Enclosure 3: Review Table for the for Alexandra Bridge Replacement Project - Initial Project Description (IPD)

Proponent: Public Services and Procurement Canada and National Capital Commission
Comments provided by: Environment and Climate Change Canada (ECCC)
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Table 1: Description of the potential effects of the Project

Comment ID	Document Reference	Valued Component	Project Component	Description of the Potential Effect (Context and Rationale)	Federal Jurisdiction Powers, Duties and Functions	Instructions to the Proponent	Summary of the Issue
ECCC - 1	Section 14 of the Initial Project Description (IPD) states that existing conditions and predicted effects on water quality will be compared against the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the protection of freshwater aquatic life (CWQG-FAL) In Section 14.1.4.2 Mitigation and Protective Measures (Pg. 133), the proponent indicated that the stormwater management system will be developed in later stages of the Project and it will include details on stormwater discharge monitoring, including location, frequency, duration, and volume, among other measures.	Fish and Fish Habitat (water quality)	Stormwater Management Structures	The Proponent has not adequately articulated the effect of stormwater on surface water quality pertaining to stormwater management structures and Contaminants of Concern (COCs). The staging locations have not been confirmed and soil analysis has not been provided to assess contamination, if any, in these areas. The Proponent has provided additional details that were previously requested and identified some of the COCs that could potentially be discharged. However monitoring of stormwater discharge has not been adequately articulated. ~~A~~dditional information pertaining to the maintenance of the proposed stormwater management system to collect sediments is also required.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include the following in the Detailed Project Description (DPD): • Confirm staging locations and provide soil data to assess the effectiveness of proposed mitigation measures • Information on how stormwater will be discharged and monitored, including volume, location, frequency, duration • Information on the maintenance of the stormwater management system to collect sediments, including periodic removal of collected sediments The Proponent should note that the Provincial criteria in Québec are the «critères de qualité de l'eau de surface» of the Ministère de l'Environnement et de la Lutte aux changements climatiques (MELCC).	Clarity on staging locations. Soil data. Details on how stormwater will be discharged and monitored. Details on how the stormwater management system will be maintained and monitored.
ECCC - 2	Section 14 of the IPD states that existing conditions and predicted effects on water quality will be compared against the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the	Fish and Fish Habitat (water quality)	Cofferdams and any other structures that require dewatering. Construction	The Proponent has identified COCs that could be discharged into the receiving environment as a result of project activities, however monitoring and mitigation plans have not been adequately described to protect surface water quality. Additional details pertaining to turbidity during in-water works is required.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where	To facilitate the articulation of effects on water quality and related mitigation, include the following in the DPD: • Details on how dewatering will be monitored, including: location, frequency, duration, volume, and any other pertinent information	Details on how dewatering discharge will be treated, mitigated, and monitored. Surface water baseline conditions.

	protection of freshwater aquatic life (CWQG-FAL) (Canadian Council of the Ministers of the Environment (CCME, 2012). 14.1.3.1.1 Deconstruction and Construction, Pg.134 "During dewatering, discharge water may be released to the environment. An uncontrolled discharge of water during dewatering could cause localized downstream flooding, erosion or sedimentation." 14.1.3.2 Mitigation and Protective Measures "Dewatering may be necessary to construct the bridge piers and abutments however, the extent of which would be determined through further study. Appropriate mitigation measures would be installed during isolation and dewatering activities to manage discharge water, including appropriate erosion and sediment controls and ensuring that discharge water is properly filtered (i.e., filter bags, discharge across grassed areas, check dams) prior to discharge to the Ottawa River."			Potential impacts of the removal of contaminated soils and sediments and their dewatering was not adequately articulated by the Proponent, with the exception of potential elevated Total Suspended Solids (TSS) in surface water. Exceedances of Canadian Council of Ministers of the Environment (CCME) guidelines was only discussed for groundwater despite exceedances in soil, sediment and wood chips. Additionally, the IPD did not adequately describe potential water quality impacts or disposal options for these contaminated substrates, if stock piled on the shoreline. Therefore, additional information is required to ensure protection of surface water.	they may enter waters frequented by fish. CCME guidelines for the protection of aquatic life.	• Details on water treatment technologies prior to discharge, if water quality guidelines are expected to be exceeded • A description of mitigation measures that will be implemented to ensure contaminants in dewatered water are not released to the surface water and impact downstream areas • Details on adaptive management steps that will be taken should turbidity exceed CCME • Baseline conditions of the surface water • Clarification on whether contaminated groundwater, that exceeds CCME guidelines, would be discharged into the environment without any mitigation or monitoring measures in place • Details on the maximum current or volume of water turbidity curtains can withstand and still be effective, if turbidity curtains will be used • A description of how turbidity will be monitored upstream and downstream of the site, including location, frequency and duration of monitoring, and any other pertinent information • Details on disposal options if contaminated substrates are to be stock piled on the shoreline The Proponent should note that the Provincial criteria in Québec are the "critères de qualité de l'eau de surface » of the Ministère de l'Environnement et de la Lutte aux changements climatiques (MELCC).	Clarity on quality of groundwater to be discharged. Details on turbidity mitigation and monitoring.
ECCC - 3	Section 14.1.4.2 of the IPD, provides additional information on erosion and sediment control measures, and outlined some of the proposed environmental protection measures and commitments to be carried out during construction to avoid or reduce potential effects.	Fish and Fish Habitat (water quality)	Construction	The Proponent has provided proposed mitigation measures to deal with the effect of sedimentation and erosion affecting water quality. Additional details are required in order to evaluate the remediation or disposal plan during the Environmental Protection Plan (EPP) phase.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate articulation of effects on water quality and related mitigation, include the following in the DPD: • A remediation or disposal plan for the contaminated soil, sediment and groundwater during the EPP phase including a description of the mitigation measures to be implemented to ensure contaminated materials (soil, sediment or	Details on remediation/disposal plans for contaminated soil, sediment and groundwater. Surface water mitigation.

	Components of the EPP may include, but are not limited to, various plans identified that will provide information and guidance on reducing potential impacts on surface water.					groundwater) do not contaminate adjacent or downstream areas of the river • A description of all plans to protect surface water quality in the EPP	
ECCC - 4	Section 18.2 of the IPD, indicates that "Once bridge design is advanced and construction activities and methods are determined, potential significant negative impacts on water temperature and flow levels in the vicinity of the bridge will be further evaluated, along with linkages to other potential impacts (disturbances to aquatic species, erosion of riverbank, etc.)."	Fish and Fish Habitat (water quality)	Construction	The Proponent has not articulated the adverse effects of changes in water temperature on surface water quality, with respect to impacts on fish and fish habitat.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate articulation of effects on water quality and related mitigation, include the following in the DPD: • Details on potential significant negative impacts on water temperature and subsequent impacts on surface water quality and fish and fish habitat • Details on proposed measures to prevent/mitigate any significant negative impacts on water temperature	Missing effects for Summary of Issues (SOI): Effects on water temperature and mitigation
ECCC - 5	Section 10.2 of the IPD provides detailed information on the deconstruction of the existing Alexandra Bridge. Furthermore, in Section 21.1.1, prior to deconstruction and construction, the Proponent indicated that containment procedures and a controlled deconstruction approach instead of using explosives will be required for the deconstruction of the existing bridge and removal process due to environmental concerns about hazardous substances reaching the Ottawa River.	Fish and Fish Habitat (water quality)	Existing bridge	The Proponent has articulated the effect of decommissioning the bridge with respect to materials on the existing bridge. However, additional details on mitigation measures are needed to ensure designated substances, or other COCs, will not cause adverse effects on the receiving environment are required.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include details confirming all mitigation measures that will be used to ensure designated substances, or other COCs, will not cause adverse effects on the receiving environment in the DPD.	Measures to mitigate release of contaminants of concern to surface water.
ECCC - 6	Table 6-1: Outline of scans and assessments that were completed in 2003 and 2018	Fish and Fish Habitat (water quality)	Existing Studies	The Proponent has not adequately described the effects on surface water quality as information on existing baseline conditions in the 2018 Preliminary Scan has not been provided. The proponent has identified a 2018 Preliminary Scan which has been undertaken in the past for other purposes and Projects. The information will be referred to and used, as applicable, to support the current Project assessment.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include a summary of the information collected in the 2018 Preliminary Scan which will be used to support the Project assessment in the DPD.	Baseline conditions for surface water quality.

ECCC - 7	10.1 Organization of Sites for Deconstruction and Construction: Staging locations have not yet been confirmed, as they will be carefully evaluated to avoid, limit, or reduce any impacts on areas proposed.	Fish and Fish Habitat (water quality)	Staging Locations	The Proponent has not adequately characterized the effects to surface water quality and quantity with respect to staging and laydown areas as well as the potential effects of erosion exposing COCs into the discharge environment.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include a confirmation from the Proponent on whether the locations of the staging and laydown areas will be identified in the Detailed Project Description. If identified, then provide a figure showing the locations of the staging and laydown areas.	Clarity on locations of staging and laydown areas.
ECCC - 8	Table 14-9: Planned studies (Pg. 159) - Surface water quality sampling and assessment Summer/Fall 2023	Fish and Fish Habitat (water quality)	Surface Water Baseline Monitoring	The Proponent has not adequately articulated baseline monitoring with respect to surface water quality. The proponent indicated that surface water quality sampling will be conducted in the Summer and Fall of 2023. However, no explanation has been provided as to why surface water quality sampling will not be conducted in the Spring and Winter of 2023. The sampling data should illustrate the seasonal and inter-annual variability in baseline surface water quality, including possible changes due to groundwater-surface water interactions. Furthermore, the Proponent has indicated that the Ottawa River is susceptible to water quality impacts caused by common sources of anthropogenic pollution due to the proximity to dense urbanization. However, there is no information in the IPD indicating whether there is existing surface water quality data upstream of the Alexandra Bridge. It is important to have a good understanding of the baseline conditions upstream and downstream of the bridge.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include the following in the DPD: • An explanation as to why surface water quality sampling is not required for the Spring and Winter of 2023 • An explanation as to how sampling in the Summer and Fall of 2023 will illustrate the seasonal and inter-annual variability in baseline surface water quality • Detailed information on the surface water quality sampling program to be provided in the Detailed Project Description, including whether baseline monitoring will be conducted upstream of the Alexandra Bridge	Surface water quality sampling program.
ECCC - 9	14 Biophysical Environment and Potential Impacts, Pg.121 The IPD states that the Phase II site assessment (WSP 2021) confirmed contamination in soils, sediment and groundwater at the site that exceeded CCME Guidelines. The Phase II assessment described disposal of contaminated soil, sediment, wood chips and groundwater "all excess soil,	Fish and Fish Habitat (water quality)	Deconstruction and Construction – current conditions	The Proponent has not adequately articulated COCs in soil, sediment and groundwater and have not characterized all materials present at the site, including wood chips. The proponent has not adequately described details of excess soil management.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include the following in the DPD: • Background levels of soil, sediment and groundwater at the site as well as upstream and downstream levels and seasonal variations • Sources of contamination in: soil, sediment, wood chips and groundwater • Delineation of the plume of contamination in: soil, sediment, wood chips and ground water • Proximity of the contaminated areas to surface water	Current conditions for soil, sediment (including wood chips) and groundwater quality, including existing or historical sources of contamination. Location and mapping of contaminated areas of soil and sediment.

	sediment, groundwater and wood chips will need to be appropriately managed in accordance with the applicable Ontario and Québec regulatory framework for the intended receiving sites whether such excess materials can be reused within the Site itself (subject to geotechnical suitability) and/or off-site at receiving sites able to receive such material. Details of excess soil management for the Site are described in the Excess Materials Management Plan (EMMP)"					• Volume of contaminated: sediment, soil, wood chips and groundwater • Water current and flow measurements in the Ottawa River and how the seasonal variations may affect the project and proposed mitigation measures • Frequency of monitoring environmental impacts during construction and the limits or thresholds that would pause or stop work	Details on excess soil management. Missing effect for SOI: Effects of water current/flow on the project and mitigation measures.
ECCC-10	14.1.3 Physiography, Geology, and Hydrogeology Pg.133 "Ottawa river site Geology: the upper 0.5 meters of the riverbed consisted of silty gravel with some sand. In several locations, a significant stratum of wood chips was encountered ranging in thickness from 5 to 13.1 meters. Wood chip material was underlain by sand gravel and silt sediment. Below this layer, limestone bedrock was encountered. Sediment analytical results show exceedances of PAHs and wood chips show exceedances of metals and PAHs (WSP 2021)." 20 Greenhouse Gas Emissions Pg.263	Fish and Fish Habitat (water quality) GHG, air pollutants	Deconstruction and Construction – disposal and remediation	The Proponent has not adequately described the volume of wood chips that may need to be removed from the Ottawa River due to contamination of PAHs and metals. Wood chips are not considered "soil" or "sediment" in CCME Guidelines. It is unclear if the IPD included wood chips in the sediment calculations for remediation and disposal options and therefore the Greenhouse Gas (GHG) emissions associated with this activity may not have been considered.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include the following in the DPD: • Maps and diagrams to depict how the geology, wood chips and sediment layers vary across the riverbed • Details contained within the Excess Materials Management Plan (EEMP) pertaining to excess soil management • A calculation of the volume of contaminated wood chips that will need to be transported for disposal off site • A calculation of GHG emissions for the transport, disposal, and destruction of contaminated wood chips	Details of disposal or remediation options for contaminated wood chips. Missing effect for SOI: GHG emissions for the: transport, disposal, and destruction of contaminated wood chips.
ECCC - 11	IPD Table 14-1, Pg.121	Fish and Fish Habitat (water quality)	Deconstruction and Construction	The Proponent has not adequately articulated whether the Aquatic Environment Valued Component includes potential impacts to Total Suspended Solids (TSS) (from disturbing sediments or dewatering) in the surface water that may increase sedimentation downstream of the site. The IPD does not adequately describe the flow models used to estimate downstream sediments migration or how seasonal variations	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include the following in the DPD: • Models used to calculate downstream impacts of sediment • Seasonal variations in flow and deposition rates for the Ottawa River at the site	Details on assessment of downstream impacts of sediment.

				in flow rates were considered that may impact downstream environments.		• The effect of seasonal variabilities in current on the project	
ECCC - 12	14.1.3 Physiography, Geology, and Hydrogeology Pg.133 "Groundwater analytical results show exceedances of metals/inorganics (WSP 2021). " The IPD states that the Ottawa River is a groundwater discharge zone (Pg.135) and "may be encountered while installing and dewatering the caissons for the bridge piers".	Fish and Fish Habitat (water quality)	Construction	The Proponent has not adequately articulated the adverse effects of contaminated groundwater discharging into surface water and associated potential impacts.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish. Note: Natural Resources Canada (NRCan) are the lead experts on groundwater effects. Environment and Climate Change Canada's (ECCC) interest stems from the potential impacts that contaminated groundwater could have on surface water.	To facilitate the articulation of effects on water quality and related mitigation, include the following in the DPD: • Groundwater quality background data • Location, date and number of groundwater samples collected • Source and delineation of the contaminated plume and the proximity of the plume to surface water	Groundwater background data.
ECCC - 13	14.1.3 - Physiography, Geology and Hydrogeology Pg.133 The IPD states that "The phase II ESA completed for this project suggest bedrock around 6.1 mBGS. Surficial soil consist of fill material underlain by glacial till. Analytical results of the soil show exceedances of CCME guidelines for metals/inorganics, PAHs, PHC F2-F3 and VOCs. Groundwater was observed in the unconfined aquifer in the native glacial till deposit or in the fill material. Groundwater analytical results show exceedances of metals/inorganics (WSP 2021). This phase II ESA indicates bedrock between 1 and 3.4 mBGS, surface soil is fill material. Analytical results	Fish and Fish Habitat (water quality)	Construction	The Proponent has not adequately articulated the effect of contaminated soil on surface water quality. Additional information is required to understand the distribution of contaminants at the site, the quantity of contaminated soil as well as the proximity of contaminated soil to the Ottawa River.	*Fisheries Act*, Section 36(3) - prohibits the deposit of deleterious substances into water frequented by fish, or to any place, under any conditions, where they may enter waters frequented by fish.	To facilitate the articulation of effects on water quality and related mitigation, include the following in the DPD: • Diagrams and/or maps to identify sampling sites for soil and groundwater analysis, bedrock layers and groundwater zones • Maps of where samples were collected for soil and groundwater analysis	Details on soil sampling locations.

	of the soil show exceedances of CCME guidelines for inorganics, PAHs Groundwater was observed in an unconfined aquifer in the limestone bedrock. Groundwater analytical results show exceedance of metal/inorganics and VOCs (WSP 2021)."						
ECCC - 14	Section 14.2.2 Wildlife and Wildlife Habitat	Birds, Migratory Birds, and their habitat	Deconstruction Construction	The Proponent has not adequately articulated effects on migratory birds. An understanding of the likelihood of breeding, migration, and overwintering use within the project area is required to fully assess and mitigate any potential effects from the project on migratory birds. In the IPD, Table 14.9: Planned Studies indicates baseline surveys related to birds are planned to take place May/June 2023 as well as spring and fall 2023 if required. ECCC notes that this leaves a gap in terms of understanding bird overwintering use of the project area. In addition, the Proponent has not outlined how an understanding of annual variation within the project area will be incorporated into predicting effects. Section 14.2.2.3 outlines high level potential effects that may be expected from this type of project in terms of disruption to breeding through vegetation removal and construction activities, loss of nesting habitat, destruction of nests/eggs, sensory disturbance like noise, vibration, light which may lead to nest abandonment, nesting on bridge disrupted. However, the impact of these effects on local bird populations within the study area is not well articulated at this stage. The mitigation measures outlined in section 14.2.2.4 are standard for these types of effects: • Vegetation clearing to take place outside of the breeding window, or if not possible, pre-construction survey within 48 hours of activity (if nesting confirmed, ECCC will be contacted) • Under bridge work avoided during nesting, or if not possible,	Birds listed under the *Migratory Bird Convention Act* (MBCA) are considered within federal jurisdiction as are changes to the environment on federal land Power, duty, function: No. The MBCA and its regulations protect migratory birds and prohibit the disturbance or destruction of migratory bird nests and eggs.	To facilitate the articulation of effects on migratory birds and related mitigation, include the following in the DPD: • The potential project effects on birds, migratory birds, and their habitat. • An understanding of the likelihood of breeding, migration, and overwintering use within the project study area to mitigate any potential effects • Further surveys to adequately represent seasonal and annual variation of breeding, migration, and overwintering within the project study area • Winter surveys, in addition to spring, summer and fall surveys will be needed to understand and mitigate effects related to overwintering • Methodologies for any previously completed project-specific bird surveys • Methodologies for all proposed future field surveys	Methodology of surveys to adequately represent seasonal and annual variation, and to include overwintering in addition to spring, summer and fall. Missing effects for SOI: Effects on migratory birds and their habitats during migration and overwintering, in addition to breeding. Effects on local migratory bird populations.

				exclusionary measures (netting, bioacoustics) will be installed prior to April 1. The Proponent notes that some deterrents may require a permit • If Barn Swallow found nesting on bridge, alternative nesting structure provided prior to deconstruction and before onset of nesting season • Lighting will follow NCC illumination plan and bird-safe design guidelines Residual effects are characterized as possible, but predicted to be short-term and low in magnitude. A better understanding of potential effects gained through the IA process is needed to adequately assess mitigation measures and residual effects.			
ECCC - 15	14.2.1 Vegetation	Species at Risk and their Habitat - Plants	Deconstruction Construction	The Proponent has not adequately articulated effects on species at risk plants and related mitigation. Table 14-9 in the IPD indicates that inventories for species at risk plants will be conducted in spring, summer, and fall of 2023. The IPD also notes that the most likely federally listed species at risk plant to be found within the project area is Butternut. If Butternut is present, potential effects to individuals could include harm or removal, or altered canopy or microclimate, related to required vegetation clearing for the project. The potential impact of project activities on the Butternut population (if any) within the project area is not well articulated at this stage. Mitigation measures outlined in section 14.2.1.2 include avoidance and protection through protection design and construction separation where feasible. The Proponent notes that specific mitigation plans would be developed once individual locations are known. The potential need to obtain a SARA permit is acknowledged. If Butternut are likely to be affected by project activities, a Butternut health assessment may be required. Depending on the health category of	Changes to the environment on federal land are considered to be within federal jurisdiction. Power, duty, function: Yes. For species listed under Schedule 1 of the *Species at Risk Act* (SARA) as extirpated, threatened or endangered, ECCC has a power for the competent minister to enter into an agreement with a person, or issue a permit to a person, authorizing the person to engage in an activity affecting a listed wildlife species on federal land, any part of its critical habitat or the residences of its	To facilitate the articulation of effects on species at risk plants and related mitigation, include the following in the DPD: • The potential project effects on species at risk plants and their habitats, including but not necessarily limited to Butternut and American Ginseng • Consideration of potential mitigation measures if effects cannot be avoided for any species at risk plants • Methodologies for any previously completed project-specific vegetation and species at risk plant surveys • Methodologies for all proposed future field surveys	Details of mitigation measures to avoid effects on species at risk. Clarity on effects of the project on Butternut. Missing effects for SOI: Effects on the species at risk plant American Ginseng. Effects on the local Butternut population.

				the Butternut to be affected, compensation such as archiving of genetic material and/or replacement plantings may be required. Mitigation related to preventing spread of butternut canker may also be required. Residual effects are characterized as possible, but predicted to be short-term, low in magnitude, and reversible. Better understanding of potential effects gained through the IA process is needed to adequately assess mitigation measures and residual effects. In addition, ECCC notes the potential for American Ginseng to occur within the project area.	individuals under Section 73 of SARA. Permits are required by those persons conducting activities that contravene the Act's general or critical habitat prohibitions (s58), an Emergency Order issued under section 80 of SARA or regulations made under subsections 53, 59, or 71. If SARA permits are required, rigorous mitigation set through terms and conditions would address the effect to those species. Public consultation is not part of the SARA permitting process. Indigenous consultation only occurs if activities take place on First Nation lands.		
ECCC - 16	14.2.2 Wildlife and Wildlife Habitat	Species at Risk and their habitat - Wildlife	Deconstruction Construction	The Proponent has not adequately articulated effects on wildlife species at risk and related mitigation. For all wildlife species at risk, an understanding of the likelihood of breeding, migration, and overwintering use within the project area is required to fully assess and mitigate any potential effects from the project. In the IPD, Table 14.9: Planned Studies indicates baseline surveys related to species at risk bats, such as maternity roost habitat assessment and exit surveys to determine use of maternity roosts, are planned to take place June/July 2023. ECCC	Changes to the environment on federal land are considered to be within federal jurisdiction. Power, duty, function: Yes. For species listed under Schedule 1 of SARA as extirpated, threatened or endangered, ECCC has a power for the competent minister to	To facilitate the articulation of effects on migratory birds and related mitigation, include the following in the DPD: • The potential project effects on species at risk and their habitat • An understanding of the likelihood of breeding, migration, and overwintering use (and annual and seasonal variation of these habitats) within the project study area to understand and mitigate any potential effects • Potential effects related to sensory disturbance	Complete list of species at risk that may occur in the project area. Effects on species at risk and their habitat during all times of the year, including due to sensory disturbance. Details of species at risk surveys to represent seasonal and annual variation,

				notes that this leaves a gap in terms of understanding bat migration and overwintering use of the project area. Similarly, planned studies related to species at risk turtles and snakes, such as emergence and basking surveys and nesting site characterization, are planned for May/June 2023, leaving a gap in terms understanding overwintering use of the project area for these species. In addition, the Proponent has not outlined how an understanding of annual variation in species at risk occurrence and/or habitat use within the project area will be incorporated into predicting effects. Section 14.2.2.3 outlines high level potential effects that may be expected from this type of project for: • Bats: Loss of maternity roosts through bridge deconstruction and vegetation removal • Turtles: sensory disturbance from noise and human presence leading to potential abandonment of the project area; increased water turbidity; alteration/loss of basking, nesting, and overwintering sites; direct mortality from construction equipment • Snakes: direct mortality from construction equipment; potentially seeking out construction materials as cover objects leading to harm or mortality Effects related to sensory disturbance to species at risk bats, overwintering sites for species at risk turtles, and nesting and overwintering sites for species at risk snakes are not well articulated. In addition, the impact of potential project effects on local species at risk populations within the study area is not well articulated at this stage. The mitigation measures outlined in section 14.2.2.4 are standard for these types of effects:	enter into an agreement with a person, or issue a permit to a person, authorizing the person to engage in an activity affecting a listed wildlife species on federal land, any part of its critical habitat or the residences of its individuals under Section 73 of SARA. Permits are required by those 'persons' conducting activities that contravene the Act's general or critical habitat prohibitions (s58), an Emergency Order issued under section 80 of SARA or regulations made under subsections 53, 59, or 71. If SARA permits are required, rigorous mitigation set through terms and conditions would address the effect to those species. Public consultation is not part of the SARA permitting process. Indigenous consultation only occurs if activities take place on First Nation lands.	• Confirmation that further surveys will be conducted to adequately represent seasonal and annual variation • Fall and winter surveys will be needed to understand and mitigate effects related to overwintering in addition to spring and summer surveys • A list of the species at risk that have the potential to occur within the project area or that may potentially be affected by the project (Note that Appendix 1 – List of Species in the Project Area only lists bird species) • Methodologies for any previously completed project-specific wildlife surveys • Methodologies for all proposed future field surveys	including fall and winter surveys (in addition to the proposed spring and summer surveys). Methodologies of past and proposed species at risk surveys. Missing effects for SOI: Effects on bat species at risk during migration and overwintering. Effects on bat species at risk due to sensory disturbance. Effects on species at risk turtles and snakes during overwintering. Effects on local species at risk populations. Effects on Eastern Musk Turtle and Yellow-banded Bumble Bee.

				• Conduct clearing and deconstruction/ construction activities outside the bat roosting window, or if that is not possible, install exclusion netting on bridge to prevent roosting and provide alternative roosting structures • Bat exit surveys for suitable maternity roosting trees, bridge, and rock outcrops within in project area, and contact ECCC if roost identified; permit may be required • Consider installing exclusion fencing to prevent turtle nesting in active deconstruction/ construction areas • Remove potential snake cover objects by hand and allow individuals to leave of their own accord • Look out for species at risk while operating machinery on roads • Conduct visual search of equipment and machinery before use, and stop work if wildlife encountered until it leaves of its own accord The Proponent notes that specific mitigation plans would be developed once species at risk occurrence and use within the project area is known. The potential need to obtain a SARA permit is acknowledged. Residual effects are characterized as possible, but predicted to be short-term and low in magnitude. Better understanding of potential effects gained through the IA process is needed to adequately assess mitigation measures and residual effects. In addition, ECCC notes the potential for Eastern Musk Turtle and Yellow-banded Bumble Bee to occur within the project area.			
ECCC - 17	14.2.1 Vegetation	Wetlands	Construction Deconstruction	The Proponent has not adequately articulated effects on wetlands and related mitigation.	Changes to the environment on federal land are considered to be	To facilitate the articulation of effects on wetlands and related mitigation, include the following in the DPD:	Missing effect for SOI: Effects on wetlands.

				The IPD indicates that there are no wetlands in proximity to the project area and no impacts on wetlands are anticipated as a result of the project, based on Google maps. However, Table 14-9: Planned Studies indicates some studies related to riparian and wetland environments and ecological characterization of the project area, including wetlands, are planned as part of the project baseline studies.	within federal jurisdiction. Power, duty, function: No. The *Federal Policy on Wetland Conservation* objective of no net loss of wetland function would apply on federal lands.	• Demonstrate that there are no wetlands within the project area, or hydrologically connected to the project area, that could be affected by project activities.	
ECCC-18	14.1.1 Atmospheric Environment 15.3.1.2 Mitigation and Protective Measures	Air Quality	All phases of the Project	The Proponent has not adequately articulated effects on air quality and related mitigation. The Proponent has stated the following based on air quality (AQ) comments/requests on earlier version of IPD: • A list of physical activities that have potential impacts on AQ for all phases and list of all potential air contaminants of concern; • The Proponent will consider using all applicable standards for comparison (CAAQS and AAQC) in the assessment; • An AQ assessment will be developed to predict concentrations of pollutants including baseline, dispersion modelling, Best Management Practises (BMPs), follow-up (FUP) and monitoring plan. The Proponent has not provided emissions estimates. They have not provided existing or new air quality data, modeling results, or an assessment of air quality impacts. This information is required to understand air quality effects and to determine appropriate mitigation.	The Proponent will be required to compare the results of an effects assessment of air quality impacts, based on predictions of dispersion modelling, with the Canadian Ambient Air Quality Standards (CAAQS). The CAAQs are health and environmental-based outdoor air quality objectives for pollutant concentrations in the air. https://www.ccme.ca/en/air-quality-report#slide-7	To facilitate the articulation of effects on air quality and related mitigation, include the following in the DPD: • Emissions estimates for all components and all phases of the project • Planned emissions measurements or air quality monitoring, including a list of substances to be measured or monitored and details on the sampling location, duration and frequency.	Details on emissions estimates. Details on proposed air quality monitoring.
ECCC-19	The IPD states “improper measures can result in harmful effects to aquatic habitats, fish populations, wildlife (e.g. Mammals, amphibians, waterfowl, etc.) and water quality”. The Proponent also states, “there are several activities that would	Surface water, vegetation, wildlife and wildlife habitat, fish and fish habitat	Construction equipment and activities	The Proponent has not adequately addressed the potential effects to valued components pertaining to accidents and malfunctions. The Project is located within a highly vulnerable aquifer therefore, information on potential scenarios that could result in adverse effects to the surrounding environment is required.	Power, duty, function: Yes IAA. Section 22(1)(i): The impact assessment of a designated project,	To facilitate the articulation of effects on surface water, vegetation, wildlife and wildlife habitat, fish and fish habitat and related mitigation, include the following in the DPD: • Demonstrate how environmental risks of the project have been evaluated, via a risk	Details on risk assessment and plans to prepare for and mitigate effects due to spills, accidents or malfunctions.

	result in a considerable chemical and/or pathogen threat to the surface water supply if present at the Project area (MECP 2018)".			Given that the Project will include mobile equipment such as heavy equipment and trucks, cranes, generators etc., there is a potential risk for accidental spills of fuel and other contaminants during construction activities into surface waters. Trajectory modelling for accidental release may provide evidence on whether potential effects to surface water quality and the other valued component in the surrounding environment is likely. The Proponent has identified mitigation measures in the event of a contaminant spill by implementing spill management protocols such as secondary containment of any temporary fuel storage and preparation of a spill response plan. The Proponent also indicated that the EPP will include an Accident and Malfunction response plan. Given that limited information on these protection plans are included, the effectiveness of those measures will be difficult to predict with certainty. Additional information is required. The Proponent has not adequately articulated the potential for residual effects after mitigation has been applied. The Proponent provided examples of mitigation measures that will be used to reduce potential spills; however, without a thorough risk assessment to identify potential worse case scenarios, certain prevention measures may have been omitted. Additional information is required.	whether it is conducted by the Agency or a review panel, must take into account the following factors: (i) the effects of malfunctions or accidents that may occur in connection with the designated project *Canadian Environmental Protection Act* (CEPA), 1999. Part 8 of CEPA 1999, concerning environmental emergencies (sections 193 to 205) provides various authorities to address the prevention of, preparedness for, response to and recovery from environmental emergencies caused by uncontrolled, unplanned or accidental releases, and to reduce any foreseeable likelihood of releases of toxic or other hazardous substances listed in Schedule 1 of the Environmental Emergency (E2) Regulations under CEPA, 1999.	assessment methodology and what has been done to prepare and mitigate for spills or releases of hazardous or deleterious substances that are likely to result from unplanned accidents and malfunctions • Trajectory and/or dispersion modelling including fate and behaviour analysis information as well as a description of the methodology utilized, including any assumptions and limitations of the model • Environmental sensitivity mapping, especially in and around nearby water bodies and watercourses that have a potential to be affected by a spill incident • Additional details on the nature of activities that would result in a chemical or pathogen threat to the surface water supply.	Details on plans for trajectory/dispersion modeling. Environmental sensitivity mapping. Details on activities with potential to release chemicals/pathogens to surface water. Missing effect for SOI: Effects of accidents or malfunctions, including spills of hazardous substances, and the consideration of spill prevention and response plans in the assessment. Residual effects after the application of mitigation.
ECCC-20	14.3.1, p. 162 The IPD states to "identify and assess potential site vulnerabilities to climate change and extreme weather and to make	Climate Change	All phases of the Project	The Proponent has not adequately articulated effects or mitigation measures associated with climate change.	*Strategic Assessment of Climate Change* (SACC)	To facilitate articulation of effects on climate change and related mitigation, the following should be included in the DPD:	Missing effect for SOI: Effects of the environment on the

	recommendations on adaptation measures that can be incorporated into the infrastructure engineering design to address the risks and vulnerabilities." The intention to complete a climate change study is also identified in Table 14-9 (p. 159) with the estimated timeline of "2023/spring 2024" Pg.86 of the IPD states "Ice and ice charges on cables: Cable bridges in winter climates are exposed to bad weather and the action of very low temperatures, ice and snow, and strong winds combined with freezing rain. The new bridge design must be resilient towards exceptional climate events to be faced in years to come, as well as the unique microclimate of the Ottawa River Valley." Pg.132 of the IPD states "Even with ESC measures, extreme precipitation events could result in collapse of silt fencing, overflow or bypass of barriers, and other situations which could lead to erosion. Work should be limited or stopped during and immediately following significant precipitation events (i.e., 100-year storm event), and the measures should be inspected, at the discretion of on-site environmental personnel."			The IPD has not identified all possible effects of the Project that may be associated with climate change or provided mitigation measures. The Proponent has committed to undertake a Climate Change Assessment, however this information has not been provided and is required to adequately articulate climate change related effects and determine appropriate mitigation and monitoring.	Draft Technical guide related to the SACC: Assessing Climate Change Resilience	• Information on consideration of the project's resilience to climate change over its full lifetime. Refer to the SACC, Section 5.1.5 in particular, for additional information on assessing climate change resilience • Climate change studies identifying possible effects of the Project that may be associated with climate change and include mitigation measures	Project due to climate change.

Table 2: General and editorial comments - include comments such as formatting, layout or grammar

Comment ID	Document Reference	Context and Background	Instructions to Proponent
***Example**:* *TC-01*	***Example**:* *Initial Project Description* *Part D, section 17* *Pg. 11*	***Example**:* *The Proponent has identified the Navigation Protection Act under the list of federal powers, duties, or function; however, the section appears to be consistent with changes to the legislation introduced in 2019.*	***Example**:* *In 2019, the Navigation Protection Act was amended and renamed the* Canadian Navigable Waters Act *please ensure that the correct title is used.*
ECCC-01	Report layout, Table of Contents and Section 14		Content within the IPD document would be easier locate if the table of contents was further developed. The table of contents should include the subsections of the document. For example, Section 14.1 Physical Setting comprises Atmospheric Environment, Acoustic Environment, Physiography, Geology, Hydrogeology, Drainage and Surface Water, all of which should be represented as subsections in the Table of Contents Maps and additional diagrams of the site are required to understand the project and potential impacts due to contaminated soil, sediment, wood chips and groundwater and the proximity of the contamination to surface water.
ECCC-02	IPD	Proponent mentions the Strategic Assessment of Climate Change.	We note that the Proponent has referenced the Strategic Assessment of Climate Change (SACC; p. 73), but not the recently available draft Technical guide related to the Strategic Assessment of Climate Change: Assessing Climate Change Resilience. This draft guide is available on the SACC webpage Strategic Assessment of Climate Change | Homepage- Canada.ca (strategicassessmentclimatechange.ca).