CONSTRUCTION AREA TO A BAKER TANK.
 9. PUMP TO BAKER TANK FOR SEDIMENT REMOVAL BEFORE DISCHARGE TO CREEK AS REQUIRED TO MEET WATER QUALITY STANDARDS AND PERMIT REQUIREMENTS.

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

Path: C:\p\proj\200606-04070-011\CAD\Drawings\Sheet2.dwg
 Plot Date: 2/16/2011 5:20 PM
 Cad User: Laura Turnidge

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-6555
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK:	
SURVEYED:	
SURVEY BASE MAP:	
CHECKED:	
PROJECT No. HERRERA: 06-04070-011	
SURVEY No.	
MUM.	REVISION
BY	DATE

APPROVED:	M. EW BANK P.E.
PROJECT:	
PROJECT ECOLOGIST:	
PROJECT MANAGER:	CHRISTINA TIFFANY
DESIGNED:	G. KAYS, P.E., M. STRAZER, E.I.T.
REVIEWED:	M. EW BANK P.E.
DESIGN ENTERED:	L. TURNIDGE



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King County
 Department of Natural Resources and Parks
 Wastewater Treatment Division
 Christie True, Director

**UNIVERSITY SLOUGH
 WASTEWATER OVERFLOW
 MITIGATION PROJECT**
 PLAN, SECTION, AND NOTES

SHEET
 2
 OF
 2
 SHEETS

Greenhouse Gas Emissions Worksheet - University Slough Wastewater Overflow Mitigation Project

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO ₂ e)			Lifespan Emissions (MTCO ₂ e)
			Embodied	Energy	Transportation	
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

Section II: Pavement.....

Pavement.....		0.00				0
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Total Project Emissions*: 0

The University Slough Wastewater Overflow Mitigation Project does not involve the construction of any new structures or new pavement. Therefore, the total project emissions identified by the worksheet above is zero. Greenhouse gas emissions would be emitted from construction equipment working at the project site.