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22 DECEMBER 2016 LETTER					
TRC1-1	The proponent will be required to submit the following studies to the undersigned for review by the Technical Review Committee: ➢ Traffic Impact Study, ➢ Site Servicing Study and ➢ Stormwater Management Study.	The subject studies are attached as Appendices 1, 2 and 3.	A Traffic Impact Study completed by exp Services Inc. in 2017 is included as Appendix X. A water and sanitary servicing study completed by exp Services Inc. in 2017 is included as Appendix XVIII. A stormwater management study completed by exp Services Inc. in 2017 is included as Appendix XIV.	exp Services Inc. Traffic Impact Study – Appendix X exp Services Inc. Conceptual Design Report for Water and Sanitary Servicing – Appendix XIII exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report – Appendix XIV	General
TRC1-2	The proponent mentions that an Open House was held in March of 2016. In addition, the proponent will be required to complete all the minimum public involvement requirements specified in Appendix C of the *Guide to Environmental Impact Assessment in New Brunswick* (http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/EIA-EIE/GuideEnvironmentalImpactAssessment.pdf). Upon completion of this requirement, the Proponent must submit a Public Involvement Summary Report to the undersigned for review and approval. This summary report should include the results of the March 2016 Open House events.	The Public Involvement Summary Report has been submitted as Appendix 4.	Horizon is aware that it will be required to c complete all the minimum public involvement requirements specified in Appendix C of the Guide to Environmental Impact Assessment in New Brunswick. A Public Involvement Summary Report was previously submitted to the NBDELG for review and approval (*i.e.*, refer to Appendix XXIII).	Section 5.0 – First Nation and Public Involvement Public Consultation Information Completed to Date and Media Coverage – Appendix XXIV	Public Involvement
TRC1-3	The proponent must contact the Atlantic Coastal Action Program (ACAP) Saint John (contact information below) as part of public consultation. The community group has invested time and funding into restoration efforts for Marsh Creek over the last several years and will likely be interested in the project. Atlantic Coastal Action Program – Saint John Graeme Stewart---Robertson, Executive Director Mailing address: 139 Prince Edward Street, Suite 323 Saint John, New Brunswick E2L 3S3 Tel/Tél: (506) 652---2227 Fax/Téléc: (506) 801---3810 Email/Courriel: office@acapsj.org	ACAP Saint John has been actively consulted on this project through the development and will continue to be through design & construction.	ACAP Saint John, which has invested considerable time, effort, and funding into the restoration of Marsh Creek, is fully aware of the proposed Project. As part of the site characterization work, Horizon engaged ACAP Saint John in 2018 to conduct a watercourse assessment, which included fish surveys, of Little Marsh Creek (*i.e.*, refer to Appendix XVII).	Section 5.1.2 – Local People, NGOs, and Community Groups	Public Involvement
TRC1-4	Based on the information provided, the Aboriginal Affairs Secretariat (AAS) offers the initial view that there will be no obligation regarding the Crown's Duty to Consult as there is no apparent adverse impact to Aboriginal or treaty rights as a result of this project however; should additional information on potential impacts to Aboriginal or treaty rights be brought forward, AAS requires notification. AAS also requests the proponent to respond to the following questions: a. Were any First Nations notified of the Open House?	Contact has been made with Kimberley Allen and Fiona Deschenes at the Aboriginal Affairs Secretariat as part of the Public Involvement process. This connection will be maintained through the remainder of this process. a. Public Notice of the Open House was sent out through local media. Individual organizations were not specifically notified. b. There is no reason to believe that impacts from the proposed project would extend to Aboriginal fishing area in the Bay of Fundy.	<u>Section 5.1.1</u> Engagement with New Brunswick's First Nations communities must be done both early and often to ensure a true partnership or accession from them. Horizon Management Ltd. discussed the Duty to Consult responsibilities with representatives from the New Brunswick Aboriginal Affairs Secretariat (*i.e.*, Kimberley Allen and Fiona Deschenes). It was determined through those discussions that the Duty Consult would be best done through the EIA review process. In the 22 December 2016 TRC Letter (*i.e.*, refer to TRC1-4 of Appendix XV), representatives with the AAS offered the initial view that there will be no obligation regarding the Crown's Duty to Consult as there is no apparent adverse impact to Aboriginal or treaty rights.	Section 5.1.1 – First Nations Section 5.3.8 – Step 7: Open House and / or Public Meeting	Public Involvement

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	b. Is there potential for this project to impact Aboriginal fisheries in the Bay of Fundy and surrounding areas?		Section 5.3.8 First Nations were not specifically notified of the Open House. A Public Notice was sent out through local media (*i.e.*, radio, television, and print). Any impacts resulting from the Project would not extend to Aboriginal fisheries in the Bay of Fundy and / or surrounding areas.		
TRC1-5	Although there is no apparent adverse impact to Aboriginal or treaty rights, the proponent may provide project information to First Nation communities. For more information, please contact AAS at (506) 462-5177.	Contact has been made with Kimberley Allen and Fiona Deschenes at the Aboriginal Affairs Secretariat as part of the Public Involvement process. This connection will be maintained through the remainder of this process.	Notice of any future Open House will be sent to First Nation's communities. Representatives with the AAS would also be contacted regarding which communities should be contacted.	Section 5.3.8 – Step 7: Open House and / or Public Meeting	Public Involvement
TRC1-6	The proponent should be made aware that migratory birds, their eggs, nests, and young are protected under the Migratory Birds Convention Act (MBCA). Migratory birds protected by the MBCA generally include all seabirds (except cormorants and pelicans), all waterfowl, all shorebirds, and most land birds (birds with principally terrestrial life cycles). The list of species protected by the MBCA can be found at: https://www.ec.gc.ca/nature/default.asp?lang=En&n=496E2702-1. Bird species not listed may be protected under other legislation.	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Migratory Birds Convention Act. Reference TRC Comment # 25 and Appendix #5.	Horizon Management understands that migratory birds, their eggs, nests, and young are protected under the *Migratory Birds Convention Act*, 1994 [S.C. 1994, c. 22] and includes all seabirds, with the exception of cormorants and pelicans, all waterfowl, all shorebirds, and most land birds. It is also understood that bird species not listed under the *Act* may be protected under other provincial and/or federal legislation.	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds
TR1C-7	Please note that under Section 6 of the Migratory Birds Regulations (MBR), it is forbidden to disturb, destroy, or take a nest or egg of a migratory bird; or to be in possession of a live migratory bird, or its carcass, skin, nest or egg, except under authority of a permit. It is important to note that under the MBR, no permits can be issued for the incidental take of migratory birds caused by development projects or other economic activities.	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the migratory Birds Convention Act. Reference TRC Comment #25 and Appendix #5.	As per the *Act*, it is forbidden to disturb, destroy, or take a next or egg of a migratory bird or to be in possession of a live migratory bird, or its carcass, skin, nest, or egg, except under authority of a permit and no permits are issued by the regulator for the incidental take of migratory birds caused by development projects or other economic activities.	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds
TRC1-8	Furthermore, Section 5.1 of the MBCA describes prohibitions related to deposit of substances harmful to migratory birds: a. "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. b. (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."	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Migratory Birds Convention Act. Reference TRC Comment #25 and Appendix #5.	➢ No Project personnel should deposit or permit to be deposited oil, oil wastes, or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds.	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds
TRC1-9	It is the responsibility of the proponent to ensure that activities are managed so as to ensure compliance with the MBCA and associated regulations.	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection	➢ Horizon Management will ensure that Project activities are managed so as to ensure compliance with the *Migratory*	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds

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		Plan was been prepared for this project with specific reference to the Migratory Birds Convention Act. Reference TRC Comment #25 and Appendix #5.	*Birds Convention Act, 1994* [S.C. 1994, c. 22] and associated regulations.		
TRC1-10	The proponent should be aware of the potential applicability of the Canadian Environmental Protection Act (CEPA). CEPA enables protection of the environment, and human life and health, through the establishment of environmental quality objectives, guidelines and codes of practice and the regulation of toxic substances, nutrients, emissions and discharges from federal facilities, and disposal at sea.	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Canadian Environmental Protection Act. Reference TRC Comment #25 and Appendix #5.	Based on our understanding of the Project as currently defined, the *Canadian Environmental Protection Act* is not applicable.	Section 6.3 – Federal Approval	Canadian Environmental Protection Act
TRC1-11	It is not possible to adequately evaluate the potential effects of the project on migratory birds, species at risk, and species of conservation concern, based on the limited information provided. The proponent has undertaken the first step in obtaining information on species at risk (SAR) and species of conservation concern potentially occurring in the area by obtaining information from the Atlantic Canada Conservation Data Centre (ACCDC). The proponent should additionally contact provincial wildlife biologists, as well as local naturalists. The proponent should also obtain data from Nature Counts (Website: http://www.birdscanada.org/birdmon/default/searchquery.jsp) which provides location data for certain migratory bird species at risk and colonial nesters, which was collected during field work for the 2nd Maritimes Breeding Bird Atlas (MBBA): http://www.mba-aom.ca). It should be noted that this more specific data is not directly available on the website of the MBBA, and that not all MBBA SAR data is yet available from the ACCDC, so must be ordered from Nature Counts. By contacting Nature Counts, the proponent may therefore be able to obtain data that is much more site-specific than the more general information in the MBBA square if data was collected from their project area during the field work of the MBBA.	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Migratory Birds Convention Act. Reference TRC Comment #25 and Appendix # 5. An ACCDC Report was received, and is included in the Rare plant Survey and the Wetland Delineation and Functional Assessment, Appendix # 7. As well as data from Nature Counts was obtained, Appendix #10 and fauna observations were made during the Wetland Delineation and Functional Assessment (see Appendix 7).	The baseline biological environment was characterized using available desktop information and by completing several field assessments specific to the Project site. Desktop data included sources, such as: ➢ the federal species at risk registry; ➢ the Committee On Status of Endangered Wildlife In Canada (COSEWIC) database; ➢ the provincial species at risk registry; ➢ the Atlantic Canada Conservation Data Centre (ACCDC) databases; and ➢ eBird Canada and NatureCounts databases. The sections below describe results of the desktop and field assessments related to the biological environment for the Project site.	Section 3.2 – Biological Environment	Migratory Birds and Species at Risk
TRC1-12	Desktop information should then be supplemented by field surveys by professional biologists (with expertise at conducting the types of surveys required) at the appropriate time of year in habitats potentially harbouring species at risk and species of conservation concern. The fact that a species has not been confirmed in an area does not necessarily mean that it does not occur there, especially if habitat appropriate for that species is available. The results of the surveys, as well as detailed mitigation measures with special emphasis on avoidance of impacts, should be provided to the appropriate regulatory agencies for review.	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Migratory Birds Convention Act. Reference TRC Comment #25 and Appendix # 5. An ACCDC Report was received, and is included in the Rare plant Survey and the Wetland Delineation and Functional Assessment, Appendix # 7. As well as data from Nature Counts was obtained, Appendix #10 and fauna observations were made during the Wetland Delineation and Functional Assessment (see Appendix 7).	Section 3.2.5.1 Only one sensitive plant (*i.e.*, Boreal Aster) was observed at three locations at *The Crossing* site on 9 September 2016 (*i.e.*, 45.325869°, 66.034649°; 45.32553°, 66.034873°; 45.32.5435°, 66.035072°) by a rare plant botanical specialist with WSP (refer to Appendix VIII). Section 3.2.5.2.2 During July 2019, no native aquatic turtles (*i.e.*, *Glyptemys insculpta*, *Chrysemys picta*, and *Chelydra serpentina*) were observed [*Stantec*, 2019] (*i.e.*, refer to Appendix XVIII). Although some areas of the Project site have the potential to provide some feeding and overwintering habitat for eastern painted turtles and common snapping turtles and possibly some habitat for wood turtles, the overall habitat for native aquatic turtle species was considered to be relatively low. Notably missing from the Project site was an abundance of prominent	Appendix VIII – WSP Rare Plant Survey Appendix XVIII – Stantec Breeding Bird and Wildlife Field Studies Section 3.2.5.1 – Flora Section 3.2.5.2.2 – Herpetiles Section 3.2.5.2.3 – Birds	Migratory Birds and Species At Risk

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			basking areas and extensive thick aquatic vegetation preferred by eastern painted turtles and common snapping turtles, and the lack of faster moving water and sandy / gravelly substrate preferred by wood turtles. Section 3.2.5.2.3 During breeding bird surveys, 47 species of birds were observed at the Project site [*Stantec*, 2019] (*i.e.*, refer to Appendix XVIII). Those species are listed in the table. None of the birds observed are listed under the p*SARA*, f*SARA*, or by the COSWEIC and all are ranked provincially as being secure. The absence of species during the surveys does not meant that it is not possible for that species to occur there. In some instances, habitat appropriate for that bird may be available, but is not being utilized for some reason (*e.g.*, preference for another nearby area where similar habitat is available, *etc.*).		
TRC1-13	It is recommended that a detailed description of wildlife use of the project area be provided, along with the results of the desktop review, field survey methodology, and field survey results. These can then be used to evaluate the potential effects, including potential cumulative effects of the proposed project on birds, and to develop mitigation measures.	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Migratory Birds Convention Act. Reference TRC Comment #25 and Appendix # 5. An ACCDC Report was received, and is included in the Rare plant Survey and the Wetland Delineation and Functional Assessment, Appendix # 7. As well as data from Nature Counts was obtained, Appendix #10 and fauna observations were made during the Wetland Delineation and Functional Assessment (see Appendix 7).		Appendix VIII – WSP Rare Plant Survey Appendix XVIII – Stantec Breeding Bird and Wildlife Field Studies Section 3.2 – Biological Environment	Migratory Birds and Species At Risk
TRC1-14	Clearing vegetation may cause disturbance to migratory birds, and may inadvertently cause the destruction of their nests and eggs. Many species use trees, as well as brush, deadfalls and other low-lying vegetation for nesting, feeding, shelter and cover. This would apply to songbirds throughout the region, as well as waterfowl in wetland areas. Disturbance of this nature would be most critical during the breeding period. The breeding season for most birds within the project area occurs between April 5th and August 31st in this region, however some species protected under the MBCA do nest outside of this time period. Please see the webpage "General Nesting Periods of Migratory Birds in Canada" (Website: http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=4F39A78F-1) for more specific information concerning the breeding times of migratory birds. This project area falls within or near zones "C3" and "C4".	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Migratory Birds Convention Act. Reference TRC Comment #25 and Appendix # 5. An ACCDC Report was received, and is included in the Rare plant Survey and the Wetland Delineation and Functional Assessment, Appendix # 7. As well as data from Nature Counts was obtained, Appendix #10 and fauna observations were made during the Wetland Delineation and Functional Assessment (see Appendix 7).	➢ Any tree clearing activity should be undertaken outside of the migration and breeding season for migratory birds in the greater Saint John region, which generally occurs between 5 April and 31 August, in order to protect nesting areas.	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds
TRC1-15	Environment and Climate Change Canada provides the following recommendations: a. To avoid the risk of nest destruction, the proponent should avoid vegetation clearing and field burning during the most critical period of the migratory bird breeding season (see above).	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Canadian Environmental Protection Act. Reference TRC Comment #25 and Appendix #5.	➢ Horizon Management will ensure that Project activities are managed so as to ensure compliance with the *Migratory Birds Convention Act, 1994* [S.C. 1994, c. 22] and associated regulations. ➢ Any tree clearing activity should be undertaken outside of the annual migration and breeding season for migratory birds in the greater Saint John region, which generally	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds

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	b. To develop and implement an environmental management plan that includes appropriate preventive measures to minimize the risk of impacts on migratory birds (See "Planning ahead to reduce risks to migratory bird nests", PDF: http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=50C4FE11-801E-4FE3-8019-B2D8537D76CF). It is the responsibility of the individual or company undertaking the activities to determine these measures. For guidance on how to avoid the incidental take of migratory birds nests and eggs, please refer to the *Avoidance Guidelines* (Website: http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=AB36A082-1). The management plan should include processes to follow should an active nest be found at any time of the year.		occurs between 5 April and 31 August, in order to protect nesting areas. ➢ If tree clearing is required within the annual migration and breeding season for migratory birds in the greater Saint John region (*i.e.*, between 5 April and 31 August), then additional measures should be implemented, such as having a qualified biologist and / or experienced birder conduct a survey of the area prior to clearing to ensure no active next are present and only after approval from the New Brunswick Department of the Environment and Local Government. ➢ If an active nest, den, *etc.* is encountered, a no-disturbance buffer zone of 30 m+ should be established around the area (*n.b.*, flagging tape should not be used to mark the feature as it increases the change of predation and representatives with the Canadian Wildlife Service should be contacted to determine the appropriate buffer size) until a qualified biologist determines if the buffer zone shall remain, if the size should be increased, or if the buffer zone can be eliminated (*i.e.*, the animal has abandoned the feature).		
TRC1-16	A variety of species of plants native to the general project area should 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.	Noted.	The overall concept for the Project envisions an abundance of green spaces with lots of trees, shrubs, and plants to provide a more natural environment, to capture surface water runoff, and to help offset the effects of greenhouse gas emissions. Exposed areas adjacent to the development will be hydroseeded to promote revegetation. The seed mix used will comprise a variety of native herbaceous species and be free of invasive species. Revegetation of areas adjacent to Little Marsh Creek and on-site wetlands will be seeded using the following prescription: ➢ 60 % blue joint reed-grass (*Calamagrostis canadensis*); ➢ 15 % American manna grass (*Glyceria grandis*); ➢ 10 % wool grass (*Scirpus cyperinus*); ➢ 10 % soft rush (*Juncus effuses*); ➢ 3 % boneset (*Eupatorium perfoliatum*); and ➢ 2 % blue vervain (*Verbena hastate*).	Section 2.7.5 - Landscaping	Revegetation
TRC1-17	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 5th through August 31st). 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 for erosion, and to ensure that nests are protected until chicks have fledged and left the area. For a species such as the Bank Swallow, the period when the nests would be considered active would include not only the	Noted.	➢ Large piles of soil should not be left uncovered / unvegetated during the annual migration and breeding season for migratory birds in the greater Saint John region (*i.e.*, between 5 April and 31 August) in order to discourage the use by certain species (*i.e.*, bank swallows) for nesting and roosting unless slopes are reduced to < 70 °.	4.3.3.1.2 – Proposed Mitigation	Migratory Birds

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	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.				
TRC1-18	See also the attached guidance concerning beneficial management practices that should be considered for implementation when designing mitigation measures for Bank Swallows.	Noted.	Please refer to the Response to TRC1-17 provided above.		Migratory Birds
TRC1-19	Measures to diminish the risk of introducing invasive species should be developed and implemented during all project phases. These measures could include: a. Cleaning and inspecting construction equipment prior to transport from elsewhere to ensure that no vegetative matter is attached to the machinery (e.g., use of pressure water hose to clean vehicles prior to transport). b. Regularly inspecting equipment prior to, during and immediately following construction in areas found to support Purple Loosestrife to ensure that vegetative matter is not transported from one construction area to another.	Noted. It is the Proponent's intention to adhere to all relevant Federal, Provincial and Municipal regulatory requirements. An Environmental Management Manual / Environmental Protection Plan was been prepared for this project with specific reference to the Canadian Environmental Protection Act. Reference TRC Comment #25 and Appendix #5.	➢ Equipment should arrive at the Project site in a clean condition free of invasive and noxious weeds.	Section 4.3.3.1.2 – Proposed Mitigation	Equipment maintenance
TRC1-20	Attraction to lights at night or in poor visibility conditions during the day may result in collision with lit structures or their support structures, or with other migratory birds. Disoriented migratory birds are prone to circling light sources and may deplete their energy reserves and either die of exhaustion or be forced to land where they are at risk of depredation.	Noted.	➢ Luminaries should be selected to minimize glare and uplighting, which can disorient migrating birds at night (*i.e.*, they are prone to circling light sources and may deplete their energy reserves and either die of exhaustion or be forced to land where they are at risk of depradation).	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds
TRC1-21	To reduce risk of incidental take of migratory birds related to human-induced light, ECCC-CWS recommends implementation of the following beneficial management practices: a. The minimum amount of pilot warning and obstruction avoidance lighting should be used on tall structures. Warning lights should flash, and should completely turn off between flashes. b. The fewest number of site-illuminating lights possible should be used in the project area. Only strobe lights should be used at night, at the lowest intensity and smallest number of flashes per minute allowable by Transport Canada. c. Lighting for the safety of the employees should be shielded to shine down and only to where it is needed. d. LED lights should be used instead of other types of lights where possible. LED light fixtures are less prone to light trespass (i.e. are better at directing light where it needs to be, and do not bleed light into the surrounding area), and this properly reduces the incidence of migratory bird attraction.	Noted.	In the past, parking lot lighting was dominated by high-pressure sodium, metal halide, and fluorescent luminaries. Light-Emitting Diode (LED) technology is now a significant environmentally energy efficient option (*i.e.*, considerably reducing energy costs and greenhouse gas emissions) that provides targeted safe lighting levels (*i.e.*, the light is focused where needed, which reduces light trespass) and reduces the incidence of migratory bird attraction. The tallest Project structures, the multi-residential buildings and / or hotel(s), will only be five to six storeys. It is not believed that pilot warning and obstruction avoidance lighting will be required on those buildings considering they will be lower than the surrounding hills; however, this will be confirmed during detailed engineering design. If required, pilot warning and obstruction avoidance lighting will be kept to a minimum. The lights should flash and completely extinguish between flashes. Furthermore, lights used at night should be strobes that are the lowest intensity with the least number of flashes per minute allowable by Transport Canada.	Section 2.7.3.2 – Lighting	Migratory Birds

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TRC1-22	The following species at risk (as listed on Schedule 1 of the Species at Risk Act) may occur within the project area: Canada Warbler (Threatened), Olive-Sided Flycatcher (Threatened) and Common Nighthawk (Threatened). Though unlikely to be found within the project footprint, these species may occur within the project area and we request that sightings be reported to ECCC-CWS.	Noted.	➢ If species listed under the federal *Species At Risk Act* are observed on the Project site, then their sightings will be reported to Environment and Climate Change Canada's Canadian Wildlife Service branch.	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds and Species At Risk
TRC1-23	There have been sightings of SARA-listed Wood Turtle (Threatened) in the area. Wood Turtle Critical Habitat is in the Project Watershed. Wood turtle are unlikely to be in the project area if the project is to proceed in Fall/Winter. If operations proceed in the Spring, Wood Turtle are more likely to be in the project area and further mitigation may be required.	Noted.	During July 2019, no native aquatic turtles (*i.e.*, *Glyptemys insculpta*, *Chrysemys picta*, and *Chelydra serpentina*) were observed [*Stantec*, 2019] (*i.e.*, refer to Appendix XVIII). Although some areas of the Project site have the potential to provide some feeding and overwintering habitat for eastern painted turtles and common snapping turtles and possibly some habitat for wood turtles, the overall habitat for native aquatic turtle species was considered to be relatively low. Notably missing from the Project site was an abundance of prominent basking areas and extensive thick aquatic vegetation preferred by eastern painted turtles and common snapping turtles, and the lack of faster moving water and sandy / gravelly substrate preferred by wood turtles.	Section 3.2.5.2.2 – Herpetiles Appendix XVIII – Stantec Breeding Bird and Wildlife Field Studies	Wood Turtles and Species At Risk
TRC1-24	ECCC-CWS recommends that the Province of New Brunswick be consulted with respect to specific Wood Turtle mitigations and beneficial management practices.	Noted.	➢ If species listed under the federal *Species At Risk Act* are observed on the Project site, then their sightings will be reported to Environment and Climate Change Canada's Canadian Wildlife Service branch. ➢ If a species listed under the provincial *Species At Risk Act* are observed on the Project site, then their sightings will be reported to the New Brunswick Department of Natural Resources and Energy Development.	Section 4.3.3.1.2 – Proposed Mitigation	Wood Turtles and Species At Risk
TRC1-25	Prior to commencing the project, the proponent will be required to prepare and submit an Environmental Protection Plan (EPP) to the Project Manager, Environmental Assessment (EA) Section, Department of Environment and Local Government (DELG) for review and approval.	An Environmental Management Plan / Environmental Protection Plan has been prepared (attached, Appendix #5) for review and approval of the Project Manager, Environmental Assessment (EA) Section, Department of Environment and Local Government (DELG).	A Project-specific environmental protection plan was previously developed by Horizon Management (*i.e.*, refer to Appendix XII).	Section 4.5 – Project-Specific Environmental Protection Plan Appendix XII – Horizon Management Environmental Protection Plan	EPP
TRC1-26	The EPP should include a Contingency Plan that ensures all precautions will be taken by the proponent and contractors to prevent fuel leaks from equipment and oil spills. Furthermore, the proponent should ensure that contractors are aware that under the MBR, "no person shall deposit or permit to be deposited oil, oil wastes or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds." Biodegradable alternatives to petroleum-based chainsaw bar oil and hydraulic fluid for heavy machinery are commonly available from major manufacturers. Such biodegradable fluids should be considered for use in place of petroleum products whenever possible, as standard for best practices. Fueling and servicing of equipment should not take place within 30 meters of environmentally sensitive areas, including shorelines and wetlands.	Noted. See Appendix #5.	Horizon Management understands that migratory birds, their eggs, nests, and young are protected under the *Migratory Birds Convention Act*, 1994 [S.C. 1994, c. 22] and includes all seabirds, with the exception of cormorants and pelicans, all waterfowl, all shorebirds, and most landbirds. It is also understood that bird species not listed under the *Act* may be protected under other provincial and / or federal legislation. As per the *Act*, no person shall deposit or permit to be deposited oil, oily wastes, or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds. ➢ Refuelling and maintenance of equipment should occur in designated areas, on level terrain, a minimum of 30 m from any watercourse and / or wetland. ➢ Heavy equipment working within or within 30 m of watercourses and / or wetlands should use eco-friendly biodegradable and non-toxic hydraulic fluids as opposed to petroleum-based hydraulic fluids.	Section 4.3.3.2.2 – Proposed Mitigation	Equipment fuelling

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TRC1-27	Provisions for wildlife response activities should be identified in the Oil Spill Prevention and Response Plan to ensure that pollution incidents affecting Wildlife are effectively and consistently mitigated. The document "*Birds and Oil - CWS Response Plan Guidance*" is attached and is provided to offer guidance on the development of wildlife response activities.	Noted. See Appendix #5.	Section 4.3.2.3.2 and Section 4.3.2.4.2 ➢ Fuel storage and fueling / lubricating activities should only be performed in designated safe areas that are be located such that minimum effects would be felt from a spill and harmful substances would in no circumstances enter groundwater systems. ➢ Fuel storage and fueling / lubricating activities should only be performed in designated safe areas that are located > 30 m from a watercourse and / or wetland. ➢ All potential contaminants and contaminated materials should be stored in a contained area where they cannot become mobilized or access the ground surface (*i.e.*, be placed atop and within spill containment pads). ➢ Regular maintenance and inspection of equipment on site should be performed to minimize the risk of spills of oil based fluids that pose a threat to groundwater systems. ➢ Appropriate spill response equipment (*i.e.*, spill kits) should be kept in designated areas, close to designated fueling stations and all appropriate personnel on site should be trained in the use of such equipment. ➢ All spills of hazardous materials should be reported immediately to the appropriate Regulator(s). Section 4.3.3.1.2 ➢ No Project personnel should deposit or permit to be deposited oil, oil wastes, or any other substance harmful to migratory birds in any waters or any area frequented by migratory birds.	4.3.2.3.2 – Proposed Mitigation 4.3.2.4.2 – Proposed Mitigation 4.3.3.1.2 – Proposed Mitigation	Equipment Fuelling
TRC1-28	The following information should be included in any Oil Spill Prevention and Response Plan: a. Mitigation measures to deter migratory birds from coming into contact with the oil. b. Mitigation measures to be undertaken if migratory birds and/or sensitive habitat become contaminated with the oil. c. The type and extent of monitoring that would be conducted in relation to various spill events.	Noted. See Appendix #5.	➢ An oil spill prevention and response plan should be developed as part of the Project-specific environmental protection plan.	Section 4.3.3.1.2 – Proposed Mitigation	Equipment fuelling
TRC1-29	In addition to Section 5.1 of the MBCA, ECCC administers and enforces the pollution prevention provisions of the Fisheries Act. 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".	Noted.	Horizon Management recognizes that fish and fish habitat are protected under Section 35 of the *Fisheries Act* [R.S.C. 1985, c. F-14] and includes all activity that results in the harmful alteration, disruption, or destruction of fish habitat. The *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 such deleterious substance or any other deleterious substance that results from the deposit of such deleterious substances may enter such water.	Section 4.3.3.2.2 – Proposed Mitigation	Equipment fuelling and maintenance
TRC1-30	It is the responsibility of the proponent to ensure that all reasonable measures are conducted to prevent the release of substances deleterious to fish from their proposed activities. In general, compliance is determined at the last point of control of the substance	Noted.	Please refer to the Response to TRC1-29 provided above.		Equipment fuelling and maintenance

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	before it enters waters frequented by fish, or, in any place under any conditions where a substance may enter such waters.				
TRC1-31	Provisions for the management of hazardous materials (e.g. fuels, lubricants) and wastes (e.g. contaminated soil, sediments, waste oil) should be identified and implemented in order to ensure compliance with Section 36 (3) of the Fisheries Act, and with the Canadian Environmental Protection Act and the Migratory Birds Convention Act and their Regulations. Hazardous materials and wastes should be managed so as to minimize the risk of chronic and/or accidental releases. For example, refuelling and maintenance activities should be conducted on level terrain, at a suitable distance from environmentally sensitive areas including watercourses and wetlands, and on a prepared impermeable surface with a collection system.	Noted. See Appendix #5.	Please refer to the Responses to TRC1-27, TRC1-28, and TRC1-29 provided above.		Equipment fuelling and maintenance
TRC1-32	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*, is a useful reference.	Noted.	➢ Emergency response and contingency plans should be designed to prevent any sustained environmental damage during any mishaps, errors, and / or unforeseen events.	Section 4.3.3.1.2 – Proposed Mitigation Section 4.3.3.2.2 – Proposed Mitigation	Equipment fuelling and maintenance
TRC1-33	All spills or leaks, such as those from machinery, should be promptly contained and cleaned up (sorbents should be available for quick containment and recovery), and reported to the 24-hour environmental emergencies reporting system (Maritime Provinces (1-800-565-1633).	Noted. See Appendix #5.	➢ An oil spill prevention and response plan should be developed as part of the Project-specific environmental protection plan.	Section 4.3.3.1.2 – Proposed Mitigation	Equipment fuelling and maintenance
TRC1-34	The proponent should note that Courtney Bay Environmentally Significant Area (ESA) is located downstream of the project area. How will the proponent prevent sedimentation runoff and other substances such as hydrocarbons from entering the watercourse within the project site that drains into Courtney Bay during construction and once the proposed development is in operation?	Noted.	Section 3.2.6 Two other ESAs, which aren't within 5 km of the Project site, but are connected to the Marsh Creek watershed are the Courtney Forebay ESA and the Courtney Bay ESA. The Courtenay Forebay ESA is a significant area for waterfowl in Saint John. Bald eagles have also been observed preying on waterfowl within the Forebay. It is a unique 43 ha urban wetland that is frequented by birders. ACAP Saint John has been a strong advocate for cleanup efforts related to the Forebay and Marsh Creek, which flows into the wetland. Courtenay Bay is the tidal marsh and estuary of the Marsh Creek watershed. The Bay has a diversity and abundance of aquatic and brackish habitats. Because the area is also an important urban-centric breeding area for ducks and geese, it is designated as an ESA. Marsh Creek and Courtenay Bay, which Marsh Creek discharges to, has also been the focus of ACAP Saint John. The group has become known for partnering and working with the community, including industry, to help improve the environmental health of these two diverse ecosystems. Section 4.3.2.3.2 ➢ An erosion and sediment control plan should be developed and implemented prior to initiating construction for any part of the various Project Phases in order to limit and control	Section 3.2.6 – Environmentally Significant and Managed Areas Section 4.3.2.3.2 – Proposed Mitigation	Environmentally Significant Areas

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			erosion and sedimentation. Erosion control measures should be used to minimize and / or prevent erosion and may include the following: topsoil; mulching; hydro-seeding; jute mats; riprap; sod; trees and shrubs; polyethylene film; gravel; and gabions (*n.b.*, each measure has benefits and challenges that must be reviewed prior to using). Sedimentation control measures should be used to minimize and / or prevent the transportation and deposition of sediment as a result of erosion and may include the following: sediment control fences; sediment ponds; erosion control structures; and flumes (*i.e.*, slope drains).		
TRC1-35	Archaeological Services has completed its review of EIA Registration 4561-3-1450. The proponent should note that any area within 80 meters of a watercourse (or former watercourse) contains elevated archaeological potential and therefore requires an Archaeological Impact Assessment (AIA) conducted by a professional archaeologist before any ground disturbing activities are permitted in the area. In addition, there is a known archaeological site (BhDm-4) located at N45 19' 53.89 W66 1' 59.69" which has a 100m buffer zone around it where ground disturbing activities would not be permitted without an *Archaeological Site Alteration Permit* (SAP). From the plans provided, Archaeological Services was unable to determine whether the proposed development would encroach on this archaeological site or its buffer zone. Could the proponent provide a shape file of the proposed development's footprint?	An Archaeological Assessment has been completed (see Appendix #6)	The nearest documented site is located along the shoreline of Drury Cove. BhDm-24 is an historic (circa 1870) surficial artifact scatter site [*AFW*, 2018]. Up until 1970-80, an historic structure still stood at that site. Even with a 100 m buffer zone around this known archaeological site, it does not impact use of the Project site (*i.e.*, the 100 m buffer does not quite extend to the intersection of Old Drury Cove Road and Stagecoach Drive). A preliminary archaeological impact assessment of the Project site was completed by Amec Foster Wheeler (AFW) in June 2017 under Archaeological Field Research Permit 2017NB53. AFW submitted a final archaeological impact assessment report in April 2018. Copies of both reports are included in Appendix XVI. No significant archaeological finds were made during reviews of the site.	Section 3.3.2 – Archaeological and Cultural Features Appendix XVI – Amec Foster Wheeler Archaeological Impact Assessment	Archaeology
TRC1-36	The proponent should be aware that as part of its commitment to wetlands conservation, the Federal Government has adopted *The Federal Policy on Wetland Conservation* (FPWC) with its objective to "promote the conservation of Canada's wetlands to sustain their ecological and socio-economic functions, now and in the future." In support of this objective, the Federal Government strives for the goal of No Net Loss of wetland function on federal lands or when federal funding is provided. Though this project does not take place on federal lands, ECCC-CWS recommends that the goals of the policy be considered in wetland areas as a beneficial management practice. A copy of the FPWC can be found at: http://publications.gc.ca/pub?id=9.686114&sl=0	Noted.	Wetlands provide many ecological and socio-economic functions and New Brunswick has adopted a *no-net-loss* approach to wetlands consistent with the Federal government. Under that approach, wetland avoidance is preferred and is achieved by choosing an alternate project, alternative project design, or alternate development. Minimization and compensation, respectively, follow avoidance. Horizon Management has avoided direct impacts as a result of this Project to regulated wetlands by changing its conceptual design to be outside of the wetland contiguous with Little Marsh Creek (*n.b.*, some portions of the regulated buffer may be impacted).	Section 4.3.2.3.1 – Potential Impacts	Wetlands
TRC1-37	ECCC-CWS recommends using a 30 meter buffer from the high water mark of any water body (1:100 year Flood Zone) in order to maintain movement corridors for migratory birds. Please see https://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=8D910CAC-1#_03_1_1 for further information concerning buffer zones.	Noted.	➢ Tree clearing within 30 m from the highwater mark of any water body should be minimized in order to maintain movement for migratory birds and if any tree clearing is required within 30 m then it will only be done through regulatory approval, such as under the Watercourse and Wetland Alteration Regulation [90-80] of the New Brunswick *Clean Water Act* [S.N.B. 1989, c. C-6.1].	Section 4.3.3.1.2 – Proposed Mitigation	Migratory Birds
TRC1-38	In order to promote wetland conservation EC-CWS recommends the following:	Noted.	Section 4.3.2.3.2	Please refer to the Response to TRC1-36 provided above.	Wetlands

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	a. Developments in wetlands should be avoided. b. Where development does occur in the vicinity of wetlands, a minimum vegetation buffer zone of 30 m should be maintained around existing wetland areas. c. Hydrologic function of the wetland should be maintained. d. Runoff from the development should be directed away from wetlands.		➢ Horizon Management will ensure Project activities are managed so as to ensure conformity with the New Brunswick *Clean Water Act* [S.N.B. 1989, c. C-6.1] and associated regulations, which includes any work within 30 m of a watercourse and / or wetland. ➢ Off takes, ditches, and dykes should be used to divert runoff flow into vegetated areas away from watercourses and / or wetlands.	Section 4.3.2.3.2 – Proposed Mitigation	
TRC1-39	Is avoidance of the wetlands or portions of any regulated and unmapped wetlands possible with this development?	The preparation of the site layout will take into consideration the regulated wetlands.	The site plans submitted with the original EIA application of 25 November 2016 and the modified EIA application of 14 February 2019 have been further modified to reduce the Project's impacts on the watercourse, wetlands, and to minimize the volume requirement for floodplain compensation. The current proposal for *The Crossing*, which is described and assessed within this EIA document, imagines Little Marsh Creek and its contiguous wetland as key design features where both remain largely untouched.	Section 2.6.2.3 – Current Proposal	Wetlands
TRC1-40	Under the Description of the Existing Environment, Physical and Natural Features, Section 3.0 i, (Page 14), the *Preliminary Watercourse and Wetland Assessment Report* was based on field work completed in excess of ten years ago. Please be advised that a more recent assessment of the wetland boundaries and the functions of the wetlands will be required. The typical time frame for a wetland assessment is June – September. Should the proponent wish to complete a wetland assessment outside of this time frame please contact the Provincial Wetland Biologist at (506) 453-2480 to discuss potential additional requirements. a. The wetland assessment will need to include the boundaries of the mapped wetlands on the property and the location/extent of unmapped wetlands. b. Information regarding the functions/benefits that these mapped and unmapped wetlands provide. c. The total proposed impact area within the regulated wetland and unmapped wetlands?	A Wetland Delineation and Functional Assessment has been completed. (see Appendix #7)	There are several wetlands and regulated wetlands contiguous with the Little Marsh Creek and its tributaries. Wetlands are transitional areas between terrestrial and aquatic systems where the water table is at or near the surface and the land is covered by shallow water at some time during the growing season. Permits are required to impact regulated wetlands and / or their 30 m regulated buffer. When *TAP* [2005] conducted their preliminary watercourse and wetland assessment they noted that wetlands on the Project site would need to be delineated in order to determine their extent (*i.e.*, refer to Appendix IV). Dillon Consulting (Dillon) completed a wetland delineation and functional assessment for the entire Project site and lands along Rothesay Avenue (*i.e.*, formerly referred to as the Eco-Park site) during May and June 2017 [*Dillon*, 2017] (*i.e.*, refer to Appendix IX). A total of 42.9 ha and 8.4 ha of wetland were delineated at the Project and Eco-Park sites, respectively. Regulated wetlands (*i.e.*, those that appear on the GeoNB Map Viewer) at the two sites are 10.5 ha and 0 ha, respectively, for the Project site and the lands along Rothesay Avenue. *Dillon* [2017] used the Wetland Ecosystem Services Protocol – Atlantic Canada (WESP-AC), a standardized methodology for rapidly assessing some important natural functions of non-tidal wetlands in Atlantic Canada [*Adamus*, 2016]. A summary of the functional assessment results is provided in the table and a copy of the *Dillon* [2017] assessment is included in Appendix IX. Results indicate that the Little Marsh Creek wetlands provide ecological value, specifically related to the maintenance of water quality and aquatic habitat for the Marsh Creek Watershed. Furthermore, the wetlands are at risk based on ecological sensitivity and surrounding stressors (*i.e.*, denoted by the "Higher" benefit rating for wetland risk in the table).	Section 3.1.5.2 - Wetlands	Wetlands

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC1-41	Please provide additional information regarding the following statements: a. It is stated that the banks of the Little Marsh Creek will be expanded to create and urban wetland throughout the commercial site. What is the construction methodology for this process? Has it been successful in the past? b. It is stated that "Efforts to enhance amphibian and reptile habitat in the Urban Wetland will also be explored". What efforts will be explored? c. In Figure 3 from the "*Preliminary Watercourse and Wetland Assessment of the Ashburn Lake Road Site*", it states that the 38 acres to the north end of Ashburn Lake road exhibits wetland characteristics. It also states in the borehole analysis that there is peat within the soils. What measures will be done to offset potential flooding from the loss of wetland habitat and hydric soils which are currently retaining water? d. It is stated that run-off waters will be directed further down marsh creek. This area is currently being used for several existing commercial developments in which there have been flooding issues in the past. There are recorded flooding problems immediately downstream and in nearby tributaries of Marsh Creek (see http://www.elgegl.gnb.ca/0001/en Flood/Search). Increased volume (i.e. from paved areas) would likely aggravate the problem. This is particularly true during high tides, when drainage through the Courtenay Bay Causeway is an issue. Is the proponent aware of the present flooding issues? e. While they are older, the provinces flood hazard maps of the area do show the site to be located in a flood zone, which should be addressed by the proponent. f. Given the history of flooding in the surrounding area what is being proposed to mitigate any further flooding issues or any loss of wetland function as a result of this project? Please include additional information regarding the proposed summary of wetland mitigation (i.e. diagram, maps, proposed projects with DUC, etc.).	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)	Considerable information regarding these comments are found in sections of the EIA document identified.	Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Concept Report Section 2.8.2.10 – Storm Water Management Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater runoff and wetlands
TRC1-42	With regards to Appendix 1, the *2005 Watercourse and Wetland Assessment Report*, TAP Environmental Resources conducted electrofishing and there were minimal species identified (three). It is important to note that the City of Saint John completed a major harbor clean-up in 2014. In other words, raw sewage is no longer being released in the Marsh Creek watershed where "The Crossing" is being proposed. Thus, with the improvement in water quality, it is possible that there	A new wetland delineation and functional assessment was completed in 2017 (see Appendix # 7) Electrofishing data from a 2013 study by ACAP Saint John has been used (see Appendix #8).	Section 3.1.5 … As such, several assessments have been completed for the on-site watercourses and wetlands as described in the sections that follow. Copies of those previous assessments are included in Appendices IV, V, VII, XI, XIV, XVII, and XVIII.	Section 3.1.5 – Hydrology Appendix IV – TAP Environmental Resources Inc. Preliminary Watercourse and Wetland Assessment Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report Appendix VII – Re-Zoning PAC Memo and Approval Conditions	Watercourses, wetlands, and fish

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	are more fish species present in this watershed. Since this report is over a decade old, a new watercourse and wetland assessment should be completed.			Appendix XI – Dillon Consulting Wetland Delineation and Functional Assessment Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report Appendix XVII – ACAP Saint John Little Marsh Creek Watercourse Assessment Appendix XVIII – Stantec Breeding Bird and Wildlife Field Studies	
TRC1-43	There was no scale provided in any of the report's figures. For Figure 1, please provide a scale, location of current watercourses (it appears as the rerouted watercourse), wetlands, names of roads / streets as well as a legend and the phases of development. For Figure 3, please provide a revised map of the proposed green space site in relation to the proposed development site and include the property boundaries and PIDs as well as a scale, location of current watercourses, wetlands, names of roads as well as a legend.	Attached is a revised Figure 1 (see Appendix 9). With respect to Figure 3, see Figures 1& 2 in the Wetland Delineation and Functional Assessment Report, Appendix 7.	New figures have been developed for the new EIA document. Those figures include more details, such as scale bars.	Updated figures are found throughout the EIA document.	Report maps
TRC1-44	Under the Summary of the Environmental Impacts, Section 4.0 (Page 15), the Hydraulics and Hydrology Report was produced in 2008. Marsh creek has been subject to a lot of attention and remediation efforts since then. The hydraulics report should be reassessed/updated, or new study initiated based on current conditions and current climate data.	An updated Stormwater and Hydrology Study was completed in 2017. (see Appendix #3)	Considerable information regarding these comments are found in sections of the EIA document identified.	Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC1-45	What is the length of channel to be cut off and the number of square meters this equates to with regard to the straightening of the "loop" in Marsh Creek between Ashburn Road and HWY 1?	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)	…the flow path of Little Marsh Creek is expected to remain as it presently exists on the Project site.	Section 2.8.2.9 – Watercourse Realignment and Piping	Watercourses
TRC1-46	What is the linear length and square meters of the tributary to be realigned as part of the development project?	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)	To facilitate Project development, tributaries of Little Marsh Creek will require alteration. The potential impacts to on-site watercourses will be as follows: ➢ an unnamed tributary between Fulton Lane and Ashburn Road, ~ 178 m long and 1 m to 2 m wide (*i.e.*, ~ 270 m^2) will be piped; ➢ an unnamed tributary near Rothesay Road / Rothesay Avenue intersection, ~ 165 m long and 2 m to 4 m wide (*i.e.*, ~ 500 m^2) will be realigned within an open channel; ➢ an unnamed tributary near Jones Drive / Ashburn Road intersection, ~ 220 m and 0.5 m to 1 m wide (*i.e.*, ~ 170 m^2) may be realigned within an open channel / pipe; and ➢ an unnamed tributary near Foster Thurston / Ashburn Road intersection, ~ 40 m long and 1 m to 1.5 m wide (*i.e.*, ~ 50 m^2) will be piped. The overall combined linear length of the proposed alterations is ~ 600 m and the overall combined area of the proposed alterations is ~ 540 m^2. The actual linear length and area will be	Section 4.3.2.3.1 – Potential Impacts	Watercourses

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			determined during detailed design and during permitting as will the design / sizing of piping and open channels.		
TRC1-47	Can the proponent provide photos depicting the habitat in the reaches of the watercourse to be altered?	See Attachment 2 in the Wetland Delineation and Functional Assessment, Appendix 5	ACAP Saint John conducted an assessment of Little Marsh Creek and its tributaries on the Project site in June and July 2018. The report included in Appendix XVII includes photos of the habitat.	Appendix XVII – ACAP Saint John Little Marsh Creek Watercourse Assessment	Watercourses
TRC1-48	Has the proponent determined what species are in the lake/wetland area upstream of the project locations and thus what fish may use this section of the watercourse as a corridor to the upstream environment? This can vary from the species found in the creek during spot check electrofishing.	Electrofishing data from a 2013 study on Ashburn Creek by ACAP Saint John has been used. (see Appendix 8)	Between 19 June and 10 July 2018, ACAP Saint John conducted comprehensive fish population and habitat surveys within Little Marsh Creek and its tributaries upstream of the Project site in order to identify fish species present. A total of 19 species were found.	Section 3.2.5.2.1 – Fishes Appendix XVII – ACAP Saint John Little Marsh Creek Watercourse Assessment	Watercourses and fish
TRC1-49	Does the proponent plan on studying existing drainage systems to ensure that they are capable of handling climate change impacts in addition to the impacts of the proposed development (or any others added since the latest studies)?	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)		Please refer to the Response to TRC1-44 provided above.	Stormwater
TRC1-50	If storage techniques for floodwater are to be used, design has to be adequate to ensure that flooding is not induced or aggravated downstream or upstream of the site.	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)	<u>Section 2.8.2.10</u> Compensatory storage options considered in the assessment include: ➢ on-site constructed channel storage; ➢ on-site rock fill void storage (*i.e.*, under parking lot storage); ➢ on-site constructed ponds (*e.g.*, new detention and retention ponds, expanding the existing compensatory storage ponds across from Jones Drive, *etc.*); and ➢ off-site downstream constructed storage volume directly connected to Marsh Creek (*i.e.*, excavated areas on the Rothesay Avenue lands to provide compensatory storage capacity). <u>Section 4.3.2.3.2</u> ➢ Horizon Management will ensure that flood storage lost as a result of the Project is compensated for within either the Glen Falls Flood Risk area or the Lower Marsh Creek Flood Risk area to ensure compliance with the Flood Risk Area By-Law of the City of Saint John [CP-11].	Section 2.8.2.10 – Storm Water Management Section 4.3.2.3.2 – Proposed Mitigation	Stormwater
TRC1-51	The 2008 modeling study by Terrain may have been adequate at the time however; the size of the proposed development has increased significantly since Terrain completed its draft report in 2008. According to the EIA document, the proposed development will span 49 hectares and will be comprised of business, commercial as well as residential. Terrain's report states that "The Crossing" would consist of a 46,500 square meters (4.65hectares) of commercial/business development (no residential) on 41 hectares of land. Furthermore, in Terrain's report, there is no indication that Little Marsh Creek is being realigned. This proposed realignment could change flow dynamics which in turn, would impact the accuracy of the model used in 2008. Therefore, further study will be needed to determine if the conclusion on page 18 of Terrain's report *"The results*	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)		Please refer to the Response to TRC1-44 provided above.	Stormwater

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	obtained from the stormwater models indicate that development of The Crossing will not have a negative effect on flooding in the Marsh Creek watershed" would still apply to the updated project scope.				
TRC1-52	The use of a 24-hour flood storm example may not accurately represent the potential for flooding to occur on the project site. This is a small, flat watershed with poor drainage capacity. It maybe more prone to flash flooding from a brief, intense rain event. Does the proponent plan on studying this type of flooding event?	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)		Please refer to the Response to TRC1-44 provided above.	Stormwater
TRC1-53	On preparation of a Storm Water Management Plan, it is recommended that the proponent consider examples from across Canada to determine the best storm water management techniques using such approaches as naturalized storm water basins, rain gardens, landscape designs, and other modifications or installations used to reduce surface water flow rates, and increase retention, infiltration, and sediment catchment.	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)	Compensatory storage options considered in the assessment include: ➢ on-site constructed channel storage; ➢ on-site rock fill void storage (*i.e.*, under parking lot storage); ➢ on-site constructed ponds (*i.e.*, detention and retention); and ➢ off-site downstream constructed storage volume directly connected to Marsh Creek (*i.e.*, excavated areas to provide compensatory storage capacity). Surface water runoff attenuation options provided in the assessment to yield a net zero increase in post-development storm water discharge for the 100 year + 20 % return period for storms include: ➢ parking lot ponding; ➢ landscaped dry detention ponds; and ➢ roof rainwater infiltration galleries.	Section 2.8.2.10 – Stormwater Management	Stormwater
TRC1-54	ELG recommends the proponent review the most recent AR5 New Brunswick climate change projections data and maps of 29 climate variables on the following site: http://acasav2.azurewebsites.net/ in order to consider any projected climate change impacts on the design and build of infrastructure associated with the project. Please note that data is available for the climate meteorological station Saint John in the Excel tables.	Noted.	➢ Input to the model included existing 100 year rainfall (*i.e.*, Environment Canada Meteorological Station Data with AR5 New Brunswick climate change predictions), predicted 100 year rainfall for 2050 (*i.e.*, University of Western Ontario climate change model, Scenario RCP 2.6 for Saint John), existing 100 year tidal curves with storm surge, and predicted 100 year tidal curves with storm surge for 2050.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater and climate change
TRC1-55	The proponent is advised to apply the IDF Climate Change curves that reflect future trends of extreme rainfall patterns, referencing future climate scenarios to all infrastructure design specifications. Tools available for these calculations include the IDF Climate Change Tool produced by the University of Western Ontario. http://www.idf-cc-uwo.ca/. Use of the UWO IDF tool is an acceptable approach for IDF development under future climates.	Noted.		Please refer to the Response to TRC1-54 provided above.	Stormwater and climate change
TRC1-56	In order to reduce risk, liability, and responsibility, the developer is advised that all infrastructure be installed at a minimum elevation that mitigates any and all possibility of flooding, contamination, and safety risks in the future. Design and installation specifications should ensure that infrastructure and other items are located completely above projected future flood elevations so that:	The Proponent has engaged a nationally recognized Consulting firm with experience in this area. All design will adhere to relevant regulatory requirements and current standards and practices.	Design engineers and architects generally follow specific guidelines with respect to design criteria. Those design criteria consider the environmental effects of climate change and the potential cumulative effects on the structures (*e.g.*, increased streamflow through a culvert, increased snow loads on a roof, *etc.*). Engineers will account for impacts of climate change on the proposed Project in their design. Mitigation of potential effects of the environment on the proposed Project are also	Section 4.4.1 – Notes on Climate Change	Stormwater and climate change

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	a. Septic systems/municipal wastewater infrastructure remains functional at all times, and does not create any discharges into the immediate environment. b. Potable water wells are not inundated and at risk of contamination. c. Storm water basins do not discharge any accumulated sediments. d. Habitable spaces are not impacted by water infiltrating via surface runoff, ground saturation, or septic back up, and e. Electrical and plumbing systems are unaffected by projected water levels.		inherent in the planning (*i.e.*, the EIA document), construction (*e.g.*, environmental protection / management plans), and planned operation of the Project (*e.g.*, capture and handling of surface water runoff). Many planning, designing, and construction strategies are available to minimize the potential effects of the environment on the Project so that risk of serious damage to infrastructure, human health, or interruption of service can be reduced to acceptable levels. The National Codes of Canada, which will be strictly adhered to for this Project, identify many codes and standards that address environmental considerations during all aspects of a project.		
TRC1-57	ELG recommends the proponent review the sea level rise information for Zone 12, Saint John County in the Updated Sea-Level Rise and Flooding Estimates for New Brunswick Coastal Sections – Based on the *IPCC 5th Assessment Report 2014* by Réal Daigle (R. J. DaigleEnviro) http://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/SeaLevelRiseAndFloodingEstimates.pdf.	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)	Sea level rise estimates for Saint John County, based on information from the IPCC, are provided in *Daigle* [2017]. Total predicted changes are as follows: ➢ 0.17 m ± 0.07 m between 2010 and 2030; ➢ 0.31 m ± 0.14 m between 2010 and 2050; ➢ 0.86 m ± 0.38 m between 2010 and 2100; and ➢ 1.51 m + 0.38 m between 2010 and 2100 with 0.65 m increase related to potential rise due to the melting of the Antarctic Ice Sheet. The Project site is inland from Courtenay Bay. Significant flooding of other sites downstream would have to occur before The Crossing is affected from sea level rise. If water levels at Courtenay Bay were to rise to a point where downstream infrastructure was affected (*i.e.*, Courtenay Bay Causeway), it is likely that work would be done to halt the inland advancement of the Bay.	Section 4.4.8 – Sea Level Rise	Sea level rise and climate change
TRC1-58	The proponent is advised to review the recently published '*Implementation Framework for Climate Change Adaptation Planning at a Watershed Scale*'. The Framework lists seven steps through which a group of individuals can come together to assess and manage vulnerabilities and risks stemming from climate change at a watershed level. http://www.ccme.ca/files/Resources/climate_change/Climate%20Change%20Adaptation%20Framework%201.0_e%20PN%201529.pdf.	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)	The document was reviewed when preparing the updated EIA document.		Stormwater and climate change
TRC1-59	Please identify the intended types of climate change adaptation strategies and actions that will help to manage and reduce risks/vulnerabilities associated with inland flooding to the built infrastructure associated with the project.	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3)		Please refer to the Response to TRC1-56 provided above.	Stormwater and climate change
TRC1-60	While it is understood that the proponent may not be the sole developer, the proponent is uniquely positioned to enable a low-carbon development (through covalence, contracts and marketing, or other such means) for all businesses and residential buildings in "The Crossing" development.	Noted.	Although Horizon Management will not be the sole developer of *The Crossing*, they are uniquely positioned to enable a low-carbon development. Project buildings will be designed to include taking into consideration environmentally-friendly features, such as highly-efficient low-emissivity glass, canopies over windows to reduce cooling requirements, the use of natural	Section 2.7.4 – Low-Carbon Development and Energy Efficient Design	Climate change

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			gas by all tenants, and computer controls on building heating, ventilation, and air-conditioning systems.		
TRC1-61	In November 2016, the Government of New Brunswick released its new *Climate Change Action Plan "Transitioning to a Low-Carbon Economy".* The Plan is ambitious and designed to respond to greenhouse gas (GHG) emissions and climate change adaption while taking advantage of opportunities for potential long-term job creation and stimulating investment in innovation and business development. Land-use planning and development has an important role to play in New Brunswick's transition to a low-carbon economy by reducing GHG emissions in communities through smart growth-oriented (which includes mixed-use) development patterns. Urban form and spatial planning measures can also cause transportation emission reductions and can facilitate improvements in low-carbon building construction/operation and compact design. It is well documented that the cost of inaction (i.e. not incorporating climate change into decisions); is greater than the cost of progressive action, and will be greater when a price on carbon emissions is in place in 2018. This development has the opportunity to be progressive in areas such as conservation design, energy efficiency, renewable energy and alternative transportation and that this could be a significant life-cycle cost saving and selling feature for The Crossing development. That being said, the proponent is requested to consider all beneficial greenhouse gas reduction measures and incorporate such features into the development. In cases where this is not possible, the proponent should justify the exclusion. a. The proponent should reduce greenhouse gas emissions during construction with measures such as limiting vehicle idling. b. The proponent should strive for no net loss of carbon sinks in the development area. This could be achieved through measures such as: planting tree species which sequester relatively higher quantities of carbon; increasing use of structural and appearance wood products, and incorporating green roofs. c. The proponent should take steps to incorporate alternative transportation in the design of the development to allow for, and encourage, use of public transit, biking, walking, electric vehicles, etc. d. Provinces and territories have established a goal of adopting "net-zero energy ready" model building code by 2030. We strongly encourage all new development to strive for this goal in advance of codes, or at least improve energy performance by incorporating features which	Noted.	Aligning with New Brunswick's Climate Change Action Plan for transitioning to a low-carbon economy [*PNB*, 2016], Horizon will strive to implement into the overall design of *The Crossing*: ➢ energy conservation; ➢ energy efficiency; ➢ renewable energy sources; and ➢ alternative transportation. The Proponent will also consider beneficial GreenHouse Gas (GHG) reduction measures and incorporate practical and feasible measures into the development. Those measures will include: ➢ reducing vehicle idling; ➢ striving for a no net loss of carbon sinks; and ➢ improving energy performance.	Section 2.7.4 – Low-Carbon Development and Energy Efficient Design	Greenhouse gas emissions and climate change

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	would 1) improve energy efficiency and 2) source renewable energy. e. To assist the proponent, the following suggestions are provided (although not exhaustive): achieve more ambitious R-values (i.e. increased insulation, triple-pane windows); use heating sources which achieve the highest level of efficiency that is economically achievable (i.e. high efficiency heat pumps); build with passive solar heating and orient structures to take advantage of the sun's energy (which in turn reduces heating demand); incorporate renewable or reduced-emission energy sources such as geothermal, solar, biomass, wood pellets, or natural gas.				
TRC1-62	Has the proponent considered snowmelt, frozen ground or ice effects in any of the modeling or designs?	Yes, the Proponent has engaged a nationally recognized Consulting firm with experience in this area. All design will adhere to relevant regulatory requirements and current standards and practices.	➢ exp Services Inc. were contacted regarding the modelling and indicated that winter runoff scenarios do not control storm water storage management for this site. Peak winter storm runoff scenarios were greatly reduced under post-development conditions with the proposed attenuation when compared to pre-development scenarios.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
20 JANUARY 2017 LETTER					
TRC1-63	In 2016, the proponent made an application to the City of Saint John (CoSJ) to amend the Municipal Plan designation of the subject site, and to rezone the subject site to allow for the proposed development to proceed. On April 18, 2016, Common Council gave third reading to the Municipal Plan Amendment and rezoning, and imposed a number of conditions on the rezoning of the subject lands. a. Please note that should a *Certificate of Determination* be issued following the EIA review of this project; the proponent will be required to satisfy the conditions imposed by the CoSJ Common Council and successfully obtain any required rezoning designation prior to commencing the project.	Noted. The proponent understands that the Section 39 requirements will need to be met before commencing the project.	It is expected that the 10 conditions made by the City of Saint John's Common Council, as per the Proponent's Section 39 (59) application, will be conditions of the EIA Certificate of Determination.	Section 2.8.1.1 – Existing Approvals	
STORMWATER MANAGEMENT COMMENTS					
TRC1-64	The EIA Registration Document contains a *Hydraulics and Hydrology Report* prepared by Terrain Group, dated March 6, 2008. This document relates to the hydrotechnical and stormwater management impacts of the development, which were identified as important considerations by CoSJ "City Staff" in the planning approvals process. Upon reviewing this document, City Staff note the following: a. This document is dated 2008, was stamped "draft" and is not sealed by a Professional Engineer. The document must therefore be updated to reflect current conditions. For example the site plan for the proposed "The Crossing" development contained in the 2008	Stormwater and Hydrology Study was completed in 2017. (see Appendix #3) The Proponent has engaged a nationally recognized Consulting firm with experience in this area. All design will adhere to relevant regulatory requirements and current standards and practices.	Considerable information regarding these comments are found in sections of the EIA document identified.	Section 2.8.2.10 – Storm Water Management Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report	Stormwater

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	report is different from the current proposal contained in the main EIA Registration Document and submitted as part of the 2016 planning approvals process. In addition to the differences pointed out in question 51 from the December 22, 2016 TRC letter, the following major differences are noted between the two site plans: i. The recent layout contains a residential component on the north side of Ashburn Road which is not shown in the 2008 site plan. ii. The stream alignment / realignment shown on the 2016/2017 concept is different than that shown on the 2008 document. iii. The 2016/2017 development concept appears to have more impervious area (roofs and paved parking) as compared to the 2008 development concept. iv. Additional information is required relating to the Terrain Report to allow for City Staff to fully understand the stormwater modelling that was done as part of this exercise. This would include: assumptions made for the modelling; additional details regarding the scenarios modelled; results at different locations and different times of the year (winter vs. summer – frozen ground impacts) and for different tidal conditions. It is noted that supporting information on the sub-watersheds that were analyzed with the model are not provided with the report. In addition, the assumptions relating to land use and the corresponding runoff coefficients made by the consultants may no longer be valid given the change in future land use outlined in new *Municipal Plan* and *Zoning By-law* that have been enacted by the City since 2012. v. No detailed discussion was provided regarding the calibration of the model, specifically how the modelled water elevations compare with data observed from field monitoring and how the modelled water levels compare with the Procter and Redfern mapping. vi. Responsibility for maintenance of any stormwater retention/detention ponds needs to be understood. In particular one of the scenarios modelled includes use of a City-owned parcel of land for additional water storage capacity: is there compensation for this use of City lands? Are there implications for adjacent properties? vii. How will a phased approach be taken with respect to stormwater management as the development proceeds in order to manage the stormwater requirements of the current site,				

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	phased development and adjacent impacts both upstream and downstream?				
TRC1-65	The phasing of the site preparation (mentioned on Page 10 of the Registration Document) should be better understood, as well as the implications on water levels downstream. a. For example, what are the stormwater management impacts for if the entire site is grubbed and trees removed but no further development occurs?	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3) Issues like this will be addressed in the conditions stated in the Certificate of Determination and in subsequent Watercourse and Wetland Alterations Permits.	➢ Hydraulic and hydrological modelling should be done prior to each Project Phase to ensure flood storage volume balance is maintained and Marsh Creek water surface elevations are not negatively affected.	Section 4.3.2.3.2 – Proposed Mitigation	Stormwater
CITY OF SJ FLOOD RISK BY-LAW COMMENTS					
TRC1-66	Portions of the proposed development site are within areas that are subject to regulation through the CoSJ's *Flood Risk Area By-law* which seeks to regulate development in the Marsh Creek Watershed in order to prevent flooding. This by-law requires that additional flood storage be developed to offset flood storage that is lost as development occurs within the Flood Risk Area. The EIA Registration Document indicates that the proposed work plan is to start in the spring of 2017 (section 2(vii) of Registration Document) by realigning the stream through straightening the loop in the watercourse on PID 00432203. It is also stated that initial development of the project will take place with this parcel of land being the hub of the development and that the infilling of lands with local aggregate to form an "aggregate mattress" will be undertaken on several parcels of land that are subject to the City of Saint John Flood Risk Areas By-law. a. The City of Saint John notes that this work cannot occur until the studies required by the Section 39 conditions have been completed by the developer and reviewed and approved by City staff, the City's Planning Advisory Committee and Common Council through an amendment to the conditions attached to the rezoning. b. As the placement of the aggregate materials constitutes a "development", permits for this work (including filling, excavating, relocating, altering land levels, etc.) such as Flood Risk Area permits cannot be issued until the required studies including the traffic impact study, servicing study, and stormwater management study are completed, a *Certificate of Determination* is issued by the Province relating to the EIA, and all other required Section 39 conditions are fulfilled through an amendment to the Section 39 conditions.	A Stormwater and Floodplain Study was completed in 2017. (see Appendix #3) The Proponent will adhere to the City of Saint John Flood Plain Area By-Law requirements.		Please refer to the Response to TRC1-44 provided above.	Stormwater
TRC1-67	How will existing compensatory storage provided by ponds across from Jones Road be affected by the development?	A Stormwater and Hydrology Study was completed in 2017. (see Appendix #3) These ponds will be taken into consideration during site design and layout	<u>Section 2.8.2.9</u> The existing compensatory storage provided by ponds contiguous with Little Marsh Creek on the Project lands across	Section 2.8.2.9 – Watercourse Realignment and Piping Section 2.8.2.10 – Storm Water Management	Stormwater

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			from Jones Road will remain. There are no plans, at this time to increase the size of those ponds. Section 2.8.2.10 Compensatory storage options considered in the assessment include: ➢ on-site constructed channel storage; ➢ on-site rock fill void storage (*i.e.*, under parking lot storage); ➢ on-site constructed ponds (*e.g.*, new detention and retention ponds, expanding the existing compensatory storage ponds across from Jones Drive, *etc.*); and ➢ off-site downstream constructed storage volume directly connected to Marsh Creek (*i.e.*, excavated areas to provide compensatory storage capacity).		
TRC1-68	The *Flood Risk Area By-Law* requires compensatory flood storage for projects that occur within the Flood Risk Area. The report prepared by Terrain Group and attached to the Registration Document indicates there are a few ways of providing compensatory storage for this development, however; the proposal does not indicate that compensatory storage creation will initially take place and it seems that the requirements of the by-law will not be immediately addressed. a. Based on the information provided in the Terrain report (Section 5), it appears that compensatory storage may possibly be addressed through the eventual development of an urban wetland and a naturalized storm water pond, however, this section also indicates that it will be some time before this work will be undertaken and it seems to be connected to developing in the regulated wetland area. The *Flood Risk Areas By-law* is not based upon development of Provincially Designated Wetlands and any compensatory storage required for the flood risk area is separate from compensation required through Provincial Legislation for impacts in Provincially Designated Wetlands. *The Flood Risk Area By-law* requires that compensatory storage be provided at the same time as development occurs within the Flood Risk Areas and any such development is subject to a *Flood Risk Area Permit*. b. The Terrain Report presents 4 different scenarios that were assessed with a hydraulic model. Scenario 3 involves the lower Marsh Creek parcel of land to be excavated (it is assumed that this is the parcel designated as the Eco-Park in the planning application, PID 55189385, however; it is not confirmed in the report). The scenario indicates that the proposal is to remove and dispose of 356,000 m3 of soil to create about 400,000 m3 of compensatory storage. The report does not favor this option due to the cost of	A Stormwater and Hydrology Study was completed in 2017 and covers the issues stated. (see Appendix #3)	Section 4.3.2.3.2 The Proponent appreciates that the Project site is located within the Glen Falls Flood Risk Area of Saint John and building within Flood Risk Areas of the City is guarded under the Flood Risk Area By-Law of the City of Saint John [CP-11]. Any loss of flood storage within a flood risk area requires that compensatory storage be provided in time to ensure that there is at no time any reduction in the flood water storage capacity of the area as a result of the development. Water storage maintenance measures can include on-site storage on roof and parking lots, temporary detention ponds, and retention ponds. Section 6.1.3 The Project area is located within the Glen Falls and Lower Marsh Creek Flood Risk Areas of Saint John. Building within those areas requires analysis of flood risk and volume and purchase of compensatory storage. Horizon Management Ltd. is proposing to develop buildings within the Glen Falls Flood Risk Area and provide compensatory storage within the Lower Marsh Creek Flood Risk Area. It is understood that the By-Law requires that compensatory storage be provided at the same time as development occurs within the Flood Risk Area.	Section 4.3.2.3.2 – Proposed Mitigation Section 6.1.3 – Flood Risk Area Development Permit	Stormwater

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	excavation and disposal of soil. Another scenario, Scenario #2, involves developing "The Crossing" project but no creation of compensatory storage (the report indicates that about 17,000 m3 of storage is required) and the last scenario, Scenario #4, seems to indicates that City-owned land (PID 55024921) could also be used to provide compensatory storage. Please be advised that Scenario #2 does not meet the requirements of the *Flood Risk Area By-Law* as no compensatory storage is provided to offset that lost by the development. Scenario 4 would also not be considered at this time as it would require a decision of Common Council to provide compensatory storage on City-owned land in lieu of the proponent providing it on their land. c. The Terrain report does not contain a recommended approach, based on a thorough assessment, to provide for the 17,000 cubic metres of compensatory flood storage that will be lost with completion of the development. The City requires this assessment in order to understand the impacts of the development on upstream and downstream areas of the Marsh Creek watershed and its flood storage capacity. d. The *Flood Risk Area By-Law* must be reviewed thoroughly by the developer's consultants and Flood Risk Areas permits must be obtained, following the required Section39 Amendment, prior to the commencement of any development on project lands within the flood risk area. The requirements for the permit application are clearly outlined, as are the need for plans showing draining patterns in the City's *Flood Risk Area By-Law*. The applicant is required to provide the City with a proposed approach to provide the required compensatory storage. Upon receipt of this, it will be evaluated by City Staff to determine its compliance with the by-law and form part of the necessary information, in addition to the required stormwater modelling and other supporting studies, for the required amendment to the Section 39 conditions.				
GENERAL COMMENTS					
TRC1-69	A number of the studies attached to the EIA Registration Document (dated November 23, 2016) are either draft reports and/or between 8 and 11 years old. Updated and finalized professional reports must be prepared by the developer/applicant and provided to the undersigned for TRC review and comment.	An updated Stormwater and Hydrology Study was completed in 2017. (see Appendix #3)	The studies, as requested, have been updated and copies are appended to the EIA document.	Appendices	Appendices
TRC1-70	Page 5 of the Registration Document mentions the economic benefits to the CoSJ. These should be	The Proponent will work with the City of Saint John through the Section 39 process.	*The Crossing* will have a very significant positive impact on the Greater Saint John region through project construction	Section 2.7.2 – Economic Generation	Economic benefits

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	evaluated in more detail once the implications for City infrastructure are better understood, and modelled for various levels of build-out.		spending, the direct and indirect creation of employment, and the increase in tax revenues. Some additional points regarding economic generation are provided below. ➢ Development of the site and the construction of buildings will result in millions of dollars being spent on labour and materials in the local economy. ➢ Considerable local and regional employment opportunities will be generated during the construction phases and full-time retail service, management, and maintenance positions will be created over the long-term. The International Council of Shopping Centres estimates one permanent job is created for every 37.2 m^2 of retail development (*i.e.*, ~ 1 060 jobs for 44 000 m^2 of retail space). ➢ *The Crossing* will be a gateway to the City of Saint John, attracting both locals and visitors from the highway to increase local spending; thus benefiting both new and existing businesses in the City. ➢ The construction of new buildings will result in a very significant increase in the property tax base for the City of Saint John. ➢ The creation of new employment and local spending will increase income taxes, HST revenue, and increase the provincial GDP. ➢ The gateway nature of the Project will help to transform the City of Saint John from a "drive by" to a "drive in" destination. ➢ The highway services component of the development combined with the international architectural design of the site will make *The Crossing* a destination for the Greater Saint John region. ➢ The development of the Project site will provide a wider range of new and enhanced services to the Greater Saint John region. ➢ *The Crossing* will be a very visible and architecturally unique development that will help create a greater sense of pride for the City.		
TRC1-71	Page 10 of the Registration Document mentions construction of the main access road to the development. This intersection is already a concern and it should be anticipated that there will be significant, expensive upgrades required to accommodate the additional traffic. Responsibility for construction and ongoing maintenance costs should be understood in advance of this project proceeding. The completion of a Traffic Impact Study that would address the vehicle, transit, pedestrian and active transportation impacts of the development, and on-site circulation is a requirement of the Section 39 conditions and must be completed and approved by the City prior to any development occurring on the site.	Traffic Impact Study was completed in 2017. (see Appendix #1) Discussions with the City and the Province are on-going with respect to cost sharing.	On 15 March 2015, the City of Saint John's Planning Advisory Committee dealt with a Municipal Plan Amendment and Rezoning application for 459, 617-885, and 540-900 Ashburn Road and a parcel of land northeast of the One Mile Interchange. A copy of the Section 39 information is included in Appendix TBD. Pursuant to Section 39 of the New Brunswick *Community Planning Act* [R.S.N.B. 1973, c. C-12], the proposed Project is subject to the 10 conditions the proposed Project is subject to the 10 conditions noted below (*n.b.*, the *Community Planning Act* was repealed and replaced with the New Brunswick *Community Planning Act* [S.N.B. 2017, c.19] where rezoning is covered under Section 59). *1.* Traffic Impact Study - *No portion of the site shall be developed prior to the completion of a Transportation Impact Study prepared by the developer and subject to the approval of Common Council, as a statutory amendment to*	Section 2.8.1.1 – Existing Approvals	Traffic

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			these conditions. The scope of work for the transportation impact study will be established in cooperation with the City, NBDTI and the developer. 2. Site Servicing Study - *No portion of the site shall be developed prior to the preparation of a servicing study reviewing the impacts on the City's water supply and sanitary sewer collection systems prepared by the developer and subject to the approval of Common Council, as a statutory amendment to these conditions.* 3. Stormwater Management Study - *No portion of the site shall be developed prior to the preparation of a stormwater management study that details the approach for stormwater management on the development site and reviews the impacts of the development on upstream and downstream areas of the Marsh Creek watershed prepared by the developer and subject to the approval of Common Council, as a statutory amendment to these conditions.* 4. Environmental Impact Assessment Approval - *No portion of the site shall be developed prior to the proponent registering the project with the Provincial Environmental Impact Assessment Process and a Certificate of Determination being issued by the Province.* 5. Detailed Development Plans - *No portion of the site shall be developed except in accordance with detailed plans including, but not limited to, a context plan, a site plan, typical building floor plans, building elevations, and a landscape plan all of which are to be prepared by the proponent and subject to the approval of Common Council, as a statutory amendment to these conditions.* 6. Market Study – *Should a significant change be proposed in the project concept plan, an addendum is required to the market study that provides additional analysis of the impacts of the proposed development on the regional retail sector as a whole, and is subject to the approval of Common Council, as a statutory amendment to these conditions. This addendum to the market study will be prepared by the developer.* 7. Municipal Infrastructure Upgrades - *Any upgrades to the existing municipal infrastructure required to service this proposed development will be the developer's responsibility and cost. However, should any cost sharing agreement be proposed between the developer and City, which may involve another level of Government, related to costs associated with infrastructure upgrades, servicing, transportation network improvements or development of the project, that such cost-sharing agreement be subject to the approval of Common Council, as a statutory amendment to these conditions.* 8. Maximum Building Size - *The maximum floor area of a building in the rezoned area is limited to 3000 square metres.* 9. Additional Studies – *The required studies outlined in conditions a) through f) inclusive shall be completed within 5*		

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			years of the date of the Municipal Plan amendment and rezoning coming into effect. Should this not occur, Common Council reserves the right to take steps to immediately repeal the rezoning agreement and the rezoning pursuant to Sections 39(5) and 39(6) of the Community Planning Act and return the land shall return [sic] to its previous zone which existed prior to this agreement; and, No portion of the site shall be developed prior to the preparation of a detailed phasing plan that graphically outlines the timeline for completion of the site development, prepared by the developer and is subject to the approval of Common Council, as a statutory amendment to these conditions. Common Council reserves the right to impose additional conditions relating to the timeline for completion of the project phases and the repeal of the rezoning agreement and the rezoning pursuant to Section 39(5) and 39(6) of the Community Planning Act and the return of the land to its previous zone which existed prior to this agreement at the time the studies are reviewed as part of the required Section 39 Amendment. 10. *Costs – In accordance with Section 39(8) of the Community Planning Act, the applicant shall provide a certified cheque in the amount of one thousand dollars ($1,000.00) to cover expenses related to the cancellation of the conditional rezoning agreement and/or repeal of the rezoning in the event that the conditions attached to the rezoning cannot be met, as per policy 1-5 in the Municipal Plan. The certified cheque shall be repayable on the substantial completion of the development for which the rezoning is granted. This shall be provided by the Developer to the City within 30 days of Third Reading of the 2016 Municipal Plan Amendment and Rezoning.* It is expected that the 10 conditions made by the City of Saint John's Common Council, as per the Proponent's Section 39 (59) application, will be conditions of the EIA Certificate of Determination.		
TRC1-72	The Crossing is a major development application which required an amendment to the Primary Development Area (PDA) boundary. The PDA effectively represents the City's growth and servicing boundary over the horizon of the Municipal Plan and lands within the PDA are intended to accommodate the majority of future growth over the planning period. In reviewing the original Municipal Plan amendment and rezoning application, City staff noted further due diligence is required on behalf of the developer to assess the long term financial risks for the City with respect to future infrastructure requirements. Therefore, Staff recommended a two stage development approvals process for the project. The first stage approval, granted in 2016 provided an "approval in principle" for the land use changes, with the second stage requiring the developer to complete the necessary due diligence to demonstrate the technical and servicing aspects of	All of these Section 39 report requirements have been completed. (see Appendices 1,2 & 3.		Please refer to the Response to TRC1-71 provided above.	Servicing

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	the project are able to be satisfied with minimal financial risk to the City. This stage two approval requires that the developer complete the necessary infrastructure and servicing studies through a statutory amendment process to the current application prior to any development being permitted on the site. Specific servicing considerations include: a. Water Supply – Water capacity and fire flow requirements for the development must be verified by the developer's engineering consultant and submitted to the City for review and approval. This includes the expected average and peak water consumption flows (domestic and fire) from this proposed development at full build-out and confirmation that there is enough capacity to support this proposed development. The developer has provided preliminary information that water servicing is available to support the development based on reduced demands from Kennebecasis Park however, this will need to be verified. b. Sanitary Sewer - Peak sanitary flows from the development at full build-out and assessment that existing sanitary sewers and wastewater pumping stations are capable of receiving this flow must be verified by the developer's engineering consultant and submitted to the City for review and approval. City staff notes the existing sanitary lift station at Drury Cove was designed to accommodate the Drury Cove residential subdivision and would not be able to support this development proposal. A detailed analysis and design is required by the developer's engineering consultant to determine what upgrades at the station and any associated piping would be necessary. Wastewater infrastructure installed to service the Drury Cove development is also subject to a development charge (lot levy) payable at the time subdivision plans are approved. The proposed development would therefore need to ensure adequate capacity to accommodate the development beyond what is required to support the Drury Cove build-out. c. Stormwater Management - A detailed storm water drainage plan and design report, indicating how storm water will be managed for the full build-out of the development, must be provided by the developer's engineering consultant. In addition, the Marsh Creek Watershed must be analyzed by the developer's engineering consultant to determine the impacts this proposed development (phased and full build-out) will have on the existing watershed. City staff notes the proposed Eco-Park provides the				

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	potential some additional compensatory storage associated with the Flood Risk Area. d. Traffic / Transportation – No information has been provided by the applicant regarding the transportation impacts of the development. City staff notes the proposed development may have significant impact on traffic flow that would add to existing heavy traffic flow between Highway 1 and the Kennebecasis Valley and the UNB/Regional Hospital primary development area. An in depth traffic study must be completed by the developer's traffic engineering consultant to assess impacts and recommend possible solutions if warranted and possible. The development will require upgrading of Ashburn Road to a full suburban standard and probable intersection improvements off-site.				
TRC1-73	City staff notes the recent study completed by the province regarding the function of Route1 and future access requirements along the corridor between the Kennebecasis Valley and Foster Thurston Drive is expected to provide input into the Traffic Impact Study required from the applicant.	exp, was responsible for the completion of both the Proponent's study and the Province's study. The data from both studies has been coordinated. (see Appendix #1)	➢ *exp Services Inc.* [2017a] completed the Traffic Impact Study for this Project and for the upgrades to the redeveloped intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps.	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic
TRC1-74	The TAP Report notes extensive beaver activity on the property. This is contrary to information provided elsewhere in the EIA Registration Document. In addition, this 2005 report noted beaver dams and associated activity as causing extensive back flooding of the property. Have these conditions been rectified or do these conditions still contribute to back flooding of the property?	A new wetland delineation study conducted in 2017 show no evidence of current beaver activity. (see Appendix 7)	In 2005, there was extensive beaver activity across the property and primarily in the area where compensatory flood storage had been previously constructed. During the 2018 assessment by ACAP, remnants of three beaver dams were observed within Little Marsh Creek on the Project site. Those three dams showed signs of human removal. At this point in time, beaver activity appears to be managed on the property.	Section 3.1.5.1 - Watercourses	Stormwater and beavers
TRC1-75	The site plans from 2008 and 2016/2017 appear to show a 0.39 hectare parcel, PID 55066278, as part of the proposed development, however this parcel is not owned by the proponent nor is it listed as one of the properties to be included in the development. Also, this property was not included in the 2016 planning application. Can the proponent confirm if this parcel is part of the proposed development?	Yes.	PID 55066278 is owned by Canterbury Developments Ltd. and Edifice Development Inc. The property is not part of the development and it is not required for the development to proceed. The Proponent has no intentions of purchasing the property for use as part of the development.	Section 1.5 of the EIA document lists all of the properties that are part of *The Crossing*.	Property
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TRC1-76	Table 1 below includes a list of typical permits and legislation under the mandate of the New Brunswick Department of Transportation and Infrastructure (NBDTI). Note that Table 1 is not all inclusive, and additional permits and requirements relevant to the project may be required. The proponent is requested to review the table and speak with the appropriate contact regarding the permits/legislation which may be relevant to the project. Access Permit/Certificate of Setback Alan Kerr 506-643-7463 Highway Usage Permit Peter McDonald 506-453-6724 Community Planning Act Norm Cote 506-	Noted.		Please refer to the Responses to TRC1-77, TRC1-78, and TRC1-80 through TRC1-84 provided below.	Permitting

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	457-7559 Highway Act - Transfer of Administration and Control Colleen Brown 506-444-047 Provincial Motor Vehicle Act Permit Office 506-453-2982				
TRC1-77	*Special Permits* will be required for any transport on NBDTI designated roads that does not comply with Regulation 2001-67 under the NB Motor Vehicle Act. This Regulation includes the dimensions and mass information for legal operation on NBDTI designated roads. The proponent is requested to contact the NBDTI Permit Office as early as possible to discuss the transportation requirements for this project.	Noted.	The sizing of vehicles and their loadings on roadways in the Province is controlled under the Vehicle Dimensions and Mass Regulation [2001-67] of the *Motor Vehicle Act* [O.C. 2001-438]. All trucks used for the Project must adhere to the legal load weights limits at all times, including spring weight restrictions. If a truck exceeds dimensions and / or mass for a roadway, then there is a requirement to obtain permission under the Special Permit Fees Regulation [89-65] of the *Act*.	Section 6.2.9 – Vehicle Dimensions and Mass and Special Permit Fees	Permitting
TRC1-78	The proposed project location has been identified as near or within the vicinity of Routes 01, 100 and Ashburn and Jones Road. NBDTI requests the proponent contact Alan Kerr, District Engineer in Saint John well in advance of beginning the project to ensure that all of the department's concerns are addressed.	Noted Discussions have been initiated with NBDTI and the concerns will be addressed.	As per the Provincial Set-Back Regulation [84-292] of the New Brunswick *Community Planning Act* [S.N.B. 2017, c.19], an access road permit or certificate of setback is required when constructing a new access road, using an existing access road, or building a structure near roadways under NBDTI jurisdiction. Permits / certificates are administered by NBDTI district offices.	Section 6.2.6 – Access Road Permit / Certificate of Setback	Permitting
TRC1-79	NBDTI has concerns regarding the increased traffic that will result from this project as well as the potential for future flooding of NBDTI's infrastructure in the area of this proposal. NBDTI will not be responsible for any damage to infrastructure caused by this project, and may have additional questions once it has had the opportunity to review the forthcoming Traffic Impact and Storm Water Management Studies.	Noted.	No additional response required.		Traffic and stormwater
TRC1-80	The *Work Area Traffic Control Manual* (WATCM) provides a uniform set of traffic control guidelines for all work carried out on New Brunswick provincial roads. Any work that occurs within the right-of-way of a provincial road must conform to the guidelines prescribed by this manual. A PDF version of the manual is available at http://www.gnb.ca/0113/publications/watcm-e.asp.	Noted.	As per the Highway Usage Regulation [2010-55] of the New Brunswick *Highway Act* [R.S.N.B. 1973, c. H-5], a highway usage permit is required when carrying out any development, construction, repair, or maintenance within the limits of a roadway under NBDTI jurisdiction. Any work that occurs within the right-of-way of a provincial road must conform to the guidelines prescribed in the Work Area Traffic Control Manual (WATCM).	Section 6.2.5 – Highway Usage Permit	Permitting
TRC1-81	Trucks must adhere to legal load weight limits at all times, including spring weight restrictions when applicable. All loads are to be properly secured during transit according to the Motor Vehicle Act.	Noted.	The sizing of vehicles and their loadings on roadways in the Province is controlled under the Vehicle Dimensions and Mass Regulation [2001-67] of the *Motor Vehicle Act* [O.C. 2001-438]. All trucks used for the Project must adhere to the legal load weights limits at all times, including spring weight restrictions. If a truck exceeds dimensions and / or mass for a roadway, then there is a requirement to obtain permission under the Special Permit Fees Regulation [89-65] of the *Act*.	Section 6.2.9 – Vehicle Dimensions and Mass and Special Permit Fees	Permitting
TRC1-82	Any spillage of material that occurs during hauling must be kept to a minimum and promptly removed from the highway following appropriate safety procedures.	Noted See Environmental Management Plan, Appendix # 5	➢ Any spillage of material that occurs on provincial roadways during the hauling of material from the Project site should be kept to a minimum and promptly removed from them following appropriate safety procedures.	Section 4.3.4.2.2 – Proposed Mitigation	Permitting
TRC1-83	A *Highway Usage Permit* is required if the proponent intends to utilize NBDTI right-of-ways.	Noted.	As per the Highway Usage Regulation [2010-55] of the New Brunswick *Highway Act* [R.S.N.B. 1973, c. H-5], a highway usage permit is required when carrying out any development, construction, repair, or maintenance within the limits of a roadway under NBDTI jurisdiction. Any work that occurs within the right-of-way of a provincial road must conform to the	Section 6.2.5 – Highway Usage Permit	Permitting

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			guidelines prescribed in the Work Area Traffic Control Manual (WATCM).		
TRC1-84	An *Access Road Permit* is required prior to the construction of any access roads off NBDTI road(s).	Noted.	As per the Provincial Set-Back Regulation [84-292] of the New Brunswick *Community Planning Act* [S.N.B. 2017, c.19], an access road permit or certificate of setback is required when constructing a new access road, using an existing access road, or building a structure near roadways under NBDTI jurisdiction. Permits / certificates are administered by NBDTI district offices.	Section 6.2.6 – Access Road Permit / Certificate of Setback	Permitting
TRC1-85	The proponent is advised to contact NBDTI as early as possible regarding any permits or approvals required. The process required for approvals can take up to several months to complete.	Noted Such discussions have been initiated		Refer to the Response to TRC1-80, TRC1-81, TRC1-83, and TRC1-84 provided above.	Permitting
TRC1-86	Is the proponent aware of any additional transportation issues?	No.	The Proponent is not aware of any additional transportation issues other than those noted in the EIA document and associated traffic studies.		Traffic
1 NOVEMBER 2017 LETTER					
NBDELG & NBDERD QUESTIONS AND COMMENTS					
TRC2-1	Please note the response for TRC comment #34 in letter dated December 22, 2016 was incomplete. The proponent responded with ‘‘Noted’’, which only referred to the part of #34. Please submit a more detailed response.			Please refer to the Response to TRC1-34 provided above.	Comment TRC 1-34
TRC2-2	Any of the proponent’s responses that references “see Appendix ‘X’” or “noted” must provide a more detailed reply.				TRC Responses
TRC2-3	Storm Water Management Strategy and Stream Hydraulics and Hydrology Report Section 2.2 – The report states that the project will occur in several phases over a 10 to 15 year period. Please provide more details regarding the proposed phases of the development. For example, is commercial development being completed first, followed by residential? What types of residential units are being proposed?		The overall build-out of the Project is anticipated to occur over a period of 10 to 20 years. The exact timeline, location of buildings, and tenants will be dictated by market conditions; however, it is expected that the Highway Services will be the development’s nucleus (*i.e.*, PID 00432203) and extend outward from there. For planning purposes, the Proponent has divided the Project, based on floor space, into three general phases: ➢ Phase 1, ~ 35 000 m^2 with highway services being the proposed anchor; ➢ Phase 2, ~ 35 000 m^2 with a retail / entertainment focus; and ➢ Phase 3, ~ 44 500 m^2 including multi-family residential.	Section 2.7.1.1 – Build-Out	Stormwater
TRC2-4	TRC comment #43 in letter dated December 22, 2016 requested a revised copy of Figure 1 depicting the wetlands, location of current watercourses (it appears as the rerouted watercourse), a legend and the phases of development (e.g. which section of the property will be developed first; type of development). Not all of the requested information was included in the revised map. Please submit another copy of this map providing all of the requested information.		Figures have been updated throughout the EIA document and many new figures were added to better describe the Project and existing environment.	Throughout	Figures in EIA
TRC2-5	Please provide additional information regarding the proposed watercourse realignment of Little Marsh Creek and any other watercourse alteration work associated with the proposed development (e.g. the		To facilitate Project development, tributaries of Little Marsh Creek will require alteration. The potential impacts to on-site watercourses will be as follows:	Section 4.3.2.3.1 – Potential Impacts	Watercourses

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	length of the watercourse to be realigned). A map depicting the current watercourse location and the proposed realignment as well as the property boundaries, PIDs, a scale and a legend must also be included. Also, how much riparian buffer will be maintained between the watercourse and the proposed development?		➢ an unnamed tributary between Fulton Lane and Ashburn Road, ~ 178 m long and 1 m to 2 m wide (*i.e.*, ~ 270 m^2) will be piped; ➢ an unnamed tributary near Rothesay Road / Rothesay Avenue intersection, ~ 165 m long and 2 m to 4 m wide (*i.e.*, ~ 500 m^2) will be realigned within an open channel; ➢ an unnamed tributary near Jones Drive / Ashburn Road intersection, ~ 220 m and 0.5 m to 1 m wide (*i.e.*, ~ 170 m^2) may be realigned within an open channel / pipe; and ➢ an unnamed tributary near Foster Thurston / Ashburn Road intersection, ~ 40 m long and 1 m to 1.5 m wide (*i.e.*, ~ 50 m^2) will be piped. The overall combined linear length of the proposed alterations is ~ 600 m and the overall combined area of the proposed alterations is ~ 540 m^2. The actual linear length and area will be determined during detailed design and during permitting as will the design / sizing of piping and open channels.		
TRC2-6	There is potential for hydrocarbons, sediment, nutrients, etc. to enter Little Marsh Creek which could adversely impact the watercourse. Please provide details regarding stormwater management and if pollutants and sediment can be prevented from entering storm drains and runoff directly into watercourses once development is complete?		➢ Any surface water runoff collected from parking lots and roadways within the Project site should be directed to a hydrodynamic separator, or similar product, before being discharged to any watercourse and / or wetland in order to remove hazardous materials, such as grit, fuels, oils, lubricants, and floatables.	Section 4.3.2.3.2 – Proposed Mitigation	Stormwater
SOURCE AND SURFACE WATER MANAGEMENT BRANCH QUESTIONS AND COMMENTS					
TRC2-7	Was the entire project area evaluated for wetlands or was the on the ground wetland delineation completed only on the portions of the project that had highest potential for wetlands?		When *TAP* [2005] conducted their preliminary watercourse and wetland assessment they noted that wetlands on the Project site would need to be delineated in order to determine their extent (*i.e.*, refer to Appendix IV). Dillon Consulting (Dillon) completed a wetland delineation and functional assessment for the entire Project site and lands along Rothesay Avenue (*i.e.*, formerly referred to as the Eco-Park site) during May and June 2017 [*Dillon*, 2017] (*i.e.*, refer to Appendix XI). A total of 42.9 ha and 8.4 ha of wetland were delineated at the Project and Eco-Park sites, respectively. Regulated wetlands (*i.e.*, those that appear on the GeoNB Map Viewer) at the two sites are 10.5 ha and 0 ha, respectively, for the Project site and the lands along Rothesay Avenue.	Section 3.1.5.2 – Wetlands Appendix IV – TAP Environmental Resources Inc. Preliminary Watercourse and Wetland Assessment Appendix XI – Dillon Consulting Wetland Delineation and Functional Assessment	Wetlands
TRC2-8	Why was the Ecological Condition (EC) chosen as the only function score to report on from the WESP-AC assessments? The EC score is determined based on the presence of invasives, species of concern, bare ground and the amount of shrub and herbaceous vegetation. WESP-AC describes 17 wetland functions and benefits which are calculated based on all 111 indicator questions. Please describe the "higher" scoring functions of the wetlands AA1 and AA2?		Dillon used the Wetland Ecosystem Services Protocol – Atlantic Canada (WESP-AC), a standardized methodology for rapidly assessing some important natural functions of non-tidal wetlands in Atlantic Canada [*Adamus*, 2016]. A summary of the functional assessment results is provided in the table and a copy of the *Dillon* [2017] assessment is included in Appendix XI. Results indicate that the wetlands provide ecological value, specifically related to the maintenance of water quality and aquatic habitat for the Marsh Creek Watershed. Furthermore, the wetlands are at risk based on ecological sensitivity and surrounding stressors (*i.e.*, denoted by the "Higher" benefit rating for wetland risk in the table.	Section 3.1.5.2 – Wetlands Appendix XI – Dillon Consulting Wetland Delineation and Functional Assessment	Wetlands

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC2-9	The area of wetland within AA1 and AA2 is described as over 40 hectares in size, please describe mitigation methods for the loss of these wetland functions?		The current proposal for *The Crossing*, which is described and assessed within this EIA document, imagines Little Marsh Creek and its contiguous wetland as key design features where both remain largely untouched.	Section 2.6.2.3 – Current Proposal	Wetlands
TRC2-10	It is stated that the project will impact more than 10 hectares of regulated wetland. All loss of regulated wetland requires wetland compensation at a 2:1 ratio. Has the exact amount/location of impacted regulated wetland area been determined? If so, please provide detailed drawings and additional details regarding the impact to the wetland and what steps will be taken to compensate for the loss of the regulated wetland area at a 2:1 ratio?		The current proposal for *The Crossing*, which is described and assessed within this EIA document, imagines Little Marsh Creek and its contiguous wetland as key design features where both remain largely untouched.	Please refer to the Response to TRC2-9 provided above.	Wetlands
TRC2-11	Any required wetland compensation projects required for this project should occur within the City of Saint John.		Wetlands provide many ecological and socio-economic functions and New Brunswick has adopted a *no-net-loss* approach to wetlands consistent with the Federal government. Under that approach, wetland avoidance is preferred and is achieved by choosing an alternate project, alternative project design, or alternate development. Minimization and compensation, respectively, follow avoidance. Horizon has avoided direct impacts as a result of this Project to regulated wetlands by changing its conceptual design to be outside of the regulated buffer. Should any wetlands be impacted, it will only be done through regulatory approval. It is understood that compensation will be required for the loss of regulated wetland area and that the compensation ratio would likely be 2:1. Furthermore, any required wetland compensation required would be done within the City of Saint John and most likely within the Marsh Creek watershed on lands owned by the Proponent.	Section 4.3.2.3.1 – Potential Impacts	Wetlands
TRC2-12	Has the proponent conducted surveys in order to determine if there are unmapped watercourses which meet the watercourse definition? Any proposed work in or within 30 metres of a regulated wetland or watercourse will require a valid Watercourse and Wetland Alteration (WAWA) permit.		Section 3.1.5.1 An assessment was conducted by ACAP Saint John [*Stewart-Robertson et al.*, 2018] of Little Marsh Creek and its tributaries in June and July 2018. No unmapped watercourses that meet the watercourse definition were identified on the Project site by ACAP Saint John during their 2018 assessment. Section 6.2.4 New Brunswick's watercourses and wetlands are afforded protection under the WAWA Regulation [90-80] of the New Brunswick *Clean Water Act* [S.N.B. 1989, c. C-6.1]. Any proposed alterations within watercourses and / or wetlands, or within their 30 m regulated buffer, require permitting through the NBDELG's WAWA program. A copy of the New Brunswick *Clean Water Act* can be found at: <http://laws.gnb.ca/en/ShowPdf/cs/C-6.1.pdf>; a copy of the WAWA Regulation can be found at: <http://laws.gnb.ca/en/ShowPdf/cr/90-80.pdf>; the WAWA application portal can be found at: <https://www.elgegl.gnb.ca/WAWAG/en/Home/Site>; and a copy of the WAWA technical guidelines can be found at:	Section 3.1.5.1 – Watercourses Section 6.2.4 – Watercourse and Wetland Alteration Permit	Wetlands

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			<https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Water-Eau/WatercourseWetlandAlterationTechnicalGuidelines.pdf>. Contact information for the NBDELG WAWA program is as follows: NBDELG Surface Water Protection Sustainable Development and Impact Evaluation Marysville Place PO Box 6000 Fredericton, NB E3B 5H1 506.457.4850 506.453.6862 http://www2.gnb.ca/content/gnb/en/departments/elg/environment.html elg/egl-info@gnb.ca Little Marsh Creek and its contiguous wetland are prominent features on portions of the properties proposed for development. Those features and their 30 m regulated buffers will be partially impacted as a result of this Project. For example, there will be at least two crossings of Little Marsh Creek to access *The Crossing* from Ashburn Road. Therefore, a WAWA permit will be required before any impact can occur to those features and / or their 30 m regulated buffers. It is likely that this will be a condition of EIA approval.		
TRC2-13	Has the proponent incorporated watercourses into the project plans based on the new watercourse definition? Any work within 30 metres of a watercourse that meets the new watercourse definition will also require a valid WAWA permit. Watercourses in New Brunswick are defined as the following: a feature in which the primary function is the conveyance or containment of water, which includes: a. The bed, banks and sides of any watercourse that is depicted on the New Brunswick Hydrographic Network layer (available on GeoNB Map Viewer); b. The bed, banks and sides of any incised channel greater than 0.5 metres in width that displays a rock or soil (mineral or organic) bed, that is not depicted on New Brunswick Hydrographic Network layer (available on GeoNB Map Viewer); water/flow does not have to be continuous and may be absent during any time of year; or c. A natural or man-made basin (i.e. lakes and ponds).			Please refer to the Response to TRC2-12 provided above.	Watercourses and wetlands
TRC2-14	Will a vegetated buffer be established along the watercourses, and if so, what is the proposed width of buffer zone? Will there be established overflow areas for the watercourses?		It is anticipated that Little Marsh Creek will remain largely untouched, but portions of the regulated 30 m buffer will be impacted to increase channel capacity through the Project site;	Section 4.3.2.3.1 – Potential Impacts	Watercourses

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			however, it is anticipated that the remaining vegetated buffer will be an average of 10 m wide on each side of Little Marsh Creek.		
TRC2-15	Will the flood retention pond discharge directly into the watercourse? Will a vegetated buffer be established around the pond, and if so, how wide will be it?		Compensatory storage options considered in the assessment include: ➢ on-site constructed channel storage; ➢ on-site rock fill void storage (*i.e.*, under parking lot storage); ➢ on-site constructed ponds (*e.g.*, new detention and retention ponds, expanding the existing compensatory storage ponds across from Jones Drive, *etc.*); and ➢ off-site downstream constructed storage volume directly connected to Marsh Creek (*i.e.*, excavated areas to provide compensatory storage capacity).	Section 2.8.2.10 – Storm Water Management	Watercourses
TRC2-16	Will in-situ soils have to be removed for engineered fill for development purposes? If so, what is the proposed plan for dewatering and transporting this material?		Portions of the overall Project site will be prepared as required. When a portion of the site is required, existing trees and shrubs will be removed along with the grubbings. The remainder of the materials, including *in-situ* soils, will remain on-site. Recommendations to improve soil conditions at the site include: ➢ surcharging the development area with soil; ➢ using light weight fills in all developed areas; ➢ using geogrids and / or geotextiles under all developed areas; and / or ➢ using geofoam under all developed areas. There are no plans to remove *in-situ* soils from the site. Therefore, there is no proposed plan for dewatering and transporting the material.	2.8.2 Stage II – Project Construction	Material removal
TRC2-17	The proponent states that the channel will be straightened by removing bends and oxbow. Bends and oxbows provide capacity and function to slow the velocity of water within the channel. Has the client considered the loss of channel capacity and how this will affect the downstream system? Will an EPP be developed for the channel isolation and re-alignment?		The site plans submitted with the original EIA application of 25 November 2016 and the modified EIA application of 14 February 2019 have been further modified to reduce the Project's impacts on the watercourse, wetlands, and to minimize the volume requirement for floodplain compensation. The current proposal for *The Crossing*, which is described and assessed within this EIA document, imagines Little Marsh Creek and its contiguous wetland as key design features where both remain largely untouched.	Section 2.6.2.3 – Current Proposal	Watercourses and EPP
DEPARTMENT OF ENERGY AND RESOURCE DEVELOPMENT QUESTIONS AND COMMENTS					
TRC2-18	In regards to question #42 of the TRC letter dated December 22, 2016, this question requests updated information on fish species presence following improvement to the waste water treatment in the Marsh Creek watershed in 2014, however, the proponent still refers to the ACAP 2013 study. The ACAP study also refers to the removal of a barrier to upstream fish passage. A current electrofishing study of the area to be impacted by this development including the section of stream to be relocated should be undertaken.		From the mid-1800s to about 2014, sewage outfalls discharged untreated waste into Marsh Creek, which drains to Saint John Harbour. Discharge from those outfalls was halted when a new wastewater treatment plant in east Saint John, part of Saint John Harbour Cleanup, came online. Since then, Marsh Creek has seen a transformation from a polluted waterway to a more natural system. Horizon Management recently contracted the Saint John Chapter of the Atlantic Coastal Action Program (ACAP Saint John) to undertake a fish and fish habitat assessment on the portion of Little Marsh Creek between Foster Thurston Drive and Rothesay Road. This was done in an effort to determine if additional fish species are inhabiting Little Marsh Creek following the stemming of sewage discharge and the removal of at least one barrier to upstream fish passage.	Section 3.2.5.2.1 – Fishes Appendix IV – TAP Environmental Resources Inc. Preliminary Watercourse and Wetland Assessment Appendix XVII – ACAP Saint John Little Marsh Creek Watercourse Assessment Appendix XXII – ACAP Saint John Spot Electrofishing Data	Fish

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			In summary, Little Marsh Creek has an abundance of resident aquatic life and forms a key link between Marsh Creek and the headwaters comprising lakes and wetlands.		
TRC2-19	A site specific EPP for the watercourse relocation portion of this project should be developed.		➢ Piping and / or realigning watercourses should be kept to a minimum in order to limit impacts to the natural drainage characteristics of Little Marsh Creek and its tributaries. ➢ Site-specific measures should be developed for piping and / or realigning any watercourses and those measures should be submitted for review and approval when applying for regulatory permits / authorizations. If fish passage is interrupted during any piping and / or realigning of watercourses, then that interruption should be kept to a minimum during the summer low-flow period between 1 June and 30 September.	Section 4.3.2.3.2 – Proposed Mitigation	Environmental protection plan
FISHERIES AND OCEANS CANADA QUESTIONS AND COMMENTS					
TRC2-20	What is the length of channel to be cut off and the number of square meters this equates to with regards to the straightening of the "loop" in Marsh Creek between Ashburn Road and HWY 1.			Please refer to the Response to TRC2-17 provided above.	Watercourses
TRC2-21	What is the linear length and square meters of the tributary to be realigned as part of the development project.			Please refer to the Response to TRC2-5 provided above.	Watercourses
TRC2-22	Can the proponent provide photos depicting the habitat in the reaches of the watercourse to be altered and labeled as such to clearly demonstrate the quality of the habitat to be affected.		ACAP conducted the fish and fish habitat assessment of Little Marsh Creek in June and July 2018. The assessment was completed on the lands proposed for the Project as well as upstream and downstream in order to better characterize the system. The habitat within the project site is fairly uniform and riparian vegetation consists of tall grasses, alder, and willows. Stream cover and shade, with the exception of areas with willow, is sparse. The stream bottom is primarily silty, water depths vary from 30 cm to 110 cm, and the stream width ranges from 4.5 m to 12 m.	Section 3.2.5.2.1 – Fishes Appendix XVII – ACAP Saint John Little Marsh Creek Watercourse Assessment	Watercourses
TRC2-23	Has the proponent determined what species are in the lakes / wetlands upstream of the project locations and thus what fish may use this section of the watercourse as a corridor to the upstream environment? This can vary from the species found in the creek during spot check electrofishing and may require separate habitat surveys upstream		As detailed in the attached ACAP report, 19 species of fishes were identified within the project site and the surrounding tributaries. Species observed included brook trout, brown trout, and American eel.	Section 3.2.5.2.1 – Fishes Appendix XVII – ACAP Saint John Little Marsh Creek Watercourse Assessment	Fish
TRC2-24	What is the duration, if applicable, in which fish passage is anticipated to not be provided during the development of this project?			Please refer to the Response to TRC2-19 provided above.	Fish
TRC2-25	What are the desired work windows for watercourse alterations and realignments?		➢ In-water work should only be conducted between 1 June and 30 September in order to minimize impact to fish and fish habitat unless otherwise approved by the Regulator(s). Furthermore, the duration of all in-stream work should be kept to a minimum in order to mitigate any potential impacts.	Section 4.3.3.2.2 – Proposed Mitigation	Watercourses
TRC2-26	What is the total estimated footprint for the habitat alterations and habitat destructions as part of this project?			Please refer to the Response to TRC2-21 provided above.	Watercourses

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC2-27	DFO would like the proponent to be aware that a S.35(2) *Fisheries Act* Authorization may be required based on the current information and that the proponents should consider this when discussing timelines for project completion.		It is understood that a S.35(2) *Fisheries Act* Authorization will be required to undertake any realignment of Little Marsh Creek and / or complete any in-stream work, such as installing culverts within Little Marsh Creek for access roads on to the site from Ashburn Road. In order to comply with the Fisheries Act, we will adhere to the DFO guidance tools, which we understand can be found at: http://www.dfo-mpo.gc.ca/pnwppe/measures-mesures/index-eng.html We also understand that it is the proponent's responsibility to meet all other requirements of federal, provincial, and municipal agencies.	Section 6.3.1 – Fisheries Authorization	Watercourses and fish
TRC2-28	If a S.35(2) *Fisheries Act* Authorization is required, the proponent will be required to conduct First Nations Consultation and this should be included in the project planning and timelines moving forward.		Section 5.1.1 The provincial government will consult with First Nations communities during the EIA review Process. To that end, a meeting was held with representatives of the Aboriginal Affairs Secretariat (*i.e.*, Patrick Francis and John Adams) on 4 August 2016. At that time, it was indicated that there are no apparent adverse impacts to Aboriginal or treaty rights; however, the Proponent understands that there is an obligation to further consult First Nations when obtaining Project permits, such as a Fisheries Authorization. Section 6.3.1 It is understood that First Nations consultation is a component of the work required to obtain a Fisheries Authorization; however, it is recognized that representatives with the Department of Fisheries and Oceans serve as the coordinator for consultations.	Section 5.1.1 – First Nations Section 6.3.1 – Fisheries Authorization	Watercourses and fish
TRC2-29	The proponent refers to the *Endangered Species Act* in the EPP, please be advised that the *Endangered Species Act* has been replaced by the *Species At Risk Act*, please change the *Endangered Species Act* to the *Species At Risk Act* in the EPP		As per the New Brunswick *Species At Risk Act* [S.N.B. 2012, c.6], it is illegal to kill, harm, harass, take, possess, buy, sell, or trade a species listed under the *Act* as extirpated, endangered, or threatened. Several species are ranked under the List of Species at Risk Regulation [2013-38] of the provincial *Species At Risk Act* (p*SARA*). Should impacts be required to a species listed as extirpated, endangered, or threatened and / or designated habitat, it must first be authorized through a p*SARA* Permit. The NBDNRED administers the p*SARA*. A copy of the New Brunswick *Species at Risk Act* can be found at: <http://laws.gnb.ca/en/ShowPdf/cs/2012-c.6.pdf>; a copy of the List of Species at Risk Regulation can be found at: <http://laws.gnb.ca/en/ShowPdf/cr/2013-38.pdf>; and the public registry can be found at: <https://www1.gnb.ca/0078/SpeciesAtRisk/search-e.asp>. Contact information for the Habitat, Species at Risk, and Protected Natural Areas Section is as follows: Habitat, Species at Risk, and Protected Natural Areas Section Fish and Wildlife Branch Hugh John Flemming Forestry Centre PO Box 6000 Fredericton, New Brunswick	Section 6.2.3 – Provincial Species At Risk Permit	Species at risk

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			E3B 5H1 506.453.3826 506.453.6699 http://fetenbday.gnb.ca/content/gnb/en/departments/erd/natural_resources/content/wildlife/content/SpeciesAtRisk.html dnr_mrnweb@gnb.ca As listed in the table, there are several species listed as being of special concern, endangered, or threatened under the p*SARA* that may be present at the Project site. If a listed species is identified as being present during construction activities and it may be impacted, then a p*SARA* Permit would be required.		
DEPARTMENT OF ENERGY AND RESOURCE DEVELOPMENT QUESTIONS AND CONCERNS					
TRC2-30	There is also reference to NBDNR in the EPP, please note that the New Brunswick Department of Natural Resources (NBDNR) should be changed to the New Brunswick Department of Energy and Resource Development (NBDERD).		New Brunswick Department of Energy and Resource Development (NBDERD) was recently changed to New Brunswick Department of Natural Resources and Energy Development (NBDNRED) and is reflected throughout the document.	Throughout	Department Name
TRC2-31	The proponent also refers to seeding in the EPP, when seeding and area, use native seed mixes if possible. If not possible, ensure that the seed mix does not contain species that could be invasive.		Exposed areas adjacent to the development will be seeded to promote revegetation. The seed mix used will comprise a variety of native herbaceous species and be free of invasive species. Revegetation of areas adjacent to Little Marsh Creek and on-site wetlands will be guided by the following prescription: ➢ 60 % blue joint reed-grass (*Calamagrostis canadensis*); ➢ 15 % American manna grass (*Glyceria grandis*); ➢ 10 % wool grass (*Scirpus cyperinus*); ➢ 10 % soft rush (*Juncus effuses*); ➢ 3 % boneset (*Eupatorium perfoliatum*); and ➢ 2 % blue vervain (*Verbena hastate*).	Section 2.7.5 - Landscaping	Revegetation
TRC2-32	Please be advised that the bird breeding season for the areas is as follows: forest (April 8 to August 28), open (April 21 to August 28), wetland (April 8 to August 16), please refer to this link: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods.html		Section 3.2.5.2.3 The annual bird breeding season in the Project area (*i.e.*, Zone C3) is as follows: ➢ forested areas - 8 April to 28 ➢ open areas - 21 April to 28 August; and ➢ wetland areas - 8 April to 16 August. With respect to Zone C3, the information provided below was taken directly from ECCC's website regarding the general nesting periods of migratory birds. For nesting Zone C3, within the species used, there are 84 species known to nest in forest habitats. The percentages of species actively nesting are: ➢ 0 % from August 29 to April 7; ➢ < 5 % from April 12 to 16 and from August 17 to 27; ➢ 6 % to 10 % percent from April 17 to 21 and from August 12 to 16; ➢ 11 % to 20 % from April 22 to May 4 and from August 4 to 11;	Section 3.2.5.2.3 – Birds Section 4.3.3.1.2 - Mitigation	Migratory birds

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			➢ 21 % to 40 % from May 5 to 15 and from July 29 to August 3; ➢ 41 % to 60 % from May 16 to 23 and from July 23 to 28; and ➢ 61 % to 100 % from May 24 to July 22. For nesting Zone C3, within the species used, there are 88 species known to nest in open habitats. The percentages of species actively nesting are: ➢ 0 % from August 29 to April 11; ➢ < 5 % from April 17 to 21 and from August 18 to 27; ➢ 6 % to 10 % from April 22 to 25 and from August 14 to 17; ➢ 11 % to 20 % from April 26 to May 4 and from August 4 to 13; ➢ 21 % to 40 % from May 5 to 15 and from July 28 to August 3; ➢ 41 % to 60 % from May 16 to 21 and from July 23 to 27; and ➢ 61 % to 100 % from May 22 to July 22. For nesting Zone C3, within the species used, there are 60 species known to nest in wetland habitats. The percentages of species actively nesting are: ➢ 0 % from August 17 to April 7; ➢ < 5 % from April 12 to 14 and from August 9 to 15; ➢ 6 % to 10 % from April 15 to 16 and from August 3 to 8; ➢ 11 % to 20 % from April 17 to 21 and from July 30 to August 2; ➢ 21 % to 40 % from April 22 to May 9 and from July 25 to 29; ➢ 41 % to 60 % from May 10 to 13 and from July 20 to 24; and ➢ 61 % to 100 % from May 14 to July 19. <u>Section 4.3.3.1.2</u> ➢ Horizon Management will ensure that Project activities are managed so as to ensure compliance with the *Migratory Birds Convention Act, 1994* [S.C. 1994, c. 22] and associated regulations. ➢ Any tree clearing activity should be undertaken outside of the annual migration and breeding season for migratory birds in the greater Saint John region, which generally occurs between 5 April and 31 August, in order to protect nesting areas. ➢ If tree clearing is required within the annual migration and breeding season for migratory birds in the greater Saint John region (*i.e.*, between 5 April and 31 August), then additional measures should be implemented, such as having a qualified biologist and / or experienced birder conduct a survey of the area prior to clearing to ensure no active next are present and only after approval from the New Brunswick Department of the Environment and Local Government. ➢ Tree clearing within 30 m from the highwater mark of any water body should be minimized in order to maintain movement for migratory birds and if any tree clearing is required within 30 m then it will only be done through		

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			regulatory approval, such as under the Watercourse and Wetland Alteration Regulation [90-80] of the New Brunswick *Clean Water Act* [S.N.B. 1989, c. C-6.1]. ➢ If an active nest, den, *etc.* is encountered, a no-disturbance buffer zone of 30 m+ should be established around the area (*n.b.*, flagging tape should not be used to mark the feature as it increases the change of predation and representatives with the Canadian Wildlife Service should be contacted to determine the appropriate buffer size) until a qualified biologist determines if the buffer zone shall remain, if the size should be increased, or if the buffer zone can be eliminated (i.e., the animal has abandoned the feature). ➢ Large piles of soil should not be left uncovered / unvegetated during the annual migration and breeding season for migratory birds in the greater Saint John region (*i.e.*, between 5 April and 31 August) in order to discourage the use by certain species (*i.e.*, bank swallows) for nesting and roosting unless slopes are reduced to < 70 °. ➢ If injured or diseased wildlife are encountered, then the Department of Natural Resources and Energy Development and the Canadian Wildlife Service should be contacted to determine the appropriate course of action. ➢ If deceased animals are encountered, they should be removed and disposed of, as soon as possible, in consultation the Department of Natural Resources and Energy Development and the Canadian Wildlife Service. ➢ If species listed under the federal *Species At Risk Act* are observed on the Project site, then their sightings will be reported to Environment and Climate Change Canada's Canadian Wildlife Service branch.		
CLIMATE CHANGE SECRETARIAT QUESTIONS AND COMMENTS					
TRC2-33	For the following comments 53, 54, 55, 57, 58, 59 please provide more information. If the "Storm Water Management Strategy and Stream Hydraulic Report" is cited as an answer, please indicate in which section of the report addresses the specific comment. If "Noted" is cited as an answer please provide more information with specifics on how the proponent intends to use or address the comment.			Refer to responses below.	Stormwater
TRC2-34	When conducting adaptation planning to address potential impacts from flooding it is important to consider the type of development and associated infrastructure and its life expectancy. For the proposal in question, which involves planning for future development and major infrastructure that is expected to have a life expectancy beyond 2050; it is recommended to examine flood / rainfall levels associated with a 1 in 100 year event in 2100, which generally represents a significant storm event and accompanying significant impacts. Please provide the		➢ Input to the model included existing 100 year rainfall (*i.e.*, Environment Canada Meteorological Station Data with AR5 New Brunswick climate change predictions), predicted 100 year rainfall for 2050 (*i.e.*, University of Western Ontario climate change model, Scenario RCP 2.6 for Saint John), existing 100 year tidal curves with storm surge, and predicted 100 year tidal curves with storm surge for 2050.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	following information in reference to *the Storm Water Management Strategy and Stream Hydraulic Report.* a. In Section 2 under Effects of Climate Change - Rainfall modelling was completed for 2050 using the RCP 2.6 Scenario. Please provide the modelling for 2100 using the RCP 8.5 scenario as this is recognized as a more likely scenario for future climate condition. Tools available for these calculations include the IDF Climate Change Tool produced by the University of Western Ontario. http://www.idf-cc-uwo.ca/. b. In Section 2 under Effects of Climate Change – 2050 was used for the HHWLT scenario. Please provide modelling results for 2100 HHWLT scenario. Please refer to the Updated Sea-Level Rise and Flooding Estimates for New Brunswick Coastal Sections – Based on the IPCC 5th Assessment Report 2014 by Réal Daigle (R. J. Daigle Enviro). Also, refer to comment 57 of the original TRC submission. https://atlanticadaptation.ca/en/islandora/object/acasa%3A731 c. In Section 3 under the Final Modeled Scenario - S2, please adjust for climate change to the year 2100. d. How does the new modeling criteria compare to the original and how does this affect the proponents storm water management planning?				
TRC2-35	As a Follow-up to comments 60 and 61 - The proponent should identify all beneficial greenhouse gas reduction measures they plan on incorporating or considering during the development of the project. Please refer to the original comments to review the suggestions provided and explain why or why not these will be implemented into the Project.		Although Horizon Management will not be the sole developer of *The Crossing*, they are uniquely positioned to enable a low-carbon development. Project buildings will be designed to include taking into consideration environmentally-friendly features, such as highly-efficient low-emissivity glass, canopies over windows to reduce cooling requirements, the use of natural gas by all tenants, and computer controls on building heating, ventilation, and air-conditioning systems. Aligning with New Brunswick's Climate Change Action Plan for transitioning to a low-carbon economy [*PNB*, 2016], Horizon will strive to implement into the overall design of *The Crossing*: ➢ energy conservation; ➢ energy efficiency; ➢ renewable energy sources; and ➢ alternative transportation. The Proponent will also consider beneficial greenhouse gas reduction measures and incorporate practical and feasible measures into the development. Those measures will include: ➢ reducing vehicle idling; ➢ striving for a no net loss of carbon sinks; and ➢ improving energy performance.	Section 2.7.4 – Low-Carbon Development and Energy Efficient Design	Climate change
CITY OF SAINT JOHN QUESTIONS AND COMMENTS					

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC2-36	Please note the concept plan differs from that presented previously. The Section 39 conditions imposed on the original rezoning of the site require the preparation of detailed plans for the development including, but not limited to, a context plan, a site plan, typical building floor plans, typical building elevations, and a landscape plan. These plans are to be prepared by the proponent and are subject to the approval of Common Council, as a statutory amendment to these conditions. The Section 39 conditions also require that should a significant change be proposed in the project concept plan, an addendum is required to the market study, to be prepared by the developer that provides additional analysis of the impacts of the proposed development on the regional retail sector as a whole. This addendum to the market study is subject to the approval of Common Council, as a statutory amendment to the original Section 39 conditions imposed on the original rezoning. Additional information will be required from the proponent to define the uses and the floor areas of the individual buildings in the development in order to understand the impacts on municipal servicing infrastructure in the area. We would also note that in accordance with the existing Section 39 conditions, the maximum floor area of a building in the rezoned area is limited to 3000 square metres.		The site plans submitted with the original EIA application of 25 November 2016 and the modified EIA application of 14 February 2019 have been modified to reduce the Project's impacts on wetlands and to minimize the volume requirement for floodplain compensation. The current proposal for *The Crossing*, which is described and assessed within this EIA document, imagines Little Marsh Creek and its contiguous wetland as key design features where both remain largely untouched	Section 2.6.2 – Environmental Features Impact Reduction / Avoidance	Market study
TRC2-37	Please submit additional information regarding the costs for infrastructure to support the development and provide clarity on expectations in terms of who is responsible for these costs. The reports as submitted do not mention any infrastructure costs required to support the development. The Section 39 conditions imposed on the original rezoning of the site require that any upgrades to the existing municipal infrastructure required to service this proposed development will be the developer's full responsibility and cost. In addition, should any cost sharing agreement be proposed between the developer and City, which may involve another level of Government, related to costs associated with infrastructure upgrades, servicing, transportation network improvements or development of the project, such cost-sharing agreement will be subject to the approval of Common Council, as a statutory amendment to the existing Section 39 conditions.		Section 2.8.1.1 1. Municipal Infrastructure Upgrades - *Any upgrades to the existing municipal infrastructure required to service this proposed development will be the developer's responsibility and cost. However, should any cost sharing agreement be proposed between the developer and City, which may involve another level of Government, related to costs associated with infrastructure upgrades, servicing, transportation network improvements or development of the project, that such cost-sharing agreement be subject to the approval of Common Council, as a statutory amendment to these conditions.* Section 4.3.4.4.1 Operating the various Project Phases will require upgrades to municipal infrastructure, such as water and sanitary systems as noted in Section 2.8.3.3. The *exp Services Inc.* [2017b] water and sanitary servicing report (*i.e.*, refer to Appendix XIII) proposes possible approaches to provide water and sewerage services to *The Crossing*. Any upgrades required to those systems will be determined during detailed engineering design. It is understood that the City requires a comprehensive understanding of the Project's impacts on those system prior to providing Section 39 / 59 approval. As more details become available regarding the Project Phases, Horizon Management will submit a revised Water and Sanitary Servicing Study to the City.	Section 2.8.1.1 – Existing Approvals Section 4.3.4.4.1 – Potential Impacts	Infrastructure

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC2-38	Please note that in several locations assessed in the traffic impact study there are not specific improvement options identified and future evaluation of the development's impact on the transportation network is not referenced. Please identify the required transportation network improvements for all phases of the development.		Section 2.8.3.2.1 Projected traffic associated with Phase 1 of the Project can adequately be accommodated with relatively minor improvements (*i.e.*, traffic control changes, additional turning lanes, and intersection realignment) to the existing road network (*i.e.*, refer to Traffic Study in Appendix X). Those improvements include: ➢ installing actuated-coordinated traffic signals and additional turning lanes on the approaches to the Rothesay Road / Rothesay Avenue intersection; ➢ installing actuated-coordinated traffic signals and a separate left lane on the northbound approach (*i.e.*, on Rothesay Road) to the Rothesay Road / Ashburn Road intersection; ➢ installing actuated-coordinated signal and a separate through lane pocket on the eastbound approach (*i.e.*, on Rothesay Avenue) to the Rothesay Avenue / NB Route 1 off-ramp; ➢ installing separate left turning lanes on Ashburn Road at all accesses on all approaches to accommodate future traffic demand; ➢ installing traffic signals at the main Project entrance from Ashburn Road; ➢ adding a separate right turning lane on the southbound approach (*i.e.*, Ashburn Road) to accommodate the increase in right turning traffic exiting the development at the Foster Thurston Drive / Ashburn Road intersection; and ➢ aligning the truck stop access with Fulton Lane and making access right in / right out (*i.e.*, left turners use access on Ashburn Road) to prevent left turners from blocking through movement and causing queuing back-up at the Rothesay Road / Fulton Lane intersection. In Summer / Fall 2019, the New Brunswick Department of Transportation and Infrastructure (NBDTI) redeveloped the intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. Upgrades included adding actuated-coordinated traffic signals and installing separate turning lanes (*n.b.*, these have yet to be installed as of December 2019, but the bases are in place). Section 2.8.3.2.2 Projected traffic associated with Phases 2 and 3 of the Project will require major modifications to the existing road network. The major modification would involve the construction of a new interchange at the Ashburn Lake Road / Foster Thurston Drive intersection. This would significantly redistribute traffic from the existing interchange at Rothesay Road (*i.e.*, Exit 129). In February 2018, the Province announced funding to begin planning for the new Route 1 interchange (*i.e.*, an overpass to connect Foster Thurston Drive / Ashburn Road area to Ashburn Lake Road. It is not known when the interchange will be built; however, its construction would also improve safety and traffic flow at the Ashburn Lake Road / Rothesay Avenue / Retail Drive intersections.	Appendix X – exp Services Inc. Traffic Impact Study Section 2.8.3.2.1 – Phase 1 Section 2.8.3.2.2 – Phase 2 Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			Section 2.8.3.2.3 ➢ *exp Services Inc.* [2017a] completed the Traffic Impact Study for this Project and for the upgrades to the redeveloped intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. ➢ Final details of the road network upgrades recommended by exp Services Inc.(*i.e.*, refer to Sections 2.8.3.2.1 and 2.8.3.2.2) will need to be adjusted as detailed engineering design of the development is undertaken. This will also be required as changes were recently undertaken by NBDTI on the Rothesay Road, Rothesay Avenue, and NB Route 1 ramps. Additionally, it is anticipated that the Province will construct a new interchange on NB Route 1 with a full overpass at the Ashburn Road / Foster Thurston Drive intersection, which will include the realignment of the Rothesay Avenue / Retail Drive intersection. Those upgrades were both considered within the Traffic Impact Study. ➢ In November 2017, Horizon Management arrived at an initial agreement with the City of Saint John regarding near-term infrastructure cost-sharing. Horizon Management intends to continue cost-sharing discussions with City staff as the Section 59 re-zoning process advances.		
TRC2-39	Please provide additional information and identify necessary pedestrian facilities to support the development.		Internally, vehicle circulation will maximize the separation between tenants, customers, and service users. It is tantamount that vehicle and pedestrian traffic are segregated within a mixed-used development. During detailed design, a plan will be implemented that prioritizes accessible pedestrian walkways throughout the Project. Horizon will continue discussions with City Staff regarding pedestrian facilities (*e.g.*, crosswalks, pedestrian signals, sidewalks, *etc.*) as the Section 59 re-zoning process advances.	Section 2.7.3.6 - Traffic	Traffic
TRC2-40	Please provide additional information regarding the basis for the 20% synergy rate and 25% pass-by rate used in the assessment of trips generated by the development. The justification for these assumptions must be provided in order to fully understand the impacts of the development on the adjacent roadway network as these rates account for a significant portion of the overall traffic that will access the development site.		➢ Studies of other retail shopping facilities indicate that a bypass component of up to 34 % can occur. *exp Services Inc.* [2017a] considered a 25 % bypass component, which also includes diverted traffic from other parts of the road network, including new roadways within the Project site. ➢ Retail shopping facility studies suggest that the synergy rate (*i.e.*, internal capture rate) can vary from 24 % to 55 % for mixed use developments like *The Crossing*. In their study, exp Services Inc. used a conservative synergy rate of 20 %.	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic
TRC2-41	The Retail Drive / Rothesay Avenue / Ashburn Lake Road intersection will be utilized by traffic accessing the proposed development, development in the East Point Area and development along Rothesay Avenue. The development of The Crossing, along with the provision of a new interchange has the potential to increase traffic volumes and exacerbate current issues at this location through traffic from The Crossing accessing East Point and vice versa. This should be evaluated with respect to the impact on the City's roadway network, in		➢ Final details of the road network upgrades recommended by exp Services Inc. (*i.e.*, refer to Sections 2.8.3.2.1 and 2.8.3.2.2) will need to be adjusted as detailed engineering design of the development is undertaken. This will also be required as changes were recently undertaken by NBDTI on the Rothesay Road, Rothesay Avenue, and NB Route 1 ramps. Additionally, it is anticipated that the Province will construct a new interchange on NB Route 1 with a full overpass at the Ashburn Road / Foster Thurston Drive intersection, which will include the realignment of the Rothesay Avenue / Retail Drive intersection. Those	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	particular the Retail Drive / Rothesay Avenue / Ashburn Lake Road intersection.		upgrades were both considered within the Traffic Impact Study.		
TRC2-42	The existing operation of the left turn from Rothesay Avenue to Retail Drive is shown as operating with a LOS A and maximum v/c ratio of 0.53 to 0.54. It is of the understanding that existing operations of this movement had higher delays. In addition, the description of existing traffic operations at the Rothesay Avenue / Ashburn Lake Road intersection does not accurately portray current operational deficiencies at this intersection. Please confirm calculations related to traffic operations at this location.		➢ Since the Traffic Impact Study was completed, traffic signal timing and phasing changes have been completed to improve the level of service to reflect the actual operating conditions at the Rothesay Avenue / Ashburn Lake Road / Retail Drive Intersection.	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic
TRC2-43	The report does not provide an overview of the impacts of vehicle queues at the study area intersections. For example, queuing along Ashburn Road from the Ashburn Road / Rothesay Road intersection currently can extend beyond Drury Cove Road in the afternoon, preventing some ease of access from Drury Cove Road. An analysis of the impacts of queueing is required to be provided by the proponent's consultant. Also please confirm if the LOS F at the Rothesay Road / Route 1 on-ramp is a result of the inability to turn left from Rothesay Road to Rothesay Avenue. Ashburn Road is a heavily travelled route for eastbound traffic accessing Rothesay Road during the afternoon hospital shift change with significant eastbound queuing from Ashburn Road to Rothesay Road. This was not noted in the report.			Please refer to the Response to TRC2-42 provided above.	Traffic
TRC2-44	Proposed improvements at the Foster Thurston Drive / Ashburn Road intersection will require re-work if/when the interchange is built. Please identify what improvements are required if the interchange is constructed.		➢ Final details of the road network upgrades recommended by exp Services Inc. will need to be adjusted as detailed engineering design of the development is undertaken. This will also be required as changes were recently undertaken by NBDTI on the Rothesay Road, Rothesay Avenue, and NB Route 1 ramps. Additionally, it is anticipated that the Province will construct a new interchange on NB Route 1 with a full overpass at the Ashburn Road / Foster Thurston Drive intersection, which will include the realignment of the Rothesay Avenue / Retail Drive intersection. Those upgrades were both considered within the Traffic Impact Study.	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic
TRC2-45	Please clarify what development related traffic will use Ashburn Lake Road / NB Route 1 Access Ramps without the interchange.		➢ The traffic assignments included in the Traffic Impact Study were based on existing traffic conditions within the Study Area; however, assumptions were made regarding how traffic would access the proposed development during Phase 1 (*i.e.*, minor road network improvements) and Phase 2 and 3 (*i.e.*, major road network improvements) as detailed in the report.	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic
TRC2-46	With respect to the proposed roundabout option at the NB Route 1 / Rothesay Avenue interchange, a concern is the introduction of a double lane roundabout as the first roundabout in the City and the possibility that this infrastructure will be overbuilt. Can the proponent's		➢ The redeveloped intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps by NBDTI in Summer / Fall 2019 will accommodate the Phase 1 traffic; however, it will not accommodate the traffic associated with Phase 2 and 3. The new interchange on NB Route 1 with a	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	consultant comment on the potential risk of designing traffic signals for Phase 1 which will also be overdesigned for Phase 2 and 3 if/when the Interchange is constructed? This aspect is not discussed in Section 7.1.8 of the Traffic Impact Study.		full overpass at the Ashburn Road / Foster Thurston Drive intersection being considered by the Province would be required to adequately accommodate the Phase 2 and 3 traffic. That overpass would also address existing deficiencies at that Ashburn Road / Foster Thurston Drive intersection.		
TRC2-47	The report notes nine accesses will be provided from the development to Ashburn Road, with five of these accesses constructed in Phase 1. It is recommended that the number of accesses be reduced to balance the role of Ashburn Road as a collector roadway with the need to provide access to the development. The development must incorporate an internal roadway network to control and distribute the traffic between a limited number of access points to the Public Street network and points within the development. The excellent LOS of A for driveway traffic from the development accessing Ashburn Road demonstrates that access to the development is given too great a weight over traffic flow on Ashburn Road and its role as a collector street. Reducing the number of accesses will also reduce the width of a widened Ashburn Road to accommodate the left turn lanes into the development. We note the number of accesses has changed since the last site plan was provided and Section 39 conditions imposed. Please assess if the internal roadway network can be designed to function with one signalized intersection onto Ashburn Road.		➢ The Traffic Impact Study identified nine access points from Ashburn Road to the development. Horizon Management accepts the conclusions and recommendations contained within the *exp Services Inc.* [2017a] study; however, they are open to revisiting the number of access points from Ashburn Road. They welcome discussing possible changes with staff of the City of Saint John Growth and Community Development Services and Transportation and Environment Services Departments.	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic
TRC2-48	The last sentence of Section 7.1 states "Results for the development access points will not be affected, however, intersections west of the development may change as more details for the Ashburn underpass become available." Please provide additional information regarding this statement?		➢ … it is anticipated that the Province will construct a new interchange on NB Route 1 with a full overpass at the Ashburn Road / Foster Thurston Drive intersection, which will include the realignment of the Rothesay Avenue / Retail Drive intersection. Those upgrades were both considered within the *exp Services Inc.* [2017a] Traffic Impact Study.	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic
TRC2-49	Section 7.1.4 – A more detailed analysis of this intersection re-alignment is required I.e. the amount and length of lanes will impact construction and land acquisition costs. This detailed analysis should build on the work that was completed by Stantec in 2008; perhaps verifying the designs proposed in the 2008 Stantec study.		➢ NBDTI is using information contained in the *exp Services Inc.* [2016] report regarding the new interchange on NB Route 1 with a full overpass at the Ashburn Road / Foster Thurston Drive intersection (*i.e.*, refer to Appendix XXIV). That information includes the associated impacts to traffic and land acquisition.	Section 2.8.3.2.3 – Notes on Traffic Impact Study Appendix XXIV – exp Services Inc. Route 1 Corridor Study	Traffic
TRC2-50	Section 7.1.10 of the report notes "This location (Rothesay Avenue / Route 1 on-ramp intersections) should be re-evaluated in the future when more details with respect to the development become available to determine if signals are warranted." It is our opinion that now is the time to identify likely deficiencies in the system and recommend solutions unless there is another chance at reviewing an updated study as part of the development approval process.		In Summer / Fall 2019, the New Brunswick Department of Transportation and Infrastructure (NBDTI) redeveloped the intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. Upgrades included adding actuated-coordinated traffic signals and installing separate turning lanes (*n.b.*, these have yet to be installed as of December 2017, but the bases are in place).	Section 2.8.3.2.1 – Phase 1	Traffic
TRC2-51	Section 7.1.11 of the report notes. "This ramp should be monitored and re-evaluated as more details about the development are finalized." This analysis and final			Please refer to the Response to TRC2-50 provided above.	Traffic

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	design of this location must be completed before the Traffic Study for the development can be finalized and approved by City Staff as part of the development approvals process.				
TRC2-52	Please provide additional information as it is not clear what transportation infrastructure will be required for the full build-out of the development site.	The only area where the transportation infrastructure requirements are unclear for full build-out of the development site is the Rothesay Avenue / Route 1 on-ramp intersection. It would be appropriate to re-evaluate these intersection requirements as a condition of Phases II and III of the development.	Section 2.8.3.2.1 Projected traffic associated with Phase 1 of the Project can adequately be accommodated with relatively minor improvements (*i.e.*, traffic control changes, additional turning lanes, and intersection realignment) to the existing road network (*i.e.*, refer to Traffic Study in Appendix X). Those improvements include: ➢ installing actuated-coordinated traffic signals and additional turning lanes on the approaches to the Rothesay Road / Rothesay Avenue intersection; ➢ installing actuated-coordinated traffic signals and a separate left lane on the northbound approach (*i.e.*, on Rothesay Road) to the Rothesay Road / Ashburn Road intersection; ➢ installing actuated-coordinated signal and a separate through lane pocket on the eastbound approach (*i.e.*, on Rothesay Avenue) to the Rothesay Avenue / NB Route 1 off-ramp; ➢ installing separate left turning lanes on Ashburn Road at all accesses on all approaches to accommodate future traffic demand; ➢ installing traffic signals at the main Project entrance from Ashburn Road; ➢ adding a separate right turning lane on the southbound approach (*i.e.*, Ashburn Road) to accommodate the increase in right turning traffic exiting the development at the Foster Thurston Drive / Ashburn Road intersection; and ➢ aligning the truck stop access with Fulton Lane and making access right in / right out (*i.e.*, left turners use access on Ashburn Road) to prevent left turners from blocking through movement and causing queuing back-up at the Rothesay Road / Fulton Lane intersection. In Summer / Fall 2019, the New Brunswick Department of Transportation and Infrastructure (NBDTI) redeveloped the intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. Upgrades included adding actuated-coordinated traffic signals and installing separate turning lanes (*n.b.*, these have yet to be installed as of December 2017, but the bases are in place). Section 2.8.3.2.2 Projected traffic associated with Phases 2 and 3 of the Project will require major modifications to the existing road network. The major modification would involve the construction of a new interchange at the Ashburn Lake Road / Foster Thurston Drive intersection. This would significantly redistribute traffic from the existing interchange at Rothesay Road (*i.e.*, Exit 129). In February 2018, the Province announced funding to begin planning for the new Route 1 interchange (*i.e.*, an overpass to connect Foster Thurston Drive / Ashburn Road area to Ashburn	Appendix X – exp Services Inc. Traffic Impact Study Section 2.8.3.2.1 – Phase 1 Section 2.8.3.2.2 – Phase 2 Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			Lake Road. It is not known when the interchange will be built; however, its construction would also improve safety and traffic flow at the Ashburn Lake Road / Rothesay Avenue / Retail Drive intersections. Section 2.8.3.2.3 ➢ *exp Services Inc.* [2017a] completed the Traffic Impact Study for this Project and for the upgrades to the redeveloped intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. ➢ Final details of the road network upgrades recommended by exp Services Inc. will need to be adjusted as detailed engineering design of the development is undertaken. This will also be required as changes were recently undertaken by NBDTI on the Rothesay Road, Rothesay Avenue, and NB Route 1 ramps. Additionally, it is anticipated that the Province will construct a new interchange on NB Route 1 with a full overpass at the Ashburn Road / Foster Thurston Drive intersection, which will include the realignment of the Rothesay Avenue / Retail Drive intersection. Those upgrades were both considered within the Traffic Impact Study. In November 2017, Horizon arrived at an initial agreement with the City of Saint John regarding near-term infrastructure cost-sharing. Horizon intends to continue cost-sharing discussions with City staff as the Section 59 re-zoning process advances.		
TRC2-53	Several sections in the document do not identify solutions but defer to future details of development that still need to be worked out and there are many references to the need for future re-evaluations. This study must identify likely deficiencies in the system and solutions be recommended unless there is another opportunity to review an updated study before being approved as part of the development approval process.		➢ Once Phase 1 is under development, it would be appropriate to re-evaluate the road network upgrades recommended by exp Services Inc. for Phase 2 and 3 to ensure they are still appropriate and necessary. This would include updating the traffic impact study from the residential component as the ultimate number of residential units proposed could exceed the number of units included in the traffic study.	Section 2.8.3.2.3 – Notes on Traffic Impact Study	Traffic
TRC2-54	The Water and Sanitary Servicing – Conceptual Design Report does not speak to any actual demand requirements based on site use. Please identify what commercial and residential land uses will be constructed in the development in order to assess loads on the municipal infrastructure. The Water and Sanitary Servicing – Conceptual Design Report does not speak to any actual demand requirements based on site use. Please identify what commercial and residential land uses will be constructed in the development in order to assess loads on the municipal infrastructure.		In 2017, exp Services Inc. completed a conceptual design report regarding the water and sanitary servicing for the Project (*i.e.*, refer to Appendix XIII). Horizon Management understands that more detailed plans (*i.e.*, comprehensive technical design report with supporting documentation and calculations for each Phase of the Project) will need to be developed in cooperation with representatives of the City of Saint John as the Project design and municipal approval process proceeds. Information below is from the *exp Services Inc.* [2017b] report.	Section 2.8.3.3 – Utilities Appendix XIII – exp Serivces Inc. Conceptual Design Report for Water and Santiary Servicing	Infrastructure
TRC2-55	Please provide a completed hydraulic analysis to determine the flow demands and pressure requirements for full build-out of the development. Please define assumptions with respect to the full build-out projections (identified per Phase) used to determine the average and maximum daily demands.			Please refer to the Response to TRC2-54 provided above.	Infrastructure

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC2-56	Please provide further clarification on what building design (heights) and uses (residential-commercial) have been considered to determine required minimum pressures.			Please refer to the Response to TRC2-54 provided above.	Infrastructure
TRC2-57	Please provide further clarification on what is needed on whether or not any water modeling has been completed to determine system adequacy of system to support the development and to size the proposed servicing.			Please refer to the Response to TRC2-54 provided above.	Infrastructure
TRC2-58	At this time, the Report submitted is relatively theoretical in nature and does not contain any of the required level of detail and supporting technical information and calculations necessary to be able to review and comment on servicing the development site. A comprehensive technical design report and supporting documentation/calculations is required in order to understand the full development build out. Without a more detailed submission, an operational and professional review on the suitability of servicing for this development site is not possible.			Please refer to the Response to TRC2-54 provided above.	Infrastructure
TRC2-59	Sanitary Servicing Section: Please confirm if the latest amendments in the report are accurate. Previous information provided notes the development first as 41 ha – 46,500 m2; then 49 ha - 60,000 m2. This report now notes the development site as 50 ha – 79,000 m2.		Overall, the proposal anticipates a total development footprint of 114 500 m^2. The tenant mix is subject to change based on future market conditions.	Section 2.6.2.3 – Current Proposal	Infrastructure
TRC2-60	None of the required supporting calculations or sewer modeling results have been included with the servicing design report to support the numbers estimated. Please provide this information.			Please refer to the Response to TRC2-54 provided above.	Infrastructure
TRC2-61	The Report notes that capacity exists in the Drury Cove WWPS and forcemain for all of the Phase 1 development and potentially most or all of Phase 2 development and that potential WWPS and force main upgrades may be required to provide sufficient capacity to service Phase 3 of the development. It was identified that the existing Drury Cove WWPS was designed to accommodate the Drury Cove residential subdivision. The existing Lift Station as is would not be able to support this development proposal. Additionally it was noted that upgrades at the station and any associated piping may be required. An additional report also indicated that upgrades to the existing Drury Cove lift station would be required. Will this be completed and if so please provide additional information?			Please refer to the Response to TRC2-54 provided above.	Infrastructure
TRC2-62	The Report notes that future flow monitoring and analysis is recommended after Phase 1 development and prior to proceeding with Phase 2 to confirm existing flows and available capacities in the WWPS and forcemain although the Report indicates capacity for potentially most or all of Phase 2 development. Please indicate if any in field measurements or any flow monitoring to support the conceptual Design Report was completed. Also was there any draw down			Please refer to the Response to TRC2-54 provided above.	Infrastructure

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
	measurements in the wet well of the Drury Cove WWPS as part of the technical review. The report notes the peak hourly flows (wastewater) but does not provide design average flows, design maximum daily flows, design peak instantaneous flow and design minimum day flow.				
TRC2-63	The report notes that the proposed site pressure sewer system can inject wastewater into the Drury Cove Force Main downstream of the existing WWPS. Please clarify what downstream assessments were completed and if additional flows can be received downstream. Also please clarify is there were there any meetings with City operational staff to discuss this proposed approach and understand the City's system.		Refer to Response TRC2-54 above. Section 2.8.1.1 1. Municipal Infrastructure Upgrades - *Any upgrades to the existing municipal infrastructure required to service this proposed development will be the developer's responsibility and cost. However, should any cost sharing agreement be proposed between the developer and City, which may involve another level of Government, related to costs associated with infrastructure upgrades, servicing, transportation network improvements or development of the project, that such cost-sharing agreement be subject to the approval of Common Council, as a statutory amendment to these conditions.* Section 2.8.3.3.2 In reviewing the sanitary sewer system for Phases 2 and 3, it is understood that a downstream assessment that includes the Walter Street Waste Water Pumping Station will be required. Section 4.3.4.4.1 Operating the various Project Phases will require upgrades to municipal infrastructure, such as water and sanitary systems as noted in Section 2.8.3.3. The *exp Services Inc.* [2017b] water and sanitary servicing report (*i.e.*, refer to Appendix XIII) proposes possible approaches to provide water and sewerage services to *The Crossing*. Any upgrades required to those systems will be determined during detailed engineering design. It is understood that the City requires a comprehensive understanding of the Project's impacts on those system prior to providing Section 39 / 59 approval. As more details become available regarding the Project Phases, Horizon Management will submit a revised Water and Sanitary Servicing Study to the City.	Please refer to the Response to TRC2-54 provided above. Section 2.8.1.1 – Existing Approvals Section 2.8.3.3.2 – Phase 2 and 3 Section 4.3.4.4.1 – Potential Impacts Appendix XIII – exp Services Inc. Conceptual Design Report for Water and Sanitary Servicing	Infrastructure
TRC2-64	Would the proposed pressure sewer system be owned, maintained and operated by the developer or the City?			Please refer to the Response to TRC2-63 provided above.	Infrastructure
TRC2-65	Phase 2 and 3 servicing indicates a most likely servicing approach. Full development build-out must be considered now, not after the development is underway. The City and the developer must understand upfront any issues or challenges to servicing this site.			Please refer to the Response to TRC2-63 provided above.	Infrastructure
TRC2-66	The report mentions measures to promote water conservation such as high efficiency plumbing and commercial kitchen equipment. Please indicate what percentage of efficiency will be gained.		The report provides recommendations on measures to conserve water, such as high efficiency plumbing and commercial kitchen equipment. Typically, those best management practices can yield a 10 % to 20 % reduction in water consumption.	Section 2.8.3.3.2 – Phase 2 and 3	Infrastructure and water use
TRC2-67	What downstream sewer analysis was conducted to determine infrastructure servicing and associated capacity? Were any restraints identified in either downstream receiving systems or downstream Lift			Please refer to the Response to TRC2-63 provided above.	Infrastructure

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	Stations? What information was reviewed to support the conceptual design other than reviewing the Drury Cove WWPS and forcemain? Any required infrastructure upgrades necessary to support this development are the full responsibility and cost of the developer.				
TRC2-68	Please clarify was any hydrologic and hydraulic modeling completed for the Marsh Creek Watershed system to determine the effects on the Marsh Creek Watershed.		In 2008, Terrain Group Inc. issued a hydraulics and hydrology report for the Project site (*i.e.*, refer to Appendix V). Stormwater models indicated that development of The Crossing will not have a negative effect on flooding in the Marsh Creek watershed. The Proponent recognized that Marsh Creek had been the subject to considerable attention and remediation efforts since 2008. Therefore, they chose to have more current modelling done. In 2017, exp Services Inc. issued a storm water management strategy and stream hydraulics and hydrology concept design report (*i.e.*, refer to Appendix XIV). The study was commissioned by Horizon because the Project has the potential to displace significant flood water storage in the Marsh Creek drainage basin. To compensate for displaced flood water storage, compensatory flood storage is anticipated to be constructed on *The Crossing* site and on lands along Rothesay Avenue. A deterministic hydraulic and hydrologic model (*i.e.*, Autodesk SSA) was used to assess the impacts. The model was used to assess the impact of the modified proposal on the drainage system. Although the impacts will be different for the current proposal, it is believed they will be reduced because Little Marsh Creek and its contiguous wetland will both remain largely untouched, which was not the case for the modified proposal. *exp Services Inc.* [2017c] determined at full Project build-out, assuming compensatory storage is provided, that: ➢ water surface elevation will remain at or below existing levels for post-development conditions; and ➢ the development will not negatively affect upstream, downstream, or adjacent property or infrastructure for the modeled design storms. Compensatory storage options considered in the assessment include: ➢ on-site constructed channel storage; ➢ on-site rock fill void storage (*i.e.*, under parking lot storage); ➢ on-site constructed ponds (*e.g.*, new detention and retention ponds, expanding the existing compensatory storage ponds across from Jones Drive, *etc.*); and ➢ off-site downstream constructed storage volume directly connected to Marsh Creek (*i.e.*, excavated areas to provide compensatory storage capacity). Surface water runoff attenuation options provided in the assessment to yield a net zero increase in post-development storm water discharge for the 100 year + 20 % return period for storms include: ➢ parking lot ponding;	Section 2.8.2.10 – Storm Water Management Appendix V – Terrain Group Inc., Hydraulics and Hydrology Report Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report	Stormwater

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			➢ landscaped dry detention ponds; and ➢ roof rainwater infiltration galleries. To determine the maximum allowable off-site compensatory storage that could be provided without negative impact on upstream, downstream or adjacent properties, a variety of scenarios with compensatory volumes on-site and at the off-site location along Rothesay Avenue were modeled until the maximum off-site volume was determined. The maximum allowable off-site volume was determined by comparing water surface elevations for pre- and post-development scenario conditions. Modeled post-development scenarios deemed acceptable were those that resulted in water surface elevations at all control points equal to or lower than existing (*i.e.*, undeveloped) condition scenarios. Water surface elevations at several control points were used as the basis for comparing existing conditions to proposed development compensatory flood volume storage location scenarios.		
TRC2-69	What modeling was completed to determine the effects of creating downstream storage? Were hydrographs generated to compare pre-development and post-development flow rates?			Refer to the Responses to TRC2-34 and TRC2-68 provided above.	Stormwater
TRC2-70	Where is the location of the proposed downstream (off-site) storage?			Section 1.5 – Property Ownership	Stormwater
TRC2-71	Is the proposed compensatory storage area within the confines of the Marsh Creek Catchment Basin or the Marsh Creek Flood Risk Area?		Compensatory storage options considered in the assessment include: ➢ on-site constructed channel storage; ➢ on-site rock fill void storage (*i.e.*, under parking lot storage); ➢ on-site constructed ponds (*e.g.*, new detention and retention ponds, expanding the existing compensatory storage ponds across from Jones Drive, *etc.*); and ➢ off-site downstream constructed storage volume directly connected to Marsh Creek (*i.e.*, excavated areas to provide compensatory storage capacity).	Section 2.8.2.10 – Storm Water Management	Stormwater
TRC2-72	What modelling calculations were considered for winter runoff and snot melt conditions?		➢ exp Services Inc. were contacted regarding the modelling and indicated that winter runoff scenarios do not control storm water storage management for this site. Peak winter storm runoff scenarios were greatly reduced under post-development conditions with the proposed attenuation when compared to pre-development scenarios.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	
TRC2-73	What modelling and calculations were considered regarding climate change impacts?			Refer to the Response to TRC2-34 provided above.	Stormwater
TRC2-74	Were any historical rainfall events/data used to calibrate the model?		➢ The model was verified by comparing modelled results under existing conditions with the modelled results (*i.e.*, surface water elevations) from the Terrain Group Inc. 2008 Hydraulics and Hydrology Report (*i.e.*, Appendix V).	Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report	Stormwater
TRC2-75	Were any flow measurements and water levels measured to incorporate into the model?		➢ *exp Services Inc.* [2017c] did not perform any flow measurements or measure any water levels for incorporation into the model. The initial existing conditions model was developed for Marsh Creek and its tributaries using a combination of LIDAR data, existing and new survey data, and historical information for hydraulic	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater

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			structures and aerial photography for catchment land-use and runoff characteristics.		
TRC2-76	What modeling checks, calculations were completed to conclude that the development will not negatively affect upstream, downstream or adjacent property or infrastructure?			Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report	Stormwater
TRC2-77	The report notes that at each Phase of development, the associated displaced volume and compensation volume scenarios will be re-evaluated and updated to ensure a volume balance is maintained and Marsh Creek water surface elevations are not negatively affected. What is the course of action of there is not a volume balance or volumes are exceeded? It is required now, prior to commencing the next steps of the approvals process, to understand the full impacts of development relative to the watershed, upstream, downstream, adjacent lands and existing infrastructure.		➢ Hydraulic and hydrological modelling should be done prior to each Project Phase to ensure flood storage volume balance is maintained and Marsh Creek water surface elevations are not negatively affected.	Section 4.3.2.3.2 – Proposed Mitigation	Stormwater
TRC2-78	The Report notes a 0.40m parking lot ponding depth. What is the basis of this depth? How will this be managed – will the development close for storms? How will this be affected by high tides? What are the impacts of property damage for customer / staff vehicles parked in the parking areas?		➢ Parking lot ponding can provide an economic solution for the storage volume required to attenuate the design storms. In the lower lying areas of the site, where detention ponds are not feasible, the peak flows may be attenuated using this method. The proposed development concept has approximately 10 ha of parking areas. Preliminary design calculations indicate parking lot ponding will require approximately 8.0 ha of lot ponded area or approximately 80 % of paved areas would be utilized to provide storm water attenuation storage during the 100 year + 20 % return period design storms. Maximum parking lot ponded depth during the modelled design storm was 0.40 m. Ponded areas typically can be limited to low traffic zones away from building accesses as was the case in the concept model.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-79	The report notes that 17,400 cubic metres of compensatory flood risk storage will be provided on site by voids in the rock fill. What provisions have been made to prevent eventual consolidation of the rock fill and/or the infiltration of fine material into the rock voids?		➢ When calculating compensatory flood risk storage volume on-site between voids in the rock fill, a conservative void ratio of 0.2 (*i.e.*, 20 %) was used. This conservative void ratio accounts for consolidation and contamination of the void spaces by fines. Geotextile will be used to reduce the transmission of fines into and through the rock fill.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-80	The Report notes all storm water storage zones are required to be above the flood plain elevation of 4.1 m? How was this elevation determined? Is this specific to the site or the drainage basin?	This is the modeled 100year flood water elevation. This elevation may be modified subject to the revised climate change modeling requested in comment/question 34.	➢ Modelling suggests that all storm water storage zones should be above the modelled 100 year floodplain elevation of 4.1 m; however, that elevation is subject to change based on future modelling during detailed design.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-81	What consideration was given to the Marsh Creek System draining into Courtenay Bay and the associated high water levels in the forebay? What about high water levels during a storm surge and high tide?		➢ Tidal curves for the Marsh Creek outlet / floodgates at Courtney Bay for the 100 year return periods were generated by the model and included surge residuals of 1.14 m. Tidal Higher High Water Large Tide (HHWLT) scenarios modelled included the 2010 HHWLT + storm surge (*i.e.*, 5.74 m) and the predicted year 2050 HHWLT + storm surge (*i.e.*, 6.19 m).	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-82	For the stormwater analysis there are some differences between the assumptions in this report and previous studies that have been provided (i.e. the flood plain			Refer to the Response to TRC2-81 provided above.	Stormwater

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	elevation, storm surge levels) – what is the rationale for the different numbers?				
TRC2-83	The EIA Registration Document contains a Hydraulics and Hydrology report prepared by Terrain Group, dated March 6, 2008. This document relates to the hydrotechnical and stormwater management impacts of the development, which were identified as important considerations by City Staff in the planning approvals process. Upon reviewing this document, the following can be noted: ➢ This document is dated 2008 and must be updated to reflect current conditions. For example, the site plan for the proposed "The Crossing" development contained in the 2008 report is different from the current proposal contained in the main EIA Registration Document and submitted as part of the 2016 planning approvals process. Specifically, the following major differences are noted between the two site plans: o The main EIA document notes the development site as 49 ha with a proposed 60,000 m2 of mixed-use development. The supporting documentation (Terrain Report) prepared by the engineering consultant notes the site as 41 ha with 46,500 m2 of commercial development only. o The recent layout contains a residential component on the north side of Ashburn Road which is not shown in the 2008 site plan. o The stream alignment / realignment shown on the 2016/2017 concept is different than that shown on the 2008 document. o The 2016/2017 development concept appears to have more impervious area (roofs and paved parking) as compared to the 2008 development concept. ➢ Additional information is required relating to the Terrain Report in order to fully understand the stormwater modelling that was done as part of this exercise. This would include: assumptions made for the modelling, additional details regarding the scenarios modelled, and results at different locations and different times of the year (winter vs. summer – frozen ground impacts) and for different tidal conditions. Supporting information on the subwatersheds was analyzed with the model but not provided with the report. In addition, the assumptions relating to land use and the corresponding runoff coefficients made by the consultants may no longer be valid given the change in future land use outlined in new		While the Terrain Group Inc. 2008 Hydraulics and Hydrology Report (*i.e.*, Appendix V) may contain useful background information related to storm water management, the study has been replaced and superseded by the exp Services Inc. 2017 Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report (*i.e.*, Appendix XIV).	Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report	Stormwater

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	Municipal Plan and Zoning By-law that have been enacted by the City since 2012.				
TRC2-84	How does the model account for Climate Change impacts and the relationship to heavy rainfall events occurring during the winter months when the ground is frozen?			Refer to the Response to TRC2-83 provided above.	Stormwater
TRC2-85	No detailed discussion was provided regarding the calibration of the model, specifically how the modelled water elevations compare with data observed from field monitoring and how the modelled water levels compare with the Procter and Redfern mapping.			Refer to the Response to TRC2-83 provided above.	Stormwater
TRC2-86	Responsibility for maintenance of any stormwater retention/detention ponds needs to be understood. In particular one of the scenarios modelled includes use of a City-owned parcel of land for additional water storage capacity: is there compensation for this use of City lands? Are there implications for adjacent properties?		➢ Horizon Management would be responsible for any infrastructure constructed on its property. The *exp Services Inc.* [2017c] storm water management strategy does not propose, nor require, the use of any City of Saint John property for use as compensatory storage to adequately manage storm water. Should the use of any available properties, including those owned by the City of Saint John, be identified as a viable and / or more practical alternative, then appropriate arrangements would need to be made with the owner.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-87	How will a phased approach be taken with respect to stormwater management as the development proceeds in order to manage the stormwater requirements of the current site, phased development and adjacent impacts both upstream and downstream?		➢ Hydraulic and hydrological modelling should be done prior to each Project Phase to ensure flood storage volume balance is maintained and Marsh Creek water surface elevations are not negatively affected.	Section 4.3.2.3.2 – Proposed Mitigation	Stormwater
TRC2-88	The phasing of the site preparation (mentioned on Page 10 of the Registration Document) should be better understood, as well as the implications on water levels downstream. For example, what are the stormwater management impacts for if the entire site is grubbed and trees removed but no further development occurs?		➢ An erosion and sediment control plan should be developed and implemented prior to initiating construction for any part of the various Project Phases in order to limit and control erosion and sedimentation. Erosion control measures should be used to minimize and / or prevent erosion and may include the following: topsoil; mulching; hydro-seeding; jute mats; riprap; sod; trees and shrubs; polyethylene film; gravel; and gabions (*n.b.*, each measure has benefits and challenges that must be reviewed prior to using). Sedimentation control measures should be used to minimize and / or prevent the transportation and deposition of sediment as a result of erosion and may include the following: sediment control fences; sediment ponds; erosion control structures; and flumes (*i.e.*, slope drains). ➢ Vegetation removal should be limited to that necessary for constructing the various facilities during each Project Phase. ➢ Landscaping with trees, shrubs, and grasses should occur as soon as practical following construction activity to help slow surface water runoff from the site. ➢ Hydraulic and hydrological modelling should be done prior to each Project Phase to ensure flood storage volume balance is maintained and Marsh Creek water surface elevations are not negatively affected.	Section 4.3.2.3.2 – Proposed Mitigation	Stormwater

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC2-89	We also note that this document is stamped draft and is not sealed by a Professional Engineer.		While the Terrain Group Inc. 2008 Hydraulics and Hydrology Report (*i.e.*, Appendix V) may contain useful background information related to storm water management, the study has been replaced and superseded by the exp Services Inc. 2017 Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report (*i.e.*, Appendix XIV).	Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report	Stormwater
TRC2-90	Portions of the development site are within areas that are subject to regulation through the City's Flood Risk Area By-law which seeks to regulate development in the Marsh Creek Watershed to prevent flooding. This by-law requires that additional flood storage be developed to offset flood storage that is lost as development occurs within the Flood Risk Area. Specific concerns identified relating to "The Crossing Development" and the Flood Risk Area include: ➢ The EIA Registration document indicates that the proposed work plan is to start in the spring of 2017 (section 2(vii) of Registration Document) by realigning the stream through straightening the loop in the watercourse on PID 00432203. It is also noted that initial development of the project will take place with this parcel of land being the hub of the development and that the infilling of lands with local aggregate to form an "aggregate mattress" will be undertaken on several parcels of land that are subject to the City of Saint John Flood Risk Areas By-law. ➢ This work cannot occur until the studies required by the Section 39 conditions have been completed by the developer and reviewed and approved by City staff, the City's Planning Advisory Committee and Common Council through an amendment to the conditions attached to the rezoning. As the placement of the aggregate mattress constitutes a "development", permits for this work (including filling, excavating, relocating, altering land levels, etc.) such as Flood Risk Area permits cannot be issued until the required studies including the traffic impact study, servicing study, and stormwater management study are completed, a Certificate of Determination is issued by the Province relating to the EIA and all other required Section 39 conditions are fulfilled through an amendment to the Section 39 conditions.		Section 6.1.3 As per Part 4, Division E of the New Brunswick *Community Planning Act* [S.N.B. 2017, c.19] and the Flood Risk Area By-Law of the City of Saint John [CP-11], a permit is required when building within a flood risk area of the City of Saint John (*i.e.*, Kelly Lake, Glen Falls, Lower Marsh Creek, and Indiantown). The permit is administered through the *City of Saint John One-Stop Development Shop*. A copy of the New Brunswick *Community Planning Act* can be found at: <http://laws.gnb.ca/en/ShowPdf/cs/2017-c.19.pdf>; a copy of the City of Saint John Flood Risk Area By-Law can be found at: <http://documents.saintjohn.ca/WebLink/DocView.aspx?id=19591&dbid=0&repo=CityofSaintJohn>; and a City of Saint John Flood Risk Area Development Permit application form can be found at: <https://www.saintjohn.ca/site/media/SaintJohn/FILLABLE%20One-Stop%20General%20Application%20(English).pdf>. Contact information for the *City of Saint John One-Stop Development Shop* is provided above. The Project area is located within the Glen Falls and Lower Marsh Creek Flood Risk Areas of Saint John. Building within those areas requires analysis of flood risk and volume and purchase of compensatory storage. Horizon Management Ltd. is proposing to develop buildings within the Glen Falls Flood Risk Area and provide compensatory storage within the Lower Marsh Creek Flood Risk Area. It is understood that the By-Law requires that compensatory storage be provided at the same time as development occurs within the Flood Risk Area. Section 2.8.1.1 On 15 March 2016, the City of Saint John's Planning Advisory Committee dealt with a Municipal Plan Amendment and Rezoning application for 459, 617 to 885, and 540 to 900 Ashburn Road and a parcel of land northeast of the One Mile Interchange Pursuant to Section 39 of the New Brunswick *Community Planning Act* [R.S.N.B. 1973, c. C-12], the proposed Project is subject to the 10 conditions noted below, which were registered in the Saint John County Registry Office on 1 June 2016 (*n.b.*, the *Community Planning Act* was repealed and replaced with the New Brunswick *Community Planning Act* [S.N.B. 2017, c.19] where rezoning is covered under Section 59).	Section 6.1.3 – Flood Risk Area Development Permit Section 2.8.1.1 – Existing Approvals	Stormwater

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			1. Traffic Impact Study - *No portion of the site shall be developed prior to the completion of a Transportation Impact Study prepared by the developer and subject to the approval of Common Council, as a statutory amendment to these conditions. The scope of work for the transportation impact study will be established in cooperation with the City, NBDTI and the developer.* 2. Site Servicing Study - *No portion of the site shall be developed prior to the preparation of a servicing study reviewing the impacts on the City's water supply and sanitary sewer collection systems prepared by the developer and subject to the approval of Common Council, as a statutory amendment to these conditions.* 3. Stormwater Management Study - *No portion of the site shall be developed prior to the preparation of a stormwater management study that details the approach for stormwater management on the development site and reviews the impacts of the development on upstream and downstream areas of the Marsh Creek watershed prepared by the developer and subject to the approval of Common Council, as a statutory amendment to these conditions.* 4. Environmental Impact Assessment Approval - *No portion of the site shall be developed prior to the proponent registering the project with the Provincial Environmental Impact Assessment Process and a Certificate of Determination being issued by the Province.* 5. Detailed Development Plans - *No portion of the site shall be developed except in accordance with detailed plans including, but not limited to, a context plan, a site plan, typical building floor plans, building elevations, and a landscape plan all of which are to be prepared by the proponent and subject to the approval of Common Council, as a statutory amendment to these conditions.* 6. Market Study – *Should a significant change be proposed in the project concept plan, an addendum is required to the market study that provides additional analysis of the impacts of the proposed development on the regional retail sector as a whole, and is subject to the approval of Common Council, as a statutory amendment to these conditions. This addendum to the market study will be prepared by the developer.* 7. Municipal Infrastructure Upgrades - *Any upgrades to the existing municipal infrastructure required to service this proposed development will be the developer's responsibility and cost. However, should any cost sharing agreement be proposed between the developer and City, which may involve another level of Government, related to costs associated with infrastructure upgrades, servicing, transportation network improvements or development of the project, that such cost-sharing agreement be subject to the approval of Common Council, as a statutory amendment to these conditions.*		

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
			8. Maximum Building Size - *The maximum floor area of a building in the rezoned area is limited to 3000 square metres.* 9. Additional Studies – *The required studies outlined in conditions a) through f) inclusive shall be completed within 5 years of the date of the Municipal Plan amendment and rezoning coming into effect. Should this not occur, Common Council reserves the right to take steps to immediately repeal the rezoning agreement and the rezoning pursuant to Sections 39(5) and 39(6) of the Community Planning Act and return the land shall return [sic] to its previous zone which existed prior to this agreement; and, No portion of the site shall be developed prior to the preparation of a detailed phasing plan that graphically outlines the timeline for completion of the site development, prepared by the developer and is subject to the approval of Common Council, as a statutory amendment to these conditions. Common Council reserves the right to impose additional conditions relating to the timeline for completion of the project phases and the repeal of the rezoning agreement and the rezoning pursuant to Section 39(5) and 39(6) of the Community Planning Act and the return of the land to its previous zone which existed prior to this agreement at the time the studies are reviewed as part of the required Section 39 Amendment.* 10. *Costs – In accordance with Section 39(8) of the Community Planning Act, the applicant shall provide a certified cheque in the amount of one thousand dollars ($1,000.00) to cover expenses related to the cancellation of the conditional rezoning agreement and/or repeal of the rezoning in the event that the conditions attached to the rezoning cannot be met, as per policy 1-5 in the Municipal Plan. The certified cheque shall be repayable on the substantial completion of the development for which the rezoning is granted. This shall be provided by the Developer to the City within 30 days of Third Reading of the 2016 Municipal Plan Amendment and Rezoning.* It is expected that the 10 conditions made by the City of Saint John's Common Council, as per the Proponent's Section 39 (59) application, will be conditions of the EIA Certificate of Determination.		
TRC2-91	How will the existing compensatory storage provided by ponds across from Jones Road be affected by the development? The Flood Risk Area By-Law requires compensatory flood storage for projects, such as the proposal, that occur within the Flood Risk Area. The report prepared by Terrain Group and attached to the Registration Document indicates there are a few ways of providing compensatory storage for this development, however, the proposal does not indicate that compensatory storage creation will initially take place and it seems that the requirements of the by-law will not be immediately addressed. Based on the information provided in the Terrain report (Section 5), it appears that compensatory storage may possibly be		<u>Section 2.8.2.10.1</u> While the Terrain Group Inc. 2008 Hydraulics and Hydrology Report (*i.e.*, Appendix V) may contain useful background information related to storm water management, the study has been replaced and superseded by the exp Services Inc. 2017 Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report (*i.e.*, Appendix XIV). <u>Section 6.1.3</u> As per Part 4, Division E of the New Brunswick *Community Planning Act* [S.N.B. 2017, c.19] and the Flood Risk Area By-Law of the City of Saint John [CP-11], a permit is required when building within a flood risk area of the City of Saint John (*i.e.*, Kelly Lake, Glen Falls, Lower Marsh Creek, and Indiantown).	Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report Section 6.1.3 – Flood Risk Area Development Permit	Stormwater

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	addressed through the eventual development of an urban wetland and a naturalized storm water pond, however, this section also indicates that it will be some time before this work will be undertaken and it seems to be connected to developing in the regulated wetland area. The Flood Risk Areas By-law is not based upon development of Provincially Designated Wetlands and any compensatory storage required for the flood risk area is separate from compensation required through Provincial Legislation for impacts in Provincially Designated Wetlands. The Flood Risk Area By-law requires that compensatory storage be provided at the same time as development occurs within the Flood Risk Areas and any such development is subject to a Flood Risk Area Permit.		The permit is administered through the *City of Saint John One-Stop Development Shop*. A copy of the New Brunswick *Community Planning Act* can be found at: <http://laws.gnb.ca/en/ShowPdf/cs/2017-c.19.pdf>; a copy of the City of Saint John Flood Risk Area By-Law can be found at: <http://documents.saintjohn.ca/WebLink/DocView.aspx?id=19591&dbid=0&repo=CityofSaintJohn>; and a City of Saint John Flood Risk Area Development Permit application form can be found at: <https://www.saintjohn.ca/site/media/SaintJohn/FILLABLE%20One-Stop%20General%20Application%20(English).pdf>. Contact information for the *City of Saint John One-Stop Development Shop* is provided above. The Project area is located within the Glen Falls and Lower Marsh Creek Flood Risk Areas of Saint John. Building within those areas requires analysis of flood risk and volume and purchase of compensatory storage. Horizon Management Ltd. is proposing to develop buildings within the Glen Falls Flood Risk Area and provide compensatory storage within the Lower Marsh Creek Flood Risk Area. It is understood that the By-Law requires that compensatory storage be provided at the same time as development occurs within the Flood Risk Area.		
TRC2-92	The Terrain report presents 4 different scenarios that were assessed with a hydraulic model. Scenario 3 involves the lower Marsh Creek Parcel of land to be excavated (we assume this is the parcel designated as the Eco-Park in the planning application, PID 55189385, however it is not confirmed in the report). The scenario indicates that the proposal is to remove and dispose of 356,000 m3 of soil to create about 400,000 m3 of compensatory storage. The report does not favor this option due to the cost of excavation and disposal of soil. Another scenario, Scenario #2, involves developing "The Crossing" project but no creation of compensatory storage (the report indicates that about 17,000 m3 of storage is required) and the last scenario, Scenario #4, seems to indicates that City-owned land (PID 55024921) could also be used to provide compensatory storage. Option #2 does not meet the requirements of the Flood Risk Area By-Law as no compensatory storage is provided to offset that lost by the development. Option 4 would not be considered at this time as it would require a decision of Common Council to provide compensatory storage on City-owned land in lieu of the proponent providing it on their land. The Terrain report does not contain a recommended approach, based on a thorough assessment, to provide for the 17,000 cubic metres of compensatory flood storage that will be lost with completion of the development. This assessment is required in order to understand the impacts of the development on		While the Terrain Group Inc. 2008 Hydraulics and Hydrology Report (*i.e.*, Appendix V) may contain useful background information related to storm water management, the study has been replaced and superseded by the exp Services Inc. 2017 Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report (*i.e.*, Appendix XIV).	Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report	Stormwater

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	upstream and downstream areas of the Marsh Creek watershed and its flood storage capacity.				
TRC2-93	Please be advised The Flood Risk Area by-law must be reviewed and Flood Risk Areas permits must be obtained, following the required Section 39 Amendment, prior to the commencement of any development on project lands within the flood risk area. The requirements for the permit application are clearly outlined, as are the need for plans showing draining patterns in the City's Flood Risk Area By-law. The applicant is required to provide the City with a proposed approach to provide the required compensatory storage. Upon receipt of this, it will be evaluated to determine its compliance with the by-law and form part of the necessary information, in addition to the required stormwater modelling and other supporting studies, for the required amendment to the Section 39 conditions.	The proponent is aware of the requirements outlined in the City's Flood Risk Area By-law and will work with the city to meet those requirements.	As per Part 4, Division E of the New Brunswick *Community Planning Act* [S.N.B. 2017, c.19] and the Flood Risk Area By-Law of the City of Saint John [CP-11], a permit is required when building within a flood risk area of the City of Saint John (*i.e.*, Kelly Lake, Glen Falls, Lower Marsh Creek, and Indiantown). The permit is administered through the *City of Saint John One-Stop Development Shop*. A copy of the New Brunswick *Community Planning Act* can be found at: <http://laws.gnb.ca/en/ShowPdf/cs/2017-c.19.pdf>; a copy of the City of Saint John Flood Risk Area By-Law can be found at: <http://documents.saintjohn.ca/WebLink/DocView.aspx?id=19591&dbid=0&repo=CityofSaintJohn>; and a City of Saint John Flood Risk Area Development Permit application form can be found at: <https://www.saintjohn.ca/site/media/SaintJohn/FILLABLE%20One-Stop%20General%20Application%20(English).pdf>. Contact information for the *City of Saint John One-Stop Development Shop* is provided above. The Project area is located within the Glen Falls and Lower Marsh Creek Flood Risk Areas of Saint John. Building within those areas requires analysis of flood risk and volume and purchase of compensatory storage. Horizon Management Ltd. is proposing to develop buildings within the Glen Falls Flood Risk Area and provide compensatory storage within the Lower Marsh Creek Flood Risk Area. It is understood that the By-Law requires that compensatory storage be provided at the same time as development occurs within the Flood Risk Area.	Section 6.1.3 – Flood Risk Area Development Permit	Stormwater
DEPARTMENT OF TRANSPORTATION AND INFRASTRUCTURE QUESTIONS AND COMMENTS					
TRC2-94	Please provide a detailed construction plan for the installation of signals and the widening and addition of turning lanes at Rothesay Ave, Rothesay Road, Route 1 east bound off-ramp, and Route 1 east bound on-ramp?		In Summer / Fall 2019, the New Brunswick Department of Transportation and Infrastructure (NBDTI) redeveloped the intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. Upgrades included adding actuated-coordinated traffic signals and installing separate turning lanes (*n.b.*, these have yet to be installed as of December 2017, but the bases are in place).	Section 2.8.3.2.1 – Phase 1	Traffic
TRC2-95	Please be advised that in 2018, when weather permits, Gateway Operations Inc. intends to replace twin culverts located on Rothesay Road at the entrance to the Route 1 west bound on-ramp and adjacent to the proposed east entrance to the Development. This project includes potential upgrades the unsignalized intersections to signalized intersections in the area of Rothesay Ave/Rothesay Road. To avoid possible traffic congestion due to the culvert upgrades and new signage construction, this work should be coordinated with Gateway Operations Inc.		The unnamed tributary to Little Marsh Creek that flows on to the Project site near the Rothesay Road / Rothesay Avenue intersection may require some realignment to suit the overall development. Based on the uncharacteristically straight channel of that tributary on the property, it is believed that it was channelized in the past. In 2018, Gateway Operations Inc. replaced the twin culverts within this culvert on Rothesay Road.	Section 2.8.2.9 – Watercourse Realignment and Piping	Watercourses

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC2-96	The document states that "The models predict that the water elevation experienced just upstream of Highway #1 culvert will be the same following development of the Crossing as compared to the existing condition." Please provide a map with the location of this culvert on Highway #1.		While the Terrain Group Inc. 2008 Hydraulics and Hydrology Report (*i.e.*, Appendix V) may contain useful background information related to storm water management, the study has been replaced and superseded by the exp Services Inc. 2017 Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report (*i.e.*, Appendix XIV).	Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix V – Terrain Group Inc. Hydraulics and Hydrology Report Appendix XIV – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report	Stormwater
TRC2-97	Please provide additional details with regards to the timing of the stream re-alignment along the Rothesay Road near the Route 1 west bound on-ramp?		In Summer / Fall 2019, the New Brunswick Department of Transportation and Infrastructure (NBDTI) redeveloped the intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. Upgrades included adding actuated-coordinated traffic signals and installing separate turning lanes. NBDTI also did work in the vicinity of that intersection in 2018 to upgrade the culverts under the west bound on-ramp to NB Route 1. Part of that channel may be realigned within the boundaries of the Project site, but that would be > 30 m from the edge of the existing roadway. Therefore, because NBDTI has not installed guardrail in that are during their previous work, it is not believed that guiderail will be required.	Section 2.8.3.2.1 – Phase 1	Watercourses
TRC2-98	Under the development's current proposed footprint, it is estimated that 87500m3 of existing flood storage would be eliminated below the 100 year flood elevation. Compensatory storage will be provided for this loss of flood storage. What is the total storage of the Ashburn Road Development area pre development?		➢ The total pre-development flood storage volume of the Project lands along Ashburn Road is 155 000 m^3.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-99	How close will the proposed realigned channel be to the Route 1 west bound on-ramp shoulder? Will guide rail be required?		In Summer / Fall 2019, the New Brunswick Department of Transportation and Infrastructure (NBDTI) redeveloped the intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. Upgrades included adding actuated-coordinated traffic signals and installing separate turning lanes. NBDTI also did work in the vicinity of that intersection in 2018 to upgrade the culverts under the west bound on-ramp to NB Route 1. Part of that channel may be realigned within the boundaries of the Project site, but that would be > 30 m from the edge of the existing roadway. Therefore, because NBDTI has not installed guardrail in that are during their previous work, it is not believed that guiderail will be required.	Section 2.8.3.2.1 – Phase 1	Traffic and Infrastructure
TRC2-100	Please confirm that the proponent is designing for storage to meet storm water peak flow attenuation requirements of net zero increase in Post-Development storm water discharge for the 100 year +20% return period storms which aligns with DTI storm-water management practices?		➢ Storage was modelled and will be designed to meet storm water peak flow attenuation requirements of net zero increase in post-development storm water discharge for the 100 year + 20 % return period storms, which algins with NBDTI's storm water management practices.	Section 4.3.2.3.1 – Potential Impacts	Stormwater
TRC2-101	What will the stream elevations be relative to the three NBHC culvert locations for the following types of precipitation events? i. 2 hour duration - 100 year return + 20% ii. 24 hour duration - 100 year return + 20%		➢ In future modelling scenarios, the culverts located under the west bound on-ramp to NB Route 1 will be added as control points in order to determine surface water elevations for 2 hour and 24 hour duration storms with a 100 year + 20 % return period.	Section 4.3.2.3.1 – Potential Impacts	Stormwater
TRC2-102	Please provide the size and type of pipes placed at the entrance to the Development at Rothesay Road?		To facilitate Project development, tributaries of Little Marsh Creek will require alteration. The potential impacts to on-site	Section 4.3.2.3.1 – Potential Impacts	Stormwater

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			watercourses will be as follows (*n.b.*, the overall linear length is ~ 600 m and the overall area is ~ 540 m^2; the actual linear length and area will be determined during detailed design and during permitting as will the design / sizing of piping and open channels).		
AIR AND WATER SCIENCES BRANCH QUESTIONS AND COMMENTS					
TRC2-103	What was the rationale of using a synthetic SCS type III design storm as opposed to the Chicago distribution design storm indicated in the City of Saint John's Storm Drainage Design Criteria Manual (2016)?		➢ For larger catchment areas like Marsh Creek, exp Services Inc. has observed that the Soil Conservation Service (SCS) Type III design storms are more conservative (*i.e.*, yield higher runoff values) when compared to the Chicago distribution design storm. That is why they used the SCS Type III design storm as opposed to the Chicago distribution design storm indicated in the City of Saint John's Storm Drainage Design Criteria Manual (2016).	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-104	Please provide the design storm rainfall (hyetograph).		➢ The 24 hour duration, 100 year + 20 % return rainfall Soil Conservation Service Type III hyetograph is shown in the figure below.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-105	Which is meant when referring to the 100 year + 20% storm: 100 year (2010) + 20% or 100 year (2050, RCP2.6) + 20%?		➢ The international climate modelling community has adopted four RCPs through the Intergovernmental Panel on Climate Change (IPCC). The scenarios range from RCP 8.5, which corresponds to a "non-climate policy" scenario translating into high severity climate change impacts, to RCP 2.6, which is a future requiring stringent climate policy to limit greenhouse gas emissions, translating into low severity impacts. Two middle scenarios, RCP 4.5 and RCP 6.0, were selected by the IPCC to be evenly spaced between RCPs 2.6 and 8.5. The 100-year (*i.e.*, 2050, RCP 2.6) storm was used in modelling to determine water surface elevations under existing and proposed conditions, with and without climate change effects, and compensatory flood volumes requirements. The 24 hour 100 year 2050 RCP 2.6 return period storm rainfall depth is 177 mm.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC2-106	Was the 100 year +20% storm used solely to determine the required attenuation or also to determine water levels? Please clarify as this storm is only mentioned at the end of the report, after the conclusions.		➢ The 100 year + 20 % storm was used solely within the modelling to determine the required storm water attenuation requirements.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC-107	It is stated that water surface elevations will remain at or below existing levels for post-development conditions. However, it seems that scenario S6 (compensation and climate change) water levels exceed scenario S1 (existing conditions) levels. Please clarify.		➢ When comparing modeled water surface elevations for pre- and post-development conditions, the comparisons were made for the same climatic conditions: o Comparison 1: pre-development <u>without</u> climate change versus post-development <u>without</u> climate change; and o Comparison 2: pre-development <u>with</u> climate change versus post-development <u>with</u> climate change.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
TRC-108	It is stated that the development will not negatively affect upstream property or infrastructure for the modeled design storms. However, there are no upstream control points to support this conclusion. Please clarify how this conclusion is supported.		<u>Section 2.8.2.10.1</u> ➢ An upstream control point (*i.e.*, Ashburn Creek Road Culvert) was also included and showed that the Project will not negatively affect upstream properties or infrastructure for the model design storms.	Section 2.8.2.10.1 – Notes on Storm Water Management Study Appendix XIV (Amended) – exp Services Inc. Storm Water Management Strategy and Stream Hydraulics and Hydrology Conceptual Design Report	Stormwater
DEPARTMENT OF TRANSPORTATION AND INFRASTRUCTURE QUESTIONS AND COMMENTS					

ID	Comment	Original Response	Updated / Amended Response	Location in Updated EIA	Comment Type
TRC-109	Will the reduction of velocity in the Little Marsh Creek result in sediments being deposited along the Urbanized Wetland or near the New Brunswick Highway Corporation (NBHC) culverts at Rothesay Road, Foster Thurston Drive, and at Route 1 – see photo below. 		The current proposal for *The Crossing*, which is described and assessed within this EIA document, imagines Little Marsh Creek and its contiguous wetland as key design features where both remain largely untouched	Section 2.6.2.3 – Current Proposal	Stormwater
	Air and Water Sciences Branch				
TRC-110	What is meant by constructed channel storage? Please clarify.		Figure 8	Section 2.8.2.9 Watercourse Realignment and Piping	Stormwater
TRC-111	Please provide design details on any storage (ponds, channels, etc.) related to the project, as these are important to any hydrotechnical modeling.		➢ The purpose of the storm water management study with respect to compensatory storage was to determine if required compensatory storage ponds could be physically accommodated on the Project lands to avoid any negative flooding impacts. Design of any compensatory storage ponds would be done during detailed engineering design and before applying for any required regulatory permits, such as a Watercourse and Wetland Alteration Permit or a Harmful Alteration, Disruption, and Destruction of fish and fish habitat Authorization.	Section 2.8.2.10.1 – Notes on Storm Water Management Study	Stormwater
DEPARTMENT OF HEALTH QUESTIONS AND COMMENTS					
TRC-112	Please be advised that once this Development starts any Food Service Establishment that is planned must go through the New Brunswick Dept of Health for approval and licensing.		As per the Food Premises Regulation [2009-138] of the *Public Health Act* [O.C. 2009-457], food service establishments in New Brunswick require approval and licensing before serving food to the public. Depending on the types of food prepared and sold and the ways foods are handled, food premises licenses are divided into three classes: Class 3; Class 4; and Class 5. Any food establishments that are part of *The Crossing* will require approval and licensing.	Section 6.2.8 – Food Premises License	Permitting
DEPARTMENT OF TOURISM, HERITAGE AND CULTURE QUESTIONS AND COMMENTS					
TRC-113	Archaeological Service Branch has reviewed the updated EIA submission documents. As recommended by AMEC, we concur that there are no further archaeological investigations required at Area A. Area B remains an area of elevated archaeological potential and should there be plans for development in this area, the plans should be submitted for Archaeological Services to review as further archaeological work may be required. Archaeological Services suggests that an emergency plan for the accidental discovery of artifacts be drafted by the proponent and submitted for review. A reminder that		Historic places in New Brunswick are protected under the *Heritage Conservation Act* [O.C. 2010-453]. Unauthorized alteration of any archaeological, paleontological, burial heritage objects, and / or Provincial Heritage Places in New Brunswick is strictly prohibited under the *Act*. The Eco-Park lands, as noted in the *AFW* [2018] report (*i.e.*, refer to Section **Error! Reference source not found.**), are an area of elevated archaeological potential. Should there be plans for development of the Eco-Park, then there may be need for obtaining Heritage Site Alteration Permit (HSAP).	Section 6.2.7 – Heritage Site Alteration Permit	Permitting

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	any area within 80m of a watercourse/waterbody and 100m of a confluence contains elevated archaeological potential. As per Section 9 of the *Heritage Conservation Act*, any person who discovers an archaeological object, burial object, or human remains is required to report the discovery to the Minister as soon as practicable at (506) 453-2738.				
DEPARTMENT OF TRANSPORTATION AND INFRASTRUCTURE QUESTIONS AND COMMENTS					
TRC2-113	Following review of the traffic light proposal, impacts are anticipated at various locations, particularly at the bottom of the westbound offramp and eastbound offramp at Exit 129. It is believed that Snow and Ice Removal (SNIC) operations may be impacted (e.g., increased plow cycle time), thereby lowering the level of service at various times, including during peak traffic flows. There are safety concerns that traffic lights will cause traffic to back up onto Route 1 and increase the risk of accidents. It is suggested that the proponent perform a traffic count study of the impacted area as well as consult with local policing authorities.		In Summer / Fall 2019, the New Brunswick Department of Transportation and Infrastructure (NBDTI) redeveloped the intersection of Rothesay Road, Rothesay Avenue, and the NB Route 1 ramps. Upgrades included adding actuated-coordinated traffic signals and installing separate turning lanes (*n.b.*, these have yet to be installed as of December 2017, but the bases are in place).	Section 2.8.3.2.1 – Phase 1	Traffic
TRC2-114	It is anticipated that the culverts currently servicing Route 1 will be subject to higher flow rates during peak runoff, and it does not appear that they will be optimized. This increases risk for the Operations, Maintenance, and Rehabilitation (OMR) of these culverts. It seems that most of the watershed is designed to flow into the existing culverts located under the westbound on and offramps at Exit 128 and crossing the Route 1 Facility near kilometer marker 127.7. How does the proponent propose to address this concern? The type and size of the existing culverts are as follows: ➢ 3 - 1.2 m dia CSP culvert under ramps ➢ 1 - 3.5 x 2.5 m bolt CSP culvert under highway		NBDTI also did work in the vicinity of that intersection in 2018 to upgrade the culverts (*i.e.*, three 1.2 m diameter corrugated steel pipe) under the west bound on-ramp to NB Route 1.	Section 2.8.3.2.1 – Phase 1	Stormwater
TRC2-115	At this time, it is expected that the proposed project would expose OMR to increased risk and costs.				Infrastructure