Horsehills Road over Horsehills Creek (B130) Bridge Replacement

Environmental Impact Assessment

Recommendation

That Executive Committee recommend to City Council:

> That the Environmental Impact Assessment for the Horsehills Road over Horsehills Creek (B130) Bridge Replacement project, as outlined in Attachment 1 of the May 10, 2021, Integrated Infrastructure Services report IIS00393, be approved.

Executive Summary

This report requests City Council's approval of the Horsehills Road over Horsehills Creek (B130) Bridge Replacement project (the Project) Environmental Impact Assessment (EIA) included as Attachment 1.

The EIA for this Project concludes that any potential adverse effects of the project can be avoided, reduced, or mitigated by applying appropriate measures during project design and construction. Any residual impacts in either the construction or post-construction stage will be neutral or positive relative to current baseline conditions.

Approval of this report demonstrates the City's commitment to environmental project reviews, environmental permitting, achieving an environmentally sound design, and ensuring that the City's environmental stewardship outcome of ensuring the City of Edmonton's environmental objectives are met during the construction of this project.

Report

The Horsehills Creek Bridge (B130) is located in the northeast corner of Edmonton and is within the boundaries of the North Saskatchewan River Valley Area Redevelopment Plan (Bylaw 7188), as shown in Figure 1 of Attachment 1. The bridge is used for vehicular traffic across Horsehills Creek along Horsehills Road, which runs parallel to the north side of Manning Drive, east of 18 Street.

A Site Location Study is not required because the replacement bridge will be located over the footprint of the existing bridge and road right-of-way and would not be

considered a new transportation corridor under the North Saskatchewan River Valley Area Redevelopment Plan.

The existing bridge was constructed in 1971 and is an 8.5 meter long, single span concrete girder bridge supported by a treated timber substructure. The bridge has deteriorated progressively to the point where replacement is required. Following the condition assessment, a preliminary design was completed in 2020. Detailed design is nearing completion, with construction anticipated to begin in Spring of 2021.

The replacement bridge will be a 10 metre long concrete bridge on the concrete substructure and steel pile foundations.

In accordance with Section 3.4.3 of the North Saskatchewan River Valley Area Redevelopment Plan - Bylaw 7188, the Project is subject to an EIA that outlines current conditions in the project area, and evaluates potential risks, and identifies adverse impacts that must be eliminated, minimized or mitigated through design, landscaping and construction measures.

The EIA discusses potential impacts (Attachment 1, Section 5) on the physical and biological environment resulting from the implementation of the project elements referenced in the report. The EIA provides mitigation measures to ensure the project will not result in any significant adverse impacts on the environment.

As summarized in the EIA, some of the potential impacts and mitigations include:

- Fish and Fish Habitat:
    - No in-stream construction activity will take place during the designated Restricted Activity Period (RAP) extending from April 16 to June 30.
- Creek Bank Slope Stability:
    - Gravel will be installed underneath the new bridge to prevent erosion of the creek bank slopes and contribute to bank stability.
- Vegetation - Loss or Alteration to Native Plant Communities:
    - To lessen the potential impact on native plant communities during construction, equipment storage, maintenance and refuelling in areas that support native plant communities will be prohibited.
    - One special status rare plant species was observed onsite and in accordance with best management practice, a specialist will fence off the area to avoid impacts to the plants.
- Wildlife and Wildlife Habitat - Habitat Alienation During Construction:
    - The contractor will have an Environmental Construction Operations (ECO) plan in place that provides protocols for worker/wildlife encounters.

The EIA also highlighted several positive aspects of the project:

- The new bridge will be longer (by approximately 1.5 metres) and raised in elevation (by approximately 0.45 metres) resulting in a larger opening over Horsehills Creek compared to the existing bridge;
- The existing in-stream substructures will be removed and the new bridge will not require in-stream substructures, further improving flow through the opening;
- The raised elevation also provides clearance above the water level during a major flood event; and
- The new bridge will be wider than the existing bridge by approximately two metres, which is an improvement to road safety.

Environmental mitigation strategies will form part of the contractual requirements for the construction of the Project. Many of the mitigation strategies outlined in the EIA align with existing City policies such as the Enviso ISO 14001 standard and the Corporate Tree Management Policy (C456C). The construction contractor will also be required to develop and maintain an Environmental Construction Operations (ECO) plan for the duration of the work and to implement additional mitigation strategies outlined in the assessment that are not part of current City policies. Some of the mitigation measures include:

- Develop, implement and maintain an erosion and sediment control plan for the duration of the project construction;
- Disposal of all existing bridge material as required by environmental policies;
- Immediately stabilize banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through revegetation with native species suitable for the site; and
- Ensure that equipment used within 100 metres of the watercourse is equipped with environmentally sensitive hydraulic fluids that are non-toxic to aquatic life and that are readily or inherently biodegradable.

The EIA also notes historical resources as a consideration for the Project. To limit the risk of impacting any heritage resources, construction will be limited to the road right-of-way, which has been previously disturbed. No known historic resource sites (including structures listed on the Inventory of Historic Resources in Edmonton) are located nearby and it was determined there is limited potential to have a significant impact on significant historical resources. A Historical Resources Act Approval has been granted for the Project by Alberta Culture, Multiculturalism and Status of Women.

Budget/Financial Implications

Funding for this project was approved under the Transportation: Bridge and Auxiliary Structures - Renewal capital profile (CM-24-0000) as part of the 2019-2022 Capital Budget. The current project cost is estimated to be $1.7 million.

Legal Implications

The North Saskatchewan River Valley Area Redevelopment Plan - Bylaw 7188 requires City Council approval of the Horsehills Road over Horsehills Creek (B130) Bridge Replacement Environmental Impact Assessment before the proposed development can proceed to construction.

Public Engagement

Stakeholder engagement conducted during the design phase included phone calls to the adjacent properties, including the Nanaksar Gurudwara and the MSCAPE landscaping business. These adjacent stakeholders were called to collect information to determine if flooding or other issues regarding the bridge were noticed in the past. Nothing of concern was mentioned.

Relevant project updates and details will be shared with the public to provide information and awareness of the work. Prior to the start of construction, anticipated in spring 2021, the schedule and construction impacts will be shared with nearby residents. Key highlights of the information that will be shared include:

- The timeline of the Horsehills Road over Horsehills Creek Bridge (B130) Replacement Project; and
- To share the expected construction activities and impacts to the public, including how traffic will be managed or redirected throughout construction.

Communication activities and advertisements for the pre-construction information sharing are in development. The communication and information sharing activities will take into consideration COVID-19 pandemic public gathering restrictions.

Corporate Outcomes and Performance Management

Corporate Outcome(s): The City of Edmonton has sustainable and accessible infrastructure			
Outcome(s)	**Measure(s)**	**Result(s)**	**Target(s)**
The City of Edmonton has sustainable and accessible infrastructure	Infrastructure Density (city's population divided by the total kilometres of infrastructure)	56.5 (2017)	Increase over previous year

Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
Environmental assessment is denied or delayed	Bridge improvements will not be implemented The bridge may need to be closed to protect public safety	Unlikely - 2	Major - 3	Low - 6	EIA study is complete; Plans in place to ensure minimal project impacts.	None
Environmental regulatory requirements are not met	Environmental Permits will not be obtained in a timely manner	Unlikely - 2	Moderate - 2	Low - 4	Environmental Permit applications have been submitted and received approvals to date. No foreseeable hold-ups are present on regulatory items.	Tender the project in a timely manner and work with the Contractor to submit the remaining requirements early in the Contract.
Environmental impacts	Potential impacts as identified in the Environmental Impact Assessment become realized	Unlikely - 2	Minor - 1	Low - 2	Recommendations regarding mitigation of environmental impacts in the Environmental Impact Assessment have been reviewed by Administration to ensure completeness.	Mitigation measures will be implemented by the Contractor during the construction of the project. Typical mitigation measures are well understood during construction.

Attachment

1. Environmental Impact Assessment Pursuant to Bylaw 7188 for Horsehills Road over Horsehills Creek (B130) Bridge Replacement - Final Report

Others Reviewing this Report

- G. Cebryk, Deputy City Manager, City Operations
- M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services

- C. Owen, Deputy City Manager, Communications and Engagement
- K. Fallis-Howell, Acting City Solicitor