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1.0 INTRODUCTION

This report is submitted to initiate the Environmental Assessment process for the Department of Transportation and Public Works' (TPW) proposed Highway 101 - Digby to Weymouth North project. The project is to construct the last uncompleted portion of Highway 101, a major arterial roadway between Exit 26 in Digby and Exit 27 in Weymouth North, as indicated on Figure 1 and described in more detail in Section 3.1. A larger scale map is also provided in Appendix C. The roadway is planned to be a four lane divided, 27.6 metre wide median highway, with access permitted only at interchanges. It is intended to divert through traffic from the uncontrolled and moderately developed portion of Trunk 1 currently used. The project is approximately 26 kilometres long and is anticipated to be initially constructed as a two lane facility.

A functional analysis, preliminary environmental screening and public consultation have been conducted as part of the planning for the proposed roadway. A preliminary environmental screening was conducted by consulting with various agencies and interest groups. Minimal field work was conducted. A summary of the results is included in this report.

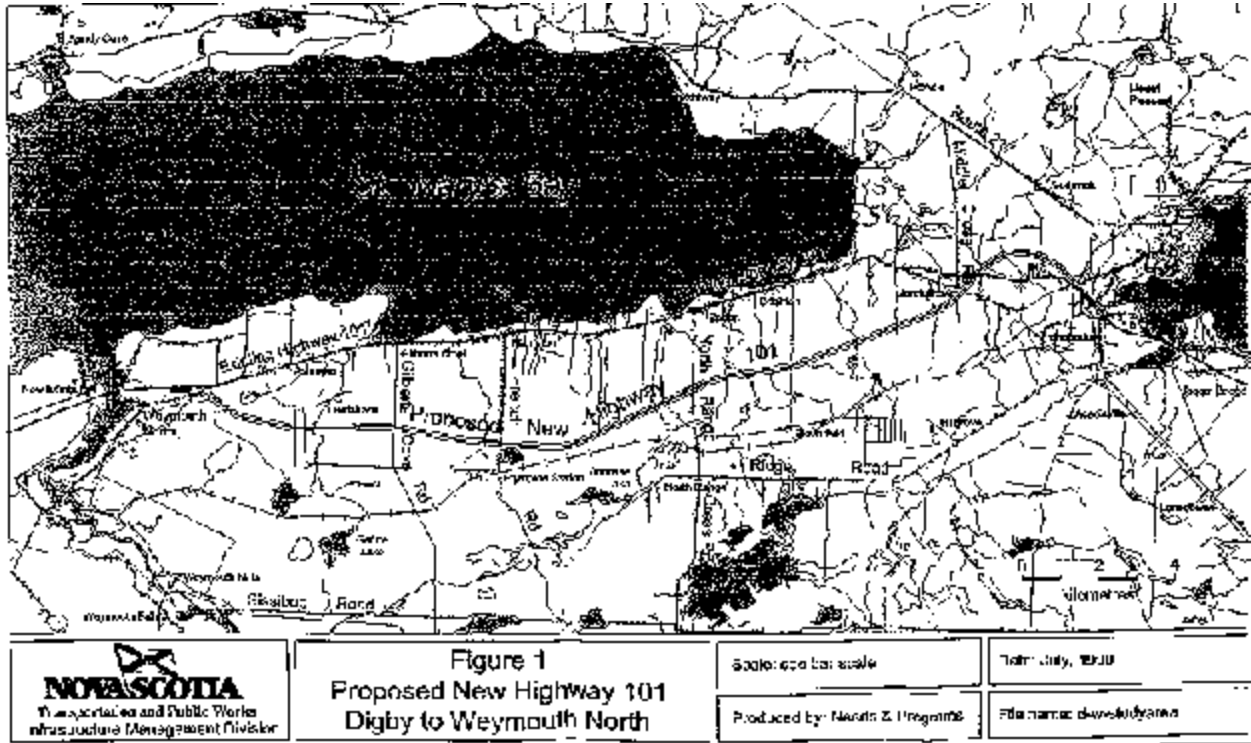
The project is part of the National Highway System, and therefore is eligible to be cost shared by the Federal and Provincial governments. As such, CEAA approval will be required. This project also requires approval as a Class II undertaking under the Nova Scotia Environment Act (NSEA) as it is designed for four lanes, and is over 10 kilometres in length.

2.0 PROPONENT INFORMATION

Name of Proponent: Nova Scotia Department of Transportation and Public Works
Postal Address: P.O. Box 186, Halifax, Nova Scotia, B3J 2N2
Street (courier) Address: 1969 Upper Water Street
Telephone No.: (902) 424-2297

| Deputy Minister | Contact Person for Environmental Assessment |
|------------------------------------|---------------------------------------------|
| Name: Howard C. Windsor | Name: Elizabeth Pugh, P.Eng |
| Official Title: Deputy Minister | Official Title: Environmental Engineer |
| Address: as above | Address: as above |
| Tel. No.: 424-4036 | Tel. No.: 424-6418 |
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| E-mail Address: windsoho@gov.ns.ca | E-mail Address: pughel@gov.ns.ca |

Figure 1 - Proposed new highway



3.0 PROJECT DESCRIPTION

3.1 Location

The proposed Highway 101 - Digby to Weymouth North is located in Digby County between the Trunk 1 exit in Weymouth (Exit 27), and the existing Digby interchange (Exit 26). Figure 1 shows the proposed alignment on a 1:50,000 map base. Appendix C shows the alignment on the 1:5,000 map base.

3.2 Description

A full diamond interchange is proposed at the current Highway 101 and Trunk 1 intersection, and Brooks Road will be realigned. An overpass tunnel is proposed at the Gilbert's Cove Road and French Road crossings. A full diamond interchange is proposed at North Range Cross Road. An overpass tunnel is proposed at the Bloomfield Cross Road crossing. Marshalltown Road will be severed (adequate access will remain from other local roads in the area). An underpass structure will be constructed at the existing Highway 101 crossing. The new highway will merge into the existing highway network at the Digby interchange. Slight realignment of the west side ramps, and realignment of the existing highway to Beechwood Lane (the original Trunk 1 highway) and Acacia Valley Road with a new intersection at Route 303 are proposed.

3.3 Alternatives to the Undertaking

In this scenario, traffic volumes will continue to increase over time. The problem of mixed local and through traffic will remain unaddressed. Frustration and fear of the residents living along the existing highway will also increase. This 100 series highway will continue to function at a Trunk highway standard. This is an unacceptable scenario.

This section of proposed highway will eliminate the only remaining uncontrolled access portion of Highway 101. No other modes of transportation exist that can fulfill this task.

Upgrading of the existing highway along this section to a 100 series fully controlled access standard is not possible due to the amount of adjacent development. Also, the design criteria of the existing road cannot be modified to meet the minimum required standards of the proposed highway.

3.4 Other Methods of Carrying Out the Undertaking

Several alignment options were explored during the functional design phase prior to the determination of the final alignment proposed at the October 1999 Open House. Alignment iterations attempted to minimize impacts on identified environmental issues, residential development and property configurations, while maintaining a high quality design.

The alignment presented at the Open House (see Appendix B - Open House Report) planned the new highway to cross the existing highway near South Marsh Road, extending along the north of the existing highway to the Digby interchange. **Several residents and Department field staff expressed concern over the location of the highway from Digby to South Marsh Road. This area has recently experienced heavy flooding and the ground in this area does not drain well. This concern was not expressed at the 1992 Open House, nor during the preliminary environmental screening.** Further investigation, including additional public consultation (see Addendum 1 of the Open House Report), deemed the alignment proposed herein as the preferred option.

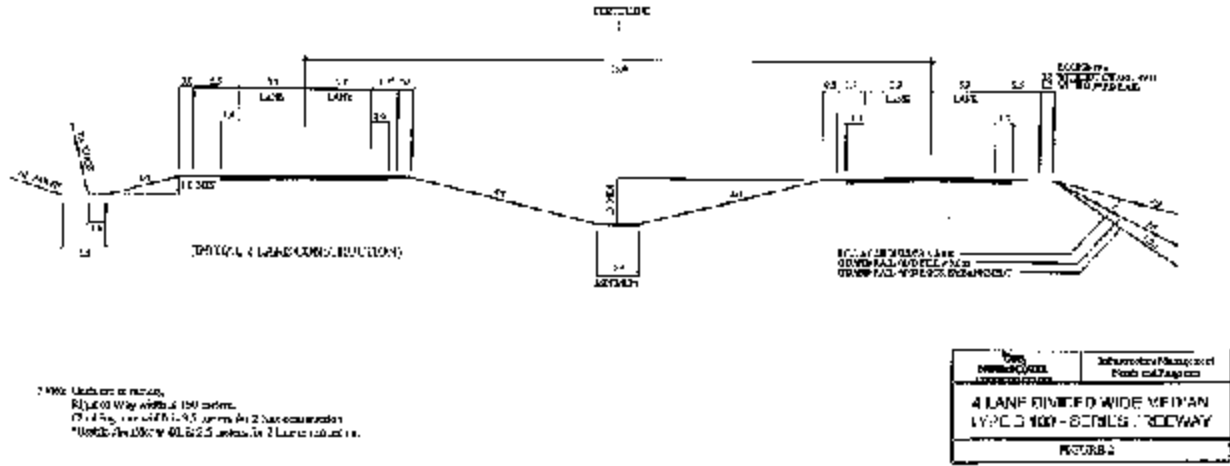
The minimum design standard for the median width of a divided highway with a jersey barrier is 5.6 metres. The jersey barrier design is normally used where right of way is restricted, typically in urban or highly developed areas. Jersey barriers make snow and ice removal more difficult, and act as snow fences (creating drifting and white out conditions). They also make it very difficult for wildlife to cross the highway.

These maintenance and safety implications with jersey barrier highways, along with the cross section design inconsistency, make this a non-option.

3.5 Preliminary Design

The functional design was based on a fully controlled access, four lane divided, 27.6 metre wide median facility with a design speed of 120 km/hr. The proposed right of way width of 150 metres will allow for proper slope design in areas of deep cuts and fills, and provide an increase in the buffer between the highway and adjacent properties. The proposed roadway centreline spacing of 35 metres will allow for better median slope and ditch design, as well as greater independence in the vertical design of the eastbound and westbound lanes (see Figure 2 for the current cross section of the proposed highway), compared to the traditional 30 metre standard. In spite of this wider median, culverts will be continuous between both eastbound and westbound lanes. It is important to note that although this highway is being planned and the corridor preserved for a four lane divided wide median facility, only a two lane highway will undoubtedly

FIGURE 2 - Typical Cross Section



be constructed initially, with twinning occurring in the future as warranted by traffic volumes. The estimated cost of construction for the 26 kilometre section of new 2 lane highway is \$35 million. Property acquisition costs are estimated at an additional \$3 million.

Several elements played a constant role in the development of the proposed alignment. All constraints identified in the preliminary environmental screening contribute varying levels of significance. The six primary constraints of concern identified are mineralized slates, wetlands, significant fish habitat, agriculture, old growth hardwood stands, and old burial grounds.

Topology influences the location of the alignment. The design grades throughout the project are relatively flat, typically ranging from 0.5% to 3.5%. Only a few locations exist where grades exceed 3.5%, and in one section reach 6.0%.

Aerial photography used for the creation of the 1:5,000 digital mapping was flown in 1995. This relatively new mapping therefore provides reliable topologic and rural development data during functional design.

Public input from the 1992 Open House provides many valuable suggestions to consider. Briefly, they included maximizing the distance from residential development such as that along the existing highway, minimizing property severing or subdividing and planning for an interchange half way between Digby and Weymouth North.

Field investigations were also important for verifying this data, and providing insight into recent changes in the environment such as new development.

3.6 Public Consultation

A Public Consultation Open House was conducted on March 2, 1992. A series of broad alignment corridors were presented based on in house constraint identification. The amount of truck traffic along the existing highway was the main concern expressed by the majority of attendees.

The results of the recent functional design were presented at a second Open House on October 7, 1999. The overall perception of the support for the project was very positive. The reduction of traffic (again truck traffic in particular) and increase in safety were the primary benefits recognized by the public. A summary of this Open House is contained in Appendix B.

3.7 Schedule

Planning work required prior to construction include completion of the Provincial and Federal environmental screening/assessments, detailed field survey and geometric design, and acquisition of the required right of way. This is estimated to take a minimum of three to five years to complete. Construction thereafter will depend on the prioritization of this project with other Provincial highway

construction projects, and the availability of funding

The proposed alignment is expected to be maintained and to remain in operation indefinitely.

In terms of phasing of construction throughout the construction season, TPW will undergo clearing operations in winter as frozen ground provides the necessary bearing capacity for heavy machinery, protecting the underlying vegetative mat. All necessary environmental controls will be in place prior to grubbing. Any in stream work will be carried out between June 30 and September 30, as per Nova Scotia Water Approvals.

4.0 EXISTING ENVIRONMENT

A preliminary environmental screening was conducted in the fall of 1994. Most of the screening was complete at the time, but some constraints required additional information from data sources and were updated within the last two years. This process involved the investigation of 63 potential constraints to highway construction, operation, and maintenance within the defined study area. Minimal field work was conducted.

This screening data is intended to assist in the functional design phase of the corridor preservation process. By identifying most environmental, social, and economic constraints in the study area at the beginning of the process, the chances of repeating a portion of planning work following environmental assessment is greatly reduced. A summary of results of the preliminary environmental screening is provided in Appendix A.

4.1 Biophysical Environment

The following is a summary of the biophysical constraints identified in the preliminary environmental screening. A reference map with the proposed alignment stationed in meters can be found in Appendix C.

The majority of the project is underlain by the Goldenville Formation. The Halifax Formation underlies a portion of the eastern section of the project area and borders the Goldenville Formation from Marshalltown to Digby. The slates of the Halifax Formation have acid generating potential in the Goldenville contact area.

There are no economic mineral occurrences and no current mineral staking in the project area.

The soils of the project area vary from generally siltier tills and soils in the eastern portion to predominantly sandier tills and soils in the western portion. This transition occurs in the vicinity of Sta. 15+500 of the proposed alignment.

Twelve wetlands were identified within the study area. Five of these wetlands were identified as potential important habitats (Golet score greater than 60), being significant to a variety of flora and fauna.

The proposed alignment crosses over 200 properties, some of which are managed woodlots.

The Museum of Natural History has indicated the possibility of the presence of rare plants within the study area. Particular locations were not identified. The Atlantic Canada Conservation Data Centre also identified several rare plant species potentially within the study area: *Utricularia resupinata*, *Oenothera fruticosa*, *Oenothera fruticosa* ssp. *glauca*, and *Trillium erectum*.

Suspected old growth hardwood stands were identified in three locations.

Preliminary investigations show that significant fish habitat is present in seven of the watercourses crossed by the proposed alignment.

One lake is adjacent to the proposed alignment. There are no rivers crossed by the alignment.

4.2 Socioeconomic Environment

The following is a summary of the socioeconomic constraints identified in the preliminary environmental screening.

With the majority of proposed highways, some residential disruption is unavoidable, as it is with this project. Residential development exists at many of the proposed road crossings. The proposed alignment minimizes disruption to residences.

Existing land is mainly privately owned, undeveloped woodland with some managed woodland. There are no intensive forest management areas in the project area.

There are mink and fox farming operations in the area.

Several plots of agricultural lands were identified in the study area.

Several pits were identified from the 1:5,000 mapping within the study area.

There are no known navigable waters within the study area. An official request has been sent to the Canadian Coast Guard for identification of watercourses which may require a permit under NWPA.

Sport Nova Scotia have indicated their intentions to designate the old railway right of way as an extension of the Trans Canada Trail.

Two telecommunications towers exist within the study area.

Power transmission and distribution, and telephone cable lines are present along some of the roads crossed by the proposed alignment.

Sempra Atlantic Gas plans to install a natural gas pipeline along the existing highway. The pipeline will interact with the right of way for the proposed new highway.

Two suspected old burial sites were identified by the public at the open house. One Heritage property was identified along the coast.

The project does not encroach on federal lands.

The Confederacy of Mainland Mi'kmaq, Union of Nova Scotia Indians, and the Treaty and Aboriginal Rights Research Centre (TARR) have been notified of the proposed highway project, and no concerns have been raised to date.

5.0 PROJECT/ENVIRONMENT INTERACTIONS

The following is a summary of the anticipated biophysical interactions of the proposed alignment with the constraints identified in the preliminary environmental screening. Stationing of the anticipated interactions may be referenced using the map in Appendix C.

5.1 Biophysical Interactions

The following is a summary of the anticipated biophysical interactions of the proposed alignment with the environment.

The project has the potential to expose acid generating slates. The area of interest extends from Sta. 20+800 to 21+600. **If the slates are found to be acid producing cuts should be minimized, if not avoided, so as not to expose the formation.**

Silty soils characteristic of the area will be susceptible to erosion.

The proposed alignment is not anticipated to impact directly on any known wetlands, however the alignment is close to five known wetlands in the vicinity of Sta. 1+700, 2+580, 4+800, 8+450, and 15+500. All wetlands that will be impacted will be evaluated during the environmental assessment using Provincial and Federal procedures, and mitigation/compensation measures will be considered.

Avoidance of wetlands in the study area played a significant role in the location of the proposed alignment.

Rare or significant plants may be impacted by the proposed alignment.

Suspected old growth hardwood stands may be impacted by the proposed alignment. Suspect areas have been identified by DNR from aerial photography in the vicinity of Sta. 5+200, and from Sta. 9+000 to Sta. 10+900. Avoidance of the stands was not possible due to the location of the preferred crossing of French Road and the surrounding topology. However, the severity of the impact was minimized.

The seven brooks identified as having significant fish habitat could be impacted by the proposed alignment. The following stations identify the approximate locations of the brook crossings: Sta. 1+750, 3+950, 8+450, 13+040, 15+550, 18+600, and 22+650.

Installation of a box culvert or other adequate structure to avoid impact on Seely Brook (Sta. 22+650) is anticipated.

The proposed route will be constructed to accommodate natural drainage. Runoff controls, erosion control, and sediment interception measures will be in place during construction.

Plympton Lake is located near Sta. 9+100. Infiltration of highway drainage could be an issue at

this location, and this runoff may need to be diverted.

5.2 Socioeconomic Interactions

The following is a summary of the anticipated socioeconomic interactions of the proposed alignment with the environment.

At least eight homes and about 200 properties will be impacted by the proposed alignment.

Although residential impacts are anticipated, the perceived urgency felt by a few impacted residents for the new road outweighs their personal concerns.

The 150 metre right of way also provides an additional buffer between existing and future development and the travel lanes of the alignment.

Agricultural lands are impacted within the right of way in the vicinity of Sta. 14+100 and Sta. 22+400.

Impacts to managed woodland are anticipated along the proposed alignment.

Land access and access road requirements will be determined once the project receives environmental approval. This land use plan will be developed through consultation with property owners.

Impact to the old railway right of way is anticipated at Sta. 25+420. The railway overpass structure no longer exists at the current highway crossing, so continuity of the trail does not currently exist.

Power transmission and telephone cable lines are present along some of the roads crossed by the proposed alignment.

A power distribution line is crossed by the alignment near Sta. 25+840.

Sempra Atlantic Gas' conceptual design for the natural gas pipeline will result in three right of way encroachments. The pipeline will cross at the Weymouth North interchange (Sta. 0 +700), the crossing of the existing highway in Marshalltown (Sta. 22+350), and near the end of Marshalltown

Road at Digby (Sta. 25+350).

Although there are no known archaeological or heritage resources along the proposed alignment, the potential exists for project interactions with archaeological resources.

Impact to a suspected old burial site near the alignment at Sta. 10+800 is not anticipated.

The proposed highway will complete the construction of Highway 101, a road intended **for the safe and efficient movement of large volumes of people and goods over long distances at high speeds while minimizing negative economic and social impacts to local communities.**

Completion of this portion of the Provincial 100 Series highway network will increase safety and comfort for motorists and local residents on both the new and existing roads.

5.3 Valued Environmental Components (VECs) Arising from Preliminary Environmental Screening

The following valued environmental components have been identified as a minimum, requiring further investigation:

- Flora and fauna;
- Migratory birds;
- Archaeological/heritage resources;
- Aquatic habitat;
- Acid producing bedrock; and
- Wetlands.

6.0 MITIGATIVE MEASURES

During the functional design phase, efforts were made to at least **minimize, if not avoid negative economic, social, and environmental impacts. Standard techniques for culvert crossings, fish passages, erosion and sedimentation control, etc. will be implemented in the design and construction. Property owners will be compensated for lost buildings and land. TPW anticipates all negative impacts can be mitigated or compensated.**

Environmental management and mitigation plans will be required that address the environmental issues associated with the construction and operation of the proposed roadway. **Transportation and Public Works is developing an environmental protection plan for highway construction, which includes baseline**

studies, monitoring and contingencies for emergencies.

In co-operation with the Nova Scotia Department of Agriculture and Marketing and the Nova Scotia Agricultural College, the Nova Scotia Department of Transportation and Public Works has conducted a Roadside Landscape Ecology Project aimed at improving the effectiveness of roadside vegetation. Issues addressed include seeding for erosion control and use of native shrubs. TPW will incorporate the results of the study into its roadside landscaping plans.

7.0 APPROVALS

Project approvals will be sought in accordance with the requirements of the following federal and provincial legislation and the regulations made pursuant to them. Other legislation not listed here may apply:

- *Canadian Environmental Assessment Act;*
- *Canadian Environmental Protection Act;*
- *Canadian Fisheries Act;*
- *Canadian Migratory Birds Convention Act;*
- *Canadian Navigable Waters Protection Act;*
- *Canadian Species at Risk Act (proposed);*
- *Nova Scotia Dangerous Goods Transportation Act;*
- *Nova Scotia Environment Act;*
- *Nova Scotia Special Places Act;* and
- *Nova Scotia Wildlife Act.*

The construction of Highway 101 - Digby to Weymouth North will adhere to the most recent versions of the Department's guidelines and specifications including: Standard Specifications; Highway Design Standards; and Approval Process for Pits Containing Slates.

Relevant Nova Scotia Department of the Environment (NSDOE) guidelines and specifications include: Pit and Quarry Guidelines; Erosion and Sedimentation Control Handbook for Construction Sites; Guidelines for Sampling of Domestic Water Supplies in Conjunction with Construction of Highways; and Guideline for Environmental Noise Measurement and Assessment. In addition, the following joint provincial/federal guidelines and specifications may apply: Guidelines for Development on Slates in Nova Scotia; Environmental Construction Practice Specifications; and Environmental Protection Guidelines for the Application and Removal of Protective Coatings during Bridge Maintenance Operations.

In addition, all work will be conducted in accordance with the Nova Scotia Occupational Safety General Regulations, or the relevant legislation in force at the time of construction.

8.0 SUMMARY

The proposed Highway 101 is viewed as an integral and necessary element of the future transportation network serving not only the Digby to Weymouth North area, but Province wide as well. Although some adverse environmental effects are anticipated, it is assumed that through careful identification of issues and subsequent routing and design of the roadway, along with the creation of workable and effective construction and operation plans, these adverse effects can be avoided or mitigated.

APPENDIX A - Environmental Screening Summary

The environmental screening is a preliminary identification and review of potential environmental impacts. Information obtained during the review is based primarily on existing recorded information and knowledge of staff of various Government departments, Municipalities, organizations, local businesses, interest groups, and even the general public. Our environmental screening process and contacts are outlined in the Highway Environmental Database Study (HEDS) of 1991. The contacts list has been revised several times in the past 8 years.

A preliminary environmental screening for this project was conducted in the fall of 1994. Most of the screening was complete at the time, but a few constraints had to be revisited and were updated within the last year. Screening data is intended to assist in the functional design phase of the corridor preservation process. By identifying as many environmental, social, and economic constraints in the study area at the beginning of the process, the chances of repetition of planning work following environmental assessment are greatly reduced.

The study area is shown on the attached map. Categories, contacts and associated responses are summarized below.

Screening Summary

| Category | Constraint | Organization/ Department Contacted | Constraint Present (Yes/No) | Comments |
|-------------------------|---------------------------|--------------------------------------------------------------------------------|--------------------------------|----------------------------------------|
| Geology | Mineral Resources | Nova Scotia Department of Natural Resources (DNR) | Yes | 1 in study area |
| | Sand and Gravel Deposits | DNR | Yes | along the shoreline |
| | Mineralized Slates | DNR | Yes | potential for acid slates (see note 1) |
| | Shallow Bedrock | DNR | No | area primarily covered with till |
| | Karst Terrain | DNR | No | |
| | Highly Erodible Soils | DNR | Yes | sandy and silty tills |
| Terrestrial Environment | Wildlife Management Areas | DNR, Environment Canada (EC), Atlantic Canada Conservation Data Centre (ACCDC) | No | |

| Category | Constraint | Organization/ Department Contacted | Constraint Present (Yes/No) | Comments |
|-------------------------|---------------------------------------------------------------|---------------------------------------|-----------------------------------|-----------------------------------------------------------|
| | Ecological Reserves | DNR, Nova Scotia Museum (NSM) | No | |
| | Rare and Endangered Species | DNR, NSM | Yes | rare plants only; survey recommended |
| | Managed Wetlands | Ducks Unlimited | No | |
| | Important Habitat/ Important Wetlands (Golet Score >60) | DNR, EC, ACCDC | Yes | 5 wetlands present in study area (see note 2) |
| | Important Wetlands | DNR, EC, ACCDC | Yes | 12 wetlands total (see note 2); from Wetlands Atlas |
| | Protected Beaches | in house | No | |
| | Old Growth Hardwood Stands | DNR | Yes | suspected in 3 locations (see note 3) |
| | Trees of Distinction | in house | No | |
| Aquatic Environment | Rivers/lakes | in house | Yes | 2 lakes |
| | Significant Fish Habitat | Fisheries and Oceans Canada (FOC) | Yes | detailed aquatic survey recommended |
| | Floodplain | in house | No | |
| Marine Environment | Marine Habitat | FOC | No | Reply by phone |
| | Salt Marsh | FOC, ACCDC | Yes | 1 salt marsh |
| Crown Lands | Provincial Parks | DNR, EC | Yes | 1 Provincial park |
| Crown Lands (cont'd) | National Parks | in house | No | |
| | Federal Lands | in house | No | |
| | Park Reserves | DNR | No | |

| Category | Constraint | Organization/ Department Contacted | Constraint Present (Yes/No) | Comments |
|----------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------|
| Native Lands | Indian Reserves | Indian and Northern Affairs (INA), Treaty and Aboriginal Rights Research Centre (TARR), Confederacy of Mainland Mi'kmaq, Union of Nova Scotia Indians | No | |
| | Native Land Claims | INA | No | no active claims |
| Agriculture | Agricultural Land | Nova Scotia Department of Agriculture and Marketing (NSDAM) | Yes | throughout study area (see note 4) |
| | Fur Farms | NSDAM | Yes | 3 fur farms |
| Forestry | Intensive Forestry Management | DNR | Yes | 1 location |
| | Woodlot Management | DNR | Yes | private woodlots, 2 identified managed woodlots |
| | Sugar Bush | DNR | Yes | 1 operation |
| Land/Water Use | Urban/Rural, Proposed Development | Municipality of Digby | Yes | Trans Canada Trail (Rails to Trails) |
| | Airports and Navigational Aids | Transport Canada | No | |
| | Landfills/Waste Disposal Sites | Nova Scotia Department of the Environment (DOE) | No | no known registered disposal sites |

| Category | Constraint | Organization/ Department Contacted | Constraint Present (Yes/No) | Comments |
|----------------------------|-----------------------------------------------------------|---------------------------------------------|-----------------------------------|-------------------------------------------------------|
| Land/Water Use (cont'd) | Strip Mines | DNR | No | |
| | Underground Mines and Surface Facilities | DNR | No | |
| | Pits and Quarries | DNR | Yes | sand and gravel; others identified from mapping |
| | Advanced Mineral Exploration | DNR | No | |
| | Navigable Waters | FOC (Coast Guard) | No | |
| | Aquaculture | FOC | No | |
| | Recognized Views | in house | No | |
| Recreation | Canoe Route | Sport Nova Scotia | No | |
| | Cross Country Ski Trails | Sport Nova Scotia, Municipality of Digby | Yes | Trans Canada Trail (Rails to Trails) |
| | Hiking Trails | Sport Nova Scotia | Yes | Trans Canada Trail (Rails to Trails) |
| | Misc. Recreation | Municipality of Digby | No | |
| Water Supply | Surface Water Supply | Municipality of Digby | No | |
| | Groundwater Supply | DOE, Municipality of Digby | Yes | individual wells |
| | Developed Springs | Municipality of Digby | No | none identified |
| Utilities | Power Transmission Lines | Nova Scotia Power | Yes | transmission and distribution lines |
| | Municipal Services (water and sewer infrastructure) | Municipality of Digby | No | |
| Utilities (cont'd) | Telecommunications Towers | Industry Canada | Yes | 2 towers |

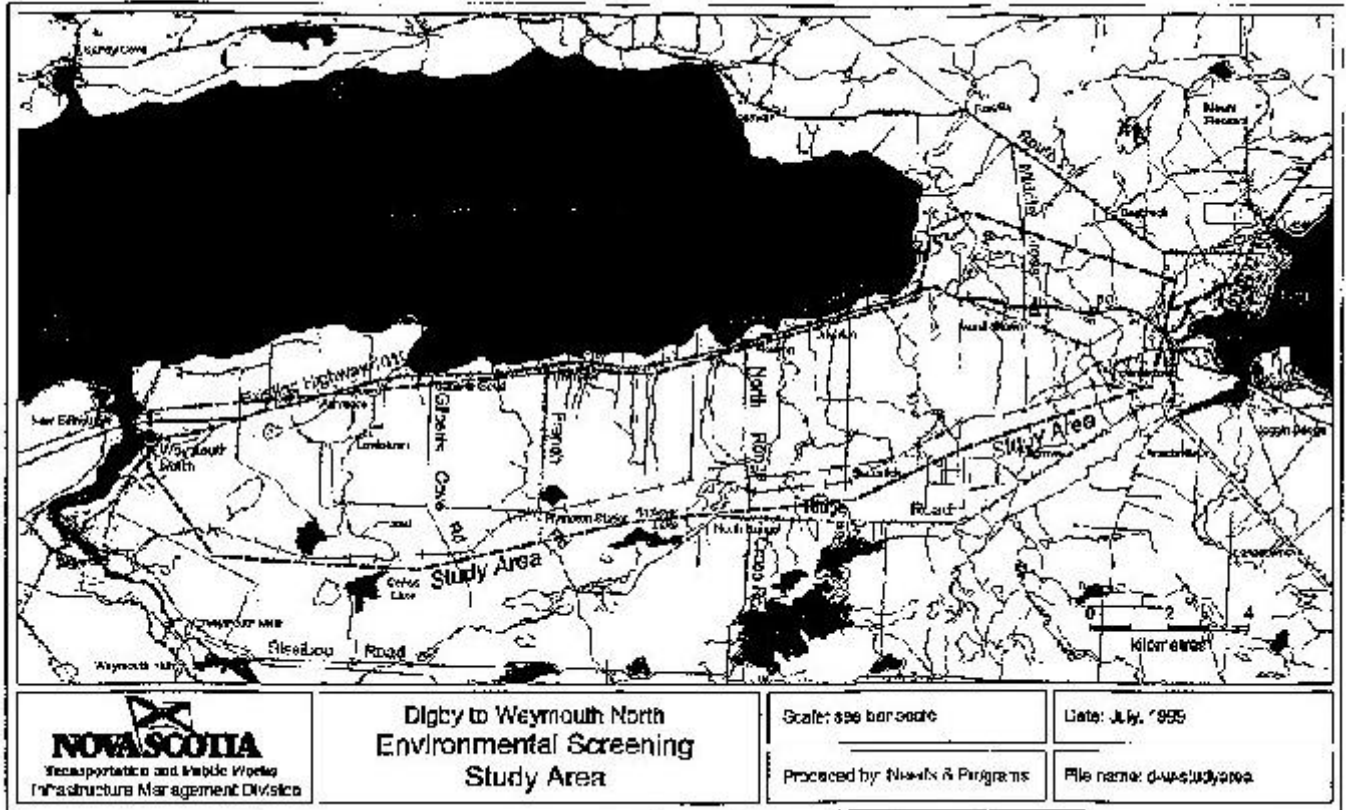
| Category | Constraint | Organization/ Department Contacted | Constraint Present (Yes/No) | Comments |
|----------------------|-------------------------------|---------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------|
| | Telephone Fibre Optic Cable | MT&T | Yes | buried copper, aerial fibre and copper |
| | Cable TV Fibre Optic Cable | Access Communications | No | |
| | Miscellaneous Pipelines | Municipality of Digby Sempra Atlantic Gas | yes | proposed natural gas pipeline |
| | Active Railway Lines | site visit | No | |
| Archaeology/Heritage | National Historic Sites | Parks Canada | No | |
| | Heritage Properties | Nova Scotia Department of Housing and Municipal Affairs | Yes | 1 near shore |
| | Archaeological Sites | NSM | Yes | 2 prehistoric sites on shoreline; comprehensive archaeological survey of right of way requested |
| | Old Burial Grounds/Cemeteries | NSM, local residents | Yes | 2 suspected areas |
| | Heritage Rivers | DNR | No | |
| | Fossil Sites | NSM | - | none indicated by the Museum |

Notes

1. The proposed alignment approaches near a Halifax bedrock formation. This formation has an unquantified potential for acid generation. A site investigation is required to determine the location, extent and potential for acid generation at the detailed design phase. Avoiding the disturbance of sensitive bedrock is stressed.
2. There are approximately 12 wetlands upon which impact should be minimized (according to HEDS). If at all possible, avoidance of the wetlands was strongly recommended by Gerald Porter (Environmental Analyst with TPW).
3. Suspected potential old growth hardwood stands were identified from aerial photography in three locations. One of the three locations was identified as an area of relatively

- contiguous climax-dominated hardwood forest.
- 4 Agricultural land exists throughout the entire project study area, and minimization of any impact is recommended. Types of agriculture range from pasture, berries and hay to fields, of which are currently inactive.

FIGURE - Environmental Screening Study area



APPENDIX B - October 1999 Open House

Proposed Highway 101 - Digby to Weymouth North
Corridor Preservation Study

Report of the October 7th, 1999 Public Consultation
Open House

Dwayne Cross - November 1999

Scope:

This report reviews the events of the Open House and summarizes the feedback generated through the questionnaires.

Project Background:

Highway 101 stretches approximately 300 kilometers from Bedford to Yarmouth. The 26 kilometer section from Digby to Weymouth North is the only segment of this highway which has not been upgraded to a 100 Series controlled access standard. Upgrading of the existing highway to this standard is not feasible due to the amount of adjacent development. TPW has been working to identify a routing for this proposed highway that best meets the objectives and needs of both the local communities and the Province. Completion of this portion of the Provincial 100 Series highway network will increase safety and comfort for motorists and local residents.

A series of broad corridors were presented at an Open House in 1992. Public input was requested on general alignment routing options, access locations, and any public concerns regarding both the project and the existing road. Several concerns and points of interest were expressed, and have been considered in the recent planning work.

Current traffic volumes range from 4000 to 5000 vehicles per day (vpd) between Digby and Weymouth North. The average number of accidents on this section is 53.5 per hundred million vehicle kilometers (HMK), which is below the Provincial average for this type of road (69.2 per HMK).

The proposed highway is being planned as a fully controlled access, 4 lane divided, 27.6 meter wide median facility with a design speed of 120 km/hr. Initial construction will probably be 2 lanes due to the low traffic volumes, and posted at 100 km/hr. Grade separated interchanges are planned at North Range Cross Road in Barton and at the existing Trunk 1 intersection in Weymouth North. The estimated cost of construction for the 26 kilometer section of new 2 lane highway is \$35 million. Property acquisition costs are estimated at an additional \$3 million.

Open House Preparation:

The second Open House was held on October 7, 1999 from 2:00pm to 7:30pm, again at the Brighton-Barton Fire Hall in Brighton. The Acquisitions and Disposal Officer contacted potentially impacted property owners prior to the Open House in two formats: 1) a telephone call and a letter for owners with impacts which involved land and a structure (ie. house, barn), 2) a letter for owners with impacts which only involved land. A project map was included with each letter. Over 200 property owners were contacted because the majority of properties affected are in the shape of long and thin plots extending from Trunk 1 to the "notch line", a jagged boundary line extending along most of the length of the study area.

Unaddressed ad mail was sent to all residences and businesses within the project area (about 4300 mailboxes from Digby to Weymouth North). This ad mail included an invitation to the Open House, a fact sheet, and the project map. An advertisement was also placed in the Saturday edition of the Chronicle Herald prior to the Open House. At the Open House, large project maps were on display and Department staff were present to answer questions and discuss concerns in an informal setting. The fact sheet was again made available, and guests were encouraged to complete a questionnaire on the project and the Open House in general.

Questionnaire Results:

Approximately 200 people attended the open house. There were 73 completed questionnaires submitted, and four letters received from homeowners unable to attend the Open House. The following is a summary of some of the responses from the questionnaires (the number of responses is in brackets):

How is your property or business affected (if any)?
indirectly affected (45)

directly affected (9)
not affected (22)

What benefits do believe will result from the completion of this project?

Less traffic/truck traffic on the existing road (52)
Increased safety (20)
Improve the life of residents (4)

What are your concerns with respect to the project?

Loss of homes and impact on homes/businesses and land (21)
Noise Pollution (6)
Cutting land in half (access issue) (5)
Road crossing swampy area around Middle Cross Road area (2)
Ensure fair compensation (2)

Do you agree with the interchange locations?

Yes (52)
No (16)

Other suggestions are:

North Range Cross Road interchange not needed (7)
Middle Cross Road (alternate route into Digby) or another exit into Digby (6)
French Road (5)

Was the session informative?

Yes (44)
No (16)

Was it beneficial to include the aerial photography?

Yes (59)
No (2)

What other comments and input can you provide?

Various positive comments (14)
Want more detailed information on property purchasing/compensation (10)
What is the start date for construction (8)
Move the road to avoid the swampy area around the Middle Cross Road area (5)
Disappointed the Minister was not present (3)

Summary:

The overall perception of the support for the project was very positive. The reduction of traffic (truck traffic in particular) and increase in safety were the primary benefits recognized by the public. The majority of responses agreed with the interchange locations and found the Open House session informative. Color aerial photography in conjunction with the digital mapping was used for the first time, and was found beneficial.

The lack of a defined time line to the purchase of land and start date of construction, and a lack of answers to detailed questions related to the purchase of properties were among the voiced concerns. These concerns are typical at any Open House since it is impossible to provide definitive answers to these topics.

There was some public interest in a second exit off of the proposed highway in the Digby area, prompted by the increase in truck traffic through Digby traveling to the ferry. Suggestions included interchange ramps at the Middle Cross Road underpass, or a full interchange between Middle Cross Road and Digby with a Digby bypass connector road.

There were two burial sites suspected by residents in the area. The proposed alignment is close to one of the suspected sites, and can be easily adjusted to avoid the area as a preventative measure.

Although it is not strongly reflected in the questionnaires, several residents and even Department field staff expressed concern over the location of the highway from Digby to South Marsh Road. This area has recently experienced heavy flooding, and the ground in this area does not drain well. This concern was not expressed at the 1992 Open House, nor during the environmental screening. Some discussions at the Open House examined crossing the existing highway in Marshalltown near the "old poor farm" to address this concern. Existence of the Halifax Formation and relatively steep grades in the vicinity of this crossing were identified as issues at this location, but further alignment work was still warranted to address the public's concerns.

Addendum 1

Public notification of proposal change

December 1999

It was decided that a third Open House was not necessary for the presentation of the revised alignment to the public due to the amount of public input received at the second Open House. It was therefore decided to do a mail out to communicate the change to the appropriate people affected. Each letter contained a discussion of the second Open House results, explanation of the affect the alignment change would have on their property, explanation of the value of public input, invitation to contact TPW personnel with any questions or concerns, and an offer to personally meet with residents to discuss the extent of their impact. Included with the letter was the original fact sheet and plan, and a more detailed map showing the current and original proposed alignments.

There were no e-mails or letters of concern received regarding the change. Some telephone calls were received from residents with general questions concerning the alignment's development and the property acquisition process. A meeting was requested by four residents from the Marshalltown area.

This meeting was held in Marshalltown on December 9th at a residence near the proposed alignment crossing of Marshalltown Road. About six residents in the local area attended the meeting. The following are the main concerns expressed and discussed:

5. An indepth explanation of the elements which led to the change of the alignment was given to the residents resulting in general understanding and acceptance.
6. Noise was a concern of one resident. However, there will be no impact of the proposed right of way to her land, so TPW will not be entering into negotiations with her.
7. The continuity of Marshalltown Road was a concern to some for two reasons:
 - 1) the proposed new highway will divide the community and it was believed that Marshalltown Road would be the link that would lessen the impact of the division.
 - 2) this was the first road in the area, and therefore has some historical significance to the local community. However, the inflexibility of the profile through this area coupled with the existence of a viable alternate route does not warrant maintaining the continuity of Marshalltown Road.

FACT SHEET

Highway 101 - Digby to Weymouth North

Public Consultation Session - October 7th, 1999

Project Description

The Department of Transportation and Public Works (TPW) has undertaken a corridor preservation study to identify and preserve a corridor for the completion of the 26 kilometer long section of Highway 101 between Digby and Weymouth North.

Background

Highway 101 stretches approximately 300 kilometers from Bedford to Yarmouth. The 26 kilometer section from Digby to Weymouth North is the only segment of this highway which has not been upgraded to a 100 Series controlled access standard. Upgrading of the existing highway to this standard is not feasible due to the amount of adjacent development. The Nova Scotia Department of Transportation and Public Works (TPW) has been working to identify a routing for this proposed highway that best meets the objectives and needs of both the local communities and the Province. Completion of this portion of the Provincial 100 Series highway network will increase safety and comfort for motorists and local residents.

A series of broad corridors were presented at an open house in 1992. Public input was requested on general alignment routing options, access locations, and any public concerns regarding both the project and the existing road. Several concerns and points of interest were expressed, and have been considered in the recent planning work.

Current traffic volumes range from 4000 to 5000 vehicles per day (vpd) between Digby and Weymouth North. The average number of accidents on this section is 53.5 per hundred million vehicle kilometers (HMVK), which is below the Provincial average for this type of road (69.2 per HMVK).

TPW has developed a functional plan (see plan on reverse of this sheet) showing the proposed alignment and access locations.

Roadway Planning and Design

The objective of the planning process is to identify and preserve a corridor for this section of Highway 101 to enable construction some time in the future. It must be stressed that preservation of a corridor does not imply immediate construction, but is a

necessary phase that may occur long before construction.

The proposed highway is being planned as a fully controlled access, 4 lane divided, 27.6 meter wide median facility with a design speed of 120 km/hr. Initial construction will probably be 2 lanes due to the low traffic volumes, and posted at 100 km/hr. Grade separated interchanges are planned at North Range Cross Road in Barton and at the existing Trunk 1 intersection in Weymouth North.

The estimated cost of construction for the 26 kilometer section of new 2 lane highway is \$35 million. Property acquisition costs are estimated at an additional \$3 million.

Completion of the planning and design phases will take 3 to 5 years. Work required beyond this open house includes the following:

- evaluate open house input and finalize proposed alignment
- make recommendation to Minister
- register project for Class II Environmental Assessment
- perform detailed field survey and geometric design
- purchase right of way

The time of construction thereafter will depend on traffic demands, funding availability, and prioritization with other Provincial highway projects.

Public Consultation

The proposed highway shown on the large scale display plans are preliminary designs and may be adjusted based on several factors including public input and issues raised during final design. The purpose of this public consultation is to provide information on this project and to obtain input from local residents, businesses, and land owners.

Additional Information

For additional information, please contact:

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Needs and Programs Section
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Transportation and Public Works

Proposed New Highway 101 - Digby to Weymouth North Public Consultation Session, October 7, 1999

Thank you for taking the time to visit us today to review the proposed alignment corridor for the new Highway 101 - Digby to Weymouth North. Public input is an important component in the highway planning process, and it would be appreciated if you would take a few minutes to complete the following questionnaire.

NOTE: The results of these questionnaires will be summarized in a report, but individual questionnaires will be kept confidential.

1. Will the proposed highway directly affect your property or business?

a) YES NO

b) If yes, how will it be affected? _____

2. Will the proposed highway indirectly affect your property or business?

a) YES NO

b) If yes, how will it be affected? _____

3. Approximate location of your property or business:

4. What benefits do you believe will result from completing Highway 101 between Digby and Weymouth North?
(for example: less traffic on the existing road, remove truck traffic, etc.)

5. What are your concerns with respect to the proposed alignment for the new highway?
(for example: impact on residents, loss of land, etc.)

6. In addition to the existing Digby interchange, we are planning to construct interchanges in Weymouth North (at the current Trunk 1 intersection) and Barton (at North Range Cross Road). Do you agree with these locations?

a) YES NO

b) If NO, what location(s) would you suggest?

7. Can you provide us with information which we might have overlooked during our planning process?

(please turn over2)

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APPENDIX C - Proposed Highway 101 - Hard Copy available at the Nova Scotia Department of Environment and Labour Library