

FREELAND SEWER COLLECTION AND TREATMENT SYSTEM

SEPA Checklist

Prepared for:

Freeland Water and Sewer District

July 2010



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ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. Name of the proposed project:

Freeland Water and Sewer District – New Sewage Collection and Treatment System

2. Name of Applicant:

Freeland Water and Sewer District

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

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5. Agency requesting checklist:

Freeland Water and Sewer District

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

The Freeland Water and Sewer District (District) is proposing to construct a wastewater treatment plant and pressure collection system to meet expected regulatory requirements and projected population growth within the Freeland Non-Municipal Urban Growth Area (NMUGA). Existing wastewater service is provided by privately owned individual on-site systems. The planned population density within the service area exceeds the levels determined to be appropriate for on-site systems. This is the second phase of phased review under SEPA (WAC 197-11-776). "Phased review" means the coverage of general matters in broader environmental documents, with subsequent narrower documents concentrating solely on the issues specific to the later analysis (WAC 197-11-060). Lead

agencies shall determine the appropriate scope and level of detail of environmental review to coincide with meaningful points in their planning and decision-making processes. Environmental review may be phased as phasing review assists agencies and the public to focus on issues that are ready for decision and exclude from consideration issues already decided or not yet ready. The site specific project analysis, e.g., an environmental analysis by Island County associated with Island County's future land review and permitting will be conducted upon submittal of a site plan application to Island County.

In 2006, the *Freeland Comprehensive Sewer Plan and Engineering Report/Facility Plan* was approved by the Washington State Department of Ecology, Washington State Department of Health, Island County, and the Freeland Water and Sewer District. The document reviewed several sewer plan alternatives and selected the preferred alternative for implementation. Alternatives considered for collection system technology included conventional gravity sewers, septic tank effluent gravity sewers, vacuum sewers, and pressurized sewers (Septic Tank Effluent Pumping (STEP) or grinder pumps). Technologies considered for treatment included membrane bioreactors (MBR), oxidation ditch with filtration, extended aeration with filtration, and sequencing batch reactors with filtration. Saltwater outfalls to both Holmes Harbor and Mutiny Bay were considered for treated effluent disposal, but were removed from consideration due to a desire to protect shellfish and marine habitat and a desire on part of the community to beneficially reuse the treated effluent. Alternatives were considered for reuse to include year-round wetland enhancement, groundwater augmentation through infiltration, and industrial reuse.

The *Freeland Comprehensive Sewer Plan and Engineering Report/Facility Plan* (Tetra Tech, 2005) analyzed alternatives for wastewater collection systems, effluent discharge/reuse, wastewater treatment, disinfection, and solids handling and treatment/reuse in an effort to find the most feasible alternative that would meet the needs of the service area over the long- and short-term. That document was adopted by the Island County Board of Commissioners and is incorporated into the *Freeland Sub-Area Plan* (2007). A SEPA checklist was prepared for the *Freeland Comprehensive Sewer Plan and Engineering Report/Facility Plan* in 2005 and included as part of that document.

Currently, a *Preliminary Engineering Report* is being prepared that describes modifications to the 2005 *Comprehensive Sewer Plan and Engineering Report/Facility Plan*. The recommendations described in the 2005 Plan have subsequently been refined based on evolving local conditions since the Facility Plan was adopted. The proposed action, as described below and in the *Preliminary Engineering Report*, is currently in

the pre-design phase. Chapter 2 of the *Preliminary Engineering Report* describes in detail what was proposed in the 2005 Plan, the recommended refinements, and the rationale for the changes. The *Preliminary Engineering Report* will be adopted as an amendment to the 2005 Comprehensive Sewer Plan. This environmental checklist supports the adoption of the amendment to the 2005 Comprehensive Sewer Plan.

The preferred alternative for each component of the system, as identified in the *Preliminary Engineering Report* (Tetra Tech, 2010), is summarized below and is the focus of this document.

1. Wastewater Collection System: developing a STEP pressurized sewer system.
2. Effluent Reuse: land application and groundwater recharge by surface percolation and application to vegetation through sprinklers or an equivalent technology.
3. Wastewater Treatment: Membrane bioreactor (MBR) system (produces reliable Class A reclaimed water);
4. Disinfection: Ultraviolet (UV) with chlorine addition.
5. Solids Handling and Reuse: Solids will be decanted and/or temporarily stored on-site. Solids and/or decanted solids will be hauled off-site for treatment and re-use.

Treatment plant construction will be phased to provide timely incremental expansion of treatment capacity in a way that will allow for viable funding options. Similarly, phasing is proposed for the service area connections as well as expansion of the reuse site. The phasing will be timed to accommodate the flow needs of the service area and the expansion of the reuse site to accept the additional flows. Construction for Phase 1 is expected to begin in 2013 and will occur over an approximate two-year period. Additional construction phases are anticipated to occur throughout the 20 year planning horizon and extend past the year 2025. This document analyzes all phases of development associated with the sewer collection and treatment system project. Should project elements change significantly, additional environmental review will be conducted.

Wastewater Treatment Plant Phasing

The wastewater treatment plant is proposed to be expanded in three phases as flows increase. The phases will be added incrementally to accommodate flows.

- Phase 1 will be completed at startup (2014) and will include 0.34 MGD of capacity. Approximately 30% of the treatment plant site (3 of 10 acres identified for ultimate capacity) would be developed. Construction duration is estimated to be about 1.5 years.
- Phase 2 (2023) would include the expansion of the facility by adding additional treatment capacity or up to 500,000 gallons of storage for standby capacity. This would result in the development of up to one more acre for the treatment plant. Construction duration for this addition is expected to last about 9 months.
- Phase 3 (2037) would similarly include the expansion of the facility by adding a standby treatment capacity or up to an additional 500,000 gallons of storage for standby capacity. This would result in the development of up to one more acre for the treatment plant. Construction duration for this addition is expected to last about 9 months.

Reuse Area Phasing

The Reuse Area will be implanted in incremental phases, with an ultimate total application area of up to 180 acres.

Because of the nature of the soil at the reuse site, slow-rate infiltration is now the method of application. Based on the current geotechnical information, the site has reuse discharge capacity of about 200,000 gpd (HWA GeoSciences, 2010). Approximately 60 acres of the reuse site can be used, with the remainder consisting of wetlands, buffers, storage pond locations, and the Enramada facility (see Figure 4).

- Phase 1 (2014) would be the construction of a 3.5 million gallon (MG) storage pond to store 14 days at the average annual flow the initial 80 acre reuse area. This would result in a construction duration of approximately 7 months.
- Phase 2 (2023) could result in development of another 80 acres, depending on the performance of the initial 80 acres.
- Phase 3 (2044) could result in development of another 40 acres, depending on the performance of the initial 80 acres and added acreage.

Pressure Collection System Phasing

- Phase 1 Area (2014): This would be the initial phase of the collection system and it would serve the core area, adjacent high density residential zones, and waterfront properties along the south and west

shores of Holmes Harbor. The Phase 1 service area encompasses approximately 331 acres.

- Phase 2 Area (2025): This would be the second and final phase of the collection system, and it would primarily serve outlying residential areas within the NMUGA south of the State Highway and waterfront properties along the east shore of Holmes Harbor (approximately 352 acres). This report assumes the Phase 2 collection system would be installed by the District in 2025, but alternately it could be installed as needed by local improvement districts or developer extensions.

7. Plans for future additions, expansion, or further activity related to or connected with this proposal:

At this time there are no further plans for expansion or activities related to this proposal beyond the planning horizons outlined above.

8. Environmental information that has been prepared, or will be prepared, directly related to this project:

- Tetra Tech, 2005. *Freeland Comprehensive Sewer Plan and Engineering Report/Facility Plan.*
- Island County, 2007. *Freeland Sub Area Plan.*
- Island County, 2008. *Findings of Fact for the Designation of Freeland as a Non-Municipal Urban Growth Area and incorporating the Freeland Sub Area Plan into the Island County Comprehensive Plan.*
- Island County, 2009. *Freeland Zoning Code (Draft).*
- Island County, 2009. *Freeland NMUGA Plan (FEIS)*
- ESA Adolfson, 2010. *Freeland NMUGA Sewer Collection and Treatment System: Biological Assessment and Essential Fish Habitat Assessment.*
- Equinox Research and Consulting International (ERCI). 2010. *Archaeological Investigation Report: The Freeland Water and Sewer District, Whidbey Island, Washington.*
- Tetra Tech, July 2010. *Freeland Water and Sewer District Preliminary Engineering Report for New Sewage Collection and Treatment System.*
- HWA GeoSciences, Inc. June 2010. *Preliminary Hydrogeological Evaluation Freeland Water and Sewer District Wastewater System Reuse Site Island County, Washington.*

9. Applications that are pending for governmental approvals or other proposals directly affecting the property covered by the proposal:

There are no pending governmental project approvals, but Island County is currently reviewing the District's annexation of the wastewater treatment plant property.

10. List of governmental approvals or permits that will be needed for the proposal:

- Environmental Species Act (ESA) Compliance – US Fish and Wildlife Service / National Marine Fisheries Service
- Archaeology and Cultural Resource Preservation Approval – Washington Department of Archaeology and Historic Preservation
- National Pollution Discharge Elimination Systems (NPDES) wastewater discharge – Washington Department of Ecology (Ecology)
- NPDES stormwater discharge – Ecology
- Water Reclamation Standards Compliance – Washington Departments of Ecology (Ecology) and Health (Health)
- Forest Practices Approval – Washington Department of Natural Resources
- Air Quality Order of Approval to Construct– Northwest Clean Air Agency
- Grading Permit– Island County
- Critical Areas Review – Island County
- U.S. Fire Code Compliance – Island County
- Site Plan Approval by Island County for an Essential Public Facility
- Building Permit – Island County

11. Brief, complete description of the proposal, including the proposed uses and the size of the project and site:

The District is proposing to design and construct a new sewage collection, conveyance, treatment, and reclamation system to serve the community of Freeland. Due to its population growth and urban characteristics, Island County designated Freeland as a Non-Municipal Urban Growth Area (NMUGA) in 2007. The residences and businesses in the Freeland NMUGA are currently largely served by on-site septic systems (the Holmes Harbor Sewer District and the Main Street Sewer District serve a portion of the NMUGA). With the NMUGA designation, county population growth must be managed to meet the requirements of the Growth Management Act, providing urban-level services to urban growth areas.

This project proposes to implement wastewater collection and treatment services in conformance with the approved *Freeland Comprehensive Sewer Plan and Engineering Report/Facility Plan* (Tetra Tech, 2005) and the *Freeland Sub Area Plan* (Island County 2007). The *Preliminary Engineering Report* being prepared for the project (Tetra Tech, July 2010) will amend the currently adopted Comprehensive Sewer Plan. The

Preliminary Engineering Report provides refinement of the preferred alternative adopted as part of the *Comprehensive Sewer Plan*; general plan elements remain unchanged. The project complies with the Growth Management Act by providing the infrastructure necessary to sustain the urban levels of growth within the Freeland NMUGA concurrent with the development.

The project is needed to comply with regional and local water quality objectives for Puget Sound. The Puget Sound Partnership was created by the Washington State Legislature in 2007 with the charge of protecting and restoring Puget Sound. The 2020 Action Agenda (updated May 27, 2009), identified portions of the Whidbey Basin (an area of Puget Sound that includes Whidbey Island, one of seven identified Action Areas in Puget Sound) as a priority for implementation of near term action items to address sources of pollution. The Whidbey Basin was identified as an area vulnerable to low dissolved oxygen associated with nutrient inputs, particularly inputs from poorly function on-site systems. The 2020 Action Agenda identified the need to address low dissolved oxygen in Holmes Harbor as a priority action. The Action Agenda also identifies the use of advanced wastewater treatment as a priority action in areas where nutrient enrichment has been determined to result in water quality impairment. Implementation of the proposed project is consistent with the Action Agenda, and will support the top priorities identified for near term action.

The Freeland Sewage Collection and Treatment System Project will replace the on-site septic systems with a pressurized sewer collection system, a Septic Tank Effluent Pumping (STEP) system. Existing drain fields at each service location will be eliminated, septic tanks suitable for use will be retained or replaced with STEP tank equipment. The collected sewage will be conveyed to a new treatment plant and be treated to “Class A” reclaimed water standards using membrane bioreactor technology. The treatment plant will be partially housed inside a building to manage odors, noise, and light impacts, and will be located on a 10-acre forested parcel with sufficient buffers from the surrounding rural residential neighborhood. The treatment plant site is owned by the District.

The reclaimed water will be pumped approximately 7,500 feet to a reuse site consisting of 80 acres of forest land initially, with the potential to expand up to 180 acres if needed. The entirety of the initial 80-acre site is owned by the District. On the reuse site the water will be recycled by infiltrating for groundwater recharge through surface percolation and application to vegetation with sprinklers or an equivalent technology. The system will be designed in accordance with the guidelines published by the Washington State Department of Ecology Criteria for Sewage Works Design (the Orange Book), applicable codes and permit requirements.

This project will be constructed in order to provide urban services to the NMUGA area planned for urban levels of population growth and to meet expected regulatory requirements. The project vicinity is shown in Figure 1, and locations for the proposed facilities are shown in Figure 2.

The proposed future action includes excavation, utilities installation, concrete pouring, building construction, paving, and landscaping. Excavation will be required for new utilities, effluent reuse area, and building footprints. Grading will be required over approximately 3 acres of the treatment plant site and 6 acres of the reclaimed water reuse site. A proposed site development plan for construction of the wastewater treatment plant and associated infrastructure is shown in Figure 3. A proposed site development plan for the reclaimed water reuse site is shown in Figure 4.

The proposed action also includes amending the Comprehensive Sewer Plan. The amendment process includes the following steps:

1. The Freeland Water and Sewer District will review and approve the Preliminary Engineering Report and supporting documentation, including this SEPA checklist, as an amendment to the 2005 *Freeland Comprehensive Sewer Plan/ Engineering Report/Facility Plan*.
2. The District will then send the package to Island County, and the Washington State Departments of Ecology and Health for review and approval as an amendment.

12. Location of the proposal, including street address, if any, and section, township, and range; legal description; site plan; vicinity map; and topographical map, if reasonably available:

The project site is located in Island County in the unincorporated city of Freeland; it is located on the southern end of Whidbey Island, approximately 30 miles from Seattle, Washington (Figure 1). Freeland is located on State Highway 525.

The sewer service area is depicted in Figure 2 and is approximately bordered by Holmes Harbor to the north, Honeymoon Bay Road to the west, Scenic Drive to the south, and Newman and Scott Roads to the east. The sewer service area boundary encompasses approximately 684 acres. In addition to the NMUGA sewer service area boundary, the planning area also includes potential sites for the proposed treatment plant and reuse field both of which are located outside the NMUGA boundary (Figure 2). The location for the treatment plant is on a 10-acre parcel located south of Bush Point Road, and the reuse area is located on an 80-acre property northwest of the NMUGA (Figure 2). Sewer service

will only be provided to the service area located within the NMUGA boundary, as depicted in Figure 2.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (underline):

Alternatives analysis and site selection was completed as part of the 2005 Freeland Comprehensive Sewer Planning and Engineering Report/Facility Planning process. Figure 2 illustrates the location of various project elements.

Treatment Plant:

The treatment plant site is a 10-acre parcel of land located south of Bush Point Road and west of Highway 525 (Figure 3). Currently, the site has a relatively mature second growth forest with trees greater than 50 years old and a dense understory of shrubs. This forest was thinned in 2004.

Reuse Area:

The reuse site is an 80-acre parcel of land located north of Mutiny Bay and west of Highway 525, 2 miles northwest of the proposed treatment plant (Figure 4). It is an old tree farm containing an area which was mined for gravel. Reclaimed water storage ponds will be constructed in the area of the gravel pits. The remainder of the site not encumbered by buffer zones will be used for slow rate infiltration of reclaimed water. Currently, the site has a relatively young, dense layer of trees less than 20 years old.

Conveyance Pipelines:

The proposed two mile conveyance route from the treatment plant to the surface reuse area is primarily within the roadway of Bush Point Road and Shore Meadow Road (Figure 2). Currently, this route has built roads and supporting infrastructure on it.

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

Ground elevations in the Freeland area range from 0 to about 250 feet above sea level. The terrain gently slopes across most of the service area, with some areas near the coastline having slopes greater than 20 percent. The treatment plant site is generally flat,

with a slight slope to the southwest. The reuse site lies on the east facing flank of a north-south trending glacial ridge. Part of the site is classified as steep slopes under the Island County critical areas regulations. No construction activities are proposed for the steep slope areas of the site.

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

Most of the study area is underlain by glacially deposited sediments. The two predominant soil types are Whidbey gravelly sandy loam and Keystone loamy sand. Whidbey gravelly sandy loam is abundant at higher elevations west of Holmes Harbor and near the golf course. Keystone loamy sand is prevalent at the south end of Holmes Harbor and throughout southern Freeland. The Natural Resource Conservation Service (NRCS) considers the soils in the service area as “land in urban development” (Natsuhara, NRCS, 2010).

Soils at the treatment plant site are mapped by the NRCS as Elwha – Zylstra – Morancreek cool complex, with 2 to 12 percent slopes and Useless Bay – Utsalady complex, with 0 to 10 percent slopes. Both of these mapping units are considered prime forestland and prime farmland if irrigated. Development on the site will maintain the majority of the forest on the site. There are no hydric soils mapped on the site.

Soils at the reuse site are mapped as Sholander, cool-Speiden complex 0 to 5 percent slopes, Elwha – Zylstra – Morancreek cool complex, with 2 to 12 percent slopes, and Everett-Alderwood complex, 3 to 15 percent slopes. These three soil types are considered prime forestland and prime farmland if irrigated. Although the site will have sprinklers installed, the purpose is to apply reclaimed water and not to increase the production of a crop, the irrigated definition will not have been met, and the site would not be considered as prime farmland (Natsuhara, NRCS, 2010).

There are no formally classified lands in the project area.

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

There are several areas with significant slopes in the Freeland service area including areas east of the Freeland service area and along Honeymoon Bay Road in the Freeland service area. There

are no surface indications of a history of unstable soils on either the treatment plant or reuse sites.

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

Treatment plant construction will require excavation and grading of areas at the site for installation of the facilities. The majority of the grading and soil disturbance is expected to occur in the plant location (3 acres), and in the reuse area (6 acres) for a total of approximately 10 acres of clearing and grading. The remaining acres will be left as buffers and effluent reuse areas. All materials excavated and not reused on-site will be hauled to an approved facility for disposal.

Fill will be a combination of excavated material from the site that has been determined to be suitable following testing. The remaining fill will consist of imported materials from existing commercial sources on Whidbey Island. Those sources will be identified in the construction process.

Estimated quantities of excavation and fill within these areas are shown below.

Treatment Plant:

2014: Excavation = 13,000 cubic yards (cy)
Fill = 4,000 cy

2023: Excavation = 500 cy
Fill = 200 cy

Reuse Area:

2014: Excavation = 30,000 cy
2023: Excavation = 25,000 cy

Conveyance Pipelines:

2014: Excavation = 15,000 cy
Fill = 14,500 cy

2025: Excavation = 3,000 cy
Fill = 2,900 cy

f. Could erosion occur as a result of clearing, construction, or use?

During construction, there is a potential for minor erosion and sedimentation to occur. These impacts are anticipated to be minor as the proposed sites are relatively flat, and there is dense vegetation between the wastewater treatment plant and reuse site and nearby wetlands. Construction best management practices will be used during installation of the collection system lines, particularly in areas near Holmes Harbor.

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

Following construction, approximately 3 acres of the developed area for the treatment plant site and associated facilities will be impervious. This estimate includes the treatment plant, roads, roofs, and structures. At the reuse site, impervious surfaces will be minimal, as the site will be maintained largely in its undeveloped state. Access roadways will be gravel, and the forest cover will remain. Within the service area, the collection systems will be installed under existing roadways and will not result in additional impervious surfaces.

h. Describe the proposed measures to reduce or control erosion, or other impacts to the earth, if any.

During construction, Best Management Practices (BMPs) will be employed to minimize the amount of erosion and sediment leaving the construction areas. The BMPs will be consistent with Ecology's *Stormwater Management Manual for Western Washington* (Ecology 2005) and Island County regulations, and may include the use of inlet protection, silt fence, straw waddles, and sediment traps as necessary. Clearing will only occur in areas of active construction. Following construction, disturbed areas will be revegetated or repaved promptly. Temporary erosion and sedimentation control (TESC) measures will be included as part of the project design and construction.

A Construction Stormwater General Permit and Stormwater Pollution Prevention Plan (SWPPP) will be required for all construction activities. The SWPPP will meet the requirements of Washington State Department of Ecology and include measures deemed appropriate for the project. The SWPPP will be monitored by a Certified Erosion and Sedimentation Control Lead.

2. Air

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

Typical construction machinery will be used in this project. There will be minimal impacts from dust and exhaust emissions during construction.

Septic Tank Effluent Pumping (STEP) systems generally do not have a significant potential for odor because unlike gravity systems, the sewage does not travel through open pipes and manholes. With the exception of air release valves at high points in the piping, the system is sealed. At release valve locations, passive odor control devices will be installed.

The treatment plant will be equipped with odor-reducing systems and will be largely enclosed which will reduce the potential for odor impacts after project completion. In addition, an air quality Order of Approval to Construct will be required from the Northwest Clean Air Agency for construction and operation of the treatment plant. While operation of the treatment plant will result in some air emissions, industrial processes are not viewed as a significant source of greenhouse gas emissions (Ecology, 2007).

The reclaimed water will be produced to Class A reclaimed water standards and should have no odors associated with it.

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

There are no off-site sources of emissions or odors affecting this project.

- c. Describe proposed measures to reduce or control emissions or other impacts to air, if any.**

To reduce the likelihood of dust during truck arrivals and departures during construction, part of the treatment plant site will be used for equipment laydown and materials staging. This laydown/staging area will be surfaced with crushed rock or spalls to provide drainage and minimize dust production from the site during truck arrivals and departures.

Odor-producing processes at the treatment plant will be enclosed, and air from these enclosures would be passed through odor treatment equipment before being released to the atmosphere. The project will look to incorporate measures to reduce greenhouse gas (GHG) emissions to the extent possible. Measures will include, but not be limited to, maintaining forest cover and selecting energy efficient lighting and equipment.

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

The proposed Freeland sewage collection and treatment sites are in the immediate vicinity of the Puget Sound; more specifically, Holmes Harbor and associated aquatic waters that are adjacent to the NMUGA (Figure 5). There is a small, unnamed seasonal stream which enters Homes Harbor near the north end of the NMUGA and a few associated wetlands.

Holmes Harbor

Holmes Harbor is a narrow, north-south trending embayment on the east side of Whidbey Island that opens to Saratoga Passage. Holmes Harbor was identified in the Puget Sound Partnership 2020 Action Agenda as an area vulnerable to low dissolved oxygen. The harbor is approximately 6 miles long and ranges in width from 2.2 miles at the mouth to about 0.7 mile at Freeland (WSCC, 2000). Depths range from 250 feet near the mouth to 85 feet near the head of the harbor. Surface salinity is low. Fourteen small sub-basins drain into Holmes Harbor (WSCC, 2000). Together these drainages include 17 miles of shoreline.

The nearshore habitat associated with Holmes Harbor supports eelgrass beds and spawning habitat for Pacific herring and surf smelt. There is a small salt marsh at the south end of Holmes Harbor which is blocked by a tidegate.

Unnamed stream

Freshwater aquatic habitat within the Freeland NMUGA and service area is limited to a small unnamed seasonal stream, which enters Holmes Harbor near the north end of the NMUGA. The unnamed stream is primarily a ditched system upstream of Stewart Road draining areas of Freeland to the south. This stream conveys the majority of storm flow from the Freeland basin to Holmes Harbor. Downstream of Stewart Road, flows enter the harbor through a tidally influenced estuarine channel.

Wetlands

Island County Critical Areas mapping indicate the closest freshwater wetlands are located approximately 1,000 feet east of the treatment plant site along Mutiny Bay Road. An estuarine wetland is located more than 2,000 feet east off the treatment plant site on Holmes Harbor adjacent to Nichols Brothers Boat Builders. Wetland locations are shown on Figure 5.

Additional wetlands were identified on the reclaimed water re-use site in 2006 and are described in a Wetlands and Streams Assessment report (Skagit Wetlands & Critical Areas Inc., 2006). Eleven freshwater wetlands were identified ranging from 383 square feet to 0.8 acre in size. The wetlands are primarily located on the south end of the 80-acre site and are shown on Figure 5. The report describes the wetlands as being forested and scrub-shrub with permanent or seasonal ponding, and does not describe any surface water connection with off-site wetlands or streams.

The use of slow infiltration could possibly influence the hydrology within some of these wetlands both on and off site; however, no fill, surface water inputs, or other alterations will occur to these wetlands. Additional studies will be conducted to determine the reclaimed water application rates that are suitable for the site to ensure that no flooding occurs at the site or downstream of the site as a result of application. Increased hydrologic inputs might result in a variety of hydrologic regimes within the wetlands, which would influence the vegetation development and result in a more diverse plant community.

- 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.**

The majority of the proposed sewage collection and treatment facilities will not be constructed in the vicinity of any of the described waters and will be constructed primarily greater than 200 feet from the described waters. An approximately 2,000-foot length of the collection system beneath Shoreview Drive will be less than 200 feet from marine waters (Figure 2). Impacts to surface water bodies are not anticipated.

- 3. Estimate the amount of fill and dredge material that could 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 materials.**

No filling or dredging will occur in surface waters or wetlands. At the reuse site, grading will only occur in the areas that were formerly used as gravel mines. No work will occur in the wetlands or their buffers that are present on the site.

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

This project is not expected to require surface water withdrawals or diversions.

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

Floodplain mapping in the study area is shown on Figure 5. Most of the project area is not located within a designated floodplain. The only area of the project within the service area which occurs in the 100-year floodplain is the low area adjacent to Holmes Harbor (Figure 5). Sewer collection systems will be installed in some of these areas, but the pipelines will be located completely underground and comply with the County and FEMA requirements. No above ground structures will occur within the floodplain.

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

No waste materials will be directly discharged to surface water bodies. Class A reclaimed water will be land applied at the reuse site and allowed to percolate to the groundwater system. This water may raise the groundwater elevation at the site and result in more water in the local wetlands. It is anticipated that increased hydrology in the wetlands would result enhanced function and value of the wetlands.

Potential impacts from the land application at the reuse site include discharge at the base of the slope, in the drainage channel, wetlands, or slope faces resulting in surface water drainage issues in these areas. Further study will be performed to better define these potential impacts. Study findings will be used for design and operation measures such as additional land application area, seasonal storage, timing and/or rotation of application sites, or improved drainage facilities at or near the property boundaries and farther downstream as needed to alleviate the potential concern (HWA GeoSciences, 2010).

b. Ground

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

Construction dewatering will be included as part of the overall project. The headworks, flow splitters, collection piping, anaerobic and aerobic treatment basins, MBR tanks, disinfection tanks, and associated piping will be partially buried and may potentially extend below the existing groundwater table. The contractor will be responsible for construction dewatering and the proper discharge to waters of the State per the SWPPP. Discharge is anticipated to be routed or pumped to settling and infiltration basins located near the active construction area. Once construction is complete, there will be no further withdrawals of groundwater due to the project.

Once the sewage collection and treatment plant are complete, the associated reclaimed water will be pumped approximately 7,500 feet to a reuse site consisting of 80-

acres of forest land. On that site, the water will be recycled by infiltrating for groundwater recharge through surface percolation and application to vegetation with sprinklers or an equivalent technology. Under Phase I, the wastewater treatment plant will treat approximately 0.34 million gallons per day (MGD) of reclaimed water. At full build-out, the treatment plant will have been expanded to treat approximately 0.68 MGD maximum monthly flow (Tetra Tech, 2005).

- 2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any. 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) is expected to serve.**

Wastewater, treated to Class A reclaimed water standards, will be discharged onto the ground through surface percolation basins and through land application. The highly treated water would be land applied to the infiltration basin and percolate into the subsurface groundwater system. Slow infiltration would consist of spray or drip discharge systems similar to those used for land application, applied over large areas, in both sandy and till soil areas. Typically these systems use multiple dosing areas which are rotated to allow each area to absorb and dissipate the applied water. Reclaimed water will infiltrate through the soil to the groundwater below.

Under Phase I, the wastewater treatment plant will treat and reuse approximately 0.34 million gallons per day (MGD) of reclaimed water. This will serve an estimated 609 equivalent residential units (ERUs). At full build-out, the treatment plant will have been expanded to treat approximately 0.68 MGD maximum monthly flow, serving an estimated 1,557 ERUs (Tetra Tech, 2005).

c. Water Runoff (including storm water)

- 1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (including quantities if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

During construction, a Stormwater Pollution Prevention Plan (SWPPP) will be developed for the proposed action that includes BMPs designed to prevent erosion and sedimentation, and to identify, reduce, eliminate, or prevent stormwater contamination and water pollution from construction activities.

The completed project is not expected to generate significant amounts of stormwater because the impervious portions of the treatment plant and associated facilities will only occupy 3-acres and stormwater runoff that is generated will be detained in a retention/detention pond. The onsite stormwater system at the treatment plant will be designed in accordance with the Washington State Department of Ecology *Stormwater Management Manual for Western Washington* (Ecology 2005). All stormwater runoff from the process area, including any areas where any type of process work or material and equipment will be stored, will be diverted to the facility's storm drainage system, using curbs and sloped surfaces. Stormwater will then flow by gravity to a water quality pond or other approved process for treatment, storage and controlled release to an infiltration trench and forest buffer at the lower end of the site. All stormwater generated from non-process areas will be directed to the stormwater management system which will be designed in accordance with State and local regulations.

The 80-acre reuse site is located within a 2,200 acre drainage basin. The basin, including the reuse site, drains to the south and terminates in a wetland near Shore Meadows Road and Old Beach Road. The hydrology and water cycle balance of the reuse site are being evaluated and modeled, and the amount of rainfall in the area is being taken into consideration in determining the amount and rate of reclaimed water that will be applied to the site. Further study will be conducted to determine the potential effects of groundwater recharge at the site and downstream in the basin. Refer also to the response to 3.a.6., above.

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

Class A reclaimed water will be discharged into surface percolation basins in the 80-acre water infiltration and irrigation area. The highly treated water would be land applied to the infiltration basin and percolate into the subsurface groundwater system.

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

Stormwater during construction will be treated on-site using methods consistent with the Ecology *2005 Stormwater Management Manual for Western Washington*, and Island County regulations. A portion of the service area is designated as a critical drainage area and Island County has adopted additional drainage standards within this area. Stormwater treatment will include infiltration of all stormwater runoff within a constructed stormwater pond. In addition a Stormwater Pollution Prevention Plan (SWPPP) will be prepared to address stormwater issues during construction.

All stormwater runoff from the treatment plant area, including any areas where any type of process work or material and equipment will be stored, will be diverted to the facility's storm drainage system, using curbs and sloped surfaces. Stormwater will then flow by gravity to a water quality pond or other approved process for treatment, storage and controlled release to an infiltration trench and forest buffer at the lower end of the site. All stormwater generated from non-process areas will be directed to the stormwater management system which will be designed in accordance with State and local regulations.

In accordance with the Water Reclamation and Reuse standards, the reuse site will be regularly monitored to ensure that impacts to ground water quality or quantity do not occur.

The Puget Sound Partnership was created by the Washington State Legislature in 2007 with the charge of protecting and restoring Puget Sound. The 2020 Action Agenda (updated May 27, 2009), identified portions of the Whidbey Basin (an area of Puget Sound that includes Whidbey Island, one of seven identified Action Areas in Puget Sound) as a priority for implementation of near term action items to address sources of pollution. The Whidbey Basin was identified as an area vulnerable to low dissolved oxygen associated with nutrient inputs, particularly inputs from poorly function on-site systems. The 2020 Action Agenda identified the need to address low dissolved oxygen in Holmes Harbor as a priority action. The Action Agenda also identifies the use of advanced wastewater treatment as a priority action in areas where nutrient reduction has been determined to result in water quality impairment. Implementation of the proposed project is consistent with the Action Agenda, and will help move toward addressing the top priorities identified for near term action.

4. Plants

a. Types of vegetation found on-site:

Both the wastewater treatment plant site and the reclaimed water reuse site are forested with primarily coniferous trees. The forest at the reclaimed water reuse site is relatively young with a dense layer of trees less-than 20 years old. The wastewater treatment plant site has a relatively mature second growth forest with trees greater than 50 years old and a dense understory of shrubs. This forest area was thinned in 2004. Wetland areas on the reuse site are dominated by willow and red alder.

In particular, the wastewater treatment, conveyance pipeline, and reuse sites have Douglas fir, red alder and big leaf maples. Among shrubs, salal, blackberry, red elderberry and snowberry are scattered throughout the site. Herbaceous vegetation includes a variety of grasses, sword, deer and licorice ferns, trillium and a number of other plants.

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

The proposed action will require clearing and grading on approximately 3-acres of land at the treatment plant site and up to 2-additional acres of land on the reuse site (roughly 4.5 acres are already cleared). All vegetation removal will occur outside of wetlands, riparian areas, and their buffers.

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

Based upon the Washington State Department of Natural Resources (WDNR) Natural Heritage Database (WDNR, 2008), the only federally-listed plant species that could possibly occur in the project area is the golden paintbrush (*Castilleja levisecta*). However, golden paintbrush occurs in native grassland habitats, which are not present within the proposed project site.

d. Describe proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on-site.

The amount of area that is cleared and graded will be limited throughout the project. Cleared areas will be revegetated as soon as possible with a grass mix, native trees and shrubs.

5. Animals

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

Mammals which inhabit the project area include rabbits, squirrels, raccoons, deer and various small rodents. Most of the project area, with the exception of the water reuse site, is well developed, and therefore current wildlife populations and migration may be limited by roads, fences, domestic pets and other projects of development. Natural wildlife populations may also be forced to compete for forage with domestic livestock in some areas.

The study area supports an abundance of bird species. Common perching species of birds within the study area include robin, crow, black-capped chickadee, winter wren, European starling, song sparrow, junco, red-winged blackbird, spine siskin, tree swallow, and red-breasted nuthatch. Upland game birds include ruffed grouse and California quail. Pileated and downy woodpeckers and northern flickers have been seen in the study area, as have several species of owls, hawks and other raptors. Great blue herons, Canada geese, mallards, and several other species of waterfowl inhabit the wetland areas within the project area, and various shorebirds may be found along the marine shorelines.

b. List any threatened or endangered species or critical habitat near the site.

Presently, the U.S. Fish and Wildlife Service and National Marine Fisheries Service list the following animals as threatened or endangered species within Island County:

- Coastal Puget Sound Distinct Population Segment Bull Trout – Threatened
- Puget Sound Chinook Salmon Evolutionarily Significant Unit – Threatened
- Puget Sound Distinct Population Segment Steelhead – Threatened
- Marbled Murrelet – Threatened
- Yelloweye Rockfish – Threatened
- Canary Rockfish – Threatened
- Bocaccio Rockfish – Endangered
- Southern Resident Population Killer Whale – Endangered

Holmes Harbor provides habitat for priority fish including Chinook salmon, chum salmon, searun cutthroat trout and steelhead trout. Holmes Harbor also provides spawning areas for surf smelt, sandlance, rocksole and herring. The Island County Coastal Zone Atlas shows eelgrass off much of the shore of Holmes Harbor. Eelgrass provides habitat for numerous marine organisms including juvenile salmonids, various species of crab and nudibranchs. Hardshell intertidal clams are present along the shorelines and Dungeness crab are known to occur throughout the harbor.

In 2006, the Washington Department of Health, Office of Shellfish and Water Protection completed a shoreline survey of Holmes Harbor. After the survey was complete, approximately 98 acres of beach, including all of Freeland Park, in south Holmes Harbor beaches were closed to shellfish harvesting and other recreational

activities due to elevated bacteria levels (Health, 2006). In 2007, the South Holmes Harbor Shellfish Protection Program was developed (Island County, 2007). In 2008, the waters of south Holmes Harbor were opened for recreational activities such as swimming, but shellfish harvests remained prohibited due to the presence of fecal coliform bacteria.

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

The entire Puget Sound area is part of the Pacific Flyway.

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

The proposed project will provide collection of wastewater, a new wastewater treatment plant, and reuse of highly treated effluent. The action will be beneficial to both human health and the environment. The proposed action will result in the discontinuation of sewer discharge to septic systems, which tend to leak or malfunction over time and contribute to a degradation of water quality conditions in receiving waters, including the marine waters of Holmes Harbor. Water quality in Holmes Harbor is expected to improve, thus benefitting shellfish and marine life. The proposed action will result in the treatment of wastewater to Class A Reclaimed Water Standards and land applied or slow infiltrated in upland areas a considerable distance from the marine nearshore environment.

Construction has some limited potential to contribute to degraded water quality via sedimentation and turbidity of the marine nearshore; however, this is considered discountable due to the use of appropriate TESC measures and the distance from soil disturbing activities and the marine nearshore.

6. Energy and Natural Resources

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

Construction and operation of the wastewater treatment plant will require new utilities including electricity, communications, and water. Electrical energy will be required to provide lighting and run the pumps and treatment facilities at the wastewater treatment plant. Local utilities will be contacted to ensure their individual transmission lines and other facilities are able to accommodate the

treatment plant when services are needed. The proposed facilities would increase the electrical demand in the Freeland NMUGA.

The plant will include a standby generator large enough to operate all core treatment functions (pumping), aeration, instrumentation and control) when electricity is unavailable from the power grid. Enough diesel fuel to run the generator for at least 24 hours will be stored in an on-site tank. The STEP system will require electric motor driven pumps at each service location. These pumps will be fractional horsepower sized and will run intermittently, similar to the pumps used for pressurized drain field operation. Standby power will not be provided to these pumps.

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

This project is not expected to affect the potential use of solar energy by 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.

The treatment plant will be a new facility with new equipment that will operate efficiently and reliably, in accordance with current energy standards.

The STEP system minimizes the need for pumping stations in the service area, which should reduce the amount of electricity for the collection system. During detailed design, the collection and treatment systems will be studied for energy conservation measures and greenhouse gas emission reduction opportunities.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spills, or hazardous waste that could occur as a result of this proposal? If so, describe.

There are few environmental health hazards during the production of Class A reclaimed water. Processes involving filtration, bio-reaction, and disinfection will not cause exposure to toxic chemicals or increase fire and explosion risks. There is a potential for contact with reclaimed water at the reuse site; however, Class A reclaimed water is the highest standard of reclaimed water as defined by the Washington State Departments of Health and Ecology. The water

will be chlorinated. Class A reclaimed water is safe for public contact and a wide array of community uses. Standard notification signs will be posted letting site visitors know the water is reclaimed water and will include the required message that the water is not intended for drinking.

Wastewater solids will be trucked from the treatment plant to one or more facilities that are permitted to accept, process, and dispose of biosolids. The facilities are permitted by the Washington State Department of Ecology and/or Island County Health Department. The initial plan is to haul solids to the City of Langley's composting facility, the Island County Septage Facility, and/or contract with a private firm that is permitted to handle and provide beneficial use of the biosolids or disposal; the amounts trucked to each facility will depend upon total costs and the available capacity at the facility. At the City of Langley's facility wastewater solids are aerobically digested, dewatered, mixed with other materials such as yard waste, and composted. The finished product meets federal (40CFR Part 503) and Washington State standards (Chapter 173-308 WAC) for use by the general public. The finished compost is made available for the public to pick up and haul away. The Island County septage facility aerobically digests waste solids then land-applies the final product to a permitted 70-acre beneficial reuse site located roughly 2 miles east of Coupeville.

1. Describe special emergency services that might be required.

Fire District #3 is located at 5535 Cameron Road in Freeland and is responsible for the Freeland area. Any emergencies at the wastewater treatment and reuse sites (fire, diesel spill, employee injury) will be within the responsibilities of the fire district.

2. Describe proposed measures to reduce or control environmental health hazards.

The construction contractor will be in compliance with all BMPs. Standard safety precautions will be taken throughout construction and once the facility is operating. As noted above, the water will be treated to Class A reclaimed water standards, and will be chlorinated. Class A reclaimed water is treated to a much higher level than is provided by individual on-site septic systems. The water is safe for public contact and an array of community uses.

b. Noise

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

There are no major sources of noise within the project area that would affect the proposed project. Ambient noise is primarily traffic-related, and will not affect the project.

- 2. What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)?**

Construction of the project will require the use of heavy equipment. The project is expected to result in a level of disturbance typical for construction projects of this type. No blasting or pile driving will be necessary during project construction. The proposed action will occur within developed and developing areas that produce noise levels associated with residential and commercial development and transportation related noise. Noise producing equipment will be housed inside structures to reduce the noise levels leaving the site. In addition, adjacent forested buffer area will significantly lessen disturbance.

- 3. Describe proposed measures to reduce or control noise impacts, if any.**

During construction, vehicles and heavy equipment will be required to have standard noise reduction equipment. Once the facility is operating, excessive noise-producing equipment would be enclosed by noise attenuating covers or rooms.

8. Land and Shoreline Use

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

Freeland Wastewater Service Area:

The Freeland wastewater service area is located within the designated Non-Municipal Urban Growth Area (NMUGA). The community is primarily residential, with commercial and retail businesses on the main arterials including State Route 525, Main Street, and South Harbor Avenue (Figure 2). Currently, on-site

septic tanks and drain fields serve the existing residential dwellings and commercial establishments.

Treatment Plant:

The proposed 10-acre site currently has a relatively mature second growth forest with trees greater than 50 years old and a dense understory of shrubs. There is a large pasture adjacent to the south. The site is located outside of the designated NMUGA.

Reuse Area:

The proposed 80-acre site is an old tree farm containing an area which was mined for gravel. Gravel mining occurred on an estimated 4 acre area within the site. The surrounding forest is relatively young with a dense layer of trees less-than 20 years old.

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

There is little evidence that either site was used for agricultural purposes in the recent past; both parcels of land are heavily forested with trees. The Service Area is developed with residential and commercial properties.

c. Describe any structures on the site.

There are no structures located on the wastewater treatment plant or reuse sites.

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

No structures will be demolished.

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

The wastewater treatment plant and reuse sites are both currently zoned as “rural forest”. Current zoning designations for the Service Area are shown in Figure 6. Proposed zoning for the service area is for more dense development (see Figure 7). Following implementation of the project, the zoning designations will change. The County has established interim regulations for the Freeland NMUGA. Completion of the final development regulations and required comprehensive plan elements is on the Island County Planning Commission’s annual docket for 2010 and 2011 for completion.

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

The Freeland Wastewater Service Area was designated as a NMUGA in the 2007 Island County Comprehensive Plan to help properly manage growth in an area that is already developed as a major commercial and residential hub on south Whidbey Island. The wastewater treatment plant and reuse sites are designated as “rural forest”. Wastewater facilities are allowed in the rural forest designation upon site plan approval and a Type III decision from the Island County Planning and Community Development Department.

The *Freeland Comprehensive Sewer Plan and Engineering Report/Facility Plan (2005)* was incorporated into the *Freeland Sub-Area Plan (2007)*. The *Preliminary Engineering Report* being prepared for this project represents refinements to the original plan and will be adopted as an amendment to the Comprehensive Sewer Plan.

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

Neither the treatment plant, conveyance line, nor the reuse sites are located within the jurisdiction of the Shoreline Management Act. Island County is a coastal zone county, and therefore, the project requires a consistency determination from Ecology. The Coastal Zone Management Act requires that all activities be consistent with approved state coastal zone management programs to the maximum extent possible. This project is located in a coastal zone county and will be consistent with the requirements of Washington's Coastal Zone Management Program and enforceable policies. The request for the consistency determination will be submitted when the State Environmental Policy Act compliance is complete, and project design is more complete.

Shoreline designations along Holmes Harbor in the project area include Rural, Shoreline Residential, Urban and Conservancy (Island County, 2004). In 2010, Island County will begin its required update of its Shoreline Master Program and Fish and Wildlife regulations. The three year process is targeted for final adoption at the end of 2012.

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

Neither the treatment plant, conveyance lines nor the reuse sites will be constructed in areas that are classified as “environmentally sensitive”.

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

The treatment plant and reuse site would be operated and maintained by District personnel.

Based upon Island County Assessors data and water use records, the estimated base year (2014) resident population in the service area is 1,425. By 2025, the Freeland Sub-Area Plan estimates 3,643 people are expected to be accommodated by the sewer service area.

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

No individuals will be displaced due to this project.

- k. Describe proposed measures to avoid or reduce displacement impacts, if any.**

No individuals will be displaced due to this project.

- l. Describe proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.**

The Freeland wastewater treatment system is being proposed to support future growth in the Freeland NMUGA per the 2007 Island County Comprehensive Plan and the Washington State Growth Management Act. The Freeland Comprehensive Sewer Plan and Engineering Report/Facility Plan is an element of Island County’s Freeland Sub-Area Plan, which designated the NMUGA. With the NMUGA designation, County population growth must be managed to meet the requirements of the Growth Management Act. The *Preliminary Engineering Report* being prepared for this project provides refinement and additional detail to the original plan. The Preliminary Engineering Report will be adopted to amend the existing *Comprehensive Sewer Plan*. The project complies with the Growth Management Act by providing the infrastructure necessary to sustain the Freeland NMUGA.

9. Housing

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

The project does not involve the construction of any housing units. Upon completion, the advent of sewers is expected to support an increased population density in Freeland. As noted in 8.1. above, the project complies with the Growth Management Act by providing the infrastructure necessary to sustain the Freeland NMUGA, and support planned development within the NMUGA.

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

The project would not eliminate any housing units.

- c. Describe proposed measures to reduce or control housing impacts, if any.**

The Island County Comprehensive Plan, Freeland Sub Area Plan and Draft Freeland Zoning Code have policies that stipulate population growth measures and residential zoning and building requirements. This project is being proposed to comply with these planning documents and requirements.

10. Aesthetics

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

The treatment plant will be shrouded by the surrounding forest, and will not be readily visible from adjacent properties. The treatment plant structure is expected to be 15 feet high. Exterior materials and finishes will be selected during design. Architecture will likely be typical of the Pacific Northwest style in a forested setting.

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

All facilities and structures are expected to be hidden from view by the surrounding trees and vegetation. Certain treatment facilities may be partially observable from Bush Point Road and Highway 525 but will likely be screened by existing or newly planted trees over time.

- c. **Describe proposed measures to reduce aesthetic impacts, if any.**

The project must comply with Island County's design guidelines for siting and construction of a nonresidential use in a rural area. Upon completion, the surrounding treatment facility lands will be landscaped with native trees, shrubs and grasses.

11. Light and Glare

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

Construction will occur primarily during the daytime, negating the need to utilize artificial lighting. Both the treatment plant and the reuse sites will be illuminated with only security lighting. The lighting will be aimed downward and will be further shaded by existing vegetation at the sites.

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

Site lighting will be designed so that light is not visible past the property boundaries and does not shine into the night sky.

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

Off-site sources of light will not affect this proposal.

- d. **Describe the proposed measures to reduce or control light and glare impacts, if any.**

Lights will be aimed downward and shaded by vegetation. All lighting designs will be in accordance with the Island County Lighting Ordinance.

12. Recreation

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

The treatment plant site is located on private property where there is no recreational use. The reuse site is part of a large tract of forest land that is private property but has been used informally for recreation in the form of hiking, trail riding, and hunting.

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

The proposed project will not affect recreational use on the treatment plant site. The reuse site may limit access to support facilities of up to 5 acres of the 80 acre parcel, depending on final design parameters.

c. Describe proposed measures to reduce or control impacts on recreation, including recreational opportunities to be provided by the project or applicant.

The proposed project will not alter recreational use of the treatment plant site. The reuse site may be opened to public non-motorized use pending the outcome of local efforts to purchase the adjacent tree farm for public open space.

13. Historic and Cultural Preservation

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

The Archaeological Investigation Report: The Freeland Water and Sewer District, Whidbey Island, Washington (ERCI, 2010) was prepared in compliance with Section 106 of the National Historic Preservation Act (NHPA). No direct impacts to archaeological or historic resources are expected to result from implementation of the proposed action. The conveyance line and collection system and side sewer piping will be constructed in roadways, parking lots and yards, and will avoid areas with known resources to the greatest extent possible. Neither the treatment plant nor the reuse site were identified as having any potential for cultural or historic resources.

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

The treatment plant site, the reuse site, and the conveyance corridors to the sites are located within the traditional territories of both the Swinomish Indian Tribal Community and the Tulalip Tribes; it is clear that both tribes consider this area to be culturally and historically significant.

c. Describe proposed measures to reduce or control impacts, if any.

All historic artifacts encountered during the implementation of the project will be recorded and left in place; any intact features or groups of artifacts will be documented and avoided and a site form update will be completed at the end of the monitoring project. A professional archaeologist will work with the sewer system design engineers to plan avoidance of any archaeological sites. In addition, when the drawings for the sewer collection lines and the building areas are 90 % complete, a professional archaeologist will field test the transport line and building foot print locations within the archaeological site areas to confirm that the design will avoid archeological and cultural sites.

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 treatment plant is located near the junction of Bush Point Road and Mutiny Bay Road; Bush Point Road will provide primary access to the site and Timber Lane will provide secondary access. The reuse site is accessible via Bounty Loop and State Route 525. Future access to the reuse site via Shore Meadow Road will be provided by easement.

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

Island Transit serves the Freeland service area. Route 1 generally travels along Highway 525 and on some runs, on Bush Point Road.. Highway 525 is roughly 2,000 feet from the proposed treatment plant site.

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

Parking at the treatment plant and reuse sites will be limited to service vehicles and employee parking. The number of spaces will meet island County code. The project will not eliminate any parking places.

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

The proposed project will require the construction of limited access roads connecting the treatment plant site to Bush Point Road, and from Shore Meadow Road, to the reuse site.

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

The project does not occur in the 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.**

An estimated eight one-way vehicular trips per day will be generated by the treatment plant and reuse site during operation of the facilities. A traffic report will be prepared and submitted to Island County in association with the future site plan application.

- g. **Describe proposed measures to reduce or control transportation impacts, if any.**

At least one lane of the roadways will be open to allow for emergency vehicles and local access during construction. Detour routes will be provided where possible; however, impacts to any one location will be temporary. Coordination will occur with the Washington State Department of Transportation (WSDOT) regarding construction activities in the SR 525 right-of-way. Following installation of the collection and conveyance pipelines, the roads will be restored to existing conditions.

Operation of the project is not expected to noticeably affect regional transportation. The future land use and project review conducted by Island County will be subject to the County Transportation concurrency requirements and environmental review at the time of site plan application, which would describe mitigation measures for any transportation-related impacts that were identified.

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 explain.**

Freeland was designated as an NMUGA by Island County in 2007; the Freeland wastewater treatment plant is being developed so that it can support a larger regional population in accordance with that designation. As population increases, the need for public services will as well. The project is designed to address the wastewater needs of the service area, by providing central collection and treatment of wastewater.

- b. **Describe proposed measures to reduce or control direct impacts on public services.**

The 2007 Island County Comprehensive Plan and subsequent supporting documents outline measures to control population growth and public service demands in designated NMUGAs such as Freeland. With the NMUGA designation, County population growth must be managed to meet the requirements of the Growth Management Act. This project proposes to implement wastewater collection and treatment services in conformance with the approved *Freeland Comprehensive Sewer Plan and Engineering Report/Facility Plan* (Tetra Tech, 2005) and the *Freeland Sub Area Plan* (Island County, 2007). The project complies with the Growth Management Act by providing the infrastructure necessary to sustain the Freeland NMUGA.

The project will result in costs to the property owners in the service area associated with the construction and operation of the sewage collection and treatment system. The District is looking at all options to reduce the financial burden to the service area customers.

16. Utilities

- a. **Underline utilities currently available at the site:**

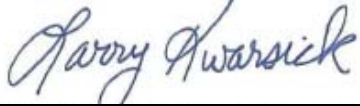
There are currently no utilities at the treatment plant and reuse sites.

- 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 and operation of the wastewater treatment plant will require new utilities including electricity, communications, and water. Local utilities will be contacted to ensure their individual transmission lines and other facilities are able to accommodate the treatment plant when services are needed. The proposed facilities would increase the electrical demand in the Freeland NMUGA. The design team will work with the local utility to identify utility needs and local infrastructure upgrades, if necessary.

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:	
Responsible Official:	Larry Kwarsick
Position/Title:	Consultant Planner for the District and Designated SEPA Responsible Official
Phone:	360-331-5566
Address:	P.O. Box 222/ 5492 S. Harbor Ave Freeland, WA 98249
Date:	July 9, 2010

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (do not complete this section for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

As described above, it is not anticipated that the proposal would increase discharge to surface water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise. Reclaimed water will be applied to the reuse site and allowed to slowly infiltrate to groundwater. This water may raise the groundwater elevation at the site and result in more water in the local wetlands, both on and off-site.

Proposed measures to avoid or reduce such increases are:

Future project actions resulting from these proposed amendment to the Comprehensive Sewer Plan will have to comply with local, state, and federal regulations, including SEPA and NEPA review (if applicable). This is the second phase of phased review under SEPA. The site specific project analysis, e.g., an environmental analysis by Island County associated with Island County's future land review and permitting, will be conducted upon submittal of a site plan application to Island County. Further study will be performed to better define the potential effects of ground water recharge. Study findings will be used for design and operation measures such as additional land application area, seasonal storage, timing and/or rotation of application sites, or improved drainage facilities at or near the property boundary or further downstream as needed.

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Implementation of the project is expected to result in fewer contaminants entering Holmes Harbor as a result of the removal of inputs from the existing on-site septic systems in the Freeland NMUGA. This will result in improved water quality and improved habitat for fish, shellfish, and marine

life in Holmes Harbor. It is not anticipated that the proposal would affect plants, animals, fish, or marine life beyond those already evaluated.

Proposed measures to protect or conserve plants, animals, fish or marine life are:

Implementation of the project will improve water quality in Holmes Harbor, and will therefore protect fish and marine life. Future project actions resulting from the proposed amendment to the Comprehensive Sewer Plan will have to comply with local, state, and federal regulations, including SEPA and NEPA review (if applicable).

3. How would the proposal be likely to deplete energy or natural resources?

It is not anticipated that the proposal would deplete energy or natural resources beyond those already evaluated.

Proposed measures to protect or conserve energy and natural resources are:

Future project actions resulting from this project will have to comply with local, state, and federal regulations, including SEPA and NEPA review (if applicable). It is not anticipated that the proposal would affect plants, animals, fish, or marine life beyond those already evaluated. Monitoring will be conducted to ensure that impacts to ground water, both quality and quantity, are not occurring. During detailed design the collection and treatment systems will be studied for energy conservation measures and greenhouse gas emission reduction opportunities.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Several wetlands are mapped on the reuse site. The use of slow infiltration could possibly influence the hydrology within some of these wetlands, both on and off-site; however, no fill, surface water inputs, or other alterations will occur to these wetlands. Increased hydrologic inputs might result in a variety of hydrologic regimes within the wetlands, which would influence the vegetation development and result in a more diverse plant community.

Proposed measures to protect such resources or to avoid or reduce impacts are:

Additional studies are being conducted to determine the reclaimed water application rates that are suitable for the site to ensure that no flooding occurs on or off-site as a result of ground water recharge. Increased hydrologic inputs to the wetlands may result in a variety of hydrologic regimes within the wetlands, which would influence the vegetation

development. It is anticipated that this will result in a more diverse plant community on the site. The forest cover and vegetation will remain at the reuse site; no impacts to forest land are anticipated.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed amendments to the Comprehensive Sewer Plan (adoption of the Freeland Preliminary Engineering Report for New Sewage Collection and Treatment System) are refinements to the existing, adopted plan, and have been made to reflect new technical, environmental, economic and regulatory conditions.

It is not anticipated that the proposal would affect land use beyond those already evaluated, nor allow or encourage land or shoreline uses incompatible with existing plans. There will be no impacts to shoreline use.

Proposed measures to avoid or reduce shoreline and land use impacts are:

Future actions resulting the ability to develop property within the NMUGA as a result of having sewer service available will have to comply with local, state, and federal regulations, including SEPA review (if applicable). Following implementation of the of the sewer system, the zoning designations will change to allow more dense development within the NMUGA. The County has established interim regulations for the Freeland NMUGA. Completion of the final development regulations and required comprehensive plan elements is on the Island County Planning Commission's annual docket for 2010 and 2011 for completion.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

No increased demands on transportation or public services and utilities are anticipated.

Proposed measures to reduce or respond to such demand(s) are:

The project will provide sewer service to the designated service area within the NMUGA, and has taken into account the anticipated population growth and demand for service in accordance with the requirements of the Growth Management Act.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

The Freeland Water and Sewer District currently is a regional supplier of water and has planned to extend their urban governmental services to include sewer service.

Amendments to the Comprehensive Sewer Plan and implementation of the project are not expected to conflict with any requirements to protect the environment. The service area is located solely within the Freeland NMUGA, which is an area that has been designated as an urban growth area in accordance with the Growth Management Act. According to the Act, “each urban growth area shall permit urban densities and shall include greenbelt and open space areas” (RCW 36.70A.110(2)). The current proposal complies with all federal, state and local environmental regulations. Future development within the NMUGA will have to comply with local, state, and federal regulations.

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FIGURES

Figure 1: Vicinity Map

Figure 2: Service Area and Collection System Phasing

Figure 3: Proposed Treatment Plant Site Plan

Figure 4: Proposed Reuse Site Plan

Figure 5: Wetlands and Streams

Figure 6: Current Zoning and Action Area

Figure 7: Future Land Use Designations