NOVA SCOTIA
Environment

Comment Index

Highway 101 Cambridge Interchange and Connector Roads Project

Publication Date: June 28, 2023

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Number	Source	Date Received
1	KMKNO	June 8, 2023

Public

Number	Source	Date Received
1	Anonymous	May 10, 2023
2	Anonymous	June 7, 2023

3	Anonymous	June 7, 2023
4	Maritime Aboriginal Aquatic Resources Secretariate (MAARS)	June 7, 2023

From: Tufts, Denis P <Denis.Tufts@novascotia.ca>
Sent: Tuesday, May 2, 2023 4:05 PM
To: Mageste da Silva, Renata <Renata.MagestedaSilva@novascotia.ca>
Cc: Currie, Paul D <Paul.Currie@novascotia.ca>
Subject: RE: Highway 101 Cambridge Interchange and Connector Road Project – Environmental Assessment – Comments due June 8_ 2023

Hello Renata,

This project does not appear to include wastewater treatment or receiving water studies. Therefore, in my role as wastewater treatment lead, I will not be providing comment.

Denis

NOVA SCOTIA
Environment and Climate Change

55 Starrs Road, Unit 9
Yarmouth, NS B5A 2T2

Denis Tufts, P. Eng.
Water and Industrial Facilities

Sustainability and Applied Science Division

902-774-0396 Phone
Denis.Tufts@novascotia.ca

From: Mageste da Silva, Renata <Renata.MagestedaSilva@novascotia.ca>
Sent: Tuesday, May 2, 2023 3:35 PM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Highway 101 Cambridge Interchange and Connector Road Project – Environmental Assessment – Comments due June 8_ 2023
Importance: High

Hi everyone,

This is to advise that on May 9, 2023, **Nova Scotia Department of Public Works** will register the **Highway 101 Cambridge Interchange and Connector Road Project** for environmental assessment (EA), in accordance with Part IV of the Environment Act.

The proposed Project involves the construction, maintenance and post-construction monitoring of a new interchange along Highway 101, with two new connector roads; one south to Trunk 1 and one north to Brooklyn Street. The new interchange is located between Coldbrook (Exit 14) and Berwick (Exit 15), near the Annapolis Valley First Nation (AVFN) Reserve. The south connector road travels 2-kilometers to Trunk 1 near Waterville Mountain Road, and the north connector travels 1.5-kilometers to Brooklyn Street. The connector roads are designed as two-lane roads, with additional turning lanes at high volume accesses as necessary. The Project construction may commence in late 2023 and is expected to be completed within 5 years.

Documents can be downloaded from the proponent's **Sharepoint site** (Link: Hwy 101 Cambridge Interchange and Connector Roads). To access the documents, either right click the link and select "Open Hyperlink" or hold the "Ctrl" button and left click the link. If you have difficulties accessing the documents, please let me know.

The GIS data regarding project location and environmental feature shapefile data can also be downloaded from the above-mentioned Sharepoint site. This GIS data must not be distributed outside of the government and should be used only for this review.

Please note that **all comments must be provided by June 8, 2023**, to be considered in this EA. Comments are requested to be provided via email. If there are no comments, please reply indicating so.

You're encouraged to use the attached template (last updated in Feb 2023) to provide your comments. The template includes guiding questions to support reviewers with its completion and requests sign off by Managers/Directors (for provincial departments) prior to submission of final comments to the EA Branch.

On May 9, 2023, the Registration Documents (except the GIS data) will also be available on our website at http://www.novascotia.ca/nse/ea/.

On or before June 28, 2023, the Minister of Environment and Climate Change will decide if the project can be granted conditional environmental assessment approval. **On the decision day, all comments will be published on our EA website for public viewing.**

Kind regards,

Renata Mageste da Silva (She/Her)

Environmental Assessment Officer
Department of Environment and Climate Change
1903 Barrington Street, Suite 2085
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Halifax, NS B3J 2P8
Tel: (902) 456-6563

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
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Date: May 26, 2023

To: **Renata Mageste da Silva**, Environmental Assessment Officer

From: Neil Morehouse, Manager, Protected Areas and Ecosystems

Subject: **Highway 101 Cambridge Interchange and Connector**

Scope of review:
This review focuses on the following mandate: Protected Areas

Technical Comments:

This work is not near any protected Areas.

Summary of Recommendations: (provide in non-technical language)

We have no comments on this project

IMPORTANT:

- **Always provide a response back to the EA Branch, even if it is simply to confirm that there is "no comment."**
- **The comments will be published on the EA website on decision day (privacy review is NOT conducted on comments from government).**

A) Guiding questions for Technical Comments:

- *Does the EA registration document (including Appendices) provide adequate information to identify the potential environmental effects; therefore, the required mitigation measures? Explain.*
- *Can the potentially significant adverse effects/environmental effects be identified? Explain.*
- *Are the proposed mitigation measures / controls sufficient to address the potential environmental effects? Explain.*
- *Would the Generic EA Mitigations (see attached for reference) address remaining effects?*[1]
- *If there are information gaps, are there any suggested site/project specific mitigations that would allow risks to be mitigated?*
- *Are there any potential positive environmental effects? Explain.*
- *Does the project trigger any environmental approval / permit (Provincial or Federal) other than the EA Approval – which one(s), and what outstanding information and / or conditions could be considered as part of these?*

Risk Assessment			
Identify Gap/Risk	Can it be addressed in another permit/approval or with a T&C?	Define/provide detail	Risk of this approach?

B) Guiding questions for Summary of Recommendations:

- *Describe what outstanding information and/or conditions (if any) can be considered as a part of other approvals / permits required for the project.*
- *If required, provide any suggested site/project specific mitigations that could be included in terms and conditions that would allow risks to be mitigated.*
- *Identify* specific outstanding information needed to address high risk environmental effects (if any) that cannot be mitigated.

1 *To be provided, as available, based on the nature/type of project being evaluated.*

NOVA SCOTIA
Municipal Affairs and Housing
Municipal Affairs

Floor 8 North, Maritime Centre
1505 Barrington Street
PO Box 216
Halifax, NS Canada B3J 2M4
novascotia.ca

M E M O

DATE: May 26, 2023

TO: NS Department of Environment and Climate Change

FROM: Department of Municipal Affairs and Housing

SUBJECT: **HIGHWAY 101 CAMBRIDGE INTERCHANGE & CONNECTOR ROAD, MUNICIPALITY OF THE COUNTY OF KINGS**

Scope of Review:
This review focuses on the following mandates: the Statements of Provincial Interest and engagement with municipalities.

Technical Comments:

The proponent has reviewed the County of Kings Municipal Planning Strategy (MPS) and Land Use By-law and has met with the Mayor and Councillors of the Municipality and will meet all applicable municipal requirements. Most of the project site is zoned Rural Mixed Use (A2) and Agricultural (A1).

Statements of Provincial Interest:

- Drinking Water: N/A. There are no water supply areas near the project site.
- Agricultural Land: Reasonably consistent. The proponent engaged with agricultural landowners in the design to ensure that the roads would align with farmland boundaries to minimize disturbance to active farm operations and large areas of farmland would remain available for future agricultural uses.
- Flood Risk: Reasonably consistent. Some areas of the project site are zoned Environmental Constraint (O1) due to wetlands in the area. The proponent stated current and future conditions up to 1:100-year storm events will be accommodated in the design for all watercourses.
- Infrastructure: Reasonably consistent. Providing better transportation connections to two growth centres will likely increase development in communities with sewer services. The project site will be in North Cambridge, which is identified as a Future Growth Centre Expansion Area in the Kings MPS, with the intention of expanding sewer services and transportation networks to this area.
- Housing: N/A. The project will not have a direct impact on housing options. The increase in transportation connections may encourage more residential development in two growth centres.

Summary of Recommendations (Provide in non-technical language):

There are no outstanding information and/or conditions. All components considered under DMAH's areas of mandate have been adequately addressed.

NOVA SCOTIA
Municipal Affairs and Housing
Municipal Affairs

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novascotia.ca

M E M O

DATE: May 26, 2023

TO: NS Department of Environment and Climate Change

FROM: Department of Municipal Affairs and Housing

SUBJECT: **HIGHWAY 101 CAMBRIDGE INTERCHANGE & CONNECTOR ROAD**

As requested, the Department of Municipal Affairs and Housing (DMAH) has reviewed the Registration Documents for the environmental assessment of the Highway 101 Cambridge Interchange and Connector Road, provided by WSP on behalf of Nova Scotia Department of Public Works. All of the components considered under DMAH's areas of mandate have been adequately addressed.

Thank you for the opportunity to review the Registration Documents for the above-noted project.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: June 5, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Climate Change Division Staff

Subject: Highway 101 Cambridge Interchange and Connector Road Project, Kings County, Nova Scotia

Scope of review:
This review focuses on the following mandate: Climate Change Adaptation and Mitigation

Technical Comments:

Mitigation

- The proponent has provided greenhouse gas emissions estimate that cover land clearing, construction activity and operations and maintenance. The methods and emission factors used in the quantification of these emissions are referenced and satisfactory. The estimated emissions is approximately 25,000 tonnes CO_2e.

- The proponent compares a baseline emission estimate with Business-As-Usual estimates where the potential mobile emissions from the usage of the road in both scenarios are presented. This is beyond what is required for emissions related directly to the construction, operation, and maintenance of the highway. however, it provides a useful attempt to justify the project as one that reduces greenhouse gas emissions over time.

Adaptation

- In Section 5.1.5, “Climate and Weather,” the proponent uses long-term meteorological data (1981-2010) from Environment and Climate Change Canada to assess the baseline climate conditions at the site. This is in keeping with the recommendations from the ‘Guide to Considering Climate Change in Project Development in Nova Scotia’ to use 30 years of climate data to assess climate variability.
- In Section 5.1.5, “Temperature” and “Precipitation,” the proponent provides values for average temperature and average precipitation in the area but have not included historical values for extreme precipitation and extreme temperatures in Sections 5 or 6, as these have the potential to impact infrastructure. Extreme weather events are discussed later in the registration document and in an appendix (see below).

- In Section 5.1.5, “Climate Change,” the proponent has considered the impact of climate change on the local conditions, based on climate model projections and notes that the region will experience increasing average temperatures, increasing precipitation (more rain, less snow), a longer growing season, and an increasing water deficit. Proponent provides values for the 2080s projection, using data from a 2011 report. Using newer data available at climatedata.ca would be beneficial for a number of reasons. For example, newer projections use an ensemble of models, which is current industry best practice, rather than one model only. Newer projections also show some differences in trends—for instance, the magnitude of mean temperature increase is larger than indicated in this section. Additional analysis with updated data could change the conclusion around water deficit.
- In Section 6.12, “Effects of the Environment on the Project,” proponent has accounted for severe weather events (e.g., extreme rainfall) during the various stages of the project (construction, operation, maintenance), and included proposed mitigation measures. The proponent also notes that climate change will increase the likelihood of severe weather events and increase the frequency of freeze-thaw cycles, leading to increased road maintenance and increased need for stormwater management. The proponent follows good practice in this section, although newer climate data is now available at climatedata.ca.
- In Section 6.12.2, “Climate Change,” the proponent anticipates that this project will not be significantly impacted by climate change because of its inland location and, therefore, does not require an adaptation plan. The inland location alone is not sufficient rationale to conclude that the project does not need an adaptation plan, although it may still be assessed low risk, based on an analysis within the risk assessment framework in the ‘Guide to Considering Climate Change in Project Development in Nova Scotia,
- In the Appendix – Hydrological Study, the proponent has considered future climate projections under the IPCC-AR5 SSP2-4.5 scenario. Climate Normals (1981-2010) from ECCC Kentville have been used. The summary of climate change impacts for temperature and precipitation are thorough. Proponent’s hydrological models include both IDF curves and climate change impacts on precipitation patterns. Recommended design of water crossing structures takes these findings into account. The proponent uses SSP2-4.5, but this may not be appropriate over longer time horizons. The proponent should consider using both SSP2-4.5. and SSP5-8.5 to inform project design as the global temperature is currently on track for exceeding SSP2-4.5 projections (based on commitments) and to account for positive climate feedback mechanisms.
- In the Appendix – Hydrological Study, proponent uses Climate Normals from the Kentville station. There is a recently available tool which may not have been available when the report was prepared. A climate change-adjusted IDF curve (CMIP6) is available for the Kentville CDA station through climatedata.ca. Comparing the end of century IDF curve to the historical, it shows an approximate 46% increase in peak rainfall. It may be valuable for the proponent to review this new data.

Summary of Technical Considerations: (provide in non-technical language)

Adaptation

- While the proponent has offered a thorough consideration of the changing climate in relation to the proposed project, we suggest the proponent consider using the latest climate projections available on climatedata.ca under a higher greenhouse gas emissions scenario to ensure that any climate adaptation measures are appropriate if current emissions levels continue. Further, the proponent may consider adding values for extreme temperature and extreme precipitation in Section 5.1.5 and more explicitly justifying the low-risk nature of the project within the risk management framework in the 'Guide to Considering Climate Change in Project Development in Nova Scotia.'

Mitigation

- It is recommended that as an immediate impact of the project on Nova Scotia's greenhouse gas emissions profile, the proponent provide a sum of estimated emissions that are associated directly to the Construction Activities (project scenario only) separately from emissions from vehicles using the highway. Consider emissions such as emissions from the vehicles that will use the highway after construction as indirect emissions. Those estimates can still be provided but there is need for a clearer distinction between emissions associated with the completion of the project itself and those resulting from potential use by vehicles.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
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Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: June 5, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Air Quality Protection Advisor, Air Quality Unit (reviewed by Manager and Director)

Subject: Highway 101 Cambridge Interchange and Connector Road Project, Kings County, Nova Scotia

Scope of review:
This review focuses on the following mandate: Air Quality

Technical Comments:

Nova Scotia Department of Public Works has submitted a Class 1 environmental assessment registration document (EARD) as a requirement of the *Environmental Assessment Regulations* (Schedule A). The project consists of a new interchange and connector roads, located on Highway 101 at Cambridge. One of the connector roads will be 2km long and will connect to Trunk 1, whilst the second connector road will be 1.6km long and will connect to Brooklyn Street to the north. The project is estimated to alleviate traffic on neighbouring interchanges and Trunk 1 by 20 to 25%.

The assessment for air quality considers the impact of construction and operation, and compares impacts with the Canadian Ambient Air Quality Standards (CAAQS) and the Nova Scotia *Air Quality Regulations*. This is appropriate as the nature of the project has both local and regional impacts.

The baseline assessment consisted of the analysis of data obtained from regional monitoring locations and the 2021 National Pollution Surveillance Program report for Nova Scotia. A wind rose, using data from Kentville, was also provided. It shows that the prevailing wind direction during the monitored period was from the N-NE-E quadrant.

The impact assessment focussed on total suspended particles (TSP), nitrogen dioxide (NO_2), sulphur dioxide (SO_2), carbon monoxide (CO) and fine particulate material ($PM_{2.5}$). The *Air Quality Regulations* were applied to all pollutants except for $PM_{2.5}$ concentrations where the appropriate CAAQS were applied. A qualitative assessment of impacts was provided, noting the specific scenarios that could adversely impact air quality, and those that are likely to result in an improvement (largely related to greenhouse gases, although improved traffic flow without a higher traffic count would also result in improved air quality).

Appropriate mitigation was proposed, and all impacts were considered to be ‘not significant’.

Summary of Technical Considerations: (provide in non-technical language)

Construction is considered to be a temporary activity, although, for this project, construction is estimated to last for 3 years. As recommended in the assessment, the proponent should develop an Environmental Protection Plan (EPP) that incorporates all of the recommendations for limiting air quality impacts that have been proposed in the EARD. Specific attention should be made to the control of dust (TSP), for example, identifying which suppressant will be used, how often it will be applied, are any triggers going to be used on site (reactionary mitigation), and who is responsible for dust management.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
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Halifax, Nova Scotia
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Date: June 5, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Air Quality Protection Advisor, Air Quality Unit (reviewed by Manager and Director)

Subject: Highway 101 Cambridge Interchange and Connector Road Project, Kings County, Nova Scotia

Scope of review:
This review focuses on the following mandate: Noise

Technical Comments:

Nova Scotia Department of Public Works has submitted a Class 1 environmental assessment registration document (EARD) as a requirement of the *Environmental Assessment Regulations* (Schedule A). The project consists of a new interchange and connector roads, located on Highway 101 at Cambridge. One of the connector roads will be 2km long and will connect to Trunk 1, whilst the second connector road will be 1.6km long and will connect to Brooklyn Street to the north. The project is estimated to alleviate traffic on neighbouring interchanges and Trunk 1 by 20 to 25%.

The assessment for noise considers the impact of construction and operation, and compares impacts with the Guidelines for Environmental Noise Measurement and Assessment (GENMA).

The proponent undertook baseline monitoring in July/August 2021. Three monitoring locations were selected: M1 was located near Brooklyn Street where one of the connector routes would end, M2 was located close to where the new interchange would be constructed (by Highway 101) and M3 was located close to Trunk 1 where the southern connector route will end.

The baseline assessment indicated that measurements at M1 and M3 meet the criteria, but noise measurements at M2 did not. The noise environment at M2 is dominated by traffic noise, while the noise environments at M1 and M3 are more rural in nature. Therefore, the results of the baseline assessment are consistent with expectations.

CadnaA was used to assess noise impacts. The baseline results were used to calibrate the modelling assessment and a worst case scenario was used to predict impacts from construction and operation. For construction, the worst case represented all machinery operating concurrently and continually. Twenty-six noise receptors were identified, including five receptors within the Annapolis Valley First Nation (AVFN).

The modelling results for the worst case scenario indicated that, for construction activities, the daytime permissible sound level (PSL) would be met at all receptors during

the daytime (07:00-19:00). However, during the evening, ten receptors (including two within AVFN) would exceed the PSL (seven were 1 to 3 decibels above the PSL; three were more than 3 decibels above the PSL). At night, all receptors except for three were predicted to experience noise levels above the PSL, ranging from 2 to 9 decibels above the PSL.

For operation, the modelling assessment indicated that the PSLs would be met at all receptors except for one. This receptor was predicted to experience an evening noise level that was 1 decibel above the PSL. The report notes that a difference of 1 decibel is not perceptible to human hearing.

Appropriate mitigation was proposed, and, if adopted, all impacts would be considered to be ‘not significant’.

Summary of Technical Considerations: (provide in non-technical language)

The proponent has not determined a work schedule yet. It is recommended that nighttime construction activities should be avoided where possible, particularly in project areas that are close to residential areas.

As proposed in the EARD, the proponent should develop a noise control plan that incorporates the proposed mitigations prior to work commencing on site. The noise control plan should aim to prevent noise complaints through a proactive approach to noise management, and should include an efficient complaints procedure that aims to resolve issues promptly.

NOVA SCOTIA
Environment and Climate Change

Barrington Place
1903 Barrington Street
Suite 2085
Halifax, Nova Scotia
Canada B3J 2P8

Date: June 7, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Environmental Health

Subject: **Highway 101 Cambridge Interchange & Connector Road Project, Kings County, Nova Scotia**

Scope of review:

This review focuses on the mandate to protect public health from possible impacts associated with the project. This review specifically focuses on impacts to the Atmospheric and Acoustic environment.

Comment:

Upon reviewing the Project EARP it is anticipated that the project, as proposed will not adversely impact public health. Development and implementation of best management practices can sufficiently mitigate project impacts to air quality and noise, and protect public health.

Receommendation:

Development of a complaints management system for air quality and noise will enable the proponent to track and record any adverse impacts, and help inform additional mitigations that may be introduced to the project to control impacts to public health related to adverse air quality and noise.

NOVA SCOTIA

Communities, Culture, Tourism and Heritage

1741 Brunswick Street
3rd Floor
P.O. Box 456
Halifax, NS
B3J 2R5

Date: June 7, 2023

To: Renata Mageste da Silva, Nova Scotia Environment & Climate Change

From: Coordinator Special Places, Culture and Heritage Development

Subject: Highway 101 Cambridge Interchange and Connector Road Project - EA Registration

Staff of the Department of Communities, Culture, Tourism, and Heritage has reviewed the Highway 101 Cambridge Interchange and Connector Road Project - EA Registration documents and have provided the following comments:

Archaeology

Staff reviewed the sections of the EA document pertaining to archaeology. Heritage Research Permits A2021NS056 & A2021NS155 have no mention of the archaeological work conducted in 2022 under Heritage Research Permit A2022NS057. Please see the following excerpts from the A2022NS057 report letter:

The Nova Scotia Department of Public Works plans to construct the proposed Highway 101 Cambridge Interchange and Connector in Cambridge/Waterville, Kings County, Nova Scotia. Associated connector roads to Trunk 1 and Brooklynn Street will be constructed to provide access to the new interchange. An archaeological resource impact assessment (ARIA) was conducted by Davis MacIntyre & Associates Limited (DM&A) under Heritage Research Permit A2021NS056, during which a number of areas exhibiting elevated potential for both historic Settler and precontact L'nuk archaeological resources were identified. In 2021, one hundred eight (108) subsurface tests were conducted on a portion of High Potential – 02. No significant archaeological resources or evidence of historically significant cultural modification were encountered during this course of shovel testing. This report covers the 2022 continuation of the shovel testing program of the elevated potential areas anticipated to be impacted by construction activities.

At HP-02, one hundred fifty-eight (158) units were excavated at 5 m intervals over a 0.36 ha area that will be subjected to impact from the proposed connector alignment construction. Nine (9) units (ST126, ST134, ST135, ST142, ST166, ST224, ST232, ST240 and ST280) were also hand-augered after reaching 1.2 metres in depth at minimum 40-metre intervals to test the depth of glacio-fluvial sediments if glacial till was not already present in the unit. Twenty (20) units were

excluded from the original desktop rendered testing grid due to steep sloping that was unsuitable for testing, while one unit (ST187) was excluded due to its placement under a large unsafe rotten tree.

At HP-05, two hundred ninety-three (293) units were excavated over a 0.73 ha area at 5 m intervals. Ten (10) units (ST289, ST349, ST468, ST469, ST470, ST470, ST471, ST479, ST563, ST565, and ST567) were also hand-augered after reaching 1.2 metres in depth at a minimum of 40-metre intervals to test the depth of glacio-fluvial sediments if till was not already confirmed in the unit. Two (2) units (ST575 and ST57) were excluded from the original desktop rendered testing grid due to steep sloping that was unsuitable for testing. A single positive unit, ST395 contained a single white quartz flake with a potentially utilized cutting edge. No further positive units were encountered during this round of testing.

An additional unit, ST367.2, was flagged outside of the study area towards the riverbank and excavated before the error was corrected. This unit was photographed, mapped, and recorded regardless of the mapping error. A 1 m x 1 m EU was excavated overtop of where the quartz flake had been identified earlier. The EU revealed a potential hearth feature, that was hand trowelled. Five (5) additional units (3 x 1 m x 1 m, 1 x 1 m x 50 cm & 1 50 cm x 50 cm) were excavated once it was established the hearth feature extended beyond the limits of the initial 1 m x 1m EU. Ten (10) artifacts were identified in total (3 quartz cores and 6 quartz micro flakes were i9dentified in the ST395 area, and a single split pebble core, or former hammerstone repurposed into a core, was recovered from Lot 5 in Unit B).

At MP Esker, fourteen (14) units were conducted over a 0.14 ha area at 10 m intervals. Excavations of unit ST598, were halted immediately after a fractured agate piece was encountered within the transition to glacio-fluvial sediments at 27 centimetres (B Horizon). However, it was determined after laboratory examination to exhibit a natural break within the rounded glacial till rather than a culturally derived lithic fragment.

At MP AT02 twenty-eight (28) units were excavated at 10 m intervals over a 0.30 ha area set to be impacted by construction activities. Three units (ST613, ST617, and ST624) were excluded from the original desktop rendered testing grid due to steep sloping that was unsuitable for testing.
Based on the above, investigating archaeologists from DM&A concluded the 2022 archaeological assessment and investigation identified significant archaeological resources in natural/in situ contexts on the northern bank of Jijuktu'kwejk at HP05, which is within the proposed connector right of way. For the mitigation of any remaining archaeological resources at Cambridge, 1m x 1m formal testing units should be expanded to the north and south of the units opened during 2022 formal testing of ST395. The extent of Lot 6, the potential occupation layer, should be delineated to mitigate any further archaeological resources. Should development plans change and areas outside of those described in this report are anticipated to be impacted, it is recommended that this area be subjected to an archaeological assessment by a qualified archaeologist. In the event that archaeological resources are found, and an archaeologist is not already on site, it is required that construction activity cease and that the Coordinator of Special Places (902-424-6475) be contacted regarding a suitable method of mitigation.

CCH Staff have reviewed the report and find it acceptable as submitted. Please do not hesitate to contact me with any questions or concerns.

The EA also indicates further testing is required in 2023. This is correct, as per the recommendations of the 2022 archaeological resource impact assessment/subsurface testing, and all reporting for this testing must first be reviewed and approved by CCTH Staff.

Botany

Staff have reviewed the sections of the EA document pertaining to botany. That the experience of the botanist who did the field work did not seem to match the list of rare (SOCI) nonvascular plant species within 5 km of the study area from the ACCDC report. In addition, because no comprehensive list of bryophytes encountered on the project was provided, it appears that these plants were not adequately sampled. If another expert or subcontractor was employed for survey or verification work, that is not clear from the report and appendices.

If the consultant has additional data on bryophyte or lichen surveys that they can provide, it might help to alleviate these uncertainties.

Palaeontology

Staff have reviewed the sections of the EA document pertaining to palaeontology. The Highway 101 Cambridge Interchange and Connector Roads EA registration document does note that the underlying bedrock geology of the area is Triassic aged Wolfville Formation. This bedrock unit has the potential to contain significant vertebrate fossils. During excavation of the bedrock it would be desirable to have a palaeontologist examine the outcrop to consider if there may be important vertebrate fossils that are exposed during construction. If there are any concerns or questions that arise during excavation please contact the Curator of Geology at the Nova Scotia Museum for assessment and potential excavation of fossils found during the construction.

Zoology

Staff have reviewed the sections of the EA document pertaining to zoology. Bat surveys were not conducted because it was deemed a low risk area, with no previously identified hibernacula or maternity roosts within 10km. It should be noted however that there are records for little brown bats (Myotis lucifugus) within 10km of the project area, thus they may use the project area for roosting. Nova Scotia's migratory and non-migratory bat species use a wide variety of forest types for roosting.

At this point it appears to be an incomplete assessment of the zoological setting for the site and immediate-adjacent area as additional updated surveys are yet to be completed in 2023 (e.g. wood turtle, Glyptemys insculpta).

There are no additional zoological concerns at this point that fall outside of those currently highlighted in the assessment as they pertain to species at risk (SAR) and species of special concern under the Nova Scotia Endangered Species Act (NSESA), the Committee on the Status

of Endangered Wildlife in Canada (COSEWIC) and the Species At Risk Act (SARA). Mitigation plans for fauna within the project appear to be appropriate.

PO Box 2223
Halifax, Nova Scotia
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NOVA SCOTIA

Fisheries and Aquaculture

Date: June 08, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer, Nova Scotia Environment and Climate Change

From: Lesley O'Brien-Latham, Executive Director, Policy and Corporate Services Nova Scotia Department of Fisheries and Aquaculture

Subject: Highway 101 Cambridge Interchange and Connector Road Project, Kings County, Nova Scotia – Environmental Assessment

Thank you for the opportunity to review the Highway 101 Cambridge Interchange and Connector Road Project ("Project") documents.

Based on the information provided, the Nova Scotia Department of Fisheries and Aquaculture ("Department") recommends that the applicant provide additional information to understand the fish bearing potential of the project area, as follows:

- The Department's mandate includes management of inland recreational fish populations such as Brook Trout, which could be impacted by the Project. Additional information would help the Department and the proponent understand any potential impacts to fish populations and fish habitat:
    - Survey results describing relative abundance indices such as catch per unit effort (CPUE) for netting/trapping/electrofishing or catch per unit area for electrofishing.
    - Plans for the proponent to return to re-evaluate fish following project completion.
    - Presentation of water quality as a table of water temperature (min, max, mean) across each site on a monthly timescale.
    - Data from more electrofishing sites higher in the connected tributaries if possible.

- Although the water chemistry data indicates favorable salmonid habitat, the proponent seems to dismiss the fish bearing potential of the area due to sediment composition (as per the habitat suitability index). This is incorrect. Often streams in the Annapolis Valley may have siltation issues but still be vibrant brook trout habitat due to favorable geology, groundwater inputs, and high productivity from agricultural inputs. The above noted surveying would help determine any potential impacts to fish populations and fish habitat and inform measures to mitigate risks.

- The Department does not anticipate any risk to marine or aquaculture activities and interests within the Department's mandate.

From: Wade,Suzanne (ECCC) <suzanne.wade@ec.gc.ca>
Sent: Thursday, June 8, 2023 10:09 AM
To: Mageste da Silva, Renata <Renata.MagestedaSilva@novascotia.ca>
Cc: Gautreau,Rachel (elle, la | she, her) (ECCC) <rachel.gautreau@ec.gc.ca>; Hingston,Michael (il, lui | he, him) (ECCC) <Michael.Hingston@ec.gc.ca>; Keeping,Brent (ECCC) <Brent.Keeping@ec.gc.ca>
Subject: RE: Highway 101 Cambridge Interchange and Connector Road Project – Comments due June 8_ 2023 (EAS# 23-NS-012)

Hi Renata,

Environment and Climate Change Canada (ECCC) has reviewed the EIA Registration Document for the proposed Highway 101 Cambridge Interchange and Connector Roads, and we offer the following comments:

Wildlife

ECCC – Canadian Wildlife Service (CWS) have reviewed the information provided regarding the proposed project. Additional information should be provided to adequately evaluate the potential effects of the project on terrestrial species at risk (SAR) and species of conservation concern (SoCC):

Terrestrial Species at Risk

For federal environmental assessments, ss. 79(2) of the *Species at Risk Act* (SARA) requires that persons responsible for an environmental assessment "must identify the adverse effects of the project on the listed wildlife species and its critical habitat and, if the project is carried out, must ensure that measures are taken to avoid or lessen those effects and to monitor them." These measures must

- be consistent with best available information including any Recovery Strategy, Action Plan or Management Plan in a final or proposed version; and
- respect the terms and conditions of the SARA regarding protection of individuals, residences, and critical habitat of Extirpated, Endangered, or Threatened species.

It is best practice to consider species that are not yet listed under SARA, but have been assessed and designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), as though they were listed under SARA. While there is no federal environmental assessment for this project, CWS advocates a similar approach for the provincial environmental assessment.

For each terrestrial SAR, the proponent should clearly identify both direct and indirect adverse effects related to the project on individuals/occurrences and their habitat, including critical habitat (if applicable), as well as cumulative effects and effects resulting from accidental events and response. If there are occurrences of SAR in the Local Assessment Area (LAA) for which the proponent does not anticipate adverse effects, the reasons for this assessment should be clearly presented.

The proponent should also present technically feasible mitigation measures, including proposed buffers (where applicable) to avoid/lessen all direct and indirect effects on SAR and their habitat.

In instances where habitat for species at risk is not avoided, the proponent should clarify why avoidance is not possible, as well as a discussion of conservation allowances if appropriate.

If there are instances where the proponent is proposing a new or unproven mitigation measure, details regarding the technical feasibility of the mitigation measure should be provided.

The proponent should present plans to monitor effects and effectiveness of mitigation measures on SAR and their habitat. In instances where success of proposed mitigation has a measure of uncertainty, the proponent should also provide a discussion of proposed adaptive management measures that could be implemented in a timely manner in the event that adverse effects are detected.

For species-specific technical information for terrestrial SAR not protected under the *Migratory Birds Convention Act* (MBCA), the Province of Nova Scotia should be consulted.

- Monarch

According to Section 5.2.2, an individual Monarch was observed incidentally during field surveys in an area where Milkweed, its host plant, was abundant. Milkweed were also found elsewhere in the LAA. However, it is not clear where the Monarch or Milkweed were observed in relation to proposed project infrastructure.

And although “Potential removal of Milkweed and other plants supporting Monarch” is identified as a potential adverse effect of the Project in Section 6.5.3, the Proponent does not propose measures to avoid/minimize effects on Monarch and its host plants or a monitoring plan.

The Proponent should clearly map the locations where Monarch and Milkweed were detected in the PDA and the LAA in relation to the proposed project infrastructure. The Proponent should identify measures to avoid/minimize potential adverse effects of the Project on the Monarch and its host plants, as well as a monitoring plan to verify effects and

effectiveness of mitigation measures.

- Wood Turtle and Snapping Turtle

According to Section 5.2.2, “Targeted visual encounter surveys for Wood Turtle will be undertaken in spring 2023 after the hibernation period. Survey effort will be focused on areas with medium and high potential, and areas directly within the PDA. The remaining surveys will inform evaluation of habitat usage within the LAA and assist in developing specific avoidance and mitigation measures for Wood Turtle and its habitat. Results from the visual encounter surveys, and re-evaluated effects and mitigation for Wood Turtle will be presented in a separate report in June 2023.”

Furthermore, potential habitat for Snapping Turtle was observed incidentally during the Wood Turtle habitat survey, and “Any individuals observed incidentally during the Wood Turtle visual encounter surveys in 2023 will be recorded.”

The Proponent should provide the 2023 survey results, and any additional measures avoid/minimize potential adverse effects of the Project on the Wood Turtle, Snapping Turtle, and their habitat, as well as a monitoring plan to verify effects and effectiveness of mitigation measures.

- Bat SAR

According to Section 5.2.2, the lack of critical habitat (i.e., hibernacula), abandoned mines, or karst within 10 km of the Project provides evidence of low risk for bat hibernacula or maternity roosts to be present. While this could be supportive of low risk for hibernacula, the rationale doesn’t extend to maternity roosting habitat. Natural maternity roost habitat for SAR bats is found in forested/treed areas, particularly in mature deciduous and mixed wood forests with large diameter (>25 cm) trees. According to Section 5.2.1, these habitat types appear to be present in the LAA.

The Proponent should identify measures to avoid/minimize potential adverse effects of the Project on bats and bat maternity roosting habitat, as well as a monitoring plan to verify effects and effectiveness of mitigation measures.

- Landbird SAR

Two migratory bird species at risk which nest in forest habitat were detected in the Project Development Area (PDA) and the Local Assessment Area (LAA): Wood Thrush and Eastern Wood-pewee.

In Section 6.6.3, the Proponent states that : “… the loss of suitable bird habitat within the PDA is likely to be non-limiting to avian species, as similar suitable habitat (i.e., shrub wetlands, mixed-wood and deciduous forest) is widely available nearby in the LAA and RAA.” The Proponent then concludes that “The long-term effects, which includes permanent habitat loss or increased risk of vehicle collisions, are considered to be low in magnitude given the availability of habitat in the surrounding areas.” This analysis may be correct for certain species of birds, but CWS does not agree with such a conclusion for species that prefer mature forest habitat such as the Wood Thrush. The 3 observations of this SAR were within a large mature deciduous forest according to the Avian Survey Report

(Section 5.1 of Appendix G). Eastern Wood-pewee were similarly detected mostly in mid to mature forests and woodlots dominated by mature trees.

Breeding Bird Survey (BBS) trends, both long- (since 1970) and short- (since 2011) term, appear to be largely stable for Wood Thrush in NS; however, the breeding bird atlas shows decline in probability of observation and distribution between the first and second atlases. On the breeding grounds the main threats to Wood Thrush include habitat loss/degradation and fragmentation due to development, both urban and agricultural. High rates of nest predation and Brown-headed Cowbird nest parasitism associated with habitat fragmentation also threaten the Wood Thrush.

Furthermore, for bird SAR, the Proponent has only identified as "significant" those adverse effects that would result in a contravention of SARA or the NSESA. SAR can be significantly affected by a Project even if the provisions of SARA or the NS ESA are not contravened. For instance, the Proponent defines significance for bird SoCC as follows "For rare species or SoCCs not listed under SARA or NS ESA, one that results in a decline in abundance and/or change in distribution beyond which natural recruitment (reproduction and immigration from unaffected areas) would not return the population to its pre-project level within several (three to five) generations." This definition should also be applicable to bird SAR. Based on that definition of significance, and the absence of any proposed mitigation for the loss and fragmentation of mature forest habitat for landbird SAR, CWS does not agree with the Proponent that a conclusion of no significant effects on bird SAR can be reached at this time.

If mature forest habitat loss and fragmentation cannot be avoided, the Proponent should develop a plan for the use of biodiversity offsets for Wood Thrush habitat. Specifically, permanent protection should be given to existing habitat. These lands should be officially held by an ENGO and/or designated as protected area.

Migratory Bird SoCC

Three migratory bird SoCC were detected during field surveys: Rose-breasted Grosbeak, Tennessee Warbler, and Vesper Sparrow. However, the Proponent has provided no details regarding the locations of these observations in relation to proposed project infrastructure, and no measures are proposed to avoid/minimize adverse effects of the Project on these species.

The Proponent should clearly map the locations where bird SoCC were detected in the PDA and the LAA in relation to the proposed project infrastructure. The Proponent should identify measures to avoid/minimize potential adverse effects of the Project on bird SoCC, as well as a monitoring plan to verify effects and effectiveness of mitigation measures.

Additional Comments

In the event that the Project is ultimately approved:

- In Section 6.6.4 and Table 6-6, the Proponent states that if clearing is required during the migratory bird nesting period, "…nest surveys, with approval from NSDNRR and ECCC, can be carried out by a qualified ornithologist prior to clearing".

Active nest searches in complex habitat are not recommended by CWS as they are unlikely to be successful, and incidental take would still be likely to occur. Rather, CWS recommends that activities that may result in incidental take of nests or eggs, such as tree or shrub removal, occur outside the migratory bird nesting period.

Nests in complex habitat are difficult to locate and adult birds avoid approaching their nests in a manner that would attract predators to their eggs or young. Except when the nests searched are known to be easy to locate without disturbing them, active nest searches are generally not recommended by CWS; there is a low probability of locating all nests, and searches are likely to cause disturbance to nesting birds. In many circumstances, incidental take is likely to still occur during industrial or other activities even when active nest searches are conducted prior to these activities. Therefore, except for very specific circumstances (e.g. surveys for Pileated Woodpecker nesting cavities protected under Schedule 1 of the *Migratory Birds Regulations*), CWS does not recommend nest searches in vegetation.

Some species of migratory birds, including the threatened Common Nighthawk, may be attracted to cleared areas for nesting. Should there be a delay between clearing and operational activities, ground nesters may be attracted to previously cleared areas for nesting. In such a case, nest surveys may be carried out successfully by skilled and experienced observers using appropriate methodology. Should any nests or unfledged chicks be discovered, it is expected that these would be protected by an appropriate-sized buffer. While buffers to protect nests from disturbance may be flagged, nests should never be marked using flagging tape or other similar material as this increases the risk of nest predation.

- Lighting for the safety of the employees should be shielded to shine down and only to where it is needed, without compromising safety.

- Street and parking lot lighting should also be shielded so that little escapes into the sky and it is directed where required. LED lighting fixtures are generally less prone to light trespass and should be considered.

- Since even small spills of oil can have serious effects on migratory birds, every effort should be taken to ensure that no oil spills occur. The Proponent should ensure that all precautions are taken by staff to prevent fuel leaks from equipment, and contingency plans in case of oil spills should be prepared.

- CWS recommends that a variety of species of plants native to the general project area be used in revegetation efforts. Should seed mixes for herbaceous native species for the area not be available, it should be ensured that plants used in revegetation efforts are not known to be invasive.

  CWS also recommends that measures to diminish the risk of introducing invasive species be developed and implemented. These measures could include:

  - cleaning and inspecting construction equipment prior to transport from elsewhere (not limited to out of province equipment) to ensure that no plant matter is attached to the machinery (e.g. use of pressure water hose to clean vehicles prior

to transport); and

- regularly inspecting equipment prior to, during and immediately following construction in wetland areas and in areas found to support Purple Loosestrife to ensure that plant matter is not transported from one construction area to another.

- Certain species of migratory birds (e.g. Bank Swallows) may nest in large piles of soil left unattended/unvegetated during the most critical period of breeding season (April 15th through August 15th). To discourage this, the proponent should consider measures to cover or to deter birds from these large piles of unattended soil during the breeding season. If migratory birds take up occupancy of these piles, any industrial activities (including hydroseeding) will cause disturbance to these migratory birds and inadvertently cause the destruction of nests and eggs. Alternate measures will then need to be taken to reduce potential erosion, and to ensure that nests are protected until chicks have fledged and left the area. For a species such as Bank Swallow, the period when the nests would be considered active would include not only the time when birds are incubating eggs or taking care of flightless chicks, but also a period of time after chicks have learned to fly, because Bank Swallows return to their colony to roost.

  See also for example the following guidance concerning beneficial management practices that should be considered for implementation when designing mitigation measures for Bank Swallows, provided at Bank Swallow (Riparia riparia): in sandpits and quarries - Canada.ca

- Certain species of migratory birds may nest on the sides of buildings, bridges or other pieces of infrastructure. Additionally, some species may nest on equipment, if they are left unattended/idle for long periods of time.

  CWS recommends the following beneficial management practices:

  - The proponent should ensure that project staff are aware of the potential of migratory bird bests on infrastructure, buildings, and bridges, if applicable.
  - If a nest is discovered, the proponent should conduct no activities around the nest that may cause the nest to be abandoned or destroyed. Activities should be suspended until the chicks have fledged and left the area.
  - If the proponent anticipates that birds may nest on infrastructure, the proponent should install anti-perching and nesting exclusion devices (e.g. mesh netting, chicken wire fencing, etc.) before any nest attempts are made.

- If there is ultimately a need to decommission a building or structure used for nesting by migratory birds, CWS should be consulted in a timely manner in advance of any proposed decommissioning activities for species-specific considerations.
- Beaver dam removal could impact migratory birds using the associated ponds. If waterfowl and/or waterbirds are using ponds created by beaver dams for nesting or raising chicks, the proponent should not alter beaver dams until waterfowl and/or waterbirds have raised their young.

- The Proponent should ensure that provisions for wildlife response are identified in emergency prevention & response plans. The following information should be included:

    - Mitigation measures to deter migratory birds from coming into contact with polluting substance (e.g. oil);
    - Mitigation measures to be undertaken if migratory birds and/or sensitive habitat becomes contaminated;
    - The type and extent of monitoring that would be conducted in relation to various spill events.

    ECCC-CWS "*Guidelines for Effective Wildlife Response Plans"* (ECCC, 2021) (attached) are recommended as a reference in the development of emergency prevention and response.

The Federal Policy on Wetland Conservation

The Federal Policy on Wetland Conservation (FPWC) is applicable to any Federal Departments exercising a power, duty, or function that would permit the carrying out of the project or associated activities. The policy recognizes the importance of wetlands to the environment, the economy and human health, and promotes a goal of no-net-loss of wetland functions. In support of this goal, the FPWC and related implementation guidance identify the importance of planning, siting and designing a project in a manner that accommodates a consideration of mitigation options in a hierarchical sequence - avoidance, minimization, and as a last resort, compensation.

For those potentially affected wetlands where the FPWC would be applicable, and avoidance is deemed not possible, a detailed description of potential effects, and of the reasons why avoidance and minimization of impacts were determined to not be possible should be provided. The mitigation measures and monitoring plan, as well as a proposed compensation plan, should be consistent with those proposed for other projects in Atlantic Canada.

A copy of the FPWC can be found at http://publications.gc.ca/pub?id=9.686114&sl=0.

Applicable Legislation

- *Migratory Birds Convention Act*

The *Migratory Birds Convention Act* (MBCA) protects most bird species in Canada however, some families of birds are excluded. A list of species under MBCA protection can be found at https://www.canada.ca/en/environment-climate-change/services/migratory-birds-legal-protection/list.html .

Under Section 5(1) of the *Migratory Birds Regulations* (MBR), it is forbidden to capture, kill, take, injure or harass a migratory bird; or damage, destroy or take a nest or egg of a migratory bird, excluding under the exceptions listed in 5(2) of the MBRs, or under the authority of a permit. It is important to note that under the current MBR, no permits can be issued for the harm of migratory birds caused by development projects or other economic

activities.

Furthermore, Section 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds:

> "5.1 (1) No person or vessel shall deposit a substance that is harmful to migratory birds, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area.
>
> (2) No person or vessel shall deposit a substance or permit a substance to be deposited in any place if the substance, in combination with one or more substances, results in a substance — in waters or an area frequented by migratory birds or in a place from which it may enter such waters or such an area that is harmful to migratory birds."

It is the responsibility of the proponent to ensure that activities comply with the MBCA and regulations. In fulfilling its responsibility for MBCA compliance, the proponent should take the following points into consideration:

- Information regarding regional nesting periods can be found at https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html. Some species protected under the MBCA may nest outside these timeframes.

- Most migratory bird species construct nests in trees (sometimes in tree cavities) and shrubs, but several species nest at ground level (e.g., Common Nighthawk, Killdeer, sandpipers), in hay fields, pastures or in burrows. Some bird species may nest on cliffs or in stockpiles of overburden material from mines or the banks of quarries. Some migratory birds (including certain waterfowl species) may nest in head ponds created by beaver dams. Some migratory birds (e.g., Barn Swallow, Cliff Swallow, Eastern Phoebe) may build their nests on structures such as bridges, ledges or gutters.

- One method frequently used to minimize the risk of destroying bird nests consists of avoiding certain activities, such as clearing, during the regional nesting period for migratory birds.

- The risk of impacting active nests or birds caring for pre-fledged chicks, discovered during project activities outside the regional nesting period, can be minimized by measures such as the establishment of vegetated buffer zones around nests, and minimization of activities in the immediate area until nesting is complete and chicks have naturally migrated from the area. It is incumbent on the proponent to identify the best approach, based on the circumstances, to complying with the MBCA.

Further information can be found at https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html

- *Species at Risk Act*

The *Species at Risk Act* (SARA) “General prohibitions” apply to this project. In applying the general prohibitions, the proponent, staff and contractors, should be aware that no person shall:

- kill, harm, harass, capture or take an individual;
- possess, collect, buy, sell or trade an individual, or any part or derivative;
- damage or destroy the *residence* of one or more individuals.

General prohibitions only apply automatically:

- on all federal lands in a province,
- to aquatic species anywhere they occur,
- to migratory birds protected under the *Migratory Birds Convention Act* (MBCA) 1994 anywhere they occur.

Section 33 of SARA prohibits damaging or destroying the residence of a listed threatened, endangered, or extirpated species. For migratory birds species at risk (SAR), this prohibition immediately applies on all lands or waters (federal, provincial, territorial and private) in which the species occurs.

For project assessments, SARA requires that:

> 79 (1) Every person who is required by or under an Act of Parliament to ensure that an assessment of the environmental effects of a project is conducted, and every authority who makes a determination under paragraph 82(a) or (b) of the *Impact Assessment Act* in relation to a project, must, without delay, notify the competent minister or ministers in writing of the project if it is likely to affect a listed wildlife species or its critical habitat.
>
> (2) The person must identify the adverse effects of the project on the listed wildlife species and its critical habitat and, if the project is carried out, must ensure that measures are taken to avoid or lessen those effects and to monitor them. The measures must be taken in a way that is consistent with any applicable recovery strategy and action plans.

For species which are not yet listed under SARA, but are listed under provincial legislation only or that have been assessed and designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), it is best practice to consider these species in EA as though they were listed under SARA.

Water Quality

Pollution prevention and control provisions of the *Fisheries Act* are administered and enforced by ECCC. Subsection 36(3) of the *Fisheries Act* prohibits “anyone from depositing or permitting the deposit of a deleterious substance of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter such water”.

It is the responsibility of the proponent to ensure that activities are managed so as to prevent the release of substances deleterious to fish. In general, compliance is determined at the last point of control of the substance before it enters waters frequented by fish, or, in any place under any conditions where a substance may enter such waters. Additional

information on what constitutes a deposit under the *Fisheries Act* can be found here: https://www.canada.ca/en/environment-climate-change/services/managing-pollution/effluent-regulations-fisheries-act/frequently-asked-questions.html

Accidents and Malfunctions

Hazardous materials (e.g. fuels, lubricants, hydraulic oil) and wastes (e.g. waste oil) should be managed so as to minimize the risk of chronic and/or accidental releases. For example, the proponent should encourage contractors and staff to undertake refueling and maintenance activities on level terrain, at a suitable distance from environmentally sensitive areas including watercourses, and on a prepared impermeable surface with a collection system.

The proponent is encouraged to prepare contingency plans that reflect a consideration of potential accidents and malfunctions and that take into account site-specific conditions and sensitivities. The Canadian Standards Association publication, *Emergency Preparedness and Response,* CAN/CSA-Z731-03, reaffirmed 2014), is a useful reference.

All spills or leaks, such as those from machinery or storage tanks, should be promptly contained and cleaned up (sorbents and booms should be available for quick containment and recovery), and reported to the 24-hour environmental emergencies reporting system (Maritime Provinces 1-800-565-1633)

Please direct any further correspondence to ECCC's environmental assessment window for coordination at: FCR_Tracker@ec.gc.ca.

Suzanne Wade

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From: Mageste da Silva, Renata <Renata.MagestedaSilva@novascotia.ca>
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To: Environment Assessment Web Account <EA@novascotia.ca>
Cc: Creamer, Amber <Amber.Creamer@novascotia.ca>; Maswod, Sayeed <Sayeed.Maswod@novascotia.ca>; Mitchell, David A <David.Mitchell@novascotia.ca>; Mosher, Elaine <Elaine.Mosher@novascotia.ca>; Hurlburt,Donna (NS) <Donna.Hurlburt@novascotia.ca>; BIODIVERSITY <BIODIVERSITY@novascotia.ca>; Crewe, Tara <Tara.Crewe@novascotia.ca>; McTeigue, Ryan X <Ryan.McTeigue@novascotia.ca>; Drake, Carrie L <Carrie.Drake@novascotia.ca>; Mahoney, Meagan <Meagan.Mahoney@novascotia.ca>; Blackburn, Lori M <Lori.Blackburn@novascotia.ca>; Boudreau, Susan M <Susan.Boudreau@novascotia.ca>; Steele,

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Subject: Highway 101 Cambridge Interchange and Connector Road Project – Environmental Assessment – Comments due June 8_ 2023
Importance: High

Hi everyone,

This is to advise that on May 9, 2023, **Nova Scotia Department of Public Works** will register the **Highway 101 Cambridge Interchange and Connector Road Project** for environmental assessment (EA), in accordance with Part IV of the Environment Act.

The proposed Project involves the construction, maintenance and post-construction monitoring of a new interchange along Highway 101, with two new connector roads; one south to Trunk 1 and one north to Brooklyn Street. The new interchange is located between Coldbrook (Exit 14) and Berwick (Exit 15), near the Annapolis Valley First Nation (AVFN) Reserve. The south connector road travels 2-kilometers to Trunk 1 near Waterville Mountain Road, and the north connector travels 1.5-kilometers to Brooklyn Street. The connector roads are designed as two-lane roads, with additional turning lanes at high volume accesses as necessary. The Project construction may commence in late 2023 and is expected to be completed within 5 years.

Documents can be downloaded from the proponent's **Sharepoint site** (Link: Hwy 101 Cambridge Interchange and Connector Roads). To access the documents, either right click the link and select "Open Hyperlink" or hold the "Ctrl" button and left click the link. If you have difficulties accessing the documents, please let me know.

The GIS data regarding project location and environmental feature shapefile data can also be downloaded from the above-mentioned Sharepoint site. This GIS data must not be distributed outside of the government and should be used only for this review.

Please note that **all comments must be provided by June 8, 2023,** to be considered in this EA. Comments are requested to be provided via email. If there are no comments, please reply indicating so.

You're encouraged to use the attached template (last updated in Feb 2023) to provide your comments. The template includes guiding questions to support reviewers with its completion and requests sign off by Managers/Directors (for provincial departments) prior to submission of final comments to the EA Branch.

On May 9, 2023, the Registration Documents (except the GIS data) will also be available on our website at http://www.novascotia.ca/nse/ea/.

On or before June 28, 2023, the Minister of Environment and Climate Change will decide if the project can be granted conditional environmental assessment approval. **On the decision day, all comments will be published on our EA website for public viewing.**

Kind regards,

Renata Mageste da Silva (She/Her)

Environmental Assessment Officer
Department of Environment and Climate Change
1903 Barrington Street, Suite 2085
PO Box 442
Halifax, NS B3J 2P8
Tel: (902) 456-6563

NOVA SCOTIA
Environment and Climate Change

Barrington Place
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Halifax, Nova Scotia
Canada B3J 2P8

Date: June 8, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Water Branch, Sign-off by Krysta Montreuil, Manager, Water Resources Management Unit

Subject: Highway 101 Cambridge Interchange and Connector Road Project, Kings County, Nova Scotia

Scope of review:

This review focuses on the following

- Groundwater quantity and quality
- Wetlands
- Surface water quantity and quality

Technical Comments:

Groundwater quality and quantity

- In the EARD registration document the NSE Well Log Database was used to identify the locations of water wells within a 500 m radius of the LAA (Figure 3, p.37). A total of 110 wells were identified within the 500 m (locations not known). One hundred nine (109) wells are identified as drilled, and one well as dug. (p.35).

- The EARD states (p. 81) "The effects on groundwater quality and quantity in the Local Assessment Area (LAA) caused by the construction, operation and maintenance are not expected to be significant."

- The LAA distances are variable (as shown on Figure 1) and appear to include, roughly, a minimum distance of 200 m either side of the proposed highway connector alignment as well as adjustment due to other factors. By extrapolation, the wells outside the LAA but within the 500 m survey boundary shown in Figure 3 could also be assumed to not have significant effects. It was interpreted from the report that "8 wells remain within the LAA" (p. 35) (removing several with locational error, see note below on errors within the Well Logs Database). Field verification of homes relying on water wells within the LAA is needed to verify additional undocumented water wells associated with homes on Andringa Drive, Highway No. 1, Country Home Road/Waterville Mountain Road, and Brooklyn Street. Wells in the LAA could be expected to be the most susceptible to any project effects.

- No water wells are identified within the Project Development Area (PDA) which is the actual area of physical disturbance (approximately up to 100 m on either side of the highway connector alignment).

- It should be noted that the Well Logs Database Records and any mapping based on these records need to be considered in terms of locational errors/accuracy of the original data. Field truthing and field surveys for water supply well locations is necessary where accurate locations are needed.

- The report clearly outlines the possible risks to groundwater VEC as follows:

    - A change in water well yields that could result in a long-term reduction in water supply at a receiver location – this could affect shallower wells (such as dug or shallow drilled wells) as well as surface waterbodies such as by wetland dewatering.

    - In addition, changes to drainage patterns may result in increases in surface flows in some areas, which could result in localized groundwater recharge and water table rise (and potential effects related to this)

    - A decrease in groundwater quality resulting in potential impacts affecting
        - Siltation of wells
        - Contamination of wells above Health Canada guidelines resulting from road salting (de-icing) and vegetation management

- One of the main groundwater/well concerns is related to herbicide application for vegetation control, winter road maintenance and de-icing operations effects. The NSDPW Generic Environment Protection Plan (EPP) document and a Salt Management Plan (SMP) document (p. 19) are referenced generally. When developed, the project's EPP should include specific protection measures that will apply in the area of the 8 identified water wells located in the LAA.

- It is noted that previous consultant reports for Nova Scotia indicate the project is in a high salt vulnerability area and related priority rating based on TPW 2004 SMP plan and NS Salt Vulnerability Mapping.

- Pre-Construction Surveys, Monitoring and Mitigation Procedures

  Pre-construction surveys, water well monitoring and mitigation procedures are important consideration for the environmental sustainability of this project. The EARD outlines a number of important aspects for achieving these, however there may be several additional modifications to the proposed actions that should be considered.

    - In the EARD a limited "pre-blast well survey" (within 500 m) is suggested, prior to any construction blasting (if used). The norm for the pre-blast survey is structures and water well conditions within 800 m.

    - Due to the reported number of private water well supplies within 500 m (109) these should all have a Baseline Well Survey Report (BWSR) conducted for water chemistry/bacteria and known well construction features. The 8 (or more when field verified) identified wells within the LAA should additionally have water quantity (well yield) assessments made. These measures will thus allow comparisons made to pre-construction conditions, should any mitigations be necessary.

Wetlands

- The EARD states in Section 6.7.2, *"A significant adverse effect on wetlands is defined as an effect that is likely to cause a permanent, uncompensated net loss of wetland habitat and function. A positive effect is one that may enhance the quality of wetland habitat or function, increase species diversity, or increase the area of valued habitat*." Based on this definition, significant adverse effects are not expected. Proposed alterations of approximately 8.56 ha of large and high-functioning wetland complexes will take many years to offset through compensation due to their functions and benefits including water storage and delay, stream flow support, water cooling, sediment retention and stabilization, phosphorus retention, nitrate removal and retention, carbon sequestration, organic nutrient export, and aquatic and terrestrial wildlife habitat.. Wetland avoidance and alternative design plans were not included within the EARD.
- No wetlands of special significance (WSS) were mentioned in the EARD, though several wetlands had at- risk species (Eastern wood peewee) identified within them including WL 1, 2, and 10. Consultation with NRR is recommended regarding SAR presence. Due to the project meeting the definition of necessary public function project
- The wetland functional assessments were completed in 2021 and the newest version of the WESP-AC NS (August 2021) was not used. The latest version has an additional WSS trigger tool based on wetland function. Before submitting the wetland alteration approval applications, the proponent should submit WESP-AC using the latest version to determine if there are additional WSS for compensation calculation purposes. During baseline wetland monitoring, new WESP-AC functional assessments are recommended.
- Wetlands extending out of the assessment area should be mapped using desktop resources to determine their approximate extents.
- During detailed design, wetland avoidance should be prioritized and minimized to the extent possible.

Surface water quality and quantity

- The characterization of existing water quality provided by the EARD already exceeds CCME guidelines for parameters, and roadways are a source of additional potential contamination to water resources when rain carries toxic metals, hydrocarbons, and chlorides into receiving waters. Changes in local catchment areas (e.g. from road embankments or ditches) can provide direct and indirect impact to water resources, as remarked in the wetland and groundwater assessments. In addition to planning for those two VECs, surface water management planning should prioritize the avoidance of introducing runoff from the right of way corridor directly to any surface water resources. If such a mitigation is not possible a monitoring program should be considered for inclusion in the future EPP submission.
- Detail design and surface water management planning should prioritize the avoidance of introducing runoff from the right of way corridor directly to any surface water resources. If such a mitigation is not possible a monitoring program should be considered to be included in the future EPP submission.
- Crossings of mapped watercourses are identified, and field review of the corridor screening for additional unmapped watercourses was completed. The EARD confirms that the project will follow the watercourse alteration program requirements.
- During construction, the EARD commits to using erosion and sediment control (ESC) measures and developing a site-specific plan in the detailed design phase to mitigate risks. Particular attention should be paid to the project phasing and duration of exposed soils, following TAC and general industry guidance as committed to in the EARD.
- Description of existing local hydrological conditions and future conditions, with predicted effects quantified is important to support planning and developing appropriate

mitigations. It is recommended that a surface water management plan be developed to look at both water quality and quantity impacts and mitigations.

Summary of Technical Considerations:

Groundwater

- The project does not appear likely to directly affect groundwater conditions but could have related groundwater effects due to the surface construction disturbances, changes to drainage patterns and ongoing maintenance operations.
- Any effects to groundwater are expected to be minimal and in the unlikely event of significant local impacts to wells, mitigation measures have been proposed, some of which need slight additions.
- For comparison of project effects, a Baseline Well Survey Report (BWSR) within 500 m of the highway connector should be completed for field verified wells and include well construction details, water quality test results and (for wells in the LAA) may need to include water quantity assessment.
- The proposed pre-blast survey related to blasting effects should be increased to those structures (including water wells) within 800 m of the blast location, based on common practice.
- NSDPW has well established environmental practices for post-construction maintenance of the highway connector. Detailed project plans should include specific environmental protection measures that will apply to areas considered most vulnerable such as near the 8 (or more when field verified) water wells located within the LAA.

Wetlands

- Submit a Wetland Alteration Approval Application for review and approval for any wetlands proposed to be directly or indirectly altered and complete any necessary compensation and monitoring. The proponent should utilize Nova Scotia's Wetland Alteration Application's Guided Template for the permit applications.
- All wetlands should be marked (flagging tape and signs) in the field prior to construction and included in the EPP and on all design drawings to prevent any additional wetland alterations.

Surface water

- A surface water management plan should be prepared by a qualified professional, consider local hydrology and address potential effects resulting from the construction and operation of the new right of wy, e.g. ditching outlets, local surface water drainage patterns, water quality. The plan should include avoidance or mitigation measures for the protection of the environment (e.g., wetlands and watercourses), and support final

proposed designs and operations. It should be completed prior to construction activities.

- A detailed erosion and sediment control plan should be prepared by a qualified professional prior to construction activities including clearing, grubbing, and stripping, take place. The plan should follow industry practice r to assess and mitigate the risk of new roadway construction which commonly has a high risk of exposed soils.
- Establish a minimum buffer distance of 30m from any surface watercourse or wetland for the following activities: fuel storage, refueling, and/or lubrication of equipment; washing of machinery or equipment; and storage of equipment, excavated/stockpiled materials, and potential contaminants.

Fisheries and Oceans Canada | Pêches et Océans Canada

Bedford Institute of Oceanography
1 Challenger Drive
P.O. Box 1006, Station P500
Dartmouth, Nova Scotia B2Y 4A2

Date: June 8, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Sarah MacLeod, Linear Development, A/Senior Regulatory Review Biologist, Fish and Fish Habitat Protection Program

Subject: Highway 101 Cambridge Interchange Project, Kings County, Nova Scotia

Scope of review:
Fisheries and Oceans Canada (DFO) is responsible for administrating the fish and fish habitat protection provisions of the *Fisheries Act* (FA), the *Species at Risk Act* (SARA), and the *Aquatic Invasive Species Regulations*.

DFO's review focused on the impacts of the works outlined in the Highway 101 Cambridge Interchange Project Environmental Assessment Registration Document to potentially result in:

- the death of fish by means other than fishing and the harmful alteration, disruption or destruction of fish habitat, which are prohibited under subsections 34.4(1) and 35(1) of the *Fisheries Act*;
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*; and
- The introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the *Aquatic Invasive Species Regulations*.

Technical Comments:

Risk Assessment: Site Preparation and Construction Schedule	
Identify Gap/Risk	In Section 2.3.1, the site preparation does not indicate the timeline of when preparation work may be conducted before the construction phase is required. Site preparation too far in advance of the works, undertakings, and/or activities (WUAs) may result in harmful impacts to fish and fish habitat.
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed during the NSECC watercourse and/or wetland alteration approval process(es) and DFO regulatory review process. WUAs associated with this project in or near water that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO

	regulatory review process, including detailed information on the proposed WUAs, a detailed description of the fish and fish habitat found at the location of the proposed WUAs, a detailed description on the likely effects of the proposed WUAs on fish and fish habitat, and a detailed description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat.
Risk Assessment: Wetland Assessment	
Identify Gap/Risk	Impacts to fish and fish habitat from wetland alterations are not clearly outlined, including both direct and indirect impacts. For example, Section 6.733, Table 6-7 in the Environmental Assessment Registration Document (EARD) indicates the delineated area of each wetland and area of impact, with identification of fish-bearing wetlands, but does not indicate whether there are potential impacts to fish and fish habitat. In Section 3.2, Table 3 in the Appendix H of the EARD, wetland 12 (WL12) is listed but no WESP-AC data is provided.
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed during the NSECC watercourse and/or wetland alteration approval process(es) and DFO regulatory review process. WUAs associated with this project in or near water that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO regulatory review process, including detailed information on the proposed WUAs, a detailed description of the fish and fish habitat found at the location of the proposed WUAs, a detailed description on the likely effects of the proposed WUAs on fish and fish habitat, and a detailed description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat.
Risk Assessment: Fish Habitat Assessment	
Identify Gap/Risk	In Section 5.2.5 of the EARD, and Section 3.3 in Appendix B of the EARD, fish habitat assessments were conducted via a Habitat Suitability Index (HSI); however, these assessments only focus on habitat suitability for salmonids and do not consider habitat for other fish species that may utilize the watercourses.
Can it be addressed in another	The identified gap can be addressed during the NSECC watercourse and/or wetland alteration approval process(es) and DFO regulatory review process. WUAs associated with this project in or near water

permit/approval or with a T&C?	that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO regulatory review process, including detailed information on the proposed WUAs, a detailed description of the fish and fish habitat found at the location of the proposed WUAs, a detailed description on the likely effects of the proposed WUAs on fish and fish habitat, and a detailed description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat.
Risk Assessment: Species at Risk	
Identify Gap/Risk	There is no mention of the Inner Bay of Fundy Atlantic Salmon Population, which is listed as Endangered under the *Species At Risk Act* (SARA). Further information is required on whether Inner Bay of Fundy Atlantic Salmon are potentially located within the project area.
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed during the NSECC watercourse and/or wetland alteration approval process(es) and DFO regulatory review process. WUAs associated with this project in or near water that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO regulatory review process, including detailed information on the proposed WUAs, a detailed description of the fish and fish habitat found at the location of the proposed WUAs, a detailed description on the likely effects of the proposed WUAs on fish and fish habitat, and a detailed description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat.
Risk Assessment: Watercourse Crossing Designs	
Identify Gap/Risk	Specific information related to the proposed watercourse crossings is not clear. For example, in Section 2.2.5 of the EARD, temporary access roads and laydown areas are noted as ancillary features; however, potential temporary crossings associated with these access roads are not mentioned in section 2.2.6. In addition, Section 2.2.6 of the EARD indicates that four watercourses will require culverts and the Cornwallis River crossing will require a bridge; however, in Section 4.3.1 of Appendix I of the EARD, only four crossings are mentioned, two of the crossings are clear span structures, and one of

	the culverts is designed as a ditch without fish passage.
Can it be addressed in another permit/approval or with a T&C?	The identified gap can be addressed during the NSECC watercourse and/or wetland alteration approval process(es) and DFO regulatory review process. WUAs associated with this project in or near water that may result in potential harmful impacts on fish or fish habitat will require DFO regulatory review to avoid, mitigate or offset those impacts.
Define/provide detail	For WUAs that may result in potential harmful impacts on fish or fish habitat, additional information will be required as part of the DFO regulatory review process, including detailed information on the proposed WUAs, a detailed description of the fish and fish habitat found at the location of the proposed WUAs, a detailed description on the likely effects of the proposed WUAs on fish and fish habitat, and a detailed description of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat.

Summary of Recommendations: (provide in non-technical language)

DFO recommends the proponent:

- Submit detailed information on the proposed watercourse crossing and wetland alteration designs, detailed descriptions of the fish and fish habitat found at the location of the proposed WUAs, detailed descriptions on the likely effects of the proposed WUAs on fish and fish habitat (including local and cumulative impacts, potential impacts on species at risk, and direct and indirect impacts on fish habitat), and detailed descriptions of the measures and standards that will be implemented to avoid and mitigate potential harmful impacts on fish and fish habitat.

- Consider open bottom structures, such as clear span bridges and open bottom arch culverts for fish bearing watercourse crossings rather than closed bottom structures, where possible; and

- Refer to DFO's website, https://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html, for further information on DFO's regulatory review process and for further measures to protect fish and fish habitat.

This information can be provided through the NSECC watercourse and/or wetland alteration approval process(es) and/or through submission of a DFO Request for Review application directly to DFO. DFO will then conduct a regulatory review of the proposed project under the *Fisheries Act*, *Species at Risk Act*, and Aquatic Invasive Species Regulations to determine if an authorization under the *Fisheries Act* and/or a *Species at Risk* permit is required.

NOVA SCOTIA

Agriculture

60 Research Drive
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B6L 2R2

Date: June 8, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Heather Hughes, Executive Director, Policy and Corporate Services, Nova Scotia Department of Agriculture

Subject: Highway 101 Cambridge Interchange and Connector Road Project Kings County, Nova Scotia

Thank you for the opportunity to review the documents for the above-noted project.

Departmental review of the project documents has identified the following:

- The project is located on class 4 soils, Canada Land Inventory. Class 4 soils have severe limitations that restrict the range of crops or require special conservation practices.

- The entire right-of-way for the proposed interchange is 52.3 hectares of which 24.1 hectares is agricultural land. There will be some fragmenting of agricultural land where the right-of-way is located. Approximately 18 hectares are field crops, 3.7 hectares are fruit (apple), and 2 hectares are row crops.

- In addition, a bee operation may be affected.

Protection of Agriculture land is a key priority for the industry and is reflected in the Nova Scotia Statement of Provincial Interest for Agriculture.

Date: June 8, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Nova Scotia Office of L'nu Affairs – Consultation Division; **Reviewed by Beata Dera, Director of Consultation**

Subject: Highway 101 Cambridge Interchange and Connector Road Project, Kings County, Nova Scotia

Scope of review:
The following review considers whether the information provided will assist the Province in assessing the potential of the proposed Project to adversely impact established and/or asserted Mi'kmaw Aboriginal and/or Treaty rights.

Technical Comments:

3.1 Indigenous Engagement and Consultation

This section provides an overview of the engagement with the Mi'kmaq of Nova Scotia undertaken by the Proponent to-date, however information related to concerns raised through the engagement process and how those concerns have been addressed and/or accommodated for is not included in the EARD.

This section states that a Mi'kmaq Ecological Knowledge Study (MEKS) is being completed by Membertou Geomatics Solutions and that a site walkthrough was completed in July 2022 and community interviews are expected to be completed in 2023. This section further states that results from the MEKS will be shared separately from the Registration Document. As such, at the time of registration, the MEKS remained incomplete, and the results of the study were not considered within the EARD. Given the lack of information about the practice of traditional and current use activities included within the EARD, OLA is limited in our ability to assess whether the proposed Project will adversely impact established and/or asserted Mi'kmaw Aboriginal and/or Treaty rights.

Summary of Technical Considerations: (provide in non-technical language)

Crown consultation with the Mi'kmaq of Nova Scotia is ongoing for this Project. The Mi'kmaq of Nova Scotia may provide additional information that informs the regulator in assessing the proposed Project's potential impacts to established and/or asserted Mi'kmaw Aboriginal and Treaty rights and appropriate accommodation and mitigation measures. Currently, OLA can provide the following comments and recommendations:

Section 3.1 Indigenous Engagement and Consultation

This section summarizes Mi'kmaq engagement efforts and includes communications with Annapolis Valley First Nation (AVFN), Millbrook First Nation, Sipekne'katik First Nation, and the KMKNO. OLA recommends that the Proponent continues to engage with these communities, including KMKNO, and provide regular updates throughout the duration of the Project.

6.7 Wetlands

6.7.3 Environmental Effects Analysis

This section states that "once available, detailed site and bridge designs, specifically for grading and watercourse crossings, will better identify wetland impacts and quantify the amount required to offset the wetland and fish habitat losses". OLA encourages the Proponent to promptly share all design plans, as they become available, with the Mi'kmaq for their review and to provide feedback.

6.7.4 Mitigation Measures

This section states that "NSDPW has developed wetland compensation projects and banks in advance of unavoidable habitat loss by it's construction projects, and actively collaborates with the Mi'kmaq of Nova Scotia and local, provincial, and national groups that focus on wetland habitat restoration to identify new projects".

OLA is encouraged to see that the Proponent is proactively collaborating with the Mi'kmaq of Nova Scotia on wetland compensation projects. OLA continues to encourage the Proponent to engage with the Mi'kmaq of Nova Scotia on wetland compensation projects. OLA further recommends that a Mi'kmaq Communication Plan be developed in consultation with the Mi'kmaq and that the Plan should consider aspects relating to wetland mitigation, compensation and monitoring plans.

6.8 Fish and Fish Habitat

6.8.1 VEC Description and Boundaries

This section states that the Cornwallis River and Coleman Brook are both watercourses that have historically been a valuable resource to Mi'kmaw communities in the area as fishing and harvesting grounds.

6.8.4 Mitigation Measures

This section states that "NSDPW has developed fish habitat projects and banks in advance of unavoidable habitat loss by its construction projects, and actively collaborates with the Mi'kmaq of Nova Scotia and local, provincial and national groups that focus on fish and fish habitat restoration to identify new projects".

OLA is encouraged to see that the Proponent is proactively collaborating with the Mi'kmaq of Nova Scotia on fish habitat offsetting projects. OLA continues to encourage the Proponent to engage with the Mi'kmaq of Nova Scotia on fish habitat offsetting projects and to share any mitigation and monitoring plans as they become available for their review and feedback. OLA further recommends that a Mi'kmaq Communication Plan be developed in consultation with the Mi'kmaq and that the Plan should consider aspects relating to fishing activities.

6.10 Traditional Use of Land and Resources

Based on the EARD, an MEKS is currently being undertaken for the proposed Project however it is not available at the time of registration. As such, and as stated above, OLA is of the opinion that there is a lack of information regarding knowledge of traditional land and resource use within the Project Area. Given the proximity of the proposed Project to AVFN and the Cornwallis River and Coleman Brook, which are understood to be areas of traditional use for the Mi'kmaq, information contained within the MEKS is of particular importance as it relates to gaining a better understanding of potential adverse effects on Aboriginal and Treaty rights. The Proponent has committed to considering the information about potential adverse effects on Aboriginal and Treaty rights to be identified in the MEKS when advancing its project design and construction work.

OLA encourages the regulator to carefully consider the information contained in the MEKS and factor relevant information into the decision-making process. For example, information regarding current rights activities within the project area and potential impacts to those activities that may occur from this project. OLA recommends that the proponent continues to engage in discussions with the Mi'kmaq of Nova Scotia to address mitigation measures for potential impacts on traditional and current use activities within the Project area.

6.11 Archaeology and Heritage Resources

6.11.2 Mitigation Measures

This section states that "prior to commencement, a "Care of Artifacts Plan" should be developed and submitted to CCTH, KMKNO-ARD and Annapolis Valley First Nation (AVFN) to identify the protocols in place should artifacts of Mi'kmaq origin be discovered".

OLA is encouraged to see that the Proponent is proactively engaging with the KMKNO-ARD and AVFN as it relates to the potential discovery of artifacts of Mi'kmaq origin. OLA continues to encourage the Proponent to continue to engage with the KMKNO-ARD and AVFN in this regard, particularly if there is potential for the Project to interact with archaeology and heritage resources., It is our understanding that archaeology assessment work is still ongoing and therefore this work not yet been reviewed and approved by CCTH. Once it is approved by CCTH, the proponent is urged to share the archaeology assessment work with KMKNO-ARD and AVFN.

Registration #: 211-04152-00 – Highway 101 Cambridge Interchange and Connector Road Project

COMMENTS:
The federal environmental assessment process is set out in the *Impact Assessment Act* (IAA). The *Physical Activities Regulations* (the Regulations) under IAA set out a list of physical activities considered to be "designated projects." For designated projects listed in the Regulations, the Proponent must provide the Agency with an Initial Description of a Designated Project that includes information prescribed by applicable regulations (*Information and Management of Time Limits Regulations*).

Based on the information submitted to the Province of Nova Scotia on the proposed Highway 101 Cambridge Interchange and Connector Roads Project, it does not appear to be described in the Regulations. Under such circumstances the Proponent would not be required to submit an Initial Description of a Designated Project to the Agency. However, the Proponent is advised to review the Regulations and contact the Agency if, in their view, the Regulations may apply to the proposed project.

The Proponent is advised that under section 9(1) of the IAA, the Minister may, on request or on his or her own initiative, by order, designate a physical activity that is not prescribed by regulations made under paragraph 109(b) if, in his or her opinion, either the carrying out of that physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation. Should the Agency receive a request for a project to be designated, the Agency would contact the Proponent with further information.

The proposed project may be subject to sections 82-91 of IAA. Section 82 requires that, for any project occurring on federal lands, the federal authority responsible for administering those lands or for exercising any power to enable the project to proceed must make a determination regarding the significance of environmental effects of the project. The Agency is not involved in this process; it is the responsibility of the federal authority to make and document this determination.

The Proponent is encouraged to contact the Agency at (902) 426-0564 if it has additional information that may be relevant or if it has any questions or concerns related to the above matters.

Lachlan MacLean

Project Manager, Atlantic Regional Office
Impact Assessment Agency of Canada / Government of Canada
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NOVA SCOTIA
Environment and Climate Change

Date: June 8, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Inspection, Compliance and Enforcement Division, Kentville Office

Subject: Highway 101 Cambridge Interchange and Connector Road Project, Kings County, Nova Scotia

Scope of review:
This review focuses on the following mandate: Surface water, groundwater, air quality, watercourse alteration, erosion & sedimentation control, environmental and emergency management; existing land use; noise

Technical Comments:

- Wetland alteration applications must be submitted to Dept. in full for each separate wetland body before work starts if project is approved.
- Separate watercourse alteration applications must also be submitted for each watercourse crossing / alteration.
- Laydown areas should be located in areas to avoid potential erosion and sedimentation impacts to wetlands/watercourses and adhere to
- The South Connector Road will be adjacent to the Municipality of the County of Kings' Sewage Treatment Plan and Septage Treatment Facility. The minimum separation distance between the Road (and any property boundary realignment) and these facilities is unclear. Each of these facilities would have had to meet minimum separation distances at the time of their construction. The current minimum separation distances (e.g., from lagoons to roads and property lines) are specified in the *Atlantic Canada Wastewater Systems Guidelines* and the *Nova Scotia Environment and Labour Guidelines for the Handling, Treatment and Disposal of Septage*. Further, the composition of the buffer area is unclear.
- Two pits (one owned by The Shaw Group Ltd. and one owned by Twin Mountain Construction) with active industrial approvals and active/pending environmental assessment approvals from the Province are located within 3 km of the Project. Traffic is often an adverse impact associated with pits. The Project could alleviate some local traffic from these Pits, although the effect is unknown.
- While some erosion and sediment controls are presented, a detailed or the development of a detailed site-specific erosion and sediment control plan is not proposed. It is noted that the "Generic EA Mitigations Highway Projects" do require such a plan though.
- Pre-blast surveys are limited to water wells within 500 m of the highway.
- It is unclear whether new pits and/or quarries will be constructed as part of the Project.

Summary of Technical Considerations: (provide in non-technical language)

- Provide erosion and sedimentation control plans with applicable applications (separate from the EA application).
- Adhere to *Nova Scotia Watercourse Alteration Standard*, where applicable, and consider during application process.
- Consider confirming/maintaining/meeting the minimum separation distances specified in the *Atlantic Canada Wastewater Systems Guidelines* and the *Nova Scotia Environment and Labour Guidelines for the Handling, Treatment and Disposal of Septage*. Given that the Road will be constructed after the Sewage Treatment Plant and Septage Treatment Facility have been constructed, the Municipality of the County of Kings may not be required to maintain these distances; however, designing the project to meet the requirements may aid in mitigating impacts to the Project (e.g., odour).
- Consider maintaining a treed buffer between the project and the Sewage Treatment Plant and Septage Treatment Facility to mitigate impacts to the Project (e.g., odour, visual aesthetics) and from the Project (e.g., noise and dust).
- Erosion and sediment controls should also be installed/implemented in accordance with the *Nova Scotia Department of the Environment Erosion and Sedimentation Control Handbook for Construction Sites* (if more protective than the other reference guidance).
- Consider conducting pre-blast surveys (in accordance with the Nova Scotia Department of the Environment *Procedure for Conducting a Pre-Blast Survey*) of structures within 800 m of the Project (consistent with the Nova Scotia Environment and Labour *Pit and Quarry Guidelines*).
- Confirm whether pits (or at least pits larger than 2 ha) and quarry operations will be constructed as part of the Project. If so, they should adhere to the Nova Scotia Environment and Labour *Pit and Quarry Guidelines.*

NOVA SCOTIA
Natural Resources and Renewables

1701 Hollis St.
PO Box 698
Halifax, NS B3J 2T9

Date: June 8, 2023

To: Renata Mageste da Silva, Environmental Assessment Officer

From: Department of Natural Resources and Renewables

Subject: **Highway 101, Cambridge Interchange, Kings County, Nova Scotia**

The Department of Natural Resources and Renewables (herein the Department or NRR) provides the following comments on the above project:

Scope of review:
This review focuses on the following mandate: authorities and approvals required from the Land Services Branch, biodiversity, species at risk status and recovery, wildlife species and habitat management and conservation, including forest resources and ecosystems, mineral resources and mines.

Technical Comments:

Parks Division:
No concerns from a provincial park or designated protected beach program perspective.

Land Services Branch:
A portion of the interchange project crosses Crown lands currently identified as PID 55170856. The Project Description (2.2.2) states that a tunnel will be constructed to accommodate the existing trail. The Department of Public Works will require authority (Letter of Authority, Licence, Easement or other legal instrument) from NRR to realign the trail under the road.

The Crown lands were formerly used as a rail corridor and are:

- designated snow vehicle trails pursuant to subsection 12D(1) of Chapter 323 of the revised Statutes of Nova Scotia, 1989, the *Off-Highways Vehicles Act* and the *Off-Highways Vehicles Designated Trails and Trail Permits Regulations* made under the Act (this designation is effective annually from December 1 to March 31);
- included in a license agreement dated February 22, 2007 between NRR and Snowmobilers Association of Nova Scotia;
- encumbered by a letter of authority between NRR and the Kings County Trails Society for a multi-use trail and related facilities.

Further approvals may be required from NRR for changes to the trail.

Wildlife Division:

A number of breeding bird survey points (BBS-1, 3, 13, 14, 15, 20) all appear to be located within 50 m of Highway 101, Highway 1, or Waterville Mountain Road. BBS 14 and 20 also appear to overlap in terms of their detectability range (100 m from the point count station). The suitability of these sites is questionable, given the potential for noise from traffic interfering with passive (silent) observation periods, creating a bias in the results provided. Based upon photos provided in Annex C of Appendix G, there are several breeding bird survey points (BBS- 10, 17, 19, 24) within either recently harvested or very newly growing crop vegetation, which raises questions concerning the habitat value for species meant to be captured through this survey. The information provided either within the body of the EARD or the Appendices does not provide sufficient information to properly assess the results. Further details on the survey methodology are requested.

Detailed information on vegetation surveys was not provided. Figures showing survey site selection or GPS transects were not provided in either Section 5.2 or Appendix D which would clarify survey location and coverage for the PDA and LAA. Selection of areas in which surveys were conducted was not clearly defined. Dates of surveys were indicated as between August 18 and September 30th, which is late in the season, possibly resulting in missing early season flowering times for some species (e.g., Wild Leek flowering occurs in July); vegetation surveys during both spring/summer and fall seasons are recommended. In addition, there is a discrepancy in survey dates where earlier in Appendix D states that “a total of 99 species of vascular plants were identified during field surveys conducted between May and September of 2021”. It is unclear if these were dedicated vegetation surveys or incidental observations captured as part of other field work. Additional details on survey methodology are requested.

The photographic log in Appendix F-Wood Turtle Habitat Assessment provided does not indicate where these photos were taken along the Cornwallis River, Coleman Brook, and Rochford Brook. It would be beneficial to tie these photos back to locations shown in Figure 1 of the Appendix to provide context and assess risk associated with the project construction and operation.

The AC CDC report indicated that Black Ash (*Fraxinus nigra*) intersected with the study area. The proponent was made aware of the potential for Black Ash to be present through previous scoping meetings with NRR and Black Ash Core Habitat (incorrectly identified as Critical Habitat by the proponent in Section 5.2.1, page 53) was located roughly 3 km from the LAA. The proponent did not provide suitable information in Section 5.2 or Appendix D to assess survey effort for presence of Black Ash.

Forestry Division:

The proposed Highway 101 Cambridge Interchange project does not appear to present major threats to forest resources and ecosystems in the local assessment area (LAA). Only a small area of Crown forests (< 2 ha) exists that is dominated by early successional species like white birch and aspen species. However, this forest

cover should be retained where possible as it provides shade, habitat, and aesthetic to the rail-to-trail system along which it is situated.

The remaining forests are situated on small private lands and contain a mix of azonal spruce-pine forests, old-field white spruce, and some potential floodplain forests. Intolerant hardwood species dominate much of these forests. Care should be taken around any floodplain forests that might exist or can be restored, since development and land-use conversion of floodplain forests in the province is common (and therefore a potential cumulative effect). The EA provides little-to-no mention of the Annapolis Valley sand barrens. This is a rare type of ecosystem that requires attention – consult the Wildlife Division of NRR if additional information is needed. (See also: https://novascotia.ca/natr/wildlife/pdf/Barrens-Classification.pdf)

Geoscience and Mines Branch:
No comments to make in this review regarding the *Mineral Resource Act and Regulations.*

Summary of Technical Considerations: (provide in non-technical language)

Land Services Branch:
No comment

Wildlife Division:
The department offers the following recommendations:

- It is the responsibility of the proponent to ensure compliance with federal and provincial legislation and regulations regarding resident, migratory and at-risk bird species and their habitats (e.g., *Species at Risk Act, Migratory Birds Convention Act, Fisheries Act, NS Endangered Species Act, NS Wildlife Act*, and their regulations).

- Obtain all necessary permits as required under legislation related to wildlife and species at risk in order to undertake the project.

- Should work commence prior to the development of a Wildlife Management Plan in consultation with - and approved by NRR, the proponent should contact NRR (biodiversity@novascotia.ca) to discuss permits, particularly if the project has potential impacts on threatened or endangered species. The absence of effective mitigations may lead to breaches in prohibitions as per s.13(1) of the *Endangered Species Act*.

- Provide digital way points and/or shapefiles for all Species at Risk, Species of Conservation Concern to NRR (those species listed and/or assessed as at risk under the *Species at Risk Act*, *Endangered Species Act*, COSEWIC, as well as all S1, S2 and S3 species) and all flora and fauna surveys. Data should adhere

to the format prescribed in the NRR Template for Species Submissions for EAs and is to be provided within two (2) months of collection.

- Prior to the development of a Wildlife Management Plan (WMP), field surveys should occur to address information gaps that prevent a full risk assessment to SAR or SOCC, which is necessary before appropriate mitigation measures can be developed. Methodology and timing must follow standard science-based protocols and must be of sufficient scale and detail to inform the development of mitigation measures. These include:
    - Breeding bird surveys (potentially, addressed with additional information not provided in EARD)
    - Vegetation surveys
    - Wood Turtle surveys (potentially, addressed with additional information not provided in EARD)
    - Black ash surveys

- Develop a Wildlife Management Plan (WMP) based on standard, science-based practices, which shall include:
    - Communication protocol with regulatory agencies;
    - General wildlife concerns (e.g., human-wildlife conflict avoidance);
    - Noise, dust, blasting, and lighting mitigations;
    - Measures to protect and mitigate against adverse effects to migratory birds during construction and operation. This may include avoidance of certain activities (such as vegetation clearing) during the regional nesting period for most birds, buffer zones around discovered nests, limiting activities during the breeding season around active nests, and other best management practices.
    - Mitigation measures to avoid and/or protect SAR/SoCC and associated habitats discovered through survey work or have the potential to be found on site, which include, but is not limited to Bank Swallow, Barn Swallow, Black ash, Bobolink, Eastern Painted Turtle, Eastern Wood-pewee, Monarch, Olive-sided Flycatcher, Snapping Turtle, Wild Leek, Wood Turtle.
    - Details on monitoring and inspections to assess compliance with the WMP.
    - NOTE: Review of the Wildlife Management Plan by NRR may reduce the risk of impacts to biodiversity.

- Revegetate cleared areas using native vegetation or seed sources following consultation with NRR.

- Develop a plan to prevent the spread of invasives both on and off site. Implementation of the plan.

- Using knowledge and experience related to recent highway projects, develop a wildlife crossing plan . The plan does not need to include large mammal crossings.

- Any wildlife crossing plan, structural components, or vegetation management associated with the bridge crossing for the Cornwallis River must not disturb Wild Leek present within the PDA or LAA and should support the protection of turtle habitat.

- The protection of Wood Turtle and its habitat, pending the review of the 2023 field surveys, which may include additional mitigations, and inclusion in road design and wildlife crossing plan development.

Forestry Division:

The department offers the following recommendations:

- Provide the Department with additional information on tree planting activities including: species, stock type, site preparation, and density and ensure that the trees that are planted are appropriate species for local ecosystem conditions.
- Provide the Department with mitigations to protect the Annapolis Valley sand barrens (rare ecosystem)

Kwilmu'kw Maw-klusuaqn Negotiation Office
Mi'kmaq Rights Initiative

Our Rights. Our Future.

75 Treaty Trail
Truro, NS B6L 1W3

Tel (902) 843 3880 **Fax** (902) 843 3882
Toll Free 1 888 803 3880
Email info@mikmaqrights.com
www.mikmaqrights.com

June 8th, 2023

Renata Mageste da Silva
Environmental Assessment Officer
Environmental Assessment Branch
Nova Scotia Environment and Climate Change
Email: renata.magestedasilva@novascotia.ca

RE: Continuing Consultation with the Mi'kmaq of Nova Scotia on the Highway 101 Cambridge Interchange and Connector Roads Project

Ms. Mageste da Silva,

I write to acknowledge receipt of your letter dated May 2nd, 2023, with respect to continued consultation under the *Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process* (ToR) as ratified on August 31, 2010, on the above noted project.

It is acknowledged that Nova Scotia Public Works (NSPW) and the proponent have continued to engage with Annapolis Valley First Nation (AVFN). Clearly, there is confidence that the new interchange will not only increase safety for surrounding communities but will also help increase local economic opportunities. AVFN has made significant efforts and contributions to ensure this project will proceed and provide mutual benefits to not only the Mi'kmaw community, but the surrounding communities, as well. It must be further acknowledged that AVFN has worked collaboratively with the province and the municipality to get this project off the ground.

We have reviewed the information provided including the activities to implement the project such as the disturbance of more than 2 hectares (ha) of wetlands. Wetlands are unique ecosystems and are difficult to truly replicate. The Environmental Assessment Registration Document (EARD) states that the proponent may need to implement compensation, follow-up monitoring and inspections as required for the project. It is recommended that the proponent contacts the Mi'kmaw Conservation Group to support any of these efforts. We are pleased to help facilitate this connection.

The EARD also states that vegetation-clearing and grubbing will occur as part of the site preparations. Our office recommends reaching out to local Mi'kmaw communities to ascertain if community members may wish to use resources intended to be cleared.

Our office is encouraged to see that a Mi'kmaw Ecological Knowledge Study (MEKS) is being completed by Membertou Geomatics Solutions. Please forward the final MEKS to our office when it becomes available.

It is encouraging to see this EARD assess the cumulative impacts of this project and its surrounding areas. With the large volume of proposed projects being submitted to regulators and approved in recent months, it is our expectation that Nova Scotia Environment and Climate Change (NS-ECC) is also monitoring the cumulative impacts of all projects within Mi'kma'ki (the unceded land of the Mi'kmaq).

Kwilmu'kw Maw-Klusuaqn Negotiation Office (KMKNO) Archaeological and Research Department (ARD) has reviewed the Highway 101 Cambridge Interchange EARD, particularly Section 6.11 (Archaeology and Heritage Resources). A summary of the archaeological work completed to date, mitigation plans and contingency plans are included in the EARD. While our office is encouraged to see that shovel testing was planned to be completed in Fall 2022, assessment work is ongoing and therefore has not yet been made available to us by Communities, Culture, Tourism and Heritage (CCTH). Our office expects to review the results of this shovel testing before commenting any further. Should this project be approved by the Minister of Environment and Climate Change, KMKNO recommends that one of the terms and conditions be to follow up on the results of this shovel testing with our office. We must emphasize that this is an extensive project with a footprint that exhibits impacts within a landscape that has an underdeveloped investigative record of Mi'kmaw archaeological heritage in a historically significant Mi'kmaw place.

We also request, in follow up to this letter, a consultation meeting with NS-ECC and NSPW.

Please coordinate with Mise'l Abram, to identify a mutually suitable date.

Yours in Recognition of Mi'kmaw Rights and Title,

Director of Consultation
Kwilmu'kw Maw-Klusuaqn Negotiation Office

c.c.:

Chief of Annapolis Valley First Nation
Kwilmu'kw Maw-klusuaqn Negotiation Office
Gillian Fielding, Nova Scotia Office of L'nu Affairs
Melissa Slauenwhite, Nova Scotia Office of L'nu Affairs
Jennifer Lonergan, Environment and Climate Change
Donna Hurlburt, Natural Resources and Renewables
Geoff Lahey, Services Canada
Gabriella Arsenault, Transport Canada

From: t@gmail.com>
Sent: Wednesday, May 10, 2023 7:33 PM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

Project: highway-101-cambridge-interchange Comments: really.another unnecessary use of publics funds, and another ecological danger. We do not need this extra exit who is advocating for it and why? There are so many more appropriate uses for public money instead of MORE ROADS, more greenhouse gases with every road build, and reduction of valuable tree/greenspaces in terms of CO2. Is anyone thinking about the future? Name: Email: @gmail.com Address: Municipality: Wolfville email_message: Privacy-Statement: agree x: 46 y: 21

From: @gmail.com>
Sent: Wednesday, June 7, 2023 6:37 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

** EXTERNAL EMAIL / COURRIEL EXTERNE **
Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Project: highway-101-cambridge-interchange Comments: Dear Minister Halman This project should be abandoned immediately on the grounds that it would be destructive of wild nature, home to a wide range of species and it would result in a net increase in greenhouse gas emissions which cause climate change. The world is in a climate emergency and in the midst of the sixth mass extinction of plant and animal species, caused by the ever-increasing emission of greenhouse gases and the ever-decreasing amount of forested land which captures and sequesters carbon dioxide. 30 of global GHG emissions come from destroying wild nature and converting landscapes to other uses, away from capturing carbon from the atmosphere. Scientists, who contributed to the recently-published International Panel on Climate Change IPCC report by the United Nations, are screaming as loud as they can for decision-makers like you worldwide to reduce GHG emissions immediately. â?oStop destroying wild nature and start restoring landscapes that have already been disturbed, by reforesting them,â?□ they shout. This project does the exact opposite. Concerned citizens of Nova Scotia demand an end to projects that needlessly destroy wild nature and release carbon back into the atmosphere. This environmental assessment report does NOT adequately assess this essential topic. For example, this report does NOT assess the carbon dioxide that would be emitted by the forest soils disturbed by site preparation. It does NOT account for the GHG emissions that would result from the burning of biomass from the clear-cutting of the forest. It under-estimates the amount of carbon that has already been stored in the forests that would be destroyed. And, it does NOT account for the loss of annual carbon capture these forests perform every year, which would be destroyed by site preparation. Appendix A is an embarrassment to the profession of GHG emission analysis. It is riddled with unrealistic assumptions and pie-in-the-sky fantasies, chosen simply to justify the project and secure funding from Ottawa. For example, the percentage of vehicles travelling to Waterville that will be electric, non-polluting, vehicles over the next fifty years is totally detached from reality. An even more likely assumption, which is not considered in the report, is that, over the next 50 years, Michelin will automate their plant in Waterville. This would reduce the number of employees needed to run it and therefore would actually reduce the number of vehicles traveling to and from the plant every day to a trickle. Over all, this â?~business as usualâ?T project would encourage the use of personal, polluting transportation methods rather than discouraging it. In my experience I was a manager in Natural Resources for seven years, public comments on an Environmental Assessment never result in any meaningful change to an existing development plan. Comments from concerned citizens are invited simply to allow government to check a box in the approval process. I donâ?Tt expect my comments to create any significant changes to your plans to destroy wild nature. But I am hopeful that you will give serious consideration to one small change that would save some 80-year-old pine trees that have already stored a significant amount of carbon and continue to do so every year through the magic of photosynthesis. I suggest you ever-so-slightly alter the route of the access road south from Brooklyn Street. Instead of turning it west, cutting through a stand of magnificent white pines, please

route that access road so that it continues straight south, until it extends past the stand of trees. Once it is past the trees, it should then turn west through the existing open field to the planned traffic circle at Highway 101. This simple rerouting of the access road would save hundreds of large trees that are presently doing a fantastic job of capturing GHGs and providing habitat to numerous species of wildlife. In fact, this small forest could capture even more carbon if it were selectively thinned to allow the trees to grow even faster. In addition, this rerouting would require just one stream crossing instead of the two proposed in the existing plan. Saving this stand of trees would demonstrate your commitment to respect and protect the natural environment. This is a very small ask. However, it would have a large impact on how this project demonstrates to voters the priorities of your government. Thank you for your attention.
Name: Email: @gmail.com Address: Black Rock, Kings County, N.S.
Municipality: Black Rock email_message: Privacy-Statement: agree x: 55 y: 34

From: @gmail.com>
Sent: Wednesday, June 7, 2023 8:51 AM
To: Environment Assessment Web Account <EA@novascotia.ca>
Subject: Proposed Project Comments

Project: highway-101-cambridge-interchange Comments: Dear Minister Rushton. I suggest you ever-so-slightly alter the route of the access road south from Brooklyn Street. Instead of turning it west, cutting through a stand of magnificent white pines, please route that access road so that it continues straight south, until it extends past the stand of trees. Once it is past the trees, it should then turn west through the existing open field to the planned traffic circle at Highway 101. This simple rerouting of the access road would save hundreds of large trees that are presently doing a fantastic job of capturing GHGs and providing habitat to numerous species of wildlife. In fact, this small forest could capture even more carbon if it were selectively thinned to allow the trees to grow even faster. In addition, this rerouting would require just one stream crossing instead of the two proposed in the existing plan. Saving this stand of trees would demonstrate your commitment to respect and protect the natural environment. This is a very small ask. However, it would have a large impact on how this project demonstrates to voters the priorities of your government. Thank you for your attention. Name: Email: @gmail.com Address: Municipality: Hantsport email_message: Privacy-Statement: agree x: 72 y: 24

Maritime Aboriginal Peoples Council

The Maritime Regional Aboriginal Leaders
Intergovernmental Council of Aboriginal Peoples
Continuing to Reside on Traditional Ancestral Homelands

Forums

- ❑ Leaders Congress
- ❑ MAPC Commissions/Projects
- ❑ MAARS Secretariate
- ❑ IKANAWTIKET SARA
- ❑ MAPC Administration

MAPC Regional
Administrative Office
80 Walker Street, Suite 3
Truro, Nova Scotia
B2N 4A7

Tel: 902-895-2982
Fax: 902-895-3844
Toll Free: 1-855-858-7240
Email: frontdesk@mapcorg.ca

Governmental
APRO Councils

Native Council of
Nova Scotia
P.O. Box 1320
Truro, Nova Scotia
B2N 5N2

Tel: 902-895-1523
Fax: 902-895-0024
Email: chieflaugustine@ncns.ca

New Brunswick Aboriginal
Peoples Council
320 St. Mary's Street
Fredericton, New Brunswick
E3A 2S4

Tel: 506-458-8422
Fax: 506-451-6130
Email: chief@nbapc.org

Native Council of
Prince Edward Island
6 F.J. McAuley Court
Charlottetown
Prince Edward Island
C1A 9M7

Tel: 902-892-5314
Fax: 902-368-7464
Email: chief@ncpei.com

June 7th, 2023

Environmental Assessment Branch
P.O. Box 442
Halifax, Nova Scotia
B3J 2P8

RE: Highway 101 Cambridge Interchange and Connector Roads

To Whom It May Concern,

On behalf of the Native Council of Nova Scotia (NCNS), the Maritime Aboriginal Aquatic Resources Secretariate (MAARS) is providing comments to the Environmental Assessment Branch of the Nova Scotia Department of Environment and Climate Change regarding the Environmental Assessment Application for the Highway 101 Cambridge Interchange and Connector Roads proposed undertaking.

At this time, MAARS and NCNS do not have any commentary to provide related to this proposed undertaking, however we would like be kept apprised to any developments or changes to the project. We would also request the opportunity to review the offsetting plan for this undertaking when the document becomes available.

We would like to take this opportunity to reiterate that it is important for all proponents of projects to understand that the Off-Reserve Aboriginal Community represented by the NCNS is included within the definition of the word "Indian" of Section 91(24) of the *Constitution Act*, 1982. The Supreme Court of Canada in a landmark decision in *Daniels v. Canada (Indian Affairs and Northern Development)*, 2016 SCC 12. declared that "the exclusive Legislative Authority of the Parliament of Canada extends to all Indian, and Lands reserved for the Indians" and that the "word Indians' in s.91(24) includes Métis and non-Status Indians"[1]. Since 2004, in multiple decisions passed by the

[1] Daniels v. Canada (Indian Affairs and Northern Development), 2016 SCC 12, [2016] 1 S.C.R. 99

Supreme Court of Canada: *Haida Nation*[2], *Taku River Tlingit First Nation*[3], *and Mikisew Cree First Nation*[4], has established that,

> Where accommodation is required in decision making that may adversely affect as yet unproven Aboriginal Rights and title claims, the Crown must balance Aboriginal concerns reasonably with the potential impact of the decision on the asserted right or title and with other societal interests.

Further, both the Government of Nova Scotia and the Government of Canada are aware that the "Made in Nova Scotia Process" and the *Mi'kmaq-Nova Scotia-Canada Consultation Terms of Reference* does not circumvent the Provincial Government's responsibility to hold consultations with other organizations in Nova Scotia that represent Indigenous Peoples of Nova Scotia. While the proponent may have to engage with the thirteen Mi'kmaq First Nations through the Assembly of Nova Scotia Mi'kmaq Chiefs, represented by the Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO), the KMKNO does not represent the Off-Reserve Aboriginal Community who have elected to be represented by the NCNS since 1974.

We assert that the Off-Reserve Aboriginal Communities, as 91(24) Indians, are undeniably heirs to Treaty Rights and beneficiaries of Aboriginal Rights as substantiated by Canada's own Supreme Court jurisprudence. As such, there is absolutely an obligation to consult with the Off-Reserve Community through their elected representative body of the NCNS. The Crown's duty to consult with all Indians extends beyond that only with Indian Act Bands, or as through the truncated Terms of Reference for a Mi'kmaq Nova Scotia Canada Consultation Process.

For contextual purposes, for over forty years, the three Native Council partners of the Maritime Aboriginal People's Council (MAPC) have continued to be the Aboriginal Peoples Representative Organizations representing and advocating for the Rights and issues of the Mi 'kmaq/Wolastoqiyik/Peskotomuhkati/Section 91 (24) Indians, both Status and non-Status, continuing to reside on their unceded Traditional Ancestral Homelands. In the early 1970s, the communities recognized the need for representation and advocacy for the Rights and Interests of the off-Reserve community of Aboriginal Peoples, "the forgotten Indian". Women and men self-organized themselves to be the "voice to the councils of government" for tens of thousands of community members left unrepresented by Indian Act-created Band Councils and Chiefs. Based on the Aboriginal Identity question, Statistics Canada (2016 Census - 25% sample) enumerate 21,915 off-Reserve Aboriginal Persons in New Brunswick, 42,145 in Nova Scotia, and 2,210 in Prince Edward Island.

Each Native Council in their respective province asserts Treaty Rights, Aboriginal Rights, with Interest in Other Rights confirmed in court decisions, recognized as existing Aboriginal and Treaty Rights of the Aboriginal Peoples of Canada in Part II of the Constitution Act of Canada, 1982. Each Native Council has established and maintains Natural Harvesting Regimes, and each have a co-management arrangement with DFO for Food, Social, and Ceremonial use of aquatic species,

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[2] Haida Nation v. British Columbia (Minister of Forests), (2004), 2 S.C.R. 511

[3] Taku River Tlingit First Nation v. British Columbia (Project Assessment Director), (2004), 3 S.C.R. 550

[4] Mikisew Cree First Nations v. Canada (Minister of Canadian Heritage), (2005), 3 S.C.R. 388

through the: Najiwsgetaq Nomehs (NBAPC), the Netukulimkewe'l Commission (NCNS), and the Kelewatl Commission (NCPEI).

The Native Council of Nova Scotia was organized in 1974 and represents the interests, needs, and rights of Off-Reserve Status and Non-Status Section 91(24) Indians/Mi'kmaq/Aboriginal Peoples continuing on our Traditional Ancestral Homelands throughout Nova Scotia as Heirs to Treaty Rights, Beneficiaries of Aboriginal Rights, with Interests to Other Rights, including Land Claim Rights.

The Native Council of Nova Scotia (NCNS) Community of Off-Reserve Status and Non-Status Indians/Mi'kmaq/Aboriginal Peoples supports projects, works, activities and undertakings which do not significantly alter, destroy, impact, or affect the sustainable natural life ecosystems or natural eco-scapes formed as hills, mountains, wetlands, meadows, woodlands, shores, beaches, coasts, brooks, streams, rivers, lakes, bays, inland waters, and the near-shore, mid-shore and off-shore waters, to list a few, with their multitude of in-situ biodiversity. Our NCNS Community has continued to access and use the natural life within those ecosystems and eco-scapes where the equitable sharing of benefits arising from projects and undertakings serve a beneficial purpose towards progress in general and demonstrate the sustainable use of the natural wealth of Mother Earth, with respect for the Constitutional Treaty Rights, Aboriginal Rights, and Other Rights of the Native Council of Nova Scotia Community continuing throughout our Traditional Ancestral Homeland in the part of the Mi'kma'ki now known as Nova Scotia.

We would appreciate an opportunity to engage on the Highway 101 Cambridge Interchange and Connector Roads undertaking directly with the province of Nova Scotia, specifically the Department of Public Works. We look forward to further dialogue as we continue to advocate for the rights of Off-Reserve Status and Section 91(24) Indians/Mi'kmaq/Aboriginal Peoples of Nova Scotia. To continue to represent the interests and needs of the off-Reserve Aboriginal Community in Nova Scotia, we would like to request the opportunity to participate in early engagement in future Environmental Assessment Reviews.

Advancing Aboriginal Fisheries and Oceans Entities
Best Practices, Management, and Decision-making

Habitat Impacts Advisor, MAARS

CC: Chief & President, NCNS
Commissioner, Netukulimkewe'l Commission, NCNS
Executive Director, MAARS & MAPC Projects