

6 REGULATORY AND ENVIRONMENTAL ISSUES

A complete assessment of the environmental implications and requirements of a fixed link project would be undertaken as the project moves forward through its various stages. As the feasibility of the project is firmed up and at an appropriate time, formal documentation would be submitted by the project proponent to fulfill regulatory requirements. The outcome of this submission would determine the degree of environmental investigation and studies required for the project. The project would require federal and provincial approvals under the Canadian Environmental Assessment Act and the Newfoundland Environmental Act. Current practice does allow screening and registration under one jurisdiction with both levels of government acting as regulatory agencies jointly. A detailed list of the applicable legislation, standards and permits that would have to be obtained is included at the end of this discussion.

The documentation to be submitted would likely be substantial and in component parts to address the potential areas of interest and mitigation measures. The time frame for the overall process could be several years; for the purposes of developing preliminary schedules in this report, three years were assumed.

As part of the determination of final feasibility, a drilling program would be required to obtain better information on the geology of the bedrock that would be tunneled. Environmental approval would be required for this feasibility level activity before such a program could be carried out. A formal application process would be followed which would identify the various processes to be undertaken; regulators would then determine the degree of environmental assessment required before the drilling could proceed. Such an assessment may pertain to potential effects of the drilling on marine life, fishing activity and marine traffic.

At the current pre-feasibility level of study, some comments may be made on the potential environmental implications of constructing a tunnel under the Strait.

First of all, by building a tunnel, the effect on the environment, in particular the physical environment of the Strait, is minimized. There is no concern, obviously, for the potential large scale oceanographic and climatic effects that might be wrought by a surface crossing such as a causeway and bridge. In the location of the Strait itself, there would be no or very little effect from the actual tunneling process or from the traffic once the tunnel is completed. There may be some concern for the effect of noise on marine life during construction; there should be sufficient information from other marine tunneling projects to address any such concern. An occupational health and safety concern relates to the potential effects of the construction on the workers. Emissions from the mucking system operation would have to be controlled within certain limits for this purpose.

The principal concern with respect to the tunnel itself is likely the disposal of the excavated material. This would have to be transported to suitable disposal sites on both sides of the Strait if the tunnel is advanced from both ends. The volume of material on each side would be approximately 730,000 m³. This is sufficient to cover an area of 7.3 hectares at a depth of 10 m. Material would have to be transported and disposed of in an environmentally acceptable manner at approved disposal sites. Consideration may have to be given to the sea water that would drain from the material over time. It is possible that some of the material could be used for road construction and general fill purposes in the approaches and terminus areas.

The other components of the project relate to the work required on both sides of the Strait to prepare the approaches and the facilities in the terminus areas. The construction associated with these activities is common to most road and buildings projects. Attention must be paid to the crossing of any stream with both

appropriate design to accommodate fish flows and the implementation of procedures to prevent deleterious runoff during construction, the appropriate containment of fuels, and the transport and disposal of surface vegetation and any unsuitable excavated subsurface material. As far as is known, there are no rare species of plant or animal life or archaeological relics in the study areas, the general surrounding areas have been inhabited for a long time, and thus, there is not expected to be any unusual environmental effect resulting from such construction and operational activities in the study area.

Overall, while the project would be a major undertaking over a long construction period, its nature is such that there would not likely be major environmental concerns that are outside the realm of a more typical heavy construction and earth moving project.

6.1 List of Applicable Legislation, Standards, and Permits

Federal

Legislation

- ♦ The Canadian Environmental Assessment Act
- ♦ The Canadian Environmental Protection Act
- ♦ Fisheries Act
- ♦ The Navigable Waters Protection Act
- ♦ Fish Habitat, Authorization for Works or Undertakings Affecting Fish Habitat (HADD)
- ♦ Application for Construction within Navigable Waters
- ♦ Canada Labour Code
- ♦ Permit for Construction within Navigable Waters

Standards

- ♦ National Building Code of Canada (NBC)
- ♦ National Master Specification (NMS)
- ♦ International Organization for Standardization (ISO) Standard 9001 – Quality Systems
- ♦ Fire Commissioner of Canada Standards
- ♦ Applicable CAN/CSA standards
- ♦ NFC – National Fire Code
- ♦ National Plumbing Code
- ♦ Canadian Electrical Code
- ♦ National Energy Code of Canada
- ♦ Local Municipal Service Standards
- ♦ RTAC Road Design Manual

Provincial

Legislation

- ♦ Environmental Protection Act
- ♦ Water Resources Act
- ♦ Accessibility Act and Regulations
- ♦ Historic Resources Act
- ♦ Occupational Health and Safety Act
- ♦ Crown Lands Act
- ♦ Well Drilling Act
- ♦ Lands Act
- ♦ Forestry Act
- ♦ Wildlife Act
- ♦ Waste Material Disposal Act
- ♦ Quarry Materials Act
- ♦ Mineral Resources Act
- ♦ Environmental Assessment Regulations
- ♦ (GAP) Regulations – A Certificate of Approval is required for the storage and handling of gasoline and associated products (underground or above ground)
- ♦ Provincial Accessibility Act and Regulations
- ♦ Provincial Occupational Health and Welfare Regulations
- ♦ Historic Resources Assessment Permit

Permits

- ♦ Crown Lands – Application for Grant Pursuant to Lease/Permit to Occupy Crown Land
- ♦ Application to Construct Extension or Accessory Buildings alongside all Protected Roads or Development Control Areas in the Province
- ♦ Temporary Storage Remote Locations
- ♦ Sewage Treatment System Commercial – Certificate of Approval for systems
- ♦ Archaeological Research Permit – Archaeological investigations on land or under water
- ♦ Construction (Site Drainage) Certificate of Approval
- ♦ Culvert Installation, Certificate of Approval
- ♦ Well Drilling
- ♦ Water and Sewer Works for private and municipal, Certificate of Environmental Approval
- ♦ Water Course Alterations, Certificate of Environmental Approval to Alter a Body of Water
- ♦ Water Course Crossings, Certificate of Environmental Approval
- ♦ General Application for Water Use Authorization – for all beneficial uses of water from any source
- ♦ Quarry Development Permit – Exploration Permit for Geotechnical Drilling
- ♦ Provincial Land Development Approval
- ♦ Provincial approval for watercourse crossings
- ♦ Provincial approval for general construction practices
- ♦ Provincial Fuel Storage Tank Approval

- ♦ Environmental Approval for culvert installation
- ♦ Certificate of Environmental Approval for any alteration to a body of water

Municipal

- ♦ Approval to Develop Land
- ♦ Permit to Construct from local municipal jurisdiction
- ♦ Land Use Development Regulations
- ♦ Building Permits
- ♦ Protected Roads and Development Control Regulations