
ENVIRONMENTAL ASSESSMENT REGISTRATION

STEPHENVILLE SEWAGE TREATMENT FACILITY

Submitted to:

**Department of Environment
Environmental Assessment Division**

May 2003

**Environmental Assessment Registration
Stephenville Sewage Treatment System**

ENVIRONMENTAL ASSESSMENT REGISTRATION

STEPHENVILLE SEWAGE TREATMENT FACILITY

Prepared for:

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Environmental Assessment Division
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May, 2003

**Environmental Assessment Registration
Stephenville Sewage Treatment System**

Project No.: 722023

Title: ENVIRONMENTAL ASSESSMENT REGISTRATION, STEPHENVILLE
SEWAGE TREATMENT FACILITY

Client: Town of Stephenville

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Rev.	Date yyyy/mm/dd	Page No.	Description	Prepared By	Reviewed By	Approved By

**Environmental Assessment Registration
Stephenville Sewage Treatment System**

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Appendix A – Drawings

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1.0 NAME OF THE UNDERTAKING

Stephenville Sewage Treatment Plant

2.0 PROPONENT

2.1 *Name of Corporate Body*

Town of Stephenville

2.2 *Address*

Town of Stephenville
P.O. Box 420
Stephenville, NL
A2N 2Z5

2.3 *Contact*

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3.0 THE UNDERTAKING

3.1 *Nature of the Undertaking*

It is proposed to develop a Sewage Treatment Plant in Stephenville, Newfoundland and Labrador. The development will consist of a sewage lift station, sewage treatment plant, chlorination chamber, de-chlorination chamber, outfall, as well as associated sewage mains. Access to the site will require construction of an access road. The access road will be constructed off of Massachusetts Drive. General location and a layout of the proposed sewage treatment plant is provided in the Appendix A, Figures 1 and 2.

3.2 *Need for the Undertaking*

Currently, untreated municipal wastewater from the Town of Stephenville is being discharged directly into the receiving environment through outfalls at two separate locations. These include St. George's Bay and Blanche Brook. Blanche Brook runs through the community and empties into St. George's Bay.

A study completed by BAE-Newplan Group (Sewage Treatment Study, Town of Stephenville, 2002) identified levels of coliform, Biochemical Oxygen Demand (BOD), and Total Suspended Solids (TSS) in excess of the *Control Water and Sewage Regulations* as well as the Department of Environment Guidelines for the Discharge of Municipal Wastewater. The following results were observed throughout the study:

- High concentrations of total and fecal coliform, exceeding the *Control Water and Sewage Regulations* as well as the *Guidelines for the Discharge of Municipal Wastewater* (shellfish and recreational water guidelines) were observed within 0.5 km radius of both existing outfalls. High concentrations of fecal coliform, exceeding the Guidelines for the Discharge of Municipal Wastewater (shellfish water guidelines) were observed within 1.0 km radius of the outfalls;
- High concentrations of total and fecal coliform, were detected upstream of the point where West Street outfall enters Blanche Brook. Flooding tidal current forces effluent to flow upstream, instead of flushing into the bay;
- BOD was detected in vicinity of Airport Outfall, exceeding the *Control Water and Sewage Regulations*;
- TSS was detected greater than the *Control Water and Sewage Regulations* within 0.5 km of the outfalls.

Based on the exceedances of the above referenced regulations and guidelines, the effluent has an adverse impact on the marine environment and its valuable resources, particularly near the existing outfalls, which are close to the shoreline, beaches, and homes. It also has an adverse effect on aquaculture, tourism, recreation, and human health.

4.0 DESCRIPTION OF THE UNDERTAKING

4.1 Geographic Location

The proposed development will be located in the Town of Stephenville, on the southwest coast of Newfoundland. The proposed sewage treatment facility will be located approximately 350 m northeast of the Stephenville Airport runway adjacent to Blanche Brook. See Appendix A, Figure 2 for the proposed location of the sewage treatment plant.

The outfall will proceed from the treatment plant in a south east direction and will deposit treated effluent into St. Georges Bay.

4.2 Existing Infrastructure

Currently, the Town of Stephenville has two sewage outfalls (See Appendix A, Figure 3). These include:

- Blanche Brook – Blanche Brook receives sanitary sewer from all areas of the Town of Stephenville west of Blanche Brook via a 750 mm diameter outfall. The area served by this outfall encompasses approximately two thirds of the Town of Stephenville.

Under normal river conditions the top of the pipe is not covered by the water surface. There is no treatment or disinfection prior to discharge of wastewater from the outfall and the effluent is not in compliance with the *Control Water and Sewage Regulations* or the Department of Environment Guidelines for the Discharge of Municipal Wastewater.

- Airport Outfall – The airport outfall receives wastewater through a series of three outfalls. One outfall is storm sewer and the remaining two outfalls (1200 mm and 900 mm) are combined storm water and sanitary sewage. The airport outfall receives sanitary sewer from all areas of the Town of Stephenville east of Blanche Brook. The outfalls were originally protected by a concrete headblock, however, the pipes have deteriorated since their original installation and the outfall now discharges into a small lagoon inland from the headblock. Under some tidal conditions the outfall is not covered by the ocean surface. There is no treatment or disinfection prior to discharge of wastewater from the outfall and the effluent is not in compliance with the *Control Water and Sewage Regulations* or the Department of Environment Guidelines for the Discharge of Municipal Wastewater.

4.3 Overview of the Proposed Sewage Treatment Process

The existing sewer mains at both the Blanche Brook outfall and the Airport outfalls will be intercepted and passed through the proposed sewer treatment system. The Blanche Brook outfall will be intercepted at the end of the outfall. The airport outfalls will be intercepted at the following locations:

- Combined 900 mm storm and sanitary sewer main – See Appendix A, Figure 3 for location where existing infrastructure will be intercepted using a cast in place manhole with an overflow wier. The interception pipe will be 375 mm pipe. This is sufficient diameter to allow for peak flow over 50 years during normal conditions. In the event of heavy storm activity the overflow wier will allow excess diluted sewage to bypass of the proposed sewage treatment system;
- 250 mm sanitary sewer main – Intercepted at MH 814 (See Figure 3).

The diverted sanitary sewer will proceed through a lift station. The lift station is required due to the differences in elevation of the sewer mains and the treatment plant. From the lift station the sewer will proceed through a sewage treatment plant, chlorination chamber, de-chlorination chamber, and will be discharged into the marine environment through an extended diffused outfall.

4.4 Major Physical Features of the Undertaking

The proposed development consists of an access road, sewage lift station, sewage treatment plant, chlorination chamber, de-chlorination chamber, diffused outfall, as well as associated sewer mains. General location and a layout of the proposed treatment system is provided in the Appendix A, Figures 2 and 3. Excluding the lift station and associated sewer mains and outfalls, the footprint of the proposed site will be approximately 95 m x 62 m (5890 m²). With the exception of asphalt surfaces, the site will be hydro seeded or

sodded and trees will be planted. Due to the required elevation of the Sewage Treatment Plant as well as the existing elevation being located within the flood zone of Blanche Brook, the site will be elevated by infilling. The final elevation of the site will range from 4.1 m (edge of site) to 6.5 m (elevation of floor of Sewage Treatment Plant). The current elevation of the site ranges from approximately 1.9 m – 3.5 m.

a) Access

Access to the site will require the construction of a new access road. The access road will run in a westerly direction off of Massachusetts Drive. The main access road will be approximately 115 m in length and 3.0 m wide. A parking lot (6 vehicles) will also be constructed. Minor access roads will be constructed off the main road to access the chlorine contact chamber as well as the de-chlorination chamber. All access roads will be paved with asphalt.

b) Utilities

1. Electrical: Three phase electrical power will be required to operate the sewage treatment plant, chlorination chamber and de-chlorination chamber. Newfoundland Power will be contracted to install the required electrical extension from the existing system located in the vicinity of Blanche Brook and Kin Court.
2. Sewer: Sewer from the facility will be directed to the Lift Station for mixing prior to going through the treatment process.
3. Water – Drinking water as well as water required for the operation of the facility will be supplied from the Town of Stephenville water supply.

c) Lift Station

Refer to concept plan for location of lift station. The size of the structure will be approximately 5.8 m x 5.5 m. The structure will consist of an underground concrete chamber (with access hatches) as well as three sewage lift pumps. These pumps will lift the sewer to a sufficient elevation where it will flow by gravity to the Sewage Treatment Plant.

The location of the lift station will be elevated from an existing grade of 2.2 m to a final elevation of 4.5 m. This is due to the lift station being located in the Blanche Brook flood plain.

d) Sewage Treatment Plant

A sewage treatment plant of approximately 28.9 m x 19.8 m will be constructed. Please refer to Appendix A, Figures 2 & 3 for location and Figure 4 for layout. The building will be constructed of a structural steel frame and a block finish. The treatment processes inside the sewage treatment plant include screening and a vortex separator (grit removal). The solid material produced from the screening and vortex separator will go through a dewatering press where it will be dewatered. The

dewatered solids will be stored in a bin inside the Sewage Treatment Plant building. Final disposal of the dewatered solids produced will be at the local landfill.

In the final stage within the Sewage Treatment Plant, the effluent will pass through a Parshall flume. This device measures the flow of the effluent and subsequently ensures that the correct amount of chlorine is released into the chlorine contact chamber.

Chlorine cylinders (4 – 1 Ton) and Sulfur Dioxide (8 – 68 kg) cylinders will be stored inside the Sewage Treatment Plant.

e) Chlorine Contact Chamber

To eliminate pathogens in the effluent, a chlorine contact chamber will be constructed as part of the undertaking. Please refer to Appendix A, Figures 2 & 3 for location and Figure 5 for layout. The size of the structure will be approximately 22.6 m x 13.6 m. The structure will consist of an underground concrete chamber (with access hatches) and an induction pump. Based on the flow recorded in the Parshall flume, the induction pump will take chlorine from the storage cylinders in the Sewage Treatment Plant building and pump it into the chlorine contact chamber. The contact time for the effluent in the chlorine chamber is a minimum of 20 minutes.

f) De-Chlorination Chamber

The permitted level for discharge into the marine environment is 1.0 mg/l. A sample of the chlorine level in the contact chamber will be taken part way through the chamber. The chlorine level will be analyzed and chlorine level adjusted to maintain a chlorine level at 1.0 mg/l exiting the contact chamber.

As an additional safety feature chlorine residuals will be reduced to 0.0 mg/l by injecting sulfur dioxide into the effluent in a de-chlorination chamber. Please refer to Appendix A, Figures 2 & 3 for location and Figure 6 for layout. The de-chlorination chamber will be approximately 5.9 m x 5.6 m. The structure will consist of an underground concrete chamber. (with access hatches) and an induction pump. The induction pump will take sulfur dioxide from the storage cylinders in the Sewage Treatment Plant building and pump it into the de-chlorination chamber. De-chlorination is an instantaneous process.

A concrete wier with a sluice gate will be present at the end of the de-chlorination chamber. The gate will open and close based upon the wastewater level in the chamber. When the gate is opened wastewater will flow to the outfall under the required head.

g) Outfall and Diffuser

With the exception of the final 80 m, the outfall will consist of 650 mm HDPE. The final 80 m of the outfall will consist of 450 mm HDPE (See Appendix A, Figure 2 & 7 for location and general direction of outfall and Figure 8 for a profile view of the

outfall). The outfall will be buried till a depth of 3 m through the water column is achieved (approximately 200 m from the shoreline). After 200 m the outfall will be laid along the sea bottom. The outfall will extend along the sea floor until a water depth of 10 m is achieved. Concrete weight blocks will be placed all along the length of the outfall once it enters the marine environment.

The final 80 m of the outfall will include five diffusers. One 90° bend diffuser at the end of the outfall as well as four – 45° bend diffusers at 20 m increments from the end of the outfall.

The outfall sections will be assembled onshore. Once constructed, the outfall will be pulled into position using a pulling barge. Once in position, the outfall will be filled with water and sunk in place. Erosion control measures will be initiated prior to any onshore work being completed.

g) Associated Sewer Mains

As discussed in a previous section PVC sewer mains will be constructed to intercept the sanitary sewage at both existing outfall locations and transport it to the lift station. Sewer will flow from these locations to the lift station by gravity. The sewer main from the Blanche Brook outfall will have a 750 mm diameter and the Airport sewer main will have a diameter of 375 mm. The associated sewer mains will be buried approximately 2.5 m – 3.5 m below surface.

The 750 mm sewer main from the Blanche Brook outfall will cross Blanche Brook, and will be buried approximately 1 m–1.5 m under Blanche Brook. In the area of Blanche Brook, the sewer main will encased in concrete.

h) Physical Features

The site is presently vacant and undeveloped. The eastern portion of the site, towards the airport perimeter access road, is primarily grass covered while the western portion of the site is a lower lying marshy area. The elevation of the grass covered area is approximately 1 m higher than the marshy area. Otherwise, the site is relatively level throughout the area.

The principal overburden materials beneath the organic soils consist of discontinuous layers of fill ranging from approximately 0.6 m to 3.1 m overlying native soils consisting of generally loose to dense brown sand with silt and gravel. Bedrock is sedimentary in origin and is indicated to occur at depth beyond what was investigated in the geotechnical survey.

i) Environmental Site Conditions

During a geotechnical investigation conducted by Newfoundland Geosciences Limited (March 2003) at the site of the proposed Sewage Treatment Plant, petroleum hydrocarbon contamination was detected at depth in five borehole locations (See Appendix A, Figure 9 and Appendix B, Table 1. Based on visual and olfactory

evidence samples from five boreholes were submitted for laboratory analysis. BTEX levels exceeded CCME criteria for residential/parkland sites at three locations, while it exceeded CCME criteria for commercial/industrial criteria at one location. Total petroleum hydrocarbons were detected at five sampling locations at levels which ranged from 110 mg/kg to 3,200 mg/kg. Total petroleum hydrocarbons exceeded the NDE criteria for sensitive sites (100 mg/kg) at all five sampling locations, while levels exceeded the NDE criteria for non-sensitive sites (1000 mg/kg) at two locations.

Prior to any work at the site proceeding, the extent of hydrocarbon contamination in the soil and groundwater will be ascertained. The Department of Environment as well as the Government Services Centre will be consulted with respect to whether the site will be classified as sensitive or non-sensitive and be reclamation to comply with the appropriate guidelines. The contaminated soil and potentially contaminated groundwater will be disposed as per regulatory requirements.

If the contaminated soil is stockpiled temporarily onsite it will be stored away from Blanche Brook and will be stockpiled on an impermeable surface.

j) Drainage and Stormwater Management

A catch basin will be constructed on the north western portion of the paved parking lot. The remaining stormwater will drain to the adjacent surrounding area.

4.5 CONSTRUCTION

4.5.1 Construction Period

It is expected that construction and commissioning of all facilities will take in the order of 14 months.

The proposed construction start date is July 2003 and is scheduled to be completed August 2004.

4.5.2 Construction Activities Affecting Physical Environment

Construction of the Sewage Treatment System for the Town of Stephenville will involve grubbing, excavation, infilling, trenching in freshwater and marine environments, linear developments, as well as placing an outfall in a marine environment. Realizing some impact is likely on certain areas, the proponent is committed to keeping those impacts to a minimum. During the construction and operation of the Sewage Treatment System all efforts will be made to preserve and conserve the natural environment. Vegetation will be maintained to provide natural buffer zones and any exposed slopes will be stabilized with grass or a tree cover.

Grubbing and Disposal of Related Debris

The principal concerns associated with grubbing are the potential effects of erosion on Marine and Freshwater ecosystems as well as water quality. All grubbing and disposal of

related debris near watercourses will adhere to relevant regulatory requirements, including permits from the Department of Environment and the formal “Letters of Advise” and Authorizations for Works and undertakings Affecting Fish Habitat from the Department of Fisheries and Oceans. Grubbing activities shall be minimized where possible and limits of stripping shall be placed on all drawings “Issued for Construction”.

Measures will be implemented to minimize and control runoff of sediment-laden water during grubbing, and the re-spreading of the grubbed material. Erosion control measures will be implemented in areas prone to soil loss.

Grubbed materials will be stockpiled for use in other areas of the project. Areas used for stockpiling will not be adjacent to any water bodies.

In-filling, Excavation, Embankments, and Grading

In-filling, excavation, embankment, and grading will only be completed upon completion of grubbing and stripping. Where engineering requirements do not require grubbing and stripping, filling shall occur without any disturbance to the vegetation mat or upper soil horizons. Excavation, embankment, and grading in the vicinity of a waterbody shall be done in a manner, which ensures that erosion, and sedimentation of watercourses and water bodies is minimized.

Crossing Blanche Brook

The environmental concerns associated with in-stream work include direct disturbances to or mortality of fish, loss of fish habitat resulting from sedimentation and removal of substrate and stream bank vegetation. The duration of instream activities will be minimized. All instream work will adhere to relevant regulatory requirements, including permits from the Department of Environment and the formal “Letters of Advise” and Authorizations for Works and undertakings Affecting Fish Habitat from the Department of Fisheries and Oceans. Erosion control measures will be initiated prior to any work being completed in the vicinity of Blanche Brook.

All instream work will be conducted in the dry by constructing coffer dams around the area to be excavated from stream flow. The cofferdam will consist of a double row of sandbags with plastic between the rows. Only clean, sediment free materials will be used as fill and all bags and materials will be removed after construction is completed. Any fish entrapped in the dry work area will be removed and relocated to an appropriate area of the stream. If pumping of water is required within the coffer dam the water will be treated by discharging to settling ponds, vegetated areas, or sediment traps prior to release to streams.

To maintain a fish passageway throughout the period of instream work, the stream will not be completely dammed. Construction of cofferdams will be completed in sections.

Areas along the shoreline of Blanche Brook that have been disturbed will be stabilized. Stabilization of the shoreline will occur as quickly as possible after the disturbance. Stabilization measures may include but not be limited to a combination of rip rap, gabion baskets, or geotextile membranes. Stabilization of the shoreline will consider the following:

- Shape streambanks so that the bank slope is stable and conforms to the existing topography;
- Streambank stabilization will not result in a decrease in the cross sectional width of the stream;
- Stabilization material will be placed outside the wetted perimeter of the stream, from the toe of the bank slope to the height on the streambed equal to the anticipated high water level;
- If required and in consultation with the appropriate government authorities, bank stabilization will be supplemented with the planting of vegetation.

The stream bottom will be rehabilitated to original conditions when construction is completed.

Placement of Cast in Place Concrete at Blanche Brook

Where cast-in-place concrete is required, all fresh concrete will be kept from coming in contact with the watercourse until adequate curing is achieved. The formwork will be constructed with tight joints to prevent leakage and all necessary precautions will be taken to prevent spillage of concrete in or near a body of water. Tools and equipment which have been used for working fresh concrete will not be washed in any body of water or stream.

Work in and Around Marine Environment

The environmental concerns associated with work in and around marine environments include direct disturbances to or mortality of fish, loss of fish habitat resulting from sedimentation and removal of substrate. The duration of these activities will be minimized. All work in and around the marine environment will adhere to relevant regulatory requirements, including permits from the Department of Environment and the formal "Letters of Advise" and Authorizations for Works and undertakings Affecting Fish Habitat from the Department of Fisheries and Oceans. On shore erosion control measures will be initiated prior to any work being completed in the vicinity of Blanche Brook.

The substrate in the marine environment in the area of the outfall consist primarily of sand and gravel. Turbidity issues associated with this type of substrate is not severe, however the proponent will ensure that turbidity barriers placed around the work area.

At the completion of trenching activities, the ocean floor in the area of trenching will be restored to the original conditions.

Dewatering – Work Areas

Water pumped from excavations or work areas will have silt removed by settling ponds, filtration, or other suitable treatment before discharging to a body of water. Where possible, water will be discharged to vegetated areas to further reduce any potential effects of the watercourse.

4.5.3 Potential Source of Pollutants During Construction

The potential sources of pollutants are generally those associated with sewage treatment facility construction. Adherence to permit conditions and application of sound construction practices will protect against the release of pollutants into the surrounding environment.

Strict monitoring and sound construction practices will control activities to minimize risks associated with:

- Silt and sediment;
- Dust;
- Construction debris,
- Sewage;
- Risk of fuel, lubricant and hydraulic fluid release;
- Airborne emissions from construction equipment;
- Noise pollution from construction activities.

4.5.4 Mitigation Measures

Mitigation measures to reduce the environmental concerns associated with construction activities include:

- Silt laden runoff from construction areas will not be permitted to discharge directly into any body of water or water course. Runoff will be diverted to settling basins to ensure silt is settled out prior to release into the water. Silt fence construction of filter fabric will be used where necessary to preclude release of construction water directly into any body of water. The measures will include natural vegetation buffer, stone rip rap, wire mesh, settling ponds, and drainage channels.
- Efforts will be made to minimize dust generation during the construction phase of the project. Dust from construction activities will be controlled using the frequent application of water. Any application of calcium chloride will be in accordance with applicable guidelines from the Department of Works, Services, and Transportation.
- Solid waste disposal practices will be in compliance with the *Environmental Protection Act* and associated regulations. Construction debris will not be permitted to be disposed of on site. It will be contained on site in steel boxes for disposal at a municipal solid waste disposal facility.
- The sewage generated during the construction phase will be collected using portable toilets, which will be cleaned out by a licensed operator on a regular basis. This practice will control any release of fecal matter into the local ecosystem.
- All fuel handling and storage will be in compliance with *The Storage and Handling of Gasoline and Associated Products Regulations*. Also, to minimize the risk of fuel, lubricant or hydrocarbon release, construction equipment will not be permitted to be

re-fueled within 100 m of any water body. If it is necessary for fuel storage then it will be stored only in approved containers with all necessary permits in place.

- Equipment exhaust systems will be maintained to provide emissions to the standard designed for by the equipment manufacturer.
- Exhaust systems will be maintained to ensure noise levels are within the design specifications of the machinery.

4.5.5 Potential Resource Conflicts

Fish and Fish Habitat

Construction activities will be conducted in such a manner to prevent the release of sediment or other deleterious materials into water bodies. These measures are discussed in previous sections.

The duration of construction activities in the marine environment as well as Blanche Brook will be limited in duration to what is necessary. A fish passageway will be maintained in Blanche Brook throughout construction activities. The disturbed stream bottom as well as the marine floor will be rehabilitated to original conditions.

Wildlife

The location of the proposed sewage treatment plant is directly adjacent to the Stephenville Airport within the Town of Stephenville. Wildlife is not suspected to be in this area. Therefore, no wildlife conflicts are expected.

Forestry

The project area consist of a grass cover, with no forested areas. Therefore, forestry conflicts will not be encountered.

Construction Equipment

During construction operations, equipment will not be permitted to operate outside the construction zone in order to prevent damaging adjacent areas.

Human Activities

Construction of the outfall in the marine environment may have limited interference with placement of fishing gear in the vicinity of construction as well as the normal passage of marine vessels in the area. This will be limited due to the small area of construction as well as the limited time frame required to place the outfall in the marine environment.

During construction of the project there will be extra demands placed on the services provided in the local area. The projected work force will not negatively impact these resources but will provide positive economic benefits.

4.6 Operation

The Stephenville Sewage Treatment Plant will operate year round.

4.6.1 Potential Sources of Pollutants During Operation

- Solid Waste;
- Treated Effluent;
- Dewatered Solids;
- Odours;
- Sewage
- Noise Pollution; and
- Storage and Handling of Chlorine and Sulfur Dioxide.

4.6.2 Mitigation Measures During Operation

Mitigation measures to reduce the environmental concerns associated with operation activities include:

- Solid waste generated at the site will be collected on a regular basis by the “Town of Stephenville”.
- Dewatered solids will be disposed as per the *Environmental Protection Act* and associated regulations and approvals. A request to dispose of the dewatered solids in the local landfill will be submitted to the Department of Environment.
- Sewage produced at the treatment plant will be fed back to the lift station and put through the Sewage Treatment System;
- The transport of hazardous materials (chlorine and sulfur dioxide) will be undertaken in compliance with the *Transportation of Dangerous Goods Act*. All persons handling dangerous goods will have training as required under government regulations. Storage of the cylinders will be inside the Sewage Treatment Plant Building in a dedicated area.
- During operation of the facility, treated sewage effluent will be disposed in the marine environment. However, the effluent parameters will meet the Department of Environment Guidelines for the Discharge of Municipal Wastewater
- Limited noise pollution will be generated during the operation of the sewage treatment plant, therefore noise pollution is not considered a concern.
- Odours produced within the treatment plant will be contained to the treatment plant building. Therefore, odour production is not considered a concern.

4.6.3 POTENTIAL CAUSES OF RESOURCE CONFLICTS

Procedures will be established and monitored to minimize the following potential resource conflicts.

Fish & Fish Habitat

The outfall will be buried in the nearshore area to prevent changes in the tidal action as well as disturbance to fish migration patterns.

Treated sewage effluent will be discharged into the marine environment. This is not expected to cause any direct resource conflicts since the treated effluent will meet or exceed the *Department of Environment Guidelines for the Discharge of Municipal Wastewater*.

Wildlife

Operation of the sewage treatment plant are not expected to cause any direct wildlife conflict.

Forestry

Operation of the sewage treatment plant is not expected to cause resource conflicts with forest resources.

Adjacent Areas

The Stephenville Airport is located adjacent to the proposed facility. Operation of the sewage treatment facility is not expected to cause resource conflicts with adjacent areas.

Human Activities

Limited human activity will occur during operation of the sewage treatment facility as a result of the system is being primarily automated. Therefore, operation of the sewage treatment facility is not expected to cause conflicts with other human activities.

5.0 OCCUPATIONS

5.1 Construction Phase

It is expected there will be approximately twenty seven people employed during the construction phase of the project.

National Occupational Classification*	Positions # Anticipated	Description
0711	1	Construction Manager
7611	6	Labourers
2154	1	Land Surveyors
7252	4	Steamfitters, Pipefitters and Sprinkler System Installers
7217	1	Contractors and Supervisors, Heavy Equipment Construction Crews

National Occupational Classification*	Positions # Anticipated	Description
7219	1	Contractors and Supervisors, Other Construction Trades, Installers, Repairers, and Servicers
2264	1	Inspector
7241	2	Electricians
7421	3	Heavy Equipment Operators
7271	2	Carpenters
7263	3	Structural Metal and Platework Fabricators and Fitters
7281	2	Bricklayers

* National Occupational Classification has replaced the Canadian Classification and Dictionary of Occupations (CCDO).

5.2 Operational Phase

It is expected that approximately 1 person will be employed half time during the operation phase of the development.

National Occupational Classification*	Number	Description
0912	1	Utilities Manager

* National Occupational Classification has replaced the Canadian Classification and Dictionary of Occupations (CCDO).

6.0 APPROVAL REQUIRED FOR THE UNDERTAKING

The permits, approvals and authorizations which may be necessary for the undertaking include:

PERMIT, APPROVAL OR AUTHORIZATION	ISSUING AGENCY
• Approval for the Undertaking	Minister of Environment
• Water Course Alterations, Certificate of Environmental Approval to Alter a Body of Water • Application for Water Use Authorization • Water Course Crossings, Certificate of Environmental Approval • Construction (Site Drainage) Certificate of a Approval • Certificate of Approval – Sewage Treatment Plant • Certificate of Approval – Water and Sewer Distribution System.	Water Resources Division, Department of Environment and Labour

PERMIT, APPROVAL OR AUTHORIZATION	ISSUING AGENCY
<ul style="list-style-type: none">• Approval under the National Building Code of Canada• Approval under the National Fire Code of Canada• Certificate of Approval for any Water Supply >4,500 L/day	Engineering Services, Department of Government Services and Land
<ul style="list-style-type: none">• Building Accessibility Design Registration• Fuel Storage and Handling-Temporary Storage• Food Establishment License• Approval to dispose solids in local landfill.	Operations Division, Department of Government Services and Lands
<ul style="list-style-type: none">• Crown Lands Applications/Licenses• Develop Land – Protected Road zoning and Development Control Regulations – Preliminary Application to Develop Land• Electrical Permit	Customer Services, Department of Government Services and Lands
<ul style="list-style-type: none">• Authorization for Works or Undertakings Affecting Fish Habitat• Navigable Waters Protection Act Letter of Assessment• Letter of Advise	Fisheries and Oceans Canada

7.0 PROJECT RELATED DOCUMENTS

Geotechnical Investigation, Proposed Sewage Treatment Plant, Stephenville, NL, Newfoundland Geosciences Limited, 2003.

Sewage Treatment Study, Town of Stephenville, BAE-Newplan Group, 2002

Town of Stephenville Waste Water Outfalls, Proctor & Redfern Limited, 1986.

8.0 SCHEDULE FOR RELEASE FROM ENVIRONMENTAL ASSESSMENT

Construction of this project is scheduled to begin in July 2003 with an operations date of August 2004. In order to meet this proposed scheduling, the requirement of the Environmental Assessment Act must be completed as soon as possible.

9.0 FUNDING

Financing of the project will be from the Canada-Newfoundland Infrastructure Program.



May 9, 2003

Wayne Manuel, P. Eng.,
BAE-Newplan Group Ltd.

Date