



Staff Report

Applicant: Department of Indian Affairs and Northern Development (DIAND) – Contaminants and Remediation Division (CARD)	
Location: Former Bullmoose, Ruth, Beaulieu, Spectrum, Chipp, Storm, and Joon mines, NT	Application: MV2016L8-0004 & MV2016X0013
Date Prepared: January 17, 2017	Meeting Date: January 26, 2017
Subject: Management Plans: Waste Management Plan; Spill Contingency Plan; Community Engagement Plan; and Sediment and Erosion Control Plan	

1. Purpose/Report Summary

The purpose of this Report is to present to the Mackenzie Valley Land and Water Board (MVLWB/the Board) four management plans for consideration, as submitted by Department of Indian Affairs and Northern Development (DIAND) – Contaminants and Remediation Division (CARD) in support of activities under its Bullmoose-Ruth Remediation (BMR) Project, as required by Water Licence (Licence) MV2016L8-0004 and Land Use Permit (Permit) MV2016X0013:

- a) The Waste Management Plan;
- b) The Spill Contingency Plan;
- c) The Community Engagement Plan; and
- d) The Sediment and Erosion Control Plan.

2. Background

- December 5, 2016 – Issuance of Licence MV2016L8-0004 and Permit MV2016X0013;
- December 22, 2016 – Waste Management Plan; Spill Contingency Plan; Community Engagement Plan; and Sediment and Erosion Control Plan submissions received and review commenced;
- January 10, 2017 – Reviewer comments and recommendations due and received;
- January 13, 2017 – Proponent responses received; and
- **January 26, 2017 – Waste Management Plan; Spill Contingency Plan; Community Engagement Plan; and Sediment and Erosion Control Plan submissions presented to the Board for decision.**

3. Discussion

On December 22, 2016, DIAND-CARD submitted the following four revised management plans (attached) as required by Condition 77 of Permit MV2016X0013: a Waste Management Plan, Spill Contingency Plan, Community Engagement Plan, and Sediment and Erosion Control Plan. Condition 77 reads as follows:

Prior to the commencement of operations, the Permittee shall submit to the Board, for approval:

- a) a revised Waste Management Plan in accordance with MVLWB's 2011 *Guidelines for Developing a Waste Management Plan*;
- a) a revised Spill Contingency Plan in accordance with Aboriginal Affairs and Northern Development Canada's 2007 *Guidelines for Spill Contingency Planning*;
- b) a revised Engagement Plan in accordance with MVLWB's 2013 *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*; and
- c) a revised Sediment and Erosion Control Plan.

Additional requirements for the submission of a Waste Management Plan are outlined in Condition 43 of Permit MV2016X0013 (annual review and revision) and Part F, item 3 of Licence MV2016L8-0004, as follows:

Within 90 days following issuance of this Licence, the Licensee shall submit a revised **Waste Management Plan** to the Board for approval. The Licensee shall not commence operations until the Board has approved the Plan. The Plan shall meet the objectives listed in Part F, item 1, include all components outlined in the Board's *Guidelines for Developing a Waste Management Plan*, and shall also be in accordance with Schedule 3, item 1.

Additional requirements for the submission of a Spill Contingency Plan are outlined in Condition 62 of Permit MV2016X0013 (annual review and revision) and Part G, item 2 of Licence MV2016L8-0004, as follows:

A maximum of 60 days following issuance of the Water licence, the Licensee shall submit to the Board, for approval, an updated **Spill Contingency Plan**.

Additional requirements for the submission of an Engagement Plan are outlined in Condition 79 of Permit MV2016X0013 (annual review and revision) and Part B, item 12 of Licence MV2016L8-0004, as follows:

Within 90 days following issuance of this Licence, the Licensee shall submit a revised **Engagement Plan** to the Board for approval. The Licensee shall not commence operations until the Board has approved the Plan. The Plan shall meet the objectives outlined in the Board's *Engagement and Consultation Policy* and the *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*.

Additional requirements for the submission of a Sediment and Erosion and Control Plan are outlined in Conditions 21 and 22 of Permit MV2016X0013 (act in accordance with plan; and annual review and revision) and Part F, item 5 of Licence MV2016L8-0004, as follows:

Within 90 days of Licence Issuance, the Licensee shall submit to the Board, for approval, a revised **Sediment and Erosion Control Plan**. This Plan shall address all Remediation activities, including all areas of Water flow and Discharge, the Construction and repair of roads and Water crossings; excavations and borrow pits; disposal practices; and site management. The Plan shall meet the objectives listed in Part F, item 1 and shall be in accordance with Schedule 3, item 2.

4. Comments

Table 1 below lists the components of the Waste Management Plan required by Schedule 3, item 1 of Licence MV2016L8-0004 and an analysis of the adequacy of this submission.

Table 1: Waste Management Plan Completeness

	Components of the Waste Management Plan as required in Schedule 3, item 1 of Licence MV2016L8-0004	Board staff analysis of the adequacy of the Waste Management Plan in addressing the component
a)	The development and management of excavation areas (trenches, quarries, borrow sources, and overburden) so as to eliminate or minimize the risk of potential for Acid Rock Drainage and Metal Leaching;	Attachment 1(A) Adequate.
b)	The consolidation and disposal of Tailings, including the quantity of Tailings to be consolidated, the location of disposal, and confirmatory sampling plans for the site of origin;	Attachment 1(B) and Attachment 2 Inadequate. More information regarding the location of temporary stockpiles and the duration of storage should be provided, including any monitoring of the stockpiles.
c)	The collection and disposal of impacted sediment, including the amount of sediment moved and the location of sediment disposal;	Attachment 1(C) Inadequate. Total quantity of impacted sediment reported in section C is 500m ³ . This is equivalent to the impacted sediment expected to be addressed at the Bullmoose Sewage Lagoon. The RAP discusses an additional 176m ³ down gradient of the portal seep and 63m ³ within Bullmoose Creek that have also been identified for collection and disposal.
d)	The collection and disposal of metal impacted soils, including the quantity to be collected, the location of disposal, and confirmatory sampling plans for the site of origin;	Attachment 1(D) and Attachment 2 Adequate. Includes calculations of co-mingled soils.

e)	The collection and disposal of petroleum hydrocarbon (PHC) contaminated soils, including the quantity to be collected, the location of disposal, and confirmatory sampling plans for the site of origin;	Attachment 1(E) and Attachment 2 Adequate. Includes calculations of co-mingled soils.
f)	Details of how Groundwater will be managed in areas where Tailings, impacted sediments, and metals-impacted soil are removed;	Section 5 – Wastewater Management Inadequate. This section refers to the establishment of groundwater wells surrounding the Bullmoose landfill, Ruth landfill, and Bullmoose landfarm. More detail on the well locations, monitoring schedule and management of impacted groundwater is required.
g)	Details of how Groundwater and free-product will be managed in areas where free product is identified during PHC contaminated soil excavation;	Section 5 – Wastewater Management Inadequate. This section refers to the establishment of groundwater wells surrounding the Bullmoose landfill, Ruth landfill, and Bullmoose landfarm. More detail on the well locations, monitoring schedule and management of impacted groundwater is required – including monitoring areas where contaminants have been excavated.
h)	Details of how PHC contaminated Groundwater will be delineated and treated;	Attachment 2 Inadequate. The delineation of contaminated groundwater is identified in the purpose of this section but is not discussed in the body of Attachment 2.
i)	The sampling and Discharge of portal and trench Water into soak-away Sumps, including the quantity of Water to be Discharged, and the location of the Sumps and the surrounding environment;	Attachment 1(I) Inadequate. This section refers to water quality in the trenches meeting the maximum allowable concentration of the treated wastewater stated in Specifications Section (SS) 01 35 15. It is unclear how these specifications relate to Water Licence conditions and criteria. This section should explicitly state that water will meet Water Licence criteria (Part F, item 21) prior to discharge. Additionally, this Plan should be updated to include the planned location of sumps for discharge and the quantity of water discharged.

j)	A Wastewater management plan, addressing the management of all Seepage and leachate Waters from all Engineered Structures intended to contain, withhold or divert Waste or Waters, including the management of Water from the equipment decontamination facility and any contact Water;	Section 5 – Wastewater Management Inadequate. This section refers to the establishment of groundwater wells surrounding the Bullmoose landfill, Ruth landfill, and Bullmoose landfarm. More detail on the well locations, monitoring schedule and management of leachate is required. This section does not address the management of leachate waters from the landfills, landfarm or identify potential sources of site-wide contact water.
k)	Any manipulation of the Bullmoose portal seep and adjacent wetland; and	Attachment 1(K) Inadequate. Please discuss installation of a weir and any supporting structures. Some clarification is required.
l)	Any other item as directed by the Board.	N/A

The submitted Waste Management Plan does not include all of the requirements of Schedule 3, item 1 of Licence MV2016L8-000 (as described above in Table 1 or all components outlined in the Board's *Guidelines for Developing a Waste Management Plan* (Guidelines), as outlined below. The Waste Management Plan should be a stand-alone document which supports the BMR Project; however, it does not include any description of the project for which it is designed. Details on the following requirements, as laid out in the Guidelines, are missing:

- Environmental and social goals and objectives used for designing the Waste Management Plan;
- Detail on waste characteristics, sources, or potential environmental effects;
- A description of the activities involved in the management (e.g., handling, storage, processing, collection, separation, transportation, treatment, disposal, etc.) of waste;
- Rationale for the methods of waste management chosen;
- Engineering analysis, plans, studies or operational requirements for infrastructure required to manage and contain waste including any detail on the design, structure, capacity, management, monitoring, operation or maintenance of the landfarm or the landfills including any information on cover design(s) (or where this information can be found);
- Detailed descriptions of soak-away sumps including the surrounding environment or any monitoring plans;
- Results of the geochemical characterization of waste rock or plans for sampling to ensure the management methods are successful;
- Identification of all sources, locations and volumes of waste rock or identify locations of possible sources of seepage that may require monitoring or management; and
- A summary of the anticipated volumes of sewage generation, volume balance or treatment time, location of sludge disposal or discharge volumes.

In addition to the missing details outlined above, the Guidelines require an overall summary of each waste type and a plan for its management should be provided in a tabular format for easy reference. This should include, but is not limited to:

- References to reports that contain additional details of waste management planning for specific waste streams;
- References to reports that support the waste management activities that are submitted to the Land and Water Board to satisfy regulatory requirements (i.e. the Remedial Action Plan); and,
- Methods and techniques used to measure the effectiveness of waste management practices, as well as, a description of the steps taken to review and improve the Waste Management Plan or correct any management or operational problems.

Board staff acknowledge that many of the missing Waste Management Plan details are provided in the Remedial Action Plan and Updated Remedial Action Plan which were submitted with the applications. The Waste Management Plan, should, however, be a stand-alone document providing the same level of detail on waste management plans and procedures as understood by Rowe's Outcome Joint Venture (ROJV), the contractor for the BMR Project.

The **Spill Contingency Plan** largely complies with Aboriginal Affairs and Northern Development Canada's 2007 *Guidelines for Spill Contingency Planning*. The only major missing piece is a map showing buildings, roads, culverts, airstrips and other infrastructure, all surface water bodies and direction of water flow, including catchment basins, storage locations of each hazardous material, probable spill locations and direction of flow on land and in water, locations of all response equipment, environmentally sensitive areas, any approved disposal sites, topography (e.g., slope of land), and any other important on- or off-site features.

The **Community Engagement Plan** largely meets the objectives of the Board's *Engagement and Consultation Policy* and the *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*. A summary of engagement activities by party, as identified in Section 3.3 of the *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*, was not provided as part of the Community Engagement Plan. Nor was an indication of any responses to issues raised in previous engagement efforts or outstanding issues that have not been resolved. This should include a summary of engagement with local First Nation organizations, communities, local land owners and lease holders. Additionally, the planned future engagement seems to be one-directional, allowing for the information sharing and provision of project updates at very specific times by the BMR Project team and less opportunity for parties to raise issues or concerns outside of scheduled, structured meetings with a pre-established engagement committee (which does not include local land owners or lease holders). This approach may be restrictive and it is unclear how a two-way communication can be established and maintained for the life of the project between DIAND-CARD and all parties as issues or concerns arise. An example already identified is the lack of engagement regarding the initiation of construction of the winter road (See Reviewer Comment Summary Table). The engagement schedule identified in Table 1 of the Community Engagement Plan does not include this type of engagement which was specifically requested during the course of the application review.

The Sediment and Erosion Control Plan does not reference the requirements of Licence MV2016L8-0004 in Section 1.2 for the purpose of the Plan. The requirements of Part F, item 5 and the associated Schedule (Schedule 3, item 2) should be identified. Table 2 below lists the components of the Sediment and Erosion Control Plan required by Schedule 3, item 2 of Licence MV2016L8-0004 and an analysis of the adequacy of this submission.

Table 2: Sediment and Erosion Control Plan Completeness

	Components of the Sediment and Erosion Control Plan as required in Schedule 3, item 2 of Licence MV2016L8-0004	Board staff analysis of the adequacy of the Sediment and Erosion Control Plan in addressing the component
a)	The details of erosion and sediment control measures implemented prior to, during and after Reclamation activities are completed, until all disturbed areas are completely stabilized;	<p>Inadequate.</p> <p>Table 4-2 identifies the control measures implementation schedule in a general sense. Methods of control are identified and the locations of anticipated control requirements for project activities are identified in Table 5-1.</p> <p>Based on reviewer comment DFO-3, clarification of the criteria that will be used to determine the site conditions that require silt fence barriers is needed to satisfy this component of the condition. DFO also recommends that CARD clarify the process that will be used in determining the need for additional silt fencing. This includes providing rationale as to why additional silt fencing would be chosen versus alternative complementary control measures.</p> <p>Based on reviewer comment DFO-6, clarification of the criteria that will be used to determine the need for using erosion control matting for long term use is required. DIAND-CARD deflects any discussion of long-term measures to the Long Term Monitoring Plan, however, discussion of ‘control measures prior to, during and after Reclamation activities are completed, until all disturbed areas are completely stabilized’ is clearly required to satisfy this component of the condition.</p> <p>Is it important to note that it is CARD’s responsibility to ensure that project</p>

		impacts do not result in serious harm to fish which is prohibited under section 35(1) of the Fisheries Act.
b)	The details of Water management during excavation;	<p>Inadequate.</p> <p>Section 3.3.2 states that the contractor will “Maintain excavations free of water” and Section 3.3.3 states that they will “Provide temporary drainage and pumping as necessary to keep excavations and site free of water” and “Transfer potentially contaminated wastewater to storage tanks.” It is not clear if or how water collected in excavations will be tested prior to treatment or disposal.</p> <p>Based on reviewer comment DFO-2, clarification on the statement of 'address fisheries sensitive areas or areas that may affect fisheries sensitive areas' in Section 3.3.3 is needed to satisfy this component of the condition. DFO also recommends that CARD describe the process for how sensitive areas will be identified and protected during construction. For example, outlining sediment and erosion control measures for sensitive areas. This information is important for approval of the Sediment and Erosion Control Plan.</p> <p>Based on reviewer comment MVLWB-4, clarification on the types of activity referred to in Section 3.3.3 of the Plan is required. The Sediment and Erosion Control Plan should be a stand-alone document and should not require reference to additional documents to explain project activities being described.</p>
c)	A monitoring program that ensures the effectiveness and maintenance of all sediment and erosion control measures, stabilization and re-vegetation success; and,	<p>Inadequate.</p> <p>Section 4.3 identifies the inspection (monitoring) program and Appendix C provides an example inspection sheet for sediment and erosion control measures.</p> <p>Based on reviewer comment ENR-1, more information indicating when a floating turbidity curtain should be</p>

		installed (e.g. triggers) and a detailed Monitoring Program of the curtain's performance to ensure they are performing as designed should be included in the Plan. This information would better ensure the contractors understand when and how to install and maintain a floating turbidity curtain for the specific objectives of the project.
d)	A contingency plan that will be undertaken in the event that sediment and erosion issues are identified.	Inadequate. Detailed contingency plans in the event of failure are not well developed.

Board staff would like to remind DIAND-CARD that submissions required by Board authorizations must conform to the requirements as laid out in Licence MV2016L8-0004 and Permit MV2016X0013 which may not reflect the contract between DIAND-CARD and ROJV. DIAND-CARD should provide clarification on all issues and concerns identified in the Reviewer Comment Summary Table. In response to some reviewer comments which identify deficiencies in the Sediment and Erosion Control Plan, DIAND-CARD has indicated that it intends to submit a revision to this Plan.

5. Reviewer Comments

Board Staff distributed the four management plans for separate reviews. By January 10, 2017, comments and recommendations were received from five reviewers:

- Department of Fisheries and Oceans Canada (DFO);
- Government of the Northwest Territories (GNWT) – Department of Environment and Natural Resources (ENR);
- GNWT – Department of Lands (Lands);
- Mr. Brian Sundberg; and
- MVLWB staff.

DIAND-CARD responded on January 13, 2017. The 4 reviewer comment summary tables (attached) present the concerns identified through the review of the plans. Many comments and recommendations reflect those identified above in the Discussion. In response to reviewer comments on the Waste Management Plan, Spill Contingency Plan, and Sediment and Erosion Control Plan, DIAND-CARD has indicated that it intends to submit revised versions of the Plans. Board staff would encourage the Board to expand on the requirements for resubmission to include all points of clarification raised by Reviewers through the Review of the Sediment and Erosion Control Plan. The additional engagement referred to by DIAND-CARD in its response to reviewer comments is not reflected in the Engagement Plan as submitted. Any engagement activities not identified in the Engagement Plan should be reflected in updated Engagement Logs which include details on the information exchange(s).

6. Security

Not applicable.

7. Conclusion

Board staff conclude that the Waste Management Plan, as submitted, reflects the scope and scale of the Permit MV2016X0013 and can be approved to support activities associated with the construction of the winter access road. However, it does not conform to the requirements of Licence MV2016L8-0004, or reflect the level of detail required to describe the waste management activities associated with the BMR Project.

Board staff conclude that the Community Engagement Plan, Sediment and Erosion Control Plan, and Spill Contingency Plan could be approved, on an interim basis, to allow for progress on winter road construction, as planned by DIAND-CARD. However, the plans, as submitted, do not fully satisfy the requirements of the Licence, Permit or applicable guidelines and should, in Board staff's opinion be revised to reflect commitments made by DIAND-CARD and any further direction provided by the Board. DIAND-CARD has indicated they will be submitting revised versions of the Waste Management Plan, Sediment and Erosion Control Plan, and Spill Contingency Plan. Board staff believe that the Community Engagement Plan also requires revision and re-submission.

All revised plans should provide additional information as identified in the Reviewer Comment Summary Tables and laid out in the attached Reasons for Decision to be in line with applicable guidelines and authorization requirements before final approval.

8. Recommendation

Board staff recommend the Board:

- a) Approve the Waste Management Plan for activities associated with Permit MV2016X0013, including winter access road construction;
 - i. Approve the associated Reasons for Decision;
- b) Reject the Waste Management Plan for activities under the Licence MV2016L8-0004 and require revision and resubmission, for Board approval;
 - i. Approve the associated Reasons for Decision;
- c) Approve the Spill Contingency Plan, on an interim basis, and require revision and resubmission to reflect commitments made by DIAND-CARD and direction provided by the Board;
 - i. Approve the associated Reasons for Decision;
- d) Approve the Community Engagement Plan, on an interim basis, and require revision and resubmission to reflect commitments made and direction provided by the Board;
 - i. Approve the associated Reasons for Decision; and
- e) Approve the Sediment and Erosion Control Plan, on an interim basis, and require update and resubmission to reflect commitments made by DIAND-CARD and direction provided by the Board;
 - i. Approve the associated Reasons for Decision.

Board staff recommend that revisions to all plans be submitted by February 27, 2017. The revised plans should provide additional information identified in the Reviewer Comment Summary Tables and laid out in the attached Reasons for Decision to be in line with applicable guidelines and authorization requirements before final approval. Board staff recommend that final approval of the Spill Contingency Plan, Community Engagement

Plan, and Sediment and Erosion Control Plan can be completed by the Board following a conformity check by staff, however, suggest that the Waste Management Plan be redistributed for review and comment prior to Board approval.

Board staff recommend including the following text in the decision letter:

- DIAND-CARD shall adhere to the commitments made in their responses to reviewer comments dated January 13, 2017.
- DIAND-CARD shall include a detailed conformity table in each plan revision in accordance with Part B, item 3 (c) of Licence MV2016L8-0004.

9. Attachments

- [The Waste Management Plan.](#)
- Reviewer Comment Summary Table – Waste Management Plan;
- [The Spill Contingency Plan;](#)
- Reviewer Comment Summary Table – Spill Contingency Plan
- [The Community Engagement Plan;](#)
- Reviewer Comment Summary Table – Community Engagement Plan;
- [The Sediment and Erosion Control Plan;](#)
- Reviewer Comment Summary Table – Sediment and Erosion Control Plan;

- Draft Reasons for Decision – Waste Management Plan;
- Draft Reasons for Decision – Spill Contingency Plan;
- Draft Reasons for Decision – Community Engagement Plan;
- Draft Reasons for Decision – Sediment and Erosion Control Plan;

- Draft Decision Letters from the Board:
 - Interim Approval (LUP) and Denial (WL) of the Waste Management Plan;
 - Interim Approval of the Spill Contingency Plan;
 - Interim Approval of the Community Engagement Plan; and
 - Interim Approval of the Sediment and Erosion Control Plan.

Respectfully submitted,



Julian Morse
Regulatory Officer



Shannon Allerston
Regulatory Officer

Review Comment Table

Board:	MVLWB
Review Item:	INAC-CARD - Bullmoose Ruth Remediation Project - Sediment and Erosion Control Plan (MV2016X0013 & MV2016L8-0004)
File(s):	MV2016L8-0004 MV2016X0013
Proponent:	INAC - Contaminants and Remediation Directorate
Document(s):	MV2016X0013 MV2016L8-0004 - INAC-CARD - Sediment and Erosion Control Plan (2MB)
Item For Review Distributed On:	Dec 22 at 15:49 Distribution List
Reviewer Comments Due By:	Jan 10, 2017
Proponent Responses Due By:	Jan 13, 2017
Item Description:	<p>Indigenous and Northern Affairs Canada - Contaminants and Remediation Directorate (INAC-CARD) submitted their Sediment and Erosion Control Plan on December 20, 2016. This Plan was originally submitted in conceptual form in support of INAC-CARD's Applications for a Permit and Licence for remediation activities associated with the Bullmoose Ruth Remediation Project. The Plan has now been revised and re-submitted in accordance with conditions in Licence MV2016L8-0004 and Permit MV2016X0013.</p> <p>Reviewers are invited to submit questions, comments, and recommendations on this submission using the Online Review System (ORS) by the review comment deadline specified below. All documents that have been uploaded to this review are also available on our public registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.</p>
Contact Information:	Julian Morse 867-766-7453 Shannon Allerston 867-766-7458

Comment Summary

Fisheries and Oceans Canada: Mark D'Aguiar				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Response
1	General File	<p>Comment (doc) Fisheries and Oceans Canada- Fisheries Protection Program (DFO-FPP) cover letter</p> <p>Recommendation</p>		Noted.
2	Sediment and Erosion Control Plan Section 3.3.3 Aquatic Environment Protection	<p>Comment Section 3.3.3 of the plan indicates that " address fisheries sensitive areas or areas that may affect fisheries sensitive areas" . However it is unclear to DFO how sensitive areas will be addressed. Specifically the context of this statement is unclear. In addition it is unclear whether 'address fisheries sensitive areas' is referring to the identification of fisheries sensitive areas and implementing appropriate measures to prevent impacts to the areas, or if it refers solely to the activity of implementing the appropriate measures at the sensitive areas.</p> <p>Recommendation Fisheries and Oceans Fisheries Protection Program (DFO-FPP) recommends that CARD clarify the statement of ' address fisheries sensitive areas or areas that may affect fisheries sensitive areas' . DFO-FPP also recommends that CARD describe the process for how sensitive areas will be identified and protected during construction. For example outlining sediment and erosion control measures</p>	<p>Jan 13: This information will be addressed in the Contractor's "Work on or Adjacent to Waterways Plan" which is a required submittal under the Contract. Further details relating to fisheries sensitive areas will be provided to DFO (possibly supported with a site visit in 2017) prior to commencement of any work.</p>	<p>Submissions required by MVLWB authorizations must conform to the requirements as laid out in Water Licence MV2016L8-0004 and Land Use Permit MV2016X0013 which may not reflect the contract between DIAND-CARD and ROJV.</p>

		for sensitive areas.		
3	section 3.4.1 Silt Fences	<p>Comment Section 3.4.1 notes that silt fence barriers will be "installed during construction as site conditions require". In addition, section 3.4.1 notes that "additional silt fencing will be installed as require to break up slope lengths, and to provide additional barriers for sheet flow along both embankment and ditch slopes" . It is unclear to DFO what criteria will be used to determine if site conditions require sediment and erosion controls. In addition its is unclear what criteria will used to inform the decision to install additional silt fencing. Is it important to note that it is CARD`s responsibility to ensure that project impacts do not result in serious harm to fish which is prohibited under section 35(1) of the Fisheries Act</p> <p>Recommendation DFO-FPP recommends that CARD clarify the criteria that will be used to determine the site conditions that require silt fence barriers. DFO-FPP also recommends that CARD clarify the process that will used in determining the need for additional silt fencing. This includes providing rationale as to why additional silt fencing would be chosen versus alternative complimentary control measures.</p>	<p>Jan 13: Additional information pertaining to criteria for installation of silt fencing (soil conditions, slope, surface drainage.) and requirements for additional silt fencing (i.e. during construction activities) will be provided in revised SECP.</p>	Adequate.

4	Section 3.4.1 Silt Fences	<p>Comment Section 3.4.1 states "where possible, the lower edge of the fence will be buried on the upslope of the fence". DFO notes that the proper function of silt fences require the proper installation of the silt fence along its entire length; which includes toe-in of the lower edge. As such, is unclear how silt fences will be properly installed for effectiveness in areas where the fabric is unable to be toed in. Overland surface flows carrying particulate material will likely be able to flow under the silt fence if not properly toed in. Is it important to note that it is CARD's responsibility to ensure that project impacts do not result in serious harm to fish which is prohibited under section 35(1) of the Fisheries Act</p> <p>Recommendation DFO-FPP recommends that CARD provide rationale to using silt fences in areas where the fence can not be buried on the upslope. This includes a description of how silt fences will be properly installed for effectiveness in these areas.</p>	<p>Jan 13: The statement reflects the practical matter that sometimes a silt fence can't be toed in, notably due to exposed outcrop. Sediment generation in those areas is not likely to be significant, however efforts will be made to fill the gap between the toe-in post and bedrock slope i.e. draping and weighting the silt curtain on the surface of the bedrock.</p>	Adequate.
5	Section 3.4.4 Ditches and Rip Rap	<p>Comment Section 3.4.3 notes that "while existing ditches will be assessed for erosion potential, temporary ditches may be constructed to relieve water accumulation or direct flow away from sensitive areas". However, it is unclear how erosion potential of an existing ditch will be assessed, and what criteria will be used to inform of the need to</p>	<p>Jan 13: The following text will be added to Section 3.4.3 ".assessed for erosion potential through visual examination for signs of potential overtopping flows or bank failure".</p>	Adequate.

		<p>construct a temporary ditch / direct flow away from sensitive areas.</p> <p>Recommendation DFO-FPP recommends that CARD clarify the process that will be used to determine erosion potential of a ditch. This includes a description of the criteria / threshold/ conditions/ level of erosion potential that would indicated the need for temporary ditches.</p>		
6	Section 3.4.7 Erosion Control Matting	<p>Comment Section 3.4.7 notes that erosion control matting will be considered for the long term erosion and sediment control measures at site. However its unclear what criteria will be used to determine whether long term erosion control measures are required</p> <p>Recommendation DFO-FPP recommends CARD clarify the criteria that will be used to determine the need for using erosion control matting for long term use.</p>	<p>Jan 13: Any description of measures that go beyond construction monitoring will be addressed in the Long Term Monitoring Plan. The decision to use long-term erosion and sediment control measures such as matting, would result from construction monitoring and form part of the final site restoration activities. An example would be the Bullmoose Creek Diversion but may also include any other slope disturbances.</p>	<p>DIAND-CARD deflects any discussion of long-term measures to the Long Term Monitoring Plan, however, discussion of 'control measures prior to, during and after reclamation activities are completed, until all disturbed areas are completely stabilized' is required to satisfy this component of the condition. This should be provided in the next revision of the plan.</p>
7	General	<p>Comment None</p> <p>Recommendation DFO-FPP recommends that CARD continue to engage DFO-FPP during the development and implementation of all available best management practices to avoid and mitigate serious harm to fish as a result of work, undertaking and activities</p>	<p>Jan 13: CARD has initiated communication with DFO in January 2017 on the Bullmoose Creek diversion and will do the same for the SECP.</p>	<p>Adequate.</p>

		occurring in or near any fish bearing waterbodies. This includes, but is not limited to the development and implementation of the final site specific sediment and erosion control plan.		
GNWT - ENR: Central Email GNWT				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Response
4	General File	Comment (doc) ENR Letter with Comments and Recommendations Recommendation		Noted.
1	Topic 1: Floating Turbidity Curtains Monitoring	Comment Floating turbidity curtains have been identified as a control strategy in aquatic systems as part of the Bullmoose Ruth Remediation Plan. However, the Sediment and Erosion Control Plan does not identify when a turbidly curtain is required (i.e. at what stage it is to be installed during construction). Additionally, no information is presented in the plan on the monitoring of the performance of the curtains to ensure they are performing as designed. This additional detail would better ensure the contractors understand when and how to install and maintain a floating turbidity curtain for the specific objectives of the project. Recommendation 1) ENR recommends the plan include information indicating when a floating turbidity curtain should be installed (e.g. triggers) and provided a detailed Monitoring Program of the curtain's performance.	Jan 13: This information will be addressed in the Contractor's "Work on or Adjacent to Waterways Plan" which is a required submittal under the Contract. Further details relating to turbidity control measures will be provided to the AHJ.	Submissions required by MVLWB authorizations must conform to the requirements as laid out in Water Licence MV2016L8-0004 and Land Use Permit MV2016X0013 which may not reflect the contract between DIAND-CARD and ROJV.

2	Topic 2: Onsite water discharge	<p>Comment Table 5-1 of the Plan states that treated wastewater will be discharged as per the recruitments "set out in the Land Use Permit and only upon approval from the Departmental Representative and AHJ". ENR notes that the discharge criteria are set in the approved Water Licence (WL MV2016L8-0004, Sections 14-23). This includes the requirement that "Discharge from the Sewage Disposal Facilities shall not commence until authorized in writing by an Inspector".</p> <p>Recommendation 1) The Plan should be updated to note that discharge of all wastewater is regulated by the Water Licence. Additionally, the Plan should reflect information in the Water Licence, such as discharge location, EQCs, and wastewater discharge approval process.</p>	<p>Jan 13: Table 5-1 will be revised to make reference to the Water Licence and approvals by the Inspector. Information regarding discharge location will be detailed in the Construction Monitoring Plan. Information on EQCs and the discharge approval process are in the Waste Management Plan.</p>	Adequate.
3	Topic 3: List of Acronyms	<p>Comment None.</p> <p>Recommendation 1) ENR recommends that a list of acronyms be included in the report.</p>	<p>Jan 13: A glossary will be provided in the revised version of the Plan.</p>	Adequate.

MVLWB: Shannon Allerston

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Response
1	Legislation References	<p>Comment Section 3.1 lists Federal and Territorial Legislation applicable to the project. There are errors in the legislation references and the applicable jurisdiction of the Acts and Regulations identified.</p> <p>Recommendation Please</p>	<p>Jan 13: Section 3.1 will be revised to accurately to reflect applicable legislation for the project.</p>	Adequate.

		update and correct Section 3.1 to accurately reflect applicable legislation.		
2	Purpose	<p>Comment Section 1.2 does not reference the requirements of water licence MV2016L8-0004 for the purpose of the Plan.</p> <p>Recommendation The requirements of Part F, item 5 and the associated Schedule (3, item 2) should be identified. A concordance table of where and how the plan meets the requirements of this is required as per Part B, Item 3 c) of the Licence.</p>	<p>Jan 13: Section 1.2 will be revised to reflect the requirements of the Water Licence (Part B, Item 3c and Part F, Item 5; Schedule 3, Item 2).</p>	Adequate.
3	Terrestrial Environmental Protection	<p>Comment Section 3.3.2 states that "All clearing within 100 m of waterbodies will be monitored by ECCO unless authorized by a Departmental Representative." Condition 36 of the land use permit states that: "The Permittee shall not remove vegetation or operate heavy equipment within 100 metres of the Ordinary High Water Mark of any Watercourse, except as described in the accepted application." It further states that "No quarry operations will occur within 100 m of the ordinary high water mark of any waterbody or watercourse, unless otherwise authorized in writing by a Departmental Representative." It is unclear who a Departmental Representative is. Condition 4 of the land use permits states that: "The Permittee shall not conduct a quarry operation within 100 metres of the Ordinary High Water Mark of</p>	<p>Jan 13: All applicable conditions of the Land Use Permit will be reflected in a revised Plan as they pertain to site activities and set back requirements. Any activities within the required set back must be authorized by the Inspector and the Plan will be revised to reflect this. Terms related to roles and responsibilities will be included in a glossary.</p>	Adequate.

		<p>any Watercourse, unless otherwise authorized in writing by an Inspector."</p> <p>Recommendation CARD shall ensure that all conditions of the permit are accurately reflected in the Plan and through all site activities.</p>		
4	Aquatic Environmental Protection	<p>Comment Section 3.3.3 states "Do not operate construction equipment in waterways unless control measures are in place." This type of activity was not explicitly described in the Application and does not meet the requirements of condition 36 of the land use permit. It further states that "Dewatering will be released onto the ground >30m from natural drainage, and 100m from fish bearing waters." What dewatering activities might this refer to and how will any such dewatering activities be monitored? What does it mean to "address fisheries sensitive areas or areas that may affect fisheries sensitive areas"?</p> <p>Recommendation Please provide clarification on the above concerns.</p>	<p>Jan 13: The BMR RAP includes land-use operations in the Bullmoose Creek area, for which control measures such as water diversion will be applied beforehand. Dewatering activities are outlined in Section 5 of the Waste Management Plan under "Dewatering Trenches".</p>	<p>The Sediment and Erosion Control Plan should be a stand-alone document and should not require reference to additional documents to explain project activities being described. This information should be provided in the next revision of the plan.</p>
5	Dust and Air Particulate Control	<p>Comment Section 3.3.4 states that it will "Prevent and deter dust deposition from settling outside of work areas; Use best practices to protect sensitive vegetation and wetlands from dust deposition; Dust particulate concentrations above requirements acceptable to Departmental Representatives may result in a work stoppage to protect worker exposure or ecological health; and The</p>	<p>Jan 13: Additional information on air quality monitoring (including fugitive dust control) will be provided in the Construction Monitoring Plan.</p>	<p>Adequate.</p>

		Ecco may initiate a work stoppage if dust particulate concentrations are above acceptable levels" Recommendation How will dust and air particulate matter be monitored?		
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January 10, 2017

Shannon Allerston
Regulatory Officer
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Avenue
P.O. Box 2130
Yellowknife, NT
X1A 2P6

Dear Ms. Allerston,

**Re: INAC CARD
Water Licence Application – MV2016L8-0004
Bullmoose Ruth Remediation Project
Sediment and Erosion Control Plan
Request for Comments**

The Department of Environment and Natural Resources (ENR), Government of the Northwest Territories has reviewed the plan at reference based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act*, the *Species at Risk (NWT) Act*, the *Waters Act* and the *Wildlife Act* and provides the following comments and recommendations for the consideration of the Board.

Topic 1: Floating Turbidity Curtains Monitoring

Comment(s):

Floating turbidity curtains have been identified as a control strategy in aquatic systems as part of the Bullmoose Ruth Remediation Plan. However, the Sediment and Erosion Control Plan does not identify when a turbidly curtain is required (i.e. at what stage it is to be installed during construction). Additionally, no information is presented in the plan on the monitoring of the performance of the curtains to ensure they are performing as designed. This additional detail would better ensure the contractors understand when and how to install and maintain a floating turbidity curtain for the specific objectives of the project.

Recommendation(s):

- 1) ENR recommends the plan include information indicating when a floating turbidity curtain should be installed (e.g. triggers) and provided a detailed Monitoring Program of the curtain's performance.

Topic 2: Onsite water discharge**Comment(s):**

Table 5-1 of the Plan states that treated wastewater will be discharged as per the recruitments "set out in the Land Use Permit and only upon approval from the Departmental Representative and AHJ". ENR notes that the discharge criteria are set in the approved Water Licence (WL MV2016L8-0004, Sections 14-23). This includes the requirement that "Discharge from the Sewage Disposal Facilities shall not commence until authorized in writing by an Inspector".

Recommendation(s):

- 1) The Plan should be updated to note that discharge of all wastewater is regulated by the Water Licence. Additionally, the Plan should reflect information in the Water Licence, such as discharge location, EQCs, and wastewater discharge approval process.

Topic 3: List of Acronyms**Comment(s):**

None.

Recommendation(s):

- 1) ENR recommends that a list of acronyms be included in the report.

Comments and recommendations were provided by ENR technical experts in the Water Resources Division and the North Slave Region, and were coordinated and collated by the Environmental Assessment and Monitoring Section, Conservation, Assessment and Monitoring Division (CAM).

Should you have any questions or concerns, please do not hesitate to contact Patrick Clancy, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53096 or email patrick.clancy@gov.nt.ca.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Clancy', written in a cursive style.

Patrick Clancy
Environmental Regulatory Analyst
Environmental Impact Assessment Section
Conservation, Assessment and Monitoring Division
Department of Environment and Natural Resources
Government of the Northwest Territories



Fisheries and Oceans Canada
5204 – 50th Avenue
Yellowknife, NT
X1A 1E2

January 9, 2017

Your file *Votre référence*
MV2016X0013/ MV201618-0004

Our file *Notre référence*
16-HCAA-00734

Mackenzie Valley Land and Water Board
Attention: Julian Morse
P.O Box 2130.
Yellowknife, NT X1A 2P6

Dear Ms. Morse,

Subject: INAC-CARD Bullmoose Ruth Remediation Project – Sediment and Erosion Control Plan – Request for Comments

The Fisheries Protection Program of Fisheries and Oceans Canada (DFO-FPP) would like to thank the Mackenzie Valley Land and Water Board (MVLWB) for the opportunity to provide comments on Indigenous and Northern Affairs Canada – Contaminants and Remediation Directorate's (INAC-CARD) *Sediment and Erosion Control Plan* for the Bullmoose Ruth Remediation Project.

As outlined in your request dated December 22, 2016, reviewers are invited to submit comments and recommendations to the MVLWB by January 10, 2017.

The Program has reviewed INAC-CARD's *Sediment and Erosion Control Plan* to provide comments related to the Program's mandate to maintain the sustainability and ongoing productivity of commercial, recreational and Aboriginal fisheries. Fisheries and Oceans Canada's comments are provided in the attached comments Table.

It is important to note, for any workings, undertakings or activities that will occur in or near waterbodies that support fish that are part of or that support a commercial, recreational or Aboriginal fishery, INAC-CARD should submit a 'Request for Review' application to Fisheries and Oceans Canada for regulatory review.

As part of this application, finalized detailed and *site specific* plans with measures to avoid causing harm to fish and fish habitat including Erosion and Sediment Control Plan for each site, will be required. For additional measures, DFO-FPP encourages INAC-CARD to review and follow the guidance available on the DFO website at <http://dfo-mpo.gc.ca/pnw-ppe/ mesures-mesures/ mesures-mesures-eng.html>

16-HCAA-00734

Fisheries and Oceans Canada looks forward to reviewing the site specific plans as part of INAC-CARD's ' Request for Review' submission to DFO.

If you have any questions, please contact Mark D'Aguiar at our Yellowknife office at 867-669-4911, or by email at Mark.D'Aguiar@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Mark D'Aguiar
A/ Senior Fisheries Protection Biologist
FCSAP Expert Support

Cc: Ron Breadmore, CARD
Carey Ogilvie, INAC-CARD