

May 24<sup>th</sup>, 2018

Brent Martellaro  
Division Mining, Land and Water  
Department of Natural Resources  
3700 Airport Way  
Fairbanks, AK 99709-4699

**RE: Red Dog Mine Amendment request for TSF and MWD Dump Expansion**

Teck Alaska Inc. Red Dog Mine is requesting an amendment to the Reclamation and Closure Plan (RCP), Approval F20169958 for the expansion of the Tailings Storage Facility (TSF) to the 1006' elevation and placement of a 35 acre waste rock dump along the southern edge of the existing Main Waste Dump (MWD).

The TSF expansion is necessary to accommodate the projected elevation increase of the TSF from 986' to the 1,006' elevation. Upon ADNR Dam Safety approvals the expansion will incur multiple construction phases beginning in 2018 and ending 2024-25. Other non-dam related work such as the relocating the main access road and utilities will be necessary to accommodate the increased TSF footprint.

The TSF expansion will involve clearing approximately 47 acres of undisturbed ground within the 1006' footprint. Of the 47 acres, 12.5 acres are considered wetlands. The Corps of Engineers (COE) are currently reviewing the project (POA-1984-12-M51) and expected to issue a permit sometime in June since the public comment period was extended for the Kivalina community.

Figure 1 illustrates the 1006' TSF proposed outline, new disturbances, main road corridor, dam raises and impacted wetland areas. Topsoil removed from the 47 acres of new disturbance will be recovered and stockpiled onsite. Minimal disturbance around the TSF is expected during 2018 year with most of the clearing of topsoil occurring during 2019 or 2020.

A Certificate of Approval (COA) NID ID# AK00303 was recently issued by ADNR Dam Safety for the back dam raise to a 996' elevation. The main dam design to the 996' elevation is currently being reviewed by ADNR Dam Safety. Conceptual designs for both dam raises to the 1006' elevation have been submitted to ADNR Dam Safety for review.

No changes are expected for the main dam seepage collection system until 2019. Designs to modify the seepage system are currently being engineered and a proposed design will be submitted later this year. Upon approval of the new seepage design an amendment to the RCP will be submitted in 2019. If necessary, a financial cost estimate will be included with the seepage system amendment.

A 35 acre extension of the Main Waste Dump is proposed directly south of the existing MWD. The proposed location is within a drainage basin which drains to the TSF. The dump extension area is situated on 35 acres of undisturbed ground, of this 0.5 acres is wetlands (included in COE application POA-1984-12-M51). A dump design will be engineered once geotechnical work has been completed and incorporate a stormwater swale on the southern side of the dump to ensure runoff from the dump is directed to the TSF. Figure 2 depicts the overall dump footprint, topography and the drainage swale.

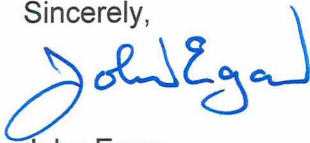
The Standard Reclamation Cost Estimator (SRCE, V2) was used to determine a reclamation cost estimate. An electronic file labeled *SMWD SRCE V2.xls/m* is attached for your review.

A reclamation cost estimate of \$550,170 is proposed for the MWD 35 acre extension. The expansion of the TSF is not expected significantly effect the current closure cost and will be updated during the 2021 renewal cycle.

The estimate is based on replacing topsoil removed from the 35 acre disturbance, reseeding and monitoring until 2021, at that time the cost estimate will be rolled into the 5-year renewal cost estimate for the entire facility. The estimate does not include grading of any waste rock since waste rock was not included in the estimate. Prior to placing any waste rock a revised cost estimate will be submitted based on the amount of waste rock which may be placed in this area through 2021.

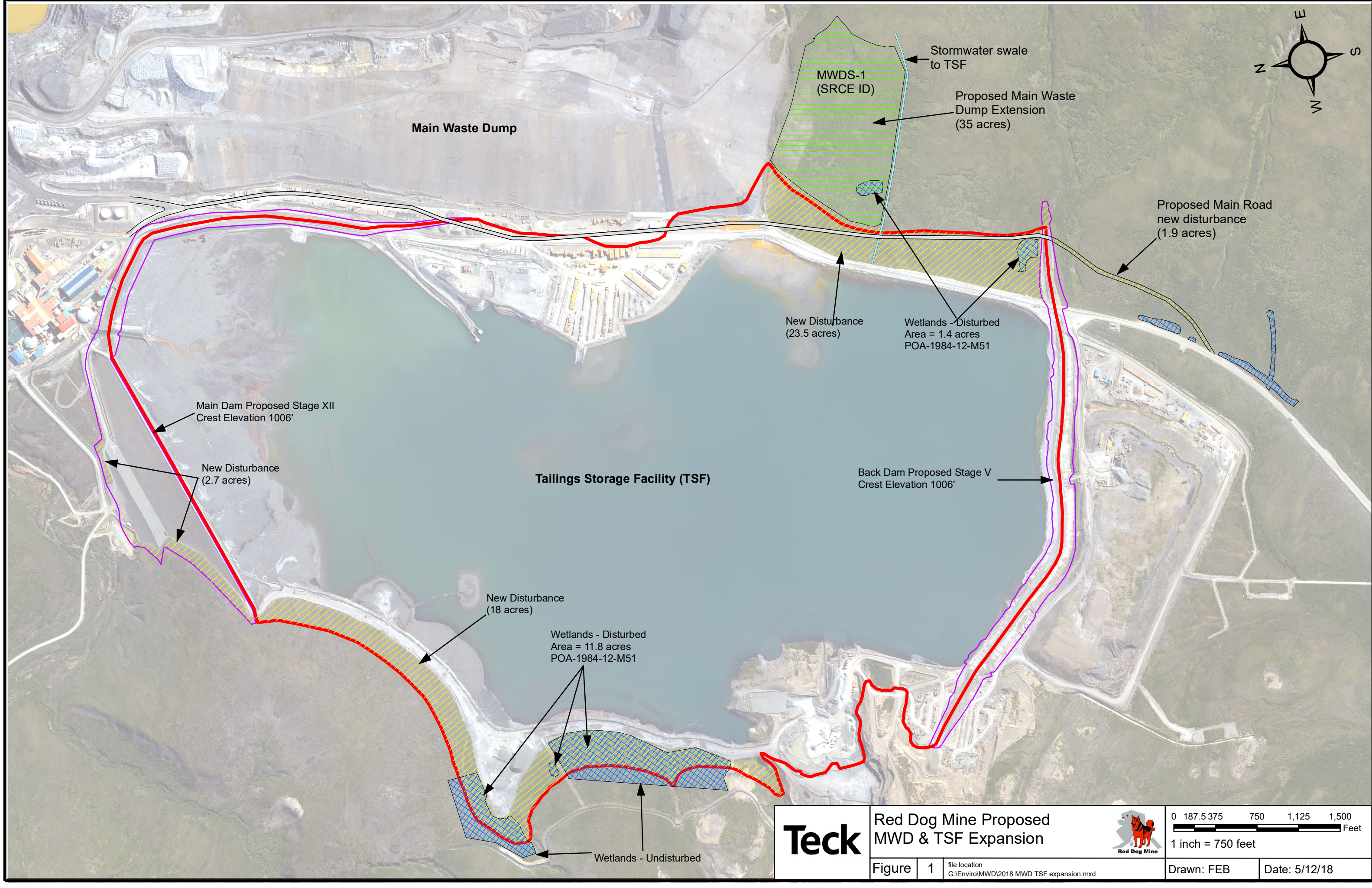
If you have any questions regarding this waiver application, please feel free to contact Frank Bendrick at (907) 754-5138, or via email at [frank.bendrick@teck.com](mailto:frank.bendrick@teck.com).

Sincerely,

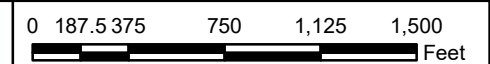


John Egan  
Acting General Manager – Red Dog Mine

cc: Tim Pilon, ADEC, Fairbanks;  
Lance Miller, NANA  
Wayne Hall, Red Dog



**Red Dog Mine Proposed  
MWD & TSF Expansion**



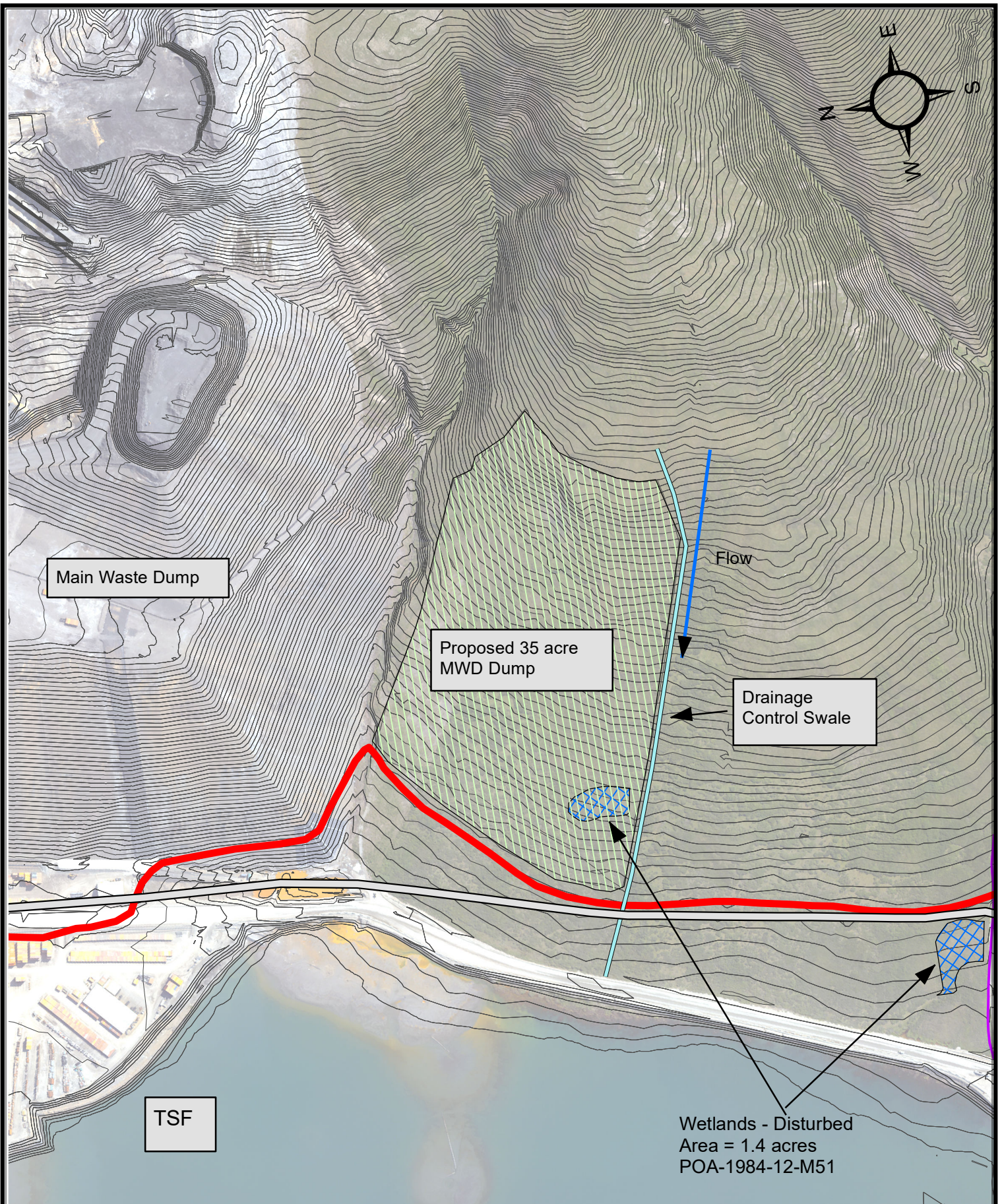
1 inch = 750 feet

Figure 1

file location  
G:\Enviro\MWD\2018 MWD TSF expansion.mxd

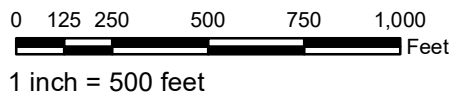
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Date: 5/12/18



**Teck**

Red Dog Mine Proposed MWD Extension



Figure

2

file location  
G:\Enviro\MWD\2018 MWD extension.mxd

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Date: 5/19/18