

Town of Bucksport
Wastewater Treatment Process Upgrade

PROJECT DESCRIPTION

The proposed project consists of upgrade of the existing primary wastewater plant to a secondary wastewater treatment process. The project is required by the Maine Department of Environmental Protection (DEP) and U.S. Environmental Protection Agency (EPA). The plans have already been reviewed and approved by the DEP staff.

The project includes the following within the Town's existing 12 acre site:

- Renovation of the existing 4480 SF wastewater treatment building to change the treatment process within it.
- Demolition of the existing 20' x 26' pole barn/shed and 20' x 16' garage and construction of a new 30' x 30' maintenance garage.
- Construction of a 50' x 60' headworks building.
- Construction of two aerated basins.
- Construction of two clarifiers (settling tanks).
- Construction of a new chlorine/ultraviolet lighting disinfection chamber.
- Construction of a new 31' x 32' blower building and a sludge digester.
- Installation of a new standby generator (replaces existing).

The project is being funded by USDA Rural Development. To obtain the funding, the Town completed an environmental review and contacted agencies such as the State Historic Office, U.S. and Maine Wildlife agencies and other environmental review departments for input regarding the project. No concerns were raised.

The project has been designed by Olver Associates and we will be providing a representative during construction who can verify that the project is built per the approved plans and that erosion control is provided.

We offer specific information regarding the Town's review standards in the following pages.

REVIEW STANDARD INFORMATION

LEVEL 2 REVIEW

- 11.5 Enclosed please find the standard application form and site plans. We have provided three plans:
- The existing site plan
 - Proposed site plan
 - Proposed site plan with contour lines
- 11.5.1 The property is a 12 acre parcel owned by the Town of Bucksport. The site is currently occupied by the municipal wastewater treatment facility and the project is an upgrade of the facility as required by the Maine Department of Environmental Protection on the same site.
- 11.5.2-11.5.6 Please see enclosed site plans.
- 11.6 The project estimated cost is \$13,000,000. Bids from contractors are due 3-31-15 which will provide an actual construction cost. The fee would therefore be \$1,000 plus \$.0001 times \$12,000,000, or \$2,200.

REVIEW STANDARDS SUMMARY

- 12.2 SOILS – The site is currently being used as a wastewater treatment plant and will continue in this same use. A geotechnical study of the site has been completed by S. W. Cole Engineering and soils borings were collected and analyzed. The site is suitable for expanded use as a wastewater treatment facility. The recommendations of the geotechnical report have been incorporated into the project design.
- 12.3 STORMWATER - The project has been designed to properly manage stormwater. The pattern of surface flow on the site is from Route 1 southerly toward the Penobscot River and an existing stream that crosses the property flowing from the culverts under Route 1 toward the river.

The site grading plan includes ditches and catch basins on the upper side of the developed area (toward Route 1) to collect surface water and direct it toward the stream. A vegetated buffer will remain from the storm drain outlet and the stream.

The rest of the project area surface runoff will flow overland toward the south and west of the impervious area. Runoff will flow overland through at least 75 feet of vegetated buffer before reaching the stream and river.

There is approximately 16,000 SF of new impervious area, so there will be an increase in peak runoff rates and volumes. The discharge is to a stream and river on the Town's property, and then to the Penobscot River. The increased flow will not be noticeable.

12.4 SOIL EROSION & SEDIMENTATION

The Town will have full-time inspection from the engineering firm on site during construction. The contractor, who must have a person certified in erosion control on site, will be required to provide erosion control throughout the project. Given the length of undisturbed buffers, and these requirements, soil erosion will be controlled throughout the project.

12.5 SURFACE & SUBSURFACE WATERS

There are no discharges proposed on site which would impact surface or subsurface waters.

12.6 AIR ENVIRONMENT

There are no emissions proposed from the site. There is an emergency generator which will run intermittently to replace the existing plant generator. The emission standards have changed and are more strict, so the new generator will reduce emissions compared to the existing unit.

12.7 WILDLIFE HABITAT

The portions of the site where expansion is proposed is either lawn or a bushy wooded area next to the existing treatment plant. An environmental review was conducted and comments were solicited from U.S. Fish & Wildlife Service, Maine Department of Inland Fisheries & Wildlife, the Maine Natural Areas Program, and Maine Department of Marine Resources.

No concerns were raised. It was noted that there is a Significant Wildlife Habitat in the mudflats along the river's edge. The proposed setbacks for design were found to be acceptable to Maine IF & W. The project will not result in adverse impacts to wildlife.

12.8 CLEARING/REMOVAL OF VEGETATION

Clearing will be required in the area of treatment plant expansion, however significant buffers of undisturbed area will remain around the perimeter of the work area.

12.9 AREAS OF PREHISTORIC & HISTORICAL IMPORTANCE

There are no areas of significance on this property. The State Historic Preservation Office has reviewed the site and has no concerns. If excavation reveals unexpected historic artifacts, work will be halted until the finding is investigated.

12.10 AREAS OF SCENIC VALUE

There are no significant areas of scenic value on this site (it is an existing wastewater treatment plant).

12.11 AREAS OF SHORELINE ACCESS

There are no existing or proposed areas of shoreline access.

12.12 AREAS OF FLOOD HAZARD

The limits of the flood plain are shown on the plan. No work is proposed in that portion of the site.

12.13 AREAS OF UNIQUE NATURAL CHARACTER

There are no areas of unique character on the site.

12.14 DEVELOPMENT PATTERNS

The existing building exterior is receiving only cosmetic changes.

Most of the structures (chlorine contact tank, clarifiers, sludge digester, and aeration basins) are tanks, not buildings. The headworks building, garage, and blower building all have pitched roofs.

12.15 BUFFERS & SCREEINING

As noted above, the site design incorporates buffers toward the Penobscot River (south side of site) and generally buffers to the east and west sides of the site will remain the same. The plant is currently visible from Route 1, with some trees near the road providing screening. These trees will mostly remain as is, and the plant will continue to be visible. The elevation of the site, which drops significantly from the road, partially obscures site features.

12.16 ELECTROMAGNETIC FIELDS

The project will not generate or impact electromagnetic fields.

12.17 LIGHTING

There will be pole mounted lighting around some of the tanks being constructed. The style of fixtures orient the lighting down onto the areas where plant staff may access tanks or equipment at night. No adverse impacts from lighting on neighboring properties is anticipated. The closest structure to the west is about 300 feet from the edge of new work (Two Rivers Realty) and over 400 feet to the east (house), and the Spring Fountain Motel is about 350 feet away both in the present and proposed configurations.

12.18 NOISE

There should be no significant change in noise from present operations.

12.19 ODORS

There should be less odor on site in the future than at present due to the change in treatment process. Treatment plants are expressly exempt from the odor standard by Ordinance (12.19.4).

12.20 SOLAR GAIN

No solar impacts are expected due to the project.

12.21 SMOKE & DUST

The project will not generate smoke or dust.

12.21 VIBRATION

No vibrations will be generated by the project. There will be removal of bedrock during construction. The contractor will be required to comply with strict standards to prevent unwanted vibration. This should not cause problems to abutting properties.

12.23 DRINKING WATER

There will be no impact on drinking water systems as no groundwater discharges will be created from the project.

12.24 ENERGY SUPPLY SERVICES

The heating and ventilation systems were designed by a Professional Engineer licensed in the State of Maine. No adverse impacts of energy supply services will occur due to the project.

12.25 PUBLIC SAFETY SERVICES

The new construction will comply with applicable life safety and fire protection requirements. No increased demands on public safety will occur due to the project.

12.26 PUBLIC WASTEWATER

The project will improve Bucksport's public wastewater treatment system.

12.27 SOLID WASTES

The treatment plant will continue to generate sludge which will be trucked away to a licensed facility. During construction, the contractor will be responsible for removal and disposal of construction debris at a licensed waste disposal facility.

12.28 TRAFFIC, STREETS, & SIDEWALKS

There will be a temporary increase in access to the site during the approximately two year construction period. Long term, the plant will continue with the same staffing level and will not have an adverse impact on traffic, sidewalks, or streets.