Fishway Reconstruction
Indian River, Springdale, NL
Environmental Registration Document

Submitted to the Government of Newfoundland and Labrador
Department of Environment, Climate Change and
Municipalities
Environmental Assessment Division

Prepared For:	**Fisheries and Oceans Canada** **Real Property, Safety and Security Area**
Prepared By:	**Public Services and Procurement Canada**
Date:	**February 17, 2021**

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1.0 NAME OF UNDERTAKING:

Fishway Reconstruction, Indian River, Springdale, NL

2.0 PROPONENT:

(i) Department of Fisheries and Oceans Canada
Real Property, Safety and Security Branch (DFO-RPSS)

(ii) Northeast Atlantic Fisheries Center, 80 East White Hills Road
St. John's, NL A1C
5X1

(iii) Bruce Downer
Project Manager
DFO, Real Property Safety and Security
80 East White Hills Road
St. John's, NL
A1C 5X1
Phone: (709) 772-4959
E-mail: bruce.downer@dfo-mpo.gc.ca

(iv) Mark McNeil
Senior Environmental Specialist
Public Services and Procurement Canada
Suite 204, 1 Regent Square
Corner Brook, NL
A2H7K6
Phone: (709) 637-4481
E-mail: mark.mcneil@pwgsc-tpsgc.gc.ca

3.0 THE UNDERTAKING:

3.1 Nature of the Undertaking:

The proposed undertaking represents the reconstruction of the pool and weir fishway in Indian River, Springdale, Newfoundland and Labrador.

3.2 Purpose/Rationale/Need for the Undertaking:

The existing pool and weir fishway located in Indian River, Spingdale, NL is in a state of disrepair and requires replacement. Replacement of the existing fishway will restore/enhance the safe and continued passage of fish.

4.0 DESCRIPTION OF THE UNDERTAKING:

4.1 Geographical Location:

The proposed project site is located at the RPSS site near Springdale on the Indian River, NL. The project site can be accessed via wooden/gravel landscape steps from the adjacent George Huxter Memorial Park, which is located on Route 390 approximately 10 km east of Springdale, NL. The approximate coordinates of the project site are 49° 30' 47" N and 56° 06' 43" W.

4.2 Physical Features:

Indian River is a scheduled Atlantic Salmon river. The project site is located at a waterfall with a relatively large pool of water at the base of the falls and fishway. Substrate consists primarily of exposed bedrock and large boulder at the project site, surrounded by forest.

The site is located approximately 30 m from the George Huxter Memorial Park located near Springdale, NL. Located in Indian River, it is bounded by green space containing mature trees along steep embankments. Site access is currently provided by wooden stairs along a walking path.

The existing pool and weir fishway is in a state of disrepair and requires replacement. The existing concrete structure will be dewatered, demolished and removed in its entirety. A new pool and weir fishway will be reconstructed in the same footprint as the existing structure.

The new fishway will consist of approximately 10 pools and extend an overall travel distance of approximately 32.94 m with a slope of 10 % (i.e. constant 300 mm drop between successive pools). Pool sizes will measure approximately 2.50 m long by 2.44 m wide. The walls of the new fishway will be approximately 2 m high and 400 millimetres thick. Riprap will be placed along both sides of the new fishway to fill excavated areas between the existing topography and fishway. New deflection walls will also be constructed.

Clearing of uplands and demolition/removal of existing fishway structure will be accomplished with the use of heavy equipment such as excavators, loaders and dump trucks. The removal of rock from the project site will also be required to facilitate the installation of the new fishway. This will involve the use of heavy equipment and potentially explosives. Temporary dewatering devices and structures will be utilized during demolition and construction activities. Concrete for the new fishway and associated structures will be poured on-site. If construction is required to be maintained throughout the salmon migration period (approx June - Sept), it is proposed to implement a fish relocation plan in consultation with DFO Fisheries Protection Plan.

The proposed project is a reconstruction of an already existing structure; therefore alternative locations were not considered.

Physical and Biological Environment

Indian River is a scheduled Atlantic Salmon River. The project site is located at a waterfall with a relatively large pool of water at the base of the falls and fishway. The river is bounded by green space containing mature trees along steep embankments. Substrate consists primarily of exposed bedrock and large boulder.

The project site is located within the northcentral sub region of the Central Newfoundland forest ecoregion. The northcentral sub regions forests are generally boreal, and its climate continental. On average, this ecoregion has the highest summer and lowest winter temperatures on the Island. The terrain is gently rolling, with hills ranging from 150 metres above sea level in the northeast to 200 metres in the south and west. Bogs are a common landscape feature, but are different from those in neighbouring ecoregions because some plates, such as dwarf huckleberry and black huckleberry, are absent. As elsewhere in the Central Newfoundland Forest, domed bogs are the most common bog type.

The underlying rock formations of the North-central sub region belong to four geologic zones, giving it the most diverse geology in the province. A few distinctive plant-growth patterns occur in the Central Newfoundland Forest ecoregion. For example, this is the only area on the Island where, on well-drained hilly sites, black spruce replaces balsam fir after a fire. The soil in these locations contains some of the lowest levels of humus – or organic material – on the island. Black spruce grows especially well in dry, nutrient-poor soils like these.

As is typical of boreal forests, many of the animal species in habiting the North-Central sub region are adapted to long, cold winters and short, warm summers. Moose, snowshoe hare, muskrat, otter, mink, black bear, beaver, and lynx – species that also live in similar habitat elsewhere on the island – occur throughout this sub region.

Fish in the region include Atlantic salmon, brook trout, brown trout, American eel, and three-spine and nine-spine sticklebacks. There is one amphibian – low numbers of the green frog – and no reptiles in this ecoregion.

A search of the Atlantic Canada Conservation Data Centre (ACCDC) database was conducted on January 20, 2021. The ACCDC provided a list of rare/unique species (i.e. plants and animals) within a 5 km buffer zone (standard ACCDC procedure) of the site. All species were cross-referenced with Schedule 1 of the Species at Risk Act (SARA) listed as extirpated, endangered, threatened, or special concern; no species were identified.

4.3 Construction:

Commencement of this project is subject to DFO-RPSS operational priorities and funding. Replacement of the fishway is expected to require 6 months to complete. Site preparation may commence in September 2021 with in-water work commencing early October 2021.

Construction activities will include:

- Demolition, removal and reconstruction of the existing fishway structure. This will be accomplished using hand-held equipment (e.g. pneumatic jackhammers, sledge hammers, etc) and possibly machine mounted equipment (e.g pneumatic hammer). Demolished materials will removed from the site using a combination of manual labour and heavy equipment and transported to an approved waste disposal location (e.g. regional landfill) for disposal. If necessary, temporary dewatering devices and structures such as cofferdams may be utilized to allow for safe demolition and removal of the structure. The new fishway is very similar in design to the existing fishway and will be constructed in the same footprint. Again, temporary dewatering devices and structures such as cofferdams may utilized to allow for the placement of the new structure. Concrete for the new fishway and associated structures will be poured on-site. Where necessary, the fishway will be anchored to bedrock using drilling and bolts. Riprap will be placed along each side of the fishway likely using heavy equipment such as an excavator.
- Clearing and widening of existing uplands access to accommodate equipment access will be required. Trees will be cut down using chainsaws and associated equipment. Disturbances to surrounding vegetation is anticipated to be minimal. Only trees requiring removal to safely access the site will be removed. The existing embankment may require grading in order to provide safe access. The existing parking area will be utilized for a lay-down area. Post-construction, the widened access area will be landscaped and re-vegetated and a new wooden/gravel pedestrian access reinstated.
- Currently, construction is scheduled to be completed outside of the fish migration window (June 1 – September 30). If construction is required to be maintained throughout the salmon migration period a fish relocation plan will be developed and implemented, in consultation with DFO Fisheries Protection Program.
- Equipment and tools will be transported to the project site using local roads and access.
- Waste material will be transported from the project site and disposed of at an approved waste disposal location

The most probable sources of potential pollutants are related to the use of equipment. Accidental spills of equipment fuel/oil, sedimentation from disturbances to riparian area and establishment of laydown area are also a possibility. The project will be assessed pursuant to Section 67 of the Canadian Environmental Assessment Act (2012) or Section 82 of the Impact Assessment Act. All mitigations prescribed as part of that process will be

implemented during project activities. The following mitigation measures will also be utilized to minimize potential interactions with the environment:

Fish / Fish Habitat and Water

- Fisheries and Oceans Canada, Fisheries Protection Program have reviewed the project and issued a letter on June 18, 2019 (File No 19-HNFL-00117) outlining mitigation measures for the protection of fish and fish habitat.
- All instream work should take place during the appropriate timing window (October 1 – April 30). If this is not possible, a fish relocation plan must be developed and implemented in consultation with DFO Fisheries Protection Program.
- If at any time Atlantic salmon or sea-run trout are observed migrating upstream or downstream, all works must cease until the migration has ended to ensure there are no impacts to fish movement.
- Minimize duration of in-water work.
- Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.
- Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals do not enter the watercourse.
- Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance and keep an emergency spill kit on site.
- Ensure that building material used in the watercourse has been handled and treated in a manner to prevent the release of leaching of substances into the water that may be deleterious to fish.
- Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the waterbody during all phases of the project.
- If there is any run-off of concrete or associated water, it should be directed to a drainage control device such as a settling pond and appropriately managed. No concrete run-off is allowed to enter the water.
- Retain a qualified environmental professional to ensure applicable permits for relocating fish are obtained and to capture any fish trapped within an isolated/enclosed area at the work site and safely relocate them to an appropriate location in the same waters. Fish may need to be relocated again, should flooding occur on the site.
- As this is a scheduled salmon river, if at any time Atlantic salmon or Sea Run trout are observed migration upstream or downstream, all works must cease until the migration has ended to ensure that there are no impacts fish movements.
- Time works such that it does not interfere with the sensitive life stages of the fish species present. Ideally, the work should be carried out during low-flow periods.
- Clearly identify in the field sensitive habitats near the work site that are to be protected.

- If explosives are used, ensure appropriate on-land set-back distance from the waterbody.
- Blasting should be undertaken at the time of least biological activity or biological sensitivity.
- Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
- Remove all blasting debris and other associated equipment/products from the blast area.
- Detonation of small scaring charges set off one minute prior to the main charge to scare fish away from the site.
- Use of noise generators to move fish out of the area.

Birds and Bird Habitat

- The contractor is responsible to ensure a spill kit is on site. Equipment within the spill kit should be adequate for the proposed project. In case of a spill, the contractor should contact Environment Canada at 1-800-563-9089.
- All construction equipment must be fitted with standard and well maintained noise suppression devices. Appropriate dust suppression methods are to be employed when required. Air filters should be used to minimize exhaust emissions.
- Vegetation removal should be kept to a minimum.
- All work to be conducted in accordance with the Migratory Birds Convention Act (MBCA), which outlines that no migratory bird nests or eggs will be moved or obstructed during the construction or operation phase of the project. It is recommended that vegetation clearing not take place during the breeding season until fledglings have left parental territories.
- Migratory birds, their eggs, nests and young are protected under the MBCA.

Soil (surface and subsurface)

- Work should be scheduled to avoid periods of heavy precipitation. Erosion control structures (temporary matting, geotextile filter fabric) are to be used, as appropriate, to prevent erosion runoff or sediment laden water during the construction phase.
- Any exposed soil must be minimized by limiting the area exposed at any one time and by limiting the time that any one area is exposed. All stockpiled soil must be covered and/or dyked to prevent erosion or runoff of sediment-laden water from leaving the site. Whenever possible, exposed soil should be replanted or sodded to ensure soil stabilization.
- All wastes must be recycled where possible or otherwise disposed of appropriately.
- Fill material is to be free of contaminants and from an approved quarry site.
- Machinery must be checked for leakage of lubricants or fuel and must be in good working order. Refueling must be done at least 100 m from any waterbody. Basic petroleum spill cleanup equipment should be on site. All spills or leaks should be promptly contained, cleaned up and reported to the 24 hour environmental emergencies reporting system (1-800-563-9089).

- Containers of petroleum products or chemicals that may be required on site will be tightly sealed against corrosion and rust, and surrounded by an impermeable barrier in a dry, water-tight building or shed with an impermeable floor.
- Waste oils and used lubricating oil will be retained in a tank or closed container and disposed of by a company licensed for handling and disposing of used oil products.
- Mechanical inspections will be conducted routinely on equipment to search for leaks. Leaks will be repaired immediately.

Vegetation

- Disturbed areas will be restored through manual re-seeding.
- Areas that may require extensive grubbing will be stabilized as soon as possible to reduce potential for erosion.
- A vegetated buffer will be maintained between disturbed areas and the river at all times.

Air Quality and Noise

- All construction equipment must be fitted with standard and well maintained noise suppression devices. Appropriate dust suppression methods are to be employed when required. Air filters should be sued to minimize exhaust emissions.

4.4 Operation:

Routine maintenance and repair projects will be carried out on an as- required basis over the estimated thirty (30) year life of the structure.

Reasonably foreseeable pollutants occurring during the operational phase of the proposed project are limited to accidental discharges of fuel. The operation and maintenance of the site will be under the control of Fisheries and Oceans Canada, Real Property Safety and Security Branch. Potential resource conflicts are not anticipated as a result of the operation of the proposed project.

4.5 Occupations:

Reconstruction of the fishway is expected to require 6 months to complete. Commencement of the proposed project is scheduled for September 2021.

The following list outlines occupations which may be employed during the design and construction period. Please note that this list represents only an approximation of the number and type of occupations that may be produced as a result of the proposed project. Actual occupations created as a result of the proposed project will ultimately be determined by the successful contractor. Occupations are expected to be comparable to those created for similar construction projects throughout the Province.

1 - Project Manager – Contractor/Construction
1 - Office Administrator – Contractor/Construction
1 - Project Supervisor/Foreman – Contractor/Construction
1 - OHS Representative – Contractor/Construction
2 - Carpenters – Contractor/Construction
4 - Laborers – Contractor/Construction
1- Helicopter Pilot – Contractor/Construction
1 - Surveyor – Contractor/Construction
2 - Truck Drivers – Contractor/Construction
1 – Equipment Operator – Contractor/Construction
1 - Site Inspector - Construction
1 - Professional Engineer – Entire Project
1 - Engineering Technologist – Construction Design (Engineering)
1 - Office Administrator – Entire Project (Engineering)

5.0 APPROVAL OF THE UNDERTAKING:

The following is a list of the likely permits, licenses and approvals required for this project.

Approvals/Certificates/Permits	Regulatory Authority
NL Environmental Assessment Registration(1)	NL Department of Environment, Climate Change and Municipalities, Environmental Assessment Division
DFO–Request For Review (Serious Harm Determination; Aquatic Species At Risk)(2)	Fisheries and Oceans Canada, Fisheries Protection Program
Permit to Alter a Body of Water(3)	NL Department of Municipal Affairs and Environment, Water Resources Division
Canadian Navigable Waters Protection Act (4)	Transport Canada, Navigation Protection Program

Notes: (1) This document; provincial permits are expected to be issued following release from further environmental assessment.
(2) An application has been made to DFO – Fisheries Protection Program to determine if the Project as described herein would avoid Serious Harm to fish by following standard mitigations. A response was issued on June 18, 2019 under File No 19-HNFL-00117 indicating no Serious Harm.
(3) A Permit was issued on June 14, 2019 under File No ALT10413-2019. This permit

expires on June 14, 2021. A new application will be submitted to the Water Resources Division to renew the previously provided approval.
(4) As per the Canadian Navigable Waters Act (CNWA) for Works on non-scheduled waters, this project was posted to the CNWA Public Registry on November 30, 2020 (Registry # 2502) for 30-days and advertised in The West Coast Wire and La Gaboteur on December 2, 2020 and November 30, 2020 respectively. No comments received.

6.0 ABORIGINAL CONSULTATION:

There are no known indigenous rights or interests at the Indian River RPSS site that could be impacted by the project. As such, aboriginal consultation was not deemed necessary.

7.0 SCHEDULE:

The proposed project is expected to commence in September 2021 and construction would occur over a 6 month period.

8.0 FUNDING:

The total cost estimate for all phases of the proposed project, as provided by the proponent, is approximately $1,375,000 plus HST. Funds will be provided by Real Property, Safety and Security Branch, Fisheries and Oceans Canada.

McNeil, Mark
Digitally signed by: McNeil, Mark
DN: CN = McNeil, Mark C = CA O = GC OU = PWGSC-TPSGC
Date: 2021.02.17 13:36:46 -03'30'

February 17, 2021
Date

Environmental Assessment Representative

APPENDIX A

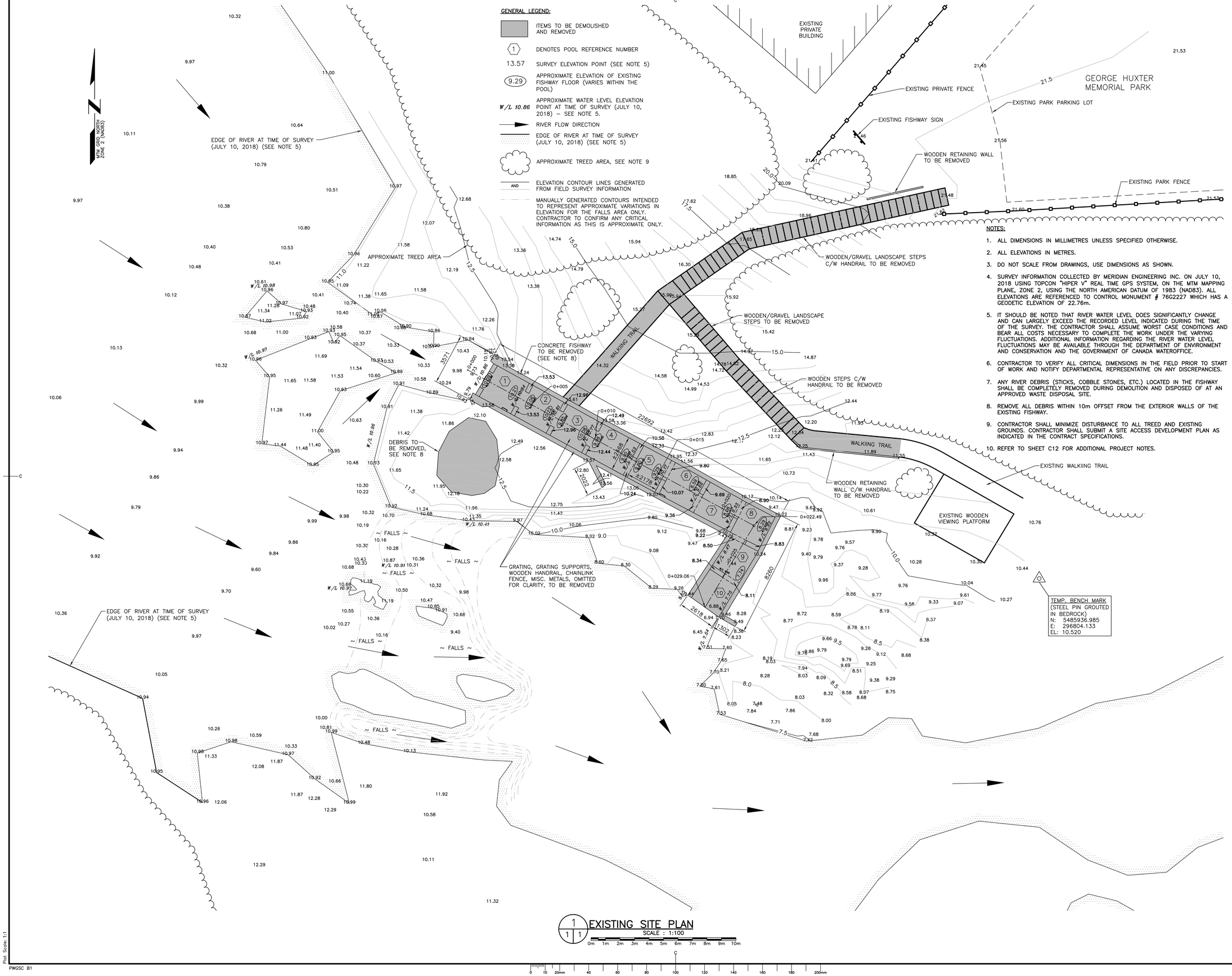
TOPO MAP

SITE PHOTO

SITE PLANS

Figure 1: Topographic Map of Proposed Site Location: Indian River, Springdale, NL

Panoramic of existing structure (Nov 2018). Access to site is available via wooden walkway. Parking area and George Huxter Park are located atop stairs.



NOTES:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS SPECIFIED OTHERWISE.
2. ALL ELEVATIONS IN METRES.
3. DO NOT SCALE FROM DRAWINGS, USE DIMENSIONS AS SHOWN.
4. SURVEY INFORMATION COLLECTED BY MERIDIAN ENGINEERING INC. ON JULY 10, 2018 USING TOPCON "HIPER V" REAL TIME GPS SYSTEM, ON THE MTM MAPPING PLANE, ZONE 2, USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). ALL ELEVATIONS ARE REFERENCED TO CONTROL MONUMENT # 76G2227 WHICH HAS A GEODETIC ELEVATION OF 22.76m.
5. IT SHOULD BE NOTED THAT RIVER WATER LEVEL DOES SIGNIFICANTLY CHANGE AND CAN LARGELY EXCEED THE RECORDED LEVEL INDICATED DURING THE TIME OF THE SURVEY. THE CONTRACTOR SHALL ASSUME WORST CASE CONDITIONS AND BEAR ALL COSTS NECESSARY TO COMPLETE THE WORK UNDER THE VARYING FLUCTUATIONS. ADDITIONAL INFORMATION REGARDING THE RIVER WATER LEVEL FLUCTUATIONS MAY BE AVAILABLE THROUGH THE DEPARTMENT OF ENVIRONMENT AND CONSERVATION AND THE GOVERNMENT OF CANADA WATEROFFICE.
6. CONTRACTOR TO VERIFY ALL CRITICAL DIMENSIONS IN THE FIELD PRIOR TO START OF WORK AND NOTIFY DEPARTMENTAL REPRESENTATIVE ON ANY DISCREPANCIES.
7. ANY RIVER DEBRIS (STICKS, COBBLE STONES, ETC.) LOCATED IN THE FISHWAY SHALL BE COMPLETELY REMOVED DURING DEMOLITION AND DISPOSED OF AT AN APPROVED WASTE DISPOSAL SITE.
8. REMOVE ALL DEBRIS WITHIN 10m OFFSET FROM THE EXTERIOR WALLS OF THE EXISTING FISHWAY.
9. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO ALL TREED AND EXISTING GROUNDS. CONTRACTOR SHALL SUBMIT A SITE ACCESS DEVELOPMENT PLAN AS INDICATED IN THE CONTRACT SPECIFICATIONS.
10. REFER TO SHEET C12 FOR ADDITIONAL PROJECT NOTES.

1 / 1 EXISTING SITE PLAN
SCALE : 1:100
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m
0 10 20mm 40 60 80 100 120 140 160 180 200mm

Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

C	ISSUED FOR 99% REVIEW	22/03/19
B	ISSUED FOR 90% REVIEW	31/01/19
A	ISSUED FOR 50% REVIEW	18/12/18
revisions		date

A detail no. no. du detail
B location drawing no. sur dessin no.
C drawing no. dessin no.

project / projet

FISHWAY RECONSTRUCTION INDIAN RIVER

SPRINGDALE, NL

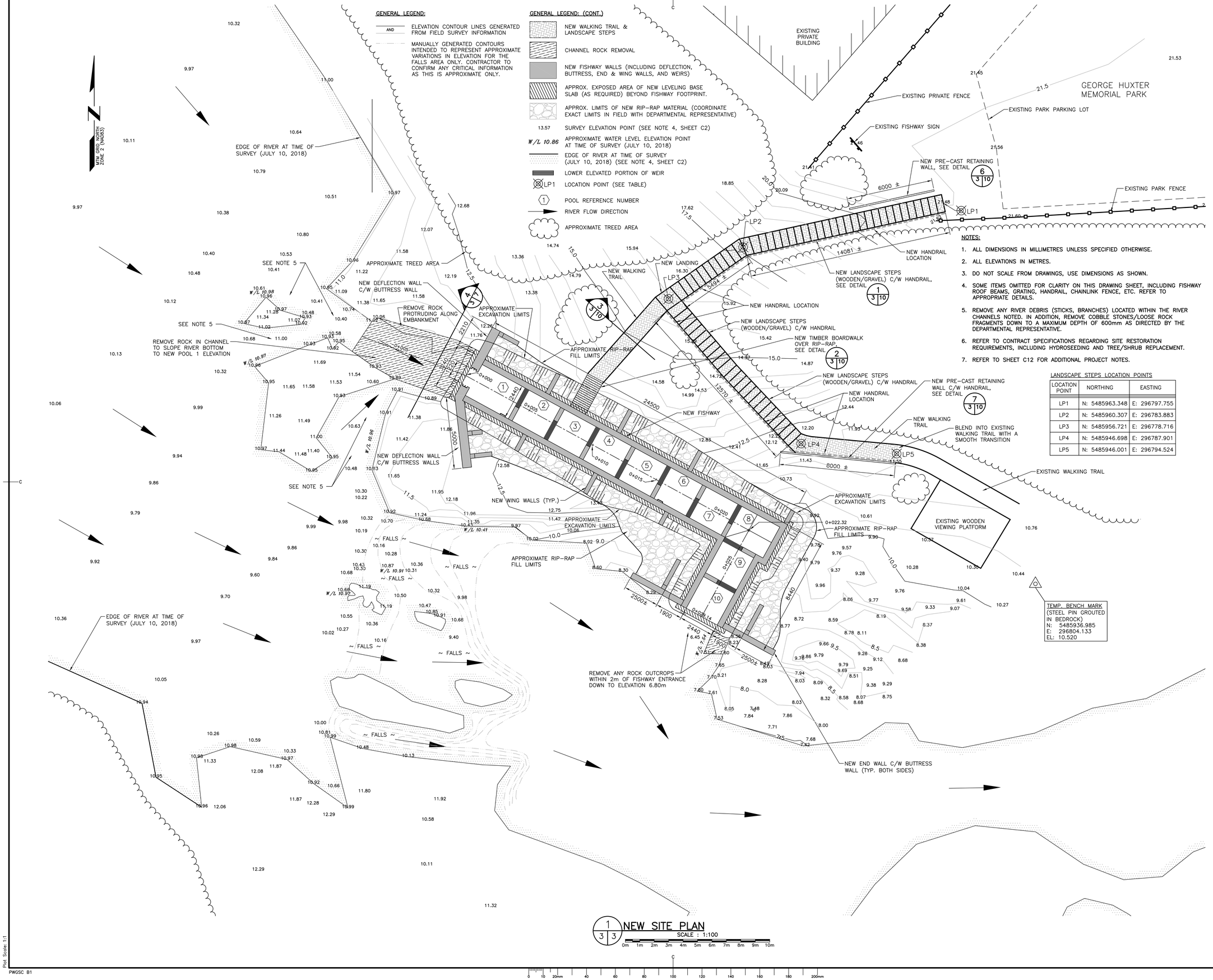
drawing / dessin

EXISTING SITE PLAN WITH DEMOLITION

designed C. FISHER / concu
date SEPTEMBER 2018
drawn R. SNOW, A.DAVIS / dessine
date SEPTEMBER 2018
approved / approuve
date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet
R.090598.001
drawing no. / no. du dessin
C1 OF 12

EDRM #: 552926

Plot Scale: 1:1
PWGSC B1



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revisions		date
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A detail no. no. du detail
B location drawing no. sur dessin no.
C drawing no. dessin no.

project / projet

FISHWAY RECONSTRUCTION INDIAN RIVER

SPRINGDALE, NL

drawing / dessin

NEW SITE PLAN

designed C. FISHER / concu
date OCTOBER 2018
drawn A. DAVIS / dessine
date OCTOBER 2018
approved / approuve
date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
project number / no. du projet
R.090598.001
drawing no. / no. du dessin
C3 OF 12

EDRM #: 552926