

# OAK HARBOR WASTEWATER FACILITIES PLAN AND TREATMENT FACILITY

SEPA Checklist

**RECEIVED**

**JUL 31 2013**

**CITY OF OAK HARBOR**  
Development Services Department

**Prepared for:**

**City of Oak Harbor**

**July 2013**





## TABLE OF CONTENTS

<b>TABLE OF CONTENTS</b> .....	<b>I</b>
<b>ENVIRONMENTAL CHECKLIST</b> .....	<b>3</b>
<b>A. BACKGROUND</b> .....	<b>3</b>
<b>B. ENVIRONMENTAL ELEMENTS</b> .....	<b>8</b>
1. EARTH .....	8
2. AIR .....	11
3. WATER .....	12
4. PLANTS .....	20
5. ANIMALS .....	22
6. ENERGY AND NATURAL RESOURCES .....	25
7. ENVIRONMENTAL HEALTH .....	26
8. LAND AND SHORELINE USE .....	29
9. HOUSING .....	32
10. AESTHETICS .....	32
11. LIGHT AND GLARE .....	33
12. RECREATION .....	34
13. HISTORIC AND CULTURAL PRESERVATION .....	35
14. TRANSPORTATION .....	38
15. PUBLIC SERVICES .....	40
16. UTILITIES .....	40
<b>C. SIGNATURE</b> .....	<b>42</b>
<b>REFERENCES</b> .....	<b>43</b>
<b>FIGURES</b> .....	<b>44</b>



## ENVIRONMENTAL CHECKLIST

### A. BACKGROUND

**1. Name of the proposed project:**

Oak Harbor Wastewater Treatment Facility

**2. Name of Applicant:**

City of Oak Harbor

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

Joe Stowell, PE, City Engineer  
City of Oak Harbor Department of Public Works  
865 SE Barrington Drive  
Oak Harbor, Washington 98277  
(360) 279-4520

**4. Date checklist prepared:**

July 2013

**5. Agency requesting checklist:**

City of Oak Harbor

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

Construction of the treatment plant is proposed to begin in mid-2015 and last for approximately 2 years. Outfall construction is proposed to begin in the late summer of 2014 and last for approximately 3 months.

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

This wastewater facility, collection system, and outfall are being designed to accommodate flows projected through 2030, and be expandable to accommodate flows projected through 2060. Additional conveyance lines may be needed in the service area (the Urban Growth Area (UGA)) as flows increase.

The City evaluated several options in the Facilities Plan, and is moving forward with two options: 1) includes flows from the Navy; and 2) does not include flows from the Navy (City flows only). Although both options are described in the Facilities Plan, this SEPA document addresses only the second option, flows from the city only. This option includes a new outfall

into Oak Harbor, and a new MBR treatment facility in the Windjammer Vicinity. Should the Navy decide to participate, the project scope will be expanded to include conveyance improvements between the new MBR facility and the Navy base. To convey flows from the Navy Seaplane Base to the new MBR treatment plant, approximately 20,000 feet of new pipe and additional pump stations would be required to convey flows to the City's new treatment plant. This piping will be included in the project only if the Navy chooses to connect to the City's new facility.

These improvements are described in detail in the Facilities Plan (Carollo Engineers, March 2013). If the Navy decides to convey flows to the City's new treatment facility, additional environmental review will be conducted of the conveyance system. Depending upon the type and location of the facilities required, the system will undergo NEPA and /or SEPA review. A decision from the Navy whether to transfer flows to the city is anticipated in the fall of 2013.

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

- *Draft City of Oak Harbor Wastewater Facilities Plan*, Carollo and BHC Consultants, March 2013
- *Oak Harbor Wastewater Treatment Facilities Biological Assessment*, ESA, March 2013
- Cultural Resources for City of Oak Harbor Wastewater Treatment Plant Memorandum, ESA Paragon, March 2013.
- *Final Technical Memorandum No. 5 Evaluation of Outfall Alternatives*, Cosmopolitan Marine Engineering, October 1, 2012.
- *Oak Harbor Wastewater Treatment Plant Site Selection – Wetland Reconnaissance of Freund Site and Windjammer Park Technical Memorandum*, Environmental Science Associates, November 2012.

**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.

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

Numerous federal, state and local permits and approvals will be required for this project. Listed below are the anticipated permits and approvals.

Federal

- Endangered Species Act (ESA) Compliance – US Fish and Wildlife Service / National Marine Fisheries Service
- Section 106 of the National Historic Preservation Act compliance – Washington Department of Archaeology and Historic Preservation
- Section 404/401 of the Clean Water Act Nationwide Permit – Corps of Engineers

State

- Wastewater Facility Plan and State Environmental Review Process approval - Washington Department of Ecology
- National Pollution Discharge Elimination Systems (NPDES) wastewater discharge – Washington Department of Ecology
- NPDES Construction Stormwater General Permit – Washington Department of Ecology
- Water Reclamation Standards Compliance – Washington Departments of Ecology and Health
- Section 401 Water Quality Certification - Washington Department of Ecology
- Hydraulic Project Approval – Washington Department of Fish and Wildlife
- Coastal Zone Management Consistency Determination - Washington Department of Ecology
- Aquatic Land Lease – Washington Department of Natural Resources
- Air Quality Order of Approval to Construct– Northwest Clean Air Agency

Local

- Comprehensive Plan Amendment – City of Oak Harbor
- Shoreline Substantial Development Permit - City of Oak Harbor
- Critical Areas Review – City of Oak Harbor
- Site Plan Approval (and associated approvals) - City of Oak Harbor
- Floodplain Development Permit – City of Oak Harbor
- Grading Permit– City of Oak Harbor
- International Fire Code Compliance – City of Oak Harbor
- Building Permit – City of Oak Harbor
- Excavation (Right of Way) Permit – City of Oak Harbor

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

The City of Oak Harbor (City) began their wastewater facility planning process in 2009. The City's wastewater system serves approximately 24,000 people within the City and the Navy Seaplane Base. Wastewater is currently treated at two facilities: a rotating biological contactor (RBC)

facility in Windjammer Park, and a lagoon facility on the Navy's Seaplane Base. The City is proposing to replace the current wastewater treatment facilities with a new 3.9 million gallon per day (mgd) wastewater treatment facility located on 4 acres in the vicinity of Windjammer Park inside city limits (Figure 2).

A facility is needed to meet the objectives listed below. Although the existing facilities are currently able to meet the requirements of the City's National Pollution Discharge Elimination System (NPDES) Permit, they are not able to provide reliable long term service for a number of reasons:

- The existing RBC facility is nearing the end of its useful life.
- Both the RBC and Lagoon Plants lack the technology to meet increasingly stringent water quality standards, and have inadequate capacity to keep pace with anticipated population growth.
- Both effluent outfalls have seen major failures; the RBC Oak Harbor outfall no longer functions and the Crescent Harbor outfall is functional but damaged.
- The area surrounding the Seaplane Base Lagoon Plant was reclaimed as a saltwater marsh in 2009. The lagoons are now surrounded by environmentally sensitive areas and are subject to frequent high water conditions, making expansion or modifications to the new lagoons infeasible.

A new treatment facility is needed to replace the City's existing treatment facilities with a plant capable of meeting the City's wastewater utility goal to "obtain the highest water quality practical while recognizing the limitations of rate payers of the City to fund the improvements." Specific project objectives include:

1. Providing continued reliable wastewater treatment service,
2. Meeting high standards for water quality,
3. Allowing phased expansion to meet future demands, and
4. Delivering construction and operation of a new facility by 2017 in a cost-effective manner.

As part of the facility planning, the City of Oak Harbor began reaching out to residents and stakeholders when they began the site selection process in November 2010. A public meeting was held in December of 2010 to introduce the project and gather input about candidate sites. Between April 2011 and March 2013, the City held five public open houses (three of which were combined with City Council workshops) to present and get input on site locations, cost analyses, rate information, conceptual

renderings, and the proposed schedule. The project was presented and discussed at eight additional City Council meetings and workshops, which were open to the public. The City issued a press release in January 2011 illustrating the proposed sites and soliciting public input. In spring 2011, the City conducted an online survey, which was completed by over 100 individuals. The City produced a program for public television in June 2011 covering the final list of sites selected by the City Council and requesting input on the site evaluation process, the treatment plant process selection, and the outfall location. The City also presented to the Rotary Club in March 2012 and hosted a two-day Site Master Planning Charrette in June 2012. Through this process, the City selected the Windjammer Vicinity site as their preferred alternative based upon community input and a comparison of cost and non-cost parameters. Detailed information on the alternatives evaluation and the public process can be found in section 6.5.1 of the Facility Plan – Volume I and Appendix A of the Facility Plan (Volume II) (Carollo Engineers, March 2013).

The proposed project will include the following components (Figure 2):

- Membrane biological reactor (MBR) wastewater treatment facility in the vicinity of Windjammer Park. The project consists of:
  - Construction of eight buildings on a roughly 4-acre site. The exact footprint has not been determined at this time, but is expected to range from 87,000 to 169,000 square feet. The buildings will be 15 to 35 feet high and will house preliminary treatment, MBR facilities, UV disinfection, chemicals, solids treatment, odor control, effluent storage, and administration, laboratories, maintenance and electrical.
  - Construction of two aeration buildings, an equalization basin and waste activated sludge basin below ground.
  - Preliminary treatment: Raw sewage will be pumped, screened, dewatered and equalized prior to secondary treatment.
  - Secondary treatment: The screened, dewatered raw sewage will be treated in an aeration basin followed by membrane filtration with MBR. The secondary effluent will be capable of meeting an effluent total inorganic nitrogen concentration of 8 mg/L, effluent total suspended solids and carbonaceous biochemical oxygen demand concentration of 10 mg/L.
  - Disinfection: Ultra Violet (UV).
  - Solids Treatment: Waste activated sludge (WAS) will be dewatered and dried producing a Class A beneficial reuse product.

- Conveyance facilities and support buildings and facilities, as identified during preliminary design:
  - Approximately 300 feet of new pipe from the treatment facility to the replacement outfall in Oak Harbor.
- Replacement of the 2,100-foot long outfall constructed in close proximity to the existing failed outfall in Oak Harbor:
  - 30-inch diameter pipe,
  - High density polyethylene (HDPE) or concreted coated steel,
  - Pipe will be fully buried from the shoreline to the diffuser,
  - Existing outfall pipe will be abandoned in place, and
  - New 184-foot long diffuser at the end of the outfall with 24 diffuser ports.

Currently the project is at the pre-design stage. A Facility Plan has been prepared and submitted to the Department of Ecology (Ecology) for review and approval. Several aspects of the facility design and treatment quality have been finalized; however some items are still being developed. Design of the treatment plant will follow later this year, following selection of a site footprint. The outfall location has been finalized, and design is currently at the 30 percent stage. Outfall construction is anticipated to occur sooner than construction of the treatment plant to allow use by the existing RBC plant in the event of a failure of the RBC diversion pump station or force main.

**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 the vicinity of Windjammer Park, located in the City of Oak Harbor at 1600 S. Beekma Drive. The site is located in Township 32 North, Range 01 East, Sections 2 and 39. See Figures 1 and 2 for project location.

## **B. ENVIRONMENTAL ELEMENTS**

### **1. Earth**

#### **a. General description of the site (underline):**

Flat, rolling, hilly, steep slopes, mountainous.

The project site is relatively flat with some steeper slopes down to Oak Harbor to the south of the project area.

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

The wastewater service area consists of gently sloping terrain toward Oak Harbor. Typical slopes within the study area are 3 to 6 percent. The area of the proposed treatment plant is flat.

**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.**

Geologic characteristics in the City of Oak Harbor are largely the result of regional glacial processes. Erosion and deposition associated with glaciation have strongly influenced regional topography, soils, and groundwater characteristics.

The park and commercial areas are located within the City's commercial core and have been developed for decades. Soils mapping shows that soils in Windjammer Park are organic and consist of peat deposit, and are not considered prime farmland (Carollo Engineers, March 2013).

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

Soils mapping shows that Windjammer Park has a moderate to high susceptibility to liquefaction (Carollo Engineers, March 2013).

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

Construction of the proposed MBR facility would require extensive excavation and grading within the 3 to 4 acre area. Some of the facilities, such as the aeration basins and waste activated sludge (WAS) basins would be constructed below ground surface elevation; therefore, some shoring and installation of stone columns to support the tanks would be required. This would require excavation approximately 35 feet below ground surface elevation.

It is estimated that between 5,000 and 9,000 cubic yards of fill and approximately 1,400 to 1,800 cubic yards of stone will be needed to be imported for the project. Site grading activities are site-specific, and will be determined when the final location and footprint for the MBR facility have been selected within the Windjammer Vicinity. In general, the grade of the treatment plant site will be elevated approximately 2 to 3 feet above existing grade to provide the

required level of flood control. Excavated material will likely be used for site fill, and the balance of excavated material will be removed from the site.

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

The proposed action will include the temporary disturbance of soils during grading and excavating activities and potential construction dewatering activity necessary to construct the MBR facility and associated conveyance lines and pump stations. Grading and excavating could result in erosion from disturbed upland soils and increase the sediment load in runoff potentially entering Oak Harbor, Windjammer Park Lagoon, and adjacent wetlands.

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

Construction of the treatment facility is expected to consist of approximately 155,000 square feet of impervious surface area, or 90 percent of the 4-acre site. Depending upon final site location, the facility may be located in areas currently covered by impervious surfaces. The existing 1.5 acre RBC facility will be demolished during construction of the new treatment plant and depending on the final site location the space of the existing RBC plant will either be used for the new treatment plant or will be returned to park space.

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

Erosion and sedimentation impacts during construction are anticipated to be minor as the site is mostly flat. During construction, Best Management Practices (BMPs) will be employed to minimize the amount of erosion and sediment leaving the site. The BMPs will be consistent with the Washington State Department of Ecology and the City of Oak Harbor erosion control standards and, and may include the use of inlet protection, silt fence, straw wattles, and sediment traps as necessary. Following construction, disturbed areas will be paved or hydroseeded promptly. Temporary erosion and sedimentation control (TESC) measures will be included as part of the project design and construction. The TESC Plan will meet the requirements of Ecology and the City of Oak Harbor standards, as well as additional measures deemed appropriate for the project. The measures may be adjusted in the

field as necessary based upon changing site conditions. Additional BMPs are listed below in question 6.d.

Sub-surface measures will be implemented to address liquefaction potential. At present, the most likely method of sub-surface stabilization appears to be stone columns. This will be confirmed during design.

**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 for this project. There will be minimal impacts from dust and equipment exhaust emissions during construction. These impacts would be temporary.

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. The plant will include multiple stages of treatment for all potential sources of foul odor. These sources will be covered, scrubbed, and diluted prior to release into the atmosphere. The proposed odor control system is much improved over the current odor control systems at the RBC plant. In addition, an air quality Order of Approval to Construct will be required from the Northwest Clean Air Agency (NWCAA) 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).

A portion of the effluent will be treated to Class A standards for reclaimed water. Class A reclaimed water typically has 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.**

Measures that could be incorporated during construction to minimize impacts to air quality include:

- Watering of construction surfaces to control dust, temporary ground covers, sprinkling the project site with approved dust palliatives, or use of temporary stabilization practices upon completion of grading.
- Contract specifications would encourage use of well maintained construction vehicles, to reduce vehicle emissions. Contractors would be encouraged to offer carpooling options for employees. When possible, use of local building materials would be preferred to reduce transport distances.

The NWCAA regulates construction and modification of potential air contaminant sources in Island, Skagit, and Whatcom Counties. The Agency must be notified of construction projects so that it may review whether a permit is required; review requirements are outlined in Section 300 of the NWCAA regulations. As mentioned above, an air quality Order of Approval to Construct will be required from the Northwest Clean Air Agency (NWCAA) for construction of the treatment plant. It is anticipated that the operation of the new treatment plant would meet or exceed the applicable air quality requirements.

**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.**

Windjammer Lagoon, a small man-made lagoon, is located in the project area (Figure 2). The lagoon was constructed in Windjammer Park to provide a community swimming area. This lagoon is connected to Oak Harbor via a narrow 40-foot channel. A pedestrian trail and bridge cross the Windjammer Lagoon at the channel connection with Oak Harbor.

Oak Harbor, a marine water body connected to Saratoga Passage, is located immediately south of the project area (Figure 1). Oak Harbor, in the vicinity of the existing and proposed outfall, is an area considered as excellent marine receiving water for aquatic life uses, shellfish harvest, primary contact recreational uses and other miscellaneous uses including wildlife habitat, harvesting, commerce navigation, boating, and aesthetics (WAC 173-201A-612). However, It should be noted that Oak Harbor is listed as an area where shellfish harvest is prohibited by the Washington State Department of Health (DOH) due to proximity stormwater outfalls, wastewater outfalls, and the marina (DOH, 2009).

During site evaluations, consultant staff observed a ditch along the north property boundary of Windjammer Park. The ditch runs for almost 1,000 feet along the north end of the property. The ditch is narrow at the east and west ends (approximately 2 feet wide), and the central portion (approximately 700 feet) is up to 12 feet wide. Native wetland plants are dominant in the ditch and surface water was present. Formal delineation of the wetland has not been conducted on site, but criteria were met for all three wetland parameters. There was no flow in the ditch on October 30, 2012, but it appears that the ditch drains through culverts at both the west and east ends. This ditch would likely be regulated as a wetland (ESA, 2012).

Constructed wetlands are also present in the project vicinity, located on the west side of Beeksma Drive, on the south side of Bayshore Drive. These wetlands were constructed as mitigation for an offsite project as well as for wetland fill associated with the Bayshore Drive alignment.

**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.**

While the exact treatment plant footprint has not been determined at this time, it is likely that it would occur within 200 feet of Windjammer Lagoon and Oak Harbor (Figure 2). Construction of the new MBR facility may be in the vicinity of the wetland described in section 3.a.1 and may require filling portions of the wetland. The new outfall would be constructed across the beach and below the mean higher high water (MHHW) line in Oak Harbor adjacent to the

existing outfall. Because of the location in the shoreline zone, a habitat impact assessment will be conducted as part of the shoreline permitting process.

**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.**

Estimated earthwork quantities for outfall construction include:

- Excavate 11,000 cubic yards of native material for pipeline trench;
- Place 500 cubic yards of clean crushed aggregate for pipe bedding material;
- Backfill trench with 11,000 cubic yards of native material;
- Place 2,200 cubic yards of fish mix pea gravel within the intertidal zone.

Depending on the final location within the Windjammer Vicinity, the proposed treatment plant improvements could result in up to 4,000 square feet of fill within the on-site wetland ditch. The extent of wetland fill, if any, will be determined following final site selection. If fill of wetland ditch onsite is unavoidable, applicable permits and approvals would be obtained from the Corps of Engineers, Department of Ecology, and the City of Oak Harbor, and appropriate mitigation measures would be conducted in accordance with all agency requirements. Measures would likely include wetland creation, wetland enhancement, and/or wetland buffer enhancement of nearby wetland areas.

**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.**

Depending upon the final site layout, the proposed new MBR facility may be located within a 100-year flood plain. Construction of new critical facilities would be, to the extent possible, located outside the limits of the base floodplain. Construction of new critical facilities are permissible within the base floodplain if no feasible alternative site is available (OHMC 17.20.190(3)). If development within a floodplain is required, the project must obtain a floodplain development permit. Critical facilities constructed within the base floodplain would have the lowest floor elevated to three feet or more above the level of the base flood elevation at the site. Floodproofing and sealing measures must be taken to ensure that toxic substances will not be displaced by or released into floodwaters. Access routes elevated to or above the level of the base floodplain would be provided to all critical facilities to the extent possible. Any measures to elevate or improve existing streets will be addressed if the final location impacts existing elevations.

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

The overarching purpose of the project is to improve the quality of effluent that is currently discharged from two antiquated facilities (Lagoon and RBC Plants, which are among the poorest performing technologies known to the industry) with membrane quality effluent, which is widely accepted as state of the art for municipal wastewater treatment plants.

Overall, water quality in effluent and within the receiving water (Oak Harbor) is anticipated to improve as a result of the proposed action. Table 1 provides a summary of the existing effluent quality conditions at the RBC and Lagoon Plants and the targets and goals for the new facility.

**Table 1. Effluent Quality Goals  
City of Oak Harbor**

	RBC Plant NPDES Permit Limit	Lagoon Plant NPDES Permit Limit	New Facilities Target / Goal
<b>TSS</b>	30 mg/L 85% removal	75 mg/L 85% removal	10 mg/L 95% removal
<b>CBOD5</b>	25 mg/L 85% removal	25 mg/L 85% removal	10 mg/L 95% removal
<b>Turbidity</b>	Not applicable	Not applicable	1 NTU
<b>Chlorine Residual</b>	0.114 mg/L	0.5 mg/L	No discharge
<b>Fecal Coliform</b>	200/100 mL	200/100 mL	<200/100 mL

Wastewater effluent would be discharged from a new approximately 2,100-foot outfall into Oak Harbor, located immediately adjacent to an existing, failed outfall line. Effluent would be discharged via evenly spaced ports along the 184-foot long diffuser at the terminus of the outfall.

There will be an increase in effluent volume discharged from the outfall over the planning horizon, and the location of the outfall will change slightly, though it will be placed within 50 feet of the existing outfall. The proposed facility would meet more stringent NPDES permit limitations for applicable surface water quality standards, and is anticipated to improve effluent water quality over current conditions.

Based on historical records, the RBC Plant has reached its permitted flow limit of 0.7 mgd, and the Lagoon Plant is within 85 percent of the rated influent flow and BOD loading capacity. In response, the City developed the 2013 Draft Facilities Plan to assess the potential for upgrading the existing RBC and lagoon facilities (which was determined to be infeasible), recommend alternative treatment technologies and processes, and put forth a preferred alternative that would continue to meet current NPDES permit limits, provide improved effluent water quality, as well as meet the needs of future growth in the Service Area by increasing treatment capacity.

Construction of the new MBR facility would increase treatment capacity from a current monthly maximum of 3 mgd to a projected 3.9 mgd by 2030 (a 30 percent increase in discharge volume over existing conditions). This increase in capacity is needed to continue to meet applicable permit requirements while accommodating projected increases in wastewater influent flows and BOD and TSS loads over the 20-year planning horizon.

Based on maximum month flow projections, BOD loading is anticipated to be 6,849 lbs/day, TSS loading is anticipated to be 6,397 lbs/day, and ammonia loading is anticipated to be 768 lbs/day by the end of the planning horizon of 2030. The City has effluent target goals that are more stringent than the existing NPDES permit limits for conventional pollutants. Effluent quality targets for TSS and BOD are 95 percent removal, which would indicate that effluent concentrations would continue to meet current NPDES limits until the end of the planning horizon. In addition, the proposed facility would discontinue the use of chlorine in its disinfection process due to a conversion to UV, which would remove residual chlorine from the effluent. The reasonable potential analysis (RPA) conducted for the new MBR facility also indicated that there is no potential to exceed water quality standards for a variety of contaminants, including metals and ammonia based upon current flow and load projections for the to the year 2030.

The treatment plant will be equipped with standby power to operate during power outages. In addition, the facility will be designed for Class II redundancy and reliability in accordance with Washington State requirements.

**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 required for deep excavation areas (e.g., the two aeration basins, equalization basin and WAS storage basin, blower building and gallery). Quantities of water to be withdrawn are unknown at this time. It is expected that groundwater will be pumped to Baker Tanks (or another suitable means of dewatering treatment), allowed to settle, and then discharged to vegetated areas where it will either infiltrate on-site or be hauled off-site for disposal at

an approved facility. BMPs will be in place to minimize erosion and sediment delivery to surface waters and reduce flow velocities that may result in erosion of upland soils. These BMPs would likely include silt fencing, straw bales, check dams, and straw wattles.

Up to 0.5 mgd of wastewater, treated to Class A reclaimed water standards, will be available for use at ballfields, parks, and for other municipal needs. Use of reclaimed water would reduce the need for potable water currently being used for these purposes.

- 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.**

No waste material will be discharged into the ground as a result of this project. Highly treated reclaimed water, consistent with Washington State Class A Reclaimed Water Standards, would be available for surface application as irrigation water at ballfields, parks, and other municipal needs. Use of reclaimed water for irrigation and other non-potable uses would reduce demands on ground water used for other purposes in the area. All uses of reclaimed water will be consistent with the Washington State reclaimed water standards (DOH and Ecology, 1997).

**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 project construction the work sites would be managed to control runoff and prevent erosion and sedimentation.

Stormwater design has not been completed at this time for the new MBR facility; however, stormwater will be treated for quantity and quality in accordance with the current Stormwater Management Manual for Western Washington (2012). It is anticipated that the majority of on-site stormwater that is generated within process areas (areas

potentially exposed to influent or chemicals) would be diverted to and collected by the facility's storm drainage system and conveyed to the MBR facility for treatment and discharged to Oak Harbor via the new outfall. Stormwater generated from non-process areas will be directed to an approved process for controlled release to an infiltration trench at the lower end of the site. A final geotechnical report will be completed during final design and will address methods for surface and stormwater management.

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

Runoff from the construction site has the potential to contain sediment and small amounts of equipment-related materials (motor oil, diesel fuel, hydraulic fluid). BMPs would be implemented to minimize equipment-related materials and sediment from leaving the site and potentially entering surface and ground waters.

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

The project would be constructed in accordance with applicable state and local permits issued through Ecology and the City of Oak Harbor, which would specify a range of measures designed to reduce or control potential surface, ground, or runoff water impacts. Construction BMPs to reduce water quality impacts would include:

- Comprehensive erosion and sediment control plans will be developed and implemented for each phase of construction in accordance with the 2012 Stormwater Management Manual for Western Washington (Ecology, 2012) or updated versions as they become available. The plans could include elements for site stabilization, slope protection, drainage way protection, and sediment retention. The proposed action would also comply with applicable erosion control standards for the City of Oak Harbor.
- Spill and erosion prevention and sediment control plans, as well as observance of all applicable safety and environmental regulations for handling chemicals, will be in place to minimize risks.
- Straw bales or silt fences will be used to reduce runoff velocity in conjunction with collection, transport, and disposal of surface runoff generated in the construction zone.

- A silt/turbidity curtain would be used to confine turbidity within the immediate work area when constructing the in-water portion of the outfall.
- During construction, monitoring programs could be required to ensure compliance with the site erosion control plan and with local regulatory requirements. A Stormwater Pollution Prevention Plan (SWPPP) and Temporary Erosion and Sediment Control (TESC) plan will be included in project contract documents. The construction contractor and/or City staff would measure parameters such as turbidity, temperature, and pH of surface water discharge and visually monitor the site for signs of erosion and for correct implementation of control measures per these plans.
- To the extent possible, equipment will be stored and staged a minimum of 200 feet from surface waters when not in use.
- Refueling of equipment will take place a minimum of 200 feet from surface waters.
- In water work will be conducted in accordance with hydraulic code rules (Chapter 220-110 WAC), including approved in-water work windows for tidal reference area 8 (WAC 220-110-240), which typically corresponds to times when listed fish and forage species are least likely to be present (Corps, 2012). For the project area, this is anticipated to be July 16 through October 14. A hydraulic project approval (HPA) from WDFW has yet to be obtained for the proposed action; therefore, this is an approximate date.
- Any wetland impacts will be mitigated in accordance with local, state, and federal permit requirements.

#### **4. Plants**

##### **a. Types of vegetation found on-site:**

Vegetation in the vicinity of Windjammer Park and the area proposed for the new MBR facility is comprised almost entirely of lawn grasses with scattered landscaping trees throughout the park, including ornamental maples and pine trees. The beach area adjacent to the shoreline contains scattered patches of dunegrass. A ditch on the site contains wetland plants including cattail, reed canarygrass, and spirea.

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

The exact project footprint for the treatment facility has not been determined at this time; however, it is expected to range from 87,000 to 169,000 square feet. The Windjammer Vicinity area includes an existing developed commercial property (buildings/asphalt) and a portion of Windjammer Park west of the existing RBC Plant. The park area consists primarily of maintained lawn; however, some landscaping trees occur in the vicinity of the proposed MBR facility and may be removed to accommodate the new facility. These landscaping trees currently provide little function to the marine nearshore, and their removal, if necessary, would not degrade existing baseline conditions. Outfall construction will result in temporary removal of some dune grasses; however these will be replanted following construction. At this time it is unknown if construction activities will impact the ditch containing wetland plants.

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

Whidbey Island is home to five of the remaining 11 populations of golden paintbrush left in the world. The species once grew in prairie habitats from Vancouver Island, Canada south to Oregon's Willamette Valley. Golden paintbrush grows primarily in upland prairies, on generally flat grasslands. The largest of the Whidbey Island populations occurs near Forbes Point at Whidbey Island Naval Air Station immediately south of the project area. Whidbey Island populations also occur primarily along southwest and west facing grasslands. The project area is located within developed commercial properties and portions of a 28-acre community park. The park contains maintained lawn grass and landscaping trees and shrubs. The developed nature of the site as well as regular maintenance (mowing) of park lawn likely limits the potential for establishment of golden paintbrush. Therefore, golden paintbrush is not anticipated to occur within the immediate project area.

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

Vegetation likely to be removed would include maintained lawn and landscaping trees. Following construction, the site will be landscaped around the new facility, and the area of the existing treatment plant would be reclaimed for park use. Where possible, native vegetation would be used for landscaping, and lawn areas

would be restored. Any dune grasses disturbed during construction will be replanted with native dune grasses. Final facility siting will take into account the presence of the wetland ditch on the site, and measures will be taken to avoid and/or minimize impacts to this area if possible. Therefore, impacts to vegetation in the area are anticipated to be minor.

**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:**

Due to the project location within commercial and public open space near the central business district, the terrestrial environment provides little in the way of habitat for wildlife species, other than those species adapted to developed landscapes. Birds and small mammals frequent the area.

The shallow intertidal areas of Oak Harbor are known to support spawning populations of sand lance and surf smelt and regular concentrations of Pacific herring are known to occur outside of the bay in Saratoga Passage. Pacific salmon, while not known to reproduce in any streams within the project area, are likely to utilize the nearshore zone for rearing and migration as juveniles. Other fish that may be found in Oak Harbor include steelhead, rockfish, bull trout, sturgeon, among other finfish and bottom fish.

An eelgrass (*Zostera marina*) survey was conducted of the outfall area, and eelgrass has not been documented within the vicinity of the proposed outfall and macro-algae presence is fairly limited due to the mud substrate and lack of structure for the algae to cling too (Grette Associates, 2012).

No known seal or sea lion haulouts are located within inner Oak Harbor; however, marine mammals including harbor seals, sea lions, and killer whales may use the area for migration, foraging, and resting (Orca Network, 2013).

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

Several federally listed threatened or endangered species may be present in the project area. Table 2 shows the threatened and endangered species that may be present within the service area for the wastewater treatment facility.

While some of the listed species *may* be present in the Oak Harbor area, species such as all species of rockfish, humpback whale, and killer whale are not known to occur, or are highly unlikely to occur, within Oak Harbor. Other species, such as the salmonids and bull trout, are likely to occur within Oak Harbor and migrate through the area, but are not known to occur within any stream in the vicinity of Oak Harbor or its urban growth area.

**Table 2. Occurrence of Listed Species and Critical Habitat within the Project Area**

Common Name	Scientific Name	ESA Status*	Jurisdiction	Critical Habitat**
Coastal-Puget Sound DPS Bull Trout	<i>Salvelinus confluentus</i>	Threatened	USFWS	Present
Puget Sound Evolutionarily Significant Unit (ESU) Chinook Salmon	<i>Oncorhynchus tshawytscha</i>	Threatened	NMFS	Present
Puget Sound Distinct Population Segment (DPS) Steelhead	<i>Oncorhynchus mykiss</i>	Threatened	NMFS	No
Yelloweye Rockfish	<i>Sebastes ruberrimus</i>	Threatened	NMFS	No
Canary Rockfish	<i>Sebastes pinniger</i>	Threatened	NMFS	No
Bocaccio Rockfish	<i>Sebastes paucispinis</i>	Endangered	NMFS	No
Southern DPS Green Sturgeon	<i>Acipenser medirostris</i>	Threatened	NMFS	No
Humpback Whale	<i>Megaptera novaeangliae</i>	Endangered	NMFS	No
Southern Resident Killer Whale	<i>Orcinus orca</i>	Endangered	NMFS	Present
Stellar Sea Lion	<i>Eumatopias jubatus</i>	Threatened	NMFS	No
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	Threatened	USFWS	No

\***Threatened:** Species are likely to become endangered within the foreseeable future.

**Endangered:** A species that is in danger of extinction throughout all or a significant portion of its range.

The Endangered Species Act requires the Federal government to designate "**critical habitat**" for any species it lists under the ESA. Critical habitat is defined as:

1. Specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and
2. Specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

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

The Puget Sound area, including Oak Harbor and the swimming lagoon in Windjammer Park, is located within the Pacific Flyway, which is a flight corridor for migrating waterfowl and other avian fauna. The Pacific Flyway extends south from Alaska to Mexico and South America. No portion of the proposed project would interfere with or alter the Pacific Flyway.

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

Measures to preserve fish and other wildlife would include:

- In-water construction would occur during approved in-water work windows to minimize the potential for overlap of construction with fish presence, in accordance with permit requirements issued by the Washington Department of Fish and Wildlife.
- TESC measures will be in place to minimize the potential for turbidity and sedimentation of Oak Harbor and Windjammer Park lagoon.
- Spill prevention plans and other construction related BMP's will also be in place to prevent spills of oils, hydraulic fluids, or other contaminants into surface waters.
- No direct discharge of turbid construction dewatering water will occur to surface waters and appropriate BMPs such as silt fencing, straw bales, check dams or others will be in place to protect discharge areas from erosive flows and potential for sediment laden water delivery to surface waters.
- All equipment and hazardous materials will be stored and staged within the construction footprint located greater than 200 feet from surface waters to the greatest extent possible.
- Refueling will occur farther than 200 feet from any surface water feature, including on-site wetlands, Oak Harbor, and Windjammer Park lagoon. All equipment operators will be trained in spill response and a Spill Prevention Countermeasure and Control (SPCC) plan will be prepared specifically for this project.
- While some new impervious surface area will be added to the basin, all stormwater generated from construction and operation of the facility will be treated in accordance with Ecology's *2012 Stormwater Management Manual for*

*Western Washington.* Stormwater generated from process areas will be collected and conveyed to the treatment plant for processing.

- Future development within the service area will require the strict adherence to development regulations including local critical area ordinances, stormwater management regulations, floodplain development regulations and shoreline regulations, which require protective buffers around streams and wetlands as well as appropriate treatment methodologies for stormwater, mitigation for impacts, and limited use of variances and exceptions to these regulations. The requirement for the use of low impact development technologies is also present within many of the development regulations. There are also other state and federal permit requirements associated with work in regulated critical areas that are protective of aquatic resources. Future development requiring a federal permit or federal funding will undergo separate Endangered Species Act consultation.
- The proposed action will allow for the facility to provide improved water quality standards and meet future, more stringent NPDES permit requirements, which are expected to be increasingly protective of in-water resources and biota.

## 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 facility will require 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 facility. All new construction must conform to the current edition of the Washing State Energy Code. This code regulates energy efficiency in buildings and specifically addresses requirements for building envelope construction, thermal insulation values of building elements, heating, air-conditioning and ventilation systems, and lighting systems.

The facility would replace the existing RBC and Lagoon facilities. The new MBR facility would require more energy to operate than the existing RBC and lagoon facilities, but the MBR plant is capable

of producing cleaner effluent than the existing treatment technologies.

- 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.

## **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.**

With any construction project, there is the risk of potential construction related spills or leaks. This project would face similar risks, but all risks would be well within the range of typical construction projects. No toxic chemicals would be used or stored at the construction sites, other than fuels and other construction-related fluids. Should suspected contaminated materials be encountered, appropriate testing would be done to determine containment and/or disposal requirements.

The waters of Oak Harbor, in the area proposed for the wastewater outfall, as well as the small lagoon swimming area within Windjammer Park near the proposed MBR facility, are listed on the 303(d) list of impaired waterbodies for the bacteria parameter. The existing RBC Plant outfall, which is currently abandoned, along with urban runoff, leaking septic systems and marina operations likely contributed to the 303(d) listing for bacteria. There are three documented leaking underground storage tanks in the project vicinity, including one at the existing RBC plant.

Wastewater effluent would be discharged from an approximate 2,100-foot outfall into Oak Harbor. Effluent would be treated to a higher standard than effluent from the existing RBC plant and

would pose less of an environmental health risk. Existing effluent quality and effluent targets and goals are listed in Table 1 above. Additionally, up to 0.5 mgd of wastewater, treated to Class A reclaimed water standards, will be available for use at ball fields, parks, on-site irrigation, and for other municipal needs. Use of reclaimed water for irrigation will offset the need to purchase potable water for this use.

No new environmental health hazards are expected to occur as a result of operation of the new wastewater treatment facility and outfall.

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

The wastewater treatment facility would not require any special emergency services. The facility would replace the existing RBC facility and would not require emergency services beyond those required by the existing facility.

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

Although not likely, accidents such as spills of hazardous materials (typically green cement or grout, fuel, oil, and hydraulic fluid) or other unanticipated construction accidents could occur which would degrade water quality and/or be toxic to fish, marine mammals, and birds. Project construction will be performed in accordance with terms and conditions of local, state, and federal permits that include protection of local water quality within the construction areas, construction equipment will be inspected daily for leaks and cleaned of debris (if working near surface waters), refueling of equipment will occur a minimum of 200 feet from surface waters, and equipment, when not in use, will be stored or staged a minimum of 200 feet from surface waters to the greatest extent possible. In addition, a Spill Prevention Countermeasure and Control (SPCC) plan to address the potential release of hazardous materials will be developed and implemented as necessary for the proposed action.

Operational mitigation measures for the plant will include:

- Treatment plant design will include source controls to minimize the risk of contamination from spills and leaks in accordance with Uniform Fire Code

regulations. Spill containment provisions include double-walled storage facilities and emergency cleanup procedures. The site would be sloped to direct any drainage from spill-prone areas (i.e., sludge loading and chemical loading) back to the Plant for processing.

- All stormwater facilities will be designed in accordance with the 2012 *Stormwater Management Manual for Western Washington* (Ecology, 2012).
- Stormwater generated in areas of the MBR Plant site where it could potentially be exposed to contaminants, will be collected and processed through the Plant.
- The new MBR facility will accommodate higher flow volumes and BOD loading.
- Relative to the City's existing facility, the proposed MBR process will be capable of meeting more stringent permit limits on influent loading and effluent discharge concentrations.

**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 would require the use of heavy equipment including excavators, front-end loaders, cranes, auger drill rigs, backhoes, dozers, forklifts, concrete mixers, concrete pump trucks, man lifts, air compressors, welding machines, hand tools, high cycle generators, and dump trucks. It is likely that sheet piles will be driven and removed with a vibratory hammer during excavation shoring activities.

Construction noise is exempt from noise regulations, but it is anticipated that work would occur during the weekday daytime hours of 7:00 am to 9:00 pm. Construction noise would be most noticeable to nearby businesses and residences, and park users. Nighttime construction would only occur on a limited or as-needed basis if at all. Should nighttime construction be necessary, nearby residents would be notified well in advance of any construction activity.

Operation of the facility is not anticipated to result in noises greater than occur with the existing RBC facility. The treatment plant would include noise control facilities. Excessive noise-producing equipment would be enclosed by noise attenuating covers or rooms to reduce the amount of noise leaving the site.

**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?**

The project area is currently used as a city park (Windjammer Park). It is also the site of the existing wastewater treatment facility. The project area also includes commercial properties to the north of Windjammer Park (Figure 2).

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

The site has not been previously used for agriculture. It has been developed as a park and commercial area for decades.

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

Structures in Windjammer Park include those structures associated with the existing RBC plant and some structures, including accessory buildings, associated with recreational activities in the park. Structures in the project vicinity to the north of the park are associated with commercial and office uses.

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

All structures associated with the existing RBC plant will be decommissioned and demolished, when construction of the new facility is complete. Depending on site location, some existing commercial structures may also be demolished.

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

Windjammer Park, including the existing RBC plant, is zoned Public Facilities (PF). The project area directly to the north of Windjammer Park is zoned Community Commercial (C-3).

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

Windjammer Park, including the existing RBC plant, is designated Public Facilities. The project area directly to the north of Windjammer Park is designated Community Commercial.

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

In the adopted 1998 shoreline master program, the project area is designated Conservancy. In the 2013 updated shoreline master program, which has not yet been approved by Ecology, the project area is designated Urban Public Facility.

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

Portions of Windjammer Park are mapped as having high aquifer susceptibility on the City's Critical Aquifer Recharge Area map. Oak Harbor off the shore of Windjammer Park is mapped as a forage fish spawning area and a Bald Eagle conservation area. The site is also designated a frequently flooded area and a potential liquefaction area (moderate risk). A wetland ditch, identified during a wetland reconnaissance conducted for the project, is also present in the Windjammer vicinity. Should this area be impacted as part of any site development, a formal wetland delineation and rating will be conducted and appropriate mitigation measures will be developed in accordance with federal, state, and local regulations.

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

No one would reside in the completed project. The treatment facility would be operated and maintained by approximately six (6) City personnel.

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

If the selected alternative includes the use of existing commercial structures, workers in those buildings would be displaced. It is anticipated that the businesses and workers would relocate to a building in the area.

**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.**

Location of the treatment facility would occur in either a commercial area (zoned Community Commercial) and/or within a portion of Windjammer Park (zoned Public Facility). Development of a treatment plant is allowed in a Public Facility Zone, and is not addressed in a Community Commercial zone. It is likely that a Comprehensive Plan amendment, rezone, or a Conditional Use permit would be required for development in a Community Commercial zone.

The proposal would replace an existing antiquated wastewater treatment facility near the same location. The project is required to provide improved water quality treatment and to support population growth within the UGA projected in the Oak Harbor Comprehensive Plan.

As summarized in question 11 above, the City of Oak Harbor underwent a long public facility planning process to evaluate alternative locations for siting a new treatment facility. Through that process, the Windjammer Vicinity site was selected as the preferred alternative.

The project is consistent with the goals and objectives outlined in the existing 2010 Comprehensive Plan and the 2008

Comprehensive Sewer Plan. The Wastewater Facility Plan will be incorporated into the City's Comprehensive Sewer Plan/Comprehensive Plan update. The plan will be proposed for approval by City Council toward the end of 2013, and be added to the docket for the 2014 Comprehensive Plan amendment.

**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.

- 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 project would not cause any housing impacts.

**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 tallest buildings on the site will be approximately 35 feet high. Other structures, including the administration, lab, maintenance, and electrical buildings, will have a height of approximately 15 feet. Exterior materials and finishes will be selected during design.

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

The new facilities and structures would replace existing treatment plant structures and would be visible from Windjammer Park and the surrounding commercial areas. Regardless of location, views in the immediate vicinity would be altered from current conditions. As part of the shoreline permitting process, a view analysis would likely be required. As part of the final site design, views will be considered and maintaining view corridors will be a priority.

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

The existing RBC plant is currently located at Windjammer Park. Views of the new MBR facility would be similar to the RBC plant and may be located in, within or overlapping the footprint of the existing RBC plant; however the RBC plant is more industrial looking than the proposed MBR facility would be.

The aesthetics of the new facility would take into account the context, scale and visual buffer of the site. The plant design will relate to the surrounding architectural history of the area, and will relate to the adjacent commercial buildings and the park. Buildings will be designed so that the scale of the buildings is compatible with the surrounding buildings and neighboring uses. Where possible, the buildings will be located around the perimeter of the site. This allows the building walls to become security elements, thus eliminating unsightly fences. Landscape plantings will provide a layered visual buffer from key vantage points.

The existing industrial looking RBC plant will be decommissioned and demolished, and any areas of the existing RBC plant that are not used for the new MBR facility will likely be converted to open space for public use. Therefore, views of and within Windjammer Park would not be significantly changed, though locations of wastewater facilities within the park may change. As described in question B.2. above, the new MBR facility will have much better odor control than the current RBC plant, and will meet or exceed the standard of care with regard to odor control.

**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. The treatment plant will be illuminated with only security lighting and would be similar to lighting at the existing RBC facility. The lighting will be aimed downward to reduce the potential for light or glare impacts on adjacent properties. Nighttime construction may be conducted on a limited or as-needed basis that may require lighting for limited amounts of time.

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

Light or glare would not be a safety hazard and would not interfere with views.

- 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.**

Lighting will be downward facing, with full cut-off shields to minimize light and glare impacts to adjoining properties. Surfaces at the plant will be non-glare surfaces to further reduce glare possibilities. Nighttime construction activities will be very limited, if needed at all. Any nighttime work would be scheduled in advance, and nearby residents would be notified of such work.

**12. Recreation**

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

The project site is within and in the vicinity of Windjammer Park. Windjammer Park, located on the Oak Harbor waterfront, is a popular 28.5 acre park that features a waterfront trail, multiple playgrounds, ball fields and courts, a boat launch, a recreational vehicle park, a swimming lagoon, restrooms, and two accessory buildings. The park is a heavily-used popular local amenity, also locally known as City Beach.

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

Construction activities and noise would temporarily disrupt recreational use of Windjammer Park. Portions of the park would be inaccessible during construction for up to 2 years. Depending upon final site location, the park would be permanently impacted as portions of the park would be turned over for development of the new facility. Following construction, the existing RBC facility located in the park would be decommissioned and demolished. Any portion of the existing RBC plant space not used for the new MBR treatment plant will be returned to public park space.

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

To the extent possible, construction activities will be timed to minimize the impact to park and waterfront users. Areas that are closed to construction would be clearly marked so that recreational users can avoid the area during the construction time frame. Following construction, the park area will be fully restored and returned for park use. Depending upon final site location, the City may undertake additional park improvements to mitigate permanent impacts to the park.

The existing RBC facility would be decommissioned and demolished. Any areas of the existing RBC plant that are not used for the new MBR facility would be converted to park space for public use within Windjammer Park. Close collaboration with the City Parks Department will occur to minimize the impacts to the park and provide the greatest long-term benefits and amenities for the park and its users.

### 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.**

Yes, 45-IS-298, a pre-contact shell midden archaeological site, is recorded within Windjammer Park. It is expected that disturbed or intact buried site deposits will be encountered during the construction of the new Wastewater Treatment Plant. We expect that the intact and disturbed deposits associated with 45-IS-298 will be determined eligible for the National Register of Historic Places.

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

The Windjammer Park vicinity has had numerous uses and filling and grading events over the last 140 years. It has had and continues to have natural and cultural process working on it continually. The properties in and adjacent to the present day Windjammer Park have high potential for buried cultural resources.

There are eleven previously recorded archaeological sites on file at the Department of Archaeology and Historic Preservation (DAHP)

within one mile of the project Area of Potential Effect (APE) including seven prehistoric sites, two historic sites, one site with both precontact and historic components, and one cemetery. Three of the prehistoric sites include burials. Many of the sites were first identified in the 1950s and the site boundaries have not been confirmed; this suggests that additional buried cultural materials could be present outside of the recorded boundaries. One of the sites consists of redeposited cultural deposits taken from one location to another.

Additionally, the project area is categorized as “very high risk” for buried cultural resources in the Washington State Archaeological Predictive Model.

There have been several previous cultural resources investigations in the project vicinity including two within Windjammer Park. There are multiple historic age above ground structures adjacent to Windjammer Park; once the project plans are developed it may be necessary to document those structures.

**Table 1: Recorded Archaeological Sites on file with DAHP.**

Number	Type	Distance from Site
45-IS-298	Pre Contact Lithic Material, Pre Contact Shell Midden	Within
45-IS-45	Pre Contact and Historic Components, Pre Contact Camp, Pre Contact Shell Midden, Pre Contact Burials	~0.1 mile
45-IS-300	Pre Contact Burial, Pre Contact Shell Midden, <b><u>Redeposited</u></b>	~0.2 mile
45-IS-46	Pre Contact Camp, Pre Contact Shell Midden	~0.3 mile
45-IS-100	Historic Residential Structures	~0.3 mile
45-IS-99	Historic Property	~0.5 mile
45-IS-296	Freund Cemetery	~0.5 mile
45-IS-204	Pre Contact Camp, Pre Contact Shell Midden	~0.7 mile
45-IS-79	Pre Contact Camp, Pre Contact Shell Midden	~0.8 mile
45-IS-80	Pre Contact Camp, Pre Contact Shell Midden	~0.8 mile
45-IS-82	Pre Contact Camp, Pre Contact Shell Midden, Pre Contact Burial	~1 mile

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

As the intact and disturbed deposits associated with 45-IS-298 are expected to be determined eligible for the National Register of Historic Places under Criterion D, work within the project area will need to be conducted under the terms of either:

1. An Archaeological Site Alteration and Excavation Permit (Permit) from the Washington State Department of Archaeology and Historic Preservation as per RCW 27.44 and RCW 27.53
2. Or, if the project involves federal funding or a federal permit: A Memorandum of Agreement (MOA) with the lead federal agency for the wastewater treatment plant project developing this agreement for signatories as defined by National Historic Preservation Act (NHPA) (16 U.S.C. 470f).

With either the Permit or the MOA a number of components will need to be included in this plan:

1. A mitigation plan would need to be developed with additional data provided after the final selection for the location of the Wastewater Treatment Plant is completed. The additional data will include the results of subsurface testing by both machine and hand excavations. This testing would be implemented to the depth and areal extent of the proposed development. The data will need to include the extent of both intact and disturbed archaeological deposits of both historic and/or pre contact components, in the footprint of the proposed development and the calculations of how much cultural material will be disturbed by the proposed development.

This mitigation plan would include all the components of the process up to and including data collection, analysis, reporting and curation.

2. A Monitoring Plan as part of the mitigation plan with a detailed contingency plan that would include the infield plan for every kind of cultural resource that can reasonably be expected to be encountered including both the pre contact and historic components. This is not a phone tree for an unanticipated discovery; this is detailed plan up to and including analysis and curation that should parallel the original mitigation plan and will deal with all resources encountered during the professional archaeological monitoring of the construction of the Wastewater Treatment Plant.

3. A Plan for the Treatment of Human Remains will need to be prepared to outline the procedures to be followed if human remains are identified during testing or construction.

Additional consideration will need to be given to the potential historic structures that may be affected by the proposed project implementation. When the final site has been chosen then any historic structures above or below ground will be identified and archaeological site inventory forms (relic features) or historic property inventory forms (intact structures) will be completed. The data from this inventory will be used in the Mitigation and Monitoring Plans.

Early consultation by the Lead Agency, with the Affected Tribes is recommended.

#### 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 project site is located along West Pioneer Way (to the north), SW Beeksma Drive (to the west) and SE City Beach Street (to the east) (Figures 2 and 3). Pioneer Way is Highway 20 to the west of the project site. At the intersection with Beeksma Drive, Highway 20 turns north. It is anticipated that construction vehicles would access the site via Highway 20 and Pioneer Way. Traffic could be periodically stopped along access roads to allow truck and trailer access to the construction site. This could result in temporary delays for general purpose traffic along the roadways. The facility will be located and designed to allow the future extension of Bayshore Drive according to current City plans.

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

Island Transit's Harbor Station Transfer Center is located adjacent to Windjammer Park on Bayshore Drive and is served by many bus routes. It is not likely that this bus station will be affected by construction or will need to be relocated.

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

Parking spaces at the completed project would be determined in site design. Some parking spaces associated with commercial

uses to the north of the project site may be eliminated. The exact number would be determined during final site design. It is not likely that this project would reduce the number of parking spaces available for park use.

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

A new access road will likely be required. This road will be constructed according to City standards, will likely be less than 1,000 linear feet, and will be constructed in a way to fit with potential future realignment of Bayshore Drive. More extensive improvements to Bayshore Drive, Beeksma, Pioneer Way, or City Beach Street are possible depending upon the final alternative location selected.

- 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.**

Construction of the treatment facility is anticipated to last approximately 2 years. During construction, additional truck traffic will be entering and exiting the construction site. The volume of trucks on any one day would depend upon the stage of construction. At peak times traffic may average 40 round trips per day. Worker trips would typically range from 10 to 30 round trips per day throughout the project, depending upon construction activities.

Minimal traffic per day, estimated between 6 and 9 round trips, will be generated by the operation of treatment facility. The number of trips would be slightly higher than the trips currently generated by the existing RBC facility.

Should additional community facilities be developed in association with the new treatment plant, additional traffic studies would be conducted to determine any traffic impacts to area roadways.

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

At least one lane of any affected roadways will be open to allow for emergency vehicles and local access during construction, and emergency services such as fire and police will be notified of any lane closures. Detour routes will be provided where possible, and routes will be clearly marked with signage. Local residents and businesses will be notified of lane closures as appropriate.

Operation of the project is not expected to noticeably affect area transportation.

Transportation impact fees will be paid for any new pm peak hour trips generated by the new facility.

**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.**

The project would not result in an increased need for public services. The project is designed to meet some of the public service needs associated with project population growth by providing increased capacity for wastewater treatment.

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

There would be no direct impacts on public services.

**16. Utilities**

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

Electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic systems, other

**b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

Construction and operation of the wastewater facility will require utilities including electricity, communications, and water. These services are available in the area. Wastewater service will remain

operational during construction of the new facility. Overall, the new facility will provide a more reliable wastewater treatment system that produces a higher quality of effluent.

**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: Lisa B. Adolfson, ESA

Name (print): Lisa B. Adolfson

Title: Senior Project Manager

Date Submitted: July 31, 2013

## REFERENCES

- Carollo and BHC Consultants. 2013. *City of Oak Harbor Wastewater Facility Plan*. March 2013.
- Environmental Science Associates (ESA). 2012. *Oak Harbor Wastewater Treatment Plant Site Selection – Wetland Reconnaissance of Freund Site and Windjammer Park*. Technical Memorandum. November 12, 2012.
- Environmental Science Associates (ESA). 2013. *Oak Harbor Wastewater Treatment Facilities Biological Assessment*. March 2013.
- ESA Paragon. 2013. Cultural Resources for City of Oak Harbor Wastewater Treatment Plan Memorandum. March 2013.
- Grette Associates. 2012. *Oak Harbor Facilities Plan Eelgrass and Macroalgae Survey*. October 11, 2012.
- ORCA Network, 2013. Website accessed 2013. <http://www.orcanetwork.org/>
- Washington Department of Health. 2009. Annual Report for the Saratoga Passage Growing Area.

## FIGURES

Figure 1: Project Vicinity Map

Figure 2: Vicinity Map

Figure 3: Conceptual Site Layout