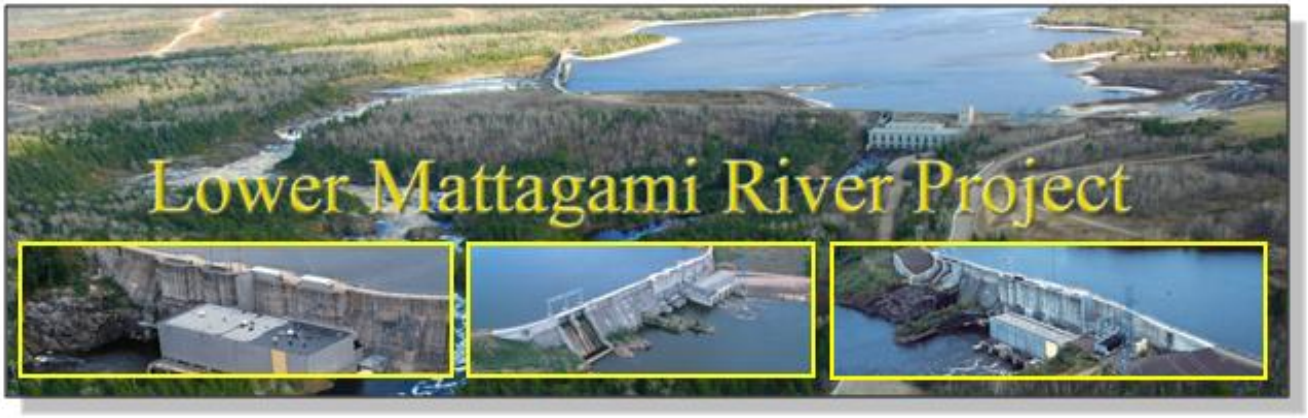
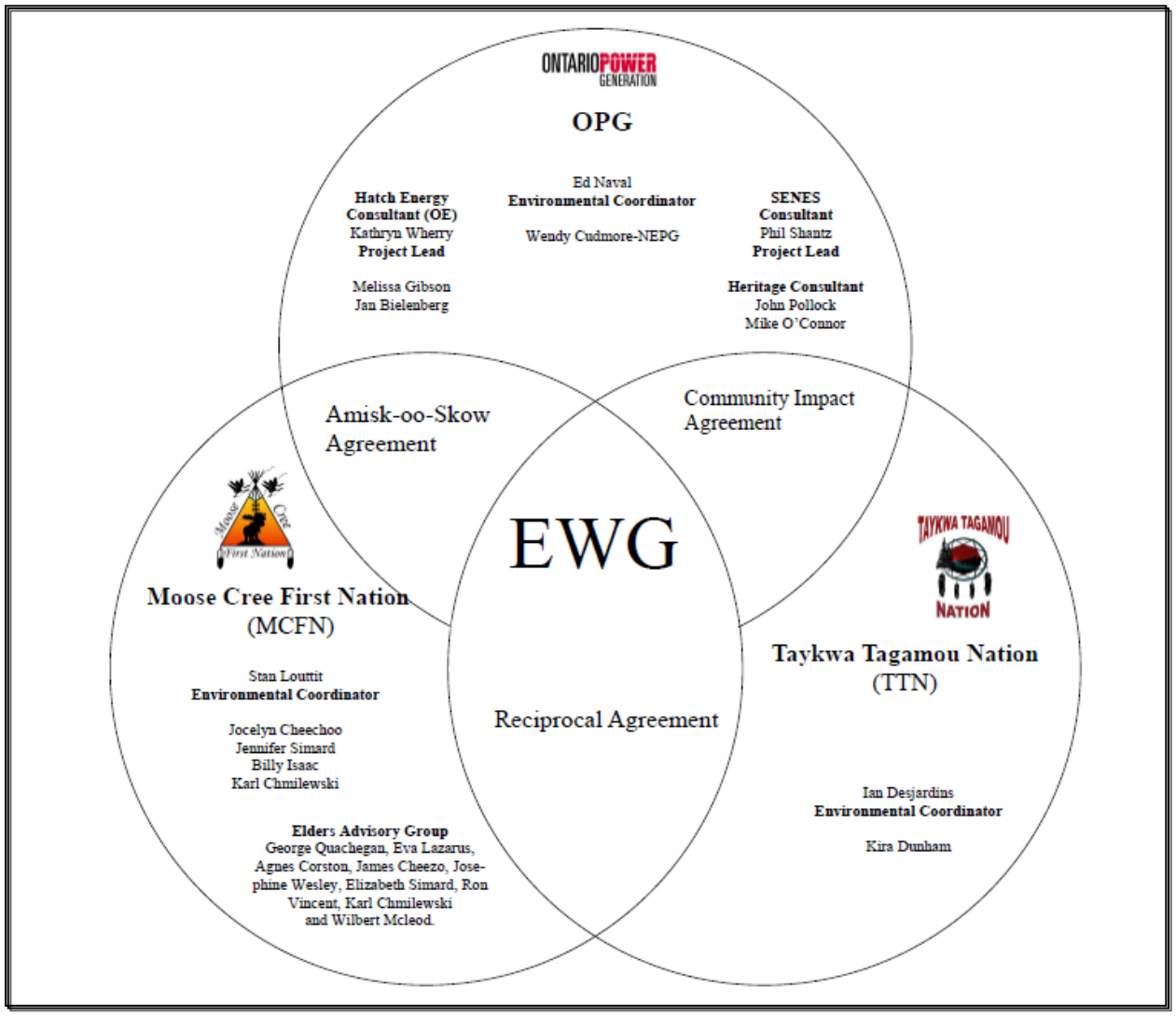


Environmental Working Group

Monthly Report

March 2013

ENVIRONMENTAL WORKING GROUP
Relationship Organizational Chart



- Weekly Environmental Working Group (EWG) and EWG/Kiewit – Alarie, a Partnership (KAP) meetings.
  - The EWG review its Action Items that include priority permit reviews, and deliverables to the Mattagami Extensions Coordinating Committee (MECC).
  - KAP gives EWG a construction up date every week and discusses any upcoming issues and/or urgent permit reviews.
  - Specific items that were discussed are below.
- The EWG held its TEK Monitoring Program Workshop on March 26, 2013. The TEK Monitoring Program Workshop was well attended by Elders and community members from MCFN and TTN, as well as representatives from the Department of Fisheries and Oceans (DFO), Environment Canada (EC), the Ministry of Natural Resources (MNR), OPG, KAP and one MECC member. The TEK Monitoring Program Workshop, which was organised by the First Nation Members of the EWG, was meant to gather input for developing a First Nation based TEK monitoring program. The TEK Monitoring Program Workshop is a follow-up to the previous Environmental Effects Monitoring Workshop (Nov. 2011) and Baseline/TEK Workshop (Nov. 2012).
- The EWG held its second face to face meeting of the year on March 27, 2013. The majority of the discussions were on the results of the TEK Monitoring Program Workshop and the next steps to engaging the MCFN and TTN community members. In addition, Hatch presented figures that depicted water level changes downstream of Kipling Generating Station, and there was also a presentation on the environment work conducted by NEPG.
- The members of the EWG continued their work with KAP to improve the Erosion, Sedimentation Control Plan proposed for the new Kipling Cofferdam.
- Inclusion of a First Nation perspective on the Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek. TTN and MCFN have completed their interviews and continue to look at ways to incorporate the First Nation perspective within the report. MCFN presented summary of the Cost Benefits TEK study to the MECC in October 2012. The First Nations will present a draft report to MECC in June 2013.
- MCFN and TTN members of the EWG hold weekly Traditional Ecological Knowledge (TEK) meetings for the development of a TEK Monitoring Program and discuss how it could work with the OPG Environmental Effects Monitoring Plan to address term and condition 13 - Aboriginal Knowledge.
- Members of the EWG continued their work on the "Peoples of the Moose River Basin" historical text (EA Term and Condition 2c). Several members of the EWG have begun writing portions of the text. A Pre-history piece has now been submitted by John Pollock. The MECC is now hosting the POMRB blog. The writing team has now also given itself a deadline for a first draft by Sept 2013 for review. Members of the team also researched the MNR Map library for assessment of available Cree names maps for inclusion in the book project. The team ran into Freedom of Information issues that now need to be addressed.
- The OPG and Hatch members of the EWG continues to work on collecting additional baseline information and implementing the recommendations to incorporate TEK within the Baseline/monitoring EA Terms and Conditions.
- In an effort to improve the understanding of TEK, members of the EWG have been reading the book by Fikret Berkes, “Sacred Ecology”. There is a discussion during the EWG weekly call to discuss each chapter as reading progresses. As of the end of March, the EWG completed reading “Sacred Ecology” and will be choosing a new book to continue its TEK discussions.

ACTIONS TO BE COMPLETED in 2013

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
EWG Environnemental Due Diligence Audit #3												
EWG present to the MECC the result of its review of the draft "Cost Benefit Analysis of Mitigating and Reducing Adam Creek Spill" (Condition 4(c) and (e) of EA T&Cs) by Hatch.												TBD
EWG present to the MECC "Environmental Effects Monitoring Plan, Lower Mattagami Development" (EA T&C 3, 4b, 5b, 6, 7 and 14).												
EWG present to the MECC the "Erosion Monitoring Plan" (EA T&C 6).												TBD
EWG present to the MECC the results and recommendations of periodic re-evaluations (Condition 10 of EA T&Cs).												TBD
TEK Workshop												
EWG read TEK book 'Sacred Ecology'.												

Completed: Pending: *Additional work still required to fulfill EA Term and Condition

Construction

General

- There were approximately 1,200 people in the camp this month. The permanent camp is at capacity.
- Periodic extreme cold weather slowed work down as KAP was unable to use the tower cranes from time to time throughout the month.

Little Long

- CanAm continues to install superstructure wall panels and flashing. They are also installing the new Unit 3 man-door and windows on the north powerhouse wall.
- Roof water drain lines to the oil / water separator were tested under hydrostatic pressure, no leaks were observed.
- Andritz workers completed the assembly of the G3 runner in the Service Bay. A walk down was completed on the 20th. Punch list actions were cleared and the runner was placed in the turbine pit on March 23rd (Figure 1).
- Andritz continues to insulate winding bars and brazing jumpers to the winding bars at the stator top, and is brazing jumpers at the stator bottom.
- Andritz continues to assemble the rotor in the Service Bay.
- PowerTel continues to prepare for installing the transmission line between the disconnect yard and switchyard.
- AFI workers lowered the head gate and are installing the Unit 3 intake gate hoist house. Components are mostly installed and AFI is working on aligning them.
- KAP electricians continue to install cable trays and cables in the Mezzanine area, draft tube gallery, and north wall. Andritz staff are installing cable trays and cables for the protection and control panels.
- The installation of fire protection and intrusion alarm systems in Unit 3 continues.
- Teleprotection system work related to Units 1 and 2 is complete and the system was transferred back to NEPG. KAP electricians pulled two additional fiber optic cables between the battery room and the communication room for use by Hydro One as part of backfeed work.

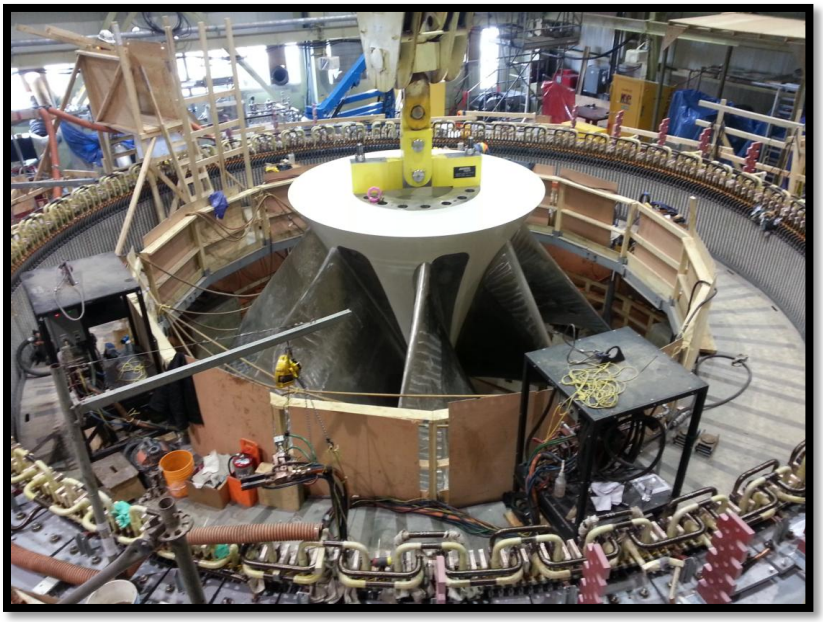


Figure 1: Little Long runner being placed in the turbine pit

Harmon

- 142 m^3 of concrete was poured this month, bringing the total poured to date to 11,128 m^3 of 12,302 m^3 total, against a plan of 9,832 m^3 (Figure 2).
- Concrete deficiency repairs inside the scroll case continue to progress.
- Supermétal completed bolting and torquing superstructure steel members over Unit 3. They also finalized Q-decking placement. CanAm has completed installing the interior cladding on the East and North walls of the Unit 3 powerhouse, as well as the East wall of the Unit 3 Mezzanine.
- KAP and Aluma are erecting scaffolding on the tailrace stop log storage deck in preparation for the upper gate guide installation and concrete repair work.
- AFI have completed aligning the vertical tailrace gate guides and lintel beams. Secondary concrete was poured on March 25th and 26th.
- AFI continues to work on remedial work (stainless steel overlays) to the intake gains. They are currently aligning intake sealing faces.
- Andritz aligned the draft tube cone, and have assembled the discharge ring and bottom ring in preparation for their being installed in Unit 3.
- Subcontractor HEMI Controls are integrating the Unit 3 teleprotection system into the existing system.
- The overhead crane bus bar installation was completed. The load test started on March 23rd but was postponed as a result of the discovery of a gap between a crane girder and the crane rail. Canam performed adjustments to the superstructure to correct this gap, including the installation of shims.
- KAP electricians have started installing cable trays and light fixtures in the Mezzanine area.

Figure 2: Harmon concrete pour.

Smoky Falls

- 4,855 m^3 of concrete was poured this month in the service bay, powerhouse, and intake areas, bringing the total poured to date to 93,035 m^3 of 155,084 m^3 total, against a plan of 94,433 m^3.
- At the end of the month, eleven (11) concrete pours are in various stages of work (formwork started and/or rebar being installed) and progressing in the intake, powerhouse, East service bay, East gravity dam, and at the permanent bridge. Twelve (12) pours were completed during the month.

- Alstom continues to prepare Turbine/Generator components in the West Service Bay (WSB). They have completed the following tasks:
    - The welding of stator frame rings is complete and Alstom is preparing the bottom flange for the placement of the key box. Final roundness measurements were made and adjustments were made by grinding and shimming to bring the stator frame into tolerance;
    - At Unit 2, KAP continues to work on rebar and formwork installation for the concrete pour under the stay ring; and
    - At Unit 3, the stay ring assembly was installed in Unit 3, centred, and leveled. The upper stay ring anchors were welded to the stay ring, and the J-hooks were welded on the upper pit liner. KAP has started formwork and rebar installation for the concrete pour under the stay ring (Figure 3).
- Fireproofing of the structural steel at the south end of the service bay has started.
- Supermétal are aligning monorail beams at Units 1 and 2.
- Block wall construction within the powerhouse continues at a number of locations.
- Sluiceway Gate 5 – The steel liner between the gate guides and roller paths was installed and grouted. Gaps were identified once the grout cured so AFI is preparing to inject epoxy grout to correct this.
- Work continues to enhance the stability of the rock under the Service Bay East. Progress continues on drilling for rock anchors, anchor installation, anchor pipe sleeve installation, and concrete pours.

Figure 3: Smoky Falls Overview Power House Unit 3

Kipling

- The spillway was set to discharge at 100 m^3/s to allow KAP to build the earth berm.
- The jacking beam assemblies were successfully installed beneath the Cell #3 concrete ring and the ring was declared stabilized on March 14th, on schedule (Figure 4).
- KAP completed installing Stage 1 of the earthfill cofferdam (Figure 5).
- KAP completed building the cement-bentonite slurry cut-off wall of the rockfill cofferdam.
- Installation of dewatering pumps and pipes is ongoing.

- NEPG staff installed the draft tube stop logs in Kipling Units 1 and 2 to prevent cofferdam fill from entering the draft tubes.
- KAP installed beams across the tailrace piers for hanging blast mats that will serve as protection for the Unit 1 and Unit 2 draft tube stop logs.
- Structural beams are being prepared for the installation of the phase 2 soldier wall portion of the earth berm.
- KAP is installing cable trays in the communication room in preparation for teleprotection upgrades and the addition of Unit 3 equipment.

Figure 4: Kipling Jack Beam Assembly

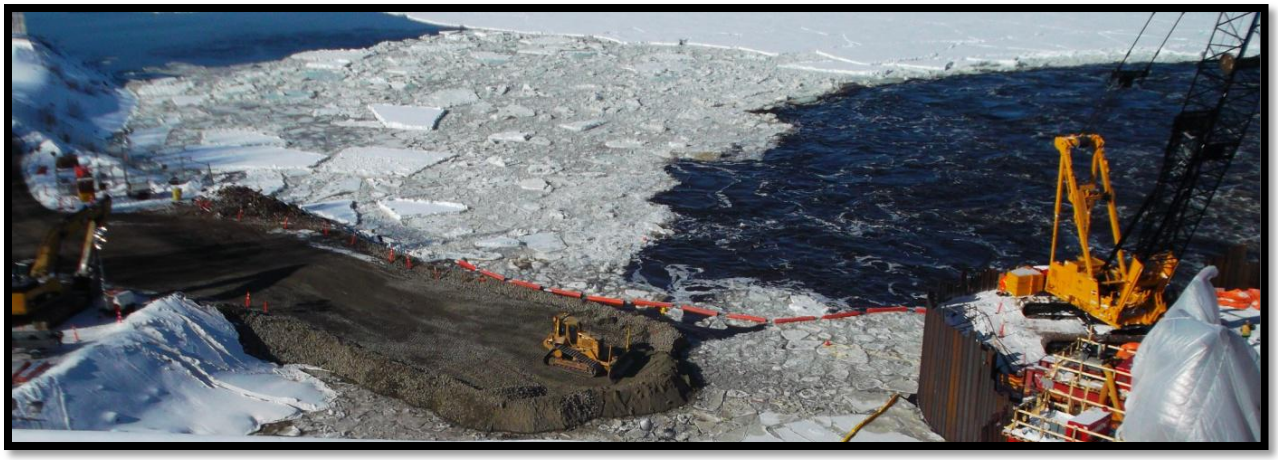


Figure 5: Kipling earth berm cofferdam

Monthly Summary – March 2013

<table>
<tr><td colspan="5">SPILLS</td></tr>
<tr><td colspan="2">No. of Spills:</td><td colspan="3">11; Spill Reports 329-339 (see Figure 6 for LMRP spills breakdown).</td></tr>
<tr><td colspan="2">Classification of Spills:</td><td colspan="3"><u>Project Classification</u>
Minor – 8 Moderate – 2 Major –1 To Water - 0
<u>MOE Classification</u>
Non-reportable - 11
Reportable to MOE
- Class C – 0
- Class B – 0
- Class A – 0</td></tr>
<tr><td colspan="5">Reportable Spills</td></tr>
<tr><td>No.</td><td>Quantity /Product Spilled</td><td>Spill Site</td><td colspan="2">Reason for being Reportable</td></tr>
<tr><td colspan="3">Project Classification (KAP)
Minor: ≤ 10L
Moderate: Between 10L and 100L
Major: ≥100L
To Water: Any amount is reportable to the MOE
(See Figure 7: KAP Spills Response Flowchart)</td><td colspan="2">MOE Classification
Non-reportable: < 100L
Reportable to MOE
• Class C - Less Serious
• Class B – Serious
• Class A – Very Serious</td></tr>
<tr><td colspan="5">Sediment Pond Exceedance of Effluent Objective</td></tr>
<tr><td>No. of Exceedance days recorded</td><td>Location</td><td colspan="3">Mitigation Measures used</td></tr>
<tr><td>0</td><td>n/a</td><td colspan="3">n/a</td></tr>
</table>

Spills Response

When **any spill** occurs on site, KAPs spill response process is to be followed (Figure 7). This includes notification of the Supervisor and KAPs Environmental Department, and an assessment of the severity of the spill. Regardless of the quantity, clean-up measures are implemented for **every spill** using spill kits that are available throughout the site (materials used for clean-up and any contaminated soil are removed from the site). A spill report is then prepared for **each spill that occurs** which outlines the location, type, severity and quantity of the spill, in addition to details on how the spill occurred, how it was cleaned up and measures implemented on how the spill could be avoided for the future. This report is sent out to several OPG and Hatch representatives as well as all EWG members.

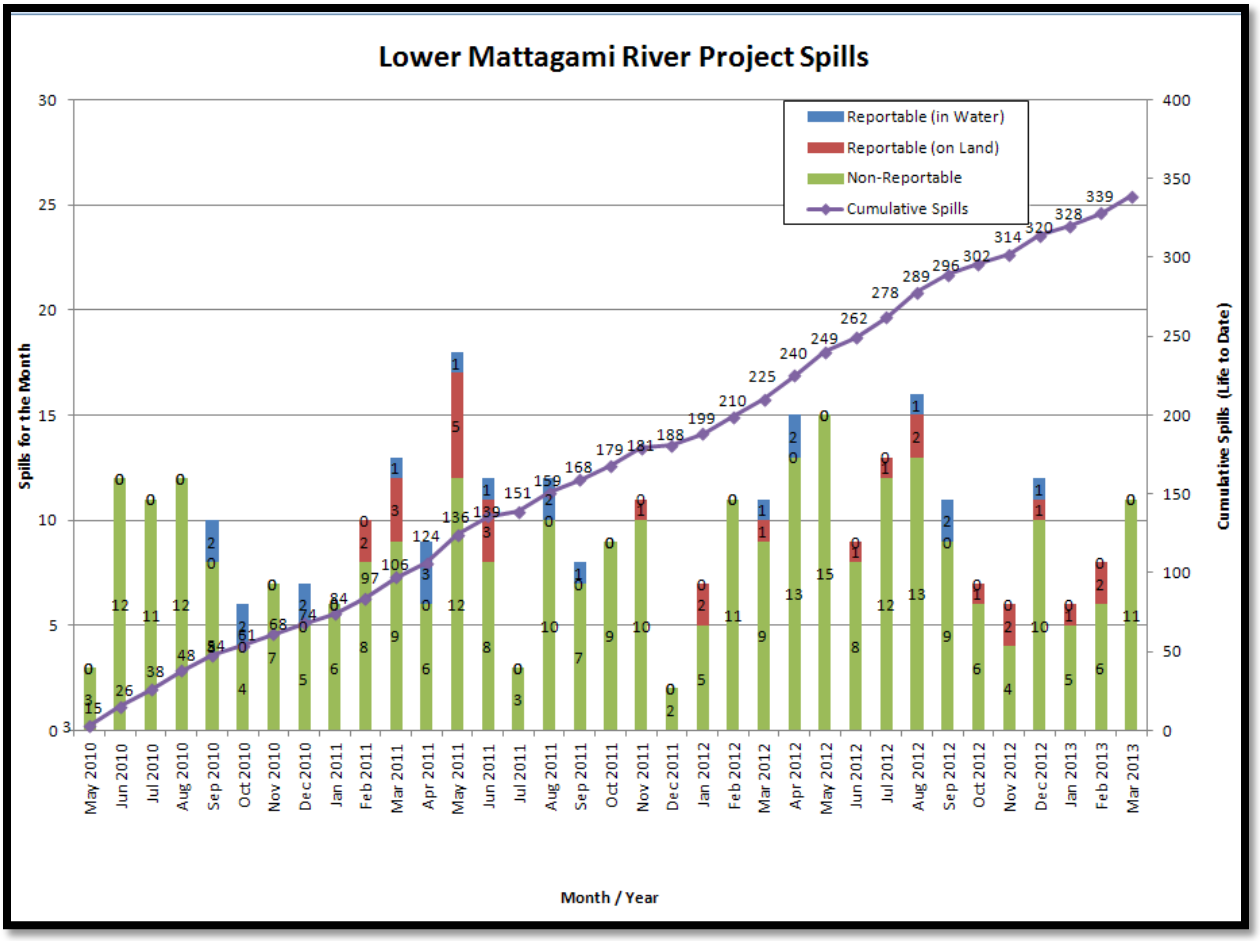


Figure 6: Lower Mattagami River Project spills

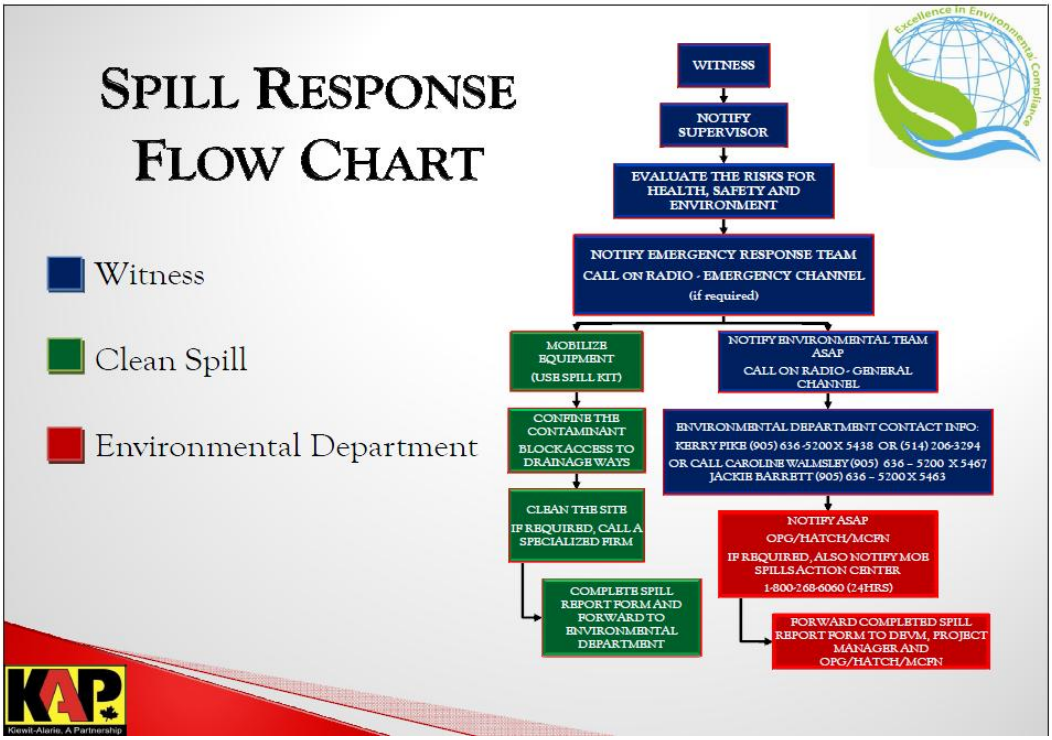
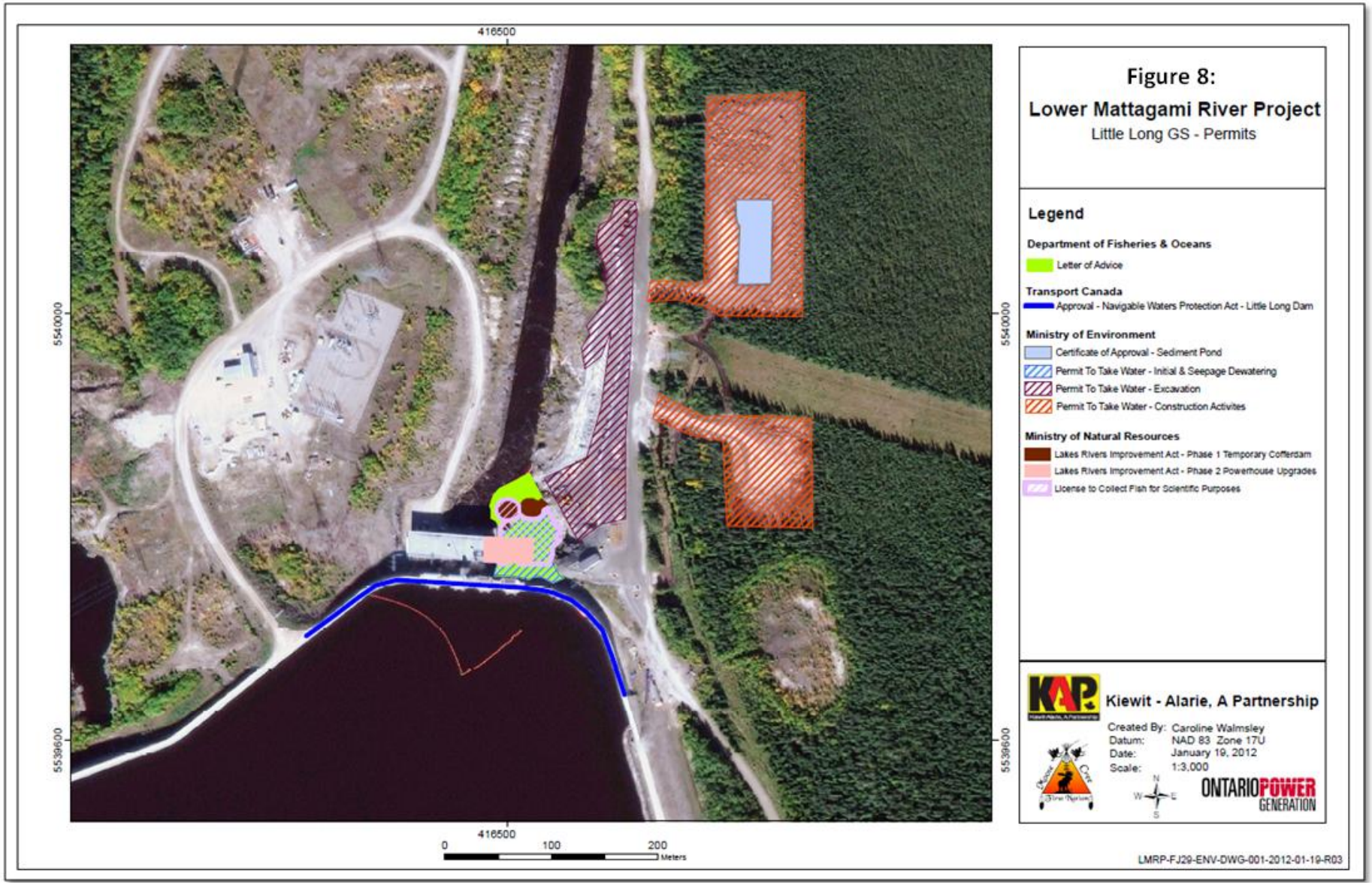


Figure 7: KAP Spills Response Flowchart

PERMIT AND APPROVAL REVIEW			
No. Reviewed:	0	List:	• Harmon Cofferdam Removal LRIA Approval • SF Sewage Holding Tanks Application
No. Sent to KAP:	0	List:	
Reports Review			
No. Reviewed for KAP	0	List:	
No. Sent to KAP	0	List:	
No. Reviewed for MECC	5	List:	On-going: • Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek. • Mercury in Fish Flesh Summary Report. • Fish Habitat Assessment Report • Terrestrial Habitat Restoration Downstream of Kipling GS • Draft Environmental Effects Monitoring Plan
No. Review Completed	4	List:	• Operation Overview Report. • Waste Management Plan • Noise Control Plan • The Interim Measures Agreement as it relates to EA Term and Condition 14c (Permit Review and Compliance Monitoring Protocol)
REQUESTS FOR INFORMATION (RFIs)			
No. Reviewed:	0	List:	n/a
No. Sent to KAP:	0	List:	n/a
See figures 8 to 13 below for site location of the permits that have been or are pending approval.			


416500
5540000
5539600
416500
0
100
200
Meters
Figure 8:
Lower Mattagami River Project
Little Long GS - Permits
Legend
Department of Fisheries & Oceans
Letter of Advice
Transport Canada
Approval - Navigable Waters Protection Act - Little Long Dam
Ministry of Environment
Certificate of Approval - Sediment Pond
Permit To Take Water - Initial & Seepage Dewatering
Permit To Take Water - Excavation
Permit To Take Water - Construction Activites
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 1 Temporary Cofferdam
Lakes Rivers Improvement Act - Phase 2 Powerhouse Upgrades
License to Collect Fish for Scientific Purposes
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 19, 2012
Scale: 1:3,000
ONTARIOPOWER GENERATION
LMRP-FJ29-ENV-DWG-001-2012-01-19-R03

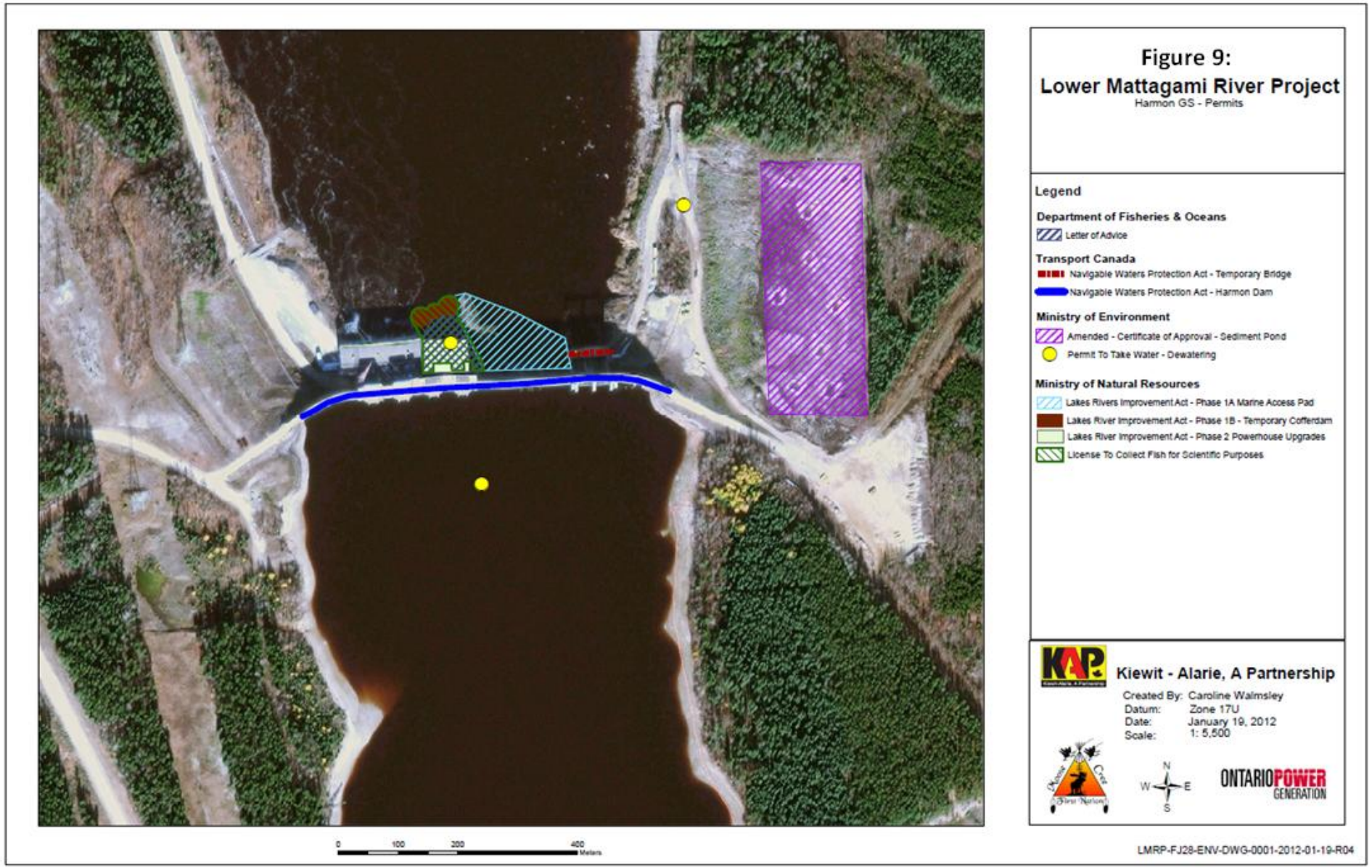


Figure 9:
Lower Mattagami River Project
Harmon GS - Permits
Legend
Department of Fisheries & Oceans
Letter of Advice
Transport Canada
Navigable Waters Protection Act - Temporary Bridge
Navigable Waters Protection Act - Harmon Dam
Ministry of Environment
Amended - Certificate of Approval - Sediment Pond
Permit To Take Water - Dewatering
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 1A Marine Access Pad
Lakes River Improvement Act - Phase 1B - Temporary Cofferdam
Lakes River Improvement Act - Phase 2 Powerhouse Upgrades
License To Collect Fish for Scientific Purposes
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: Zone 17U
Date: January 19, 2012
Scale: 1: 5,500
N
W
E
S
ONTARIO POWER GENERATION
0
100
200
400
Meters
LMRP-FJ28-ENV-DWG-0001-2012-01-19-R04

Figure 10:
Lower Mattagami River Project
Kipling GS - Permits

Legend

Department of Fisheries & Oceans
- Letter of Advice

Transport Canada
- Approval - Navigable Waters Protection Act - Kipling Dam

Ministry of Environmental
- Amended Certificate of Approval - Sediment Pond
- Permit To Take Water - Dewatering

Ministry of Natural Resources
- Lakes River Improvement Act - Phase 1A - Marine Access Pad
- Lakes Rivers Improvement Act - Phase 1A -1 Deflector Wall
- Lakes Rivers Improvement Act - Phase 1A - 2 Spillway Location Revised
- Lakes Rivers Improvement Act - Phase 1B Temporary Cofferdam
- Lakes Rivers Improvement Act - Phase 2 Powerhouse Upgrades
- Licence to Collect Fish for Scientific Purposes

Kiewit - Alarie, A Partnership

Created By: Caroline Walmsley
Datum: Zone 17U
Date: January 19, 2012
Scale: 1: 5,500

N
W E
S

ONTARIO POWER GENERATION

LMRP-FJ27-ENV-DWG-0001-22012-01-19-R04

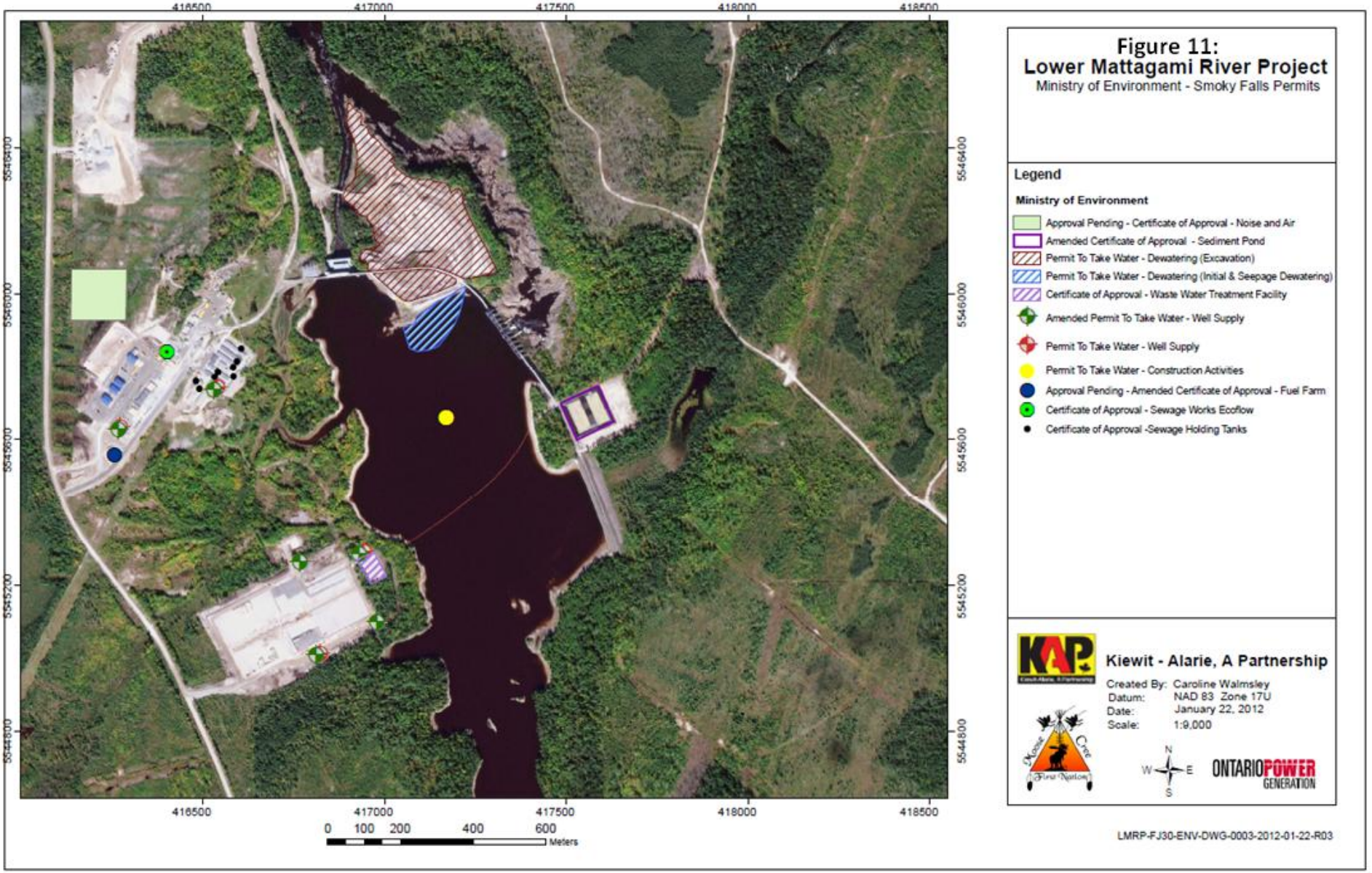
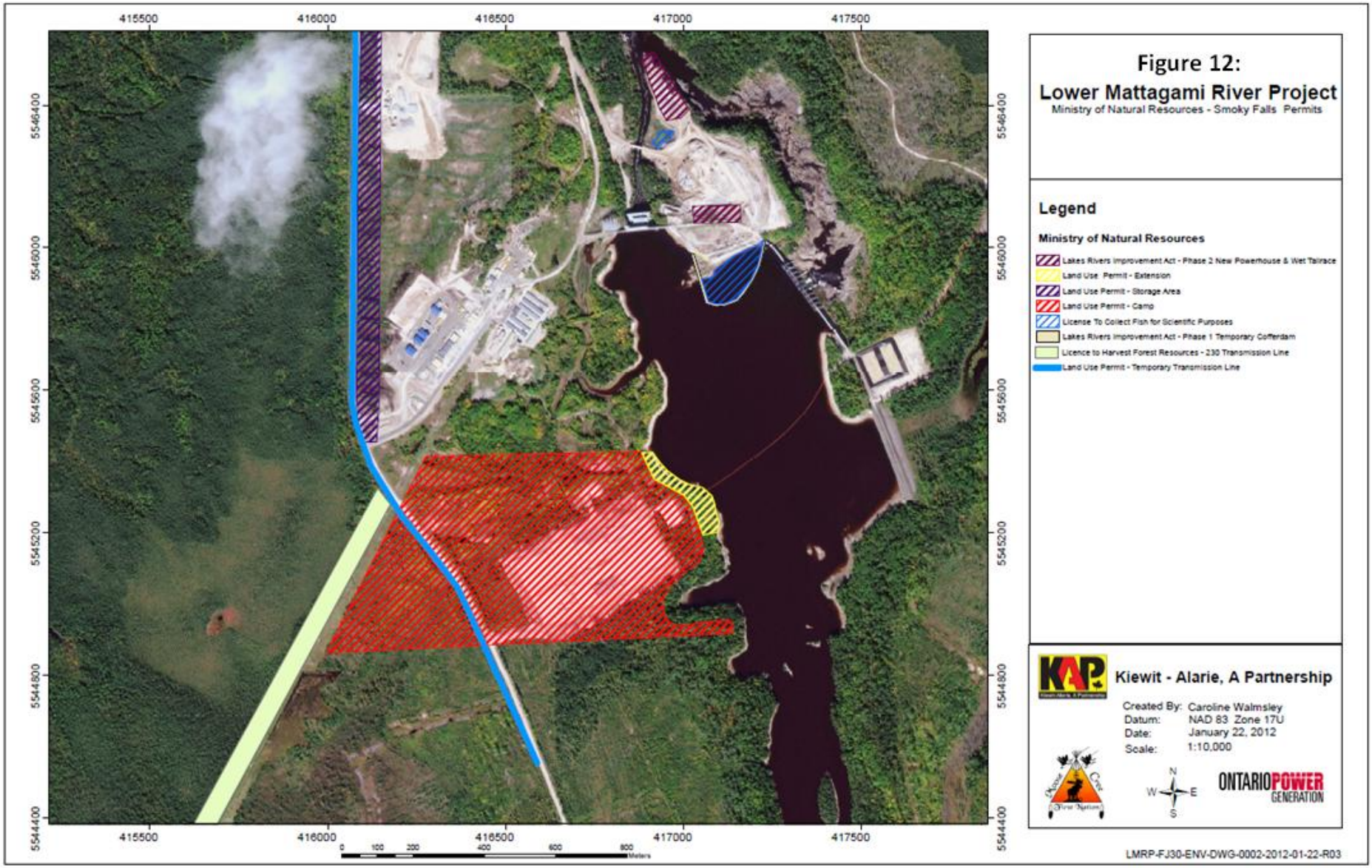
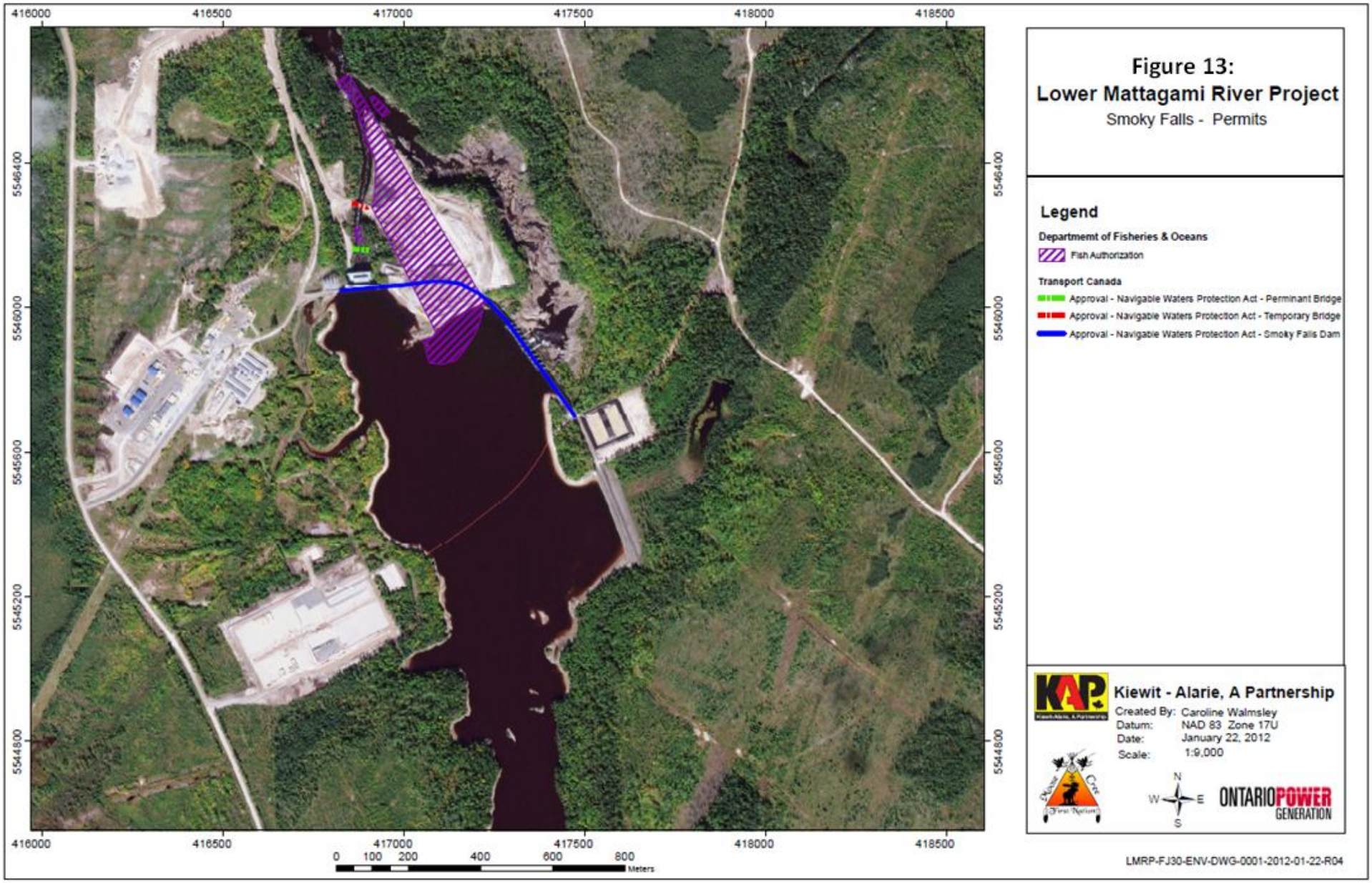


Figure 11:
Lower Mattagami River Project
Ministry of Environment - Smoky Falls Permits
Legend
Ministry of Environment
Approval Pending - Certificate of Approval - Noise and Air
Amended Certificate of Approval - Sediment Pond
Permit To Take Water - Dewatering (Excavation)
Permit To Take Water - Dewatering (Initial & Seepage Dewatering)
Certificate of Approval - Waste Water Treatment Facility
Amended Permit To Take Water - Well Supply
Permit To Take Water - Well Supply
Permit To Take Water - Construction Activities
Approval Pending - Amended Certificate of Approval - Fuel Farm
Certificate of Approval - Sewage Works Ecoflow
Certificate of Approval -Sewage Holding Tanks
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 22, 2012
Scale: 1:9,000
ONTARIOPOWER GENERATION
LMRP-FJ30-ENV-DWG-0003-2012-01-22-R03
416500
417000
417500
418000
418500
5546400
5546000
5545600
5545200
5544800
0 100 200 400 600
Meters


415500
416000
416500
417000
417500
5546400
5546000
5545600
5545200
5544800
5544400
0 100 200 400 600 800 Meters
Figure 12:
Lower Mattagami River Project
Ministry of Natural Resources - Smoky Falls Permits
Legend
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 2 New Powerhouse & Wet Tailrace
Land Use Permit - Extension
Land Use Permit - Storage Area
Land Use Permit - Camp
License To Collect Fish for Scientific Purposes
Lakes Rivers Improvement Act - Phase 1 Temporary Cofferdam
Licence to Harvest Forest Resources - 230 Transmission Line
Land Use Permit - Temporary Transmission Line
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 22, 2012
Scale: 1:10,000
N
W
E
S
ONTARIOPOWER GENERATION
LMRP-FJ30-ENV-DWG-0002-2012-01-22-R03


416000
416500
417000
417500
418000
418500
5546400
5546000
5545600
5545200
5544800
0 100 200 400 600 800
Meters
Figure 13:
Lower Mattagami River Project
Smoky Falls - Permits
Legend
Department of Fisheries & Oceans
Fish Authorization
Transport Canada
Approval - Navigable Waters Protection Act - Perminant Bridge
Approval - Navigable Waters Protection Act - Temporary Bridge
Approval - Navigable Waters Protection Act - Smoky Falls Dam
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 22, 2012
Scale: 1:9,000
N
W
E
S
ONTARIO POWER GENERATION
LMRP-FJ30-ENV-DWG-0001-2012-01-22-R04

Issues and Concerns

- The MCFN members of the EWG were concerned with the clean rock pile that was to be used to construct the new bermed cofferdam at Kipling. The concern was based on a MCFN finding on the inconsistent definition provided by DFO and MNR on what was considered 'clean' rock and how it was to be applied to KAPs clean rock pile. EWG members wanted to ensure that the impacts resulting from rock being placed into the water to construct the cofferdam was minimized and properly monitored.

Action Required: EWG to work with KAP to ensure the following measures will be followed during the implementation of the bermed cofferdam for Kipling:

1) The regulators agreed that although regulation states any deleterious material will not enter a water body, the reality exists, that a construction site will cause some sedimentation and that regulation's standard is broadly defined. Therefore, truck loads with excessive amounts of rock with fine particles and potential sedimentation issues will be identified to the extent possible and not placed in the water.

2) KAP Environmental employees have the authority to stop the operation if they see loads with excessive particles or if they see sedimentation issues according to visual observation or probe readings.

3) KAP will provide probe reading of typical water quality prior to the operation and provide daily updates to EWG (Note: this daily data was delayed due to issues with the probe, so no data was provided until the operation was into 4-5 days of activity).

4) The water probe will be installed at the location described during the onsite visit (more downstream of the operation prior to the operation).

5) KAP environmental will make operators aware of blasting wire and to make an effort to take out any pieces of visible wire prior to dumping into the water (Note: this was not implemented as KAP could not look through the unstable rock piles) .

6) KAP environmental will provide a container where all waste blast wire is to be dumped (Note: see No.5).

7) MCFN on-site monitor Karl Chmilewski will be inspecting daily for quality control the operation and will be observing for sedimentation concerns and efforts are being made to remove blast wire.

8) HATCH will provide quality assurance by observing the operations and will be communicating with the EWG on the operation.