



AANDC ENVIRONMENTAL REVIEW - PROJECT DESCRIPTION

Purpose: Under CEAA 2012, AANDC is required to ensure that projects and/or activities that occur on federal/reserve lands requiring authorization by the department do not cause significant adverse environmental effects. This form gathers the preliminary information required to assist in the determination of the potential adverse effects from a proposed project prior to the department enabling the project to proceed. This form will also help determine if further information and/or further review is required. For more information please visit: <http://www.aadnc-aandc.gc.ca/eng/1345141628060/1345141658639>.

Proponents are to complete sections A through G.

Project Name:	Kingsclear First Nation Wastewater Treatment Facility		
Proponent Name:	Kingsclear First Nation		
Proponent Contact:	Chief Gabriel Atwin		
Role/Position:	Chief		
Proponent Address:	77 French Village Road, Fredericton, NB	Postal Code:	E3E 1K3
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Project Start Date	Completion Date	Fall 2016 or Winter
(construction phase): Summer 2016	(construction phase):	2017

Location: Kingsclear, NB (N45° 57' 20.3" W66° 51' 29.8")

Project Summary:

The existing Kingsclear First Nation (KFN) wastewater treatment facility (WWTF) is nearing the end of its life cycle and treatment capacity. The facility utilizes an aerated lagoon to reduce organic loading and suspended solids prior to discharge to Indian Brook. This watercourse flows over a short distance into the Saint John River. Flow volumes through the system cannot be recorded and there is no disinfection of the effluent (to within applicable discharge limits required by CCME).

A new facility is being designed, utilizing the CCME Canada Wide Strategy Management of Municipal Wastewater effluent, to be able to meet the applicable targets and the future needs of the community. The proposed upgrades are expected to be completed in phases and will include: geotechnical preloading at the building location to limit settlement, an expanded headworks building which will include office space, improved treatment system processes and connection lines, and installation of a new effluent discharge point to the Saint John River (anticipated to be installed via horizontal directional drilling). It is anticipated that the lifetime of the new facility will be at least 30 years.

The environmental and social benefits of the project are considerable. Indian Brook will be restored to permit traditional use of the watercourse without risk of public health issues. As well, the algal growth which has resulted from the poor quality effluent will reduce over time.

Infrastructure

Existing onsite infrastructure includes a chlorine contact chamber (inoperable), three static surface aerators, chemical/electrical building (requiring upgrade/repair), floating lagoon baffles (ripped/torn/submerged in areas).

Infrastructure associated with the new WWTF will include;

- a new headworks building adjacent to the existing lagoon, complete with ancillary mechanical systems including plumbing, drain piping, office space, washroom and shower, service water connections and HVAC Systems, inorganic solids removal (screening), ultra-violet disinfection, process monitoring equipment and SCADA design.
- fine-bubble aeration diffusers, allowing for more efficient oxygen transfer and thus improved treatment.
- a new outfall to convey the treated effluent from the headworks to the Saint John River.

Activities:

The following activities have been completed to allow for the preparation of this report and to address specific regulatory requirements:

- site reconnaissance;
- biophysical surveys;
- geotechnical investigation including boreholes;
- wastewater effluent sampling;
- preliminary design of the new headworks building; and,
- preliminary design of infrastructure upgrades.

To accommodate site and regulatory requirements, the construction is expected to be done in the following phases:

Phase 1 – Geotechnical Preloading: The geotechnical investigation completed in late 2015 indicated that the underlying soils were unfavorable for immediate construction and if left unaltered would result in unacceptable settlement over the building’s lifespan. Geotechnical engineers recommended preloading the building location by placing approximately 2.5 – 3 metres of granular materials above site grade and measuring the settlement over a period of 4-6 months using steel plates and survey instruments. Placement of heavy fill materials on the compressible soil layer prior to constructing the building will allow for “built-in” settlement to be completed over the 4-6 month pre-construction period rather than over the building’s lifespan, which will reduce post-construction settlement resulting in less deflection of the building floor and channel elevations. During the preloading, environmental protection measures will be in place including riprap near Indian Brook, silt fencing and routine site visits. The pre-loading component of the construction should take place immediately. This will allow for settlement to occur and testing of the area throughout the pre-loading phase to verify the final location for the building.

Phase 2 – Building and Lagoon Construction: Upon completion of the preloading program, construction of the main project may commence. This will involve construction of the headworks building, upgrades to the aeration system, access road from Church Street, yard piping and modifications to allow for temporary disposal to Indian Brook. Modifications will be made to the aeration pattern to permit a partial-mix system to accommodate current and near-future demands (estimated based on population projections). When capacity is reached in approximately 8-10 years, the aeration pattern will require minor upgrades to advance to complete mix aeration, allowing the system to operate for an additional 20 years. The modifications will be completed after the proposed WWTF has been operational for

approximately 8-10 years. The site will be secured with fencing allowing for controlled access. Silt fencing and rip rap placed in Phase 1 will remain throughout the duration of the project. Stormwater will be controlled around the site to minimize erosion and release of sediment to the watercourses.

Phase 3 – A new outfall will be constructed to convey treated effluent from the headworks building to the Saint John River. This will eliminate discharge from Indian Brook, improving the overall health of the watercourse and will reduce the human health risk for those that use it for recreational and domestic purposes. The system upgrades are being designed to provide for the effluent quality to meet the regulatory requirements at the end of pipe; that is, the effluent quality will meet the effluent quality standards pursuant to the federal *Fisheries Act*. It is expected that the outfall will be constructed using directional drilling techniques. The drill will be initiated outside of the 30 m buffer from the shoreline.

The existing WWTF will continue to operate during the construction and trial operation of the proposed WWTF. It is anticipated that there will be minimal lag (less than 2 hours) in converting flow to the new WWTF, and any wastewater produced during that time will be directed to the lagoon. There is a potential need for wastewater to be removed from the current system during the construction of the new treatment facility. Should this need arise, the wastewater will either be held in an approved containment system until it can be treated with the new system or transported to an approved facility for treatment.

With these upgrades to the existing system, the anticipated life span of the facility is 30 years. Decommissioning of the facility will be done in accordance with the legislation in effect at that time.

Waste Generation:

Potential construction wastes are anticipated to include: excess soils and gravel, equipment packaging materials such as plastic and cardboard, and scrap construction supplies such as small pieces of lumber. Efforts will be made to reduce and/or recycle wastes; when this is not possible wastes will be regularly transported to an approved facility for disposal. Spoil material from horizontal directional drilling will be collected and removed to an approved facility for disposal. If required, temporary storage on site will be limited to a contained area where runoff will be controlled.

All construction related material will be removed from the site once the upgrades are completed.

- Is there any financial support that federal departments or agencies are, or may be, providing to the project? **Yes** **No**
 - If yes, which Department(s) or Agency(s)? **Indigenous and Northern Affairs Canada**
- Are there any other permits, licenses or other authorizations that may be required in order to carry out the project? **Yes** **No**
 - If yes, please list requirements:
The New Brunswick Department of Environment and Local Government (NBDELG) has indicated that the provincial Environmental Impact Assessment Regulation (87-13) is triggered with the modification to the existing wastewater treatment facility. As well, a Watercourse and Wetland Alteration (WAWA) permit under the New Brunswick *Clean Water Act* is required as portions of the project will occur within 30 of a watercourse (Saint John River and Indian Brook).

Section B: Land Description

A) Is there surface water present on/or within 30 meters of your project boundary? Yes No

B) What is the approximate distance to the nearest surface water body?

Based on a review of the NBDNR 1:10,000 mapping and preliminary site surveys, two watercourses have been identified within the proposed construction site boundaries; the Saint John River (located 30 m north of the current WWTF) and Indian Brook (located 10 m east of the current WWTF). Refer to Figure 1.

Based on GeoNB mapping database and field studies, the proposed project is not located within the 1973 or 2008 Flood Zones and there are no regulated wetlands, provincially significant wetlands or wet areas within 30 m of the proposed project area. The soils in the area are characterized as pre-dominantly well drained with rapid drainage. This has been confirmed by site investigations.

Ground water: Are there drinking water wells or aquifer recharge zones:

Present on your site? Yes No

A) Within 500 meters of your project boundary? Yes (within 275 m) No

Please enter the approximate depth of the water table, if known? Unknown

Topography:

The proposed project area was previously built up to facilitate the development of the current WWTF resulting in a generally flat topography in the area of the current WWTF and lagoon. The proposed project area lying immediately adjacent to the Saint John River is steeply graded to the north. There is also a steep gradient to the east between the proposed project area and Indian Brook.

Dominant Soil Type: Silt

Land Use: Waste Water Treatment Facility

Past Land Uses: Waste Water Treatment Facility
Current Land uses: Waste Water Treatment Facility

Adjacent Land uses: (select all that apply):

Residential The distance to the nearest residential property is less than 50m (to the west).

School

Daycare

Commercial

Agricultural

Airport

Railway

Recreation area

Other - Describe here

Provincial or National Park, Conservation area Enter name here

Utility Corridor (pipelines, gas lines, power lines, water lines, etc.) Describe here

Industrial (oil and gas, manufacturing, sawmill, etc.) Describe here

Describe any unique features of the land:

Topography of the project area is generally representative of the region.

Section C: Flora and Fauna:

Biophysical Site Assessments

Prior to conducting field investigation studies, various federal and provincial databases were consulted to identify potential occurrences of rare and endangered flora and fauna, and unique or sensitive habitats that have been known to occur within a 1 km radius of the project boundaries and identified as the “study area”. The following lists were reviewed to define species and habitats of concern:

- Species listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC);
- Species listed under the Species at Risk Act (SARA);
- Species listed under the New Brunswick Species at Risk Act (NBSARA);
- Species ranked or identified by New Brunswick Department of Natural Resources (NBDNR) species at risk biologist; and,
- Species listed by the Atlantic Canada Conservation Data Center (ACCDC) as extremely rare (S1), rare (S2) and uncommon (S3). Refer to Appendix C for the complete report.

Other available background information from the following websites and databases were also reviewed:

- Nature NB;
- Important Bird Areas (IBA), the Ramsar Convention on Wetlands and Federally recognized Migratory Bird Sanctuaries;
- Protected Wellfields and Watersheds; and,
- Protected Natural Areas.

Watercourses and wetland habitats were identified using the NBDNR watercourse mapping, the GeoNB wetland mapping database as well as high resolution aerial photography mapping.

Site Investigations were carried out in July 2015 and consisted of topographical and environmental aspect surveys that focused on identifying the existing environment and identifying potential environmental constraints, including watercourses, wetlands and sensitive habitats potentially affected by the project.

Characterization of the existing conditions included:

- Watercourses/Wetlands within 30 m of the project footprint;
- Forest habitat assessment;
- Migratory birds
- Wildlife and wildlife habitat;
- Species at Risk and of Conservation Concern; and,
- Land use.

Wildlife: *Is/are there any:*

- A) **Species at Risk** in or adjacent to the proposed project area? **Yes (potential)** **No**
 Unknown For information and maps on Species at Risk please visit the [Species at Risk Public Registry](#).

If Yes, please name species and describe habitat and the nature of the potential impact:

The table presented below summarizes potential species at risk that may occur within the proposed project area based on information provided by the Atlantic Canada Conservation Data Center and obtained on the Species at Risk Public Registry. The final column indicates which phase of the project (planning; construction or operation) may impact the species.

The proposed improvements to the WWTF are expected to minimize potential impacts to species at risk during operational activities due to improvements in treatment infrastructure to the species identified below. Additionally, the redirection of the effluent to the Saint John River will enable the gradual restoration of Indian Brook thereby enhancing habitat and promoting species diversity.

Mitigative measures proposed during the construction phase

- Contractor(s) are to be provided guidance on proper species identification by using the "Species at Risk in Atlantic Canada Identification and Information Guide for DND land users" (2014). Guidance will focus on the potential occurrence of SAR and their habitat requirements; and,
- Contractors will be notified of potential environmental constraints (i.e. potential habitat areas) in the project area prior to the commencement of work.
- If a SAR is encountered, the Contractor will immediately stop work and notify Environment Canada or a professional biologist for further mitigation measures.

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Species of Conservation Concern Common Name Scientific Name		Attributes of Habitat	Applicable Habitat to Project Footprint	Federal Status (COSEWIC/ SARA)	Provincial Status (NBESA)	ACCDC Status	Project components
Birds							
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Sticks and plant material to build its nest in the top of a tall tree – often a large white pine. It usually uses the same nest for a number of years. The bald eagle becomes territorial during breeding season, and will defend an area up to two kilometres around its nest. It prefers a site near open water – an abundant source of fish.	Foraging within the riparian area of the Saint John River	NAR	Reg. Endangered	S3B	Construction - Noise impacts and potential attraction of species to immediate construction area through poor garbage management
Freshwater Fish							
Atlantic Salmon - Outer Bay of Fundy pop.	<i>Salmo salar pop.</i>	Spawns in freshwater habitat, and requires clean, cool, flowing water free from chemical or organic pollution. It prefers natural stream channels with rapids and pools, a gravelly bottom, and water temperatures between 15 oC and 25oC in summer.	Saint John River/ Indian Brook	E	E	S2	Construction - Deleterious substances erosion and sedimentation and through accidental release of hazardous materials Operations - Wastewater treatment failure
Shortnose Sturgeon	<i>Acipenser brevirostrum</i>	The shortnose sturgeon spawns in fast flowing water over a boulder and gravel bottom. Adults overwinter in the lower sections of the river in deep holes that are under tidal influence. Little is known about the juveniles, but the mean size of juveniles decreases upriver suggesting younger fish utilize more upstream habitats.	Saint John River	SC	SC	S2	
American Eel	<i>Anguilla rostrata</i>	The American Eel uses a variety of marine and freshwater habitats over the course of its life history. During juvenile stages, eels are primarily benthic, using substrate (rock, sand, mud), woody debris and submerged vegetation for protection and cover. Eelgrass, rock outcrops and other benthic features offering hiding places are important to American Eel as cover, particularly during daylight hours.	Saint John River/ Indian Brook	T	T	S5	
Atlantic Sturgeon	<i>Acipenser oxyrinchus</i>	The important habitat for Atlantic Sturgeon is a river with access to the sea, preferably with deep channels; an estuary with relatively warm, partially saline water and a coastal shelf region. Atlantic Sturgeon spawn in freshwater over rocky-gravel substrates at a depth of 1 - 3 m in areas with a strong current, and also under waterfalls, and in deep pools.	Saint John River	T	T	S3	
Herpetiles							
Wood Turtle	<i>Glyptemys insculpta</i>	Requires rivers and streams with sandy or gravelly-sandy bottoms and prefers clear meandering watercourses with a moderate current. The Wood Turtle's natural nesting sites are found on sand or gravel-sand beaches and banks. Although they prefer riparian areas with diverse, patchy cover, females also lay in gravel holes, at the edges of roads and railways, in utility right-of-ways, in farming fields, pastures and former fields – any sunny and easily dug spot.	Indian Brook	T	T	S3	Construction - Deleterious substances erosion and sedimentation and through accidental release of hazardous materials - Temporary disruption of potential foraging areas during project construction Operations - Wastewater treatment failure

B) Migratory Birds that use the area at any time during the year? Yes No Unknown

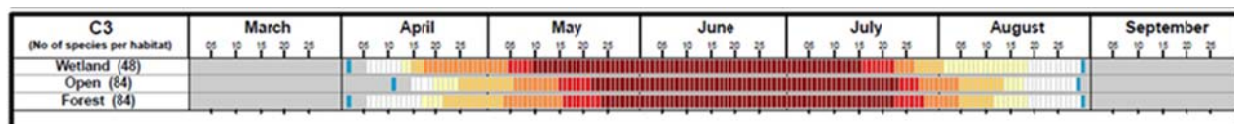
For information please see the [Migratory Birds List](#)

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The following table provides information on potential species which may occur within a 10 km² area of the proposed project area. The table was obtained from the Maritime Breeding Bird Atlas (2nd Edition) at <http://www.mba-aom.ca/jsp/squareinfo.jsp?lang=en>.

Canada Goose	Osprey	Great Horned Owl		Gray Catbird	Field Sparrow
Wood Duck	Bald Eagle ☞	Barred Owl	Philadelphia Vireo	Northern Mockingbird	Vesper Sparrow
Gadwall	Northern Harrier	Short-eared Owl	Red-eyed Vireo	Brown Thrasher	Savannah Sparrow
Eurasian Wigeon	Sharp-shinned Hawk	North Saw-whet Owl	Gray Jay	European Starling	Nelson's Sh.-tail Sparrow
American Wigeon	Cooper's Hawk	Common Nighthawk	Blue Jay	Cedar Waxwing	Fox Sparrow
American Black Duck	Northern Goshawk	Whip-poor-will	American Crow	Ovenbird	Song Sparrow
Mallard	Red-should Hawk	Chimney Swift	Common Raven	North Waterthrush	Lincoln's Sparrow
Mallard x Am. Black Duck	Broad-winged Hawk	Ruby-thr Hummingbird	Horned Lark	Black-white Warbler	Swamp Sparrow
Blue-winged Teal	Red-tailed Hawk	Belted Kingfisher	Purple Martin	Tennessee Warbler	White-throat Sparrow
Northern Shoveler	Yellow Rail	Yellow-bellied Sapsucker	Tree Swallow	Nashville Warbler	Dark-eyed Junco
Northern Pintail	Virginia Rail	Downy Woodpecker	North Rgh-wing Swallow	Mourning Warbler	Scarlet Tanager
Green-winged Teal	Sora	Hairy Woodpecker	Bank Swallow	Common Yellowthroat	Rose-breast Grosbeak
Ring-necked Duck	American Coot	Am Three-toed Woodpecker	Cliff Swallow	American Redstart	Indigo Bunting
Greater Scaup	Killdeer	Black-back Woodpecker	Barn Swallow	Cape May Warbler	Bobolink
Common Goldeneye	Spotted Sandpiper	Northern Flicker	Black-capp Chickadee	Northern Parula	Red-wing Blackbird
Hooded Merganser	Upland Sandpiper	Pileated Woodpecker	Boreal Chickadee	Magnolia Warbler	Eastern Meadowlark
Common Merganser	Wilson's Snipe	American Kestrel	Red-breast Nuthatch	Bay-breasted Warbler	Rusty Blackbird
Red-breast Merganser	American Woodcock	Merlin	White-breast Nuthatch	Blackburnian Warbler	Common Grackle
Ruddy Duck	Wilson's Phalarope	Olive-sided Flycatcher	Brown Creeper	Yellow Warbler	Brown-head Cowbird
Ring-necked Pheasant	Ring-billed Gull	Eastern Wood-Pewee	House Wren	Chestn-sided Warbler	Baltimore Oriole
Ruffed Grouse	Herring Gull	Yellow-bellied Flycatcher	Winter Wren	Blackpoll Warbler	Pine Grosbeak
Spruce Grouse	Great Black-backed Gull	Alder Flycatcher	Marsh Wren	Black-thr Blue Warbler	Purple Finch
Common Loon	Black Tern	Willow Flycatcher	Golden-crown Kinglet	Palm Warbler	House Finch
Pied-billed Grebe	Common Tern	Least Flycatcher	Ruby-crown Kinglet	Pine Warbler	Red Crossbill
Double-crest Cormorant	Rock Pigeon	Eastern Phoebe	Eastern Bluebird	Yellow-rumped Warbler	White-winged Crossbill
American Bittern	Mourning Dove	Gr Crested Flycatcher	Veery	Black-thr Green Warbler	Pine Siskin
Great Blue Heron	Yellow-billed Cuckoo	Eastern Kingbird	Swainson's Thrush	Canada Warbler	American Goldfinch
Green Heron	Black-billed Cuckoo	Blue-headed Vireo	Hermit Thrush	Wilson's Warbler	Evening Grosbeak
Turkey Vulture ☞	Eastern Screech-Owl	Warbling Vireo	Wood Thrush	Chipping Sparrow	House Sparrow
			American Robin		

Based on Environment Canada's calendar for specific "nesting zones" across Canada, the proposed project area is located within "Nesting Zone 3" which identifies the April 1 to August 31 period as a sensitive nesting period for the area (see the table below).



If yes, please name the species here and describe the nature of the potential impact:

The following potential impacts between migratory birds and the proposed site activities have been anticipated (proposed mitigative actions are presented below).

Potential Impacts during Construction Phase

- Clearing, grubbing and excavation activities may remove or reduce the quantity and quality of habitat within the immediate area of the proposed project and may result in the temporary displacement of birds;
- Visual impacts from the presence of humans in the area, as well as vehicles and construction equipment, may cause disruption of sensitive bird activity such as breeding and/or feeding; and,
- Improper waste management has the potential to attract scavenging wildlife and birds.

Mitigative measures proposed during the construction phase;

- Where possible, vegetation will be preserved to maintain bird habitat;

- Workers will adhere to the Environment Canada's Migratory Birds Convention Act, 1994 (MBCA) and the Migratory Birds Regulations (MBR);
- Clearing (trees and shrubs) shall not be undertaken between April 1 and August 31 without consultation with a bird specialist or Environment Canada, to minimize impacts to Migratory Birds;
- No one shall disturb, move or destroy migratory bird nests. If a nest or young birds are encountered, the contractor shall cease work in the immediate area of the nest and contact a bird specialist or Environment Canada. A 20 m buffer zone will be flagged around identified active nests and work in the area may be delayed until after the birds have fledged;
- Vehicles and equipment will be properly muffled and maintained according to noise suppression standards;
- To minimize disruptions with bird activity at night, the project construction activities will be limited to daylight hours. If construction is required at night or during twilight hours, lighting will be shielded to shine downwards to minimize the impacts to birds and bats; and,
- To minimize attraction of scavenging wildlife and birds to the site, work areas shall be kept clean of food scraps and garbage will be removed from the site daily.

Potential Impacts during Operational Phase

It is not anticipated that operations of the proposed WWTF will result in a negative impact to migratory birds as there were no site specific sensitive habitat features identified within the proposed project area and activities are expected to be similar in nature to the current site activities.

Potential Impacts due to Accidents, Malfunctions and Unplanned Events

During all phases of a project there is a potential for accidents to occur, and some have the potential to impact the local environment. The following accidents and unplanned events are more likely to impact environment and have been considered:

- Chemical and fuel spills – petroleum hydrocarbons and some chemicals have the potential to kill vegetation, resulting in a loss of habitat or food sources.
- Fires – Fire may result in a loss of vegetation which has the potential to impact important riparian areas, food sources and nesting habitats.

Mitigative measures proposed to avoid "Accidents, Malfunctions and Unplanned Events"

- An Emergency Response Plan (ERP) will be completed and the contractor will be required to provide spill response training to construction personnel;
- All operators will be trained in spill response procedures and the following number will be posted in a prominent location: 1-800-565-1633 as the number to call for report spills and environmental emergencies;
- To avoid/minimize potential hazardous materials spills, spill response kits will be available within the proposed project area;
- Any spills or leaks that occur will be reported to the appropriate regulatory authorities, if applicable, as soon as possible;
- Remedial action, or engineered controls, for any spills or leaks that occur will be completed;
- Refueling, oiling, and maintenance of equipment will be completed in specifically designated areas to minimize potential impacts;
- Servicing of equipment will be completed offsite by a licensed mechanic; however if required to be completed onsite the work will be completed over an impervious surface or trap;
- Rubbish and waste materials will be kept at minimum quantities and burning of this material will be prohibited;
- Oily rags will be stored in approved receptacles and disposed of at approved waste facilities.

- Chemical and petroleum hydrocarbons will be stored in appropriate containers and in specifically designated areas to reduce potential for leaks. Where applicable, secondary containment of chemicals or petroleum hydrocarbons will be employed; and,
- Work entailing use of toxic or hazardous materials, chemicals, or otherwise creating hazard to life, safety of health, will be conducted in accordance with National Fire Code of Canada to minimize the potential for spills or fires.

C) **Migratory Birds** (or eggs or nests) likely to be captured or killed? Yes No Unknown
If yes please describe circumstances and rationale here: See above for mitigation on timing windows

D) **Fish or Fish Habitat** that could be impacted by the project? Yes No Unknown
Fish defined [Section 2 of the Fisheries Act](#) **Fish Habitat** defined [Subsection 34\(1\) of the Fisheries Act](#)

If yes, please describe the nature of the potential impact:

The proposed project includes elements that will extend into the Saint John River, refer to the attached Figure, and Indian Brook is located approximately 10 m east of the proposed project area. As such, potential exists for fish and fish habitat in the water courses to be impacted by some of the proposed activities for the subject site.

The current WWTF discharges effluent to Indian Brook (including during periods of low flow) that does not consistently meet the regulatory requirements. This has resulted in algae growth which has influenced fish habitat within the brook. Proposed improvements to the WWTF will improve the quality of effluent by meeting discharge limits set by regulation at the end of pipe, and will remove any further contribution to Indian Brook. Impacts on the natural environment are anticipated to be reduced following implementation of the proposed upgrades to the facility.

The new effluent pipe is proposed to be installed utilizing horizontal directional drilling methods to minimize fish and fish habitat impacts as well as ground disturbance in and adjacent to the Saint John River. Erosion and sediment control measures will also be implemented at both the Saint John River and Indian Brook throughout the construction phase.

The following potential impacts between fish/fish habitat and the proposed site activities have been anticipated (proposed mitigative actions are presented below).

Potential Impacts during Construction Phase

- Increased sediment loading in the watercourse(s) resulting from construction and ground breaking activities at the proposed project area;

Mitigative measures proposed for during the construction phase;

- A sediment erosion control plan will be developed and implemented prior to commencing construction activities;
- Appropriate erosion and sediment control measures will be designed and implemented to manage surface water drainage (i.e., check dams, off take ditches, ditching);

- Construction activities within 30 m of a watercourse will be carried out in accordance with a Watercourse and Wetland Alteration (WAWA) Permit as issued under the NB Clean Water Act. Work will be conducted between June 1 and September 30 unless otherwise authorized by NBDELG;
- Ground disturbance will be minimized to reduce the potential for erosion and sedimentation of the watercourse;
- Where possible, natural vegetation (especially adjacent to the watercourses) will be preserved;
- Trees will be felled away from the watercourse during clearing activities;
- All stock piled materials will be kept at a minimum of 30 m away from the watercourses;
- Vehicles shall not be washed out where wash water could enter a watercourse;
- Prior to heavy rainfall events sediment control measures will be checked to ensure they are continuing to operate properly;
- Refueling, oiling, and maintenance of equipment will be completed in specifically designated areas at least 30 m from the Saint John River and Indian Brook; and,
- Servicing of equipment will be completed offsite by a licensed mechanic; however if required to be completed onsite the work will be completed over an impervious surface or trap.

Potential Impacts during Operational Phase

It is not anticipated that operations of the proposed WWTF will result in a negative impact to fish and fish habitat as activities are expected to be similar in nature to the current site activities.

Potential Impacts due to Accidents, Malfunctions and Unplanned Events

During all phases of a project there is a potential for accidents to occur, and some have the potential to impact the local environment. The following accidents and unplanned events are more likely to impact the environment and have been considered:

- Chemical and fuel spills – petroleum hydrocarbons and some chemicals have the potential to impact the aquatic environment resulting in a loss of fish, habitat or food sources.

Mitigative measures proposed to avoid “Accidents, Malfunctions and Unplanned Events”

- An emergency response plan will be completed and the contractor will be required to provide spill response training to construction personnel;
- All operators will be trained in spill response procedures and the following number will be posted in a prominent location: 1-800-565-1633 as the number to call for report spills and environmental emergencies;
- Prior to commencing construction the contractor will be required to ensure that spill response equipment is readily available onsite and each piece of machinery is equipped with a spill response kit;
- Refueling, oiling, and maintenance of equipment will be completed in specifically designated areas and 30m from any watercourse or wetland habitat;
- Servicing of equipment will be completed offsite by a licensed mechanic; however if required to be completed onsite the work will be completed over an impervious surface or trap;
- A spill response kit will be located onsite while the WWTF is operational;
- All site personnel will be trained in spill response procedures.
- The proposed treatment system is designed to handle flow increases and peak flow events (e.g. 7-9am, 4-6pm, etc). During these periods, the lagoon will act as a buffer system, raising/lowering and allowing downstream equipment (e.g. disinfection) to function as designed. During extremely high flows that may exceed this amount, the wastewater will become diluted and alarms will be announced to the operators. In the event of equipment failure, alarms and backup procedures will be implemented.

- Proper labeling of chemical storage containers will be completed and appropriate MSDS will be stored onsite;
- Any spills or leaks that occur will be reported to the appropriate regulatory authorities, if applicable, as soon as possible; and,
- Remedial action, or engineered controls, for any spills or leaks that occur will be completed.
-

Are there potentially any plant species at risk on the site?

The Atlantic Canada Conservation Data Center (ACDC) identifies 42 priority plant species (i.e., S1 (extremely rare) to S3 (uncommon) within 5 km of the proposed project area, of those listed, none were identified within the immediate area.

For more information visit: http://www.sararegistry.gc.ca/default_e.cfm

Section D: Aboriginal Traditional/Cultural Uses:

- A) Are there any Cultural, Historical or Archaeological sites /areas within or near the project area?** **Yes** **No** **Unknown**

If Yes, please describe:

There are no known cultural, historical or archaeological sites within the proposed project area; however, the Saint John River is known to be historically and culturally significant to the KFN community. In addition, the proposed project is located within 80m of the Saint John River and this zone is typically recognized as having elevated potential for historical and cultural significance. During the construction phase of the proposed project ground breaking activities are anticipated and the potential exists for items of historical and cultural significance to be encountered.

The following mitigative measures are proposed for the construction phase to reduce the potential risk of impacting items of historical and cultural significance if encountered;

- Construction crews will be made aware of the potential for archaeological resources within the construction area;
- If a cultural, historical or archaeological item/site is unearthed, work in the area will cease immediately and the Chief of KFN, as well as the Archaeological Services New Brunswick (ASNB) will be contacted at (506) 453-3014 for further mitigation.
 - Until a qualified archaeologist arrives at the scene, no one shall disturb, move or rebury any uncovered artifact.
 - Construction at the site may resume only when authorized by ASNB and the Chief of KFN, upon application of mitigative measures.

- B) Are there any Traditional use areas within or near the project area?** **Yes** **No** **Unknown**

If Yes, please describe: Describe Here (e.g., hunting, fishing, trapping, gathering, etc)

The Saint John River, Indian Brook and the waterfront/riparian areas have been identified as locations currently utilized by the community for recreational activities, hunting, fishing and gathering purposes.

Traditionally, Indian Brook has been used by community members for fishing; however, significant algae growth has impacted this activity. Proposed upgrades to the WWTF are anticipated to improve the effluent by removing discharge to Indian Brook. It is expected that fish habitat and fish populations will improve in Indian Brook following the commissioning of the proposed WWTF.

Section E: Aboriginal Consultation and Public Participation:

Are there potential off-reserve impacts?

Yes

No

If yes, do you plan on engaging potentially affected aboriginal groups and/or the public?

Yes Enter start date here

No

The community will be advised of the project through notification in the weekly newsletter which is readily available at the Band Office. As well, a poster will be provided to the convenience store. Community members will be provided with a name and number to contact if they have any concerns or questions. These notifications will be made prior to initiation of the pre-load activities.

NB Power will also be advised of the project prior to the pre-load activities and welcomed to contact the Chief and Council should concerns be identified.

Signage will also be placed at the shoreline to advise of construction activities to make any users of the river in that location aware of the construction activities and to indicate contact information.

Section F: Comments and Other Information:

Additional Comments:

The existing WWTF servicing the KFN community is nearing the end of its life cycle and is unable to effectively disinfect system effluent (to within applicable discharge limits required by CCME). Effluent is currently discharged to Indian Brook, a watercourse which has specific spiritual and traditional importance to the community. The current discharge represents a possible health risk to the community. The discharge into Indian Brook has also influenced the watercourse's fish population and habitat.

The proposed new WWTF is being designed to be able to meet the current and future demands of the community.

The construction phase of the proposed project is expected to commence in summer 2016 and will last for 6-10 months. It is expected that the project will result in 5-15 additional jobs for a portion or the duration of the construction phase. Where possible, these positions will be filled with KFN community members.

In conclusion, the proposed project is expected to result in a new positive impact on the community and natural environment.

Section G: Contact Information:

Please give First Nation contact if different from proponent:

First Nation: Kingsclear First Nation
Contact name: Chief Gabriel Atwin
Role/Position: Chief
First Nation
Address: 77 French Village Road, Fredericton, NB E3E 1K3
Telephone No. 506-363-3028 Fax No.506-363-4324
Email address: gabrielatwin@kingsclear.ca

Please enter an alternate contact if available

Other Contact: Dillon Consulting Limited
Contact name: Ryan Dunbar
Role/Position: Project Manager
Contact Address: 1149 Smythe Street (Suite 200) E3B 3H4
Telephone No. 506-444-8820 Fax No. 5064448821
Email address: rdunbar@dillon.ca

Section I: TO BE COMPLETED BY AANDC ENVIRONMENT OFFICIALS ONLY

Environment Officer Recommendation:

1. Is this a designated project under CEAA 2012? **Yes** *Choose authority* **No**
2. Is this a "Project" under AANDC Environmental Management Approach? **Yes** **No**
3. What is the Level of environmental review required: **Choose level**
4. Are there standard mitigation measures that will adequately address environmental impacts?
 Yes **No**

If yes, please list here: Describe safeguards prescribed to the proponent in relation to the project.

5. Will there be reporting expected of the proponent? **Yes** **No**

If Yes, list here: List reporting, or insert CIDM Document number of Terms of Reference.

6. Will this project require land tenure? **Yes Choose an item.** **No**
7. Will any other legal instrument(s) be required? **Yes Describe instrument required** **No**
8. Will an expert department be engaged? **Yes List Depts to be consulted.** **No**
9. Is Aboriginal Consultation required/recommended? **Yes** **No**

AANDC Project Description Form

10. Is public consultation/participation recommended? Yes No

11. Are there any obligations within the applicable treaty concerning environmental reviews? Yes No

Describe any environmental review obligations here

Comments: *Enter any additional comments you consider warranted here including any rationale for selections in questions 1 through 8 above.*

EO's Name		enter date
Environment Officer	Signature	Date

Responsible Manager:

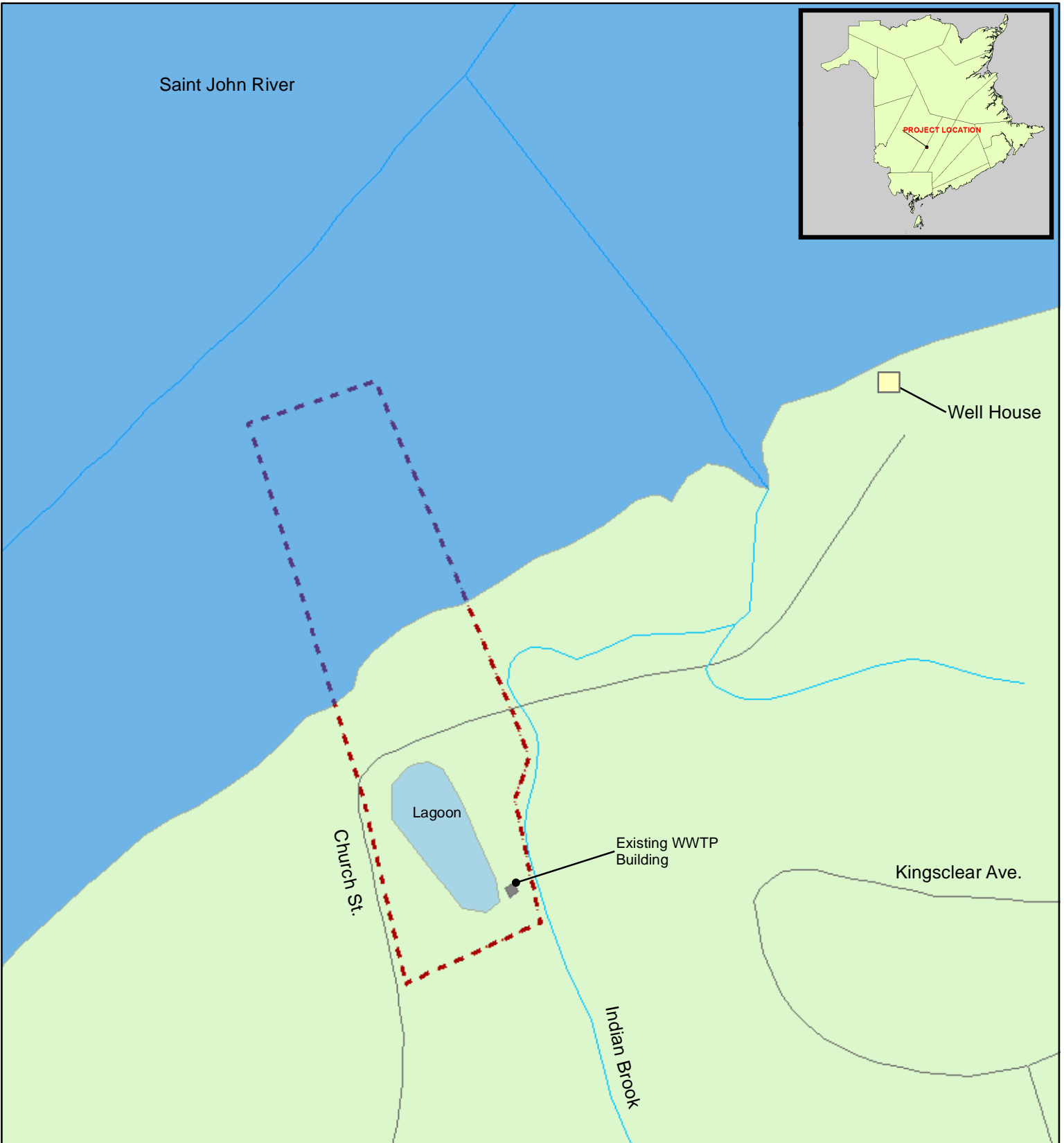
Comments: *Enter any additional comments you consider warranted here.*

Manager Name		enter date
RCM	Signature	Date

Responsible Director (only required for DETAILED reviews):

Comments: *Enter any additional comments you consider warranted here.*

Manager Name		enter date
RCM	Signature	Date



**Kingsclear First Nation
Wastewater Treatment Facility
Upgrades Project**

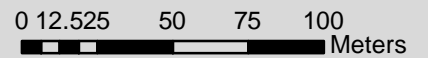
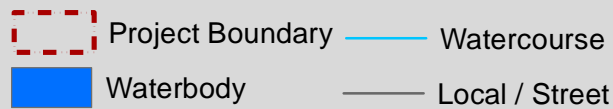


Figure 1 - Site Location

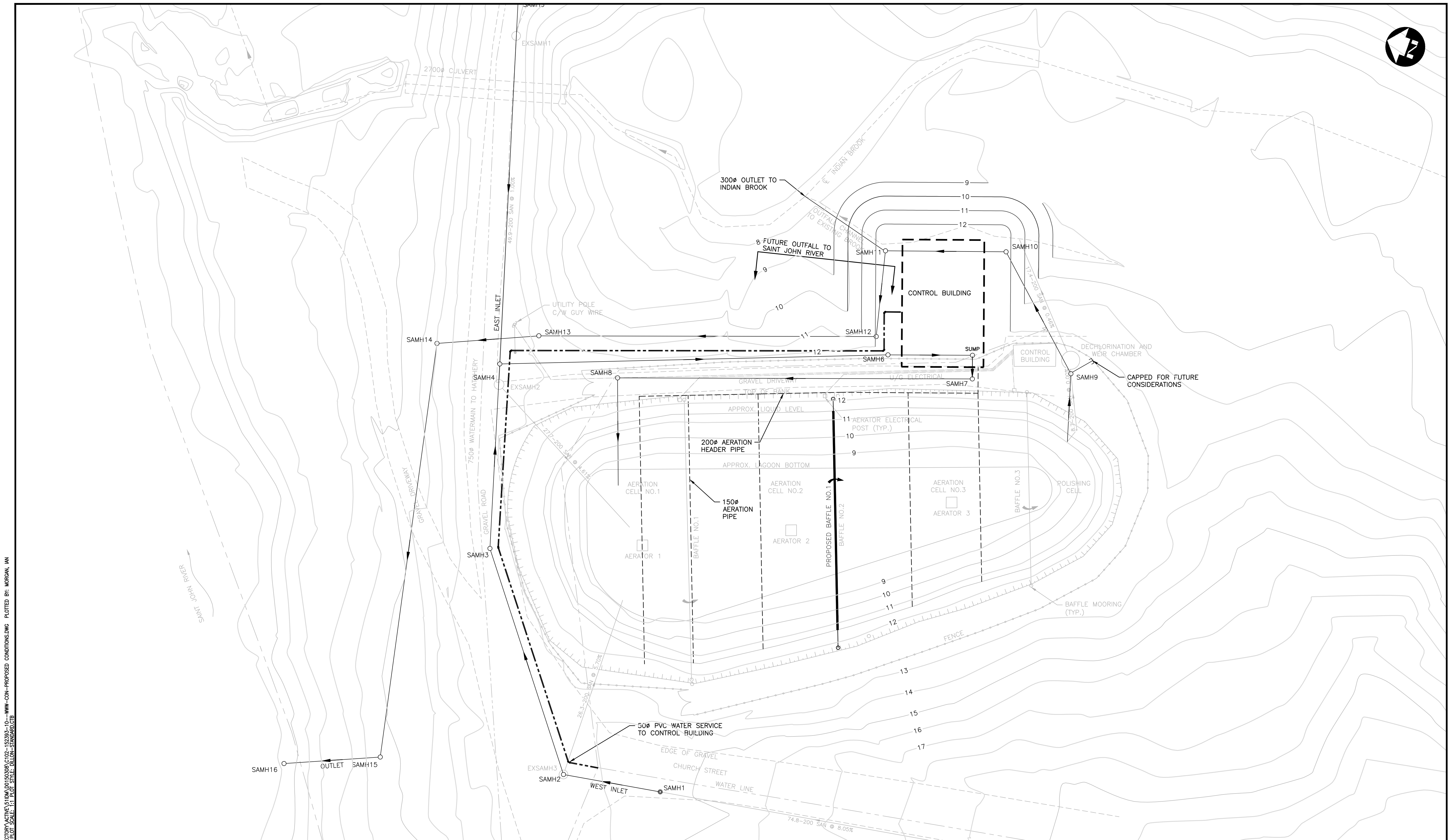


MAP CREATED BY: RMD
MAP CHECKED BY: RCD
MAP PROJECTION: NAD 1983 CSRS

FILE LOCATION: G:\CAD\GIS\152393

1:2,500

PROJECT: 15-2393 STATUS: DRAFT DATE: 02/03/2016



FILENAME: C:\PROJECTS\WORKING\DIRECTOR\ACTIVE\110M\0150308\CI02-152393-10-11-11-CON-PROPOSED CONDITIONS.DWG PLOTTED BY: MORGAN, AN
 PLOT DATE: 2016-03-15 @ 1:38:37 PM PLOT SCALE: 1:1 PLOT STYLE: DILLON-STANDARD.CTB

Conditions of Use
 Verify elevations and/or dimensions on drawing prior to use.
 Report any discrepancies to Dillon Consulting Limited.
 Do not scale dimensions from drawing.
 Do not modify drawing, re-use it, or use it for purposes other than those intended at the time of its preparation without prior written permission from Dillon Consulting Limited.

FOR REVIEW



DESIGN	K.R.M.	REVIEWED BY	G.T.G.
DRAWN	D.B.C./I.D.M.	CHECKED BY	K.R.M.
DATE	DECEMBER 2015		
SCALE	1:250		
2	TENDER REVIEW	2016/03/31	G.T.G.
1	REVIEW	2015/12/18	G.T.G.
No.	ISSUED FOR	DATE	BY

KINGSCLEAR FIRST NATION WASTEWATER TREATMENT FACILITY		PROJECT NO. 15-2393
PROPOSED SITE PLAN		SHEET NO. 2