

Swift River Energy Generating Station Entrance and Roadway Occupation Permits for Bala Falls

Engineering and Public Works

**Presentation PW-8-2017-10
August 23, 2017**

**Fred W. Jahn, P. Eng.
Commissioner**

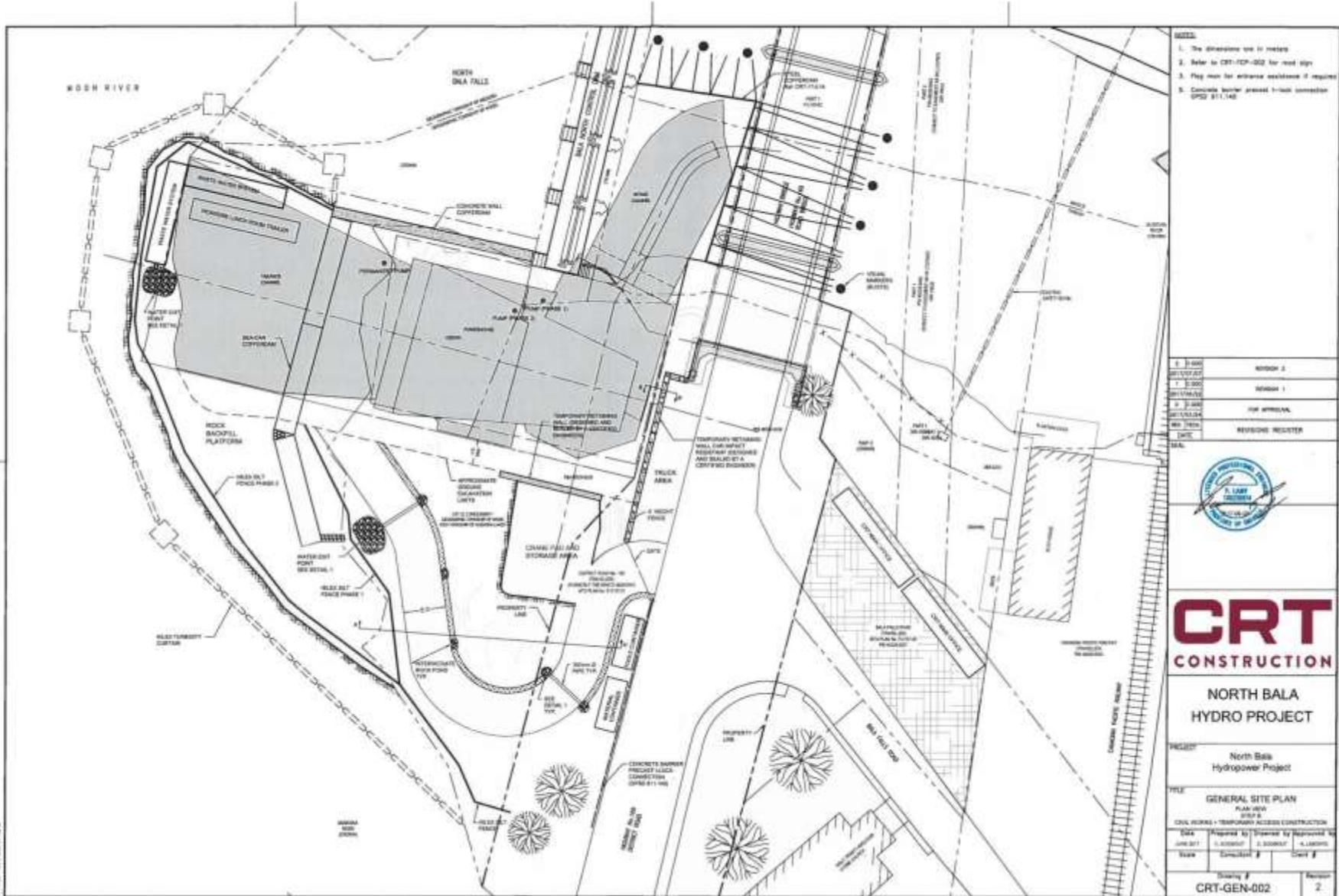


The District's Authority Boundaries

- The District does not have the authority to approve this project
- The District's Authority under By law 87-50 and the *Municipal Act 2001* is restricted to:
 - Entrance Permits
 - Roadway Occupation Permits
 - License of Occupation Permits
 - Traffic considerations
 - Protecting public infrastructure
- Permit conditions were previously established by District Council
- Resolution R9/2015-PW “AND THAT STAFF BE AUTHORIZED to work directly with the applicant to clarify, finalize, and manage the conditions as they relate to the entrance and occupation permits”.
- Staff authority extends to modifying the previous conditions or imposing additional conditions as deemed appropriate to protect public infrastructure and public interests
- Duty to issue permits to applicants without delay if requirements are met

Applicable Permits

- ▶ Temporary Entrance Permit to TML Lands leased to SREL (issued)
- ▶ Permanent Entrance Permit to MNR Lands leased to the SREL (issued)
- ▶ Roadway Occupation Permit– Temporary Road Widening (issued)
- ▶ License of Occupation – Hydro Crossing (to be finalized)



- NOTES:
- The dimensions are in meters
 - Refer to CRT-102-002 for road sign
 - Flag man for advance assistance if required
 - Concrete barrier project 1-hour connection (PER 5-11-140)

0. 0.000	SECTION 2
1. 0.000	SECTION 1
2. 0.000	FOR APPROVAL
3. 0.000	RESUBMIT REGISTER



CRT
CONSTRUCTION

NORTH BALA
HYDRO PROJECT

PROJECT: North Bala
Hydropower Project

TYPE: GENERAL SITE PLAN
PLAN VIEW

CIVIL WORKS - TEMPORARY ACCESS CONSTRUCTION

DATE: Prepared by: Engineer by: Reviewed by:
J. GONZALEZ | C. BODEN | S. J. J. J.

Scale: 1:500 (0.39")
Sheet #: 2



PROJECT: NORTH SALA SMALL WIND PROJECT
 DRAWING NO: 131-13550-BD-C-001
 DATE: 08/20/2014
 SCALE: AS SHOWN
 SHEET NO: 1 OF 1
 PROJECT LOCATION: NORTH SALA, ALASKA
 CLIENT: SWIFT RIVER ENERGY
 DESIGNER: WSP



DESIGNED BY: [Name]
 CHECKED BY: [Name]
 DATE: [Date]

NO.	DATE	DESCRIPTION

**NORTH SALA
 SMALL WIND PROJECT**

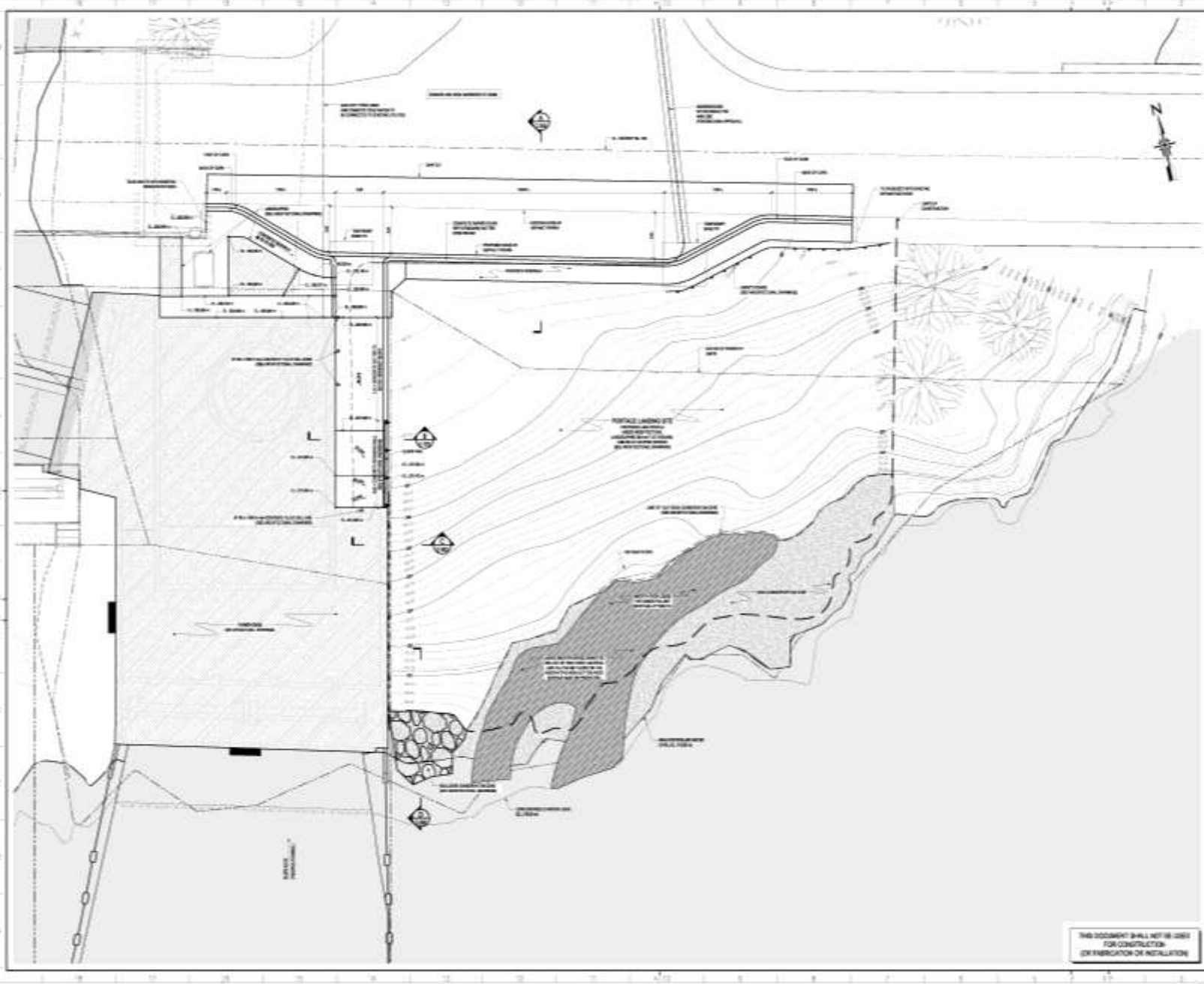


CIVIL
 PROJECT NO: 131-13550-BD-C-001
 SHEET NO: 1 OF 1
 DATE: 08/20/2014

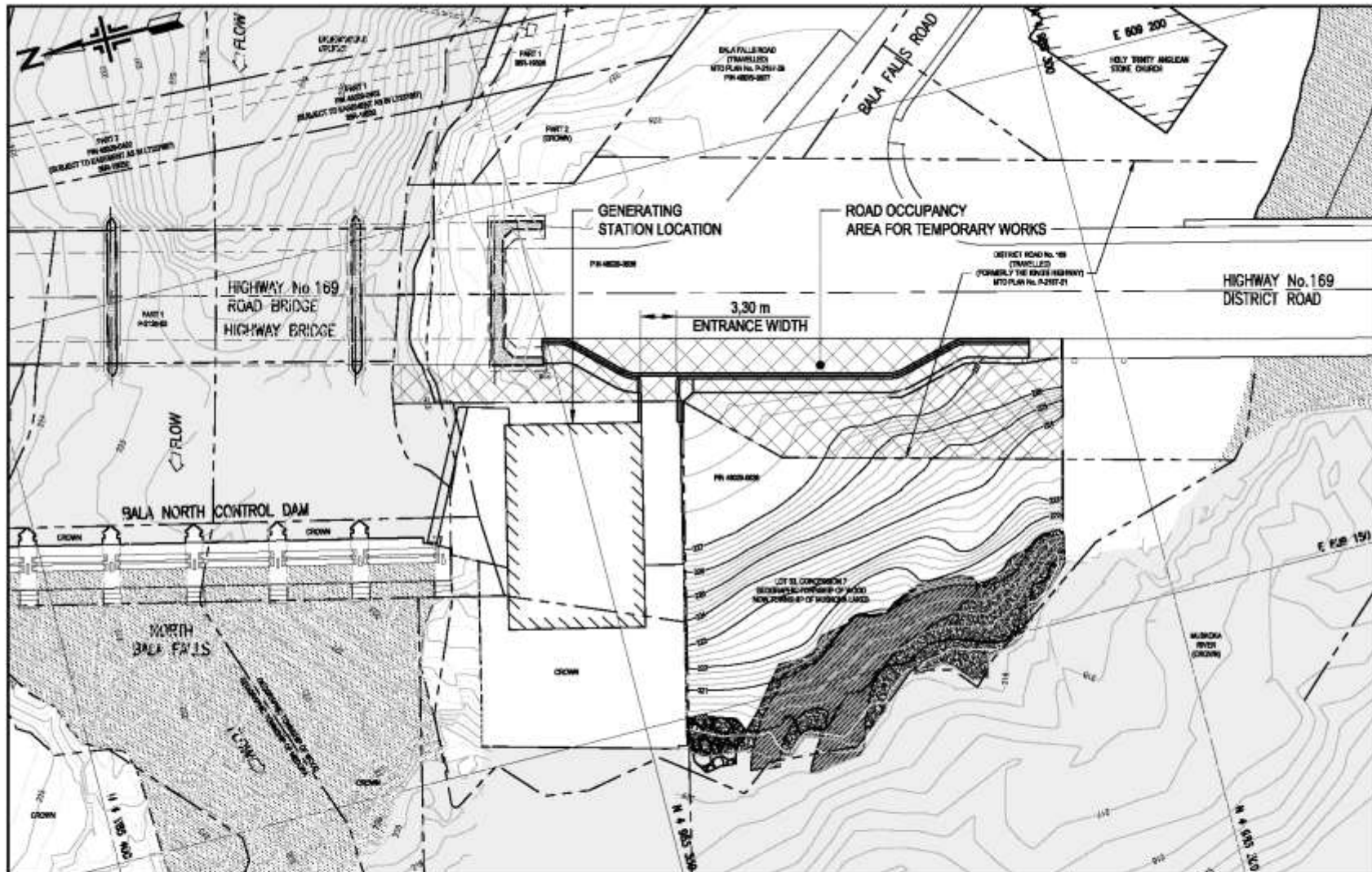
**PERMANENT IMPROVEMENTS
 ACCESS PLAN
 PLAN VIEW**

SCALE: AS SHOWN
 PROJECT NO: 131-13550-BD-C-001
 SHEET NO: 1 OF 1
 DATE: 08/20/2014
 DRAWN BY: [Name]
 CHECKED BY: [Name]

THIS DOCUMENT SHALL NOT BE USED
 FOR CONSTRUCTION
 OR FABRICATION OF INSTALLATION



131-13550-BD-C-001-01.dwg (131-13550-BD-C-001-01.dwg) - 08/20/2014 10:00:00 AM - Page 1



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 TEL: 905-475-1270 | FAX: 905-475-8888 | WWW.WSPGROUP.COM

TITLE:

**NORTH BALA SMALL HYDROPOWER PROJECT-
 LOCATION OF PERMANENT ENTRANCE AND TEMPORARY ROAD OCCUPANCY**

PROJECT NO:

131-13550-00

DATE:

2017-08-16

DRAWING NO:

131-13550-00-X-102

Permit Conditions

Additional permit conditions added to protect public interests

- ▶ Cranes restricted from crossing the highway and sidewalks
- ▶ Lane closures generally avoid peak seasons mid May to mid October and require case by case approvals
- ▶ Traffic management requires flags persons and/or temporary signals
- ▶ Applicant must grant the District access to site for proactive engineering assessment of potential impacts to infrastructure
- ▶ Applicant must act promptly to respond to comments and rectify identified concerns by District staff and consultants
- ▶ Obtain District approval for changes to engineering plans
- ▶ Certified engineering drawings required for all infrastructure prior to the commencement of construction
- ▶ Provide up to \$25K for District engineering consultants
- ▶ District has the ability to amend or revoke permits for breach or violation of conditions

Securities & Insurance

- ▶ Letter of Credit \$2M- applicable during construction period
- ▶ \$10M Wrap up Insurance – from start of construction to 2 years post construction (District is named)
- ▶ \$5M Liability Insurance – effective from construction start to 6 years following commissioning
- ▶ \$50K certified cheque provided to secure restoration of temporary access
- ▶ Financial institutions require engineering oversight

North Bala Bridge - Due Diligence

- ▶ The District has retained R.J. Burnside & Associates , engineering consultants, to review construction plans before and during construction
- ▶ A bridge pre condition assessment has been carried out and agreed to
- ▶ Rock removal at the intake and generating station will be overseen by David F. Wood, P. Eng., - a specialized geotechnical “Rock” Engineer
- ▶ District Vibration Control policy must be followed re blasting and rock removal
- ▶ WSP has provided engineering analysis that flow conditions will not adversely impact the bridge abutments or cause erosion of the embankment
- ▶ MNRF permit condition: “Approval Holder’s Engineer shall provide sufficient protection to bridge piers from construction activity and equipment”
- ▶ Letter of Credit and Insurance provides financial protection
- ▶ Engineering peer review during construction

Vibration Control

- ▶ Intake- rock removal by mechanical hammering
- ▶ Generation Station- rock removal by blasting and mechanical operations
- ▶ District Vibration Control Policy
 - Errors and Omissions liability insurance \$1M
 - Vibration Specialist required
 - Pre-construction survey – adjacent structures
 - OPSS 120
 - Monitoring
 - Vibration Limits specified (less than 50 mm/s)
- ▶ District consultants to peer review process

Cofferdam

- ▶ Approval by MNRF, not District
- ▶ Not on District lands but in close proximity to the bridge
- ▶ Plans revised- cofferdam now downstream of bridge
- ▶ Less potential impacts to bridge than upstream of bridge
- ▶ Management of the watershed is an MNRF responsibility
- ▶ Removal required within 24 hours required if directed by MNRF
- ▶ Removal is required by March 2018 (scheduled for Dec. 2017)

Road Widening

- ▶ Approval granted to establish a work area on the DMM road allowance where the ultimate widening will take place
- ▶ A temporary retaining wall structure will be constructed within the road allowance with vehicle safety barriers to protect the highway platform and motorists (P. Eng. certified)
- ▶ Large vehicle movements will be controlled by flag persons (no lane closures)
- ▶ The permanent widening will not be constructed until after October 15, 2018
- ▶ The permanent widening does not require a retaining wall structure (P. Eng. certified)
- ▶ Temporary and permanent vehicle guard rails and safety barriers will be as per OPSD and be P. Eng. certified.

Memorandum of Understanding (MOU)

- ▶ The MOU addresses the District's future need to repair, rehabilitate or replace the bridge or its components
- ▶ The MOU sets out notification protocols for scheduled and unscheduled infrastructure maintenance for the bridge and for the generating station
- ▶ The District may require an upstream cofferdam which would shutdown the generating station
- ▶ SREL shall not seek reimbursement for losses incurred as a result of a shutdown
- ▶ SREL is required to obtain all permits and approvals as applicable to maintain the generating station

Traffic Management

- ▶ Traffic Management Plan submitted
- ▶ No lane closures from start of construction until after the Bala Cranberry festival
- ▶ Traffic will be managed by flag persons for short duration interruptions to manage equipment flow to and from the work area
- ▶ Short duration stoppages required when blasting takes place
- ▶ Lane closure permitted utilizing temporary signals mid October to mid May with case by case approval
- ▶ Exceptions will be considered where minimal impacts to traffic can be demonstrated (example- at night)

Public Communications

- ▶ District website updates will be provided if required but applicable to District matters only
- ▶ Interagency cooperation (MNRF, MOECC, OPP, TML)
- ▶ SREL River Construction Committee open to the public
- ▶ SREL commitment to respond to complaints within 24 hours
- ▶ SREL encouraged to have public information sessions