



**Via Email**

Mr. Joseph Mackenzie  
Chair  
Wek'èezhì Land and Water Board  
1-4905 48 STREET  
YELLOWKNIFE NT X1A 3S3

**APR 30 2021**

Dear Mr. Mackenzie:

**Submission of the Water Licence Annual Report 2020 for the Tłı̨chų All-Season Road**

The Government of the Northwest Territories' Department of Infrastructure is pleased to submit the attached Water Licence (WL) Annual Report 2020 (W2016L8-0001) for the Tłı̨chų All Season Road. Note that the Type B WL (W2016L8-0001) was replaced with a Type A WL (W2020L8-0001), issued on November 19, 2020. The Water Licence Annual Report 2020 was prepared in compliance with Part B, Condition 14 and Schedule 1, Part B, Condition 1 of the Water Licence. This report includes information on construction and related activities from January 1, 2020 to December 31, 2020.

In accordance with Part B, Condition 23 and Schedule 1, Part B, Condition 1, Item P of the Water Licence W2016L8-0001, summaries of activities used as sources of information for Traditional Knowledge have been included in the Annual Report.

Should you have any questions or concerns please contact me at (867) 767-9086 ext. 31117 or by email at [Ziaur\\_Rahman@gov.nt.ca](mailto:Ziaur_Rahman@gov.nt.ca) at your earliest convenience.

Sincerely,

Ziaur Rahman  
Manager, Surface Design and  
Construction  
Department of Infrastructure

**Attachment**

- c. Ms. Laura Duncan, Tłı̨chų Executive Officer  
Tłı̨chų Government





# Kiewit



2020 ENVIRONMENTAL  
ANNUAL REPORT

|                                                                                      |      |             |
|--------------------------------------------------------------------------------------|------|-------------|
| <b>Document Name:</b><br>2020 Annual Environmental Report                            | 0    | 66          |
| <b>Reporting Period:</b> January 1 <sup>st</sup> to December 31 <sup>st</sup> , 2020 | Rev. | Total Pages |

Dave Green – Project Environmental Manager

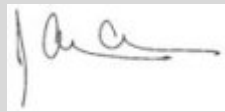
Signature : \_\_\_\_\_

Date : 2020-04-29

Table 1-1: Document Revision History

| REVISION | REASON FOR ISSUE | REVISION DATE | DESCRIPTION OF REVISION |
|----------|------------------|---------------|-------------------------|
| 0        | IFR              | 2021-04-29    | Issued for review       |
|          |                  |               |                         |
|          |                  |               |                         |

Table 1-2: Document Approval

| NAME                                                   |                               | SIGNATURE                                                                          | DATE       |
|--------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------|------------|
| <b>Prepared by:</b>                                    | Dave Green, R.T.Bio, R.B.Tech |  | 2020-04-29 |
| <b>Reviewed by:<br/>Environmental Manager</b>          | Caroline Walmsley, R.B.Tech   | C. Walmsley                                                                        | 2021-04-18 |
| <b>Environmental Manager Approval<br/>Approved by:</b> | Andrew Allan, R. P. Bio       |  | 2020-04-29 |
| <b>Project Manager Approval<br/>Approved by:</b>       | Bruno Pigeon                  |  | 2020-04-29 |

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## GLOSSARY AND ACRONYMS

|              |                                                                                           |
|--------------|-------------------------------------------------------------------------------------------|
| <b>ASR</b>   | All Season Road                                                                           |
| <b>CDC</b>   | Career Development Coordinator                                                            |
| <b>CCL</b>   | Community Coordinator Lead                                                                |
| <b>CWG</b>   | Community Working Group                                                                   |
| <b>DFO</b>   | Department of Fisheries and Ocean Canada                                                  |
| <b>EMPs</b>  | Environmental Management Plans                                                            |
| <b>GNWT</b>  | Government of Northwest Territories                                                       |
| <b>GNWT</b>  | ENR – Government of Northwest Territories – Department of Environmental Natural Resources |
| <b>GNWT</b>  | INF Government of Northwest Territories – Department of Infrastructure                    |
| <b>NSMA</b>  | North Slave Metis Alliance                                                                |
| <b>RoW</b>   | Right-of-way                                                                              |
| <b>SAR</b>   | Species at Risk                                                                           |
| <b>SCP</b>   | Spill Contingency Plan                                                                    |
| <b>TASR</b>  | Tłıchǫ All Season Road                                                                    |
| <b>TG</b>    | Tłıchǫ Government                                                                         |
| <b>WLWB</b>  | Wek'èezhìi Land and Water Board                                                           |
| <b>WMP</b>   | Water Monitoring Plan                                                                     |
| <b>WMMP</b>  | Wildlife Management and Monitoring Plan                                                   |
| <b>WRRB</b>  | Wek'èezhìi Renewable Resource Board                                                       |
| <b>YKDFN</b> | Yellowknives Dene First Nation                                                            |

## **1. INTRODUCTION**

Peter Kiewit Sons (ULC) was retained by the Government of the Northwest Territories (GNWT) to construct the Tł̥chq All Season Road (TASR), which is a 97km long, two-lane gravel road connecting KM 196 along Highway 3 near Behchok̇ to the community government boundary of Whatì in the Northwest Territories (see Figure 1-1).

To satisfy reporting requirements outlined in Water License W2020L8-0001 issued on November 19, 2020 (replacing W2016L8-0001), Schedule 1, Part B, Condition 14 an annual report will include, but not be limited to:

- (i) Measuring and Reporting on Water and Waste
- (ii) Management Plan Activities
- (iii) Spills and Unauthorized Discharges
- (iv) Other Reporting Requirements
- (v) Wildlife Management and Monitoring

Additionally, in compliance with the Schedule 19 – Environmental Obligations Section 2.4 Environmental Reporting in the TASR Project Agreement, The Project Co shall prepare and submit to the Authority's Representative:

- 1) Annual environmental reports, which shall summarize environmental conditions and issues with respect to the entire Project throughout the Construction Period and the Operating Period submitted to the Authority no sooner than one month and no later than two weeks prior to the next scheduled Tł̥chq Corridor Working Group meeting.

This report summarizes the above noted environmental requirements/conditions as well as elements of the Wildlife Management and Monitoring Plan that were conducted during the respect to the Construction Period of the TASR Project from January 1<sup>st</sup> to December 31<sup>st</sup>, 2020.



**LEGEND**

BRIDGE

TLICHO ALL SEASON ROAD (TASR)

| REV. | DATE       | DESCRIPTION / REVISION | AUTH. BY |
|------|------------|------------------------|----------|
| 0    | 2018.06.25 | DRAFT                  | SJT      |
|      |            |                        |          |
|      |            |                        |          |
|      |            |                        |          |
|      |            |                        |          |
|      |            |                        |          |
|      |            |                        |          |
|      |            |                        |          |



Northwest Territories Transportation



NORTH STAR INFRASTRUCTURE

| TLICHO ALL SEASON ROAD (TASR) |                   |                          |        |
|-------------------------------|-------------------|--------------------------|--------|
| KEY PLAN                      |                   |                          |        |
| DATE                          | SCALE (HALF SIZE) | DRAWING No.              | SHEET  |
| 2019.07.08                    | N/A               | H355788-20-260-SEG0-0101 | 1 OF 1 |



## 2. ENVIRONMENTAL REPORTING

In addition to the reporting requirements for all applicable Permits and Licenses, Section 2.4 of Schedule 19 of the Project Agreement also provides a list of reporting requirements that are to be submitted to the Authority's Representative including:

- 1) Weekly environmental monitoring reports during the Construction Period, which shall include at a minimum, the following information:
  - a) Project area
  - b) name(s) of environmental monitor(s)
  - c) period covered by report
  - d) date report submitted
  - e) overall weather conditions
  - f) report recipient(s)
  - g) contractor(s) undertaking work
  - h) description of photos and status of Construction by area, including within environmentally sensitive areas (photos will be accompanied by a plan view sketch showing angle and location of photos)
  - i) environmental meetings and key issues discussed
  - j) key communications with Environmental Authorities, including but not limited to all charges, orders, investigations or notices of violation or non-compliance issued against the Project Co or relating to the performance of the Project Work or Project Site under any Environmental Laws
  - k) status of current sediment/erosion and drainage management plans
  - l) description of outstanding environmental issues and/or non-compliance and corrective actions required with associated expected timelines; and
  - m) water sampling data completed during the reporting period, including but not limited to results of in-situ turbidity, dissolved oxygen and other water quality parameters as required by Environmental Authorities
- 2) monthly environmental reports in respect of any months during the Term in which Construction is undertaken, which environmental reports shall:
  - a) outline the Design and Construction undertaken as part of the Project Work during the period, as well as future activities, key environmental issues, monitoring activities, mitigation measures (successes and failures), resolutions to environmental impacts, and how Project Co intends to comply with all applicable Permits; and
  - b) include in an appendix thereto all relevant Project meeting notes, including action items, environmental sub-consultant reports, environmental incident reports, specific mitigation plans and sediment drainage plans for that period.

### 2.1. WEEKLY REPORTS

Throughout the reporting period for the Schedule 19 Annual Report and Water License #W2020L-0001 Annual Reporting period (January 1st to December 31st, 2020), a total of 45 weekly reports have been prepared and submitted as required in the Project Agreement. Copies of the reports have been circulated to all required parties and remain archived on numerous project file sharing sites and servers. Each of these reports have been made available for public consumption after being posted to the Wek'èezhii Land and Water Board Public Registry (WLWB) and can be found at the following link.

<https://wlwb.ca/registry/W2016E0004>

### 2.2. MONTHLY REPORTS

Throughout the reporting period for the Schedule 19 Annual Report and Water License #W2020L-0001 Annual Reporting period (January 1st to December 31st, 2020), a total of 13 monthly reports have been prepared and



submitted as required in the Project Agreement. Copies of the reports have been circulated to all required parties and remain archived on numerous project file sharing sites and servers.

### **3. MANAGEMENT PLAN AND ACTIVITIES**

#### **3.1. ENGAGEMENT**

##### **3.1.1. SUMMARY OF ENGAGEMENT ACTIVITIES**

Throughout the reporting period, INF and NSI have conducted engagement on a variety of subjects with affected parties in accordance with the approved Engagement Plan. Engagement efforts have been centered around informing affected parties of construction activities, the review and approval of management plans, collaboration on various plans as required by the Report of Environmental Assessment Measures, and the review of proposed changes to the existing permits. Engagement methods have included written notification, telephone calls, face-to-face meetings, and workshops. Full details of the engagement undertaken can be found in Engagement Record found on the Wek'èezhii Land and Water Boards [website](#).

Face-to-face or virtual meetings and workshops that have taken place include:

- Due to COVID-19 restrictions, the TASR Corridor Working Group Meeting was held virtually on July 7, 2020, Representatives from organizations, departments and groups that attended the meeting included the YKDFN, NSMA, CGW, CGB, TG, WLWB, WRRB, GNWT-ENR, GNWT-FIN, ECE, DFO ECCC, and the GNWT-INF.
- A second virtual meeting was held on December 1, 2020 due to the continued COVID-19 restrictions. Parties that attended included the YKDFN, NSMA, CGW, CGB, TG, WLWB, WRRB, GNWT-ENR, GNWT-INF, GNWT-Lands, PWNHC, DFO, and the ECCC.
- On July 3, 2020, two WRRB representatives toured the TASR project and were generally pleased with the progress made and had no outstanding questions or concerns at the time of the tour or after. Photographs taken and information gathered was to be used to give the full Board a virtual tour of the site.
- Behchokq Councilor Nora Wedzin and Councilor Jane Weyallon attended site for a tour on August 14, 2020
- On August 20, 2020, the Behchokq Chief and Council members had interactive tour of the project site (Photo 1 and Photo 2).
- Mr. Rob Pascal from the Workers' Safety Compensation Commission attended site for a tour on August 24, 2020
- Representatives from the WLWB toured the project on September 24, 2020
- Whati Council Members toured the project on September 29, 2020
- October 1, 2020 Minister Tour included
  - The Honorable Diane Archie, Minister, Infrastructure
  - Mr. Jackson Lafferty MLA, Mqwhi
  - Mr. Steve Loutitt, Assistant Deputy Minister, Infrastructure
  - Mr. David R. Moore, Assistant Deputy Minister, Asset Management
  - Mr. Robert Collinson, Ministerial Special Advisor
  - Mr. Robert Jenkins, Assistant Deputy Minister, Energy and Strategic Initiatives
  - Mr., Gary Brennan, Director, Corporate Services
  - Mr. Greg Hanna, Communications Officer, PPC
  - Mr. Binay Yadav, Director, Transportation
  - Mr. Ziaur Rahman, Manager, Design and Construction
- Representatives of Chief Executive Council toured the project on October 21, 2020



*Photo 1. Behchokò Chief and Council at the LaMartre River Bridge on August 20, 2020*



*Photo 2. Behchokò Chief and Council at the LaMartre River Falls with TASR personnel*





Photo 3. The Ministerial Tour at the LaMartre River Bridge – October 1, 2020

## 4. MANAGEMENT PLAN UPDATES AND REVISIONS

During the 2020 construction period updates were required to four (4) of the plans guiding the TASR construction project. The list below details the primary and pertinent management plans for the TASR, and revisions completed and approved in 2020.

- **Engagement Plan** - updates/revisions not required to Revision 1.2 in 2020.
- **Erosion and Sediment Control Plan** – updates/revisions not required to Revision 1.2 in 2020.
- **Waste Management Plan** – Version 1.3 updates (2020) included authorization from the City of Yellowknife to allow for the continuation of solid waste and wastewater to their facilities.
- **Spill Contingency Plan** – updates/revisions not required to Revision 1.0 in 2020
- **Water Monitoring Plan** – Revision 1.2 approved March 2, 2020 which allowed for water quality monitoring in concert with the Scientific Research License #16635.
- **Quarry Operations Plan** – Revisions 2.0 and 3.0 approved March 2, 2020 to allow for the use of new quarry prospects
- **Permafrost Management Plan** – Revision 2.0 was approved on May 7, 2020
- **Fish and Fish Habitat Management Plan** – updates/revisions not required to Revision 1.1 in 2020
- **Wildlife Management and Monitoring Plan** – Version 4.1 approved by WRRB in December 2020 and Version 4.2 was submitted to WRRB and WLWB in 2020 (additional details in Section 4.1)
- **Archaeological Chance Find Protocol** - updates/revisions not required to Revision 1.0 in 2020
- **Closure and Reclamation Plan** - updates/revisions not required in 2020

### 4.1. WMMP UPDATES

The WMMP Version 3.3 was approved by the WLWB on August 23, 2019. As requested by the Board Version 3.4 of the WMMP was to be submitted in accordance with the reason for decision. WMMP Version 3.4 was re-submitted to the WLWB on August 30, 2019.

For the reporting period and in compliance with EA Measure 10-2, Part 3, the WMMP was revised and updated in collaboration with ENR and submitted to WRRB for a review and approval. A 30-day public review period was undertaken, with submissions made to the WLWB's Online Review System by Environment and Climate Change Canada, Tłıchǫ Government, WLWB and WRRB. In consultation with ENR staff, INF developed responses to comments received, revised the WMMP to address the comments.

The WMMP version 4.1 was submitted to the WRRB on November 6, 2020 for review and approval. Following the approval of version 4.1 by the WRRB, version 4.2 was submitted to the WLWB and ENR, respectively for their review and approval. The WLWB approved the version 4.2 on February 25, 2021 while ENR approved its version on March 1, 2021.

## **4.2. WASTE MANAGEMENT PLAN**

Version 1.3 of the Waste Management Plan was updated in November 2020 to include authorization from the City of Yellowknife to continue receiving waste at the Yellowknife Solid Waste Facility. Additionally, all references to onsite lagoon construction were removed from version 1.3 given that the onsite lagoon construction was cancelled.

## **4.3. QUARRY OPERATIONS PLAN**

Versions 2.0 and 3.0 Quarry Operations Plan were approved by the WLWB on March 2, 2020 while version 4.0 was approved on June 4, 2020. Updates in versions 2.0 and 3.0 were in response to the WLWB's May 30 and July 16, 2019 Directions, respectively. Updates in version 2.0 included archaeological assessment overview, geochemical analysis, and geophysical assessments for Quarry Pits 2B, 3 and 21B. Updates in version 3.0 included archaeological assessment overview and geochemical analysis for Quarry Pit 48. Updates in version 4.0 included Acid Rock Drainage/Metal Leaching geochemical and geophysical assessments for Quarry Pit 68A.

## **4.4. PERMAFROST MANAGEMENT PLAN**

Version 2.0 of the Permafrost Management Plan was approved by the WLWB on May 7, 2020. Updates in version 2.0 were in consideration of the following:

- Providing additional data/report on thermistor readings for the summer/fall of 2019 to satisfy GNWT-INF's commitment made in the approved Version 1.1 of the PMP.
- Up-to-date temperature readings indicated there is very little permafrost along the TASR alignment. The existing permafrost is very warm and likely prone to melting, and highway design/construction has been adjusted accordingly.
- Initial ground temperature measurements immediately following thermistor installation showed erratic temperature readings due to boreholes that might have been heated by drilling or chilled by cold backfilling over the length of the borehole.
- Temperature readings over the last several years of pre-construction showed a normalization of ground temperatures.
- There have been two years (2018 and 2019) of undisturbed ground temperature measurements.
- Secondary temperature readings during the same year indicated some normalization of ground temperatures in the boreholes.
- Construction of the road changes the thermal characteristics of the ground due to stripping of the vegetation and organic soil covering, ditching excavation, new drainage patterns, etc., which will result in more erratic readings until ground temperature normalization occurs again.
- To propose annual permafrost monitoring program following completion of construction as ground temperatures become normalized. This will give future maintenance operators and permafrost scientists more valid ground temperature information.

The updated and approved versions of the above Management Plan can be found on the Public Registry of the WLWB.

## **5. TRADITIONAL KNOWLEDGE**

### **5.1. TŁĮCHQ HARVESTERS AND METHODS TO MONITOR THE STATE OF BARREN-GROUND CARIBOU WINTER HABITAT**

Please refer to Section 13 reporting on Measure 7-1.

### **5.2. PROVIDED BY TŁĮCHQ GOVERNMENT**

Please refer to Section 13 reporting on Measure 7-1.

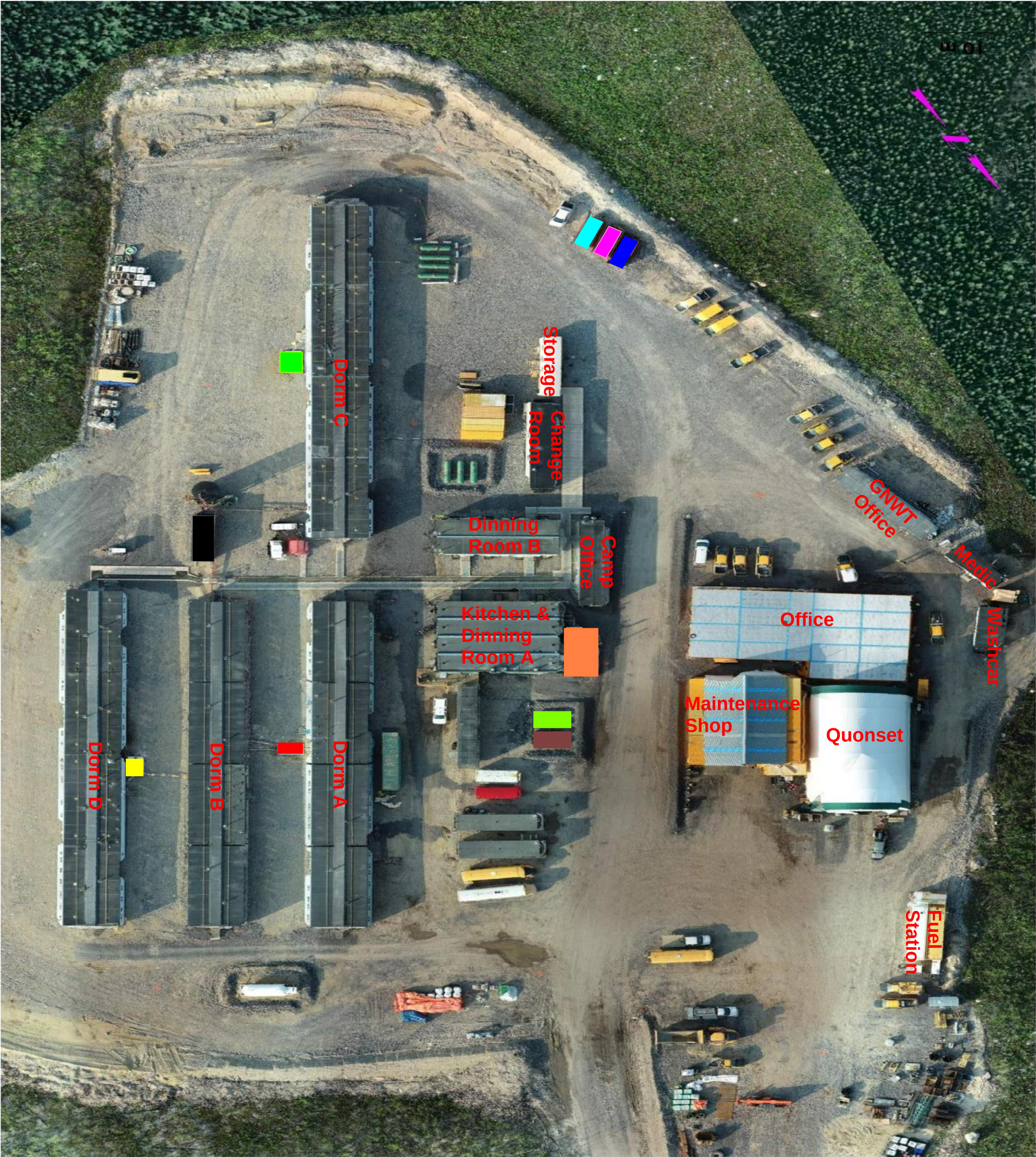
### **5.3. RECREATIONAL, TRADITIONAL, OR NON-TRADITIONAL ACTIVITIES**

Observations of recreational, traditional, and non-traditional use of the area surrounding the TASR in the 2020 reporting period were limited due to the RoW following the Old Airport Road and access for non-construction users was generally restricted to site personal. In the event that people from the communities wanted to access the site, they had to be escorted onsite. The only noted observation was the use of an existing cabin that is in Segment One (1). This land user frequented the cabin throughout the Fall and Winter of 2020. Additionally, there were a number of occasions where tree cutting activities for firewood took place in the early 2020 and in at least one instance the fibre optic line providing internet access to the camp at 19+800 was cut.

## **6. WASTE STREAM MANAGEMENT AND QUANTITIES**

The Waste Management Plan (Revision 1.2) developed for the TASR project was drafted to guide site personnel on the waste management goals, objectives and procedures to follow during construction and ultimately operation of the road. Adherence to the plan ensures the protection of the environment as well as aesthetic and land use values, ultimately meeting the regulatory requirements for the project. The plan requires the segregation of various waste streams and provides direction on how each of the streams should be managed and ultimately disposed of. As part of the Water License reporting requirements these waste streams are to be segregated and reported. The following sections detail the segregated waste streams (by type) generated during the reporting period. A copy of the monthly quantities tracking spreadsheet for all waste streams is provided in Appendix A.





**Tliche All Season Road Project**

Main Camp  
Waste Bin and Sewage Tank Locations



**Legend**

**Waste Bin Locations**

- Cardboard
- Construction Waste
- Domestic Waste
- Scrap Metal
- Wood

**Sewage Lift Stations**

- Dorm A & B Lift Station
- Dorm C Lift Station
- Dorm D Lift Station
- Kitchen Lift Station
- Waste Water Storage Tank

**Data Source:** Satellite Image 2020 (NAD83)

**Created By:**  
Kiewit Environmental Dept.

**Date Created:**  
March 16, 2021

**Revision No:**  
0

**Figure 6-1**



This map is for general illustration only and should not be considered a legal document. All geographic information has limitations due to the scale, resolution, date and source data. Kiewit is not responsible for any interpretation or conclusions based on the data shown. This map is not to be used in whole without the permission of Kiewit.



## 6.1. SOLID WASTE

Figure 6-2 shows the overall solid waste generated for the year 2020 during the construction of the TASR. The month of September had the maximum of 42.76 metric tons, this is primarily due to the peak of construction season when operations were at full capacity. The graph illustrates the waste generated from all waste streams which are not associated with hazardous waste or sewage. This includes waste such as domestic waste, wood, metal, recyclables, and construction waste. Quantities for each individual waste stream that is classified as solid waste are discussed in more detail below:

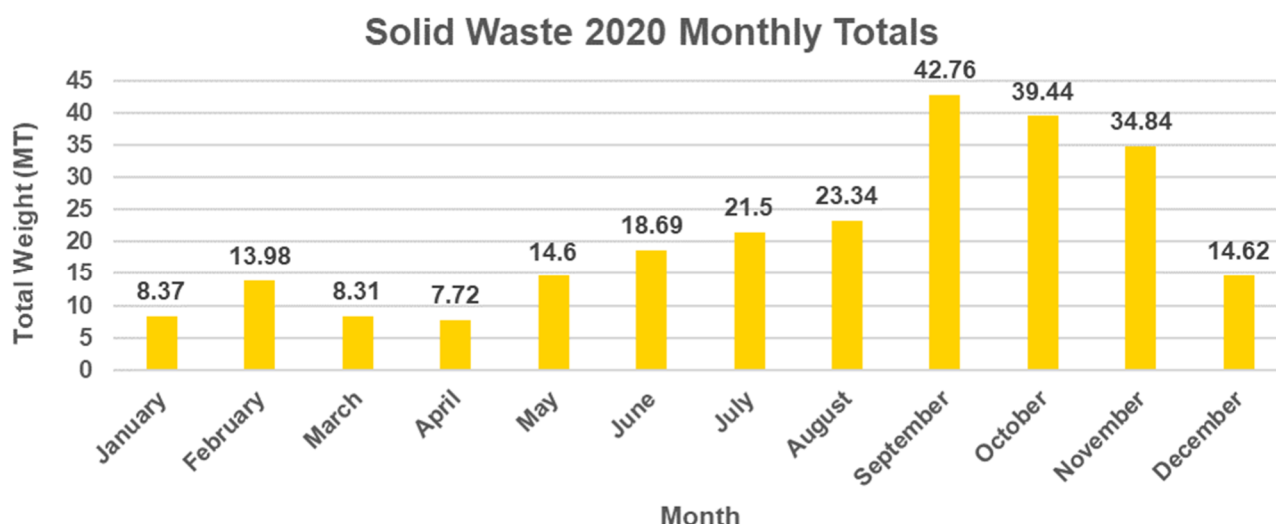


Figure 6-2: 2020 Monthly Solid Waste Quantities

## 6.2. DOMESTIC WASTE

Figure 6-3 illustrates the overall domestic waste generated during the construction of the TASR during the 2020 reporting period. The spike in total volume of waste from June to November was directly associated with the Main Camp being at full capacity for the duration of the 2020 construction season. The primary source of domestic waste was from the Main Camp kitchen.



Figure 6-3: 2020 Domestic Waste Quantities

### 6.3. CONSTRUCTION WASTE

Figure 6-4 illustrates the overall construction waste generated during the construction of the TASR during the 2020 reporting period. The maximum amount of construction waste, approximately twenty-eight (28.14) metric tonnes, was reached in October 2020. During the month of October, the TASR project was preparing for the winter shut down which required the cleaning up of numerous work fronts as well as the maintenance area which likely contributed to the elevated quantity of waste disposal.

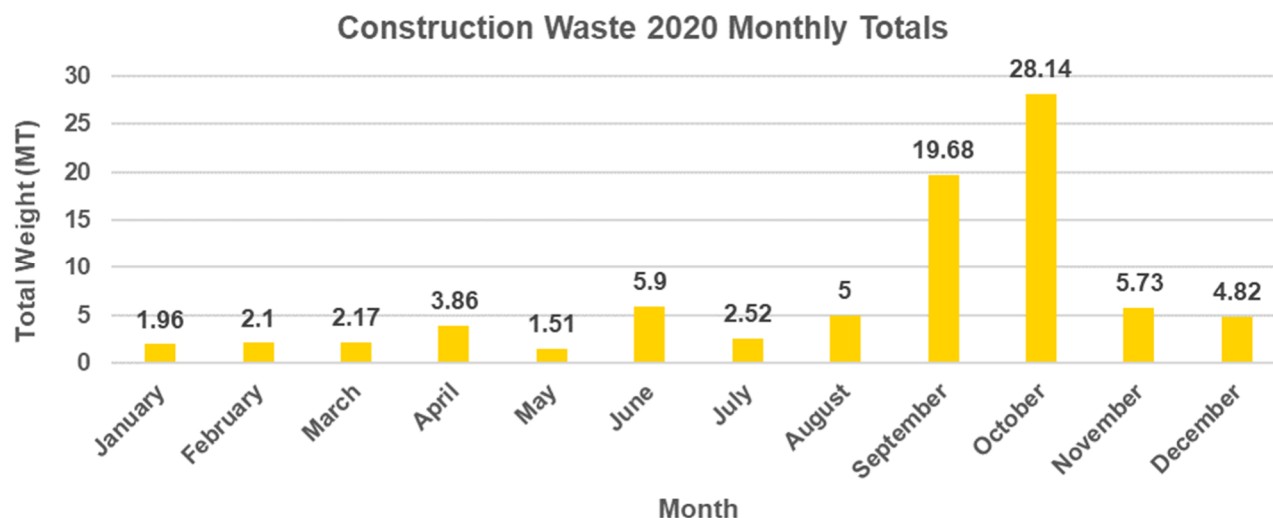


Figure 6-4: 2020 Construction Waste Quantities

### 6.4. WOOD WASTE

Figure 6-5 illustrates the overall wood waste generated during the construction of the TASR during the 2020 reporting period. A total of 20.1 MT of wood waste was generated during the 2020 construction season. The maximum of approximately 3.1 metric tonnes of wood waste was produced in the month of June 2020 with a similar amount generated in October (2.99 MT). Wood waste was commonly generated as a result of Camp enhancements (walkways, handrails, partitioning for COVID etc.), during bridge structure construction (forms and containments) and general construction activities. Wood waste was actively repurposed whenever possible.

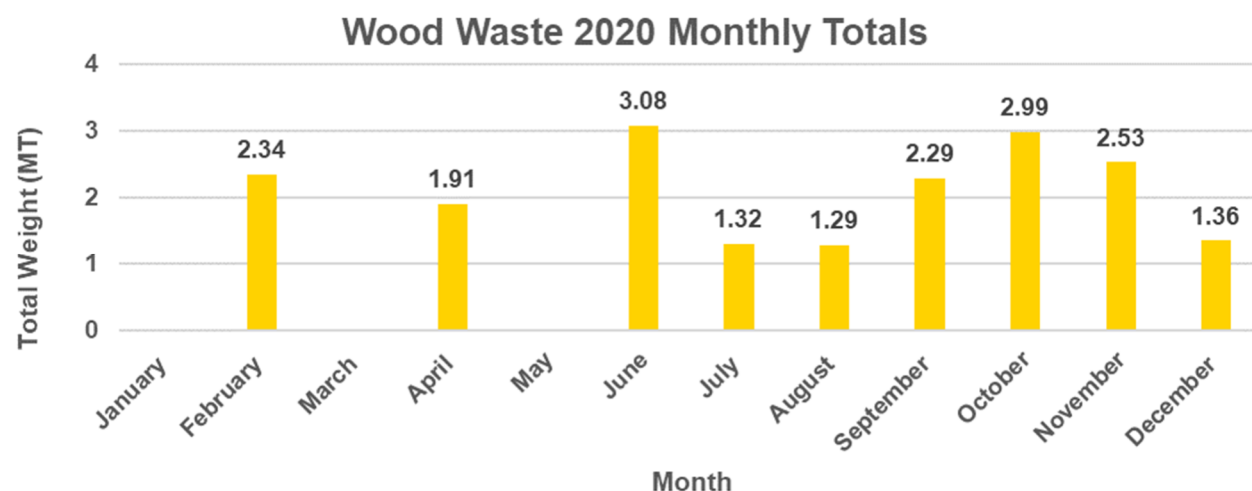


Figure 6-5: 2020 Wood Waste Quantities

## 6.5. METAL

Figure 6-6 illustrates the total metal waste generated during the 2020 reporting period. Metal waste was removed from site and taken to a scrap recycling yard in Yellowknife. The peak volume of metal was observed in November at approximately nineteen (18.96) metric tons. This increase in metal waste is associated with the bridge construction activities and preparations for the winter shutdown.

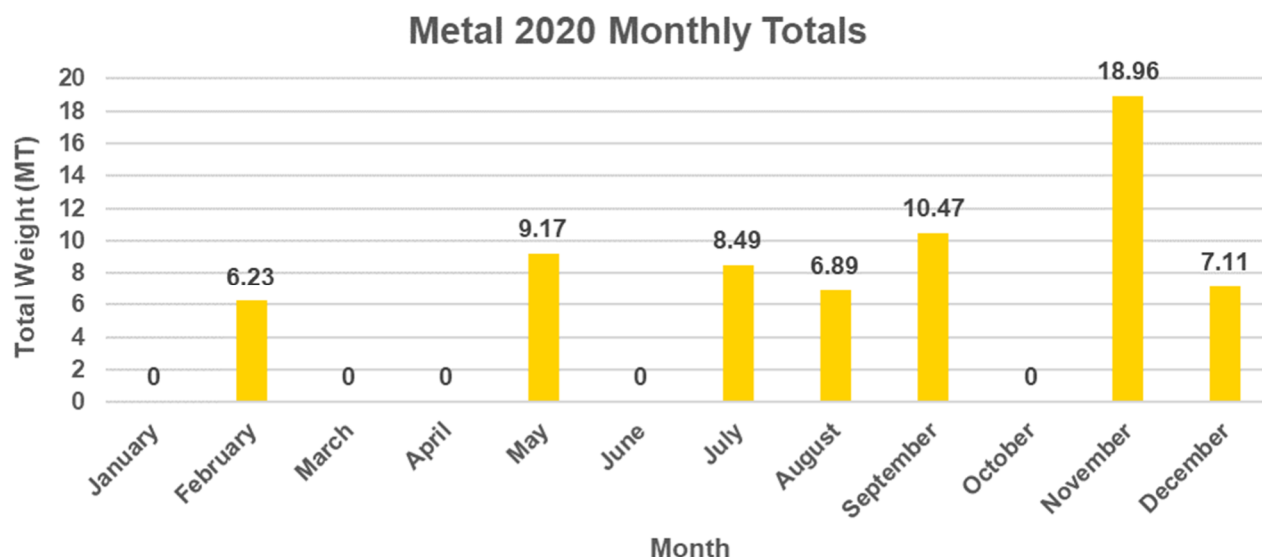


Figure 6-6: 2020 Metal Waste Quantities

## 6.6. RECYCLING

Figure 6-7 illustrates the overall cardboard waste generated during the construction of the TASR during the 2020 reporting period. Cardboard waste levels varied from 0.13 to 2.72 metric tons throughout the year with a maximum volume of 2.72 metric tons in October.

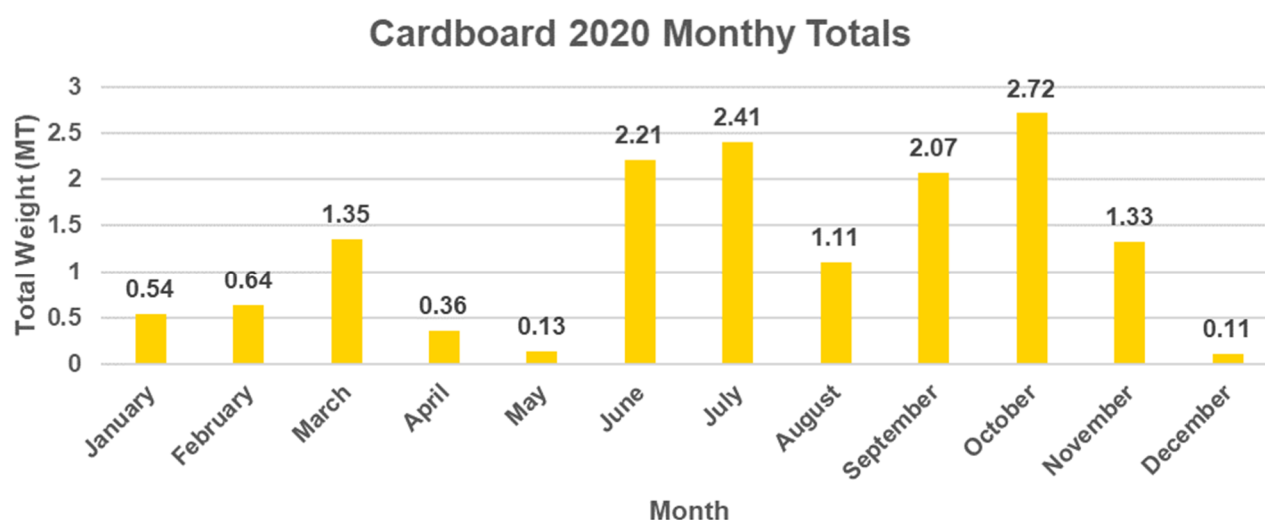


Figure 6-7: 2020 Cardboard Waste (Recycled) Quantities



## 6.7. HAZARDOUS WASTE

As seen in Table 6-1, most of the hazardous waste generated during the reporting period of 2020 primarily consisted of waste oil, followed by contaminated soil, contaminated rags and absorbents, and contaminated water. It should be noted that the contaminated soil volumes do not necessarily reflect soils that were impacted by spills. Out of an abundance of caution for the environment, soils that were removed from the Maintenance shop (that had fallen or been removed from heavy equipment during maintenance and repairs) were always considered contaminated and disposed of accordingly. The complete listing of hazardous waste sources is displayed in Figure 6-8. All hazardous waste generated during the 2020 reporting period was collected by KBL Environmental Ltd, a registered hazardous waste carrier. The waste was transported and disposed at their approved facility for treatment/disposal.

Table 6-1: Description of hazardous waste and quantities for 2020

| DESCRIPTION                         | QUANTITY |
|-------------------------------------|----------|
| Waste Oil                           | 30,180kg |
| Contaminated soil with Hydrocarbons | 16,000Kg |
| Contaminated Rags and Absorbents    | 4080kg   |
| Contaminated Water                  | 3558Kg   |

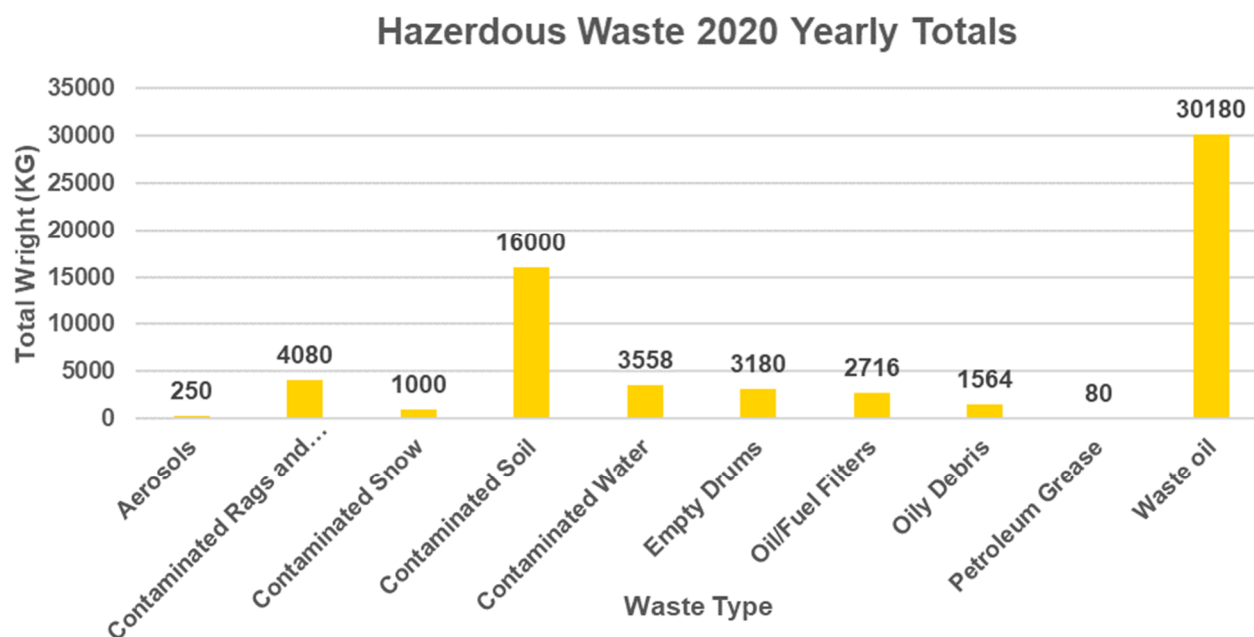


Figure 6-8: 2020 Hazardous Waste Quantities

## 6.8. SEWAGE

Figure 6-9 shows the sewage waste generated during the 2020 reporting period. The maximum amount of sewage generated during the reporting period occurred in the month of August amounting to approximately 779.7 cubic meters of sewage waste generated. The increase in sewage waste produced for the summer of 2020 was due to a large labour force that was present on the TASR. Wastewater was collected by Kavanaugh Brothers and hauled to the sewage treatment facility in Yellowknife.

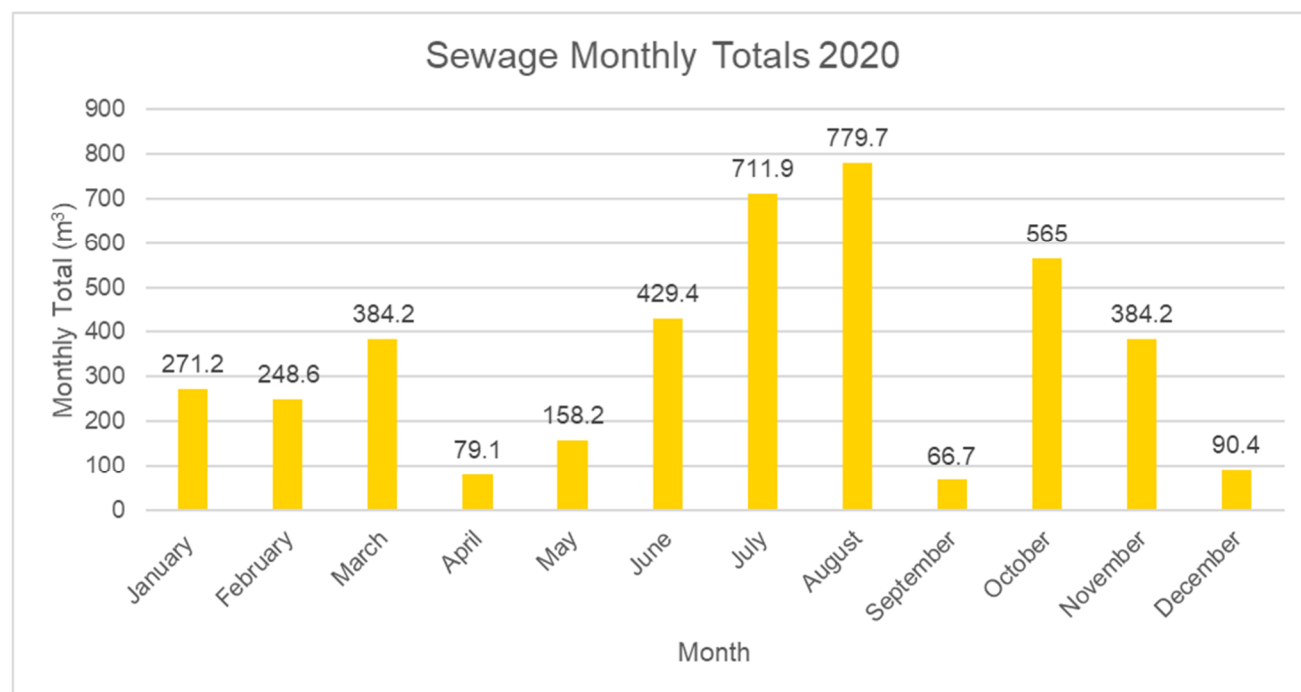


Figure 6-9: 2020 Sewage Monthly Quantities

## 6.9. WASTE MANAGEMENT METHODS

As noted above, various waste streams are generated on the TASR project. It is essential that the waste is handled, stored and managed in a safe and environmentally responsible manner. The waste management program implemented on the TASR site is utilized to minimize waste production by applying the principles of reducing the use of materials, reusing materials (whenever possible), recycling materials and recovering value from used materials. The management methods for each of the different waste streams that are generated on site are discussed in more detail below:

### 6.9.1. SOLID WASTE

The solid waste streams that are generated on site consist of:

- domestic waste,
- wood,
- metal,
- recyclables and
- construction waste

All the solid waste streams are stored in a designated location at Kilometer 19+800 (Main Camp Laydown) as outlined in Section 26 (1) Condition 57 of the Land Use Permit. Each waste stream is segregated and stored in

30 yd roll-off bins that are clearly labeled. The waste types are removed from site by Kavanaugh Brothers and offloaded at the City of Yellowknife Landfill, the recycle depot and Precision North Recycling (steel).

### 6.9.2. HAZARDOUS WASTE

Hazardous waste generated at the site from various waste streams fall under various categories including:

- Contaminated Soils
- Waste Oils
- Used oil Filters
- Contaminated soil from spill cleanup
- Oily absorbent rags
- Contaminated plastic containers
- Antifreeze
- Solvents
- Batteries

These various hazardous waste streams are actively segregated and stored within the maintenance laydown area, shop, and Quonset building (Figure 5.1). All hazardous waste containers are covered from the elements and each container is clearly marked noting content and date of generation. The containers are inspected regularly to ensure waste is properly segregated and no leaks are detected in the containments. Secondary containment for storage containers is either integrated or supplemented externally and are also inspected and maintained to ensure effectiveness and maximum volume is available.

As noted in Section 6.7, the waste is removed from the laydown as requested by site and transported by KBL Environmental Ltd and Kavanaugh Brothers Ltd who are registered hazardous waste carriers. The waste is transported and disposed at their approved facility for treatment/disposal.

### 6.9.3. SEWAGE

The storage of sewage at the TASR project is primarily at the main camp or in porta-potties stationed throughout the sites where active work is taking place. Sewage waste is removed by Kavanaugh Brothers twice a week or on an as-needed basis. Sewage is hauled to the City of Yellowknife sewage treatment facility for treatment and disposal.

The Drill Camp at Station 0+000 had a sump constructed as per the Geo-technical Land Use Permit (LUP W2016S0009). This sump was monitored daily for proper ground filtration of wastewater. Additionally, the drill camp had a winterized sewage storage tank which was emptied on a regular basis by Kavanaugh Brothers. This camp facility is no longer in operation.

There are four (4) auxiliary holding tanks (lift stations) at the Main Camp (19+800). One is positioned to service the kitchen, one is in place for Dorm A and B, one for Dorm C, and lastly a holding tank for Dorm D. Heat-traced lines connect these lift stations to the 15,000L heated storage tank on the south side of camp. Kavanaugh Brothers serviced the camp during peak working times typically once a day, and on as-needed basis during off-times with a vacuum truck.

On the TASR alignment and at times in pits/quarries, self-contained and heated portable toilets were stationed in active work fronts for construction personal. These portable toilets were emptied routinely using the same vacuum truck as noted above.

### 6.9.4. SOLID WASTE ACCEPTED BY LOCAL COMMUNITIES

Currently the solid waste streams generated on the TASR project are not sent to the local communities of Whati and Behchokq for disposal. Kiewit continued to use its established vendors to collect and dispose of the waste generated from the project to the City of Yellowknife.



## 7. SUMMARY OF CONSTRUCTION ACTIVITIES

Construction on the Tłıchǫ All Season Road right-of-way commenced on September 3, 2019 upon receiving approval from the WLWB and GNWT. During the 2020 reporting period (January 1st, 2020 to December 31st, 2020) construction activities on the TASR were conducted between Stations 0+000 up to Station 96+200 and included:

- Pioneering
- Vegetation clearing (RoW and pits/quarries)
- Stripping of Right-of-way
- Establishing borrow sources
- Roadway embanking
- Blasting operations
- Temporary crossings and Permanent bridges
- Installation of culverts
- Ditch slope finishing
- Road topping

### 7.1. PIONEERING

Access road improvements occurred in the winter of 2020 to facilitate access for equipment and light duty vehicles in Segment 3 and 4. Pioneering of access trails generally followed the centre line of the approved RoW. Vegetation was cleared and large boulders were relocated to the edge of the trails to provide safe and efficient travel to various work fronts until the actual road embanking was completed through various sections (see Photo 4). Details of pioneering activities along the TASR alignment were documented in weekly reports during the 2020 construction period.



*Photo 4. Looking at a pioneered access road in Segment 3*

### 7.2. VEGETATION CLEARING

Machine clearing of the Right of Way (RoW), was completed on the TASR in Segment Three (3) and Four (4) between January 10<sup>th</sup>, 2020 to March 18<sup>th</sup>, 2020 (see Photo 5). At the end of March 2020 Brave Adventures Ltd.

finished machine clearing up to 96+200 where the TASR ties into the Whati Road. Hand clearing was conducted within the vicinity of major water crossings (Photo 6).

Pit 48A was cleared in preparation of aggregate extraction in two phases between March 1<sup>st</sup> and March 21<sup>st</sup>, 2020.

Vegetation clearing to facilitate access for test pitting at Pit 109 occurred between March 15<sup>th</sup> and March 21<sup>st</sup>, 2020. Wherever possible, tree clearing was minimized by utilizing existing access trails and previously disturbed areas by pre-planning access with drone imagery.

Limited vegetation clearing also occurred to extend the Camp 19+800 limits (south) between May 24<sup>th</sup> and May 30<sup>th</sup>, 2020.

Specific details and timing of all the clearing activities that occurred during the 2020 construction season were documented in the weekly reports.

On-going clearing was conducted during the 2020 construction season for borrow sources and widenings within the RoW limits. Prior to the commencement of any clearing operations, Pre-Clearing Wildlife and Bird surveys were conducted to sweep the area for any large mammals, bird nests, and animal dens. Surveys were completed as per Appendix F of the WMMP (Rev. 3.4) and are discussed in more detail in Section 7.4 of this report. When vegetation clearing occurred during the breeding bird season, Appropriately Qualified Professionals (AQP) were retained to complete the necessary bird sweeps and provide written clearance to proceed.



*Photo 5. Looking south at machine mulching near Station 74+750*





*Photo 6. Looking west at hand cutting activities at James River Crossing*

### 7.3. STRIPPING

Upon the completion of the clearing / mulching activities, the stripping of the right-of-way (RoW) commenced. The exception to this was in permafrost areas where stripping was not required/permitted. The material was pushed into windrows by bulldozers along the RoW tree clearing limits (see Photo 7). To ensure that wildlife movement was maintained across the TASR, approximately 4m wide gaps were left in the windrows approximately every 200m to allow wildlife to travel along or across the RoW. The progress of stripping activities along the TASR alignment were documented and submitted in weekly reports throughout the 2020 construction season.





*Photo 7. Looking south at stripped section of the TASR from Station 72+540*

## 7.4. ESTABLISHMENT OF BORROW SOURCES

During the reporting period, one (1) borrow source (Pit 48A at Station 53+000) and its access road was established in two (2) phases, the remaining pits listed below were excavated within the RoW boundaries on the TASR:

Pit 68A, Pit 76, and Pit 105 was utilized as RoW expansions instead of clearing the entire pit limits of vegetation. Upon approval from the GNWT Lands Inspectors, aggregate was sourced on the edge of the ROW for the length of the pit boundary.

All borrow sources that were opened during construction phase of the project will be remediated according to the governing pits/quarry permits. This generally involves addressing slope issues and ensuring proper drainage prior to the completion of the project. The progress of borrow source utilization and reclamation during the 2020 construction period were detailed in weekly reports. Photograph 8 below shows the typical dozer preparation of material prior to load and haul operations.





*Photo 8. Looking northeast at the preparation of material at Pit 48*

## 7.5. ROADWAY EMBANKMENT

Embanking operations which included cut and fill within the RoW limits and load-haul place from borrow sources continued through Segment 2, 3 and 4 throughout the reporting period. As required by the design, geo-textile fabric and geo-grid (Photo 9) were placed in areas of permafrost that were pre-determined in order to protect ground integrity and prevent slumping. The progress of road embanking by station including the sections requiring fabric and/or geo-grid was detailed in weekly reports.





*Photo 9. Embanking material being placed on geotextile at ~ Station 50+830*

## 7.6. BLASTING OPERATIONS

Blasting (drill and shoot) operations took place in Segment 1, 2, 3, and 4 (Figure 1-1) for ditch cuts, quarrying, and the removal of bed rock from the RoW (see Photo 10). The environmental processes in place for blasting follow the protocols that are detailed in the WMMP (Rev 3.4). Pre-blast surveys were conducted for every blast and generally occurred one hour prior to the blast to ensure no large mammals were within the blast radius.

The date and location of the blasts that occurred during the reporting period are provided in Appendix B. Additional details on the blast locations and pre-blast survey results were documented in weekly reports.



Nov 3, 2020 at 1:41:09 PM



Photo 10. Looking south at the loading of holes for a blast at Station 94+690

## 7.7. PERMANENT BRIDGES

The TASR has four (4) permanent bridges, Duport River, Unnamed Creek, James River, and LaMartre River. The details for the activities completed in 2020 have been provided in the sections below. Temporary crossings structures were installed at the crossing locations (except LaMartre River) to allow for continued access to advance the TASR construction. In all cases an initial ice crossing was required to place the temporary structures (see Photo 11). All Land Use Permit and Water License conditions were respected in terms of constructing the ice crossings including water tracking (for application on the approaches) and the use of clean snow. Each ice crossing was routinely inspected by the Department of Lands Inspectors during the process and operation. The temporary steel crossings have remained in place until the final bridges and their respective approaches can be completed (see Photo 12) .



*Photo 11. Big Ice applying water onto the ice crossing at the LaMartre River*





*Photo 12. Overhead drone image showing the temporary crossing at the James River*

### **7.7.1. BRIDGE PILING/FOOTINGS**

During the 2020 reporting period all piling operations were completed on the Duport River, James River and LaMartre River bridges. Due to the proximity to the river, extra precautions had to be taken to ensure no drill waste migrated into the river systems as shown in Photo 13.





Photo 13. Looking at pile drilling operations and mitigation measures at James River.

### 7.7.2. BRIDGE GIRDERS

Utilizing two cranes at each bridge location, girders were lifted into place and set on top of the pile cap beams or concrete box footer (see Photo 14). No environmental concerns were noted with these operations.



*Photo 14. Looking east at girder placement at the Duport River structure.*

### 7.7.3. GEOSYNTHETIC REINFORCED SOIL (GRS) ABUTMENTS

The geosynthetic reinforced soil abutments at all four of the river crossing structures were completed during the 2020 reporting period. The abutments were created to reinforce the approaches to the bridges which allowed for a stable and seamless transition from the bridge structures to the finished road surface. This involved layering geofabric and coarse granular material within wire cages at either end of the structures (see Photo 15). There were no environmental concerns noted during these operations.





*Photo 15. GRS abutment construction on the north side of the James River.*

#### 7.7.4. GROUTING OPERATIONS

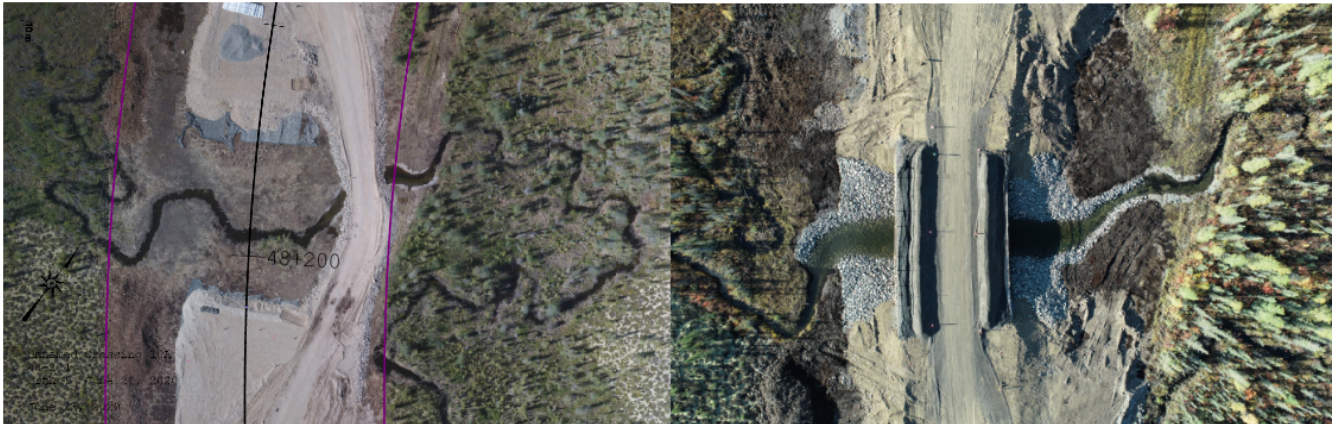
Duport River, Unnamed Creek, and LaMartre River grouting operations were all completed in 2020. The James River Bridge will be grouted in 2021. It should be noted that some minor grouting will be required at the structures when the approach slabs are placed prior to final trimming and gravel topping. Grouting operations included the sealing of all joints and deck panels. Prior to grouting, leak testing with water was done to ensure there was no potential for a grout release to water. Next each joint was filled with grouting material from an on-site batch plant that was fully contained in a berm feature. One reportable incident occurred at Duport River where grouting material was released accidentally to the river below, details of the event are generally described in Section 11.2. The remainder of the grouting operations were completed without incident.

#### 7.8. INSTALLATION OF CULVERTS

The TASR project requires seventeen (17) water crossings including ephemeral drainages at the headwaters of permanent watercourses further downstream. Additionally, balance culverts were installed in certain areas to facilitate for proper drainage of the surrounding area and ditch lines. In total 75 culverts were installed during the 2020 reporting period. A detailed list of culvert installations can be found in Appendix C. Some of these culverts are installed in accordance with best management practices (BMPs) set out in the Fish and Fish Habitat Protection Plan (FFHPP) and measures recommended in the Erosion and Sediment Control Plans. Photo 16



shows an aerial view of the stream reconstruction for the arch culvert at Station 48+200, this culvert was designed and installed to ensure the channel remains passable for fish during highwater events.



*Photo 16. Overhead view of the 10A culvert before and after installation.*

## 7.9. DITCH SLOPE FINISHING

Prior to the initial road topping of the TASR, ditch lines were trimmed and finished to ensure stable fore and back slopes as well as meet design slopes and grades to facilitate proper drainage. These activities primarily took place in Segment 1 and Segment 2 during the 2020 construction season and began in mid to late June.

## 7.10. ROAD TOPPING

The initial placement of gravel road topping began in late July 2020 in Segment 1 and continued until early October ending at the Unnamed Creek (approximately Station 45+000). The approaches to the Duport and Unnamed structures were not top-dressed with gravel nor was gravel placed at the rock through-cut at Km 34. The gravel topping was placed to protect the subgrade as well as to advance the gravel placement. The gravel was generally placed to 80% of the total gravel topping required.

## 7.11. CRUSHING OPERATIONS

Crushing operations occurred at various times throughout the 2020 construction period generating materials required for the construction of the TASR. The 2020 started out with finishing the Des4-20 production at Pit 2B for road gravel, the crusher was then moved to KM 17 then KM 34 producing Des4-20 for road gravel in both of those locations. While at KM 34, Class 1 and Class 1M riprap was produced for bridge armoring and culvert aprons, and Des2-40 was produced for structural fills.

Later in the summer a second crusher was mobilized to KM 79 where Class 1 & 1M was produced for the bridges, 40x10mm clear stone was produced for culvert winter fill, and Des4-20 was produced for road gravel. Once crushing work was concluded at KM 34 and KM 79 in the fall, both crushers were mobilized to KM 59 to produce Des4-20 for road gravel. When the crushing at KM 59 (Photo 17) was completed for the season, both crushers were then mobilized to Pit 105 to produce Des4-20 for road gravel.

Nov 3, 2020 at 12:47:11 PM



*Photo 17. Looking north west at crusher operating in road cut at ~ Station 59+000.*



## **8. MODIFICATION AND / OR MAJOR MAINTENANCE WORKS**

During the reporting period, there was one noted modification related to the installation of a culvert at approximately Station 46+200. In this location, a temporary drainage pipe was placed in the spring of 2020 to convey surface flow across the TASR eliminating sedimentation risk to Unnamed Lake. The introduction of flow into Unnamed Lake from the temporary pipe inadvertently attracted cyprinids (minnows) and encouraged upstream migration which led to a fish stranding event. In response to the potential impacts on fish, the culvert(s) were installed to provide for fish passage.

## **9. CLOSURE AND RECLAMATION**

Throughout the 2020 construction period progressive pit reclamation took place which involved the re-grading of pit floors to ensure positive drainage and the pulling back of stripped topsoil and mulch and spreading over the pit floor. In total, four (4) pits were reclaimed to varying degrees. Pit 13C, Pit 21B, Pit 33A and Pit 48 were partially reclaimed to approximately 90%, 80%, 85% and 95% respectively. Once the pits have been completely reclaimed during the 2021 construction season the Department of Lands Inspectors will assess the effort and provide acceptance of the reclamation or guidance as to any additional reclamation actions required.

## **10. EROSION AND SEDIMENT CONTROL ACTIVITIES**

An Erosion and Sediment Control Plan (ESCP) was developed and approved for the TASR project with the intent of providing a guidance document with regards to mitigating erosion during construction. It incorporates and recommends the use of the 2013 GNWT Erosion and Sediment Control Manual as well as other guiding documents and best management practices (BMPs) to prevent the release of sediment into streams during construction activities and to ensure compliance with the Federal Fisheries Act Section 36(3) which prohibits the deposition of deleterious substances into waterbodies frequented by fish. It provides reference to other approvals, relevant standards, control plans and procedures for training, communications, investigations, corrective actions and audits required under the Project Agreement. It also satisfied the requirement of Conditions under Part C of the Water License.

The ESCP was developed with an assumed schedule and approach to construction with some flexibility to adjust based on actual construction progress. To that end, critical areas were identified including 17 key watercrossings that would be subject to the highest degree of risk of sedimentation. Erosion and sediment control risks were routinely evaluated as construction activities advanced. Generally, the flat topography found through the majority of the active construction areas diminished the risk of extensive erosion. Consequently, drainage features identified as key water crossings ESCP became the focus areas of ongoing monitoring. Weekly monitoring of these erosion and sediment control (ESC) measures allowed for adjustments, improvements or to bolster existing measures if stability or functionality concerns were noted.

Between Station 0+000 and Station 45+000, extensive final trimming and grading of ditch lines was completed in 2020 in advance of gravel topping. Erosion and sediment control features included in the final TASR design through these stations were also installed including rock aprons, check dams and rip rap lining. Additionally, BMP's like slope track packing was conducted in appropriate areas dictated by slope heights (>2.0m).

The approved ESCP provided detailed plans and sequencing for the construction of large water crossings on the project such as Unnamed Creek, James River, Duport River and LaMartre River. While the timing and sequence of construction did not allow for the full ESC plans to be executed, the fluid nature of ESC planning and adaptive management allowed for site specific protections to be developed and installed. Prior to the 2020 winter shutdown, extensive ESC measures around the major watercrossings were constructed including rip rap lining of approach ditches, rock check dams, rock berms and silt fencing. No erosion and sediment control issues were

noted by TASR environmental staff nor other regulatory personnel during the 2020 construction season including the during the spring freshet period.

## **11. WATER MONITORING, USAGE AND REPORTING**

### **11.1. WATER QUALITY MONITORING**

This Water Monitoring Plan (WMP) provides specific guidance for monitoring the effects of in-water construction on suspended sediments. The road alignment crosses 17 water bodies, of which 12 have ephemeral or intermittent flow, and five have permanent flow that had the potential to initiate the WMP. During the 2020 reporting period the WMP was initiated at 4 out of 5 permanent water crossing in advance of construction activities and when the construction operations posed a risk of sedimentation during critical work phases. It should be noted that the water monitoring plan for the LaMartre River was never initiated as the majority of critical works were completed during frozen conditions. Additionally, the size and water volumes of the LaMartre River represented significant safety risks for personnel to undertake water sampling. Sampling plans and strategies were internally developed and ready for execution if any erosion or sedimentation arose during the reporting period.

No elevated levels of sediment triggered the exceedance thresholds in any of the watercourses sampled during construction period including during the inwater rip rap placement at the James River crossing. It should also be noted that Department of Fisheries and Oceans representatives were on site during the placement of this rip rap and were pleased with the care and control demonstrated by Kiewit.

The following sections provide a brief summary of the water quality monitoring events for each crossing and the plotted results of the sampling undertaken during critical construction stages relative to the TSS threshold derived from the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life. Figures for the sampling locations at each of the crossings can be found in Appendix D. Calibration logs, TSS correlation data sheets, photographic records of sampling events by station and laboratory analyses can be provided as requested.

#### **11.1.1. DUPORT RIVER**

Figure 11-1 shows the 2020 results from the turbidity-TSS sampling that was conducted on the Duport River from the established sampling stations. The majority of the results that are plotted are a result of the sampling done to establish the correlation between measurements taken in the field using a portable meter (measured in NTU or Nephelometric Turbidity Units) and water samples taken and analyzed in an accredited laboratory and measured in TSS (Total Suspended Solids). The requirement for water sampling was triggered when a work activity or circumstance (i.e. rain event) represented a risk of increased sediment loading or as required to maintain an acceptable correlation between NTU field measurements and laboratory TSS samples. The orange line depicts the daily compliance threshold for TSS which would represent a change of 25mg/L from background for any short time exposure (24hr period). In the event that sampling results approached or exceeded this threshold, work activities could be modified or halted as needed to maintain compliance. It should be noted that the vast majority of in or near water construction activities were completed during the winter months with ice cover that precluded risk of sedimentation as well as baseline and activity-based sampling.

As clearly depicted in the figure below, the water quality monitoring showed little to no change to background conditions and certainly did not approach the compliance threshold.



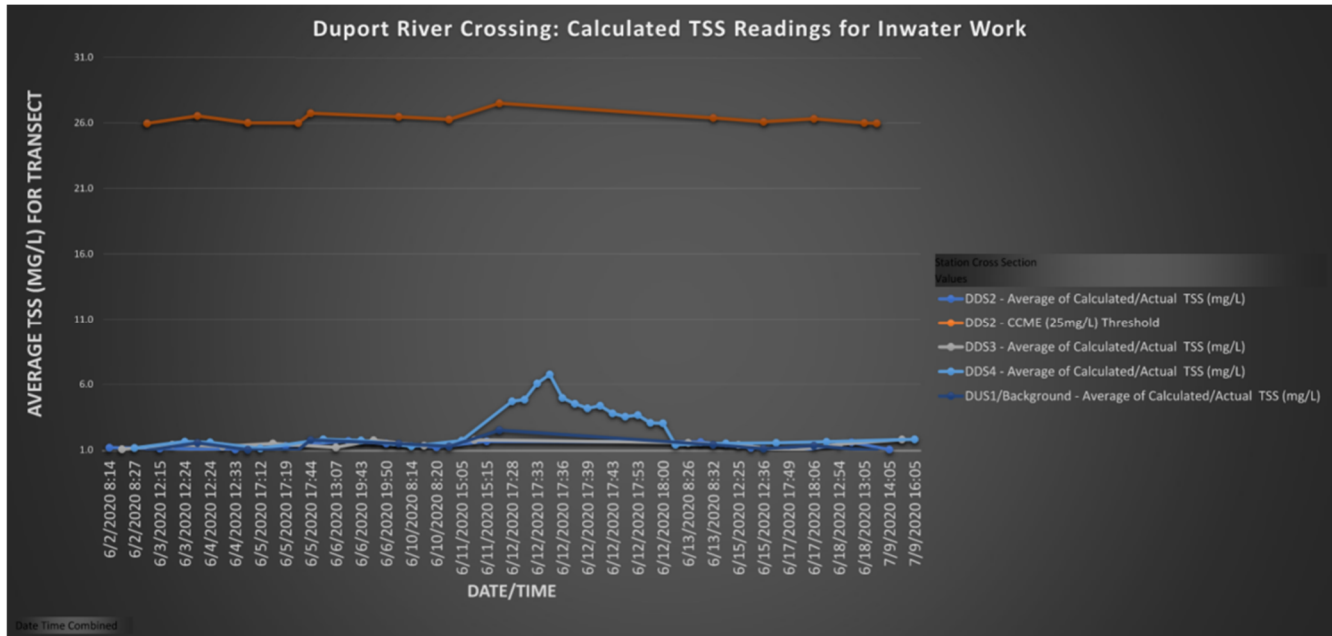


Figure 11-1: Duport River TSS monitoring and compliance tracking

## Unnamed Creek

Figure 11-2 shows the 2020 results from the turbidity-TSS sampling that was conducted at Unnamed Creek from the established sampling stations. The results that are plotted are a result of the sampling done to establish the correlation between measurements taken in the field using a portable meter (measured in NTU or Nephelometric Turbidity Units) and water samples taken and analyzed in an accredited laboratory and measured in TSS (Total Suspended Solids). The requirement for water sampling was triggered when a work activity or circumstance (i.e. rain event) represented a risk of increased sediment loading or as required to maintain an acceptable correlation between NTU field measurements and laboratory TSS samples. The orange line depicts the daily compliance threshold for TSS which would represent a change of 25mg/L from background for any short time exposure (24hr period). In the event that sampling results approached or exceeded this threshold, work activities could be modified or halted as needed to maintain compliance. It should be noted that the vast majority of in or near water construction activities were completed during the winter months when Unnamed Creek was frozen to bottom.

As clearly depicted in the figure below, the water quality monitoring showed little to no change to background conditions and certainly did not approach the compliance threshold.

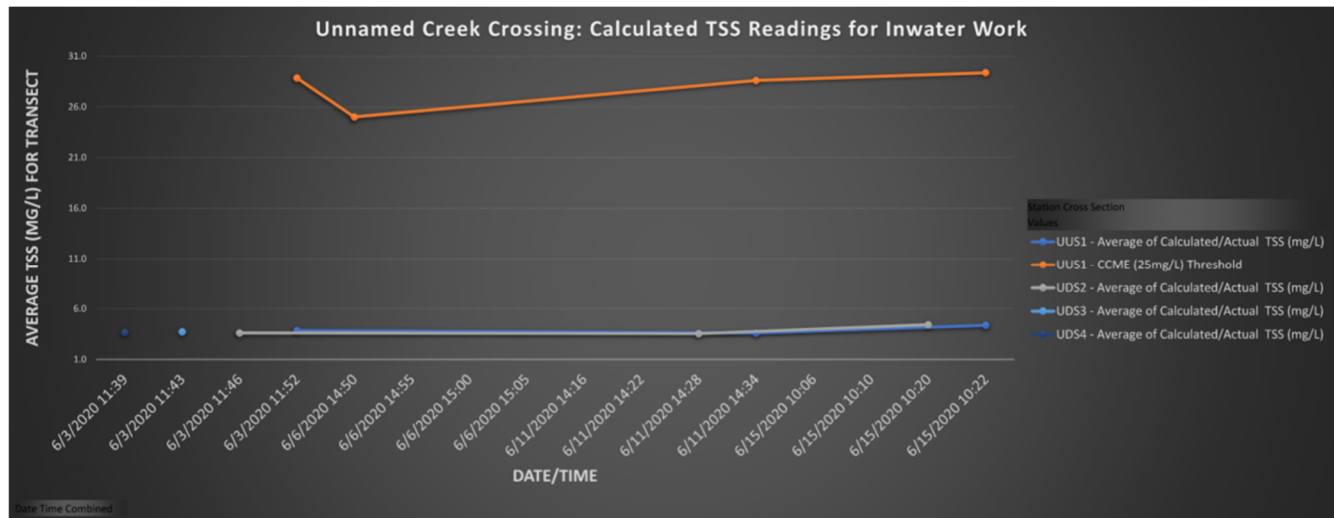


Figure 11-2: Unnamed Creek TSS monitoring and compliance tracking

### 11.1.2. CROSSING 10A

Figure 11-3 shows the 2020 results from the turbidity-TSS sampling that was conducted at Crossing 10A from the established sampling stations. The results that are plotted are a result of the sampling done to establish the correlation between measurements taken in the field using a portable meter (measured in NTU or Nephelometric Turbidity Units) and water samples taken and analyzed in an accredited laboratory and measured in TSS (Total Suspended Solids). The requirement for water sampling was triggered when a work activity or circumstance (i.e. rain event) represented a risk of increased sediment loading or as required to maintain an acceptable correlation between NTU field measurements and laboratory TSS samples. The orange line depicts the daily compliance threshold for TSS which would represent a change of 25mg/L from background for any short time exposure (24hr period). In the event that sampling results approached or exceeded this threshold, work activities could be modified or halted as needed to maintain compliance. It should be noted that the elevated levels recorded on September 5 and 7, 2020 document the slow activation of the newly constructed channel after bypass pumping was discontinued.

As clearly depicted in the figure below, the water quality monitoring showed little to no change to background conditions and certainly did not approach the compliance threshold.



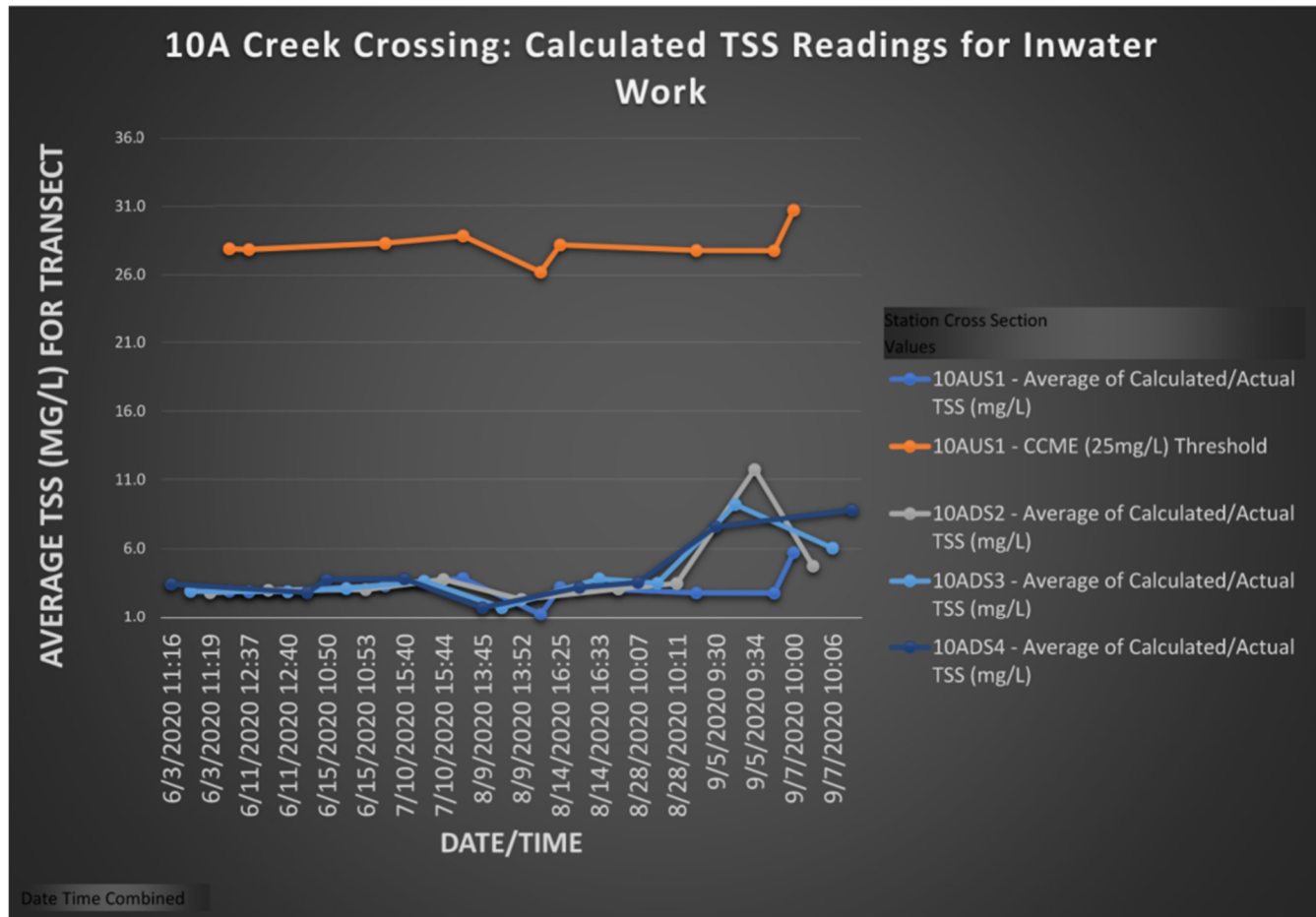


Figure 11-3: Crossing 10A TSS monitoring and compliance tracking

## James River

Figure 11-4 shows the 2020 results from the turbidity-TSS sampling that was conducted at the James River from the established sampling stations. The results that are plotted are a result of the sampling done to establish the correlation between measurements taken in the field using a portable meter (measured in NTU or Nephelometric Turbidity Units) and water samples taken and analyzed in an accredited laboratory and measured in TSS (Total Suspended Solids). The requirement for water sampling was triggered when a work activity or circumstance (i.e. rain event) represented a risk of increased sediment loading or as required to maintain an acceptable correlation between NTU field measurements and laboratory TSS samples. The orange line depicts the daily compliance threshold for TSS which would represent a change of 25mg/L from background for any short time exposure (24hr period). In the event that sampling results approached or exceeded this threshold, work activities could be modified or halted as needed to maintain compliance. The variability in data plotted for JDS 4 (James River Downstream Station 4) represents the period of time when water quality monitoring was concurrent with the inwater placement of rip rap on the north side of the crossing. This work was approved by DFO to proceed without the installation of silt curtains and representatives from DFO were on site to observe the placement of rip rap for the full duration.

As clearly depicted in the figure below, the water quality monitoring showed little to no change to background conditions and certainly did not approach the compliance threshold.

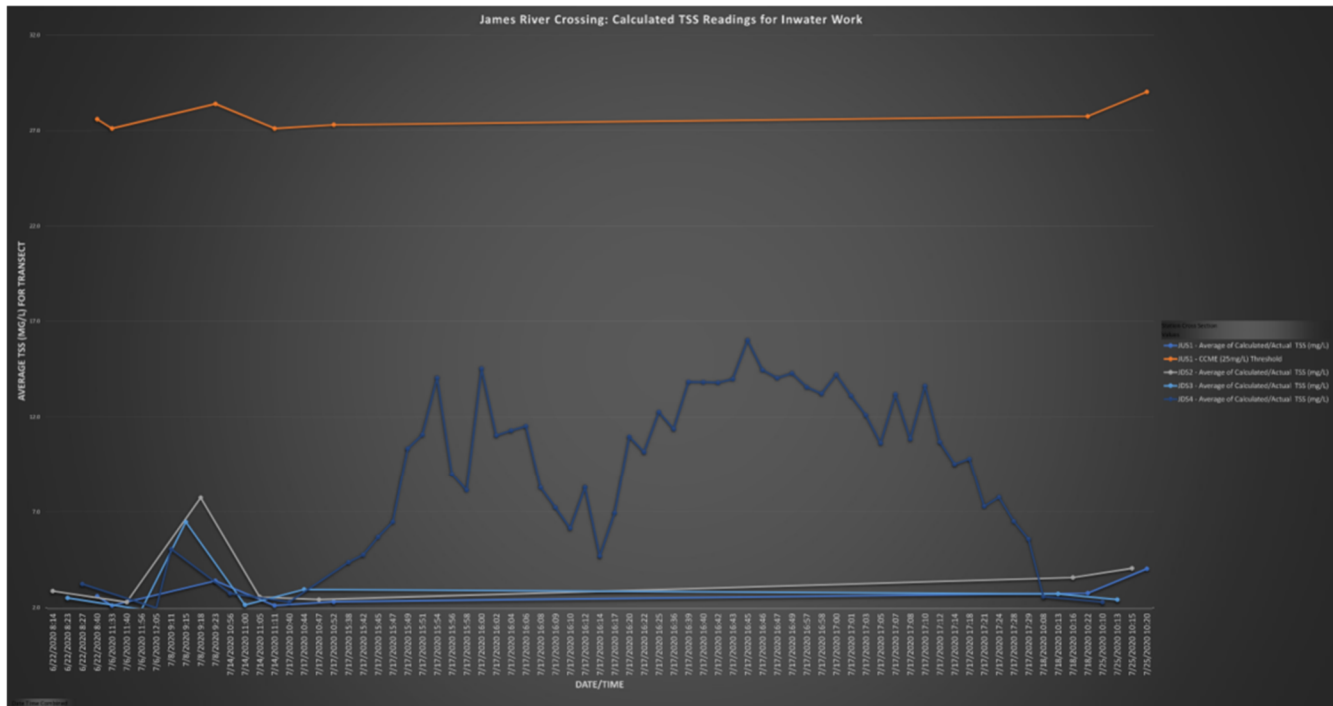


Figure 11-4: James River TSS monitoring and compliance tracking

## 11.2. WATER USAGE

### 11.2.1. CALIBRATION - WATER METER/SAMPLING DEVICES

During the 2020 construction season, no flow meters or gauges were utilized to track water quantities. Rather, truck load counts were used to document consumptive water use. These water withdrawal load count records were provided to the Environmental Department at the end of each shift where they were entered into an Excel spreadsheet for tracking and compliance purposes.

The LaMotte 2020i turbidity meter was calibrated following manufacturers guidance (weekly) and prior to all sampling efforts for the water quality monitoring program. A calibration log of the turbidity meter was maintained as per the Water Quality Monitoring Plan on the Project SharePoint site and is available upon request.

### 11.2.2. WATER USAGE

As outlined in the Water License W2016L8-0001, the WLWB set various requirements for GNWT-INF to comply with to withdraw water and minimize the impact to the environment. The following Conditions were adhered to when withdrawing water for use during project construction:

- The Licensee may only withdraw up to 299 m3/day of Water for the Project.
- The Licensee shall only obtain water from the approved Water Sources
- In any single year, the Licensee shall not withdraw greater than 10% of the available water volume of any Water Source.
- In any single ice-covered season, the Licensee shall not withdraw greater than 10% of the available water volume of any Water Source, as calculated using the appropriate maximum expected ice thickness.
- The Licensee shall not withdraw greater than 10% of instantaneous flow.

- Prior to locating a water intake in a fish-bearing watercourse, the Licensee shall obtain written authorization for the location from an Inspector.

On November 18<sup>th</sup>, 2020 the Minister of ENR approved the Type A Water License (W20202L8-0001) for the TASR and the new permit will be utilized during the 2021 construction season. The new permit increases the daily water intake for consumptive purposes to 900 m<sup>3</sup>/day once the Type B license is cancelled.

The monthly and annual quantities of water withdrawn from approved water sources is provided in Table 8-1. The consumptive use of water was primarily for the purposes of dust suppression, grouting, and road compaction. Water volumes extracted from approved sources were tracked and reported (see Appendix E). A breakdown of June and August daily water volumes is detailed below in Figure 7-1 and 7-2 to demonstrate that no exceedance of the allowable limit (299 m<sup>3</sup>/per day) occurred during the 2020 reporting period.

It should be noted that water withdrawals required for the various work fronts during each shift were pre-planned to ensure that the amounts taken from the approved sources were not exceeding either the available or cumulative daily allotment of 299m<sup>3</sup>/day.

Due to heavy rain fall and snow melt during the 2020 reporting period, standing ditch water was utilized for road construction (dusty suppression/compaction) whenever possible to adhere to the Land Use Permit (W2016E0004) condition 26(1)(f) to control or prevent ponding of water, flooding, erosion, slides and subsidence of land while simultaneously reducing the volume of water required from natural sources. All extraction locations within the ditch lines were inspected and approved by the Environmental Department to ensure that there were no impacts to adjacent watercourses, lakes or ponds.

Table 11-1: Monthly and Annual Water Quantities extracted from approved water sources

| WATER QUANTITIES EXTRACTED FROM APPROVED WATER SOURCES<br>IN METERS CUBED FOR CONSUMPTIVE PURPOSES |         |          |       |       |     |      |      |        |           |         |          |          |                                       |
|----------------------------------------------------------------------------------------------------|---------|----------|-------|-------|-----|------|------|--------|-----------|---------|----------|----------|---------------------------------------|
| Source                                                                                             | January | February | March | April | May | June | July | August | September | October | November | December | Annual Total Volume (m <sup>3</sup> ) |
| LaMartre River                                                                                     | -       | -        | 8     | -     | -   | -    | 5.62 | -      | -         | -       | -        | -        | 13.62                                 |
| Duport River                                                                                       | -       | -        | -     | -     | -   | -    | 13.5 | -      | -         | -       | -        | -        | 13.5                                  |
| James River                                                                                        | -       | -        | -     | -     | -   | -    | 49.5 | 258    | 35        | -       | -        | -        | 342.5                                 |
| Unnamed Creek                                                                                      | -       | -        | -     | -     | -   | -    | -    | -      | -         | -       | -        | -        | 0                                     |
| Peanut Lake                                                                                        | -       | -        | -     | -     | -   | -    | -    | 1500   | -         | -       | -        | -        | 1500                                  |
| Unnamed Lake 12                                                                                    | -       | -        | -     | -     | -   | 1050 | -    | -      | -         | -       | -        | -        | 1050                                  |



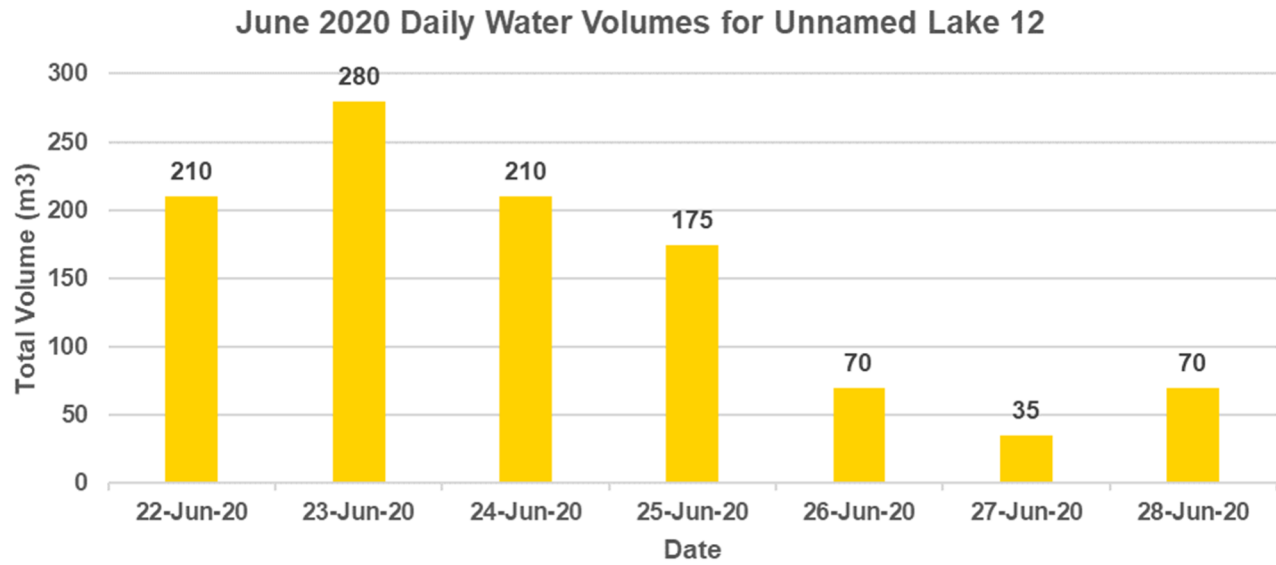


Figure 11-5: June 2020 Daily Water Volumes from Unnamed Lake 12

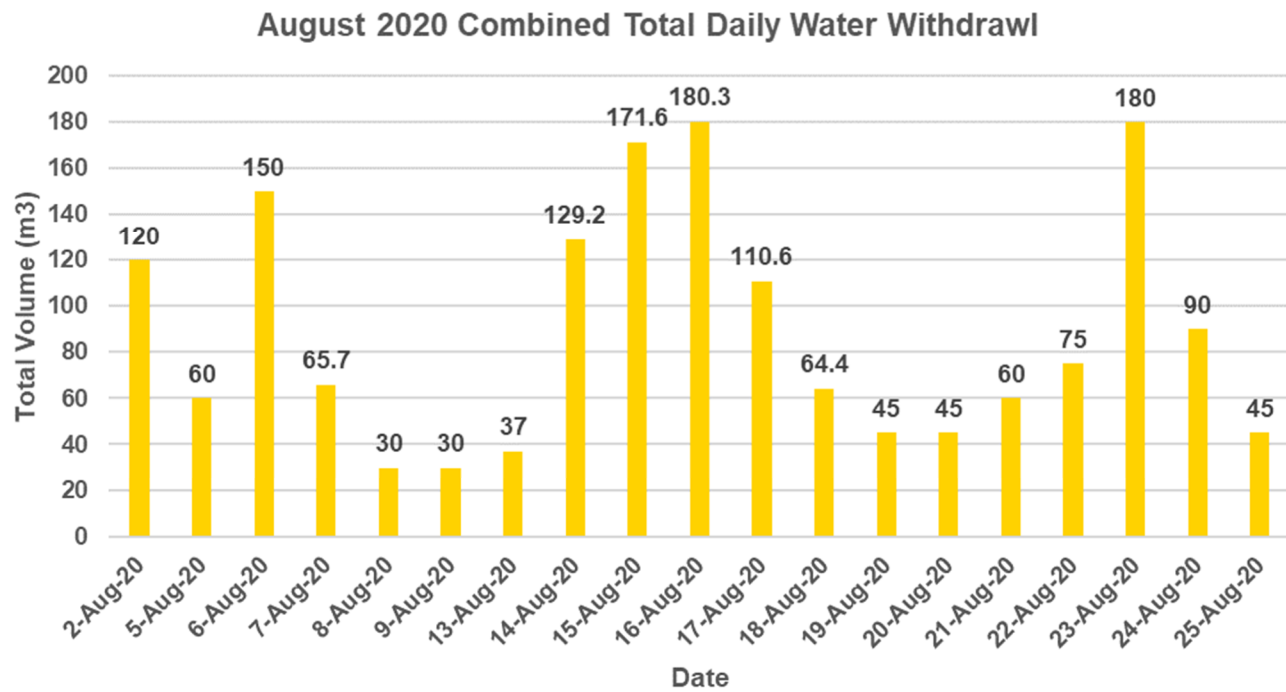


Figure 11-6: August 2020 Peanut Lake and James River Combined Water Volumes

## 12. SPILLS AND UNAUTHORIZED DISCHARGES

As required in Part 1 of the Water Licence, a Project specific Spill Contingency Plan (SCP) including prevention planning and response of hazardous material spill and unauthorized discharge of waste was developed for the TASR project. The SCP was developed in accordance with the Guidelines for Spill Contingency Planning prepared by Indian and Northern Affairs Canada (INAC 2007) and the Spill Contingency Planning and Reporting Regulations issued under the Environmental Protection Act (EPA).

The purpose of the SCP is to provide a guide to all site personnel in the event of an accidental release of fuel or other materials during the construction of the TASR. All Project personal and contractors are required to read and be familiar with the SCP, which is required to meet the minimum standards set out in the Project specific SCP.

All reporting, remediation and documentation of hazardous material releases and unauthorized discharges of waste is carried out as per the requirements outlined in the Project specific SCP.

### 12.1. SPILLS

Most of the hazardous material releases recorded during the reporting period (January 1<sup>st</sup> to December 31<sup>st</sup>, 2020) were the result of contractor activities that were being conducted onsite. The releases were a result of improper maintenance procedures, human-error, or mechanical failure. A total of sixty-two (62) hazardous material releases occurred during the reporting period (see Figure 11.1). All impacted soils resulting from these releases were fully remediated and the contaminated materials were disposed offsite at a licensed facility.

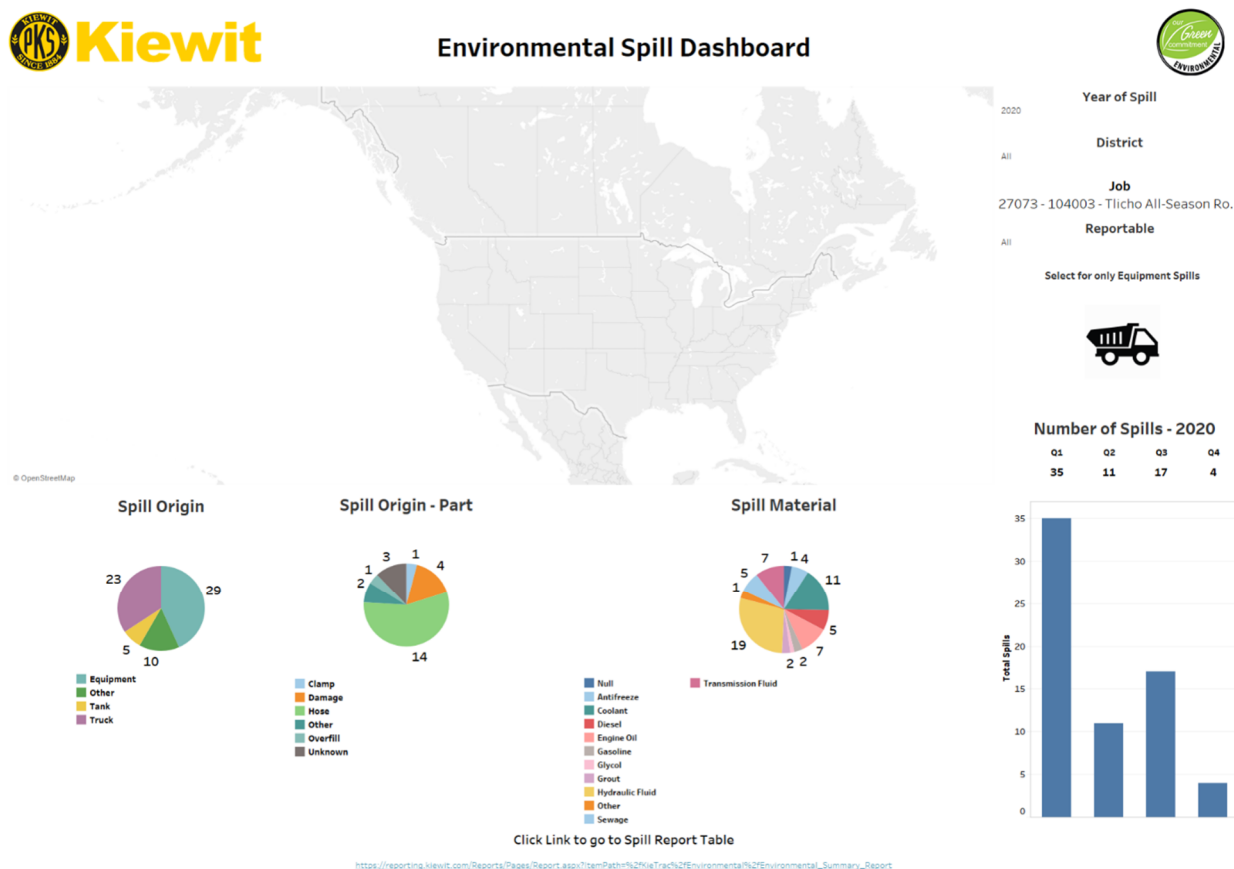


Figure 12-1: Spills Dashboard for the TASR project for 2020

## 12.2. UNAUTHORIZED DISCHARGES

During the reporting period (January 1<sup>st</sup> – December 31<sup>st</sup>, 2020) there were a total of eight (8) unauthorized discharged of materials that were reportable to the 24-Hour NWT – Nunavut Emergency Spill Reporting Line. Table 12-1 provides a description, volumes for each unauthorized discharge and a summary of the follow-up actions taken.

Table 12-1: Unauthorized Discharges of Waste

| DATE      | DISCHARGE ID | DISCHARGE TYPE | VOLUME                        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | CORRECTIVE ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|--------------|----------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18-Feb-20 | EIR-SP-044   | Wastewater     | 2.0L                          | Upon routine site services, a Kavanaugh vacuum truck was sucking out a portable toilet when the suction hose caused the tank to tilt, releasing approximately 2 litres of sewage to snow.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The vacuum truck operator immediately cleaned up the liquid and impacted snow with the suction line and returned to Yellowknife to dispose of the waste at the sewage treatment plant.<br><br>Extra care when emptying sewage tanks on sit                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 10-Jun-20 | EIR-SP-062   | Hydraulic Oil  | 10L (less than 0.2L to water) | On June 10, 2020, at approximately 10:25 am, while installing bridge pipe pile at Duport River for the TASR project, a hydraulic line ruptured on the drill head. Hydraulic oil (~10 liters) was released to ground, impacting the rock armoring along edge of the water. A small amount of airborne oil (over spray) landed in water. The drill rig was immediately shutdown as ground crew quickly implemented the spill response plan.                                                                                                                                                                                                                                          | Marine booms were immediately placed around the affected area to prevent migration of oil into the nearby water way. Additional booms were deployed in areas where a visible sheen was present on water surface. The booms were continuously adjusted to ensure all the oil was contained. Once the area is fully cleaned, the contaminated marine booms will be removed, placed into waste bins for storage and then disposed of at an approved off-site facility.<br><br>Ongoing monitoring of the area will occur by the environmental department to ensure any trace of oil is collected and removed from the location<br><br>Inspect drill and all hydraulic line connections between each pile |
| 16-Jun-20 | EIR-SP-064   | Wastewater     | 15,000L                       | On the morning of June 16, 2020, Kiewit staff were conducting the daily camp inspection when the auxiliary tank for Dorm D was observed to be leaking waste water from the upper seal of the tank. Upon discovery, the maintenance superintendent immediately investigated the source of the leak and found that a subcontractor failed to switch the breaker on for the the lift station pump/audible alarm after the new dorm was powered up the day before. This oversight caused the lift station to over flow. Once the breaker was switched on, the pump immediately started and the lift station emptied into the main holding tank halting the leak from the lift station. | The Environmental Department assessed the area and placed lime on the impacted soils to neutralize the waste water. The impacted area has been remediated.<br><br>Inspect all infrastructure and levels twice daily                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |





| DATE      | DISCHARGE ID | DISCHARGE TYPE | VOLUME | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | CORRECTIVE ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|--------------|----------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11-Jul-20 | EIR-SP-070   | Wastewater     | 1,000L | On the morning of July 11, 2020, Kiewit staff were conducting the daily camp inspection when they noticed the main storage tank for wastewater had overflowed from the main inlet on the top of the tank. The staff member immediately notified the Environmental Department of the event and vacuum trucks from Yellowknife were dispatched to site.                                                                                                                                                                                                                                                                                                                                                                              | The staff member immediately notified the Environmental Department of the event and vacuum trucks from Yellowknife were dispatched to site.<br><br>Once they arrived the tank was emptied and any free material from the ground was vacuumed off. Lime was placed in the area to ensure that any remaining impacted soil is neutralized of contaminants. The maintenance department is working to install a new water level gauge on the side of the tank to ensure this occurrence does not happen again. |
| 1-Aug-20  | EIR-SP-072   | Wastewater     | 100L   | On the morning of August 1, 2020, Kiewit staff were conducting a daily camp inspection when wastewater was observed slowly leaking out of the discharge pipe from the washcart behind the offices at the Main Camp at 19+800. Upon discovery the Environment Department locked out the washcart and turned off the water effectively stopping the leakage. The Maintenance Department investigated and determined that the cause of the leak was the result of mis-wiring the emergency water shut which is linked to the tank level float during a recent pump replacement. A vac truck was immediately dispatched to site to pump the holding tank down and the emergency shut off was properly wired to prevent future leakage. | The Environmental Department assessed the area and applied lime on the impacted soils to neutralize the wastewater and effectively remediate the area.                                                                                                                                                                                                                                                                                                                                                     |
| 30-Aug-20 | EIR-SP-077   | Wastewater     | 500L   | On the evening of Aug 29, 2020, Kiewit staff were conducting the daily camp inspection when they discovered that the auxiliary tank between Dorm A and B had overflowed from the main inlet on the top of the tank due to a blockage in the pump causing it to overheat and seize                                                                                                                                                                                                                                                                                                                                                                                                                                                  | The staff member immediately notified the Environmental Department of the event and maintenance staff serviced the pump and it is now fully operational. On the morning of August 30, 2020, a vacuum truck from Yellowknife arrived on site and removed the remaining free material. Lime was placed in the area to ensure that any remaining impacted soil is neutralized of contaminants. Daily monitoring of all camp facilities occurs.                                                                |



| DATE      | DISCHARGE ID | DISCHARGE TYPE | VOLUME | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CORRECTIVE ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|--------------|----------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16-Sep-20 | EIR-SP-080   | Gasoline       | 0.05L  | On September 16, 2020 at approximately 7:45am, the Environmental Department was notified by Operations of a hydrocarbon sheen on the water in the east ditch line at ~ Station 24+300 that connects further south to a wet pocket that extends off the TASR RoW.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Environment staff attended the site, deployed marine booms to contain and recover the small amount of product from the water surface. An assessment of the incident determined that a small amount of gas that had spilled unnoticed into the spill tray during refueling was carried from the spill tray to the ditch line by leakage water from the trash pump when it was started. The trash pump was relocated further away from the water in the ditch line, absorbent pads were placed into the cleaned spill tray and additional marine absorbent booms were left in place to contain/collect any trace hydrocarbons that remain on the pump or spill tray. Environment staff reminded operations of all the requirements for water pumping and special operating procedures for refueling close to water. |
| 22-Sep-20 | EIR-SP-083   | Grout          | 0.8L   | On September 22, 2020 at approximately 2:30pm, the Environmental Department was notified by Structures that a grout line had failed during the pouring of a transverse post tensioning duct at the Duport River structure (~ Station 40+380). Environment staff attended the site to assess the situation and attempt product recovery. The assessment of the incident determined that a small amount of grout (~ 0.8L) had escaped a failed grout line and into the Duport River. At the time of the incident, the plume from the release was observed and the grout pour was immediately halted and the scene frozen. Witness reports indicated that the plume was visible for under the structure and approximately 10m downstream for approximately 2-3 minutes before dilution with the river made it imperceptible further downstream. The subcontractor had pressure tested the lines with air prior to the introduction of grout but had failed to have personnel on both ends of the post tensioning duct to monitor the pour. | There was no opportunity for recovery<br><br>The methodology was reviewed with the subcontractor and additional measures including poly lined basket at each end of the post tensioning duct will be manned during each of the remaining duct pours and personnel in the baskets will hold buckets under the grout lines to ensure that any released grout will be intercepted before reaching the river. Environment staff participated in a stand-down and reinforced the environmental sensitivities within the work area and reminded the subcontractor of the expectations and special operating procedures for grouting over a watercourse.                                                                                                                                                                 |

## 13. CARIBOU MANAGEMENT AND HABITAT PROTECTION

The following section reports on the GNWT's activities undertaken with respect to Measures 6-1, 6-2, 6-3, 7-1 and 7-2 of the Report of Environmental Assessment (REA).

### 13.1. MEASURES 6-1, PART 1: DEVELOP AND IMPLEMENT RANGE PLANS

ENR hosted the second meeting of the Wek'èezhii range planning working group in Yellowknife on February 12, 2020. Participants included the Wek'èezhii Renewable Resources Board (WRRB), Tłıchǫ Government (TG), Yellowknives Dene First Nation (YKDFN), North Slave Métis Alliance (NSMA), Environment and Climate Change Canada (ECCC) and the GNWT departments of Industry, Tourism and Investment, Lands and Executive and Indigenous Affairs. Community meetings to document Traditional Knowledge (TK) about important areas for boreal caribou were planned to take place in summer 2020 but were delayed due to COVID-19 related restrictions. The TG held a TK mapping workshop in December 2020 that involved participants from Gameti, Whati, Behchokǫ and Wekweètì. The NSMA planned to conduct interviews of TK holders in early 2021. ENR provided financial support for this work.

Measure 6-1, Part 1 calls for the Wek'èezhii boreal caribou range plan to be submitted to the WRRB 90 days before the opening of the TASR. At the time the EA was concluded, and the measures were accepted by responsible ministers, the projected timeline for road construction was four years. Under the original circumstances (four-year construction timeline for the TASR), it would still have been very difficult to meet the timeline in Measure 6-1. Now, with an advanced opening date of November 2021, combined with delays due to COVID-19, it became extremely unlikely ENR would meet the timeline required by Measure 6-1. Therefore, ENR proposed that an "interim" boreal caribou range plan be prepared for the Wek'èezhii region. The interim plan will be based on the science and Indigenous knowledge information currently available and will be submitted to the WRRB by the required deadline of August 2021. The "interim" range plan may only be in effect for two (2) years (still to be confirmed), which would give the GNWT, Indigenous groups and co-management partners additional time to complete a full range plan respecting the process set out in the range planning Framework, and including full consideration of the Indigenous knowledge collected at future community meetings. The Wek'èezhii boreal caribou range planning working group was notified by letter of this proposed approach on August 07, 2020. The only written feedback to ENR was a letter from the WRRB indicating their support for this approach on August 31, 2020. ENR held a virtual working group meeting on September 16, 2020 to discuss the proposed interim range plan with the working group and did not hear any opposition to this approach from the organizations that were in attendance.

### 13.2. MEASURE 6-1, PART 2: INFORMATION AND ADAPTIVE MANAGEMENT REQUIREMENTS:

#### a) Monitoring to determine population trends, abundance, and distribution [of boreal caribou]

##### *Boreal Caribou Population Trend*

ENR initiated a boreal caribou monitoring program in the North Slave region focused on the TASR corridor in March 2017, with the deployment of 20 GPS collars on adult female caribou. Five more collars were deployed in the TASR study area in March 2018, and seven more collars were deployed in March 2019. No collars were deployed in March 2020. There were 27 active collars in the TASR study area as of December 31, 2020 (Figure 13-1), and there have been three mortalities, and one pre-mature collar release since the program began. One of the mortalities appeared to be a natural death with no evidence of predation (carcass was completely intact), one was likely due to predation (only the collar was found, and was chewed up), and one collared animal was



harvested. Annual survival rates of collared female caribou, as well as spring classification surveys used to estimate calf:cow ratios conducted in February or March each year, are used to estimate annual rates of population trend ( $\lambda$  = adult female survival/[1-female calf recruitment]) following Latham et al.'s (2010) modification of Hatter and Bergerud's (1991) equation. In Feb/Mar 2020, the boreal caribou abundance survey (described below) also served as the spring classification survey for the purpose of calculating the annual index of population trend. Table 13-1 below provides the annual adult female survival rate, calf:cow ratios and population trend index for the first 3 years of the monitoring program. To date ENR has observed high annual female survival rates, and an increasing population trend in all three years, but the calf recruitment rate was lower in 2019-20 than during the first two years of the program.

*Table 13-1: Adult female survival and calf: cow ratios are used together to estimate the annual population growth rate, or lambda ( $\lambda$ ). A value of 1.0 indicates a stable population; a value less than 1 indicates a declining growth rate; values higher than 1 indicate an increasing growth rate.*

| YEAR (APRIL 01-<br>MARCH 31) | ADULT FEMALE<br>SURVIVAL | CALF:COW RATIO | POPULATION TREND (LAMBDA) |
|------------------------------|--------------------------|----------------|---------------------------|
| 2017-18                      | 0.95                     | 32.6 : 100     | 1.10                      |
| 2018-19                      | 1.00                     | 37.2 : 100     | 1.19                      |
| 2019-20                      | 0.97                     | 26.2 : 100     | 1.09                      |

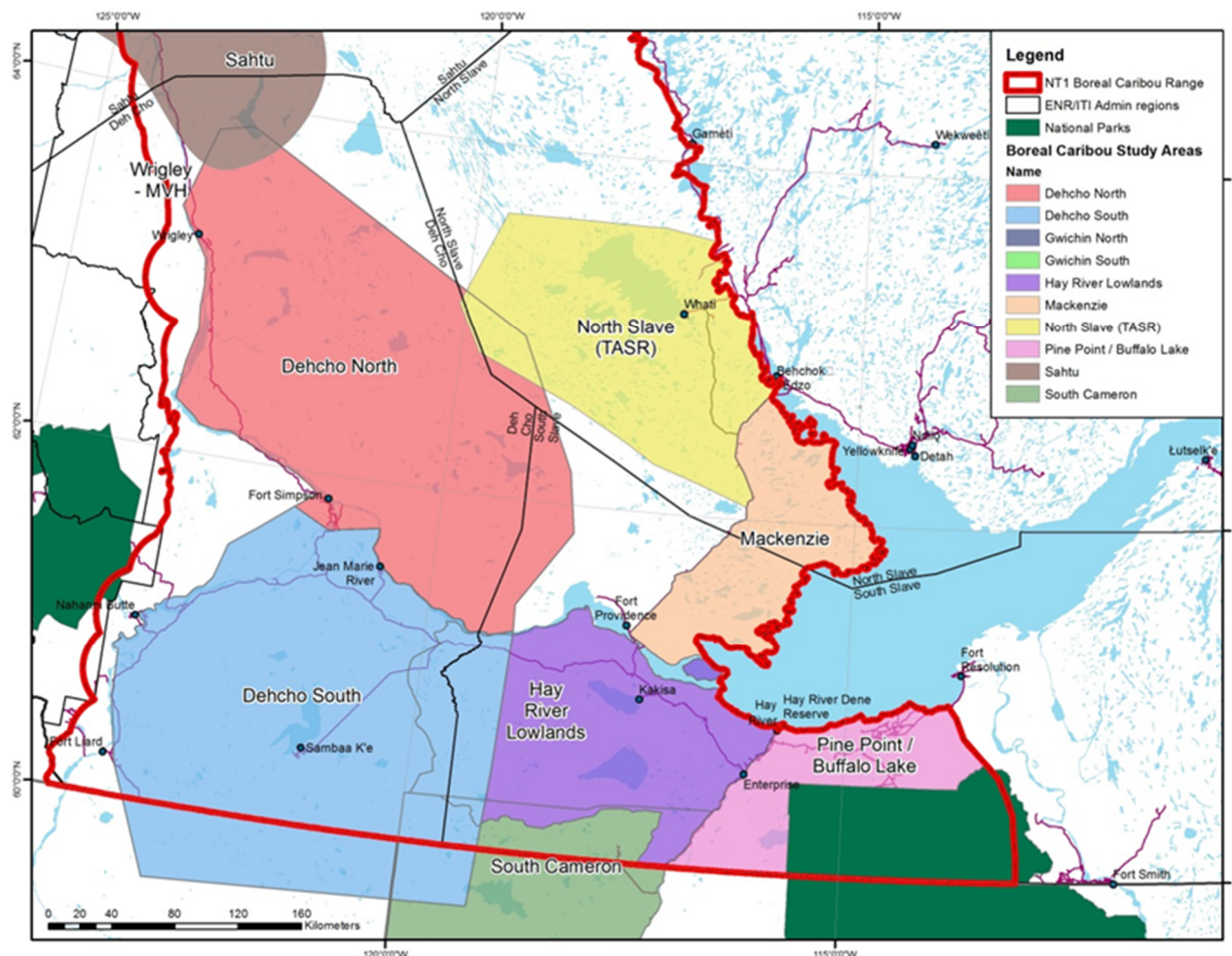


Figure 13-1: Boreal Caribou North Slave (TASR) Study Area, and other adjacent boreal caribou study areas in the southern NWT.

### Boreal Caribou Abundance

ENR conducted a two-phase aerial survey to estimate population abundance of boreal caribou within the North Slave – Tłı̨chǫ All-Season Road study area between February 19 and March 2, 2020. The objective of Phase 1 of the survey was to locate caribou track networks, visual sightings of caribou, and unidentified ungulate tracks along equally spaced transects using fixed wing aircraft. The locations of boreal caribou sightings and tracks observed during Phase 1 were then revisited the following day in Phase 2 with a helicopter to find the groups of boreal caribou and count and classify them. Observations of other ungulates (moose and bison), and carnivores (wolf, fox, lynx, wolverine) were recorded and locations marked during both phases of the survey. Other wildlife observations were also noted. The Phase 1 survey was flown with two fixed-wing aircraft along survey lines spaced 2 km apart. A total of 10,109 km were flown along 154 transects that ranged from 1 km to 122 km in length, covering a study area of 21,071 km<sup>2</sup>. The Phase 2 survey crew tried to locate, count and classify groups of boreal caribou by intensively searching the areas where boreal caribou groups or tracks had been sighted during Phase 1. When groups of boreal caribou were located by helicopter, they were classified into adult females (cows), adult males (bulls), and calves in order to estimate cow:calf ratios and bull:cow ratios. A total of 414 boreal caribou (218 cows, 122 bulls, and 66 calves) in 73 groups were recorded visually by flying to the location of boreal caribou sightings and tracks recorded during the Phase 1 survey (Figure 13-2). Eight collared boreal caribou were located visually within these groups without the aid of telemetry. An additional 163 boreal

caribou (97 cows, 37 bulls, and 26 calves) in 31 groups were counted inside the study area while using telemetry to locate collared boreal caribou (n=26) that would have otherwise been missed by the survey. The total number of boreal caribou counted within the study area was 577, resulting in a minimum density estimate of 2.74 caribou/100 km<sup>2</sup>. Further results from this survey are described in version 4.2 of the TASR Wildlife Management and Monitoring Plan, and ENR is preparing a manuscript report with additional information about the calculation of detection correction factors to adjust the abundance estimate.

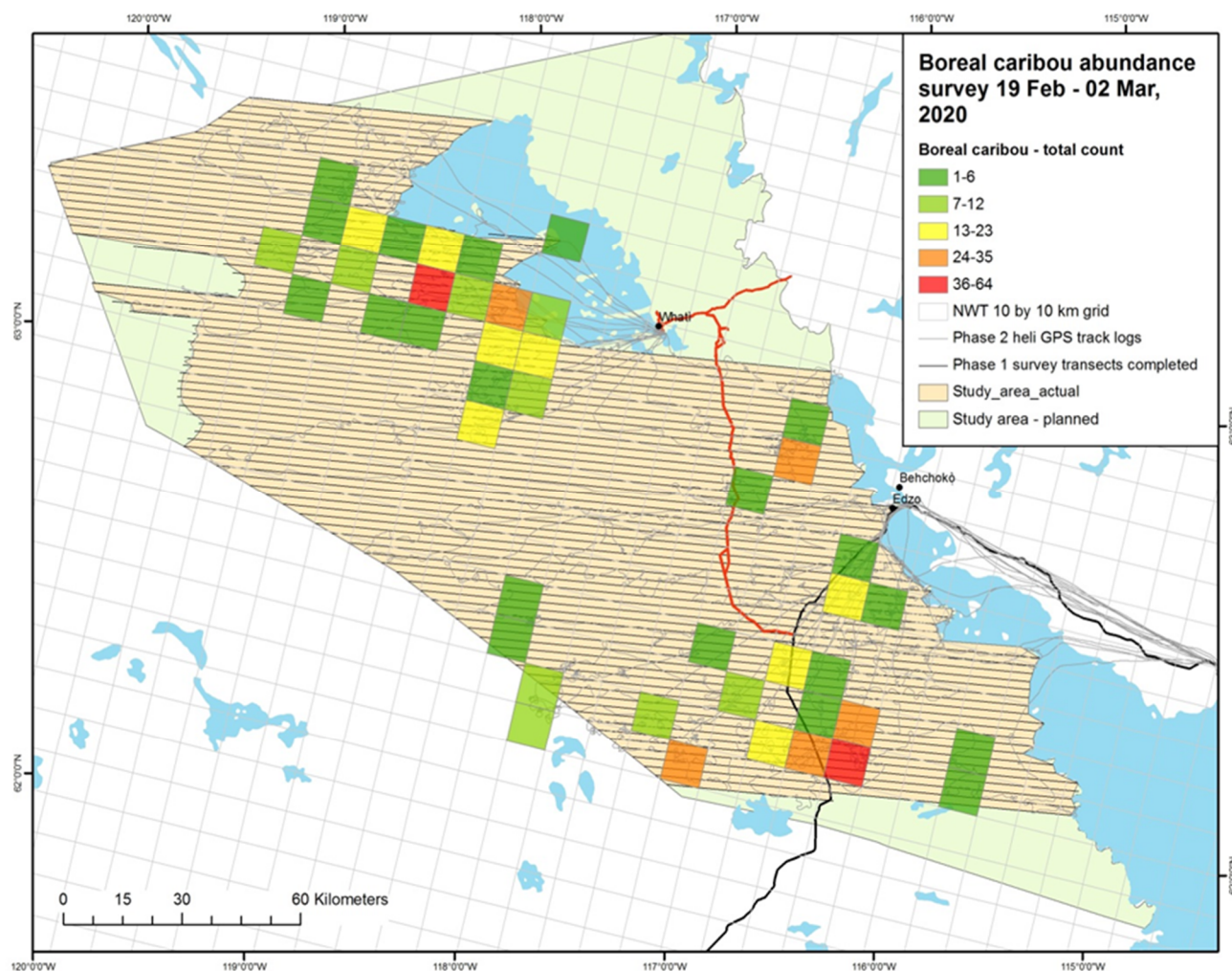


Figure 13-2: Phase 2 boreal caribou abundance survey results summarized as number of caribou counted in 10 x 10 km grid cells.

## b) Determination of population thresholds and triggers to inform adaptive management.

No updates

## c) Harvest monitoring and reporting

The Tłıchq Government developed a proposal for a monitoring program to address Measures 7-1 and 9-1 of the Report of EA. In August 2020, GNWT-INF committed funds to support the Tłıchq Government to undertake this program. Measure 9-1 relates to the development of a non-mandatory harvest monitoring and reporting



program. The information from this program will provide information that will also support implementation of Measures 6-2 and 7-2, as well as inclusion of traditional knowledge as required by Measures 9-3 and 10-2.

#### **d) Determining sustainable harvest levels**

See Measure 6-2 regarding activities related to determination of sustainable harvest levels

#### **e) Identifying critical habitat;**

GNWT-ENR completed a range-wide (NT1) habitat selection analysis (resource selection functions) project using boreal caribou collar data from across the NWT to model and generate predictive maps of boreal caribou habitat selection during different seasons (NWT CIMP Project #202). The predictive habitat selection maps are being used to assist with identifying important areas for boreal caribou to support range planning and were also used in the draft TASR habitat offset plan for boreal caribou.

#### **f) Ongoing habitat disturbance monitoring**

ENR measures and updates fire disturbance on an annual basis and contributes this data to the National Burn Area Composite (NBAC) and Canadian National Fire Database (CNFDB) datasets maintained by Natural Resources Canada (NRCan). ENR uses a combination of the NBAC (1986-2019) and CNFDB (pre-1986) datasets to calculate fire disturbance within the NWT boreal caribou range. As of fall 2019, the Wek'èezhìi portion of the boreal caribou range had 31.9% fire disturbance ( $\leq 40$  yrs old), 0.8% human disturbance (including 500 m buffer; data current to 2015 [source ECCC]), and 32.3% total combined fire/human disturbance. These regional estimates do not include the projected footprint of the TASR project. The NT1 range as a whole had 23.1% fire disturbance, 9.1% human disturbance and 30.5% total disturbance. Fire polygons from 2020 are not yet available to update disturbance estimates current to fall 2020.

#### **g) Setting disturbance thresholds for critical habitat and, to the greatest extent possible, managing habitat towards meeting these disturbance thresholds for each range planning region; and,**

Disturbance limits and human disturbance management thresholds have been defined for each boreal caribou range planning region within the NWT Framework for Boreal Caribou Range Planning.

#### **h) Monitoring predator populations including densities, movements and predation rates**

To assess the abundance of wolves in the TASR study area, aerial wolf population surveys were conducted in two 5000 km<sup>2</sup> blocks in February and March 2020. One survey block was centered along the Tłıchq All-Season Road alignment (conducted under Wildlife Research Permit # WL500813), and a second reference block was placed within the Mackenzie boreal caribou monitoring study area southeast of HWY 3 (conducted under Wildlife Research Permit # WL500772). Survey methods followed those used in previous wolf surveys conducted in the South Slave and Dehcho regions (Serrouya et al. 2016). The survey was flown using a fixed-wing aircraft (Scout), and a crew consisting of the pilot and professional tracker. Survey transects were spaced 3 km apart, and when wolf tracks were encountered, they were followed to locate the wolf pack and determine pack size. Where packs could not be located, numbers were estimated based on track characteristics (e.g., amount of activity, track splitting, individual tracks). Observations of other large ungulates and carnivores were also recorded by GPS.

The Mackenzie block was surveyed from February 7-12, 2020, with no flights on February 10-11 due to poor weather conditions. One pack estimated at 3-4 wolves based on tracks was recorded on February 7, and a second pack estimated at 5-6 wolves based on tracks was recorded on February 8 (Figure 13-3). The Tłıchq All-Season Road survey block was flown on March 9-10, 2020. One pack of 5 wolves was observed on March 09, 2020 as well as 6 wolves on a bison kill (Figure 13-3). Wolf densities were estimated to be 2.2 wolves/1000 km<sup>2</sup> in the TASR survey block and 1.8 wolves/1000 km<sup>2</sup> in the Mackenzie survey block.

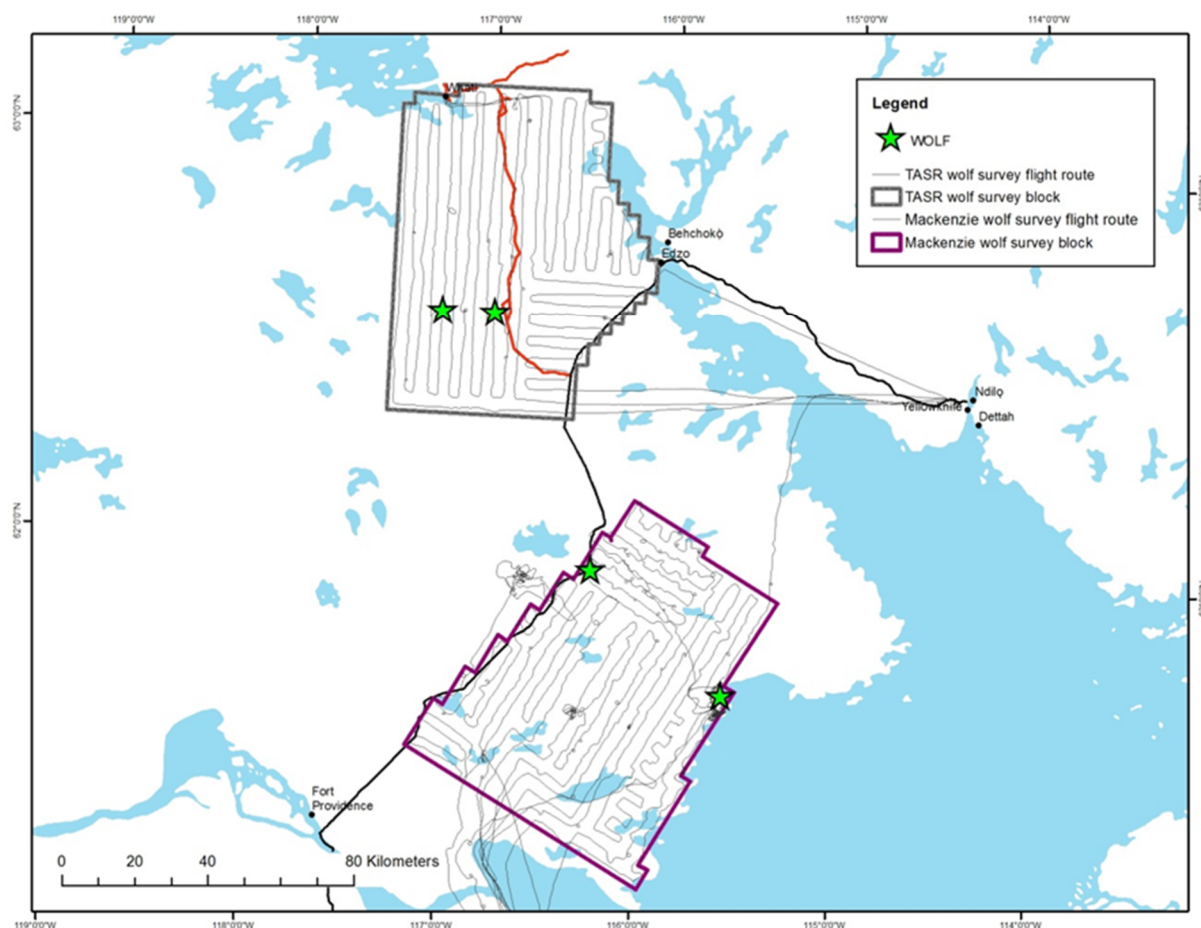


Figure 13-3: Observations of wolves or wolf track networks recorded during aerial wolf abundance surveys conducted within two ~5000 km<sup>2</sup> blocks in February/March 2020

### 13.3. MEASURE 6-2: DETERMINE SUSTAINABLE HARVEST LEVELS FOR BOREAL CARIBOU (TQDZI) AND IMPLEMENT MEASURES TO ENSURE HARVEST IS SUSTAINABLE IF REQUIRED

ENR hired a contractor to conduct population modeling to evaluate sustainable harvest levels using available demographic data from boreal caribou monitoring programs in the Dehcho, South Slave and North Slave regions. The report was completed as of March 31, 2020. ENR will engage on the results of this report in spring or summer 2021.

### 13.4. MEASURE 6-3: HABITAT OFFSET AND RESTORATION PLAN

A Draft Caribou Habitat Offset Plan was completed and submitted to the Wek'èezhì Renewable Resources Board (WRRB) on July 31, 2019 in accordance with Measure 6-3. Employing the services of a consultant [Associated Environmental (AE)], the developer collaborated with the Tłıchǫ Government (TG) and WRRB, and consulted with Environment and Climate Change Canada (ECCC), Yellowknives Dene First Nation (YKDFN), and North Slave Métis Alliance (NSMA) to develop a Draft Caribou Habitat Offset Plan.

Following the approval of the Draft Caribou Habitat Offset Plan by the WRRB, the consultant proceeded and continued to collaborate with ENR, WRRB and INF to develop a Final Caribou Habitat Offset Plan, required to be submitted to the WRRB not later than 90 days prior to public use of the road.

For the reporting period, the developer's consultant has taken information and Traditional Knowledge received from the Tłıchq Government, WRRB, Environment and Climate Change Canada (ECCC), Yellowknives Dene First Nation (YKDFN), and North Slave Métis Alliance (NSMA), Elders, and hunter/trappers to prepare the final Boreal Caribou Habitat Offsetting Plan (Final Plan). On April 23, 2020, the Consultant provided a concordance table to demonstrate how the information that was provided has been used to help develop the Final Plan. The consultant also participated in the December 11, 2019 Corridor Working Group meeting held in Behchokq and provided an update to the Corridor Working Group members on the status and development of the Final Plan. NSMA provided further comments to INF in a letter on April 3, 2020. INF and the consultant provided a response to each comment on July 18, 2020. The consultant has been collaborating with the ENR in finalizing the Plan. The next steps will include sending the Final Plan to all interested parties for another review. Following this review, the Final Plan will be revised and submitted to the WRRB for their final review and approval no later than 90 days prior to public use of the road as stipulated in the EA Measure 6-3. Following the Final Plan, an implementation plan will be developed based on recommendations from the Final Plan.

### **13.5. MEASURE 7-1: INCORPORATE TRADITIONAL KNOWLEDGE INTO MONITORING OF BARREN-GROUND CARIBOU (ʔEKWQ)**

Regarding the implementation of Measure 7-1 from the TASR EA, incorporating Traditional Knowledge into monitoring of ʔekwq (barren-ground caribou), the following key actions were undertaken by the Tłıchq Government in 2020 and are described in greater detail below:

- Development of Tłıchq Highway Wildlife Monitoring Program proposal and workplan;
- Signed Contribution Agreement with GNWT ENR;
- Hired the TASR Wildlife Monitoring Coordinator; and
- Established the Tłıchq Tłı Deè Committee.

In 2020, the Tłıchq Government developed a proposal and workplan for the Tłıchq Highway Wildlife Monitoring Program. The monitoring program will provide data to be used by the Tłıchq Government in considering and negotiating mitigations related to the TASR. The proposal was funded through a Contribution Agreement with GNWT Environment and Natural Resources in August 2020 for project work between 2020-March 2023.

One of the first workplan tasks, the TASR Wildlife Monitoring Coordinator position was filled in December 2020 within the Tłıchq Government Department of Culture and Lands Protection. The Coordinator leads the establishment of the Tłıchq Tłı Deè Committee (described below) and the development of the harvest pressure and habitat monitoring program, including assisting monitors with data collection on the TASR.

The Tłıchq Tłı Deè Committee consists of elders and knowledge holders with expertise related to caribou, monitoring, and/or the TASR area. The Tłıchq Tłı Deè Committee's role is to provide advice and guidance to the Tłıchq Highway Wildlife Monitoring Program. In 2020, the foundation for the Committee was created including drafting the Committee Terms of Reference, selecting Committee members, and scheduling the first Committee meeting for January 2021.

These actions are the beginning of the Tłıchq Government's monitoring project for the TASR, which will continue into 2023 with current funding. In relation to Measure 7-1, the project will focus on improving and informing mitigation of significant adverse impacts to ʔekwq through the inclusion of Tłıchq traditional knowledge in TASR monitoring and management.



## **13.6. MEASURE 7-2: BARREN-GROUND CARIBOU MITIGATION AND POLICY CHANGES**

### **13.6.1. MEASURE 7-2, PART A: COMPLETE THE BATHURST CARIBOU RANGE PLAN**

The Bathurst Caribou Range Plan (BCRP) was released on August 21, 2019. The BCRP was developed by a multi-stakeholder working group and will help decision-makers manage activities on the land in a way that supports the recovery of the Bathurst herd, while providing clarity on land use and access for developers, regulators and residents of the Northwest Territories (NWT). It includes guidance for managing the overall amount of disturbance on the land, as well as seven management tools to reduce and manage impacts to caribou and caribou habitat. Actions are currently underway to support implementation of the recommendations contained in the BCRP. The BCRP is available on ENR's website at

[https://www.enr.gov.nt.ca/sites/enr/files/resources/bathurst\\_caribou\\_range\\_plan\\_2019\\_-\\_plan\\_pour\\_la\\_repartition\\_des\\_caribous\\_de\\_bathurst\\_2019.pdf](https://www.enr.gov.nt.ca/sites/enr/files/resources/bathurst_caribou_range_plan_2019_-_plan_pour_la_repartition_des_caribous_de_bathurst_2019.pdf)

In 2020, GNWT-ENR provided support to Indigenous Governments and Organizations to map important winter habitat for barren-ground caribou.

### **13.6.2. MEASURE 7-2, PART B: CONSIDER PROTECTING BARREN-GROUND CARIBOU HISTORIC WINTER HABITAT FROM FIRES:**

The BCRP contains a recommendation to: "On an annual basis, identify large, strategically-located patches of forest in the central Bathurst winter range for the GNWT fire management "Values at Risk" database. Response to fires in these areas would be based on an analysis of the current fire load, fire environment, resource availability and similar considerations of the management options at the time of the fire event."

ENR has been exploring ways to identify areas as values at risk for boreal and barren-ground caribou based on habitat selection models, areas identified as important habitat by communities, availability and location of fire management resources, and logistical constraints. ENR staff met in summer and fall 2019 to discuss different options and this work is ongoing. The Tłıchq Government held a workshop to identify areas of critical winter habitat for boreal and barren-ground caribou and shared the spatial data from the workshop with ENR in late summer 2019.

ENR did not fight any fires in the areas identified by the Tłıchq Government as a priority for boreal caribou or barren ground caribou. ENR did suppress one fire south of Whati, half way up the TASR road, which had grown to 550 hectares. This is the only fire that started in what is considered to be prime boreal caribou habitat. There was a total of 7 forest fires reported in 2020 in barren ground caribou habitat, but the fires did not reach a significant size due to frequent precipitation events. Together these 7 fires burned collectively a total of 2297 hectares. Three of these fires were located northeast of Wekweètì and were extinguished shortly after they started by rain at a combined size of 9 hectares. The other 4 fires were north of Whati and Gameti with a combined total area burned of 2287ha.

No new priority areas were identified by any other organizations or governments in 2020.

## **14. OTHER REPORTING REQUIREMENTS**

### **14.1. DEN SURVEYS**

No aerial den surveys were conducted during 2020. However, the pre-clearing sweeps that were conducted ahead of any mechanical clearing (mulching) in Segment 3 and 4 did not detect any confirmed or potential den sites.

## 15. SUMMARY OF WILDLIFE MONITORING DATA

Environmental monitoring was integrated with the construction operations to maintain compliance with the Water License and Land Use Permit, as well as other regulatory requirements detailed in the Wildlife Management and Monitoring Plan. The surveys conducted during the construction phase documented areas of concern for sensitive wildlife crossing or zones where human-vehicle interference may be increased. This allows for an adaptive management approach to be used and allow for mitigation measures to be implemented during the construction and operational phases of the TASR. Listed below are summaries of all the data collected in 2020.

### 15.1. WILDLIFE ROAD SURVEYS

Wildlife road surveys are conducted by the environmental monitors that travel the TASR. These road surveys collect invaluable information to determine areas that may be more susceptible to human-wildlife interactions and to inform construction activities where reduced speed areas or potential areas for any wildlife interactions. When species were observed near the RoW call outs over the radio to all staff were implemented to create zones of reduced speed and to inform project personnel on crossing locations.

During this reporting period a total of two-hundred and thirty-seven (237) wildlife road surveys were completed by the Environmental Department. Total observations of fauna are shown in Table 15-1.

Table 15-1: Mammal Observations by Species for 2020

| SPECIES                                                                                                                | TOTAL # | SPECIES         | TOTAL # |
|------------------------------------------------------------------------------------------------------------------------|---------|-----------------|---------|
| Beaver                                                                                                                 | 5       | American Marten | 10      |
| Black Bear                                                                                                             | 86      | Porcupine       | 13      |
| Boreal Caribou                                                                                                         | 66      | River Otter     | 3       |
| Canada Lynx                                                                                                            | 38      | Wolf            | 63      |
| Fox                                                                                                                    | 25      | Wood Bison      | 716*    |
| Moose                                                                                                                  | 60      | Snowshoe Hare   | 11      |
| Red Squirrel                                                                                                           | 1       | Weasel Sp.      | 1       |
| Wolverine                                                                                                              | 7       |                 |         |
| Grand Total 1105                                                                                                       |         |                 |         |
| *the same individual or groups may have been noted by multiple times by different observers and in different locations |         |                 |         |

Table 15-2: Bird Species Observations for 2020

| SPECIES           | TOTAL # | SPECIES           | TOTAL # |
|-------------------|---------|-------------------|---------|
| Bald Eagle        | 3       | Hawk sp.          | 1       |
| Belted Kingfisher | 1       | Mallard Duck      | 6       |
| Common Loon       | 1       | Northern Harrier  | 1       |
| Common Raven      | 16      | Northern Hawk Owl | 1       |



| SPECIES          | TOTAL # | SPECIES        | TOTAL # |
|------------------|---------|----------------|---------|
| Duck Sp.         | 25      | Owl sp.        | 3       |
| Falcon Sp.       | 2       | Plover Sp.     | 1       |
| Gray Jay         | 6       | Ptarmigan Sp.  | 55      |
| Great Blue Heron | 3       | Robin          | 2       |
| Great Gray Owl   | 1       | Sandhill Crane | 41      |
| Hairy Woodpecker | 1       | Snowy Owl      | 1       |
| Spruce Grouse    | 208     | Trumpeter Swan | 30      |
| Canada Goose     | 12      |                |         |
| Grand Total 421  |         |                |         |

## 15.2. WILDLIFE SIGHTINGS

Wildlife sighting logs provide a simple means for all Project staff to contribute to tracking wildlife activity at the Project. The value of the data is limited in that it is not systematically collected and contains repeated observations. Nonetheless it can provide an indication of the potential for wildlife incidents or problem wildlife as well as potential areas of concern.

Wildlife sighting logs are completed weekly and document the observations made by field crews. These observations are then uploaded into an Excel Wildlife Tracking spreadsheet (Appendix F). Total observations from all other field surveys (Road Surveys, Pre-Clear Surveys, etc.) are also included in that tracking sheet.

During the 2020 reporting period a total of thirty-three (34) different species of birds and mammals were observed within the TASR footprint. Wood bison (*Bison bison athabasca*) had the highest amount of observations with seven-hundred and fifteen (715) total observations in 2020, black bears, was second with eighty-six (86) observations.

Spruce grouse (*Falcapennis canadensis*), ptarmigan (*Lagopus* sp.), and Sandhill Crane (*Cygnus buccinator*) were the three most observed bird species in 2020 with a total count of 208, 55 and 41 respectively.

## 15.3. SPECIES AT RISK

Two (2) species at risk (SAR) were observed on the TASR in 2020; they are wood bison and boreal caribou (*Rangifer tarandus*). Wolverine (*Gulo gulo*), a species of Special Concern (SC) were observed crossing the TASR RoW on seven (7) separate occasions. These species were either observed during Wildlife Road Surveys or opportunistically when staff or craft members noted them while travelling the RoW.

## 15.4. WILDLIFE SURVEILLANCE SURVEY

Wildlife surveillance monitoring is intended to provide systematic and current information of wildlife activity at the Project construction camps and will provide direct feedback regarding the effectiveness of wildlife mitigation. Examples of wildlife activities that were documented through the Wildlife Surveillance monitoring include presence of wildlife within camp areas, any instances where food or domestic waste may be improperly stored and use of buildings by wildlife for shelter or nesting. Environment Monitors undertake systematic tours of the Project construction camps to record all wildlife observations or recent wildlife sign (e.g., tracks and scat). Environmental Monitors then recorded the area that was surveyed and noted all observations.

During the reporting period weekly wildlife surveillance sweeps were conducted around Camp 0+000 and Camp 19+800. These surveys generally patrol the perimeters of camp and make observations on active wildlife within certain areas. All observations were reported in the wildlife tracking spreadsheet. In total, seventeen (17) sweeps were conducted.

## 15.5. PRE-CLEARING LARGE MAMMAL AND BLAST SURVEYS

Blasting was required both within the TASR RoW and in borrow pits. Blasting was preceded by a scan for large mammals to reduce the risk of injury and the impacts of sensory disturbance. The blast surveys are intended to apply the same standards to large mammals that are used for human safety with regards to proximity to the blast radius. It is noted that it may not be possible to detect all large mammals within the blast radius in dense forest or undulating terrain, but this is partly mitigated by the drilling activity and horn signals that precede the blast, which is likely to deter wildlife from the area.

The Pre-Clearing Large Mammal Survey consisted of a ground-based survey no more than 48 hours prior to clearing activities. Pre-blast Wildlife Surveys were generally timed to visually assess the blast radius no more than one hour prior to the blast ignition.

During the reporting period, pre-clearing and blast surveys were conducted before all operations of vegetation clearing and blasting on the RoW to sweep for bird nests and large mammals including dens sites.

In total thirty-nine (39) pre-clearing and sixty-nine (69) pre-blast surveys were conducted on the TASR in 2020.

During these surveys in 2020, large mammals were never observed around the blasting or clearing activities. With heavy equipment working in the vicinity, the noise levels were elevated which in turn acted as a deterrent. Another factor that affected the success of these surveys was dense forest composition that made viewing or spotting of fauna difficult even with binoculars or infrared scopes. When encountered, recent sign of animals (tracks and scat) were also documented which assisted in focusing sweep efforts.

## 15.6. MITIGATIONS TRIGGERED BY BOREAL CARIBOU COLLAR DATA MAPS

As per Appendix D - Operating Procedure for Use of Boreal Caribou Collar Data to Mitigate Impacts from Construction of the WMMP, ENR provided NSI with maps of boreal caribou collar locations on a weekly basis during the Summer, Fall, and Early to Mid-Winter periods (16 July – 16 March), and every two days during the Late-Winter and Calving periods (16 March – 15 July). Each collar data map provided displays collar locations from a 1 week period buffered by 3 km, and the most recent collar location for each individual. The collar data maps indicated if there were collared caribou within the 4-6 km cautionary zones along the TASR corridor, and in which segment (1-4) of the TASR corridor they occurred. Collar data maps were provided from the first week of January until December 12, 2020, after which the project entered a temporary shut-down for the Christmas holidays. Collared caribou were most frequently reported within the 4-6 km buffer along Segment 1-3 (Km 0-85), and infrequently along Segment 4 (km 85-97) of the road (Table 15-3). Appendix G provides a detailed summary of the weekly environmental reporting periods and whether collared boreal caribou were present within the 4-6 km buffer along any of the 4 road segments, and which mitigation measures were implemented as a result. Project activities were suspended for part of May 2020 due to the COVID-19 pandemic. During 2020, collared boreal caribou occurred within the 4-6 km buffer along at least one of the four segments of the TASR during every weekly reporting period. The general mitigation response was to notify appropriate site personnel about which sections of the road had collared caribou present within the cautionary zones. Presence of collared caribou within the 4-6 km buffers did not result in any suspensions or delays to vegetation clearing or blasting activity.

Table 15-3: Number of times collared boreal caribou were reported within the 4-6 km cautionary buffer zones within 4 different segments along the TASR route between January – December 2020.

|                                                                                | ROAD SEGMENT              |                            |                         |                         |
|--------------------------------------------------------------------------------|---------------------------|----------------------------|-------------------------|-------------------------|
|                                                                                | Segment 1<br>(km 0 to 24) | Segment 2<br>(km 25 to 46) | Segment 3<br>(km 47-85) | Segment 4<br>(km 85-97) |
| Number of times collared boreal caribou reported within 4-6 km Cautionary Zone | 45                        | 49                         | 50                      | 7                       |



## 16. HUMAN - WILDLIFE INTERACTIONS

### 16.1. WILDLIFE INCIDENTS / MORTALITIES

During the annual reporting period a total of four (4) wildlife incidents occurred on the TASR. Details of these incidents can be found in the table below. These incidents were reported to the appropriate regulatory agencies following the established protocols.

Table 16-1: Wildlife Incidents

| DATE      | INCIDENT ID | DISCHARGE TYPE          | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ACTION TAKEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------|-------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10-Feb-20 | EIR-WL-002  | Fish Mortality          | On February 10 <sup>th</sup> , 2020 during the installation of mitigation measures at Duport River, a laborer's foot broke through "hanging" ice downstream of the work area. Later it was observed in this hole that 4 to 6 fish were floating dead. The hole was created in a small channel between an isolated wet pocket (spring area) and the main channel of the river. Environment staff was notified at 9:30pm (10 <sup>th</sup> ) of the observation and attended the area on February 11 <sup>th</sup> , 2020 at 5:30am to identify the fish and investigate further. The holes had frozen over from "over ice" water flow and in the interest of preserving containment of the work area from drilling dust and possible water, no investigative holes were drilled. | The area was inspected by 3 GNWT-DOL Inspectors and the GNWT Water Officer on February 11 <sup>th</sup> , 2020 and the fish mortality was discussed during the inspection. All inspectors were extremely pleased at the level of diligence observed in this work area. DFO was notified via telephone call of the observed dead fish after the GNWT inspection was completed (at ~4:00pm Feb. 11 <sup>th</sup> ) where it was noted that there was no release of deleterious material nor intrusion/direct work in the area where the fish were observed. DFO Conservation and Protection Officers and a Fish and Fish Habitat Protection Biologist conducted a field investigation on February 18, 2020 and given the nature of the works occurring at Duport River, the death of fish was deemed to be a natural cause and noted that no further action will be pursued.<br><br>DFO provided an Occurrence Statement that absolved NSI from any responsibility for the fish kill. |
| 10-Jun-20 | EIR-WL-003  | Spruce Grouse Mortality | On March 22, 2020 at 8:46am a spruce grouse was struck by a light duty pickup as it was traveling the TASR. The bird flushed from the edge of road into the path of the truck. The observer/person involved in the incident immediately notified the Environmental Manager.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The Environmental Manager removed the bird carcass from the active roadway and disposed of it in Pit 33A where scavengers could eat the bird in an area removed from any construction traffic. The GNWT-ENR was notified by email on March 24, 2020 @ 11:16am of the mortality. A Wildlife Incident Record was completed and was included in the weekly report for the period. TASR personnel were reminded to report all wildlife interactions on the road during Pre-Task Instruction (PTI) Meetings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| DATE      | INCIDENT ID | DISCHARGE TYPE          | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ACTION TAKEN                                                                                                                                                                                                                                                                                                                                                         |
|-----------|-------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16-Jun-20 | EIR-WL-004  | Fish Mortality          | <p>Small cyprinids were observed on May 27, 2020 in a constructed sediment basin/channel at the downstream of the HDPE pipe. On May 28, 2020, Kiewit contacted the Department of Fisheries and Oceans by email and subsequently by phone, to acquire a Collectors Permit to allow for fish relocations if there were future risks of potential stranding fish (leading to mortality) noted in any of the drainage features associated with the TASR project.</p> <p>On May 31, 2020 during an environmental inspection of the TASR, staff were inspecting a temporary crossing between two unnamed lakes. The inspection was in response to reports from the field (on May 30, 2020) of an increasing number of fish in the constructed sediment basin downstream of the pipe and along the unnamed lake edge (west side). During the inspection, approximately 30-40 dead Longnose Dace were observed out of the water beside the downstream end of the temporary crossing.</p> | <p>A follow up discussion with DFO was held on June 1, 2020 (10:45am) to discuss the occurrence of observed fish mortality at the crossing.</p> <p>NSI engaged with DFO during the investigation to re-design this crossing to allow for fish passage. A monitoring plan was developed by NSI and approved by DFO to monitor the crossing in the spring of 2021.</p> |
| 28-Sep-20 | EIR-WL-005  | Spruce Grouse Mortality | <p>On September 28, 2020 at 10:20am a spruce grouse was found by Environment staff during routine monitoring. Based on the timing of the observation, it is believed that the spruce grouse was struck by a transport truck bringing supplies to the Camp at Station 19+800 although no notification of the incident was provided to camp staff/Environment.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>Environment staff removed the bird carcass from the active roadway and disposed of it in Pit 21B where scavengers could eat the bird in an area removed from any construction activity. The GNWT-ENR was notified by email on September 28, 2020 @ 11:16am of the mortality.</p>                                                                                  |

## 16.2. DISTURBANCE OF WILDLIFE HABITAT

No unanticipated disturbances to wildlife habitat occurred during the 2020 reporting period. All work complied with the WMMP and Land use Permit reference number (geotechnical and operational).

## **17. SCIENTIFIC STUDY REPORTS**

### **17.1. THERMAL IMAGING DEVICE PILOT STUDY**

The thermal imaging pilot study was developed to determine if alternative techniques could be used to detect large mammals during wildlife surveys on the TASR. The procedure behind the study was to observe any large mammal (moose, bison, and caribou) on the RoW and use three methods of detection: naked eye, binoculars, and thermal imaging. This was an opportunistic study that required Environmental monitors to come across these species while traveling the road or during sweeps (pre-blast, pre-clearing). These types of encounters with large animals were rare, and in most cases the observed species would move away from the RoW before the monitors could establish an observation point. Or conversely, with the case of bison, they stayed within the cleared RoW and were visible to the naked eye. This resulted in lack of opportunities to collect data during 2020. The use of thermal imaging devices was inconclusive as opportunistic viewing did not occur. Additionally, when completing pre-blast and pre-clearing walks the forest composition was often dense tree cover with areas lacking active fauna, thus the ability to collect valuable data and conduct a conclusive pilot study has not been completed. Further attempts will be made in 2021 to collect meaningful data for the study.

#### **Traffic Monitoring Results**

Currently no traffic monitoring is being conducted as the TASR is not in the Operation Phase.



## **18. MIGRATORY BIRDS AND BIRD SPECIES AT RISK – MANAGEMENT AND PROTECTION**

In 2020 no bird SAR were observed within the TASR footprint. To mitigate the risk of any potential sources of conflict with nesting birds, the clearing activities were completed during the late fall and winter months which falls outside of the breeding bird season. Barn Swallows were observed flying over Dorm B which led to the evaluation and regular monitoring of potential nesting locations available in the camp infrastructure such as vent pipes and overhead structures. No nesting activity was observed in vicinity of the camp nor on or in any infrastructure/equipment.

## 19. TASR CROSSINGS BY COLLARED BOREAL CARIBOU

The 97km Tlıchǫ All-Season Road (TASR), was divided into 1 km segments to help characterize clusters of boreal caribou crossings. Hourly boreal caribou collar locations from March 2017 to December 31, 2020 that occurred within the 10 km “geofence” around the TASR alignment and HWY3 were converted into movement paths, and the intersections between movement paths and the TASR alignment were converted to points to count the number of crossings per 1 km segment (Figure 19-1).

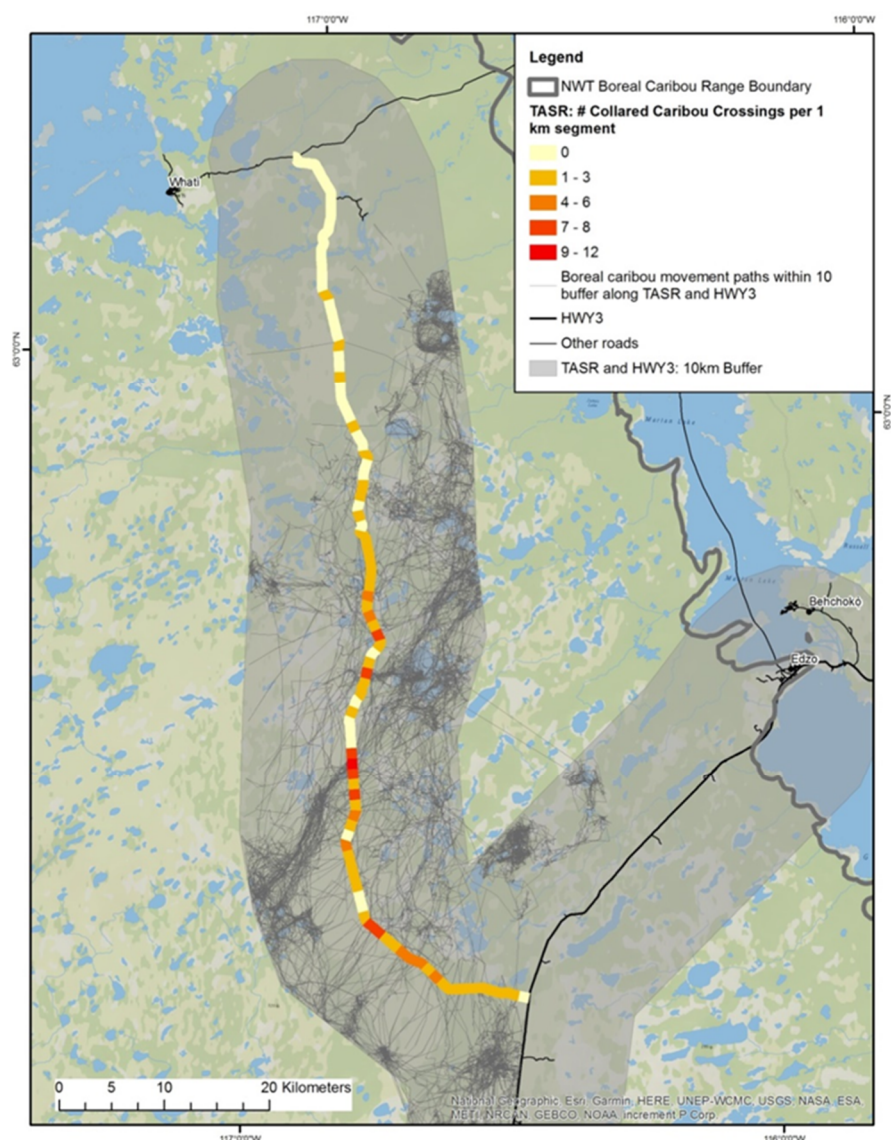


Figure 19-1: Number of collared boreal caribou road crossings along the TASR alignment broken down into 1 km segments, which occurred between March 2017 and December 31, 2020.

The total number of crossings by collared caribou during this time period was 175. No crossings occurred in 39 of the road segments. The maximum number of crossings in a segment was 12. Figure XX shows the number of crossings since March 2017 to December 2020 as a function of month to assess whether there are times of year that boreal caribou cross the road more frequently. Boreal caribou appear to cross the alignment more frequently during the months of April-May and Nov-Dec, and less frequently during March, and June-September.

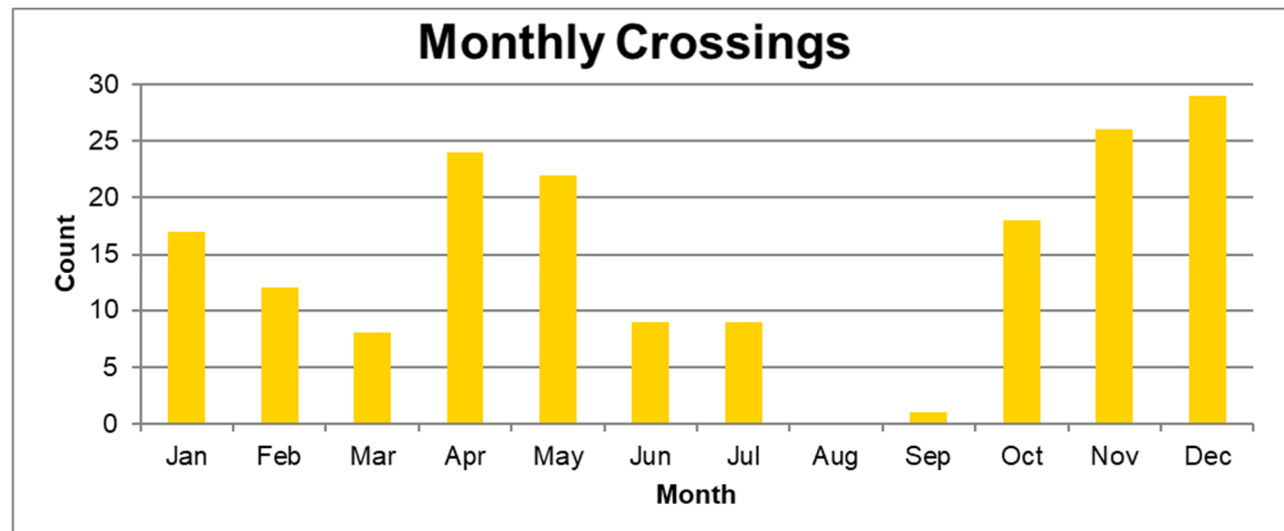


Figure 19-2: Total number of collared boreal caribou TASR crossings during each month, based on movement paths from collar data collected between March 2017 to December 2020.

A total of 18 collared caribou crossed the road at least once between March 2017 and December 2020. Construction of the TASR began in September 2019. Prior to construction there were 94 crossings by 14 collared caribou, and 81 crossings by 16 collared caribou during the construction phase. The Animal ID and crossings counts pre- and during construction can be found in Table 19-1.

Table 19-1: TASR crossings by collared boreal caribou pre-construction (March 2017-August 2019) and during construction (September 2019-December 2020). The first two digits of the Animal ID number denote the year the collar was deployed.

| ANIMAL ID | NUMBER OF TASR CROSSINGS<br>PRE-CONSTRUCTION | NUMBER OF TASR CROSSINGS<br>DURING CONSTRUCTION |
|-----------|----------------------------------------------|-------------------------------------------------|
| 17602     | 0                                            | 1                                               |
| 17605     | 2                                            | 0                                               |
| 17606     | 19                                           | 5                                               |
| 17616     | 3                                            | 0                                               |
| 17618     | 11                                           | 9                                               |
| 17622     | 8                                            | 8                                               |
| 17623     | 0                                            | 3                                               |
| 18600     | 9                                            | 4                                               |
| 18602     | 20                                           | 3                                               |
| 18603     | 7                                            | 2                                               |
| 18604     | 3                                            | 2                                               |
| 19600     | 2                                            | 5                                               |
| 19601     | 0                                            | 4                                               |
| 19602     | 2                                            | 11                                              |
| 19603     | 2                                            | 6                                               |
| 19604     | 0                                            | 2                                               |





| ANIMAL ID | NUMBER OF TASR CROSSINGS<br>PRE-CONSTRUCTION | NUMBER OF TASR CROSSINGS<br>DURING CONSTRUCTION |
|-----------|----------------------------------------------|-------------------------------------------------|
| 19605     | 2                                            | 8                                               |
| 19606     | 4                                            | 8                                               |
| TOTAL     | 94                                           | 81                                              |

## 20. MOOSE COMPOSITION SURVEY

Between December 2-4 and on December 10, 2020, an aerial moose survey was conducted with a DHC-2 Beaver, to estimate sex ratios in the North Slave Region (Figure 20-1). The study area included survey transects within the TASR study area northwest of HWY3.

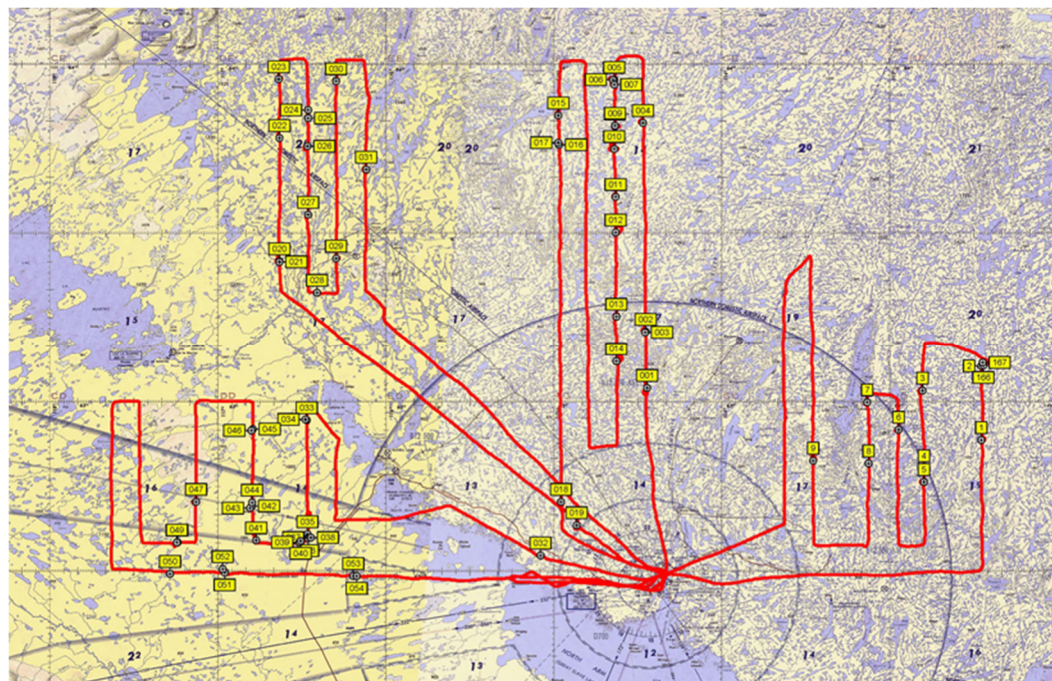


Figure 20-1: Moose sex ratio survey, completed December 2020

Over the 4 days, a total of 55 moose were observed, which included 26 cows, 16 bulls, 12 calves (21.8% Calves) and 1 unclassified. Table 20-1 contains a summary of the sightings. Due to the small samples size, confidence intervals were wide and therefore not reported.

Table 20-1: Aerial Moose Composition Survey results

|                 | RATIO | STANDARD ERROR | COEFFICIENT OF VARIATION (%) |
|-----------------|-------|----------------|------------------------------|
| <b>Calf:Cow</b> | 0.463 | 0.116          | 25.1                         |
| <b>Bull:Cow</b> | 0.615 | 0.226          | 36.8                         |

During the 4 days of flying, a higher bull:cow ratio was observed in the Taiga Plain Ecozone compared to the Taiga Shield. One set of twin calves were observed in the Taiga Shield and no twins were observed in the Taiga Plains area.

Incidental observations included 1 black bedded wolf on December 2, 2020 and 16 bison and 10 boreal caribou observed on December 10, 2020.

A moose abundance survey will be conducted in March 2021 and will be summarized in the 2021 annual Water Licence report.

## 21. EA MONITORING RESULTS

### Measure 10-1, Part 2: Use of results from pre-construction bird surveys required under Measure 10-1, Part 1 to inform mitigations

Golder and Associates Ltd provided a technical memo detailing how the results of the bird surveys could inform mitigations for the Tłıchq All-Season Road. As part of the technical memo, a thorough review of the mitigation measures proposed in the current Wildlife Management and Monitoring Plan (WMMP) was completed. The report concluded that adequate mitigation measures for birds, under GNWT-ENR's authority, have been included in the current WMMP.

One new mitigation measure has been recommended as a result of the information gathered from the bird survey, which is to create a suitable alternative habitat for bank swallows if they are found to be nesting in any Project stockpiles. This recommendation is currently under consideration. Results from the survey also reinforce the importance of the road alignment following the existing Old Airport Road. Findings from the surveys are also discussed in more detail in Section 5.7.1.

### 21.1. MEASURE 10-2, PART 2: WILDLIFE MANAGEMENT AND MONITORING PLAN UPDATE DURING PERMITTING

During the permitting, the developer worked collaboratively with Environment and Climate Change Canada, GNWT-ENR, Wek'èezhì Renewable Resources Board, Tłıchq Government and Indigenous groups and harvesters to develop an updated WMMP.

Traditional knowledge (TK) was provided by The Tłıchq Government and the Yellowknives Dene First Nations. The TK was incorporated into the WMMP with respect to caribou and will also be incorporated into a Caribou Habitat Offset Plan.

GNWT-ENR approved version 3.3 of the WMMP on August 30, 2019, following review and approval of the WMMP by the Wek'èezhì Renewable Resources Board under Section 12.5.1 of the Tłıchq Agreement which included a period of public review.

For the reporting period and in compliance with EA Measure 10-2, Part 3, the WMMP was revised and updated in collaboration with ENR and submitted to the Wek'èezhì Land and Water Board (WLWB). A 30-day public review period was undertaken, with submissions made to the WLWB's Online Review System by Environment and Climate Change Canada, Tłıchq Government, WLWB and Wek'èezhì Renewable Resources Board (WRRB). In consultation with ENR staff, INF developed responses to comments received, revised the WMMP to address the comments.

The WMMP version 4.1 was submitted to the WRRB on November 6, 2020 for review and approval. Following the approval of version 4.1 by the WRRB, version 4.2 was submitted to the WLWB and ENR, respectively for their review and approval. The WLWB approved the version 4.2 on February 25, 2021 while ENR approved its version on March 1, 2021.



## **22. EDUCATION AND TRAINING OF PROJECT WORKERS**

### **22.1. GENERAL**

During the reporting period the Environmental Department provided various types of environmental training to Project site personnel. Training was provided in the form of toolbox talks that were presented at the daily, morning and nightshift Pre-Task Instruction (PTI). Extensive informal training is provided to the various work fronts on a daily/weekly basis during work plan reviews, daily Play of the Day (POD), Frontline Supervisor Training Sessions and in the field where questions arise regarding specific activities and compliance measures required. Additionally, the Environmental Department presented training related to Spill Prevention and Response at the Craft Voice in safety (CVIS) Rodeo held over the course of 3 days (December 4th to 6th, 2020).

All of the formal training topics that were highlighted during the 2020 construction season are provided below and the records of the trainings (including staff signoffs) are maintained on the project SharePoint site for internal compliance requirements. When conducted, training topics are highlighted in the weekly environmental reports that are publicly available through the WLWB website.

- January 19, 2020 – Species at Risk.
- January 21, 2020 – Archaeological Awareness.
- February 19, 2020 – Wildlife and Fish Sensitive Periods.
- March 7, 2020 – Housekeeping-Maintaining Work Sites
- June 30, 2020 – Smoke Pit Conditions
- July 22, 2020 – Working Near Water
- July 29, 2020 – Housekeeping Refresher
- August 9, 2020 – Smoke Pit Conditions Redux
- September 19, 2020 – Equipment Inspections
- October 10, 2020 – Fueling Procedures
- October 24, 2020 – Fall Wildlife Awareness
- November 4, 2020 – Operating in Cold Temperatures

### **22.2. SPILL TRAINING**

The Environmental Department provided spill prevention and response management training to Project site personnel. Training was provided in the form of toolbox talks that were presented at the daily, morning and nightshift, Pre-Task Instruction (PTI). Below is a list of training that was provided:

- July 15, 2020 - Internal Spill Notification Procedures and Spill Kits Inspection procedures
- July 16, 2020 - Internal Spill Notification Procedures and Spill Kits Inspection procedures
- August 5, 2020 - Internal Spill Notification Procedures and Spill Kits Inspection procedures

It should also be noted that the Environmental Department routinely provided varying levels of spill training when responding to incidents in the field. During those events, training included such topics as hazardous product characteristics (density/migration), extent of contamination due to soil/ground conditions, proper spill response products to use, effective clean up/confirming full remediation as well as estimating spill volumes.

## 23. REFERENCES

Hatter, I.W., and W.A. Bergerud. 1991. Moose recruitment, adult mortality, and rate of change. *Alces* 27: 65-73.

Latham , A.D.M., Latham, M.C., McCutchen, N.A. and S. Boutin. 2011. Invading white-tailed deer change wolf-caribou dynamics in north-eastern Alberta. *Journal of Wildlife Management* 75(1):204-212.

Serrouya, R., van Oort, H., DeMars, C., and Boutin, S. 2016. Human footprint, habitat, wolves and boreal caribou population growth rates. [https://www.nwt-esrf.org/sites/default/files/2016-10/Human%20Footprint%2C%20Habitat%2C%20Wolves%20and%20Boreal%20Caribou%20Population%20Growth%20Rates\\_2016.pdf](https://www.nwt-esrf.org/sites/default/files/2016-10/Human%20Footprint%2C%20Habitat%2C%20Wolves%20and%20Boreal%20Caribou%20Population%20Growth%20Rates_2016.pdf). Accessed December 12, 2018.

## APPENDIX A WASTE TRACKING SPREADSHEETS





# Kiewit

## CONSTRUCTION WASTE MANIFEST TRACKING



### Tłchq All Season Road Project

| Date Shipped | Landfill Weight Ticket # | Weight (MT) | Volume (Yd) | Comments |
|--------------|--------------------------|-------------|-------------|----------|
| 28-Jan-20    |                          | 1.96        | 30.00       |          |
| 20-Feb-20    | 1456526                  | 2.1         | 30.00       |          |
| 17-Mar-20    | 1459333                  | 2.17        | 30.00       |          |
| 13-Apr-20    | 1460038                  | 3.86        | 30.00       |          |
| 25-May-20    | 1462852                  | 1.51        | 30.00       |          |
| 4-Jun-20     | 1464256                  | 1.39        | 30.00       | 5.9      |
| 15-Jun-20    | 1465303                  | 1.14        | 30.00       |          |
| 22-Jun-20    | 1466293                  | 1.69        | 30.00       |          |
| 22-Jun-20    | 1466229                  | 1.68        | 30.00       |          |
| 7-Jul-20     | 1468091                  | 1.39        | 30.00       | 2.52     |
| 19-Jul-20    | 1469702                  | 0.65        | 30.00       |          |
| 29-Jul-20    | 1470624                  | 0.48        | 30.00       |          |
| 1-Aug-20     | 1471127                  | 1.93        | 30.00       | 5        |
| 11-Aug-20    | 1472042                  | 0.97        | 30.00       |          |
| 25-Aug-20    | 1473896                  | 0.7         | 30.00       |          |
| 29-Aug-20    | 1474269                  | 1.51        | 30.00       |          |
| 1-Sep-20     | 1474571                  | 1.26        | 30.00       | 19.68    |
| 8-Sep-20     | 175410                   | 1.2         | 30.00       |          |
| 10-Sep-20    | 1475709                  | 1.03        | 30.00       |          |
| 14-Sep-20    | 1476298                  | 3.49        | 30.00       |          |
| 16-Sep-20    | 1476650                  | 10.65       | 30.00       |          |
| 22-Sep-20    | 1477676                  | 2.05        | 30.00       |          |
| 2-Oct-20     | 147930                   | 8.19        | 30.00       | 28.14    |
| 3-Oct-20     | 1479827                  | 7.29        | 30.00       |          |
| 6-Oct-20     | 1479946                  | 1.63        | 30.00       |          |
| 8-Oct-20     | 1480492                  | 1.13        | 30.00       |          |
| 13-Oct-20    | 1480912                  | 1.98        | 30.00       |          |
| 15-Oct-20    | 1481218                  | 5.29        | 30.00       |          |
| 19-Oct-20    | 1481785                  | 1.27        | 30.00       |          |
| 22-Oct-20    | 1482169                  | 1.36        | 30.00       |          |
| 14-Nov-20    | 1484543                  | 1.35        | 30.00       | 5.73     |
| 19-Nov-20    | 1485130                  | 1.85        | 30.00       |          |
| 30-Nov-20    | 1486191                  | 2.53        | 30.00       |          |
| 4-Dec-20     | 1486515                  | 2.62        | 30.00       | 4.82     |
| 16-Dec-20    | 1487947                  | 0.84        | 30.00       |          |
| 21-Dec-20    | 8-Jan-74                 | 1.36        | 30.00       |          |
|              |                          |             | Total (Ton) | 71.9     |
|              |                          |             |             |          |

Approved By: R. Dekuysscher



# Kiewit

## DOMESTIC WASTE MANIFEST TRACKING



### Tłchq All Season Road Project

| Date Shipped | Landfill Weight Ticket # | Weight (MT) | Volume (Yd) | Comments |
|--------------|--------------------------|-------------|-------------|----------|
| 17-Jan-20    | 1453287                  | 2.11        | 30          |          |
| 28-Jan-20    | 1454449                  | 1.42        | 30          |          |
| 7-Feb-20     | 1455817                  | 1.68        | 30          | 5.01     |
| 18-Feb-20    | 145637                   | 1.88        | 30          |          |
| 28-Feb-20    | 1457390                  | 1.45        | 30          |          |
| 9-Mar-20     | 1458633                  | 1.95        | 30          | 4.79     |
| 18-Mar-20    | 1459392                  | 1.6         | 30          |          |
| 25-Mar-20    | 1459629                  | 1.24        | 30          |          |
| 8-Apr-20     | 1459927                  | 1.59        | 30          |          |
| 20-May-20    | 1462148                  | 2.31        | 30          | 3.79     |
| 28-May-20    | 1463349                  | 1.48        | 30          |          |
| 5-Jun-20     | 1464532                  | 1.23        | 30          | 9.26     |
| 14-Jun-20    | 1465165                  | 4.54        | 30          |          |
| 20-Jun-20    | 1466269                  | 1.4         | 30          |          |
| 24-Jun-20    | 1466522                  | 0.89        | 30          |          |
| 29-Jun-20    | 1467235                  | 1.2         | 30          |          |
| 5-Jul-20     | 1467787                  | 1.53        | 30          | 8.08     |
| 8-Jul-20     | 1468260                  | 0.87        | 30          |          |
| 14-Jul-20    | 1468794                  | 1.35        | 30          |          |
| 19-Jul-20    | 1469430                  | 1.39        | 30          |          |
| 24-Jul-20    | 1470004                  | 1.62        | 30          |          |
| 29-Jul-20    | 1470555                  | 1.32        | 30          |          |
| 3-Aug-20     | 1471393                  | 1.75        | 30          | 10.34    |
| 8-Aug-20     | 1471764                  | 1.41        | 30          |          |
| 12-Aug-20    | 1472212                  | 1.24        | 30          |          |
| 18-Aug-20    | 1472910                  | 1.91        | 30          |          |
| 23-Aug-20    | 1473535                  | 1.51        | 30          |          |
| 27-Aug-20    | 1474011                  | 1.34        | 30          |          |
| 31-Aug-20    | 1474578                  | 1.18        | 30          |          |
| 4-Sep-20     | 1475131                  | 1.56        | 30          | 10.54    |
| 8-Sep-20     | 1475327                  | 1.24        | 30          |          |
| 12-Sep-20    | 1475831                  | 1.35        | 30          |          |
| 16-Sep-20    | 1476765                  | 1.49        | 30          |          |
| 21-Sep-20    | 1477472                  | 1.95        | 30          |          |
| 25-Sep-20    | 1478808                  | 1.43        | 30          |          |
| 30-Sep-20    | 1478907                  | 1.52        | 30          |          |
| 5-Oct-20     | 1479838                  | 2.1         | 30          | 8.58     |
| 12-Oct-20    | 1480860                  | 2           | 30          |          |
| 16-Oct-20    | 14817364                 | 1.14        | 30          |          |
| 21-Oct-20    | 1482009                  | 1.48        | 30          |          |



# Kiewit

## DOMESTIC WASTE MANIFEST TRACKING



### Tłchq All Season Road Project

| Date Shipped | Landfill Weight Ticket # | Weight (MT) | Volume (Yd) | Comments |
|--------------|--------------------------|-------------|-------------|----------|
| 26-Oct-20    | 1482650                  | 1.86        | 30          |          |
| 2-Nov-20     | 1483375                  | 2.39        | 30          | 8.82     |
| 9-Nov-20     | 1484146                  | 1.74        | 30          |          |
| 13-Nov-20    | 1484795                  | 1.8         | 30          |          |
| 18-Nov-20    | 1484984                  | 1.34        | 30          |          |
| 25-Nov-20    | 145641                   | 1.55        | 30          |          |
| 7-Dec-20     | 1486895                  | 2.58        | 30          |          |
|              |                          |             |             |          |



# HAZARDOUS MATERIALS WASTE TRACKING



## Tổng hợp All Season Road Project

| Vendor | Year |           | Month Shipped                    | Type | Tote QTY | Drum QTY |
|--------|------|-----------|----------------------------------|------|----------|----------|
| KBL    | 2020 | January   | Waste oil                        | 2    | 1        | 2,200    |
| KBL    | 2020 | January   | Contaminated Rags and Absorbents | 0    | 13       | 2,000    |
| KBL    | 2020 | January   | Oil/Fuel Filters                 | 0    | 4        | 362      |
| KBL    | 2020 | January   | Empty Drums                      | 0    | 44       | 880      |
| KBL    | 2020 | January   | Contaminated Snow                | 1    | 0        | 1,000    |
| KBL    | 2020 | January   | Contaminated Soil                | 1    | 0        | 1,000    |
| KBL    | 2020 | January   | Oily Debris                      | 1    | 1        | 160      |
| KBL    | 2020 | April     | Empty Drums                      | 0    | 24       | 480      |
| KBL    | 2020 | April     | Waste oil                        | 1    | 1        | 1,180    |
| KBL    | 2020 | April     | Contaminated Water               | 1    | 1        | 1,180    |
| KBL    | 2020 | May       | Empty Drums                      | 0    | 5        | 100      |
| KBL    | 2020 | May       | Waste oil                        | 5    | 0        | 5,000    |
| KBL    | 2020 | May       | Oil/Fuel Filters                 | 0    | 5        | 453      |
| KBL    | 2020 | May       | Contaminated Rags and Absorbents | 0    | 10       | 800      |
| KBL    | 2020 | May       | Aerosols                         | 0    | 1        | 50       |
| KBL    | 2020 | May       | Oily Debris                      | 4    | 1        | 500      |
| KBL    | 2020 | June      | Waste oil                        | 1    | 0        | 1,000    |
| KBL    | 2020 | June      | Oily Debris                      | 2    | 0        | 226      |
| KBL    | 2020 | June      | Contaminated Rags and Absorbents | 0    | 4        | 320      |
| KBL    | 2020 | June      | Oil/Fuel Filters                 | 0    | 2        | 182      |
| KBL    | 2020 | June      | Contaminated Water               | 1    | 1        | 1,180    |
| KBL    | 2020 | June      | Contaminated Soil                | 1    | 0        | 1,000    |
| KBL    | 2020 | June      | Empty Drums                      | 0    | 16       | 320      |
| KBL    | 2020 | July      | Contaminated Soil                | 5    | 0        | 5,000    |
| KBL    | 2020 | July      | Waste oil                        | 4    | 0        | 4,000    |
| KBL    | 2020 | July      | Oily Debris                      | 1    | 0        | 113      |
| KBL    | 2020 | July      | Contaminated Rags and Absorbents | 0    | 5        | 400      |
| KBL    | 2020 | July      | Oil/Fuel Filters                 | 0    | 1        | 91       |
| KBL    | 2020 | July      | Empty Drums                      | 0    | 9        | 180      |
| KBL    | 2020 | August    | Waste oil                        | 6    | 0        | 6,000    |
| KBL    | 2020 | August    | Contaminated Water               | 1    | 0        | 1,000    |
| KBL    | 2020 | August    | Contaminated Rags and Absorbents | 0    | 11       | 880      |
| KBL    | 2020 | August    | Oil/Fuel Filters                 | 0    | 7        | 634      |
| KBL    | 2020 | August    | Empty Drums                      | 0    | 27       | 540      |
| KBL    | 2020 | August    | Oily Debris                      | 1    | 0        | 113      |
| KBL    | 2020 | August    | Aerosols                         | 0    | 2        | 100      |
| KBL    | 2020 | September | Waste oil                        | 5    | 0        | 5,000    |

## HAZARDOUS MATERIALS WASTE TRACKING



### Tthị hq All Season Road Project

| Vendor | Year |           | Month Shipped                    | Type | Tote QTY | Drum QTY |
|--------|------|-----------|----------------------------------|------|----------|----------|
| KBL    | 2020 | September | Aerosols                         | 0    | 1        | 50       |
| KBL    | 2020 | September | Oily Debris                      | 1    | 0        | 113      |
| KBL    | 2020 | September | Contaminated Soil                | 2    | 0        | 2,000    |
| KBL    | 2020 | September | Contaminated Rags and Absorbents | 0    | 5        | 400      |
| KBL    | 2020 | September | Oil/Fuel Filters                 | 0    | 3        | 272      |
| KBL    | 2020 | September | Empty Drums                      | 0    | 18       | 360      |
| KBL    | 2020 | September | Petroleum Grease                 | 0    | 1        | 20       |
| KBL    | 2020 | October   | Oily Debris                      | 2    | 0        | 226      |
| KBL    | 2020 | October   | Contaminated Soil                | 1    | 0        | 1,000    |
| KBL    | 2020 | October   | Contaminated Rags and Absorbents | 0    | 4        | 320      |
| KBL    | 2020 | October   | Empty Drums                      | 0    | 16       | 320      |
| KBL    | 2020 | October   | Oil/Fuel Filters                 | 0    | 2        | 181      |
| KBL    | 2020 | October   | Waste oil                        | 2    | 0        | 2,000    |
| KBL    | 2020 | October   | Petroleum Grease                 | 0    | 3        | 60       |
| KBL    | 2020 | October   | Contaminated Water               | 0    | 11(Pail) | 198      |
| KBL    | 2020 | December  | Waste Oil                        | 6    | 0        | 6,000    |
| KBL    | 2020 | December  | Contaminated Soil                | 6    | 0        | 6,000    |
| KBL    | 2020 | December  | Contaminated Rags and Absorbents | 1    | 6        | 960      |
| KBL    | 2020 | December  | Oil/Fuel Filters                 | 0    | 6        | 543      |
| KBL    | 2020 | December  | Batteries-Lead Acid`             | 0    | 55(each) | N/A      |
| KBL    | 2020 | December  | Aerosols                         | 0    | 1        | 50       |
| KBL    | 2020 | December  | Oily Debris                      | 1    | 0        | 113      |



| Tijchq All Season Road Project |           |             |               |             |              |
|--------------------------------|-----------|-------------|---------------|-------------|--------------|
| Date Shipped                   | Invoice # | Metal Type  | Price per Ton | Weight (MT) | Revenue (\$) |
| 24-Feb-20                      | 154768    | Scrap Metal |               | 6.23        |              |
| 26-May-20                      | 342717    | Scrap Metal |               | 9.17        |              |
| 9-Jul-20                       | 461501    | Scrap Metal |               | 4.81        |              |
| 28-Jul-20                      | 342818    | Scrap Metal |               | 3.68        |              |
| 24-Aug-20                      | 355672    | Scrap Metal |               | 6.89        |              |
| 9-Sep-20                       | 355679    | Scrap Metal |               | 5.17        |              |
| 25-Sep-20                      | 452772    | Scrap Metal |               | 5.3         |              |
| 5-Nov-20                       | 189822    | Scrap Metal |               | 7.68        |              |
| 26-Nov-20                      | 189850    | Scrap Metal |               | 7.86        |              |
| 27-Nov-20                      | 189860    | Scrap Metal |               | 3.42        |              |
| 1-Dec-20                       | 189869    | Scrap Metal |               | 3.36        |              |
| 17-Dec-20                      | 189502    | Scrap Metal |               | 7.11        |              |
|                                |           |             |               |             |              |
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|                                |           |             |               |             |              |
|                                |           |             |               |             |              |
| Total                          |           |             |               | 70.68       |              |



# Kiewit

## RECYCLING MANIFEST TRACKING



### Tłchq All SeasŃn RŃad PrŃject

| Date Shipped | Recycling Ticket # | Weight (MT) | Type      |
|--------------|--------------------|-------------|-----------|
| 9-Jan-20     | 1452733            | 0.35        | Cardboard |
| 25-Jan-20    | 1454039            | 0.19        | Cardboard |
| 10-Feb-20    | 1455858            | 0.42        | Cardboard |
| 28-Feb-20    | 1457719            | 0.22        | Cardboard |
| 10-Mar-20    | 1458646            | 0.38        | Cardboard |
| 19-Mar-20    | 1459463            | 0.97        | Cardboard |
| 23-Apr-20    | 1460310            | 0.36        | Cardboard |
| 25-May-20    | 1462900            | 0.13        | Cardboard |
| 1-Jun-20     | 1463706            | 0.16        | Cardboard |
| 10-Jun-20    | 1464627            | 0.33        | Cardboard |
| 16-Jun-20    | 1465443            | 0.86        | Cardboard |
| 30-Jun-20    | 1467308            | 0.86        | Cardboard |
| 8-Jul-20     | 1468183            | 0.65        | Cardboard |
| 14-Jul-20    | 1468832            | 0.33        | Cardboard |
| 20-Jul-20    | 1469534            | 0.79        | Cardboard |
| 28-Jul-20    | 1470439            | 0.64        | Cardboard |
| 9-Aug-20     | 1471955            | 0.21        | Cardboard |
| 13-Aug-20    | 1472459            | 0.21        | Cardboard |
| 19-Aug-20    | 1473044            | 0.22        | Cardboard |
| 26-Aug-20    | 1473909            | 0.47        | Cardboard |
| 1-Sep-20     | 1474707            | 0.25        | Cardboard |
| 9-Sep-20     | 1475467            | 0.33        | Cardboard |
| 17-Sep-20    | 1476740            | 0.99        | Cardboard |
| 24-Sep-20    | 1478097            | 0.5         | Cardboard |
| 1-Oct-20     | 1479189            | 0.31        | Cardboard |
| 9-Oct-20     | 1480841            | 0.76        | Cardboard |
| 19-Oct-20    | 1481786            | 1.14        | Cardboard |
| 27-Oct-20    | 1482710            | 0.51        | Cardboard |
| 4-Nov-20     | 1483558            | 0.35        | Cardboard |
| 12-Nov-20    | 1484802            | 0.28        | Cardboard |
| 20-Nov-20    | 1485475            | 0.24        | Cardboard |
| 6-Nov-20     | 1486907            | 0.46        | Cardboard |
| 17-Dec-20    | 1487608            | 0.11        | Cardboard |





# Kiewit

## WOOD WASTE MANIFEST TRACKING



### Tłchq All Season Road Project

| Date Shipped | Landfill Weight Ticket # | Weight (MT) | Volume (Yd) | Comments |
|--------------|--------------------------|-------------|-------------|----------|
| 19-Feb-20    | 1456470.00               | 2.34        | 30.00       |          |
| 22-Apr-20    | YK1460281                | 1.91        | 30.00       |          |
| 4-Jun-20     | 1464256                  | 1.39        | 30.00       |          |
| 22-Jun-20    | 1466293                  | 1.69        | 30.00       |          |
| 15-Jul-20    | 1468964                  | 1.32        | 30.00       |          |
| 22-Aug-20    | 1473421                  | 1.29        | 30.00       |          |
| 1-Sep-20     | 1474571                  | 1.26        | 30.00       |          |
| 10-Sep-20    | 1475709                  | 1.03        | 30.00       |          |
| 6-Oct-20     | 1479946                  | 1.63        | 30.00       |          |
| 22-Oct-20    | 1482169                  | 1.36        | 30.00       |          |
| 30-Nov-20    | 1486191                  | 2.53        | 30.00       |          |
| 21-Dec-20    | 1488007                  | 1.36        | 30.00       |          |
|              |                          |             |             |          |
|              |                          |             |             |          |
|              |                          |             |             |          |
|              |                          |             |             |          |
|              |                          |             |             |          |

**Kiewit****DAILY SEPTIC TANK WASTE TRACKING****Tłychq All Season Road Project**

| Date      | Waste Source | Quantity (M <sup>3</sup> ) |
|-----------|--------------|----------------------------|
| 1-Jan-20  | Sewage       | 11.3                       |
| 4-Jan-20  | Sewage       | 11.3                       |
| 7-Jan-20  | Sewage       | 11.3                       |
| 9-Jan-20  | Sewage       | 11.3                       |
| 11-Jan-20 | Sewage       | 11.3                       |
| 12-Jan-20 | Sewage       | 11.3                       |
| 12-Jan-20 | Sewage       | 11.3                       |
| 13-Jan-20 | Sewage       | 11.3                       |
| 15-Jan-20 | Sewage       | 11.3                       |
| 16-Jan-20 | Sewage       | 11.3                       |
| 18-Jan-20 | Sewage       | 11.3                       |
| 19-Jan-20 | Sewage       | 11.3                       |
| 20-Jan-20 | Sewage       | 11.3                       |
| 21-Jan-20 | Sewage       | 11.3                       |
| 22-Jan-20 | Sewage       | 11.3                       |
| 23-Jan-20 | Sewage       | 11.3                       |
| 24-Jan-20 | Sewage       | 11.3                       |
| 25-Jan-20 | Sewage       | 11.3                       |
| 26-Jan-20 | Sewage       | 11.3                       |
| 27-Jan-20 | Sewage       | 11.3                       |
| 28-Jan-20 | Sewage       | 11.3                       |
| 29-Jan-20 | Sewage       | 11.3                       |
| 30-Jan-20 | Sewage       | 11.3                       |
| 31-Jan-20 | Sewage       | 11.3                       |
| 1-Feb-20  | Sewage       | 11.3                       |
| 2-Feb-20  | Sewage       | 11.3                       |
| 3-Feb-20  | Sewage       | 11.3                       |
| 4-Feb-20  | Sewage       | 11.3                       |
| 5-Feb-20  | Sewage       | 11.3                       |
| 6-Feb-20  | Sewage       | 11.3                       |
| 7-Feb-20  | Sewage       | 11.3                       |
| 8-Feb-20  | Sewage       | 11.3                       |
| 9-Feb-20  | Sewage       | 11.3                       |
| 18-Feb-20 | Sewage       | 11.3                       |
| 19-Feb-20 | Sewage       | 11.3                       |
| 20-Feb-20 | Sewage       | 11.3                       |
| 21-Feb-20 | Sewage       | 11.3                       |
| 22-Feb-20 | Sewage       | 11.3                       |
| 23-Feb-20 | Sewage       | 22.6                       |



# Kiewit

## DAILY SEPTIC TANK WASTE TRACKING



### Tłchq All Season Road Project

| Date      | Waste Source | Quantity (M <sup>3</sup> ) |
|-----------|--------------|----------------------------|
| 24-Feb-20 | Sewage       | 11.3                       |
| 25-Feb-20 | Sewage       | 11.3                       |
| 26-Feb-20 | Sewage       | 11.3                       |
| 27-Feb-20 | Sewage       | 11.3                       |
| 28-Feb-20 | Sewage       | 11.3                       |
| 29-Feb-20 | Sewage       | 11.3                       |
| 1-Mar-20  | Sewage       | 11.3                       |
| 2-Mar-20  | Sewage       | 11.3                       |
| 3-Mar-20  | Sewage       | 11.3                       |
| 4-Mar-20  | Sewage       | 11.3                       |
| 5-Mar-20  | Sewage       | 11.3                       |
| 6-Mar-20  | Sewage       | 11.3                       |
| 7-Mar-20  | Sewage       | 11.3                       |
| 8-Mar-20  | Sewage       | 11.3                       |
| 9-Mar-20  | Sewage       | 11.3                       |
| 10-Mar-20 | Sewage       | 22.6                       |
| 11-Mar-20 | Sewage       | 11.3                       |
| 12-Mar-20 | Sewage       | 11.3                       |
| 13-Mar-20 | Sewage       | 22.6                       |
| 14-Mar-20 | Sewage       | 11.3                       |
| 15-Mar-20 | Sewage       | 11.3                       |
| 16-Mar-20 | Sewage       | 11.3                       |
| 17-Mar-20 | Sewage       | 11.3                       |
| 18-Mar-20 | Sewage       | 22.6                       |
| 19-Mar-20 | Sewage       | 11.3                       |
| 20-Mar-20 | Sewage       | 11.3                       |
| 21-Mar-20 | Sewage       | 11.3                       |
| 22-Mar-20 | Sewage       | 11.3                       |
| 23-Mar-20 | Sewage       | 11.3                       |
| 24-Mar-20 | Sewage       | 11.3                       |
| 25-Mar-20 | Sewage       | 11.3                       |
| 26-Mar-20 | Sewage       | 11.3                       |
| 27-Mar-20 | Sewage       | 11.3                       |
| 28-Mar-20 | Sewage       | 11.3                       |
| 29-Mar-20 | Sewage       | 11.3                       |
| 30-Mar-20 | Sewage       | 11.3                       |
| 31-Mar-20 | Sewage       | 11.3                       |
| 1-Apr-20  | Sewage       | 11.3                       |
| 2-Apr-20  | Sewage       | 11.3                       |
| 3-Apr-20  | Sewage       | 11.3                       |

**Kiewit****DAILY SEPTIC TANK WASTE TRACKING****Tłychq All Season Road Project**

| Date      | Waste Source | Quantity (M <sup>3</sup> ) |
|-----------|--------------|----------------------------|
| 4-Apr-20  | Sewage       | 11.3                       |
| 6-Apr-20  | Sewage       | 11.3                       |
| 21-Apr-20 | Sewage       | 11.3                       |
| 15-Apr-20 | Sewage       | 11.3                       |
| 2-May-20  | sewage       | 11.3                       |
| 6-May-20  | sewage       | 11.3                       |
| 8-May-20  | sewage       | 11.3                       |
| 11-May-20 | sewage       | 11.3                       |
| 16-May-20 | sewage       | 11.3                       |
| 19-May-20 | sewage       | 11.3                       |
| 21-May-20 | sewage       | 11.3                       |
| 23-May-20 | sewage       | 11.3                       |
| 25-May-20 | sewage       | 11.3                       |
| 26-May-20 | sewage       | 11.3                       |
| 27-May-20 | sewage       | 11.3                       |
| 28-May-20 | sewage       | 11.3                       |
| 29-May-20 | sewage       | 11.3                       |
| 30-May-20 | sewage       | 11.3                       |
| 1-Jun-20  | sewage       | 11.3                       |
| 2-Jun-20  | sewage       | 11.3                       |
| 3-Jun-20  | sewage       | 11.3                       |
| 4-Jun-20  | sewage       | 11.3                       |
| 5-Jun-20  | sewage       | 11.3                       |
| 6-Jun-20  | sewage       | 11.3                       |
| 7-Jun-20  | sewage       | 11.3                       |
| 8-Jun-20  | sewage       | 11.3                       |
| 9-Jun-20  | sewage       | 11.3                       |
| 10-Jun-20 | sewage       | 11.3                       |
| 11-Jun-20 | sewage       | 11.3                       |
| 12-Jun-20 | sewage       | 22.6                       |
| 13-Jun-20 | sewage       | 11.3                       |
| 14-Jun-20 | sewage       | 11.3                       |
| 15-Jun-20 | sewage       | 22.6                       |
| 16-Jun-20 | sewage       | 22.6                       |
| 17-Jun-20 | sewage       | 11.3                       |
| 18-Jun-20 | sewage       | 11.3                       |
| 19-Jun-20 | sewage       | 11.3                       |
| 20-Jun-20 | sewage       | 22.6                       |
| 21-Jun-20 | sewage       | 11.3                       |
| 22-Jun-20 | sewage       | 22.6                       |



**Kiewit****DAILY SEPTIC TANK WASTE TRACKING****Tłychq All Season Road Project**

| Date      | Waste Source | Quantity (M <sup>3</sup> ) |
|-----------|--------------|----------------------------|
| 23-Jun-20 | sewage       | 11.3                       |
| 24-Jun-20 | sewage       | 22.6                       |
| 25-Jun-20 | sewage       | 11.3                       |
| 26-Jun-20 | sewage       | 11.3                       |
| 27-Jun-20 | sewage       | 11.3                       |
| 28-Jun-20 | sewage       | 22.6                       |
| 29-Jun-20 | sewage       | 11.3                       |
| 30-Jun-20 | sewage       | 22.6                       |
| 1-Jul-20  | sewage       | 22.6                       |
| 2-Jul-20  | sewage       | 33.9                       |
| 3-Jul-20  | sewage       | 22.6                       |
| 4-Jul-20  | sewage       | 11.3                       |
| 5-Jul-20  | sewage       | 11.3                       |
| 6-Jul-20  | sewage       | 11.3                       |
| 7-Jul-20  | sewage       | 22.6                       |
| 8-Jul-20  | sewage       | 22.6                       |
| 9-Jul-20  | sewage       | 22.6                       |
| 10-Jul-20 | sewage       | 11.3                       |
| 11-Jul-20 | sewage       | 56.5                       |
| 12-Jul-20 | sewage       | 11.3                       |
| 13-Jul-20 | sewage       | 22.6                       |
| 14-Jul-20 | sewage       | 33.9                       |
| 15-Jul-20 | sewage       | 22.6                       |
| 16-Jul-20 | sewage       | 22.6                       |
| 17-Jul-20 | sewage       | 22.6                       |
| 18-Jul-20 | sewage       | 11.3                       |
| 19-Jul-20 | sewage       | 22.6                       |
| 20-Jul-20 | sewage       | 11.3                       |
| 21-Jul-20 | sewage       | 33.9                       |
| 22-Jul-20 | sewage       | 11.3                       |
| 23-Jul-20 | sewage       | 33.9                       |
| 24-Jul-20 | sewage       | 11.3                       |
| 25-Jul-20 | sewage       | 22.6                       |
| 26-Jul-20 | sewage       | 22.6                       |
| 27-Jul-20 | sewage       | 33.9                       |
| 28-Jul-20 | sewage       | 33.9                       |
| 29-Jul-20 | sewage       | 22.6                       |
| 30-Jul-20 | sewage       | 33.9                       |
| 31-Jul-20 | sewage       | 22.6                       |
| 1-Aug-20  | sewage       | 22.6                       |

**Kiewit****DAILY SEPTIC TANK WASTE TRACKING****Tłchq All Season Road Project**

| Date      | Waste Source | Quantity (M <sup>3</sup> ) |
|-----------|--------------|----------------------------|
| 2-Aug-20  | sewage       | 22.6                       |
| 3-Aug-20  | sewage       | 11.3                       |
| 4-Aug-20  | sewage       | 22.6                       |
| 5-Aug-20  | sewage       | 33.9                       |
| 6-Aug-20  | sewage       | 33.9                       |
| 7-Aug-20  | sewage       | 11.3                       |
| 8-Aug-20  | sewage       | 22.6                       |
| 9-Aug-20  | sewage       | 22.6                       |
| 10-Aug-20 | sewage       | 33.9                       |
| 11-Aug-20 | sewage       | 33.9                       |
| 12-Aug-20 | sewage       | 22.6                       |
| 13-Aug-20 | sewage       | 33.9                       |
| 14-Aug-20 | sewage       | 33.9                       |
| 15-Aug-20 | sewage       | 22.6                       |
| 16-Aug-20 | sewage       | 33.9                       |
| 17-Aug-20 | sewage       | 22.6                       |
| 18-Aug-20 | sewage       | 22.6                       |
| 19-Aug-20 | sewage       | 22.6                       |
| 20-Aug-20 | sewage       | 11.3                       |
| 21-Aug-20 | sewage       | 22.6                       |
| 22-Aug-20 | sewage       | 22.6                       |
| 23-Aug-20 | sewage       | 22.6                       |
| 24-Aug-20 | sewage       | 33.9                       |
| 25-Aug-20 | sewage       | 33.9                       |
| 26-Aug-20 | sewage       | 22.6                       |
| 27-Aug-20 | sewage       | 33.9                       |
| 28-Aug-20 | sewage       | 22.6                       |
| 29-Aug-20 | sewage       | 22.6                       |
| 30-Aug-20 | sewage       | 22.6                       |
| 31-Aug-20 | sewage       | 22.6                       |
| 1-Sep-20  | sewage       | 33.9                       |
| 2-Sep-20  | sewage       | 22.6                       |
| 3-Sep-20  | sewage       | 33.9                       |
| 4-Sep-20  | sewage       | 22.6                       |
| 5-Sep-20  | sewage       | 22.6                       |
| 6-Sep-20  | sewage       | 22.6                       |
| 7-Sep-20  | sewage       | 11.3                       |
| 8-Sep-20  | sewage       | 22.6                       |
| 9-Sep-20  | sewage       | 22.6                       |
| 10-Sep-20 | sewage       | 33.9                       |

**Kiewit****DAILY SEPTIC TANK WASTE TRACKING****Tłychq All Season Road Project**

| Date      | Waste Source | Quantity (M <sup>3</sup> ) |
|-----------|--------------|----------------------------|
| 11-Sep-20 | sewage       | 11.3                       |
| 12-Sep-20 | sewage       | 22.6                       |
| 13-Sep-20 | sewage       | 22.6                       |
| 14-Sep-20 | sewage       | 11.3                       |
| 15-Sep-20 | sewage       | 22.6                       |
| 16-Sep-20 | sewage       | 22.6                       |
| 17-Sep-20 | sewage       | 22.6                       |
| 18-Sep-20 | sewage       | 22.6                       |
| 19-Sep-20 | sewage       | 11.3                       |
| 20-Sep-20 | sewage       | 22.6                       |
| 21-Sep-20 | sewage       | 33.9                       |
| 22-Sep-20 | sewage       | 22.6                       |
| 23-Sep-20 | sewage       | 33.9                       |
| 24-Sep-20 | sewage       | 11.3                       |
| 25-Sep-20 | sewage       | 22.6                       |
| 26-Sep-20 | sewage       | 22.6                       |
| 27-Sep-20 | sewage       | 11.3                       |
| 28-Sep-20 | sewage       | 22.6                       |
| 29-Sep-20 | sewage       | 22.6                       |
| 30-Sep-20 | sewage       | 22.6                       |
| 1-Oct-20  | Sewage       | 11.3                       |
| 2-Oct-20  | Sewage       | 22.6                       |
| 3-Oct-20  | Sewage       | 22.6                       |
| 4-Oct-20  | Sewage       | 11.3                       |
| 5-Oct-20  | Sewage       | 22.6                       |
| 6-Oct-20  | Sewage       | 22.6                       |
| 7-Oct-20  | Sewage       | 22.6                       |
| 8-Oct-20  | Sewage       | 11.3                       |
| 9-Oct-20  | Sewage       | 22.6                       |
| 10-Oct-20 | Sewage       | 11.3                       |
| 11-Oct-20 | Sewage       | 22.6                       |
| 12-Oct-20 | Sewage       | 22.6                       |
| 13-Oct-20 | Sewage       | 11.3                       |
| 14-Oct-20 | Sewage       | 22.6                       |
| 15-Oct-20 | Sewage       | 22.6                       |
| 16-Oct-20 | Sewage       | 11.3                       |
| 17-Oct-20 | Sewage       | 22.6                       |
| 18-Oct-20 | Sewage       | 11.3                       |
| 19-Oct-20 | Sewage       | 22.6                       |
| 20-Oct-20 | Sewage       | 22.6                       |

**Kiewit****DAILY SEPTIC TANK WASTE TRACKING****Tłychq All Season Road Project**

| Date      | Waste Source | Quantity (M <sup>3</sup> ) |
|-----------|--------------|----------------------------|
| 21-Oct-20 | Sewage       | 11.3                       |
| 22-Oct-20 | Sewage       | 22.6                       |
| 23-Oct-20 | Sewage       | 22.6                       |
| 24-Oct-20 | Sewage       | 22.6                       |
| 25-Oct-20 | Sewage       | 11.3                       |
| 26-Oct-20 | Sewage       | 22.6                       |
| 27-Oct-20 | Sewage       | 11.3                       |
| 28-Oct-20 | Sewage       | 22.6                       |
| 29-Oct-20 | Sewage       | 11.3                       |
| 30-Oct-20 | Sewage       | 22.6                       |
| 31-Oct-20 | Sewage       | 11.3                       |
| 1-Nov-20  | Sewage       | 11.3                       |
| 2-Nov-20  | Sewage       | 22.6                       |
| 3-Nov-20  | Sewage       | 22.6                       |
| 4-Nov-20  | Sewage       | 22.6                       |
| 5-Nov-20  | Sewage       | 11.3                       |
| 6-Nov-20  | Sewage       | 11.3                       |
| 7-Nov-20  | Sewage       | 11.3                       |
| 8-Nov-20  | Sewage       | 11.3                       |
| 9-Nov-20  | Sewage       | 11.3                       |
| 10-Nov-20 | Sewage       | 11.3                       |
| 11-Nov-20 | Sewage       | 22.6                       |
| 12-Nov-20 | Sewage       | 11.3                       |
| 13-Nov-20 | Sewage       | 11.3                       |
| 14-Nov-20 | Sewage       | 11.3                       |
| 15-Nov-20 | Sewage       | 11.3                       |
| 16-Nov-20 | Sewage       | 22.6                       |
| 17-Nov-20 | Sewage       | 22.6                       |
| 18-Nov-20 | Sewage       | 11.3                       |
| 19-Nov-20 | Sewage       | 11.3                       |
| 20-Nov-20 | Sewage       | 11.3                       |
| 21-Nov-20 | Sewage       | 11.3                       |
| 22-Nov-20 | Sewage       | 11.3                       |
| 23-Nov-20 | Sewage       | 22.6                       |
| 24-Nov-20 | Sewage       | 11.3                       |
| 26-Nov-20 | Sewage       | 11.3                       |
| 27-Nov-20 | Sewage       | 11.3                       |
| 29-Nov-20 | Sewage       | 11.3                       |
| 1-Dec-20  | Sewage       | 11.3                       |
| 2-Dec-20  | Sewage       | 11.3                       |





**Kiewit**

DAILY SEPTIC TANK WASTE TRACKING



Tłchq All Season Road Project

| Date      | Waste Source | Quantity (M <sup>3</sup> ) |
|-----------|--------------|----------------------------|
| 3-Dec-20  | Sewage       | 11.3                       |
| 7-Dec-20  | Sewage       | 22.6                       |
| 10-Dec-20 | Sewage       | 11.3                       |
| 13-Dec-20 | Sewage       | 11.3                       |
| 23-Dec-20 | Sewage       | 11.3                       |
|           |              | 90.4                       |

## APPENDIX B 2020 DRILL AND BLAST DETAILS



Table B-1 BLAST DATES AND LOCATION ON THE TASR IN 2020.

| DATE       | BLAST #               | LOCATION       |
|------------|-----------------------|----------------|
| 23-Jan-20  | Ditch Blast           | Station 39+200 |
| 24-Jan-20  | Ditch Blast           | Station 44+300 |
| 20-Feb-20  | Km 76 Road Cut 3      | Station 76+000 |
| 22-Feb-20  | Km 69 Road Cut 004    | Station 68+813 |
| 23-Feb-20  | Km 76 Road Cut 005    | Station 76+125 |
| 27-Feb-20  | Km 76 Road Cut 006    | Station 76+400 |
| 29-Feb-20  | Road Cut #007         | Station 59+550 |
| 2-Mar-20   | Road Cut #008         | Station 78+400 |
| 9-Mar-20   | Km 78 Road Cut 009    | Station 78+600 |
| 11-Jul-20  | Road Cut #2020-001    | Station 59+000 |
| 16-Jul-20  | Ditch Blast #2020-001 | Station 32+000 |
| 19-Jul-20  | Road Cut #2020-002    | Station 60+000 |
| 23-Jul-20  | Road Cut #2020-003    | Station 59+700 |
| 24-Jul-20  | Road Cut #2020-004    | Station 59+900 |
| 25-Jul-20  | Ditch Blast #2020-002 | Station 32+000 |
| 26-Jul-20  | Ditch Blast #2020-003 | Station 32+000 |
| 7-Aug-20   | Ditch Blast #2020-004 | Station 10+000 |
| 9-Aug-20   | Ditch Blast #2020-005 | Station 17+000 |
| 10-Aug-20  | Ditch Blast #2020-006 | Station 18+000 |
| 11-Aug-20  | Ditch Blast #2020-006 | Station 18+380 |
| 12-Aug-20  | Ditch Blast #2020-007 | Station 18+650 |
| 13-Aug-20  | Road Cut #2020-005    | Station 59+500 |
| 15-Aug-20  | Road Cut #2020-006    | Station 20+000 |
| 16-Aug-20  | Road Cut #2020-007    | Station 59+500 |
| 18-Aug-20  | Ditch Blast #2020-010 | Station 10+000 |
| 19-Aug-20  | Ditch Blast #2020-011 | Station 14+000 |
| 20-Aug-20  | Ditch Blast #2020-012 | Station 14+600 |
| 22-Aug-20  | Ditch Blast #2020-013 | Station 24+900 |
| 23-Aug-20  | Ditch Blast #2020-014 | Station 32+000 |
| 24-Aug-20  | Ditch Blast #2020-015 | Station 32+000 |
| 1-Sept-20  | Ditch Blast #2020-016 | Station 26+000 |
| 2-Sept-20  | Ditch Blast #2020-017 | Station 29+300 |
| 3-Aug-20   | Ditch Blast #2020-018 | Station 29+600 |
| 6-Sept-20  | Road Cut #2020-008    | Station 34+500 |
| 7-Sept-20  | Ditch Blast #2020-019 | Station 35+380 |
| 8-Sept-20  | Ditch Blast #2020-020 | Station 35+500 |
| 10-Sept-20 | Ditch Blast #2020-021 | Station 38+000 |
| 15-Sept-20 | Road Cut #2020-009    | Station 78+000 |
| 16-Sept-20 | Ditch Blast #2020-022 | Station 43+300 |
| 10-Oct-20  | Road Cut #2020-010    | Station 34+500 |
| 12-Oct-20  | Road Cut #2020-011    | Station 87+670 |

| DATE      | BLAST #               | LOCATION       |
|-----------|-----------------------|----------------|
| 14-Oct-20 | Road Cut #2020-012    | Station 88+800 |
| 18-Oct-20 | Road Cut #2020-013    | Station 88+850 |
| 19-Oct-20 | Road Cut #2020-014    | Station 89+600 |
| 21-Oct-20 | Road Cut #2020-015    | Station 91+000 |
| 22-Oct-20 | Ditch Blast #2020-023 | Station 91+500 |
| 24-Oct-20 | Ditch Blast #2020-024 | Station 91+500 |
| 26-Oct-20 | Ditch Blast #2020-025 | Station 91+280 |
| 27-Oct-20 | Road Cut #2020-016    | Station 92+150 |
| 28-Oct-20 | Road Cut #2020-017    | Station 96+000 |
| 29-Oct-20 | Road Cut #2020-018    | Station 96+000 |
| 30-Oct-20 | Ditch Blast #2020-026 | Station 95+500 |
| 31-Oct-20 | Ditch Blast #2020-027 | Station 95+200 |
| 1-Nov-20  | Ditch Blast #2020-028 | Station 95+300 |
| 2-Nov-20  | Road Cut #2020-019    | Station 95+250 |
| 3-Nov-20  | Road Cut #2020-020    | Station 94+700 |
| 4-Nov-20  | Road Cut #2020-021    | Station 94+700 |
| 5-Nov-20  | Road Cut #2020-022    | Station 94+260 |
| 6-Nov-20  | Ditch Blast #2020-029 | Station 93+900 |
| 7-Nov-20  | Ditch Blast #2020-030 | Station 94+000 |
| 8-Nov-20  | Ditch Blast #2020-031 | Station 93+000 |
| 9-Nov-20  | Ditch Blast #2020-032 | Station 92+800 |
| 11-Nov-20 | Road Cut #2020-023    | Station 93+000 |
| 13-Nov-20 | Road Cut #2020-024    | Station 88+500 |
| 13-Nov-20 | Ditch Blast #2020-033 | Station 92+400 |
| 13-Nov-20 | Road Cut #2020-025    | Station 89+500 |



## APPENDIX C 2020 CULVERT INSTALLATION DETAILS



Table C-1 TASR CULVERT INSTALLATION DETAILS FOR 2020

| SEGMENT | STATION # | DATE FINISHED |
|---------|-----------|---------------|
| 1       | 15400.2   | 2-Jun-20      |
| 1       | 16550     | 1-Sep-20      |
| 1       | 18300     | 29-May-20     |
| 1       | 19500.2   | 6-Sep-20      |
| 1       | 19900.2   | 8-Nov-19      |
| 1       | 22110.2   | 29-May-20     |
| 2A      | 23400.2   | 31-Mar-20     |
| 2A      | 24260.2   | 31-May-20     |
| 2A      | 26040     | 5-Jun-20      |
| 2A      | 27260     | 6-Jun-20      |
| 2A      | 29700.2   | 6-Jun-20      |
| 2B      | 33100.2   | 14-Jun-20     |
| 2B      | 34000     | 5-Jun-20      |
| 2B      | 35700     | 8-Jun-20      |
| 2B      | 36100     | 8-Jun-20      |
| 2B      | 37400     | 9-Jun-20      |
| 2B      | 41020     | 9-Jun-20      |
| 2B      | 41380.2   | 27-Mar-20     |
| 2B      | 42440     | 10-Jun-20     |
| 2B      | 43160     | 5-Jul-20      |
| 2B      | 46040     | 11-Jun-20     |
| 3       | ARCH-10A  | 3-Apr-20      |
| 3       | 47540.1   | 7-Jul-20      |
| 3       | 47540.2   | 7-Jul-20      |
| 3       | 49470     | 19-Jun-20     |
| 3       | 50660     | 21-Jul-20     |
| 3       | 51970.2   | 8-Jul-20      |
| 3       | 52640     | 9-Jul-20      |
| 3       | 53310     | 27-Jul-20     |
| 3       | 53750.3   | 29-Jul-20     |
| 3       | 54480     | 29-Jul-20     |
| 3       | 56520.3   | 8-Aug-20      |
| 3       | 60110     | 11-Aug-20     |
| 3       | 60500     | 12-Aug-20     |
| 3       | 61160     | 13-Aug-20     |
| 3       | 62+380    | 14-Aug-20     |
| 3       | 62900.3   | 15-Aug-20     |
| 3       | 62900.2   | 15-Aug-20     |
| 3       | 63160.2   | 17-Aug-20     |
| 3       | 63910     | 18-Aug-20     |
| 3       | 64340     | 18-Aug-20     |



| SEGMENT | STATION # | DATE FINISHED |
|---------|-----------|---------------|
| 3       | 64650     | 18-Aug-20     |
| 3       | 65090     | 19-Aug-20     |
| 3       | 65800     | 21-Aug-20     |
| 3       | 66150     | 22-Aug-20     |
| 3       | 66690     | 23-Aug-20     |
| 3       | 68690     | 23-Aug-20     |
| 3       | 70480.2   | 26-Aug-20     |
| 3       | 71840     | 27-Aug-20     |
| 3       | 72080.2   | 28-Aug-20     |
| 3       | 72500     | 30-Aug-20     |
| 3       | 73460.2   | 29-Aug-20     |
| 3       | 74060     | 2-Oct-20      |
| 3       | 74400     | 30-Aug-20     |
| 3       | 74970     | 1-Sep-20      |
| 3       | 75710     | 1-Sep-20      |
| 3       | 76860.3   | 4-Sep-20      |
| 3       | 79660     | 26-Sep-20     |
| 3       | 79830     | 27-Sep-20     |
| 3       | 80940     | 28-Sep-20     |
| 3       | 81680     | 29-Sep-20     |
| 3       | 82520     | 30-Sep-20     |
| 3       | 84620.2   | 2-Oct-20      |
| 4       | 86300     | 16-Oct-20     |
| 4       | 87300.2   | 14-Oct-20     |
| 4       | 87870     | 15-Oct-20     |
| 4       | 88230     | 18-Nov-20     |
| 4       | 90230     | 18-Oct-20     |
| 4       | 90800.2   | 17-Oct-20     |
| 4       | 91170     | 17-Nov-20     |
| 4       | 92000     | 18-Nov-20     |
| 4       | 93200.2   | 16-Nov-20     |
| 4       | 93940     | 14-Nov-20     |
| 4       | 94080     | 14-Nov-20     |
| 4       | 94800     | 13-Nov-20     |
| 4       | 95040     | 13-Nov-20     |
| 4       | 95520     | 12-Nov-20     |

## APPENDIX D 2020 WATER QUALITY MONITORING DETAILS





10 m

Unnamed Downstream  
Sample Site (UDS4)

Unnamed Downstream  
Sample Site (UDS3)

Unnamed Downstream  
Sample Site (UDS2)

Unnamed Upstream  
Sample Site (UUS1)

48+200

Unnamed Crossing 10A  
48+204  
Ortho: June 21, 2020

June 23, 2020



| Date      | Time (24h) | Date Time Combined | Station Cross Section | Sample # | Turbidity (NTU) |        |        | Average (NTU) | Average NTU for Transect | CCME Guideline | Calculated/Actual TSS (mg/L) |
|-----------|------------|--------------------|-----------------------|----------|-----------------|--------|--------|---------------|--------------------------|----------------|------------------------------|
|           |            |                    |                       |          | Read 1          | Read 2 | Read 3 |               |                          |                |                              |
| 3-Jun-20  | 11:21      | 6/3/20 11:21 AM    | 10AUS1                | 10AUS1   | 0.97            | 0.72   | 0.79   | 0.83          | 0.83                     | 27.90          | 2.90                         |
| 3-Jun-20  | 11:19      | 6/3/20 11:19 AM    | 10ADS2                | 10ADS2   | 0.81            | 0.83   | 0.49   | 0.71          | 0.71                     |                | 2.79                         |
| 3-Jun-20  | 11:17      | 6/3/20 11:17 AM    | 10ADS3                | 10ADS3   | 1.03            | 0.75   | 0.68   | 0.82          | 0.82                     |                | 2.89                         |
| 3-Jun-20  | 11:16      | 6/3/20 11:16 AM    | 10ADS4                | 10ADS4   | 1.33            | 1.39   | 1.57   | 1.43          | 1.43                     |                | 3.42                         |
| 11-Jun-20 | 12:37      | 6/11/20 12:37 PM   | 10AUS1                | 10AUS1   | 0.67            | 0.96   | 0.65   | 0.76          | 0.76                     | 27.84          | 2.84                         |
| 11-Jun-20 | 12:38      | 6/11/20 12:38 PM   | 10ADS2                | 10ADS2   | 0.91            | 0.89   | 0.93   | 0.91          | 0.91                     |                | 2.97                         |
| 11-Jun-20 | 12:40      | 6/11/20 12:40 PM   | 10ADS3                | 10ADS3   | 0.76            | 0.8    | 0.78   | 0.78          | 0.78                     |                | 2.86                         |
| 11-Jun-20 | 12:42      | 6/11/20 12:42 PM   | 10ADS4                | 10ADS4   | 0.98            | 0.58   | 0.54   | 0.70          | 0.70                     |                | 2.79                         |
| 15-Jun-20 | 10:55      | 6/15/20 10:55 AM   | 10AUS1                | 10AUS1   | 1.12            | 1.23   | 1.51   | 1.29          | 1.29                     | 28.30          | 3.30                         |
| 15-Jun-20 | 10:53      | 6/15/20 10:53 AM   | 10ADS2                | 10ADS2   | 0.89            | 0.95   | 1.06   | 0.97          | 0.97                     |                | 3.02                         |
| 15-Jun-20 | 10:51      | 6/15/20 10:51 AM   | 10ADS3                | 10ADS3   | 1.11            | 1.03   | 1.01   | 1.05          | 1.05                     |                | 3.09                         |
| 15-Jun-20 | 10:50      | 6/15/20 10:50 AM   | 10ADS4                | 10ADS4   | 2.37            | 1.67   | 1.38   | 1.81          | 1.81                     |                | 3.75                         |
| 10-Jul-20 | 15:47      | 7/10/20 3:47 PM    | 10AUS1                | 10AUS1   | 1.94            | 1.97   | 1.8    | 1.90          | 1.90                     | 28.83          | 3.83                         |
| 10-Jul-20 | 15:44      | 7/10/20 3:44 PM    | 10ADS2                | 10ADS2   | 1.72            | 1.28   | 2.43   | 1.81          | 1.81                     |                | 3.75                         |
| 10-Jul-20 | 15:42      | 7/10/20 3:42 PM    | 10ADS3                | 10ADS3   | 1.67            | 1.7    | 1.64   | 1.67          | 1.67                     |                | 3.63                         |
| 10-Jul-20 | 15:40      | 7/10/20 3:40 PM    | 10ADS4                | 10ADS4   | 1.83            | 2.26   | 1.43   | 1.84          | 1.84                     |                | 3.78                         |
| 9-Aug-20  | 13:55      | 8/9/20 1:55 PM     | 10AUS1                | 10AUS1   | 0.92            | 0.74   | 0.61   | 0.76          | 0.76                     | 26.20          | 1.20                         |
| 9-Aug-20  | 13:52      | 8/9/20 1:52 PM     | 10ADS2                | 10ADS2   | 1.97            | 1.41   | 1.45   | 1.61          | 1.61                     |                | 2.30                         |
| 9-Aug-20  | 13:51      | 8/9/20 1:51 PM     | 10ADS3                | 10ADS3   | 1.84            | 2.26   | 1.8    | 1.97          | 1.97                     |                | 1.70                         |
| 9-Aug-20  | 13:45      | 8/9/20 1:45 PM     | 10ADS4                | 10ADS4   | 2.24            | 1.32   | 1.3    | 1.62          | 1.62                     |                | 1.70                         |
| 14-Aug-20 | 16:25      | 8/14/20 4:25 PM    | 10AUS1                | 10AUS1   | 1.23            | 1.15   | 1.08   | 1.15          | 1.15                     | 28.18          | 3.18                         |
| 14-Aug-20 | 16:34      | 8/14/20 4:34 PM    | 10ADS2                | 10ADS2   | 1.03            | 1.08   | 0.93   | 1.01          | 1.01                     |                | 3.06                         |
| 14-Aug-20 | 16:33      | 8/14/20 4:33 PM    | 10ADS3                | 10ADS3   | 1.96            | 1.84   | 1.78   | 1.86          | 1.86                     |                | 3.80                         |
| 14-Aug-20 | 16:31      | 8/14/20 4:31 PM    | 10ADS4                | 10ADS4   | 1.4             | 1.01   | 0.98   | 1.13          | 1.13                     |                | 3.16                         |
| 28-Aug-20 | 10:13      | 8/28/20 10:13 AM   | 10AUS1                | 10AUS1   | 0.65            | 0.63   | 0.78   | 0.69          | 0.69                     | 27.77          | 2.77                         |
| 28-Aug-20 | 10:11      | 8/28/20 10:11 AM   | 10ADS2                | 10ADS2   | 1.26            | 1.39   | 1.79   | 1.48          | 1.48                     |                | 3.47                         |
| 28-Aug-20 | 10:09      | 8/28/20 10:09 AM   | 10ADS3                | 10ADS3   | 1.37            | 1.32   | 1.79   | 1.49          | 1.49                     |                | 3.48                         |
| 28-Aug-20 | 10:07      | 8/28/20 10:07 AM   | 10ADS4                | 10ADS4   | 1.6             | 1.51   | 1.52   | 1.54          | 1.54                     |                | 3.52                         |
| 5-Sep-20  | 9:36       | 9/5/20 9:36 AM     | 10AUS1                | 10AUS1   | 0.71            | 0.63   | 0.65   | 0.66          | 0.66                     | 27.75          | 2.75                         |
| 5-Sep-20  | 9:34       | 9/5/20 9:34 AM     | 10ADS2                | 10ADS2   | 12.1            | 11     | 9.86   | 10.99         | 10.99                    |                | 11.75                        |
| 5-Sep-20  | 9:32       | 9/5/20 9:32 AM     | 10ADS3                | 10ADS3   | 7.14            | 8.7    | 8.35   | 8.06          | 8.06                     |                | 9.20                         |
| 5-Sep-20  | 9:30       | 9/5/20 9:30 AM     | 10ADS4                | 10ADS4   | 5.94            | 6.37   | 6.29   | 6.20          | 6.20                     |                | 7.58                         |
| 7-Sep-20  | 10:00      | 9/7/20 10:00 AM    | 10AUS1                | 10AUS1   | 4.46            | 4.07   | 3.63   | 4.05          | 4.05                     | 30.71          | 5.71                         |
| 7-Sep-20  | 10:03      | 9/7/20 10:03 AM    | 10ADS2                | 10ADS2   | 3.15            | 3.1    | 2.52   | 2.92          | 2.92                     |                | 4.72                         |
| 7-Sep-20  | 10:06      | 9/7/20 10:06 AM    | 10ADS3                | 10ADS3   | 5.03            | 4.36   | 3.9    | 4.43          | 4.43                     |                | 6.03                         |
| 7-Sep-20  | 10:08      | 9/7/20 10:08 AM    | 10ADS4                | 10ADS4   | 7.4             | 7.52   | 7.91   | 7.61          | 7.61                     |                | 8.80                         |





Duport Upstream  
Sample Site (DUS1)

Duport Downstream  
Sample Site (DDS2)

Duport Downstream  
Sample Site (DDS3)

Duport Downstream  
Sample Site (DDS4)

Duport Bridge  
40+390  
Ortho: June 21, 2020  
June 23, 2020

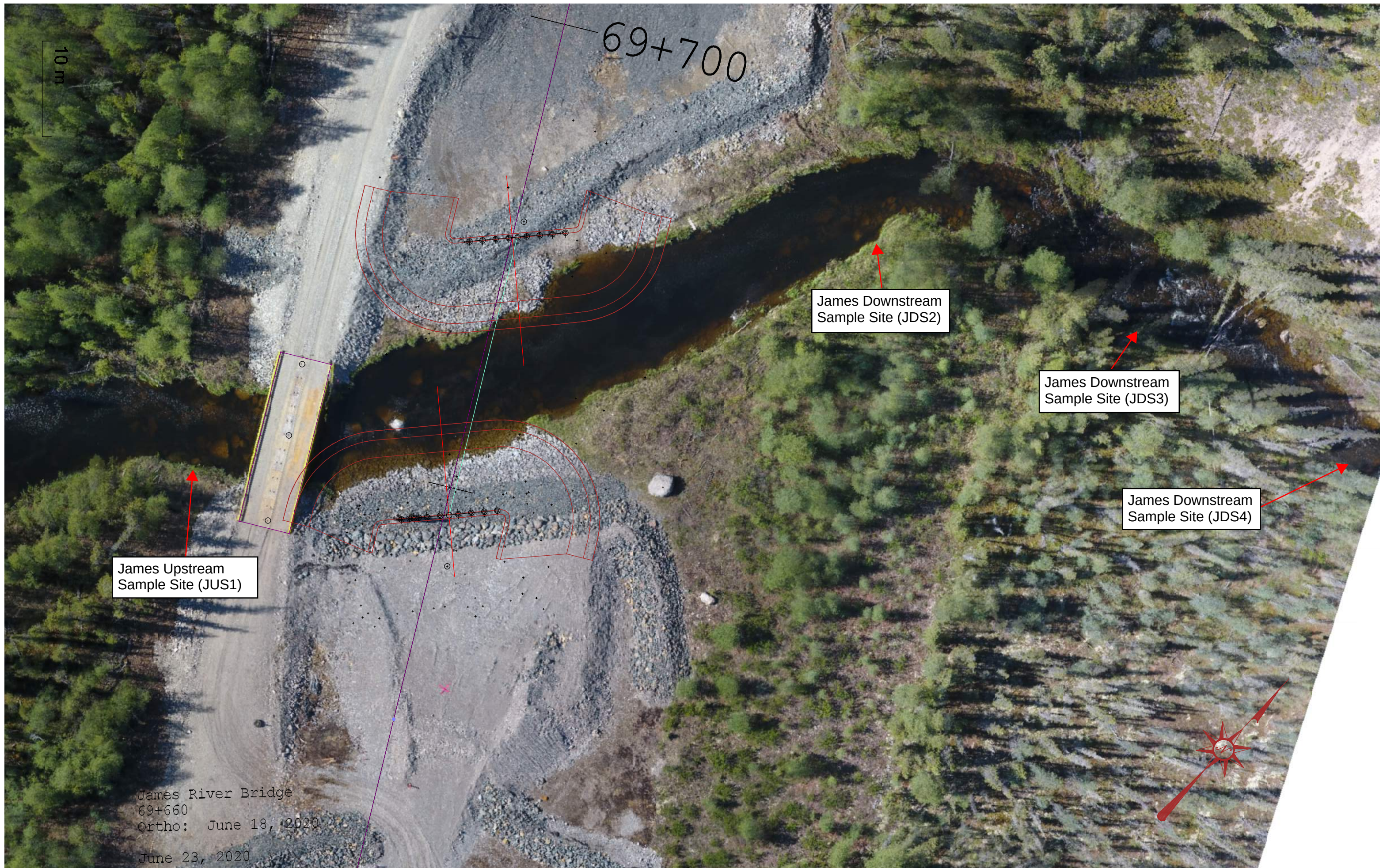


| Date    | Time (24h) | Date Time Combined | Station Cross Section | Sample # | Turbidity (NTU) |        |        | Average (NTU) | Average NTU for Transect | CCME Guideline | Calculated/Actual TSS (mg/L) |
|---------|------------|--------------------|-----------------------|----------|-----------------|--------|--------|---------------|--------------------------|----------------|------------------------------|
|         |            |                    |                       |          | Read 1          | Read 2 | Read 3 |               |                          |                |                              |
| 6/2/20  | 8:40       | 6/2/20 8:40        | DUS1                  | DUS1L    | 0.45            | 0.43   | 0.41   | 0.43          | 0.64                     | 25.96          | 0.96                         |
|         |            |                    |                       | DUS1C    | 0.43            | 0.26   | 0.31   | 0.33          |                          |                |                              |
|         |            |                    |                       | DUS1R    | 1.62            | 1.04   | 0.81   | 1.16          |                          |                |                              |
| 6/2/20  | 8:14       | 6/2/20 8:14        | DDS2                  | DDS2L    | 0.46            | 0.38   | 0.37   | 0.40          | 0.80                     |                | 1.16                         |
|         |            |                    |                       | DDS2C    | 1.21            | 1.12   | 0.99   | 1.11          |                          |                |                              |
|         |            |                    |                       | DDS2R    | 0.74            | 1.29   | 0.66   | 0.90          |                          |                |                              |
| 6/2/20  | 8:23       | 6/2/20 8:23        | DDS3                  | DDS3L    | 0.74            | 0.97   | 1.07   | 0.93          | 0.70                     |                | 1.04                         |
|         |            |                    |                       | DDS3C    | 0.52            | 0.45   | 0.66   | 0.54          |                          |                |                              |
|         |            |                    |                       | DDS3R    | 0.56            | 0.73   | 0.61   | 0.63          |                          |                |                              |
| 6/2/20  | 8:27       | 6/2/20 8:27        | DDS4                  | DDS4L    | 0.62            | 0.58   | 0.53   | 0.58          | 0.78                     |                | 1.14                         |
|         |            |                    |                       | DDS4C    | 0.82            | 0.78   | 0.57   | 0.72          |                          |                |                              |
|         |            |                    |                       | DDS4R    | 1.25            | 0.73   | 1.14   | 1.04          |                          |                |                              |
| 6/3/20  | 12:30      | 6/3/20 12:30       | DUS1                  | DUS1L    | 0.92            | 0.86   | 0.72   | 0.83          | 1.10                     | 26.53          | 1.53                         |
|         |            |                    |                       | DUS1C    | 1.6             | 1.69   | 1.54   | 1.61          |                          |                |                              |
|         |            |                    |                       | DUS1R    | 0.97            | 0.72   | 0.88   | 0.86          |                          |                |                              |
| 6/3/20  | 12:15      | 6/3/20 12:15       | DDS2                  | DDS2L    | 0.65            | 0.88   | 0.73   | 0.75          | 0.75                     |                | 1.10                         |
|         |            |                    |                       | DDS2C    | 0.88            | 0.91   | 0.65   | 0.81          |                          |                |                              |
|         |            |                    |                       | DDS2R    | 0.67            | 0.63   | 0.72   | 0.67          |                          |                |                              |
| 6/3/20  | 12:20      | 6/3/20 12:20       | DDS3                  | DDS3L    | 0.77            | 0.81   | 1.7    | 1.09          | 0.98                     |                | 1.38                         |
|         |            |                    |                       | DDS3C    | 0.79            | 0.59   | 0.72   | 0.70          |                          |                |                              |
|         |            |                    |                       | DDS3R    | 1.04            | 1.42   | 0.97   | 1.14          |                          |                |                              |
| 6/3/20  | 12:24      | 6/3/20 12:24       | DDS4                  | DDS4L    | 0.93            | 1.16   | 0.83   | 0.97          | 1.18                     |                | 1.63                         |
|         |            |                    |                       | DDS4C    | 1.46            | 1.34   | 0.65   | 1.15          |                          |                |                              |
|         |            |                    |                       | DDS4R    | 1.85            | 0.98   | 1.41   | 1.41          |                          |                |                              |
| 6/4/20  | 12:35      | 6/4/20 12:35       | DUS1                  | DUS1L    | 0.7             | 0.87   | 0.69   | 0.75          | 0.67                     | 26.00          | 1.00                         |
|         |            |                    |                       | DUS1C    | 0.57            | 0.59   | 0.66   | 0.61          |                          |                |                              |
|         |            |                    |                       | DUS1R    | 0.57            | 0.96   | 0.42   | 0.65          |                          |                |                              |
| 6/4/20  | 12:33      | 6/4/20 12:33       | DDS2                  | DDS2L    | 0.72            | 0.77   | 0.67   | 0.72          | 0.68                     |                | 1.02                         |
|         |            |                    |                       | DDS2C    | 0.59            | 0.54   | 0.58   | 0.57          |                          |                |                              |
|         |            |                    |                       | DDS2R    | 0.63            | 0.89   | 0.75   | 0.76          |                          |                |                              |
| 6/4/20  | 12:27      | 6/4/20 12:27       | DDS3                  | DDS3L    | 1.06            | 0.96   | 0.72   | 0.91          | 0.88                     |                | 1.26                         |
|         |            |                    |                       | DDS3C    | 0.5             | 0.85   | 1.15   | 0.83          |                          |                |                              |
|         |            |                    |                       | DDS3R    | 0.69            | 1.42   | 0.56   | 0.89          |                          |                |                              |
| 6/4/20  | 12:24      | 6/4/20 12:24       | DDS4                  | DDS4L    | 0.84            | 2.88   | 1.4    | 1.71          | 1.14                     |                | 1.57                         |
|         |            |                    |                       | DDS4C    | 0.6             | 0.5    | 0.76   | 0.62          |                          |                |                              |
|         |            |                    |                       | DDS4R    | 1.49            | 0.82   | 0.93   | 1.08          |                          |                |                              |
| 6/5/20  | 17:23      | 6/5/20 17:23       | DUS1                  | DUS1L    | 0.5             | 0.59   | 0.4    | 0.50          | 0.66                     | 25.98          | 0.98                         |
|         |            |                    |                       | DUS1C    | 0.76            | 0.8    | 0.74   | 0.77          |                          |                |                              |
|         |            |                    |                       | DUS1R    | 0.7             | 0.65   | 0.77   | 0.71          |                          |                |                              |
| 6/5/20  | 17:19      | 6/5/20 17:19       | DDS2                  | DDS2L    | 1.49            | 0.57   | 0.61   | 0.89          | 0.91                     |                | 1.29                         |
|         |            |                    |                       | DDS2C    | 0.81            | 1.83   | 0.57   | 1.07          |                          |                |                              |
|         |            |                    |                       | DDS2R    | 0.91            | 0.71   | 0.67   | 0.76          |                          |                |                              |
| 6/5/20  | 17:15      | 6/5/20 17:15       | DDS3                  | DDS3L    | 1.43            | 1.03   | 0.77   | 1.08          | 1.06                     |                | 1.48                         |
|         |            |                    |                       | DDS3C    | 0.84            | 0.76   | 0.96   | 0.85          |                          |                |                              |
|         |            |                    |                       | DDS3R    | 1.19            | 1.46   | 1.14   | 1.26          |                          |                |                              |
| 6/5/20  | 17:12      | 6/5/20 17:12       | DDS4                  | DDS4L    | 0.53            | 0.52   | 0.5    | 0.52          | 0.76                     |                | 1.11                         |
|         |            |                    |                       | DDS4C    | 0.88            | 0.73   | 0.84   | 0.82          |                          |                |                              |
|         |            |                    |                       | DDS4R    | 1.37            | 0.74   | 0.71   | 0.94          |                          |                |                              |
| 6/5/20  | 17:44      | 6/5/20 17:44       | DUS1                  | S1       | 0.92            | 1.08   | 0.64   | 0.88          | 1.27                     | 26.74          | 1.74                         |
|         |            |                    |                       | S2       | 1.89            | 0.81   | 0.83   | 1.18          |                          |                |                              |
|         |            |                    |                       | S3       | 0.71            | 2.36   | 2.22   | 1.76          |                          |                |                              |
| 6/6/20  | 13:10      | 6/6/20 13:10       | DDS2                  | DDS2L    | 1.65            | 1.19   | 1.81   | 1.55          | 1.22                     |                | 1.68                         |
|         |            |                    |                       | DDS2C    | 1.03            | 1.04   | 0.86   | 0.98          |                          |                |                              |
|         |            |                    |                       | DDS2R    | 0.97            | 1.11   | 1.35   | 1.14          |                          |                |                              |
| 6/6/20  | 13:07      | 6/6/20 13:07       | DDS3                  | DDS3L    | 0.18            | 1.16   | 1.09   | 0.81          | 0.82                     |                | 1.18                         |
|         |            |                    |                       | DDS3C    | 0.27            | 0.93   | 0.95   | 0.72          |                          |                |                              |
|         |            |                    |                       | DDS3R    | 1.1             | 0.9    | 0.76   | 0.92          |                          |                |                              |
| 6/6/20  | 13:05      | 6/6/20 13:05       | DDS4                  | DDS4L    | 2.05            | 1.22   | 1.03   | 1.43          | 1.32                     |                | 1.79                         |
|         |            |                    |                       | DDS4C    | 2.12            | 1.34   | 0.83   | 1.43          |                          |                |                              |
|         |            |                    |                       | DDS4R    | 1.18            | 1.07   | 1      | 1.08          |                          |                |                              |
| 6/6/20  | 19:52      | 6/6/20 19:52       | DUS1                  | DUS1L    | 1.51            | 1.39   | 0.95   | 1.28          | 1.05                     | 26.46          | 1.46                         |
|         |            |                    |                       | DUS1C    | 1.33            | 1.14   | 0.73   | 1.07          |                          |                |                              |
|         |            |                    |                       | DUS1R    | 0.88            | 0.78   | 0.72   | 0.79          |                          |                |                              |
| 6/6/20  | 19:50      | 6/6/20 19:50       | DDS2                  | DDS2L    | 2.17            | 1.4    | 1.02   | 1.53          | 1.06                     |                | 1.48                         |
|         |            |                    |                       | DDS2C    | 0.89            | 0.56   | 1.03   | 0.83          |                          |                |                              |
|         |            |                    |                       | DDS2R    | 0.89            | 0.8    | 0.8    | 0.83          |                          |                |                              |
| 6/6/20  | 19:46      | 6/6/20 19:46       | DDS3                  | DDS3L    | 1.05            | 1.76   | 1.03   | 1.28          | 1.26                     |                | 1.73                         |
|         |            |                    |                       | DDS3C    | 1.11            | 0.88   | 0.82   | 0.94          |                          |                |                              |
|         |            |                    |                       | DDS3R    | 1.76            | 1.51   | 1.44   | 1.57          |                          |                |                              |
| 6/6/20  | 19:43      | 6/6/20 19:43       | DDS4                  | DDS4L    | 1               | 0.69   | 0.79   | 0.83          | 1.25                     |                | 1.71                         |
|         |            |                    |                       | DDS4C    | 2.06            | 1.12   | 1.52   | 1.57          |                          |                |                              |
|         |            |                    |                       | DDS4R    | 1.94            | 1.09   | 1.02   | 1.35          |                          |                |                              |
| 6/10/20 | 8:45       | 6/10/20 8:45       | DUS1                  | DUS1L    | 1.26            | 0.86   | 0.96   | 1.03          | 0.88                     | 26.25          | 1.25                         |
|         |            |                    |                       | DUS1C    | 0.92            | 0.65   | 0.85   | 0.81          |                          |                |                              |
|         |            |                    |                       | DUS1R    | 0.91            | 0.71   | 0.77   | 0.80          |                          |                |                              |
| 6/10/20 | 8:20       | 6/10/20 8:20       | DDS2                  | DDS2L    | 0.63            | 1.06   | 0.54   | 0.74          | 0.83                     |                | 1.19                         |
|         |            |                    |                       | DDS2C    | 0.7             | 0.7    | 0.65   | 0.68          |                          |                |                              |
|         |            |                    |                       | DDS2R    | 1.18            | 1.11   | 0.88   | 1.06          |                          |                |                              |
| 6/10/20 | 8:17       | 6/10/20 8:17       | DDS3                  | DDS3L    | 0.69            | 0.66   | 0.64   | 0.66          | 0.92                     |                | 1.31                         |
|         |            |                    |                       | DDS3C    | 0.71            | 0.73   | 0.72   | 0.72          |                          |                |                              |
|         |            |                    |                       | DDS3R    | 1.49            | 1.35   | 1.32   | 1.39          |                          |                |                              |
| 6/10/20 | 8:14       | 6/10/20 8:14       | DDS4                  | DDS4L    | 1.19            | 1.15   | 0.93   | 1.09          | 0.89                     |                | 1.27                         |
|         |            |                    |                       | DDS4C    | 0.64            | 0.63   | 0.54   | 0.60          |                          |                |                              |
|         |            |                    |                       | DDS4R    | 1.07            | 0.72   | 1.18   | 0.99          |                          |                |                              |



|         |       |               |      |       |      |      |      |      |      |       |      |
|---------|-------|---------------|------|-------|------|------|------|------|------|-------|------|
| 6/11/20 | 15:05 | 6/11/20 15:05 | DDS4 | DDS4L | 1.22 | 0.99 | 0.97 | 1.06 | 1.24 |       | 1.70 |
|         |       |               |      | DDS4C | 1.26 | 1.28 | 1.07 | 1.20 |      |       |      |
|         |       |               |      | DDS4R | 1.15 | 1.91 | 1.28 | 1.45 |      |       |      |
| 6/11/20 | 15:11 | 6/11/20 15:11 | DDS3 | DDS3L | 1.05 | 1.07 | 1.15 | 1.09 | 1.29 |       | 1.76 |
|         |       |               |      | DDS3C | 1.46 | 1.81 | 1.36 | 1.54 |      |       |      |
|         |       |               |      | DDS3R | 1.24 | 1.27 | 1.17 | 1.23 |      |       |      |
| 6/11/20 | 15:15 | 6/11/20 15:15 | DDS2 | DDS2L | 1.89 | 1.43 | 1.31 | 1.54 | 1.21 |       | 1.66 |
|         |       |               |      | DDS2C | 1.5  | 1.23 | 1    | 1.24 |      |       |      |
|         |       |               |      | DDS2R | 0.89 | 0.78 | 0.83 | 0.83 |      |       |      |
| 6/11/20 | 15:28 | 6/11/20 15:28 | DUS1 | DUS1L | 0.78 | 0.75 | 0.65 | 0.73 | 1.89 | 27.50 | 2.50 |
|         |       |               |      | DUS1C | 1    | 0.52 | 0.5  | 0.67 |      |       |      |
|         |       |               |      | DUS1R | 1.03 | 0.81 | 0.83 | 0.89 |      |       |      |
| 6/12/20 | 17:28 | 6/12/20 17:28 | DDS4 | DDS4C | 4.13 | 3.38 | 3.56 | 3.69 | 3.69 |       | 4.70 |
| 6/12/20 | 17:29 | 6/12/20 17:29 | DDS4 | DDS4C | 3.75 | 3.64 | 4    | 3.80 | 3.80 |       | 4.83 |
| 6/12/20 | 17:33 | 6/12/20 17:33 | DDS4 | DDS4C | 3.99 | 4.55 | 5.83 | 4.79 | 4.79 |       | 6.05 |
| 6/12/20 | 17:35 | 6/12/20 17:35 | DDS4 | DDS4C | 7.12 | 4.79 | 4.16 | 5.36 | 5.36 |       | 6.75 |
| 6/12/20 | 17:36 | 6/12/20 17:36 | DDS4 | DDS4C | 3.85 | 3.77 | 4.09 | 3.90 | 3.90 |       | 4.97 |
| 6/12/20 | 17:37 | 6/12/20 17:37 | DDS4 | DDS4C | 4.22 | 3.11 | 3.28 | 3.54 | 3.54 |       | 4.52 |
| 6/12/20 | 17:39 | 6/12/20 17:39 | DDS4 | DDS4C | 3.36 | 3.39 | 2.99 | 3.25 | 3.25 |       | 4.16 |
| 6/12/20 | 17:40 | 6/12/20 17:40 | DDS4 | DDS4C | 3.12 | 3.67 | 3.43 | 3.41 | 3.41 |       | 4.36 |
| 6/12/20 | 17:43 | 6/12/20 17:43 | DDS4 | DDS4C | 2.76 | 3.21 | 2.84 | 2.94 | 2.94 |       | 3.78 |
| 6/12/20 | 17:47 | 6/12/20 17:47 | DDS4 | DDS4C | 2.71 | 2.73 | 2.74 | 2.73 | 2.73 |       | 3.52 |
| 6/12/20 | 17:53 | 6/12/20 17:53 | DDS4 | DDS4C | 3.24 | 2.61 | 2.64 | 2.83 | 2.83 |       | 3.65 |
| 6/12/20 | 17:58 | 6/12/20 17:58 | DDS4 | DDS4C | 2.65 | 2.19 | 2.2  | 2.35 | 2.35 |       | 3.06 |
| 6/12/20 | 18:00 | 6/12/20 18:00 | DDS4 | DDS4C | 2.23 | 2.23 | 2.5  | 2.32 | 2.32 |       | 3.02 |
| 6/13/20 | 8:32  | 6/13/20 8:32  | DUS1 | DUS1L | 0.69 | 0.53 | 1.08 | 0.77 | 0.98 | 26.38 | 1.38 |
|         |       |               |      | DUS1C | 0.68 | 0.88 | 0.73 | 0.76 |      |       |      |
|         |       |               |      | DUS1R | 1.67 | 1.17 | 1.36 | 1.40 |      |       |      |
| 6/13/20 | 8:28  | 6/13/20 8:28  | DDS2 | DDS2L | 2.13 | 0.96 | 1.03 | 1.37 | 1.16 |       | 1.60 |
|         |       |               |      | DDS2C | 1.02 | 0.83 | 0.98 | 0.94 |      |       |      |
|         |       |               |      | DDS2R | 1.4  | 1.13 | 0.92 | 1.15 |      |       |      |
| 6/13/20 | 8:26  | 6/13/20 8:26  | DDS3 | DDS3L | 1.69 | 1.02 | 1.01 | 1.24 | 1.10 |       | 1.53 |
|         |       |               |      | DDS3C | 0.96 | 1.12 | 0.99 | 1.02 |      |       |      |
|         |       |               |      | DDS3R | 0.78 | 1.29 | 1.06 | 1.04 |      |       |      |
| 6/13/20 | 8:23  | 6/13/20 8:23  | DDS4 | DDS4L | 0.84 | 0.65 | 0.69 | 0.73 | 0.98 |       | 1.39 |
|         |       |               |      | DDS4C | 0.82 | 0.97 | 0.79 | 0.86 |      |       |      |
|         |       |               |      | DDS4R | 0.86 | 1.29 | 1.94 | 1.36 |      |       |      |
| 6/15/20 | 12:36 | 6/15/20 12:36 | DUS1 | DUS1L | 1.15 | 1.02 | 1.12 | 1.10 | 0.74 | 26.09 | 1.09 |
|         |       |               |      | DUS1C | 0.68 | 0.59 | 0.62 | 0.63 |      |       |      |
|         |       |               |      | DUS1R | 0.52 | 0.44 | 0.51 | 0.49 |      |       |      |
| 6/15/20 | 12:30 | 6/15/20 12:30 | DDS2 | DDS2L | 0.82 | 0.56 | 0.46 | 0.61 | 0.79 |       | 1.15 |
|         |       |               |      | DDS2C | 0.87 | 0.61 | 0.67 | 0.72 |      |       |      |
|         |       |               |      | DDS2R | 1.01 | 1.04 | 1.1  | 1.05 |      |       |      |
| 6/15/20 | 12:25 | 6/15/20 12:25 | DDS3 | DDS3L | 0.76 | 1.27 | 0.59 | 0.87 | 0.97 |       | 1.37 |
|         |       |               |      | DDS3C | 1.4  | 1.08 | 0.99 | 1.16 |      |       |      |
|         |       |               |      | DDS3R | 0.76 | 1.12 | 0.79 | 0.89 |      |       |      |
| 6/15/20 | 12:22 | 6/15/20 12:22 | DDS4 | DDS4L | 0.95 | 0.6  | 0.6  | 0.72 | 1.07 |       | 1.49 |
|         |       |               |      | DDS4C | 0.98 | 0.56 | 0.49 | 0.68 |      |       |      |
|         |       |               |      | DDS4R | 1.97 | 2.05 | 1.4  | 1.81 |      |       |      |
| 6/17/20 | 18:06 | 6/17/20 18:06 | DUS1 | DUS1L | 0.81 | 0.84 | 0.63 | 0.76 | 0.92 | 26.31 | 1.31 |
|         |       |               |      | DUS1C | 0.93 | 1.03 | 0.67 | 0.88 |      |       |      |
|         |       |               |      | DUS1R | 0.93 | 1.3  | 1.15 | 1.13 |      |       |      |
| 6/17/20 | 17:52 | 6/17/20 17:52 | DDS2 | DDS2L | 0.5  | 0.46 | 0.35 | 0.44 | 0.64 |       | 0.96 |
|         |       |               |      | DDS2C | 0.62 | 1.07 | 0.42 | 0.70 |      |       |      |
|         |       |               |      | DDS2R | 0.91 | 0.79 | 0.6  | 0.77 |      |       |      |
| 6/17/20 | 17:49 | 6/17/20 17:49 | DDS3 | DDS3L | 0.54 | 0.5  | 0.54 | 0.53 | 0.61 |       | 0.93 |
|         |       |               |      | DDS3C | 0.59 | 0.84 | 0.41 | 0.61 |      |       |      |
|         |       |               |      | DDS3R | 0.75 | 0.66 | 0.68 | 0.70 |      |       |      |
| 6/17/20 | 17:45 | 6/17/20 17:45 | DDS4 | DDS4L | 1.48 | 1.26 | 1.4  | 1.38 | 1.11 |       | 1.54 |
|         |       |               |      | DDS4C | 0.96 | 1.31 | 1.08 | 1.12 |      |       |      |
|         |       |               |      | DDS4R | 1.03 | 0.7  | 0.73 | 0.82 |      |       |      |
| 6/18/20 | 13:05 | 6/18/20 13:05 | DUS1 | DUS1L | 0.83 | 0.8  | 1.1  | 0.91 | 0.67 | 26.00 | 1.00 |
|         |       |               |      | DUS1C | 0.75 | 0.86 | 0.6  | 0.74 |      |       |      |
|         |       |               |      | DUS1R | 0.38 | 0.33 | 0.36 | 0.36 |      |       |      |
| 6/18/20 | 12:57 | 6/18/20 12:57 | DDS2 | DDS2L | 1.01 | 0.81 | 0.72 | 0.85 | 1.13 |       | 1.56 |
|         |       |               |      | DDS2C | 1.43 | 1.68 | 1.22 | 1.44 |      |       |      |
|         |       |               |      | DDS2R | 1.5  | 0.83 | 0.95 | 1.09 |      |       |      |
| 6/18/20 | 12:54 | 6/18/20 12:54 | DDS3 | DDS3L | 1.66 | 0.89 | 0.94 | 1.16 | 1.01 |       | 1.42 |
|         |       |               |      | DDS3C | 0.86 | 1.31 | 0.83 | 1.00 |      |       |      |
|         |       |               |      | DDS3R | 0.77 | 0.95 | 0.87 | 0.86 |      |       |      |
| 6/18/20 | 12:51 | 6/18/20 12:51 | DDS4 | DDS4L | 1.38 | 1.48 | 1.39 | 1.42 | 1.17 |       | 1.61 |
|         |       |               |      | DDS4C | 1.21 | 0.76 | 0.74 | 0.90 |      |       |      |
|         |       |               |      | DDS4R | 0.89 | 1.33 | 1.35 | 1.19 |      |       |      |
| 7/9/20  | 13:05 | 7/9/20 13:05  | DUS1 | DUS1C | 0.66 | 0.7  | 0.59 | 0.65 | 0.65 | 25.98 | 0.98 |
| 7/9/20  | 14:05 | 7/9/20 14:05  | DDS2 | DDS2C | 0.67 | 0.75 | 0.65 | 0.69 | 0.69 |       | 1.03 |
| 7/9/20  | 15:05 | 7/9/20 15:05  | DDS3 | DDS3C | 1.7  | 1.21 | 1.03 | 1.31 | 1.31 |       | 1.79 |
| 7/9/20  | 16:05 | 7/9/20 16:05  | DDS4 | DDS4C | 1.54 | 1.15 | 1.27 | 1.32 | 1.32 |       | 1.80 |





69+700

10 m

James Upstream  
Sample Site (JUS1)

James Downstream  
Sample Site (JDS2)

James Downstream  
Sample Site (JDS3)

James Downstream  
Sample Site (JDS4)

James River Bridge  
69+660  
Ortho: June 18, 2020  
June 23, 2020





## James River Manual Sample



| Date    | Time (24h) | Date Time Combined | Station Cross Section | Sample # | Turbidity (NTU) |        |        | Average (NTU) | Average NTU for Transect | CCME Guideline | Calculated/Actual TSS (mg/L) |
|---------|------------|--------------------|-----------------------|----------|-----------------|--------|--------|---------------|--------------------------|----------------|------------------------------|
|         |            |                    |                       |          | Read 1          | Read 2 | Read 3 |               |                          |                |                              |
| 6/22/20 | 8:40       | 6/22/20 8:40       | JUS1                  | JUS1L    | 0.9             | 1.08   | 0.91   | 0.96          | 1.13                     | 27.59          | 2.59                         |
|         |            |                    |                       | JUS1C    | 1.14            | 1.02   | 0.91   | 1.02          |                          |                |                              |
|         |            |                    |                       | JUS1R    | 1.12            | 1.6    | 1.52   | 1.41          |                          |                |                              |
| 6/22/20 | 8:14       | 6/22/20 8:14       | JDS2                  | JDS2L    | 1               | 0.87   | 0.78   | 0.88          | 1.34                     |                | 2.86                         |
|         |            |                    |                       | JDS2C    | 1.98            | 1.93   | 1.71   | 1.87          |                          |                |                              |
|         |            |                    |                       | JDS2R    | 1.67            | 0.98   | 1.17   | 1.27          |                          |                |                              |
| 6/22/20 | 8:23       | 6/22/20 8:23       | JDS3                  | JDS3L    | 0.96            | 1.08   | 0.81   | 0.95          | 1.06                     |                | 2.50                         |
|         |            |                    |                       | JDS3C    | 1.17            | 1.23   | 1.01   | 1.14          |                          |                |                              |
|         |            |                    |                       | JDS3R    | 1.3             | 1.11   | 0.87   | 1.09          |                          |                |                              |
| 6/22/20 | 8:27       | 6/22/20 8:27       | JDS4                  | JDS4L    | 1.84            | 1.23   | 1.05   | 1.37          | 1.63                     |                | 3.23                         |
|         |            |                    |                       | JDS4C    | 1.8             | 1.69   | 1.55   | 1.68          |                          |                |                              |
|         |            |                    |                       | JDS4R    | 1.91            | 1.88   | 1.74   | 1.84          |                          |                |                              |
| 7/6/20  | 11:33      | 7/6/20 11:33       | JUS1                  | JUS1L    | 0.71            | 0.84   | 0.86   | 0.80          | 0.75                     | 27.11          | 2.11                         |
|         |            |                    |                       | JUS1C    | 0.73            | 0.82   | 0.81   | 0.79          |                          |                |                              |
|         |            |                    |                       | JUS1R    | 0.59            | 0.8    | 0.59   | 0.66          |                          |                |                              |
| 7/6/20  | 11:40      | 7/6/20 11:40       | JDS2                  | JDS2L    | 0.72            | 0.71   | 0.95   | 0.79          | 0.88                     |                | 2.28                         |
|         |            |                    |                       | JDS2C    | 0.94            | 0.61   | 0.73   | 0.76          |                          |                |                              |
|         |            |                    |                       | JDS2R    | 1.03            | 1.15   | 1.12   | 1.10          |                          |                |                              |
| 7/6/20  | 11:56      | 7/6/20 11:56       | JDS3                  | JDS3L    | 0.56            | 0.96   | 0.58   | 0.70          | 0.59                     |                | 1.90                         |
|         |            |                    |                       | JDS3C    | 0.69            | 0.55   | 0.5    | 0.58          |                          |                |                              |
|         |            |                    |                       | JDS3R    | 0.47            | 0.5    | 0.47   | 0.48          |                          |                |                              |
| 7/6/20  | 12:05      | 7/6/20 12:05       | JDS4                  | JDS4L    | 1.18            | 0.74   | 0.73   | 0.88          | 0.65                     |                | 1.98                         |
|         |            |                    |                       | JDS4C    | 0.63            | 0.63   | 0.53   | 0.60          |                          |                |                              |
|         |            |                    |                       | JDS4R    | 0.5             | 0.44   | 0.46   | 0.47          |                          |                |                              |
| 7/8/20  | 9:23       | 7/8/20 9:23        | JUS1                  | JUS1L    | 2.27            | 3.2    | 1.83   | 2.43          | 1.77                     | 28.40          | 3.40                         |
|         |            |                    |                       | JUS1C    | 0.9             | 0.95   | 0.84   | 0.90          |                          |                |                              |
|         |            |                    |                       | JUS1R    | 2.14            | 1.81   | 1.95   | 1.97          |                          |                |                              |
| 7/8/20  | 9:18       | 7/8/20 9:18        | JDS2                  | JDS2L    | 4.78            | 5.23   | 4.66   | 4.89          | 5.19                     |                | 7.74                         |
|         |            |                    |                       | JDS2C    | 5.23            | 5.24   | 4.45   | 4.97          |                          |                |                              |
|         |            |                    |                       | JDS2R    | 5.74            | 5.53   | 5.87   | 5.71          |                          |                |                              |
| 7/8/20  | 9:15       | 7/8/20 9:15        | JDS3                  | JDS3L    | 3.65            | 3.62   | 3.08   | 3.45          | 4.19                     |                | 6.47                         |
|         |            |                    |                       | JDS3C    | 5.96            | 4.23   | 3.81   | 4.67          |                          |                |                              |
|         |            |                    |                       | JDS3R    | 4.47            | 4.14   | 4.73   | 4.45          |                          |                |                              |
| 7/8/20  | 9:11       | 7/8/20 9:11        | JDS4                  | JDS4L    | 2.9             | 2.94   | 2.78   | 2.87          | 3.08                     |                | 5.06                         |
|         |            |                    |                       | JDS4C    | 3.8             | 2.86   | 3.05   | 3.24          |                          |                |                              |
|         |            |                    |                       | JDS4R    | 3.05            | 3.26   | 3.04   | 3.12          |                          |                |                              |
| 7/8/20  | 11:22      | 7/8/20 11:22       | JUS4                  | JUS4C    | 1.62            | 1.67   | 1.94   | 1.74          | 1.74                     | 28.37          | 3.37                         |
| 7/8/20  | 11:25      | 7/8/20 11:25       | JUS4                  | JUS4C    | 2.81            | 2.89   | 2.75   | 2.82          | 2.82                     | 29.73          | 4.73                         |
| 7/8/20  | 11:30      | 7/8/20 11:30       | JUS4                  | JUS4C    | 2.97            | 3.11   | 2.84   | 2.97          | 2.97                     | 29.93          | 4.93                         |
| 7/8/20  | 11:35      | 7/8/20 11:35       | JUS4                  | JUS4C    | 3.29            | 3.64   | 3.13   | 3.35          | 3.35                     | 30.41          | 5.41                         |
| 7/8/20  | 11:40      | 7/8/20 11:40       | JUS4                  | JUS4C    | 3.5             | 2.8    | 3.08   | 3.13          | 3.13                     | 30.12          | 5.12                         |
| 7/14/20 | 11:11      | 7/14/20 11:11      | JUS1                  | JUS1L    | 1.05            | 0.84   | 0.97   | 0.95          | 0.75                     | 27.11          | 2.11                         |
|         |            |                    |                       | JUS1C    | 0.78            | 0.69   | 0.59   | 0.69          |                          |                |                              |
|         |            |                    |                       | JUS1R    | 0.61            | 0.59   | 0.63   | 0.61          |                          |                |                              |
| 7/14/20 | 11:05      | 7/14/20 11:05      | JDS2                  | JDS2L    | 1.26            | 1.1    | 1.16   | 1.17          | 1.10                     |                | 2.55                         |
|         |            |                    |                       | JDS2C    | 0.94            | 0.83   | 0.76   | 0.84          |                          |                |                              |
|         |            |                    |                       | JDS2R    | 1.4             | 1.24   | 1.23   | 1.29          |                          |                |                              |
| 7/14/20 | 11:00      | 7/14/20 11:00      | JDS3                  | JDS3L    | 0.82            | 0.98   | 0.7    | 0.83          | 0.78                     |                | 2.14                         |
|         |            |                    |                       | JDS3C    | 1.05            | 0.79   | 0.62   | 0.82          |                          |                |                              |
|         |            |                    |                       | JDS3R    | 0.78            | 0.64   | 0.61   | 0.68          |                          |                |                              |
| 7/14/20 | 10:56      | 7/14/20 10:56      | JDS4                  | JDS4L    | 1.48            | 2.15   | 1.45   | 1.69          | 1.25                     |                | 2.74                         |
|         |            |                    |                       | JDS4C    | 1.17            | 0.91   | 1.03   | 1.04          |                          |                |                              |
|         |            |                    |                       | JDS4R    | 1.47            | 0.74   | 0.84   | 1.02          |                          |                |                              |
| 7/17/20 | 10:52      | 7/17/20 10:52      | JUS1                  | JUS1L    | 0.71            | 0.81   | 0.58   | 0.70          | 0.90                     | 27.30          | 2.30                         |
|         |            |                    |                       | JUS1C    | 0.77            | 0.75   | 0.82   | 0.78          |                          |                |                              |
|         |            |                    |                       | JUS1R    | 1.17            | 1.69   | 0.82   | 1.23          |                          |                |                              |
| 7/17/20 | 10:47      | 7/17/20 10:47      | JDS2                  | JDS2L    | 1.06            | 0.88   | 0.95   | 0.96          | 0.99                     |                | 2.41                         |
|         |            |                    |                       | JDS2C    | 0.63            | 0.69   | 0.74   | 0.69          |                          |                |                              |
|         |            |                    |                       | JDS2R    | 1.51            | 1.17   | 1.27   | 1.32          |                          |                |                              |
| 7/17/20 | 10:44      | 7/17/20 10:44      | JDS3                  | JDS3L    | 1.08            | 0.91   | 0.83   | 0.94          | 1.41                     |                | 2.95                         |
|         |            |                    |                       | JDS3C    | 1.84            | 1.07   | 0.98   | 1.30          |                          |                |                              |
|         |            |                    |                       | JDS3R    | 1.99            | 2.16   | 1.83   | 1.99          |                          |                |                              |
| 7/17/20 | 10:40      | 7/17/20 10:40      | JDS4                  | JDS4L    | 3.07            | 3.05   | 2.95   | 3.02          | 0.89                     |                | 2.29                         |
|         |            |                    |                       | JDS4C    | 0.98            | 0.83   | 1.01   | 0.94          |                          |                |                              |
|         |            |                    |                       | JDS4R    | 1.05            | 1      | 0.98   | 1.01          |                          |                |                              |
| 7/17/20 | 15:38      | 7/17/20 15:38      | JDS4                  | JDS4C    | 2.38            | 2.28   | 2.83   | 2.50          | 2.54                     |                | 4.37                         |
| 7/17/20 | 15:42      | 7/17/20 15:42      | JDS4                  | JDS4C    | 3.14            | 3.06   | 2.56   | 2.92          | 2.85                     |                | 4.77                         |
| 7/17/20 | 15:45      | 7/17/20 15:45      | JDS4                  | JDS4C    | 3.82            | 3.45   | 3.64   | 3.64          | 3.58                     |                | 5.69                         |
| 7/17/20 | 15:47      | 7/17/20 15:47      | JDS4                  | JDS4C    | 4.5             | 4.29   | 4.03   | 4.27          | 4.20                     |                | 6.48                         |
| 7/17/20 | 15:49      | 7/17/20 15:49      | JDS4                  | JDS4C    | 8.73            | 7.72   | 6.4    | 7.62          | 7.25                     |                | 10.35                        |
| 7/17/20 | 15:51      | 7/17/20 15:51      | JDS4                  | JDS4C    | 8.79            | 7.97   | 7.43   | 8.06          | 7.82                     |                | 11.08                        |
| 7/17/20 | 15:54      | 7/17/20 15:54      | JDS4                  | JDS4C    | 11.79           | 10.5   | 9.4    | 10.56         | 10.15                    |                | 14.04                        |
| 7/17/20 | 15:56      | 7/17/20 15:56      | JDS4                  | JDS4C    | 7.61            | 6.58   | 5.44   | 6.54          | 6.19                     |                | 9.00                         |
| 7/17/20 | 15:58      | 7/17/20 15:58      | JDS4                  | JDS4C    | 5.8             | 5.29   | 5.65   | 5.58          | 5.51                     |                | 8.14                         |
| 7/17/20 | 16:00      | 7/17/20 16:00      | JDS4                  | JDS4C    | 8.64            | 7.96   | 9.91   | 8.84          | 8.90                     |                | 12.45                        |
| 7/17/20 | 16:02      | 7/17/20 16:02      | JDS4                  | JDS4C    | 10.21           | 8.18   | 8.2    | 8.86          | 8.41                     |                | 11.83                        |
| 7/17/20 | 16:04      | 7/17/20 16:04      | JDS4                  | JDS4C    | 10.47           | 8.71   | 8.96   | 9.38          | 9.02                     |                | 12.59                        |
| 7/17/20 | 16:06      | 7/17/20 16:06      | JDS4                  | JDS4C    | 10.15           | 9.99   | 9.01   | 9.72          | 9.57                     |                | 13.30                        |
| 7/17/20 | 16:08      | 7/17/20 16:00      | JDS4                  | JDS4C    | 13.1            | 12.8   | 11.3   | 12.40         | 12.17                    |                | 16.59                        |
| 7/17/20 | 16:09      | 7/17/20 16:02      | JDS4                  | JDS4C    | 8.61            | 6.93   | 7.04   | 7.53          | 7.17                     |                | 10.24                        |
| 7/17/20 | 16:10      | 7/17/20 16:04      | JDS4                  | JDS4C    | 7.45            | 7.03   | 6.78   | 7.09          | 6.97                     |                | 9.99                         |

|         |       |               |      |       |       |       |       |       |       |       |       |
|---------|-------|---------------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 7/17/20 | 16:12 | 7/17/20 16:06 | JDS4 | JDS4C | 6.39  | 6.92  | 6.71  | 6.67  | 6.77  |       | 9.74  |
| 7/17/20 | 16:14 | 7/17/20 16:08 | JDS4 | JDS4C | 5.8   | 5.6   | 5.6   | 5.67  | 5.62  |       | 8.29  |
| 7/17/20 | 16:17 | 7/17/20 16:09 | JDS4 | JDS4C | 5.22  | 4.8   | 4.68  | 4.90  | 4.79  |       | 7.24  |
| 7/17/20 | 16:20 | 7/17/20 16:10 | JDS4 | JDS4C | 4.39  | 3.56  | 4.19  | 4.05  | 3.93  |       | 6.14  |
| 7/17/20 | 16:22 | 7/17/20 16:12 | JDS4 | JDS4C | 4.97  | 4.82  | 6.6   | 5.46  | 5.63  |       | 8.29  |
| 7/17/20 | 16:25 | 7/17/20 16:14 | JDS4 | JDS4C | 3.61  | 2.55  | 2.82  | 2.99  | 2.79  |       | 4.69  |
| 7/17/20 | 16:36 | 7/17/20 16:17 | JDS4 | JDS4C | 4.83  | 4.77  | 4.29  | 4.63  | 4.56  |       | 6.94  |
| 7/17/20 | 16:39 | 7/17/20 16:20 | JDS4 | JDS4C | 7.97  | 7.98  | 7.43  | 7.79  | 7.73  |       | 10.97 |
| 7/17/20 | 16:40 | 7/17/20 16:22 | JDS4 | JDS4C | 7.78  | 7.26  | 6.79  | 7.28  | 7.11  |       | 10.17 |
| 7/17/20 | 16:42 | 7/17/20 16:25 | JDS4 | JDS4C | 7.89  | 9.15  | 8.57  | 8.54  | 8.75  |       | 12.26 |
| 7/17/20 | 16:43 | 7/17/20 16:36 | JDS4 | JDS4C | 9.48  | 8.19  | 7.56  | 8.41  | 8.05  |       | 11.37 |
| 7/17/20 | 16:45 | 7/17/20 16:39 | JDS4 | JDS4C | 11.3  | 9.76  | 9.89  | 10.32 | 9.99  |       | 13.83 |
| 7/17/20 | 16:46 | 7/17/20 16:40 | JDS4 | JDS4C | 11.6  | 9.9   | 9.65  | 10.38 | 9.98  |       | 13.81 |
| 7/17/20 | 16:47 | 7/17/20 16:42 | JDS4 | JDS4C | 10.77 | 9.72  | 10    | 10.16 | 9.96  |       | 13.79 |
| 7/17/20 | 16:49 | 7/17/20 16:43 | JDS4 | JDS4C | 13.4  | 9.15  | 10.25 | 10.93 | 10.11 |       | 13.98 |
| 7/17/20 | 16:50 | 7/17/20 16:45 | JDS4 | JDS4C | 11.9  | 11.15 | 12.2  | 11.75 | 11.70 |       | 16.00 |
| 7/17/20 | 16:51 | 7/17/20 16:46 | JDS4 | JDS4C | 10.66 | 9.51  | 11.4  | 10.52 | 10.48 |       | 14.45 |
| 7/17/20 | 16:53 | 7/17/20 16:47 | JDS4 | JDS4C | 10.06 | 10.81 | 9.51  | 10.13 | 10.15 |       | 14.03 |
| 7/17/20 | 16:55 | 7/17/20 16:49 | JDS4 | JDS4C | 9.32  | 10.91 | 10.04 | 10.09 | 10.35 |       | 14.28 |
| 7/17/20 | 16:57 | 7/17/20 16:57 | JDS4 | JDS4C | 9.92  | 9.61  | 9.91  | 9.81  | 9.78  |       | 13.56 |
| 7/17/20 | 16:58 | 7/17/20 16:58 | JDS4 | JDS4C | 10.59 | 9.91  | 8.83  | 9.78  | 9.51  |       | 13.21 |
| 7/17/20 | 17:00 | 7/17/20 17:00 | JDS4 | JDS4C | 11.8  | 10.4  | 9.79  | 10.66 | 10.28 |       | 14.20 |
| 7/17/20 | 17:01 | 7/17/20 17:01 | JDS4 | JDS4C | 10.07 | 9.42  | 9.26  | 9.58  | 9.42  |       | 13.11 |
| 7/17/20 | 17:03 | 7/17/20 17:03 | JDS4 | JDS4C | 10.77 | 8.81  | 7.89  | 9.16  | 8.62  |       | 12.09 |
| 7/17/20 | 17:05 | 7/17/20 17:05 | JDS4 | JDS4C | 7.47  | 7.11  | 7.84  | 7.47  | 7.47  |       | 10.64 |
| 7/17/20 | 17:07 | 7/17/20 17:07 | JDS4 | JDS4C | 8.82  | 10.84 | 8.28  | 9.31  | 9.48  |       | 13.18 |
| 7/17/20 | 17:08 | 7/17/20 17:08 | JDS4 | JDS4C | 7.61  | 7.78  | 7.51  | 7.63  | 7.64  |       | 10.85 |
| 7/17/20 | 17:10 | 7/17/20 17:10 | JDS4 | JDS4C | 12.4  | 9.11  | 9.89  | 10.47 | 9.82  |       | 13.61 |
| 7/17/20 | 17:12 | 7/17/20 17:12 | JDS4 | JDS4C | 8.4   | 7.85  | 6.96  | 7.74  | 7.52  |       | 10.69 |
| 7/17/20 | 17:14 | 7/17/20 17:14 | JDS4 | JDS4C | 6.57  | 6.63  | 6.59  | 6.60  | 6.61  |       | 9.53  |
| 7/17/20 | 17:18 | 7/17/20 17:18 | JDS4 | JDS4C | 8.6   | 6.8   | 6.4   | 7.27  | 6.82  |       | 9.81  |
| 7/17/20 | 17:21 | 7/17/20 17:21 | JDS4 | JDS4C | 5.15  | 4.71  | 4.89  | 4.92  | 4.84  |       | 7.29  |
| 7/17/20 | 17:24 | 7/17/20 17:24 | JDS4 | JDS4C | 5.49  | 5.75  | 4.61  | 5.28  | 5.21  |       | 7.77  |
| 7/17/20 | 17:28 | 7/17/20 17:28 | JDS4 | JDS4C | 5.27  | 4.32  | 3.86  | 4.48  | 4.22  |       | 6.51  |
| 7/17/20 | 17:29 | 7/17/20 17:29 | JDS4 | JDS4C | 4.26  | 3.22  | 3.56  | 3.68  | 3.49  |       | 5.58  |
| 7/18/20 | 10:22 | 7/18/20 10:22 | JUS1 | JUS1L | 2.53  | 0.93  | 0.85  | 1.44  | 1.26  | 27.75 | 2.75  |
|         |       |               |      | JUS1C | 1.59  | 1.14  | 1.09  | 1.27  |       |       |       |
|         |       |               |      | JUS1R | 0.98  | 1.16  | 1.03  | 1.06  |       |       |       |
| 7/18/20 | 10:16 | 7/18/20 10:16 | JDS2 | JDS2L | 2.88  | 2.09  | 0.89  | 1.95  | 1.90  |       | 3.57  |
|         |       |               |      | JDS2C | 1.17  | 0.66  | 0.65  | 0.83  |       |       |       |
|         |       |               |      | JDS2R | 2.6   | 3.44  | 2.74  | 2.93  |       |       |       |
| 7/18/20 | 10:13 | 7/18/20 10:13 | JDS3 | JDS3L | 0.65  | 1.25  | 0.73  | 0.88  | 1.23  |       | 2.71  |
|         |       |               |      | JDS3C | 1.62  | 1.21  | 1.46  | 1.43  |       |       |       |
|         |       |               |      | JDS3R | 1.47  | 1.31  | 1.35  | 1.38  |       |       |       |
| 7/18/20 | 10:08 | 7/18/20 10:08 | JDS4 | JDS4L | 1.74  | 1.42  | 1.24  | 1.47  | 1.12  |       | 2.57  |
|         |       |               |      | JDS4C | 0.82  | 1.2   | 0.91  | 0.98  |       |       |       |
|         |       |               |      | JDS4R | 0.78  | 1.18  | 0.75  | 0.90  |       |       |       |
| 7/25/20 | 10:20 | 7/25/20 10:20 | JUS1 | JUS1L | 3.07  | 3.44  | 3.04  | 3.18  | 2.26  | 29.02 | 4.02  |
|         |       |               |      | JUS1C | 1.79  | 1.09  | 1.23  | 1.37  |       |       |       |
|         |       |               |      | JUS1R | 2.39  | 2.26  | 2.04  | 2.23  |       |       |       |
| 7/25/20 | 10:15 | 7/25/20 10:15 | JDS2 | JDS2L | 0.85  | 1.53  | 1.3   | 1.23  | 2.28  |       | 4.05  |
|         |       |               |      | JDS2C | 2.71  | 3.84  | 3.26  | 3.27  |       |       |       |
|         |       |               |      | JDS2R | 2.23  | 2.46  | 2.36  | 2.35  |       |       |       |
| 7/25/20 | 10:13 | 7/25/20 10:13 | JDS3 | JDS3L | 0.93  | 1.22  | 0.76  | 0.97  | 0.99  |       | 2.41  |
|         |       |               |      | JDS3C | 1.25  | 0.91  | 0.84  | 1.00  |       |       |       |
|         |       |               |      | JDS3R | 0.85  | 1.05  | 1.1   | 1.00  |       |       |       |
| 7/25/20 | 10:10 | 7/25/20 10:10 | JDS4 | JDS4L | 2.7   | 2.21  | 1.74  | 2.22  | 0.89  |       | 2.29  |
|         |       |               |      | JDS4C | 1.91  | 2.37  | 2.7   | 2.33  |       |       |       |
|         |       |               |      | JDS4R | 1.62  | 1.59  | 1.5   | 1.57  |       |       |       |



| Date    | Time (24h) | Date Time Combined | Station Cross Section | Sample # | Turbidity (NTU) |        |        | Average (NTU) | Average NTU for Transect | CCME Guideline | Calculated/Actual TSS (mg/L) |
|---------|------------|--------------------|-----------------------|----------|-----------------|--------|--------|---------------|--------------------------|----------------|------------------------------|
|         |            |                    |                       |          | Read 1          | Read 2 | Read 3 |               |                          |                |                              |
| 6/3/20  | 11:52      | 6/3/20 11:52       | UUS1                  | UUS1L    | 1.23            | 1.02   | 0.65   | 0.97          | 1.10                     | 28.85          | 3.85                         |
|         | 11:52      |                    |                       | UUS1C    | 0.51            | 0.53   | 0.42   | 0.49          |                          |                |                              |
|         | 11:52      |                    |                       | UUS1R    | 1.89            | 1.77   | 1.86   | 1.84          |                          |                |                              |
| 6/3/20  | 11:46      | 6/3/20 11:46       | UDS2                  | UDS2L    | 0.69            | 0.67   | 0.57   | 0.64          | 0.64                     |                | 3.60                         |
|         | 11:46      |                    |                       | UDS2C    | 0.68            | 0.59   | 0.77   | 0.68          |                          |                |                              |
|         | 11:46      |                    |                       | UDS2R    | 0.64            | 0.55   | 0.59   | 0.59          |                          |                |                              |
| 6/3/20  | 11:43      | 6/3/20 11:43       | UDS3                  | UDS3L    | 1.93            | 1.11   | 0.94   | 1.33          | 0.87                     |                | 3.72                         |
|         | 11:43      |                    |                       | UDS3C    | 0.58            | 0.51   | 0.41   | 0.50          |                          |                |                              |
|         | 11:43      |                    |                       | UDS3R    | 1.17            | 0.69   | 0.5    | 0.79          |                          |                |                              |
| 6/3/20  | 11:39      | 6/3/20 11:39       | UDS4                  | UDS4L    | 0.59            | 0.43   | 0.42   | 0.48          | 0.74                     |                | 3.65                         |
|         | 11:39      |                    |                       | UDS4C    | 1.15            | 0.74   | 0.98   | 0.96          | 0.75                     |                | 3.66                         |
|         | 11:39      |                    |                       | UDS4R    | 0.76            | 0.95   | 0.62   | 0.78          |                          |                |                              |
| 6/6/20  | 14:50      | 6/6/20 14:50       | UUS1                  | UUS1L    | 0.66            | 0.5    | 0.42   | 0.53          |                          | 25.00          |                              |
|         | 14:50      |                    |                       | UUS1C    | 0.26            | 0.39   | 0.25   | 0.30          | 0.34                     |                | 3.44                         |
|         | 14:50      |                    |                       | UUS1R    | 0.84            | 0.46   | 0.26   | 0.52          |                          |                |                              |
| 6/6/20  | 14:55      | 6/6/20 14:55       | UDS2                  | UDS2L    | 0.28            | 0.16   | 0.17   | 0.20          |                          |                |                              |
|         | 14:55      |                    |                       | UDS2C    | 0.27            | 0.18   | 0.26   | 0.24          | 0.34                     |                | 3.44                         |
|         | 14:55      |                    |                       | UDS2R    | 0.21            | 0.5    | 0.5    | 0.40          |                          |                |                              |
| 6/6/20  | 15:00      | 6/6/20 15:00       | UDS3                  | UDS3L    | 0.46            | 0.36   | 0.32   | 0.38          |                          |                |                              |
|         | 15:00      |                    |                       | UDS3C    | 0.36            | 0.36   | 0.28   | 0.33          | 0.37                     |                | 3.45                         |
|         | 15:00      |                    |                       | UDS3R    | 0.38            | 0.13   | 0.13   | 0.21          | 0.36                     |                | 3.45                         |
| 6/6/20  | 15:05      | 6/6/20 15:05       | UDS4                  | UDS4L    | 0.51            | 0.6    | 0.54   | 0.55          |                          |                |                              |
|         | 15:05      |                    |                       | UDS4C    | 0.32            | 0.42   | 0.22   | 0.32          |                          |                |                              |
|         | 15:05      |                    |                       | UDS4R    | 0.68            | 0.24   | 0.22   | 0.38          | 0.43                     |                | 3.49                         |
| 6/11/20 | 14:16      | 6/11/20 14:16      | UDS4                  | UDS4L    | 0.57            | 0.5    | 0.49   | 0.52          |                          |                |                              |
|         | 14:18      |                    |                       | UDS4C    | 0.62            | 0.05   | 0.51   | 0.39          |                          |                |                              |
|         | 14:20      |                    |                       | UDS4R    | 0.58            | 0.52   | 0.45   | 0.52          | 0.64                     |                | 3.60                         |
| 6/11/20 | 14:22      | 6/11/20 14:22      | UDS3                  | UDS3L    | 0.6             | 0.69   | 0.76   | 0.68          |                          |                |                              |
|         | 14:24      |                    |                       | UDS3C    | 0.83            | 0.65   | 0.72   | 0.73          |                          |                |                              |
|         | 14:26      |                    |                       | UDS3R    | 0.57            | 0.67   | 0.59   | 0.61          | 0.55                     |                | 3.55                         |
| 6/11/20 | 14:28      | 6/11/20 14:28      | UDS2                  | UDS2L    | 0.57            | 0.58   | 0.58   | 0.58          | 0.53                     |                | 3.54                         |
|         | 14:30      |                    |                       | UDS2C    | 0.44            | 0.45   | 0.5    | 0.46          |                          |                |                              |
|         | 14:32      |                    |                       | UDS2R    | 0.57            | 0.53   | 0.54   | 0.55          |                          |                |                              |
| 6/11/20 | 14:34      | 6/11/20 14:34      | UUS1                  | UUS1L    | 0.49            | 0.65   | 0.41   | 0.52          | 0.65                     | 28.60          | 3.60                         |
|         | 14:36      |                    |                       | UUS1C    | 0.82            | 1.06   | 0.86   | 0.91          |                          |                |                              |
|         | 14:38      |                    |                       | UUS1R    | 0.44            | 0.66   | 0.43   | 0.51          |                          |                |                              |
| 6/15/20 | 10:22      | 6/15/20 10:22      | UUS1                  | UUS1L    | 2.35            | 2.55   | 2.54   | 2.48          | 2.08                     | 29.37          | 4.37                         |
|         | 10:22      |                    |                       | UUS1C    | 2.21            | 2.59   | 1.99   | 2.26          |                          |                |                              |
|         | 10:22      |                    |                       | UUS1R    | 1.47            | 1.47   | 1.51   | 1.48          |                          |                |                              |
| 6/15/20 | 10:20      | 6/15/20 10:20      | UDS2                  | UDS2L    | 2.3             | 2.73   | 2.43   | 2.49          | 2.18                     |                | 4.43                         |
|         | 10:20      |                    |                       | UDS2C    | 1.86            | 2.26   | 2.23   | 2.12          | 2.20                     |                | 4.44                         |
|         | 10:20      |                    |                       | UDS2R    | 2.06            | 1.83   | 1.95   | 1.95          |                          |                |                              |
| 6/15/20 | 10:10      | 6/15/20 10:10      | UDS3                  | UDS3L    | 2.73            | 2.45   | 2.44   | 2.54          |                          |                |                              |
|         | 10:10      |                    |                       | UDS3C    | 3.18            | 3.28   | 2.83   | 3.10          | 2.95                     |                | 4.84                         |
|         | 10:10      |                    |                       | UDS3R    | 2.53            | 2.42   | 2.42   | 2.46          |                          |                |                              |
| 6/15/20 | 10:06      | 6/15/20 10:06      | UDS4                  | UDS4L    | 3.36            | 3.38   | 3.14   | 3.29          |                          |                |                              |
|         | 10:06      |                    |                       | UDS4C    | 3.69            | 3.12   | 3.44   | 3.42          | 3.22                     |                | 4.99                         |
|         | 10:06      |                    |                       | UDS4R    | 2.91            | 3.11   | 3.07   | 3.03          |                          |                |                              |

## APPENDIX E 2020 WATER QUANTITY TRACKING SHEETS



## Tlicho All Season Road (Water Volume Tracking)



Record No. KWT-TASR-ENV-TBL-Peanut Lake

SOURCE: Peanut Lake

| WATER TRACKING: | 745 truck (35 m3) = 8 loads, or White truck (15m3)=19 loads |               |             | UTM Location      | 11V<br>523689<br>6298732 | Permit No.   |
|-----------------|-------------------------------------------------------------|---------------|-------------|-------------------|--------------------------|--------------|
|                 | Max (L) Taken per Day = 299m3 Combined                      |               |             |                   |                          | W2016L8-0001 |
| Date            | Time                                                        | Type of Truck | Truck Loads | Volume Taken (m3) | Comments                 |              |
| eg Aug 16, 2019 | 8:00 AM                                                     | 745           | 1           | 35                | Road Compaction          |              |
| eg Aug 16, 2019 | 11:00PM                                                     | White         | 1           | 15                | Dust Suppression         |              |
| 02-Aug-20       | 9:00 AM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 02-Aug-20       | 8:58 AM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 02-Aug-20       | 9:30 AM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 02-Aug-20       | 10:42 AM                                                    | White         | 1           | 15                | Road Compaction          |              |
| 02-Aug-20       | 12:01 PM                                                    | White         | 1           | 15                | Road Compaction          |              |
| 02-Aug-20       | 1:38 PM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 02-Aug-20       | 2:58 PM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 02-Aug-20       | 4:00 PM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 05-Aug-20       | 7:35 AM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 05-Aug-20       | 8:26 AM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 05-Aug-20       | 9:31 AM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 05-Aug-20       | 11:30 AM                                                    | White         | 1           | 15                | Road Compaction          |              |
| 06-Aug-20       | 12:30 PM                                                    | White         | 1           | 15                | Road Compaction          |              |
| 06-Aug-20       | 1:41 PM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 06-Aug-20       | 2:54 PM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 06-Aug-20       | 4:01 PM                                                     | White         | 3           | 45                | Road Compaction          |              |
| 06-Aug-20       | 7:40 PM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 06-Aug-20       | 8:55 PM                                                     | White         | 1           | 15                | Road Compaction          |              |
| 06-Aug-20       | 10:00 PM                                                    | White         | 1           | 15                | Road Compaction          |              |
| 06-Aug-20       | 10:58 PM                                                    | White         | 1           | 15                | Road Compaction          |              |



|           |          |       |   |    |                 |
|-----------|----------|-------|---|----|-----------------|
| 07-Aug-20 | 12:10 AM | White | 1 | 15 | Road Compaction |
| 07-Aug-20 | 1:24 AM  | White | 1 | 15 | Road Compaction |
| 07-Aug-20 | 2:10 AM  | White | 1 | 15 | Road Compaction |
| 07-Aug-20 | 4:01 AM  | White | 1 | 15 | Road Compaction |
| 08-Aug-20 | 7:20 PM  | White | 1 | 15 | Road Compaction |
| 08-Aug-20 | 10:24 PM | White | 1 | 15 | Road Compaction |

[illegible]

## Tl̓chq All Season Road (Water Volume Tracking)



Record No. KWT-TASR-ENV-TBL-James River

**SOURCE: James River Master**

| WATER TRACKING: | 2 inch trash pump = 710 litres per minute. 3 inch = 1210 per minute. Max 299m3 per day combined | UTM Location of Intake | 11V 504459 6982677  | Permit No.        |                 |
|-----------------|-------------------------------------------------------------------------------------------------|------------------------|---------------------|-------------------|-----------------|
|                 |                                                                                                 |                        |                     | W2016L8-0001      |                 |
| Date            | Pump Size (2 or 3 Inch)                                                                         | Start Time (pump on)   | End Time (pump off) | Volume Taken (m3) | Comments        |
| 16-Jan-20       | Land                                                                                            | 10:00                  | 10:05               | 3.75              | Pile Operations |
| 09-Jul-20       | 2                                                                                               | 10:00                  | 10:07               | 4.9               | Pile Operations |
| 10-Jul-20       | 2                                                                                               | 3:25                   | 3:28                | 2.1               | Pile Operations |
| 16-Jul-20       | 2                                                                                               | 4:20                   | 4:25                | 3.6               | Pile Operations |
| 16-Jul-20       | 2                                                                                               | 21:30                  | 21:37               | 5                 | Pile Operations |
| 18-Jul-20       | 2                                                                                               | 10:56                  | 10:58               | 1.4               | Pile Operations |
| 18-Jul-20       | 2                                                                                               | 15:52                  | 15:55               | 2.1               | Pile Operations |
| 20-Jul-20       | 2                                                                                               | 11:10                  | 11:11               | 0.7               | Pile Operations |
| 20-Jul-20       | 2                                                                                               | 11:35                  | 11:37               | 1.4               | Pile Operations |
| 20-Jul-20       | 2                                                                                               | 12:40                  | 12:42               | 1.4               | Pile Operations |
| 22-Jul-20       | 2                                                                                               | 11:37                  | 11:43               | 4.3               | Pile Operations |
| 23-Jul-20       | 2                                                                                               | 1:45                   | 1:51                | 4.3               | Pile Operations |
| 23-Jul-20       | 2                                                                                               | 11:15                  | 11:22               | 5                 | Pile Operations |
| 23-Jul-20       | 2                                                                                               | 12:05                  | 12:08               | 2.1               | Pile Operations |
| 23-Jul-20       | 2                                                                                               | 13:00                  | 13:02               | 1.4               | Pile Operations |
| 24-Jul-20       | 2                                                                                               | 11:03                  | 11:06               | 2.1               | Pile Operations |
| 24-Jul-20       | 2                                                                                               | 11:51                  | 11:53               | 1.4               | Pile Operations |
| 24-Jul-20       | 2                                                                                               | 13:45                  | 13:47               | 1.4               | Pile Operations |
| 25-Jul-20       | 2                                                                                               | 9:00                   | 9:03                | 2.1               | Pile Operations |
| 25-Jul-20       | 2                                                                                               | 2:23                   | 2:27                | 2.8               | Pile Operations |
| 25-Jul-20       | 2                                                                                               | 9:18                   | 9:23                | 3.6               | Pile Operations |
| 07-Aug-20       | 2                                                                                               | 12:45                  | 12:53               | 5.7               | Pile Operations |
| 11-Aug-20       | 3                                                                                               | 14:40                  | 14:46               | 7.3               | Pile Operations |
| 12-Aug-20       | 3                                                                                               | 11:22                  | 11:29               | 8.5               | Pile Operations |
| 13-Aug-20       | 3                                                                                               | 10:10                  | 10:28               | 22                | Pile Operations |
| 14-Aug-20       | 3                                                                                               | 9:10                   | 9:30                | 24.2              | Pile Operations |
| 15-Aug-20       | 3                                                                                               | 12:18                  | 13:13               | 66.6              | Pile Operations |
| 16-Aug-20       | 3                                                                                               | 6:00                   | 6:25                | 30.3              | Pile Operations |
| 17-Aug-20       | 3                                                                                               | 8:00                   | 8:17                | 20.6              | Pile Operations |
| 18-Aug-20       | 3                                                                                               | 11:20                  | 11:36               | 19.4              | Pile Operations |



**SOURCE: LaMartre River Master**

[illegible]



## Tlichō All Season Road (Water Volume Tracking)



Record No. KWT-TASR-ENV-TBL-Unnamed #12

SOURCE: Unnamed #12

| WATER TRACKING: | Cat 745 truck loads = 8 loads          |                                         |                | UTM Location      | 11V 509518<br>6960989 | Permit No.   |
|-----------------|----------------------------------------|-----------------------------------------|----------------|-------------------|-----------------------|--------------|
|                 | Max (L) Taken per Day = 299m3 Combined |                                         |                |                   |                       | W2016L8-0001 |
| Date            | Time                                   | Water Application Location (Land/River) | Cat 745= 35 m3 | Volume Taken (m3) | Comments              |              |
| eg 11/16/2019   | 8:00 AM                                | Land                                    | 1              | 35                |                       |              |
| 22-Jun-20       | 7:34 AM                                | Land                                    | 1              | 35                |                       |              |
| 22-Jun-20       | 9:15 AM                                | Land                                    | 1              | 35                |                       |              |
| 22-Jun-20       | 11:35 AM                               | Land                                    | 1              | 35                |                       |              |
| 22-Jun-20       | 1:03 PM                                | Land                                    | 1              | 35                |                       |              |
| 22-Jun-20       | 3:20 PM                                | Land                                    | 1              | 35                |                       |              |
| 22-Jun-20       | 5:25 PM                                | Land                                    | 1              | 35                | 210                   |              |
| 23-Jun-20       | 7:30 AM                                | Land                                    | 1              | 35                |                       |              |
| 23-Jun-20       | 8:40 AM                                | Land                                    | 1              | 35                |                       |              |
| 23-Jun-20       | 11:00 AM                               | Land                                    | 1              | 35                |                       |              |
| 23-Jun-20       | 12:43 PM                               | Land                                    | 1              | 35                |                       |              |
| 23-Jun-20       | 3:05 PM                                | Land                                    | 1              | 35                |                       |              |
| 23-Jun-20       | 5:10 PM                                | Land                                    | 1              | 35                |                       |              |
| 23-Jun-20       | 9:15 PM                                | Land                                    | 1              | 35                | 280                   |              |
| 23-Jun-20       | 11:20 PM                               | Land                                    | 1              | 35                | Daily limit achieved  |              |
| 24-Jun-20       | 9:09 AM                                | Land                                    | 1              | 35                |                       |              |
| 24-Jun-20       | 10:59 AM                               | Land                                    | 1              | 35                |                       |              |
| 24-Jun-20       | 12:35 AM                               | Land                                    | 1              | 35                |                       |              |
| 24-Jun-20       | 2:25 AM                                | Land                                    | 1              | 35                |                       |              |
| 24-Jun-20       | 4:30 AM                                | Land                                    | 1              | 35                |                       |              |

|           |          |      |   |    |     |
|-----------|----------|------|---|----|-----|
| 24-Jun-20 | 12:20 AM | Land | 1 | 35 | 210 |
| 25-Jun-20 | 9:00 AM  | Land | 1 | 35 |     |
| 25-Jun-20 | 10:35 AM | Land | 1 | 35 |     |
| 25-Jun-20 | 11:58 AM | Land | 1 | 35 |     |
| 25-Jun-20 | 1:20 AM  | Land | 1 | 35 |     |
| 25-Jun-20 | 2:42 AM  | Land | 1 | 35 | 175 |
| 26-Jun-20 | 8:30 PM  | Land | 1 | 35 |     |
| 26-Jun-20 | 11:26 PM | Land | 1 | 35 | 245 |
| 27-Jun-20 | 4:30 AM  | Land | 1 | 35 |     |

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## APPENDIX F 2020 WILDLIFE TRACKING SPREADSHEET

| Year | Date of Sighting | Time     | Species              | Number | Age                | Injured | Zone | Easting | Northing | Survey Type                 | Sighting By       | Company          | Notes                                                 |
|------|------------------|----------|----------------------|--------|--------------------|---------|------|---------|----------|-----------------------------|-------------------|------------------|-------------------------------------------------------|
| 2020 | 1/7/20           | 1:30 PM  | Wood Bison           | 2      | Adult              | No      | 11V  | 508175  | 6947347  | Wildlife Sightings Log      | Ryan B            | Kiewit           | Crossed R.O.W and TASR                                |
| 2020 | 1/10/20          | 9:55 AM  | Wolf                 | 1      | Unknown            | No      | 11V  | 501146  | 6996775  | Wildlife Sightings Log      | Dave G            | Kiewit           | Tracks on R.O.W                                       |
| 2020 | 1/10/20          | 10:22 AM | Spruce Grouse        | 1      | Unknown            | No      | 11V  | 502193  | 6992640  | Wildlife Sightings Log      | Dave G            | Kiewit           | Sitting on TASR                                       |
| 2020 | 1/11/20          | 11:35 AM | Wood Bison           | 4      | Unknown            | No      | 11V  | 507967  | 6948751  | Wildlife Sightings Log      | Dave G            | Kiewit           | Tracks along R.O.W                                    |
| 2020 | 1/11/20          | 11:42 AM | Wolf                 | 1      | Unknown            | No      | 11V  | 508256  | 6956082  | Wildlife Sightings Log      | Dave G            | Kiewit           | Tracks along R.O.W                                    |
| 2020 | 1/11/20          | 12:02 PM | Wood Bison           | 2      | Adult and Calf     | No      | 11V  | 507969  | 6955078  | Wildlife Sightings Log      | Dave G            | Kiewit           | Tracks across TASR                                    |
| 2020 | 1/11/20          | 1:30 PM  | Wood Bison           | 3      | Adult              | No      | 11V  | 514156  | 6931291  | Wildlife Sightings Log      | Darryl            | McCaw's          | On the shoulder of the TASR                           |
| 2020 | 1/11/20          | 1:00 PM  | Wood Bison           | 4      | Adult              | No      | 11V  | 507883  | 6949337  | Wildlife Sightings Log      | Danny Harding     | Kiewit           | Along the ROW                                         |
| 2020 | 1/12/20          | 1:00 PM  | Fox                  | 1      | Adult              | No      | 11V  | 514548  | 6931018  | Wildlife Sightings Log      | Darryl            | McCaw's          | Sitting at edge of ROW                                |
| 2020 | 1/14/20          | 2:00 PM  | Wood Bison           | 6      | Adult              | No      | 11V  | 508143  | 6947645  | Wildlife Sightings Log      | Danny Harding     | Kiewit           | crossing ROW and TASR                                 |
| 2020 | 1/14/20          | 12:30 PM | Wood Bison           | 6      | Adult              | No      | 11V  | 508286  | 6946816  | Wildlife Sightings Log      | Bill Olive        | Kiewit           | crossing ROW and TASR                                 |
| 2020 | 1/14/20          | 10:00 AM | Moose                | 1      | Adult (Bull)       | No      | 11V  | 514548  | 6931018  | Wildlife Sightings Log      | Darryl            | McCaw's          | walking along side of ROW                             |
| 2020 | 1/14/20          | 3:40 PM  | Wood Bison           | 3      | Adult (2) Calf (1) | No      | 11V  | 509364  | 6937058  | Wildlife Sightings Log      | Darryl            | McCaw's          | crossing ROW                                          |
| 2020 | 1/14/20          | 11:55 AM | Common Common Raven  | 1      | Adult              | No      | 11V  | 507718  | 6950566  | Wildlife Road Survey        | Dave Green        | Kiewit           | Flying of ROW                                         |
| 2020 | 1/14/20          | 11:50 AM | Common Common Raven  | 1      | Adult              | No      | 11V  | 507556  | 6951658  | Wildlife Road Survey        | Dave Green        | Kiewit           | Perched in tree                                       |
| 2020 | 1/15/20          | 1:20 PM  | Common Common Raven  | 2      | Adult              | No      | 11V  | 509820  | 6935640  | Wildlife Surveillance Sweep |                   |                  |                                                       |
| 2020 | 1/15/20          | 2:19 PM  | Common Common Raven  | 1      | Adult              | No      | 11V  | 509378  | 6937019  | Wildlife Road Survey        | Dave Green        | Kiewit           | Perched in tree                                       |
| 2020 | 1/15/20          | 2:30 PM  | Common Common Raven  | 1      | Adult              | No      | 11V  | 507738  | 6950369  | Wildlife Road Survey        | Dave Green        | Kiewit           | Sitting on snowbank                                   |
| 2020 | 1/15/20          | 2:35 PM  | Common Common Raven  | 1      | Adult              | No      | 11V  | 507795  | 6950369  | Wildlife Road Survey        | Dave Green        | Kiewit           | Perched in tree                                       |
| 2020 | 1/16/20          | 12:30 PM | Porcupine            | 1      | Adult              | No      | 11V  | 507785  | 6950092  | Wildlife Sightings Log      | Bill Olive        | Kiewit           | climbing over snowbank at edge of ROW                 |
| 2020 | 1/19/20          | 1:50 PM  | Porcupine            | 1      | Adult              | No      | 11V  | 507739  | 6950332  | Wildlife Sightings Log      | Joe D             | Kiewit           | Side of R.O.W                                         |
| 2020 | 1/21/20          | 10:12 AM | Ptarmigan            | 2      | Adult              | No      | 11V  | 503406  | 6989004  | Wildlife Road Survey        | Dave Green        | Kiewit           | Flushed off R.O.W                                     |
| 2020 | 1/22/20          | 8:00 PM  | Wolverine            | 1      | Adult              | No      | 11V  | 503504  | 6987888  | Wildlife Sightings Log      | Fred              | Kiewit           | Running down existing trail                           |
| 2020 | 1/23/20          | 8:12 AM  | Wolf                 | 8      | Adult              | No      | 11V  | 504462  | 6982679  | Wildlife Road Survey        | Rob D             | Kiewit           | tracks at James River Bridge                          |
| 2020 | 1/23/20          | 8:45 AM  | Spruce Grouse        | 1      | Adult              | No      | 11V  | 501193  | 6996331  | Wildlife Road Survey        | Rob D             | Kiewit           | On the shoulder of the TASR                           |
| 2020 | 1/23/20          | 10:00 AM | Common Common Raven  | 1      | Adult              | No      | 11V  | 508865  | 695910   | Wildlife Road Survey        | Rob D             | Kiewit           | Perched on edge of R.O.W                              |
| 2020 | 1/24/20          | 1:00 AM  | Wolf                 | 1      | Adult              | No      | 11V  | 526319  | 6927986  | Wildlife Sightings Log      | Caroline W        | Kiewit           | white Wolfobserved at the TASR entrance off highway 3 |
| 2020 | 1/24/20          | 3:30 PM  | Porcupine            | 1      | Adult              | No      | 11V  | 507739  | 6950332  | Wildlife Sightings Log      | Jeff Z and Jon P  | Kiewit           | Side of R.O.W                                         |
| 2020 | 1/24/20          | 12:30 PM | Spruce Grouse        | 3      | Adult              | No      | 11V  | 502687  | 6991127  | Wildlife Road Survey        | Dave and Caroline | Kiewit           | Centerline of R.O.W                                   |
| 2020 | 1/24/20          | 12:58 PM | Gray Jay             | 2      | Adult              | No      | 11V  | 506230  | 6979617  | Wildlife Road Survey        | Dave and Caroline | Kiewit           | Flying along edge of R.O.W                            |
| 2020 | 1/24/20          | 1:11 PM  | Spruce Grouse        | 1      | Adult              | No      | 11V  | 507112  | 6977865  | Wildlife Road Survey        | Dave and Caroline | Kiewit           | Edge of R.O.W                                         |
| 2020 | 1/24/20          | 1:18 PM  | Gray Jay             | 1      | Adult              | No      | 11V  | 506946  | 6971045  | Wildlife Road Survey        | Dave and Caroline | Kiewit           | Flying along TASR                                     |
| 2020 | 1/24/20          | 1:42 PM  | Great Gray Owl       | 1      | Adult              | No      | 11V  | 508562  | 6957086  | Wildlife Road Survey        | Dave and Caroline | Kiewit           | Edge of R.O.W                                         |
| 2020 | 1/25/20          | 6:45 AM  | Snowshoe Hare        | 1      | Adult              | No      | 11V  | 506916  | 6971902  | Wildlife Sightings Log      | Anick             | Kiewit           | On R.O.W trail                                        |
| 2020 | 1/25/20          | 12:00 AM | Wolf                 | 1      | Adult              | No      | 11V  | 520617  | 6928389  | Wildlife Sightings Log      | Jonathan T        | Kiewit           | White Wolfobserved on RoW traveling north             |
| 2020 | 1/26/20          | 1:00PM   | Boreal Caribou       | 2      | Adult Female       | No      | 11V  | 515474  | 6930602  | Wildlife Sightings Log      | Wes P             | Brave Adventures | Observed on the edge of the RoW                       |
| 2020 | 1/26/20          | 2:51PM   | Bison Tracks         | 2      | Adults             | No      | 11V  | 509206  | 6937504  | Wildlife Road Survey        | Robert D          | Kiewit           | Tracks across TASR (east to west)                     |
| 2020 | 1/26/20          | 11:45 AM | Ptarmigan            | 8      | Adult              | No      | 11V  | 509836  | 6935673  | Wildlife Sightings Log      | Jonathan Proulx   | Kiewit           | Flushed off R.O.W                                     |
| 2020 | 1/26/20          | 10:30 PM | Canada Lynx          | 1      | Adult              | No      | 11V  | 508024  | 6955184  | Wildlife Sightings Log      | Fred              | Kiewit           | R.O.W                                                 |
| 2020 | 1/26/20          | 12:27 PM | Spruce Grouse        | 1      | Adult              | No      | 11V  | 502105  | 6992850  | Wildlife Road Survey        | Rob D             | Kiewit           | Flushed off R.O.W                                     |
| 2020 | 1/26/20          | 2:51 PM  | Bison Tracks         | 2      | Adult              | No      | 11V  | 509206  | 6937504  | Wildlife Road Survey        | Rob D             | Kiewit           | Across R.O.W                                          |
| 2020 | 1/27/20          | 8:30 AM  | Ptarmigan            | 7      | Adult              | No      | 11V  | 509138  | 6937684  | Wildlife Sightings Log      | Anick             | Kiewit           | R.O.W                                                 |
| 2020 | 1/27/20          | 11:30 AM | Boreal CaribouTracks | 4      | Adult              | No      | 11V  | 522970  | 6928363  | Wildlife Road Survey        | Rob D             | Kiewit           | Tracks across TASR (east to west)                     |
| 2020 | 1/27/20          | 8:40 AM  | Canada Lynx          | 1      | Adult              | No      | 11V  | 507427  | 6953452  | Wildlife Road Survey        | Rob and Caroline  | Kiewit           | observed running across TASR                          |
| 2020 | 1/30/20          | 12:30 PM | Boreal Caribou       | 8      | Adult              | No      | 11V  | 515452  | 6930601  | Wildlife Sightings Log      | Unknown           | Kiewit           | Standing on R.O.W                                     |
| 2020 | 2/1/20           | 3:00 PM  | Wood Bison           | 12     | Adult              | No      | 11V  | 508261  | 6956092  | Wildlife Sightings Log      | Call over radio   | Kiewit           | Standing on R.O.W                                     |
| 2020 | 2/2/20           | 10:45 AM | Squirrel             | 1      | Adult              | No      | 11V  | 507690  | 6954338  | Wildlife Road Survey        | Rob D             | Kiewit           | Ran across R.O.W                                      |
| 2020 | 2/4/20           | 9:10 AM  | Gray Jay             | 1      | Adult              | No      | 11V  | 507805  | 6969325  | Wildlife Road Survey        | Rob D             | Kiewit           | Flying along edge of R.O.W                            |
| 2020 | 2/5/20           | 10:00 AM | Common Raven         | 3      | Adult              | No      | 11V  | 508209  | 6955487  | Wildlife Road Survey        | Rob D             | Kiewit           | Flying along edge of R.O.W                            |
| 2020 | 2/5/20           | 1:30 PM  | Owl sp.              | 1      | Adult              | No      | 11V  | 504788  | 6982100  | Wildlife Sightings Log      | John Tanner       | Kiewit           | Perched on Tree                                       |
| 2020 | 2/6/20           | 1:00PM   | Wood Bison           | 6      | Adult              | No      | 11V  | 508065  | 6948089  | Wildlife Sightings Log      | Jonathan T        | Kiewit           | Standing on TASR                                      |
| 2020 | 2/6/20           | 2:45PM   | Wood Bison           | 1      | Adult              | No      | 11V  | 508308  | 6946541  | Wildlife Sightings Log      | Dave G            | Kiewit           | Just along edge of RoW                                |
| 2020 | 2/7/20           | 1:30PM   | Wood Bison           | 5      | Adult              | No      | 11V  | 508065  | 6948089  | Wildlife Sightings Log      | Jonathan T        | Kiewit           | Just along edge of RoW                                |
| 2020 | 2/8/20           | 1:15PM   | Wood Bison           | 6      | Adult              | No      | 11V  | 508065  | 6948089  | Wildlife Sightings Log      | Jesse             | Kiewit           | Crossing R.O.W                                        |
| 2020 | 2/10/20          | 9:45 AM  | Wood Bison           | 5      | Adult              | No      | 11V  | 507889  | 6949329  | Wildlife Sightings Log      | Bruno             | Kiewit           | Standing on TASR                                      |
| 2020 | 2/13/20          | 11:50 AM | Fox                  | 1      | Adult              | No      | 11V  | 508164  | 6940529  | Wildlife Sightings Log      | Jesse             | Kiewit           | Edge of R.O.W                                         |
| 2020 | 2/14/20          | 6:45 AM  | Snowshoe Hare        | 1      | Adult              | No      | 11V  | 508806  | 6962369  | Wildlife Road Survey        | Andre             | Kiewit           | Crossing R.O.W                                        |
| 2020 | 2/15/20          | 2:50 PM  | Common Common Raven  | 1      | Adult              | No      | 11V  | 504628  | 6982418  | Wildlife Road Survey        | Andre             | Kiewit           | Flying along TASR                                     |
| 2020 | 2/17/20          | 3:20 PM  | Wood Bison Tracks    | 6      | Adult              | No      | 11V  | 515438  | 6930650  | Wildlife Road Survey        | Rob D             | Kiewit           | Crossing R.O.W                                        |



|      |         |          |                     |         |       |           |     |        |         |                        |               |         |                                        |
|------|---------|----------|---------------------|---------|-------|-----------|-----|--------|---------|------------------------|---------------|---------|----------------------------------------|
| 2020 | 2/18/20 | 11:00 AM | Canada Lynx         | 1       | Adult | No        | 11V | 508179 | 6947358 | Wildlife Sightings Log | Daryl         | McCaw's | Crossing R.O.W                         |
| 2020 | 2/21/20 | 10:00 AM | Canada Lynx         | 1       | Adult | No        | 11V | 508179 | 6947358 | Wildlife Sightings Log | Aileen        | Kiewit  | Along the ROW                          |
| 2020 | 2/21/20 | 3:30 PM  | Moose               | 2       | Adult | No        | 11V | 509463 | 6936748 | Wildlife Sightings Log | Trevor        | Kiewit  | Along the ROW                          |
| 2020 | 2/21/20 | 4:30 PM  | Wood Bison          | 2       | Adult | No        | 11V | 508171 | 6942453 | Wildlife Sightings Log | Rob D         | Kiewit  | Along the ROW                          |
| 2020 | 2/24/20 | 10:46 AM | Spruce Grouse       | 1       | Adult | No        | 11V | 501391 | 6994760 | Wildlife Road Survey   | Rob and Andre | Kiewit  | Flying across the RoW                  |
| 2020 | 2/24/20 | 11:02 AM | Hairy Woodpecker    | 1       | Adult | No        | 11V | 501160 | 6998375 | Wildlife Road Survey   | Rob and Andre | Kiewit  | Perched on tree                        |
| 2020 | 2/24/20 | 12:42 PM | Spruce Grouse       | 2       | Adult | No        | 11V | 506653 | 6973802 | Wildlife Road Survey   | Rob and Andre | Kiewit  | Running on RoW                         |
| 2020 | 2/24/20 | 12:45 PM | Spruce Grouse       | 2       | Adult | No        | 11V | 506849 | 6972088 | Wildlife Road Survey   | Rob and Andre | Kiewit  | Running on RoW                         |
| 2020 | 2/26/20 | 10:00am  | Wolf                | Unknown | Adult | No        | 11V | 503403 | 6989034 | Wildlife Sightings Log | Alysha        | McCaw's | Howling heard off RoW                  |
| 2020 | 2/27/20 | 2:00 AM  | Moose               | 1       | Adult | No        | 11V | 503643 | 6986903 | Wildlife Sightings Log | Ken F         | Kiewit  | Crossing RoW                           |
| 2020 | 2/28/20 | 3:00 PM  | Fox                 | 1       | Adult | No        | 11V | 518664 | 6928295 | Wildlife Sightings Log | MaxV          | Kiewit  | Crossing RoW                           |
| 2020 | 2/28/20 | 1:30 PM  | Weasel sp.          | 1       | Adult | No        | 11V | 506652 | 6973824 | Wildlife Sightings Log | Chris Miller  | Kiewit  | Crossing RoW                           |
| 2020 | 2/28/20 | 9:00 AM  | Common Common Raven | 2       | Adult | No        | 11V | 509427 | 6935334 | Wildlife Sightings Log | Andre F       | Kiewit  | Perched on waste bin                   |
| 2020 | 3/1/20  | 7:00 AM  | Wood Bison          | 20      | Adult | No        | 11V | 508420 | 6943428 | Wildlife Sightings Log | Jonathan T    | Kiewit  | On R.O.W trail                         |
| 2020 | 3/1/20  | 3:00 PM  | Canada Lynx         | 1       | Adult | No        | 11V | 501225 | 6997752 | Wildlife Sightings Log | FW            | FW      | Running on RoW                         |
| 2020 | 3/4/20  | 3:35 PM  | Gray Jay            | 1       | Adult | No        | 11V | 508445 | 6956557 | Wildlife Road Survey   | Rob and Andre | Kiewit  | Flying across the RoW                  |
| 2020 | 3/4/20  | 4:00 PM  | Bison Tracks        | 1       | Adult | No        | 11V | 509458 | 6936754 | Wildlife Road Survey   | Rob and Andre | Kiewit  | Crossing RoW                           |
| 2020 | 3/4/20  | 3:36 PM  | Wolf                | 1       | Adult | No        | 11V | 508327 | 6940068 | Wildlife Sightings Log | Eric          | FW      | Running on RoW                         |
| 2020 | 3/5/20  | 8:00 AM  | Ptarmigan           | 5       | Adult | No        | 11V | 508296 | 6942952 | Wildlife Road Survey   | Andre F       | Kiewit  | On R.O.W trail                         |
| 2020 | 3/5/20  | 3:09 PM  | Spruce Grouse       | 1       | Adult | No        | 11V | 508135 | 6963877 | Wildlife Road Survey   | Andre F       | Kiewit  | Observed on the edge of the RoW        |
| 2020 | 3/7/20  | 6:37 AM  | Ptarmigan           | 10      | Adult | No        | 11V | 509134 | 6937693 | Wildlife Road Survey   | Rob and Andre | Kiewit  | On R.O.W trail                         |
| 2020 | 3/8/20  | 4:15 AM  | Canada Lynx         | 1       | Adult | No        | 11V | 501303 | 6995602 | Wildlife Sightings Log | Nicolas I     | Kiewit  | Crossing the R.O.W                     |
| 2020 | 3/9/20  | 7:30 AM  | Canada Lynx         | 1       | Adult | No        | 11V | 507498 | 6953664 | Wildlife Sightings Log | Survey        | Kiewit  | Walking on stripping piles             |
| 2020 | 3/9/20  | 8:30 AM  | Pine Marten         | 1       | Adult | No        | 11V | 506878 | 6976797 | Wildlife Sightings Log | Shawn C.      | Kiewit  | Running accross TASR                   |
| 2020 | 3/11/20 | 8:46 AM  | Ptarmigan           | 6       | Adult | No        | 11V | 509320 | 6937183 | Wildlife Road Survey   | Andre F       | Kiewit  | On R.O.W trail                         |
| 2020 | 3/13/20 | 9:40 AM  | Canada Lynx         | 1       | Adult | No        | 11V | 508411 | 6943431 | Wildlife Sightings Log | Danny H       | Kiewit  | Along the edge of R.O.W                |
| 2020 | 3/14/20 | 8:35 AM  | Ptarmigan           | 10      | Adult | No        | 11V | 508382 | 6943292 | Wildlife Sightings Log | Trevor B.     | Kiewit  | Sitting in middle of TASR              |
| 2020 | 3/17/20 | 8:30 AM  | Canada Lynx         | 2       | Adult | No        | 11V | 508273 | 6946881 | Wildlife Sightings Log | Ryan B        | Kiewit  | Edge of R.O.W                          |
| 2020 | 3/18/20 | 8:56 AM  | Spruce Grouse       | 1       | Adult | No        | 11V | 499905 | 7005341 | Wildlife Road Survey   | Dave G        | Kiewit  | Flushed south & west to edge of TASR   |
| 2020 | 3/18/20 | 10:45 AM | Spruce Grouse       | 3       | Adult | No        | 11V | 497116 | 7005857 | Wildlife Road Survey   | Dave G        | Kiewit  | Flushed east of TASR                   |
| 2020 | 3/19/20 | 8:45 AM  | Wolf                | 1       | Adult | No        | 11V | 508481 | 6939573 | Wildlife Sightings Log | Danny H       | Kiewit  | Crossing R.O.W                         |
| 2020 | 3/19/20 | 7:30 AM  | Ptarmigan           | 3       | Adult | No        | 11V | 508968 | 6938175 | Wildlife Sightings Log | Trevor B.     | Kiewit  | Sitting on TASR                        |
| 2020 | 3/22/20 | 7:30 AM  | Canada Lynx         | 2       | Adult | No        | 11V | 507957 | 6948798 | Wildlife Sightings Log | Anik          | Kiewit  | Edge of R.O.W                          |
| 2020 | 3/22/20 | 7:25 AM  | Canada Lynx         | 2       | Adult | No        | 11V | 507669 | 6950831 | Wildlife Sightings Log | Sheldon       | Kiewit  | Edge of R.O.W                          |
| 2020 | 3/22/20 | 8:46 AM  | Spruce Grouse       | 1       | Adult | Mortality | 11V | 509201 | 6961635 | Wildlife Sightings Log | Trevor B.     | Kiewit  | Struck on RoW                          |
| 2020 | 3/26/20 | 4:40 PM  | Snowshoe Hare       | 1       | Adult | No        | 11V | 509121 | 6937762 | Wildlife Road Survey   | Dave G        | Kiewit  | Edge of R.O.W                          |
| 2020 | 3/26/20 | 9:40 AM  | Snowshoe Hare       | 1       | Adult | No        | 11V | 509134 | 6937700 | Wildlife Sightings Log | Dave G        | Kiewit  | Edge of R.O.W                          |
| 2020 | 3/29/20 | 12:03 PM | Snowshoe Hare       | 1       | Adult | No        | 11V | 503989 | 6984334 | Wildlife Road Survey   | Dave G        | Kiewit  | Sitting on TASR                        |
| 2020 | 3/29/20 | 12:03 PM | Spruce Grouse       | 5       | Adult | No        | 11V | 503974 | 6984389 | Wildlife Road Survey   | Dave          | Kiewit  | Flushed off R.O.W                      |
| 2020 | 3/31/20 | 3:00 PM  | Wolf                | 1       | Adult | No        | 11V | 507690 | 6969677 | Wildlife Sightings Log | Danny H       | Kiewit  | Crossing R.O.W                         |
| 2020 | 3/31/20 | 9:30 AM  | Wood Bison          | 15      | Adult | No        | 11V | 507450 | 6952297 | Wildlife Sightings Log | Sheldon       | Kiewit  | Crossing R.O.W                         |
| 2020 | 4/2/20  | 10:30 AM | Wood Bison          | 35      | Adult | No        | 11V | 507450 | 6952297 | Wildlife Sightings Log | Anik          | Kiewit  | Crossing R.O.W                         |
| 2020 | 4/28/20 | 4:00 PM  | Great Blue Heron    | 1       | Adult | No        | 11V | 509427 | 6935334 | Wildlife Sightings Log | Rob D         | Kiewit  | Flying over Camp                       |
| 2020 | 4/28/20 | 9:40 AM  | Canada Lynx         | 1       | Adult | No        | 11V | 507656 | 6954245 | Wildlife Road Survey   | Rob D         | Kiewit  | On RoW                                 |
| 2020 | 4/28/20 | 10:30 AM | Pine Marten         | 1       | Adult | No        | 11V | 508230 | 6955515 | Wildlife Road Survey   | Rob D         | Kiewit  | On RoW                                 |
| 2020 | 4/29/20 | 8:00 AM  | Great Blue Heron    | 1       | Adult | No        | 11V | 508290 | 6946718 | Wildlife Sightings Log | Rick H        | Kiewit  | On R.O.W trail                         |
| 2020 | 4/29/20 | 8:30 AM  | Great Blue Heron    | 1       | Adult | No        | 11V | 509394 | 6959853 | Wildlife Sightings Log | Rob D         | Kiewit  | On RoW                                 |
| 2020 | 4/29/20 | 9:30 AM  | Canada Geese        | 1       | Adult | No        | 11V | 508278 | 6967384 | Wildlife Sightings Log | Rob           | Kiewit  | Pit 48                                 |
| 2020 | 5/1/20  | 2:00 PM  | Wood Bison          | 2       | Adult | No        | 11V | 508414 | 6943428 | Wildlife Sightings Log | Kyle D        | Kiewit  | on RoW                                 |
| 2020 | 5/2/20  | 10:00 AM | Duck sp.            | 10      | Adult | No        | 11V | 508479 | 6939581 | Wildlife Sightings Log | Rick H        | Kiewit  | on RoW                                 |
| 2020 | 5/2/20  | 10:00 AM | Sandhill Crane      | 2       | Adult | No        | 11V | 508732 | 6962511 | Wildlife Sightings Log | Rob D         | Kiewit  | On RoW                                 |
| 2020 | 5/2/20  | 9:15 AM  | Hawk sp.            | 1       | Adult | No        | 11V | 508495 | 6945387 | Wildlife Road Survey   | Rob D         | Kiewit  | On RoW                                 |
| 2020 | 5/2/20  | 10:00 AM | Duck sp.            | 10      | Adult | No        | 11V | 506862 | 6976782 | Wildlife Road Survey   | Rob D         | Kiewit  | In ditch                               |
| 2020 | 5/2/20  | 10:00 AM | Canada Geese        | 5       | Adult | No        | 11V | 506862 | 6976782 | Wildlife Road Survey   | Rob D         | Kiewit  | In ditch                               |
| 2020 | 5/4/20  | 9:00 AM  | Wood Bison          | 2       | Adult | No        | 11V | 510124 | 6934861 | Wildlife Sightings Log | Rob D         | Kiewit  | on Row                                 |
| 2020 | 5/7/20  | 4:30 PM  | Black Bear          | 1       | Adult | No        | 11V | 508225 | 6955520 | Wildlife Sightings Log | Luke W        | Kiewit  | On RoW                                 |
| 2020 | 5/7/20  | 10:00 AM | Wood Bison          | 40      | Mixed | No        | 11V | 509142 | 6937702 | Wildlife Sightings Log | Rick H        | Kiewit  | On RoW                                 |
| 2020 | 5/8/20  | 6:30 PM  | Boreal Caribou      | 1       | Adult | No        | 11V | 514542 | 6931026 | Wildlife Sightings Log | Rob D         | Kiewit  | On RoW                                 |
| 2020 | 5/9/20  | 9:45 AM  | Robin               | 2       | Adult | No        | 11V | 508859 | 6959012 | Wildlife Road Survey   | Rob D         | Kiewit  | On RoW                                 |
| 2020 | 5/9/20  | 12:00 PM | Boreal Caribou      | 2       | Adult | No        | 11V | 520274 | 6928346 | Wildlife Sightings Log | Rick H        | Kiewit  | Crossing RoW                           |
| 2020 | 5/15/20 | 9:30 AM  | Boreal Caribou      | 1       | Adult | No        | 11V | 508136 | 6947340 | Wildlife Sightings Log | Rick H        | Kiewit  | Crossing RoW                           |
| 2020 | 5/19/20 | 10:00 AM | Black Bear          | 1       | Adult | No        | 11V | 509558 | 6935528 | Wildlife Sightings Log | Dave G        | Kiewit  | Standing on berm on north side of camp |

|      |         |          |                |    |                |    |     |        |         |                        |            |        |                                    |
|------|---------|----------|----------------|----|----------------|----|-----|--------|---------|------------------------|------------|--------|------------------------------------|
| 2020 | 5/20/20 | 8:45 AM  | Black Bear     | 1  | Adult          | No | 11V | 510062 | 6934959 | Wildlife Sightings Log | Ralph T    | Kiewit | Walking edge of RoW                |
| 2020 | 5/21/20 | 2:00 PM  | Sandhill Crane | 2  | Adult          | No | 11V | 522021 | 6928545 | Wildlife Road Survey   | Dave G     | Kiewit | east of RoW along old airport road |
| 2020 | 5/23/20 | 8:54 AM  | Black Bear     | 1  | Adult          | No | 11V | 508539 | 6956892 | Wildlife Road Survey   | Dave G     | Kiewit | crossing RoW                       |
| 2020 | 5/24/20 | 3:00 PM  | Black Bear     | 1  | Adult          | No | 11V | 507738 | 6950332 | Wildlife Sightings Log | Duffy      | Kiewit | along RoW                          |
| 2020 | 5/24/20 | 6:10 PM  | Black Bear     | 1  | Adult          | No | 11V | 515452 | 6930617 | Wildlife Sightings Log | Gilbert    | Kiewit | Crossing RoW                       |
| 2020 | 5/24/20 | 6:35 PM  | Black Bear     | 2  | Adult          | No | 11V | 521608 | 6928507 | Wildlife Sightings Log | Gilbert    | Kiewit | along RoW                          |
| 2020 | 5/27/20 | 5:30 PM  | Black Bear     | 1  | Adult          | No | 11V | 509917 | 6935442 | Wildlife Sightings Log | Leanard    | Kiewit | along RoW                          |
| 2020 | 5/29/20 | 7:00 AM  | Black Bear     | 2  | Adult          | No | 11V | 508259 | 6956077 | Wildlife Sightings Log | Gerald T   | Kiewit | crossing RoW                       |
| 2020 | 5/24/20 | 9:00 AM  | Canada Geese   | 3  | Adult          | No | 11V | 508209 | 6955487 | Wildlife Road Survey   | Dave G     | Kiewit | Flying over Duport                 |
| 2020 | 5/29/20 | 7:30 AM  | Black Bear     | 4  | Sow and 3 cubs | No | 11V | 507514 | 6970284 | Wildlife Sightings Log | operator   | Kiewit | crossing RoW                       |
| 2020 | 5/29/20 | 7:35 AM  | Wolf           | 1  | Adult          | No | 11V | 507514 | 6970284 | Wildlife Sightings Log | operator   | Kiewit | Crossing RoW                       |
| 2020 | 5/29/20 | 6:45 AM  | Sandhill Crane | 2  | Adult          | No | 11V | 520281 | 6928343 | Wildlife Sightings Log | Dave G     | Kiewit | Flying along RoW                   |
| 2020 | 5/30/20 | 8:00 AM  | Black Bear     | 1  | Adult          | No | 11V | 508483 | 6939583 | Wildlife Sightings Log | Joe E      | Kiewit | On RoW                             |
| 2020 | 5/30/20 | 3:30 PM  | Black Bear     | 4  | Sow and 3 cubs | No | 11V | 508647 | 6944400 | Wildlife Sightings Log | JT         | Kiewit | Crossing RoW                       |
| 2020 | 5/31/20 | 9:00AM   | Sandhill Crane | 2  | Adult          | No | 11V | 508498 | 6945389 | Wildlife Sightings Log | Joe E      | Kiewit |                                    |
| 2020 | 6/2/20  | 7:30 AM  | Black Bear     | 1  | Adult          | No | 11V | 509758 | 6935806 | Wildlife Sightings Log | Francisco  | Kiewit | Back scratching on a tree          |
| 2020 | 6/2/20  | 2:15PM   | Black Bear     | 1  | Adult          | No | 11V | 508168 | 6940534 | Wildlife Sightings Log | Rob D      | Kiewit | Crossing ROW                       |
| 2020 | 6/2/20  | 3:00PM   | Wood Bison     | 30 | Adult          | No | 11V | 508816 | 6938643 | Wildlife Sightings Log | Joe E      | Kiewit | On RoW                             |
| 2020 | 6/2/20  | 10:00PM  | Black Bear     | 1  | Adult          | No | 11V | 514547 | 6931018 | Wildlife Sightings Log | Ken F      | Kiewit | On RoW                             |
| 2020 | 6/3/20  | 3:00PM   | Black Bear     | 1  | Adult          | No | 11V | 508723 | 6962525 | Wildlife Sightings Log | Ken F      | Kiewit | On RoW                             |
| 2020 | 6/3/20  | 4:00PM   | Black Bear     | 1  | Adult          | No | 11V | 508648 | 694401  | Wildlife Sightings Log | Ken F      | Kiewit | On RoW                             |
| 2020 | 6/4/20  | 6:30PM   | Black Bear     | 1  | Adult          | No | 11V | 508263 | 6955600 | Wildlife Sightings Log | Tim W      | Kiewit | Crossing RoW                       |
| 2020 | 6/5/20  | 6:30AM   | Black Bear     | 1  | Adult          | No | 11V | 508692 | 6958027 | Wildlife Sightings Log | Tim W      | Kiewit | On RoW                             |
| 2020 | 6/5/20  | 2:30PM   | Black Bear     | 1  | Adult          | No | 11V | 508498 | 6945389 | Wildlife Sightings Log | Joe E      | Kiewit | On ROW                             |
| 2020 | 6/5/20  | 2:30PM   | Black Bear     | 4  | Cubs           | No | 11V | 508498 | 6945389 | Wildlife Sightings Log | Joe E      | Kiewit | On ROW                             |
| 2020 | 6/5/20  | 11:00PM  | Beaver         | 1  | Adult          | No | 11V | 508498 | 6945389 | Wildlife Sightings Log | Rick Hunt  | Kiewit | Crossing RoW                       |
| 2020 | 6/6/20  | 1:00PM   | Wood Bison     | 50 | Adult          | No | 11V | 508498 | 6945389 | Wildlife Sightings Log | Joe E      | Kiewit | Crossing RoW                       |
| 2020 | 6/7/20  | 5:30 AM  | Porcupine      | 1  | Adult          | No | 11V | 509848 | 6935559 | Wildlife Sightings Log | Tim W      | Kiewit | Crossing RoW                       |
| 2020 | 6/7/20  | 7:30 AM  | Wood Bison     | 1  | Adult          | No | 11V | 508225 | 6955520 | Wildlife Sightings Log | Nick       | FW     | Crossing RoW                       |
| 2020 | 6/8/20  | 1:30 PM  | Black Bear     | 1  | Adult          | No | 11V | 508648 | 6944390 | Wildlife Sightings Log | Rob D      | Kiewit | Crossing RoW                       |
| 2020 | 6/8/20  | 8:30 AM  | Wood Bison     | 20 | Adult          | No | 11V | 524569 | 6928275 | Wildlife Sightings Log | Francisco  | Kiewit | Crossing RoW                       |
| 2020 | 6/9/20  | 11:40 AM | Wood Bison     | 3  | Adult          | No | 11V | 509260 | 6961482 | Wildlife Sightings Log | Rob D      | Kiewit | Edge of the RoW                    |
| 2020 | 6/9/20  | 12:30 PM | Black Bear     | 1  | Adult          | No | 11V | 507533 | 6970229 | Wildlife Sightings Log | Rob        | Kiewit | Crossing RoW                       |
| 2020 | 6/9/20  | 8:30 AM  | Wood Bison     | 4  | Adult          | No | 11V | 508492 | 6945372 | Wildlife Sightings Log | Joe        | Kiewit | Edge of the RoW                    |
| 2020 | 6/10/20 | 12:30 PM | Black Bear     | 1  | Adult          | No | 11V | 508488 | 6939584 | Wildlife Sightings Log | Rob D      | Kiewit | Crossing RoW                       |
| 2020 | 6/10/20 | 5:10 PM  | Black Bear     | 1  | Adult          | No | 11V | 507796 | 6954723 | Wildlife Sightings Log | Jesse      | Kiewit | Crossing RoW                       |
| 2020 | 6/10/20 | 7:30 AM  | Black Bear     | 3  | Adult          | No | 11V | 509663 | 6960773 | Wildlife Sightings Log | Tim W      | Kiewit | Crossing RoW                       |
| 2020 | 6/11/20 | 6:00 PM  | Black Bear     | 1  | Adult          | No | 11V | 507465 | 6952306 | Wildlife Sightings Log | Rob D      | Kiewit | Edge of the RoW                    |
| 2020 | 6/12/20 | 11:00 AM | Wood Bison     | 20 | Adult          | No | 11V | 508170 | 6940536 | Wildlife Sightings Log | Steve K    | Kiewit | Crossing RoW                       |
| 2020 | 6/12/20 | 2:00 PM  | Bald Eagle     | 1  | Adult          | No | 11V | 508859 | 6959010 | Wildlife Sightings Log | Steve K    | Kiewit | Perched on a tree                  |
| 2020 | 6/12/20 | 11:00 PM | Wood Bison     | 4  | Adult          | No | 11V | 508338 | 6946377 | Wildlife Sightings Log | Aileen     | Kiewit | On RoW                             |
| 2020 | 6/12/20 | 11:30 PM | Wood Bison     | 2  | Adult          | No | 11V | 513739 | 6931605 | Wildlife Sightings Log | Aileen     | Kiewit | On RoW                             |
| 2020 | 6/13/20 | 1:00AM   | Boreal Caribou | 4  | Adult          | No | 11V | 507810 | 6969302 | Wildlife Sightings Log | Joe E      | Kiewit | Crossing RoW                       |
| 2020 | 6/16/20 | 5:41PM   | Wood Bison     | 5  | Adult          | No | 11V | 521560 | 6928497 | Wildlife Sightings Log | Denis      | Kiewit | Grasing nest to the ROW            |
| 2020 | 6/16/20 | 5:41PM   | Wood Bison     | 2  | Calfs          | No | 11V | 521560 | 6928497 | Wildlife Sightings Log | Denis      | Kiewit | Grasing nest to the ROW            |
| 2020 | 6/17/20 | 4:30PM   | Wood Bison     | 19 | Adult          | No | 11V | 508327 | 6940066 | Wildlife Sightings Log | Anton P    | Kiewit | Herd standing in R.O.W             |
| 2020 | 6/18/20 | 7:45AM   | Sandhill Crane | 15 | Adult          | No | 11V | 507800 | 6951746 | Wildlife Sightings Log | Cristian P | Kiewit | Flock Gatherd in Pit area          |
| 2020 | 6/20/20 | 7:30PM   | Moose          | 1  | Adult          | No | 11V | 506314 | 6979526 | Wildlife Sightings Log | Braden     | Kiewit | In wet pocket of R.OW              |
| 2020 | 6/20/20 | 3:30AM   | Fox            | 1  | Adult          | No | 11V | 509138 | 6937718 | Wildlife Sightings Log | Braden     | Kiewit | Side of Road                       |
| 2020 | 6/21/20 | 9:00PM   | Black Bear     | 2  | Young          | No | 11V | 508499 | 6945393 | Wildlife Sightings Log | Braden     | Kiewit | Smaller Bear Crossing R.O.W        |
| 2020 | 6/23/20 | 10:30AM  | Moose          | 2  | Adult          | No | 11V | 507594 | 6951317 | Wildlife Sightings Log | John T     | Kiewit | Edge of the RoW                    |
| 2020 | 6/23/20 | 9:00PM   | Black Bear     | 1  | Cub            | No | 11V | 506529 | 6972832 | Wildlife Sightings Log | Braden     | Kiewit | Crossing RoW                       |
| 2020 | 6/24/20 | 2:00AM   | Porcupine      | 1  | Adult          | No | 11V | 507660 | 6954237 | Wildlife Sightings Log | Braden     | Kiewit | Edge of the RoW                    |
| 2020 | 6/24/20 | 7:00AM   | Wood Bison     | 1  | Adult          | No | 11V | 509884 | 6935558 | Wildlife Sightings Log | Rob D      | Kiewit | Sleeping on Edge of R.O.W          |
| 2020 | 6/24/20 | 9:00PM   | Porcupine      | 1  | Adult          | No | 11V | 508168 | 6942460 | Wildlife Sightings Log | Rick Hunt  | Kiewit | Crossing RoW                       |
| 2020 | 6/25/20 | 3:00AM   | Black Bear     | 1  | Adult          | No | 11V | 508718 | 6962523 | Wildlife Sightings Log | Rick Hunt  | Kiewit | Crossing RoW                       |
| 2020 | 6/25/20 | 6:00PM   | Moose          | 1  | Adult          | No | 11V | 507387 | 6953272 | Wildlife Sightings Log | Braden     | Kiewit | Standing along edge of R.O.W       |
| 2020 | 6/26/20 | 5:30AM   | Black Bear     | 1  | Adult          | No | 11V | 507748 | 6950325 | Wildlife Sightings Log | Tim W      | Kiewit | Crossing RoW                       |
| 2020 | 6/26/20 | 6:47AM   | Wolf           | 1  | Adult          | No | 11V | 507385 | 6953276 | Wildlife Sightings Log | Bruno P    | Kiewit | In trees along edge of TASR        |
| 2020 | 6/27/20 | 8:08AM   | Falcon Sp.     | 1  | Adult          | No | 11V | 518034 | 6928804 | Wildlife Road Survey   | Andre F    | Kiewit | flying across RoW                  |
| 2020 | 6/27/20 | 8:34AM   | Wood Bison     | 1  | Adult          | No | 11V | 515134 | 6930710 | Wildlife Road Survey   | Andre F    | Kiewit | resting on the RoW                 |
| 2020 | 6/27/20 | 8:37 AM  | Wood Bison     | 5  | Adult          | No | 11V | 511422 | 6933297 | Wildlife Road Survey   | Andre F    | Kiewit | resting on the RoW                 |

|      |         |          |                |    |             |    |     |        |         |                             |            |        |                                                |
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| 2020 | 6/27/20 | 11:21 AM | Plover sp.     | 1  | U/K         | No | 11V | 504115 | 6983379 | Wildlife Road Survey        | Andre F    | Kiewit | walking along RoW                              |
| 2020 | 6/29/20 | 6:34 AM  | Wood Bison     | 1  | Adult       | No | 11V | 513571 | 6931730 | Wildlife Road Survey        | Dave G     | Kiewit | walking along RoW                              |
| 2020 | 6/29/20 | 7:25AM   | Boreal Caribou | 1  | N/A         | No | 11V | 507066 | 6978026 | Wildlife Road Survey        | Dave G     | Kiewit | crossing RoW                                   |
| 2020 | 6/29/20 | 8:36 AM  | Snowshoe Hare  | 1  | Adult       | No | 11V | 508463 | 6945603 | Wildlife Sightings Log      | Jeff Z     | Kiewit | Edge of the RoW                                |
| 2020 | 6/30/20 | 3:30 PM  | Wood Bison     | 3  | Adult       | No | 11V | 511729 | 6933078 | Wildlife Sightings Log      | Jeff Z     | Kiewit | on RoW                                         |
| 2020 | 6/30/20 | 4:40 PM  | Wood Bison     | 8  | Adult       | No | 11V | 515452 | 6930616 | Wildlife Sightings Log      | Jeff Z     | Kiewit | Edge of the RoW                                |
| 2020 | 7/1/20  | 10:00AM  | Boreal Caribou | 1  | Adult       | No | 11V | 506688 | 6978440 | Wildlife Road Survey        | Dave G     | Kiewit | crossed the RoW                                |
| 2020 | 7/1/20  | 10:45 AM | Wood Bison     | 3  | Adult       | No | 11V | 510112 | 6934864 | Wildlife Sightings Log      | Jeff Z     | Kiewit | Crossing RoW                                   |
| 2020 | 7/2/20  | 7:15 AM  | Wood Bison     | 2  | Adult       | No | 11V | 509189 | 6937560 | Wildlife Road Survey        | Dave G     | Kiewit | walked down centre of TASR                     |
| 2020 | 7/2/20  | 1:00 AM  | Boreal Caribou | 1  | Adult       | No | 11V | 506653 | 6973819 | Wildlife Sightings Log      | Eugene     | Kiewit | Edge of the RoW                                |
| 2020 | 7/2/20  | 9:30 AM  | Boreal Caribou | 1  | Adult       | No | 11V | 507812 | 6969272 | Wildlife Sightings Log      | Jeff J     | Kiewit | Crossing RoW                                   |
| 2020 | 7/2/20  | 8:45 AM  | Moose          | 1  | Adult       | No | 11V | 507659 | 6954243 | Wildlife Sightings Log      | jeff J     | Kiewit | Crossing RoW                                   |
| 2020 | 7/3/20  | 8:40AM   | Wood Bison     | 19 | N/A         | No | 11V | 515410 | 6930630 | Wildlife Road Survey        | Dave G     | Kiewit | drinking and cooling off in flooded ditch line |
| 2020 | 7/3/20  | 8:30 AM  | Wood Bison     | 12 | Adult       | No | 11V | 508493 | 6945381 | Wildlife Sightings Log      | Joe E      | Kiewit | Side of Road                                   |
| 2020 | 7/4/20  | 6:13AM   | Wood Bison     | 1  | Adult       | No | 11V | 510492 | 6933964 | Wildlife Road Survey        | Dave G     | Kiewit | rubbing against tree                           |
| 2020 | 7/4/20  | 7:10 AM  | Boreal Caribou | 1  | Adult       | No | 11V | 521459 | 6928488 | Wildlife Road Survey        | Dave G     | Kiewit | crossing RoW                                   |
| 2020 | 7/6/20  | 4:45 PM  | Wood Bison     | 38 | Adult       | No | 11V | 517075 | 6929598 | Wildlife Sightings Log      | Rob D      | Kiewit | Side of Road                                   |
| 2020 | 7/8/20  | 8:45 AM  | Canada Geese   | 2  | Adult       | No | 11V | 509586 | 6960919 | Wildlife Road Survey        | Rob D      | Kiewit |                                                |
| 2020 | 7/8/20  | 8:45 AM  | Canada Geese   | 1  | Goosling    | No | 11V | 509586 | 6960919 | Wildlife Road Survey        | Rob D      | Kiewit |                                                |
| 2020 | 7/9/20  | 7:45 AM  | Black Bear     | 1  | Adult       | No | 11V | 504441 | 6982724 | Wildlife Sightings Log      | Ewan       | FW     | Edge of River                                  |
| 2020 | 7/10/20 | 9:00 AM  | Sandhill Crane | 1  | Adult       | No | 11V | 509191 | 6961643 | Wildlife Sightings Log      | Aileen     | Kiewit | Edge of River                                  |
| 2020 | 7/11/20 | 3:30 PM  | Boreal Caribou | 2  | Adult       | No | 11V | 505276 | 6981231 | Wildlife Sightings Log      | Kenny      | Kiewit | Crossing RoW                                   |
| 2020 | 7/12/20 | 10:27 AM | Boreal Caribou | 2  | Adult       | No | 11V | 506985 | 6970784 | Wildlife Sightings Log      | Tommy      | Kiewit | Crossing RoW                                   |
| 2020 | 7/13/20 | 11:00 AM | Wolf           | 1  | Adult       | No | 11V | 508718 | 6962521 | Wildlife Sightings Log      | Bill P     | Kiewit | Edge of the RoW                                |
| 2020 | 7/13/20 | 8:00 AM  | Black Bear     | 1  | Adult       | No | 11V | 507926 | 6941481 | Wildlife Sightings Log      | Tommy      | Kiewit | Crossing RoW                                   |
| 2020 | 7/14/20 | 7:46 AM  | Boreal Caribou | 1  | Adult       | No | 11V | 520588 | 6928383 | Wildlife Road Survey        | Rob D      | Kiewit | Crossing RoW                                   |
| 2020 | 7/15/20 | 10:00 AM | Boreal Caribou | 1  | Adult       | No | 11V | 506872 | 6976792 | Wildlife Sightings Log      | Bill P     | Kiewit | Edge of the RoW                                |
| 2020 | 7/15/20 | 5:33 AM  | Wood Bison     | 5  | Adult       | No | 11V | 522594 | 6928441 | Wildlife Road Survey        | Andre F    | Kiewit | Edge of the RoW                                |
| 2020 | 7/15/20 | 2:00 PM  | Falcon Sp.     | 1  | Adult       | No | 11V | 508646 | 6962651 | Wildlife Road Survey        | Andre F    | Kiewit | flying across RoW                              |
| 2020 | 7/16/20 | 10:00 AM | Boreal Caribou | 2  | Adult/Calf  | No | 11V | 508073 | 6968300 | Wildlife Sightings Log      | Daryl      | McCaw  | Edge of the RoW                                |
| 2020 | 7/16/20 | 10:05 AM | Moose          | 1  | Adult       | No | 11V | 503505 | 6987893 | Wildlife Sightings Log      | Daryl      | McCaw  | Crossing RoW                                   |
| 2020 | 7/16/20 | 8:30 AM  | Canada Lynx    | 1  | Adult       | No | 11V | 504921 | 6981859 | Wildlife Road Survey        | Rob D      | Kiewit | Crossing RoW                                   |
| 2020 | 7/17/20 | 9:15 AM  | Moose          | 1  | Adult       | No | 11V | 503778 | 6985913 | Wildlife Sightings Log      | Joe E      | Kiewit | Crossing RoW                                   |
| 2020 | 7/17/20 | 9:15 PM  | Black Bear     | 1  | Adult       | No | 11V | 509488 | 6935375 | Wildlife Sightings Log      | Alex       | Kiewit | Entrance to Camp                               |
| 2020 | 7/18/20 | 10:15 AM | Black Bear     | 1  | Adult       | No | 11V | 506921 | 6970961 | Wildlife Sightings Log      | Shawn      | Kiewit | Crossing RoW                                   |
| 2020 | 7/18/20 | 9:10 AM  | Wood Bison     | 1  | Adult       | No | 11V | 518660 | 6928301 | Wildlife Road Survey        | Andre F    | Kiewit | Edge of the RoW                                |
| 2020 | 7/18/20 | 6:02 AM  | Wood Bison     | 3  | Adult       | No | 11V | 509488 | 6935375 | Wildlife Road Survey        | Andre F    | Kiewit | Edge of the RoW                                |
| 2020 | 7/19/20 | 3:30 PM  | Wood Bison     | 5  | Adult       | No | 11V | 509843 | 6935642 | Wildlife Road Survey        | Andre F    | Kiewit | Edge of the RoW                                |
| 2020 | 7/22/20 | 5:43 PM  | Wood Bison     | 15 | Adult       | No | 11V | 515930 | 6930468 | Wildlife Road Survey        | Andre F    | Kiewit | Walking along the RoW                          |
| 2020 | 7/22/20 | 5:48 PM  | Wood Bison     | 5  | Adult       | No | 11V | 510101 | 6934939 | Wildlife Road Survey        | Andre F    | Kiewit | Walking along the RoW                          |
| 2020 | 7/24/20 | 6:16 AM  | Porcupine      | 1  | Adult       | No | 11V | 511641 | 6933132 | Wildlife Road Survey        | Andre F    | Kiewit | Walking accross the RoW                        |
| 2020 | 7/21/20 | 6:00 AM  | Black Bear     | 1  | Young       | No | 11V | 509747 | 6935616 | Wildlife Surveillance Sweep | Andre F    | Kiewit | Walking on south edge of Camp                  |
| 2020 | 7/19/20 | 2:25 PM  | Moose          | 1  | Adult       | No | 11V | 501317 | 6995459 | Wildlife Sightings Log      | Justin M   | Kiewit |                                                |
| 2020 | 7/22/20 | 6:00 AM  | Boreal Caribou | 1  | Adult       | No | 11V | 508007 | 6968536 | Wildlife Sightings Log      | Operator   | Kiewit | Crossing RoW                                   |
| 2020 | 7/22/20 | 6:00 AM  | Boreal Caribou | 1  | Adult       | No | 11V | 509409 | 6959892 | Wildlife Sightings Log      | Operator   | Kiewit | Crossing RoW                                   |
| 2020 | 7/22/20 | 6:00 AM  | Canada Lynx    | 1  | Adult       | No | 11V | 508235 | 6965366 | Wildlife Sightings Log      | Operator   | Kiewit | Crossing RoW                                   |
| 2020 | 7/22/20 | 1:30PM   | Boreal Caribou | 1  | Adult       | No | 11V | 506915 | 6971922 | Wildlife Sightings Log      | Joe E      | Kiewit | Crossing RoW                                   |
| 2020 | 7/24/20 | 8:00 AM  | Moose          | 2  | Adult/Calf  | No | 11V | 506685 | 6978609 | Wildlife Sightings Log      | Zahid      | Kiewit | Crossing RoW                                   |
| 2020 | 7/28/20 | 12:20 PM | Canada Lynx    | 1  | Adult       | No | 11V | 506522 | 6979099 | Wildlife Sightings Log      | Kyle       | Kiewit | Edge of the RoW                                |
| 2020 | 7/29/20 | 5:30 PM  | Porcupine      | 1  | Adult       | No | 11V | 511681 | 6933085 | Wildlife Sightings Log      | Rob D      | Kiewit | Crossing RoW                                   |
| 2020 | 7/29/20 | 5:30 AM  | Black Bear     | 1  | Adult       | No | 11V | 508189 | 6947361 | Wildlife Sightings Log      | Tommy B    | Kiewit | Crossing RoW                                   |
| 2020 | 7/29/20 | 11:00 AM | Wood Bison     | 1  | Adult       | No | 11V | 511681 | 6933085 | Wildlife Sightings Log      | Jeff Z     | Kiewit | Laying Down on Edge of RoW                     |
| 2020 | 7/29/20 | 11:10 AM | Wood Bison     | 1  | Adult       | No | 11V | 511118 | 6933523 | Wildlife Sightings Log      | Jeff Z     | Kiewit | Laying Down on Edge of RoW                     |
| 2020 | 7/29/20 | 6:00 PM  | Sandhill Crane | 2  | Adult       | No | 11V | 514553 | 6931017 | Wildlife Sightings Log      | Jeff J     | Kiewit | Crossing RoW                                   |
| 2020 | 7/29/20 | 10:00 PM | Canada Lynx    | 1  | Adult       | No | 11V | 508500 | 6945378 | Wildlife Sightings Log      | Chris      | Kiewit | Crossing RoW                                   |
| 2020 | 7/30/20 | 5:10 AM  | Boreal Caribou | 1  | Adult       | No | 11V | 509224 | 6961614 | Wildlife Sightings Log      | Tommy B    | Kiewit | Crossing RoW                                   |
| 2020 | 7/30/20 | 7:06 AM  | Wood Bison     | 10 | Adult/Calfs | No | 11V | 508419 | 6943427 | Wildlife Road Survey        | Rob D      | Kiewit | Edge of the RoW                                |
| 2020 | 8/1/20  | 6:00 AM  | Boreal Caribou | 1  | Adult       | No | 11V | 507523 | 6970235 | Wildlife Sightings Log      | James      | FT     | Crossing RoW                                   |
| 2020 | 8/1/20  | 5:45 AM  | Sandhill Crane | 2  | Adult       | No | 11V | 508222 | 6965336 | Wildlife Sightings Log      | James      | FT     | Crossing RoW                                   |
| 2020 | 8/1/20  | 6:30 PM  | Black Bear     | 2  | Sow/ cub    | No | 11V | 508166 | 6940528 | Wildlife Sightings Log      | Mike F     | FW     | Crossing RoW                                   |
| 2020 | 8/4/20  | 8:15 AM  | Snowshoe Hare  | 1  | Adult       | No | 11V | 502672 | 6991181 | Wildlife Road Survey        | Dave Green | Kiewit | Sitting on RoW                                 |



|      |         |          |                   |    |          |    |     |        |         |                        |                  |                  |                                |
|------|---------|----------|-------------------|----|----------|----|-----|--------|---------|------------------------|------------------|------------------|--------------------------------|
| 2020 | 8/6/20  | 10:00 AM | Bald Eagle        | 1  | Adult    | No | 11V | 501269 | 6995891 | Wildlife Road Survey   | Rob D            | Kiewit           | Perched on the edge of RoW     |
| 2020 | 8/7/20  | 10:41 AM | Sandhill Crane    | 3  | Adult    | No | 11V | 507066 | 6977633 | Wildlife Road Survey   | Andre F          | Kiewit           | flying across RoW              |
| 2020 | 8/2/20  | 10:30 PM | Wolf              | 1  | Adult    | No | 11V | 508260 | 6956085 | Wildlife Sightings Log | Will H           | Kiewit           | Running Along RoW              |
| 2020 | 8/2/20  | 5:00 PM  | Moose             | 2  | Cow/Calf | No | 11V | 507814 | 6969254 | Wildlife Sightings Log | Braden           | Kiewit           | Crossing RoW                   |
| 2020 | 8/4/20  | 5:46 AM  | Boreal Caribou    | 1  | Adult    | No | 11V | 508275 | 6967350 | Wildlife Sightings Log | Lucky            | Kiewit           | Edge of the RoW                |
| 2020 | 8/4/20  | 6:05 AM  | Moose             | 1  | Adult    | No | 11V | 506874 | 6976789 | Wildlife Sightings Log | Lucky            | Kiewit           | Crossing RoW                   |
| 2020 | 8/4/20  | 11:30 AM | Sandhill Crane    | 2  | Adult    | No | 11V | 508245 | 6967555 | Wildlife Sightings Log | Dave G           | Kiewit           | Edge of the RoW                |
| 2020 | 8/4/20  | 11:45 AM | Sandhill Crane    | 2  | Adult    | No | 11V | 508094 | 6947863 | Wildlife Sightings Log | Dave G           | Kiewit           | Edge of the RoW                |
| 2020 | 8/5/20  | 2:30 AM  | Boreal Caribou    | 1  | Adult    | No | 11V | 508703 | 6962555 | Wildlife Sightings Log | Braden           | Kiewit           | Crossing RoW                   |
| 2020 | 8/5/20  | 8:06 AM  | Sandhill Crane    | 4  | Adult    | No | 11V | 508703 | 6962555 | Wildlife Sightings Log | Robert D         | Kiewit           | Standing in middle of RoW      |
| 2020 | 8/6/20  | 1:00 AM  | Wolf              | 1  | Adult    | No | 11V | 508271 | 6956100 | Wildlife Sightings Log | Tommy B          | Kiewit           | Walking along the RoW          |
| 2020 | 8/7/20  | 2:30 AM  | Beaver            | 1  | Adult    | No | 11V | 506849 | 6975801 | Wildlife Sightings Log | Maintenance      | Kiewit           | Crossing RoW                   |
| 2020 | 8/7/20  | 5:30 AM  | Wolf              | 1  | Adult    | No | 11V | 508556 | 6957038 | Wildlife Sightings Log | Tommy B          | Kiewit           | Edge of the RoW                |
| 2020 | 8/7/20  | 8:00 PM  | Black Bear        | 1  | Adult    | No | 11V | 509789 | 6935828 | Wildlife Sightings Log | Tommy B          | Kiewit           | Edge of the RoW                |
| 2020 | 8/8/20  | 8:00 AM  | Wolf              | 1  | Adult    | No | 11V | 507528 | 6970236 | Wildlife Sightings Log | Steve J          | Kiewit           | Crossing RoW                   |
| 2020 | 8/8/20  | 5:00 PM  | Black Bear        | 1  | Adult    | No | 11V | 509789 | 6935828 | Wildlife Sightings Log | Steve J          | Kiewit           | Walking along the RoW          |
| 2020 | 8/10/20 | 7:00 AM  | Sandhill Crane    | 2  | Adult    | No | 11V | 508140 | 6947582 | Wildlife Road Survey   | Andre F          | Kiewit           | flying across RoW              |
| 2020 | 8/10/20 | 7:58 AM  | Boreal Caribou    | 1  | Adult    | No | 11V | 507837 | 6969205 | Wildlife Road Survey   | Andre F          | Kiewit           | Crossing RoW                   |
| 2020 | 8/13/20 | 2:30 PM  | Northern Harrier  | 1  | Adult    | No | 11V | 508622 | 6957523 | Wildlife Road Survey   | Andre F          | Kiewit           | Flying across RoW              |
| 2020 | 8/14/20 | 8:28 AM  | Black Bear        | 1  | Adult    | No | 11V | 508259 | 6946870 | Wildlife Road Survey   | Andre F          | Kiewit           | Crossing RoW                   |
| 2020 | 8/14/20 | 8:28 AM  | Black Bear        | 1  | Adult    | No | 11V | 508259 | 6946870 | Wildlife Road Survey   | Andre F          | Kiewit           | Crossing RoW                   |
| 2020 | 8/14/20 | 4:45 PM  | Wood Bison        | 8  | Adult    | No | 11V | 508055 | 6955209 | Wildlife Road Survey   | Andre F          | Kiewit           | Crossing RoW                   |
| 2020 | 8/14/20 | 1:37 PM  | Wood Bison        | 1  | Adult    | No | 11V | 526017 | 6927998 | Wildlife Road Survey   | Andre F          | Kiewit           | Feeding                        |
| 2020 | 8/9/20  | 8:30 AM  | Wood Bison        | 30 | Adult    | No | 11V | 508184 | 6947356 | Wildlife Sightings Log | Christian P      | Kiewit           | Lingering within RoW           |
| 2020 | 8/9/20  | 12:00 PM | Wood Bison        | 12 | Adult    | No | 11V | 508169 | 6940536 | Wildlife Sightings Log | Christian P      | Kiewit           | Within RoW                     |
| 2020 | 8/10/20 | 2:30 PM  | Boreal Caribou    | 1  | Adult    | No | 11V | 509387 | 6959827 | Wildlife Sightings Log | Braden S         | Kiewit           |                                |
| 2020 | 8/11/20 | 12:00 PM | Black Bear        | 2  | Adult    | No | 11V | 526420 | 6927952 | Wildlife Sightings Log | Scarlet Security | Scarlet Security | Crossing RoW                   |
| 2020 | 8/12/20 | 8:00 AM  | Beaver            | 1  | Adult    | No | 11V | 508169 | 6947365 | Wildlife Sightings Log | Steven G         | Kiewit           | Crossing RoW                   |
| 2020 | 8/14/20 | 3:00 PM  | Boreal Caribou    | 1  | Adult    | No | 11V | 509383 | 6959830 | Wildlife Sightings Log | Steven G         | Kiewit           | Crossing RoW                   |
| 2020 | 8/14/20 | 7:30 AM  | Wood Bison        | 1  | Adult    | No | 11V | 516733 | 6929876 | Wildlife Sightings Log | Tom H            | Kiewit           | Crossing RoW                   |
| 2020 | 8/14/20 | 7:35 AM  | Wood Bison        | 1  | Adult    | No | 11V | 516255 | 6930271 | Wildlife Sightings Log | Aiden            | Kiewit           | Walking along RoW              |
| 2020 | 8/14/20 | 8:00 AM  | Duck sp.          | 5  | Adult    | No | 11V | 514540 | 6931019 | Wildlife Sightings Log | Trucker          | Kiewit           |                                |
| 2020 | 8/15/20 | 12:03 PM | Black Bear        | 1  | Adult    | No | 11V | 523875 | 6928213 | Wildlife Road Survey   | Andre F          | Kiewit           | Waliking in and around the Row |
| 2020 | 8/15/20 | 4:30 PM  | Wood Bison        | 12 | Adult    | No | 11V | 508018 | 6955159 | Wildlife Sightings Log | Christian P      | Kiewit           | Walking along RoW              |
| 2020 | 8/15/20 | 8:00 PM  | Beaver            | 1  | Adult    | No | 11V | 517499 | 6929245 | Wildlife Sightings Log | Aiden C          | Kiewit           |                                |
| 2020 | 8/15/20 | 9:30 PM  | Porcupine         | 1  | Adult    | No | 11V | 519622 | 6928263 | Wildlife Sightings Log | Leonard C        | Kiewit           |                                |
| 2020 | 8/16/20 | 7:30 AM  | Black Bear        | 1  | Adult    | No | 11V | 522112 | 6928530 | Wildlife Sightings Log | Shane M.         | Kiewit           | along edge of RoW              |
| 2020 | 8/16/20 | 10:30 AM | Wood Bison        | 1  | Adult    | No | 11V | 507458 | 6952313 | Wildlife Road Survey   | Dave G           | Kiewit           | Resting on RoW                 |
| 2020 | 8/17/20 | 8:52 AM  | Wood Bison        | 8  | Mixed    | No | 11V | 516766 | 6929853 | Wildlife Road Survey   | Dave G           | Kiewit           | Walking along edge of RoW      |
| 2020 | 8/17/20 | 10:30 AM | Belted Kingfisher | 1  | Adult    | No | 11V | 507839 | 6969193 | Wildlife Road Survey   | Dave G           | Kiewit           | flying across RoW              |
| 2020 | 8/18/20 | 6:30 AM  | Wood Bison        | 1  | Adult    | No | 11V | 514642 | 6930954 | Wildlife Sightings Log | Dave J           | Kiewit           | walking along edge of RoW      |
| 2020 | 8/18/20 | 11:45 AM | Common Loon       | 1  | Adult    | No | 11V | 501252 | 6997776 | Wildlife Road Survey   | Dave G           | Kiewit           | feeding downstream of crossing |
| 2020 | 8/18/20 | 1:20 PM  | Mallard Duck      | 6  | Adult    | No | 11V | 508407 | 693834  | Wildlife Road Survey   | Dave G           | Kiewit           | feeding                        |
| 2020 | 8/18/20 | 1:30 PM  | Wood Bison        | 1  | Adult    | No | 11V | 509751 | 6935911 | Wildlife Road Survey   | Dave G           | Kiewit           | walking along edge of RoW      |
| 2020 | 8/19/20 | 7:30 AM  | Black Bear        | 1  | Adult    | No | 11V | 508975 | 6938162 | Wildlife Sightings Log | Shane M          | Kiewit           |                                |
| 2020 | 8/20/20 | 11:30 AM | Black Bear        | 1  | Adult    | No | 11V | 511718 | 6933078 | Wildlife Sightings Log | Darryl           | McCaws           |                                |
| 2020 | 8/23/20 | 9:00 AM  | Wolf              | 1  | Adult    | No | 11V | 508136 | 6964352 | Wildlife Sightings Log | Max V            | Kiewit           | Crossing RoW                   |
| 2020 | 8/23/20 | 11:45 PM | Porcupine         | 1  | Adult    | No | 11V | 502499 | 6991716 | Wildlife Sightings Log | Maintenance      | Kiewit           | Climbing up rock pile          |
| 2020 | 8/24/20 | 1:30 AM  | Wolf              | 1  | Adult    | No | 11V | 506924 | 6971909 | Wildlife Sightings Log | Maintenance      | Kiewit           | edge of RoW                    |
| 2020 | 8/24/20 | 1:00 AM  | Canada lynx       | 1  | Adult    | No | 11V | 516322 | 6930189 | Wildlife Sightings Log | Shane M          | Kiewit           | Edge of RoW                    |
| 2020 | 8/24/20 | 9:00 AM  | Wolf              | 1  | Adult    | No | 11V | 509374 | 6959844 | Wildlife Sightings Log | Jeff L           | Kiewit           | Edge of Row                    |
| 2020 | 8/25/20 | 10:00 AM | Wolf              | 1  | Adult    | No | 11V | 508209 | 6955487 | Wildlife Sightings Log | Jessi N          | FW               | on RoW                         |
| 2020 | 8/25/20 | 2:30 PM  | Fox               | 1  | Adult    | No | 11V | 508557 | 6957079 | Wildlife Sightings Log | Rick H           | Kiewit           | Edge of Row                    |
| 2020 | 8/25/20 | 12:00 PM | Wolf              | 1  | Adult    | No | 11V | 508246 | 6966332 | Wildlife Sightings Log | Rick H           | Kiewit           | Crossing RoW                   |
| 2020 | 8/26/20 | 8:00 AM  | Wolf              | 1  | Adult    | No | 11V | 504470 | 6982675 | Wildlife Sightings Log | Jessi N          | FW               | on RoW                         |
| 2020 | 8/26/20 | 9:00 AM  | Wolf              | 1  | Adult    | No | 11V | 504778 | 6982126 | Wildlife Sightings Log | Joe E            | Kiewit           | Edge of RoW                    |
| 2020 | 8/26/20 | 1:00 PM  | Wolf              | 1  | Adult    | No | 11V | 506846 | 6975788 | Wildlife Sightings Log | JT               | Kiewit           | Crosing RoW                    |
| 2020 | 8/27/20 | 12:43 PM | Black Bear        | 1  | Adult    | No | 11V | 502494 | 6991730 | Wildlife Road Survey   | Rob D            | Kiewit           | Crossing RoW                   |
| 2020 | 8/28/20 | 9:30 AM  | Fox               | 1  | Adult    | No | 11V | 508194 | 6940511 | Wildlife Road Survey   | Rob D            | Kiewit           | Laying on Road                 |
| 2020 | 8/30/20 | 11:00 AM | Wolf              | 1  | Adult    | No | 11V | 501225 | 6997752 | Wildlife Sightings Log | Danny H          | Kiewit           | Crossing RoW                   |
| 2020 | 8/30/20 | 11:00 PM | Porcupine         | 1  | Adult    | No | 11V | 507814 | 6969275 | Wildlife Sightings Log | Braden S         | Kiewit           | Edge of RoW                    |
| 2020 | 8/30/20 | 10:40 AM | Wood Bison        | 1  | Adult    | No | 11V | 519645 | 6928255 | Wildlife Sightings Log | Joe E            | Kiewit           | Edge of RoW                    |



|      |         |          |                   |    |                |     |     |        |          |                             |            |         |                                     |
|------|---------|----------|-------------------|----|----------------|-----|-----|--------|----------|-----------------------------|------------|---------|-------------------------------------|
| 2020 | 8/30/20 | 10:15 AM | Boreal Caribou    | 1  | Adult          | No  | 11V | 514552 | 6931009  | Wildlife Sightings Log      | Joe E      | Kiewit  | Crossing RoW                        |
| 2020 | 9/1/20  | 7:45 PM  | Black Bear        | 3  | Sow two cubs   | No  | 11V | 508875 | 6976795  | Wildlife Sightings Log      | Shaun C    | Kiewit  | Crossing Row                        |
| 2020 | 9/1/20  | 8:00 PM  | Black Bear        | 1  | Adult          | No  | 11V | 507459 | 6952310  | Wildlife Sightings Log      | Eugene     | Kiewit  | Crossing RoW                        |
| 2020 | 9/2/20  | 9:00 PM  | Black Bear        | 1  | Adult          | No  | 11V | 505282 | 6981232  | Wildlife Sightings Log      | Eugene     | Kiewit  | Crossing RoW                        |
| 2020 | 9/3/20  | 9:00 AM  | Black Bear        | 1  | Adult          | Yes | 11V | 508632 | 6944606  | Wildlife Sightings Log      | Daryl      | McCaws  | Injured front leg, was crossing RoW |
| 2020 | 9/3/20  | 7:30 PM  | Canada Lynx       | 1  | Adult          | No  | 11V | 507660 | 6954224  | Wildlife Sightings Log      | Eugene     | Kiewit  | Edge of RoW                         |
| 2020 | 9/3/20  | 10:30 AM | Wood Bison        | 2  | Adult          | No  | 11V | 508632 | 6944606  | Wildlife Sightings Log      | Daryl      | McCaws  | Crossing RoW                        |
| 2020 | 9/4/20  | 9:00 PM  | Wolverine         | 1  | Adult          | No  | 11V | 506663 | 6978604  | Wildlife Sightings Log      | Kyle T     | Kiewit  | Crossing RoW                        |
| 2020 | 9/5/20  | 9:00 AM  | Black Bear        | 1  | Adult          | No  | 11V | 507922 | 6941486  | Wildlife Sightings Log      | Joe E      | Kiewit  | Crossing RoW                        |
| 2020 | 9/5/20  | 9:00 AM  | Black Bear        | 1  | Adult          | No  | 11V | 507925 | 6941486  | Wildlife Sightings Log      | Tomi U     | Kiewit  | Crossing RoW                        |
| 2020 | 9/7/20  | 10:30 PM | Black Bear        | 1  | Adult          | No  | 11V | 508498 | 6945386  | Wildlife Sightings Log      | Rick Hunt  | Kiewit  | Crossing RoW                        |
| 2020 | 9/7/20  | 10:30 AM | Black Bear        | 1  | Adult          | No  | 11V | 508947 | 6945386  | Wildlife Sightings Log      | Joe H      | Kiewit  | Crossing RoW                        |
| 2020 | 9/9/20  | 8:45 PM  | Canada lynx       | 1  | Adult          | No  | 11V | 507665 | 6950861  | Wildlife Sightings Log      | Staff      | Kiewit  | Crossing RoW                        |
| 2020 | 9/9/20  | 10:30 AM | Black Bear        | 1  | Adult          | No  | 11V | 507452 | 6952305  | Wildlife Sightings Log      | Stephen G  | Kiewit  | Crossing RoW                        |
| 2020 | 9/10/20 | 6:20 AM  | Canada Lynx       | 1  | Adult          | No  | 11V | 508543 | 6956966  | Wildlife Sightings Log      | Max B      | Kiewit  | Crossing RoW                        |
| 2020 | 9/11/20 | 3:00 PM  | Trumpeter Swan    | 4  | Adult          | No  | 11V | 509380 | 6960932  | Wildlife Sightings Log      | Russel     | Kiewit  | Sitting on Lake                     |
| 2020 | 9/12/20 | 11:00 AM | Black Bear        | 1  | Adult          | No  | 11V | 508636 | 6962641  | Wildlife Sightings Log      | Tomi U     | Kiewit  | Crossign RoW                        |
| 2020 | 9/12/20 | 7:10 PM  | Black Bear        | 1  | Adult          | No  | 11V | 508543 | 6956966  | Wildlife Sightings Log      | Max B      | Kiewit  | Edge of RoW                         |
| 2020 | 9/12/20 | 8:45 AM  | Spruce Grouse     | 1  | Adult          | No  | 11V | 503905 | 6984931  | Wildlife Road Survey        | Dave G     | Kiewit  | Edge of RoW                         |
| 2020 | 9/12/20 | 9:30 AM  | Trumpeter Swan    | 16 | Adult          | No  | 11V | 501336 | 6997741  | Wildlife Road Survey        | Dave G     | Kiewit  | in River                            |
| 2020 | 9/13/20 | 11:50 AM | Fox               | 1  | Adult          | No  | 11V | 508327 | 6946471  | Wildlife Road Survey        | Rob D      | Kiewit  | Crossing RoW                        |
| 2020 | 9/13/20 | 9:00 AM  | Canada Lynx       | 1  | Adult          | No  | 11V | 506641 | 6973815  | Wildlife Sightings Log      | Sean B     | Kiewit  | edge of RoW                         |
| 2020 | 9/13/20 | 2:30 PM  | Black Bear        | 1  | Adult          | No  | 11V | 509488 | 6935375  | Wildlife Sightings Log      | Rob D      | Kiewit  | Near Camp Entrance                  |
| 2020 | 9/14/20 | 10:30 AM | Black Bear        | 1  | Adult          | No  | 11V | 514971 | 6930762  | Wildlife Sightings Log      | Chris S    | Aramark | Edge of RoW                         |
| 2020 | 9/15/20 | 4:30 PM  | Wood Bison        | 3  | Adult          | No  | 11V | 520631 | 6928384  | Wildlife Sightings Log      | Devon S    | Kiewit  | Edge of RoW                         |
| 2020 | 9/16/20 | 12:30 PM | Wood Bison        | 7  | Adult          | No  | 11V | 507942 | 6948876  | Wildlife Road Survey        | Rob D      | Kiewit  | Crossing RoW                        |
| 2020 | 9/17/20 | 11:00 AM | Wood Bison        | 1  | Adult          | No  | 11V | 507461 | 6952300  | Wildlife Road Survey        | Rob D      | Kiewit  | Crossing RoW                        |
| 2020 | 9/17/20 | 1:30 PM  | Fox Tracks        | 1  | Adult          | No  | 11V | 509488 | 6935375  | Wildlife Surveillance Sweep | Dave G     | Kiewit  | Behind Medic Shack                  |
| 2020 | 9/17/20 | 8:00 AM  | Black Bear        | 1  | Adult          | No  | 11V | 508030 | 6941925  | Wildlife Sightings Log      | Operations | Kiewit  | Crossed ROW                         |
| 2020 | 9/18/20 | 7:00 AM  | Moose             | 1  | Adult          | No  | 11V | 508947 | 6945370  | Wildlife Sightings Log      | Danny R    | Kiewit  | Crossed RoW                         |
| 2020 | 9/19/20 | 1:05 PM  | Wood Bison        | 1  | Adult          | No  | 11V | 508625 | 6944386  | Wildlife Sightings Log      | Rob D      | Kiewit  | Crossed RoW                         |
| 2020 | 9/19/20 | 1:44 PM  | Moose             | 1  | Adult          | No  | 11V | 506918 | 6970996  | Wildlife Sightings Log      | Rob D      | Kiewit  | Edge of RoW                         |
| 2020 | 9/20/20 | 12:36 PM | Moose             | 1  | Adult          | No  | 11V | 509485 | 69611194 | Wildlife Sightings Log      | Darryl F   | McCaws  | in wetland area off RoW             |
| 2020 | 9/20/20 | 1:15 PM  | Ruffed Grouse     | 1  | Adult          | No  | 11V | 509797 | 6935805  | Wildlife Sightings Log      | Aileen     | Kiewit  | Edge of RoW                         |
| 2020 | 9/20/20 | 2:00 PM  | Wood Bison        | 14 | Adult          | No  | 11V | 507382 | 6953270  | Wildlife Sightings Log      | Aileen     | Kiewit  | Edge of RoW                         |
| 2020 | 9/21/20 | 3:04 PM  | Wood Bison        | 1  | Adult          | No  | 11V | 518763 | 6928211  | Wildlife Road Survey        | Dave       | Kiewit  | Edge of RoW                         |
| 2020 | 9/20/20 | 7:00 PM  | Wood Bison        | 3  | Adult          | No  | 11V | 507656 | 6954236  | Wildlife Sightings Log      | Will H     | Kiewit  | Edge of RoW                         |
| 2020 | 9/20/20 | 7:05 PM  | Moose             | 1  | Adult          | No  | 11V | 508396 | 6956396  | Wildlife Sightings Log      | Danny R    | Kiewit  | Crossing RoW                        |
| 2020 | 9/21/20 | 9:06 PM  | Wood Bison        | 1  | Adult          | No  | 11V | 508491 | 6939554  | Wildlife Sightings Log      | Tucker     | Kiewit  | Along edge of RoW                   |
| 2020 | 9/21/20 | 4:34 PM  | Black Bear        | 2  | Adult          | No  | 11V | 504451 | 6982706  | Wildlife Sightings Log      | Operations | Kiewit  | Playing in scaffolding              |
| 2020 | 9/22/20 | 1:40 PM  | Black Bear        | 1  | Adult          | No  | 11V | 514151 | 6931306  | Wildlife Sightings Log      | Aileen     | Kiewit  | Crossing RoW                        |
| 2020 | 9/22/20 | 1:55 PM  | Wood Bison        | 8  | Adult          | No  | 11V | 522594 | 6928442  | Wildlife Sightings Log      | Aileen     | Kiewit  | Along edge of RoW                   |
| 2020 | 9/23/20 | 5:29 PM  | Moose             | 1  | Adult          | No  | 11V | 501255 | 6997742  | Wildlife Sightings Log      | Sam T      | Kiewit  | Crossing RoW                        |
| 2020 | 9/23/20 | 6:30 PM  | Moose             | 1  | Adult          | No  | 11V | 509202 | 6961635  | Wildlife Sightings Log      | Luke W     | Kiewit  | Crossing RoW                        |
| 2020 | 9/24/20 | 10:27 AM | Wood Bison        | 1  | Adult          | No  | 11V | 512247 | 6932689  | Wildlife Road Survey        | Dave       | Kiewit  | Walking down TASR                   |
| 2020 | 9/24/20 | 11:13 AM | Wood Bison        | 1  | Adult          | No  | 11V | 514312 | 6931192  | Wildlife Road Survey        | Dave       | Kiewit  | Along edge of RoW                   |
| 2020 | 9/25/20 | 8:10 AM  | Spruce Grouse     | 3  | Adult          | No  | 11V | 508339 | 6940038  | Wildlife Road Survey        | Dave       | Kiewit  | Centre of road                      |
| 2020 | 9/27/20 | 4:35AM   | Moose             | 1  | Adult          | No  | 11V | 501169 | 6997774  | Wildlife Sightings Log      | Josh J     | Kiewit  | west of RoW                         |
| 2020 | 9/27/20 | 9:25AM   | Moose             | 1  | Adult          | No  | 11V | 507818 | 6941542  | Wildlife Road Survey        | Dave G     | Kiewit  | on old winter road                  |
| 2020 | 9/28/20 | 3:00AM   | Canada Lynx       | 1  | Adult          | No  | 11V | 504790 | 6982100  | Wildlife Sightings Log      | Josh J     | Kiewit  | Crossing RoW                        |
| 2020 | 9/28/20 | 10:00AM  | Spruce Grouse     | 2  | Adult          | No  | 11V | 517268 | 6929441  | Wildlife Road Survey        | Dave G     | Kiewit  | on Road                             |
| 2020 | 9/28/20 | 2:00PM   | Moose             | 3  | Adult          | No  | 11V | 501169 | 6997774  | Wildlife Sightings Log      | Bill P     | Kiewit  | by river                            |
| 2020 | 9/28/20 | 3:30PM   | Moose             | 1  | Adult          | No  | 11V | 501169 | 6997774  | Wildlife Sightings Log      | Tomi U     | Kiewit  | by river                            |
| 2020 | 9/29/20 | 6:00PM   | Moose             | 3  | Adult          | No  | 11V | 501169 | 6997774  | Wildlife Sightings Log      | Russel S   | Kiewit  | by river                            |
| 2020 | 9/30/20 | 8:43 AM  | Spruce Grouse     | 3  | U/K            | No  | 11V | 503652 | 6986847  | Wildlife Road Survey        | Dave G     | Kiewit  | flushed off road                    |
| 2020 | 9/30/20 | 10:50AM  | Northern Hawk Owl | 1  | U/K            | No  | 11V | 507566 | 6951551  | Wildlife Road Survey        | Dave G     | Kiewit  | being harassed by Common Raven      |
| 2020 | 9/30/20 | 6:00PM   | Moose             | 3  | Adult          | No  | 11V | 501169 | 6997774  | Wildlife Sightings Log      | Russel S   | Kiewit  | by river                            |
| 2020 | 10/1/20 | 9:00AM   | Trumpeter Swan    | 10 | Adult          | No  | 11V | 501361 | 6997757  | Wildlife Sightings Log      | Russel S   | Kiewit  | on river                            |
| 2020 | 10/1/20 | 5:00PM   | Wood Bison        | 5  | Mixed          | No  | 11V | 510121 | 6934855  | Wildlife Sightings Log      | Fransico C | Kiewit  | along edge of RoW                   |
| 2020 | 10/1/20 | 6:00PM   | Moose             | 2  | Adult          | No  | 11V | 501169 | 6997774  | Wildlife Sightings Log      | Ken C      | Kiewit  | by river                            |
| 2020 | 10/1/20 | 6:15PM   | Black Bear        | 3  | Adult and cubs | No  | 11V | 508546 | 6957033  | Wildlife Sightings Log      | Cristian P | Kiewit  | On Row                              |
| 2020 | 10/2/20 | 5:10AM   | Canada Lynx       | 1  | Adult          | No  | 11V | 508339 | 6946373  | Wildlife Sightings Log      | Justin W   | Kiewit  | crossing TASR                       |

|      |           |          |               |    |                   |    |     |           |            |                        |             |        |                                    |
|------|-----------|----------|---------------|----|-------------------|----|-----|-----------|------------|------------------------|-------------|--------|------------------------------------|
| 2020 | 10/3/20   | 4:50PM   | Moose         | 2  | Adult             | No | 11V | 501169    | 6997774    | Wildlife Sightings Log | Chris Roach | Kiewit | by river                           |
| 2020 | 10/4/20   | 2:00 PM  | Porcupine     | 1  | Adult             | No | 11V | 509863    | 6955174    | Wildlife Sightings Log | Christian P | Kiewit | Crossing Road                      |
| 2020 | 10/4/20   | 2:30 PM  | Bald Eagle    | 1  | Adult             | No | 11V | 508005    | 6955174    | Wildlife Sightings Log | Christian P | Kiewit | In trees along edge of TASR        |
| 2020 | 10/6/20   | 11:00 PM | Canada Lynx   | 1  | Adult             | No | 11V | 503484    | 6988847    | Wildlife Sightings Log | JT          | Kiewit | Crossing Row                       |
| 2020 | 10/7/20   | 8:42 AM  | Spruce Grouse | 1  | Adult             | No | 11V | 508260    | 6966309    | Wildlife Road Survey   | Rob D       | Kiewit | On Row                             |
| 2020 | 10/7/20   | 8:52 AM  | Spruce Grouse | 23 | Adult             | No | 11V | 506865    | 6976814    | Wildlife Road Survey   | Rob D       | Kiewit | On Row                             |
| 2020 | 10/7/20   | 9:18 AM  | Moose         | 3  | 1 Bull and 2 cows | No | 11V | 501406    | 6997791    | Wildlife Road Survey   | Rob D       | Kiewit | Edge of River                      |
| 2020 | 10/9/20   | 12:30 PM | Snowy Owl     | 1  | Adult             | No | 11V | 502172    | 6992742    | Wildlife Sightings Log | Tomi U      | Kiewit | Edge of Row                        |
| 2020 | 10/9/20   | 11:30 AM | Spruce Grouse | 7  | Adult             | No | 11V | 506803    | 6974788    | Wildlife Sightings Log | Tomi U      | Kiewit | On Row                             |
| 2020 | 10/9/20   | 2:00 PM  | Pine Marten   | 1  | Adult             | No | 11V | 498662    | 7005449    | Wildlife Sightings Log | Rick H      | Kiewit | Edge of Row                        |
| 2020 | 10/10/20  | 2:00 AM  | Canada Lynx   | 1  | Adult             | No | 11V | 505288    | 6981209    | Wildlife Sightings Log | Justine     | Kiewit | Crossing RoW                       |
| 2020 | 10/11/20  | 1:00AM   | Canada Lynx   | 1  | Adult             | No | 11V | 508570    | 6957269    | Wildlife Sightings Log | Corey       | Kiewit | Crossing RoW                       |
| 2020 | 10/12/20  | 2:00 PM  | Porcupine     | 1  | Adult             | No | 11V | 501401    | 7003136    | Wildlife Sightings Log | Tomi U      | Kiewit | Edge of RoW                        |
| 2020 | 10/12/20  | 11:30 PM | Wolf          | 1  | Adult             | No | 11V | 500842    | 7003947    | Wildlife Sightings Log | Jon M       | Kiewit | Edge of RoW                        |
| 2020 | 10/13/20  | 3:00 PM  | Fox           | 1  | Adult             | No | 11V | 501176    | 6997626    | Wildlife Sightings Log | Various     | Kiewit | Outside Muster Trailer             |
| 2020 | 10/14/20  | 9:30 AM  | Moose         | 1  | Adult             | No | 11V | 501169    | 6996409    | Wildlife Sightings Log | Grant       | Kiewit | Crossing Row                       |
| 2020 | 10/15/20  | 8:00 AM  | River Otter   | 1  | Adult             | No | 11V | 501177    | 6997797    | Wildlife Sightings Log | Ron M       | Kiewit | On Ice in River                    |
| 2020 | 10/16/20  | 3:15 PM  | Spruce Grouse | 2  | Adult             | No | 11V | 503500    | 6987920    | Wildlife Sightings Log | Ron M       | Kiewit | Edge of Road                       |
| 2020 | 10/16/20  | 9:00 AM  | Spruce Grouse | 5  | Adult             | No | 11V | 508489    | 6945428    | Wildlife Sightings Log | Joe H       | Kiewit | on Road                            |
| 2020 | 10/18/20  | 2:00 PM  | Canada Lynx   | 2  | 1 Adult 1 Kitten  | No | 11V | 503787    | 6985906    | Wildlife Sightings Log | Ron H       | Kiewit | Edge of RoW                        |
| 2020 | 10/18/20  | 4:15 PM  | Moose         | 4  | 2 Bull 2 Cow      | No | 11V | 502189    | 6992652    | Wildlife Sightings Log | James A     | FT     | Crossing RoW                       |
| 2020 | 10/18/20  | 8:15 AM  | Fox           | 1  | Adult             | No | 11V | 501716    | 7000204    | Wildlife Sightings Log | Rick H      | Kiewit | Edge of RoW                        |
| 2020 | 10/18/20  | 9:00 AM  | Pine Marten   | 1  | Adult             | No | 11V | 499811    | 7005440    | Wildlife Sightings Log | Rick H      | Kiewit | Edge of RoW                        |
| 2020 | 10/19/20  | 6:30 AM  | Snowshoe Hare | 1  | Adult             | No | 11V | 506850    | 6975804    | Wildlife Sightings Log | Ron H       | Kiewit | on Road                            |
| 2020 | 19-Oct-20 | 8:00 AM  | Fox           | 1  | Adult             | No | 11V | 500289    | 7004764    | Wildlife Sightings Log | Ron H       | Kiewit | on Road                            |
| 2020 | 10/20/20  | 12:00 PM | Spruce Grouse | 5  | Adult             | No | 11V | 503470    | 6988869    | Wildlife Sightings Log | Ron H       | Kiewit | on Road                            |
| 2020 | 10/20/20  | 4:00 PM  | Wolverine     | 1  | Adult             | No | 11V | 504041    | 6983919    | Wildlife Sightings Log | John T      | Kiewit | Crossing Row                       |
| 2020 | 10/20/20  | 12:00 PM | Wolverine     | 1  | Adult             | No | 11V | 504041    | 6983919    | Wildlife Sightings Log | Christian P | Kiewit | Edge of Row                        |
| 2020 | 10/23/20  | 4:45 PM  | Moose         | 1  | Cow               | No | 11V | 509778    | 6935791    | Wildlife Sightings Log | James A     | FT     | Crossing RoW                       |
| 2020 | 10/24/20  | 3:10 PM  | Moose         | 1  | Adult             | No | 11V | 509147    | 6937688    | Wildlife Sightings Log | Rob D       | Kiewit | in forest on west side             |
| 2020 | 10/24/20  | 4:30 PM  | Spruce Grouse | 24 | Adult             | No | 11V | 507099    | 6977791    | Wildlife Sightings Log | Ron H       | Kiewit | on Road                            |
| 2020 | 24-Oct-20 | 4:45 PM  | Wood Bison    | 6  | Adult             | No | 11V | 508216    | 6955516    | Wildlife Sightings Log | Dai D       | Kiewit | Edge of RoW                        |
| 2020 | 10/21/20  | 11:40 AM | Wood Bison    | 1  | Adult             | No | 11V | 507417    | 6952563    | Wildlife Road Survey   | Dave G      | Kiewit | Edge of RoW                        |
| 2020 | 10/21/20  | 11:51 AM | Spruce Grouse | 3  | Adult             | No | 11V | 508262    | 6963392    | Wildlife Road Survey   | Dave G      | Kiewit | on Road                            |
| 2020 | 10/23/20  | 4:45 PM  | Moose         | 1  | Cow               | No | 11V | 509778.00 | 6935791.00 | Wildlife Sightings Log | James A     | FT     | Crossing RoW                       |
| 2020 | 10/24/20  | 3:10 PM  | Moose         | 1  | Adult             | No | 11V | 509147.00 | 6937688.00 | Wildlife Sightings Log | Rob D       | Kiewit | in forest on west side             |
| 2020 | 10/24/20  | 4:30 PM  | Spruce Grouse | 24 | Adult             | No | 11V | 507099.00 | 6977791.00 | Wildlife Sightings Log | Ron H       | Kiewit | on Road                            |
| 2020 | 10/25/20  | 8:30 AM  | River Otter   | 1  | Adult             | No | 11V | 501216.00 | 6997798.00 | Wildlife Sightings Log | Rick H      | Kiewit | Feeding in river                   |
| 2020 | 10/25/20  | 9:30 AM  | Fox           | 1  | Adult             | No | 11V | 498162.00 | 7005465.00 | Wildlife Sightings Log | Robin E     | Kiewit | Edge of RoW                        |
| 2020 | 10/25/20  | 11:52 AM | Pine Marten   | 1  | Adult             | No | 11V | 508417.00 | 6943435.00 | Wildlife Sightings Log | Rob D       | Kiewit | Edge of RoW                        |
| 2020 | 10/25/20  | 8:30 AM  | Fox           | 1  | Adult             | No | 11V | 496815.00 | 7005818.00 | Wildlife Sightings Log | Charlie     | Kiewit | Crossing TASR with grouse in mouth |
| 2020 | 10/26/20  | 5:30 PM  | Fox           | 1  | Adult             | No | 11V | 500857.00 | 7003918.00 | Wildlife Sightings Log | Charlie     | Kiewit | Crossing TASR with hare in mouth   |
| 2020 | 10/26/20  | 9:00 AM  | Ptarmigan     | 1  | Adult             | No | 11V | 508765.00 | 6958564.00 | Wildlife Road Survey   | Dave G      | Kiewit | on Road                            |
| 2020 | 10/26/20  | 9:15 AM  | Spruce Grouse | 8  | Adult             | No | 11V | 507949.00 | 6968782.00 | Wildlife Road Survey   | Dave G      | Kiewit | on Road                            |
| 2020 | 10/26/20  | 3:00 PM  | Wood Bison    | 30 | Adult             | No | 11V | 508483.00 | 6939583.00 | Wildlife Road Survey   | Rob D       | Kiewit | Edge of RoW                        |
| 2020 | 10/27/20  | 2:30 PM  | Moose         | 4  | 1 Bull and 3 Cows | No | 11V | 508444.00 | 6939060.00 | Wildlife Sightings Log | Brandon B   | GNWT   | out of RoW feeding                 |
| 2020 | 10/30/20  | 10:30 AM | Wood Bison    | 12 | Adult             | No | 11V | 511675.00 | 6933089.00 | Wildlife Road Survey   | Rob D       | Kiewit | Edge of RoW                        |
| 2020 | 10/31/20  | 11:45 AM | Wolf          | 1  | Adult             | No | 11V | 506629.00 | 6978661.00 | Wildlife Sightings Log | Rob D       | Kiewit | Laying on Road                     |
| 2020 | 10/31/20  | 2:20 PM  | Canada Lynx   | 2  | Adult             | No | 11V | 508223.00 | 6965456.00 | Wildlife Sightings Log | Dave G      | Kiewit | Crossing RoW                       |
| 2020 | 11/1/20   | 7:15 PM  | Pine Marten   | 1  | Adult             | No | 11V | 509401.00 | 6959839.00 | Wildlife Sightings Log | Max B       | Kiewit | Edge of RoW                        |
| 2020 | 11/2/20   | 7:20 AM  | Canada Lynx   | 1  | Adult             | No | 11V | 504044.00 | 6983912.00 | Wildlife Sightings Log | Max B       | Kiewit | Crossing RoW                       |
| 2020 | 11/2/20   | 10:30 AM | Fox           | 1  | Adult             | No | 11V | 504310.00 | 6982965.00 | Wildlife Sightings Log | Max B       | Kiewit | Edge of RoW                        |
| 2020 | 11/2/20   | 11:50 AM | Wolf          | 12 | Adult             | No | 11V | 505774.00 | 6980344.00 | Wildlife Sightings Log | Max B.      | Kiewit | Running through RoW                |
| 2020 | 11/2/20   | 2:43 PM  | Fox           | 1  | Adult             | No | 11V | 500509.00 | 7004438.00 | Wildlife Sightings Log | Jeff J      | Kiewit | Carrying snowshoe hare             |
| 2020 | 11/3/20   | 11:53 AM | Fox           | 1  | Adult             | No | 11V | 508699.00 | 6938941.00 | Wildlife Road Survey   | Dave G.     | Kiewit | Crossing RoW                       |
| 2020 | 11/4/20   | 6:00 PM  | Wolf          | 1  | Adult             | No | 11V | 509445.00 | 6959929.00 | Wildlife Sightings Log | JF C.       | Kiewit | Edge of RoW                        |
| 2020 | 11/4/20   | 6:45 PM  | Owl Sp.       | 1  | Adult             | No | 11V | 508690.00 | 6958018.00 | Wildlife Sightings Log | JF C.       | Kiewit | Ege of RoW                         |
| 2020 | 11/5/20   | 8:30 AM  | Wolf          |    | Adult             | No | 11V | 508288.00 | 6967309.00 | Wildlife Sightings Log | Joe E       | Kiewit | Crossing RoW                       |
| 2020 | 11/5/20   | 9:11 AM  | Wolf          | 1  | Adult             | No | 11V | 506656.00 | 6973801.00 | Wildlife Sightings Log | James A     | FT     | Crossing RoW                       |
| 2020 | 11/6/20   | 2:30 AM  | Snowshoe Hare | 1  | Adult             | No | 11V | 506882.00 | 6976779.00 | Wildlife Sightings Log | JF C.       | Kiewit | Crossing RoW                       |
| 2020 | 11/6/20   | 10:00 PM | Snowshoe Hare | 1  | Adult             | No | 11V | 508106.00 | 6964379.00 | Wildlife Sightings Log | JF C.       | Kiewit | Edge of RoW                        |
| 2020 | 11/6/20   | 2:00 PM  | Pine Marten   | 1  | Adult             | No | 11V | 506656.00 | 6973801.00 | Wildlife Sightings Log | JF C.       | Kiewit | Edge of RoW                        |

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| 2020 | 11/8/20   | 11:58 AM  | Spruce Grouse      | 1  | Adult             | No | 11V | 506897.00 | 6971983.00 | Wildlife Road Survey   | Dave G     | Kiewit | flushed off road                   |
| 2020 | 11/10/20  | 112:40 PM | Boreal Caribou     | 12 | Adult             | No | 11V | 508419.00 | 6943417.00 | Wildlife Sightings Log | Cristian P | Kiewit | Crossing RoW                       |
| 2020 | 11/10/20  | 5:30 PM   | Wood Bison         | 1  | Adult             | No | 11V | 509259.00 | 6961474.00 | Wildlife Sightings Log | Ken F      | Kiewit | Middle of Road                     |
| 2020 | 11/11/20  | 10:26 AM  | Spruce Grouse      | 3  | Adult             | No | 11V | 506897.00 | 6971983.00 | Wildlife Road Survey   | Dave G     | Kiewit | flushed off Road                   |
| 2020 | 11/11/20  | 10:45 PM  | Ptarmigan          | 1  | Adult             | No | 11V | 501577.00 | 6993428.00 | Wildlife Sightings Log | Ryan P     | Kiewit | In RoW                             |
| 2020 | 11/11/20  | 11:00 PM  | Snowshoe Hare      | 1  | Adult             | No | 11V | 503911.00 | 6984909.00 | Wildlife Sightings Log | JF C.      | Kiewit | Edge of RoW                        |
| 2020 | 11/13/20  | 5:00 PM   | Spruce Grouse      | 1  | Adult             | No | 11V | 503104.00 | 6989798.00 | Wildlife Sightings Log | Danny H    | Kiewit | Middle of Road                     |
| 2020 | 11/13/20  | 5:45 PM   | Wood Bison         | 1  | Adult             | No | 11V | 508545.00 | 6957031.00 | Wildlife Sightings Log | Danny H    | Kiewit | Edge of RoW                        |
| 2020 | 11/13/20  | 9:30 AM   | Wolverine          | 1  | Adult             | No | 11V | 499651.00 | 7005406.00 | Wildlife Sightings Log | Ryan P     | Kiewit | Edge of RoW                        |
| 2020 | 11/14/20  | 10:41 AM  | Spruce Grouse      | 6  | Adult             | No | 11V | 508300.00 | 6940153.00 | Wildlife Road Survey   | Dave G     | Kiewit | flushed off Road                   |
| 2020 | 11/14/20  | 11:30 AM  | Spruce Grouse      | 22 | Adult             | No | 11V | 506926.00 | 6970954.00 | Wildlife Sightings Log | Danny H    | Kiewit | Flushed off Road                   |
| 2020 | 11/14/20  | 12:00 PM  | Wood Bison         | 3  | Adult             | No | 11V | 507382.00 | 6953279.00 | Wildlife Sightings Log | Aileen R   | Kiewit | In RoW                             |
| 2020 | 19-Oct-20 | 8:00 AM   | Fox                | 1  | Adult             | No | 11V | 500289.00 | 7004764.00 | Wildlife Sightings Log | Ron H      | Kiewit | on Road                            |
| 2020 | 24-Oct-20 | 4:45 PM   | Wood Bison         | 6  | Adult             | No | 11V | 508216.00 | 6955516.00 | Wildlife Sightings Log | Dai D      | Kiewit | Edge of RoW                        |
| 2020 | 25-Oct-20 | 8:30 AM   | River Otter        | 1  | Adult             | No | 11V | 501216.00 | 6997798.00 | Wildlife Sightings Log | Rick H     | Kiewit | Feeding in river                   |
| 2020 | 25-Oct-20 | 9:30 AM   | Fox                | 1  | Adult             | No | 11V | 498162.00 | 7005465.00 | Wildlife Sightings Log | Robin E    | Kiewit | Edge of RoW                        |
| 2020 | 25-Oct-20 | 11:52 AM  | Pine Marten        | 1  | Adult             | No | 11V | 508417.00 | 6943435.00 | Wildlife Sightings Log | Rob D      | Kiewit | Edge of RoW                        |
| 2020 | 25-Oct-20 | 8:30 AM   | Fox                | 1  | Adult             | No | 11V | 496815.00 | 7005818.00 | Wildlife Sightings Log | Charlie    | Kiewit | Crossing TASR with grouse in mouth |
| 2020 | 26-Oct-20 | 5:30 PM   | Fox                | 1  | Adult             | No | 11V | 500857.00 | 7003918.00 | Wildlife Sightings Log | Charlie    | Kiewit | Crossing TASR with hare in mouth   |
| 2020 | 26-Oct-20 | 9:00 AM   | Ptarmigan          | 1  | Adult             | No | 11V | 508765.00 | 6958564.00 | Wildlife Road Survey   | Dave G     | Kiewit | on Road                            |
| 2020 | 26-Oct-20 | 9:15 AM   | Spruce Grouse      | 8  | Adult             | No | 11V | 507949.00 | 6968782.00 | Wildlife Road Survey   | Dave G     | Kiewit | on Road                            |
| 2020 | 26-Oct-20 | 3:00 PM   | Wood Bison         | 30 | Adult             | No | 11V | 508483.00 | 6939583.00 | Wildlife Road Survey   | Rob D      | Kiewit | Edge of RoW                        |
| 2020 | 27-Oct-20 | 2:30 PM   | Moose              | 4  | 1 Bull and 3 Cows | No | 11V | 508444.00 | 6939060.00 | Wildlife Sightings Log | Brandon B  | GNWT   | out of RoW feeding                 |
| 2020 | 30-Oct-20 | 10:30 AM  | Wood Bison         | 12 | Adult             | No | 11V | 511675.00 | 6933089.00 | Wildlife Road Survey   | Rob D      | Kiewit | Edge of RoW                        |
| 2020 | 31-Oct-20 | 11:45 AM  | Wolf               | 1  | Adult             | No | 11V | 506629.00 | 6978661.00 | Wildlife Sightings Log | Rob D      | Kiewit | Laying on Road                     |
| 2020 | 31-Oct-20 | 2:20 PM   | Canada Lynx        | 2  | Adult             | No | 11V | 508223.00 | 6965456.00 | Wildlife Sightings Log | Dave G     | Kiewit | Crossing RoW                       |
| 2020 | 01-Nov-20 | 7:15 PM   | Pine Marten        | 1  | Adult             | No | 11V | 509401.00 | 6959839.00 | Wildlife Sightings Log | Max B      | Kiewit | Edge of RoW                        |
| 2020 | 02-Nov-20 | 7:20 AM   | Lynx               | 1  | Adult             | No | 11V | 504044.00 | 6983912.00 | Wildlife Sightings Log | Max B      | Kiewit | Crosing RoW                        |
| 2020 | 02-Nov-20 | 10:30 AM  | Fox (Silver Phase) | 1  | Adult             | No | 11V | 504310.00 | 6982965.00 | Wildlife Sightings Log | Max B      | Kiewit | Edge of RoW                        |
| 2020 | 02-Nov-20 | 11:50 AM  | Wolf               | 12 | Adult             | No | 11V | 505774.00 | 6980344.00 | Wildlife Sightings Log | Max B.     | Kiewit | Running through RoW                |
| 2020 | 02-Nov-20 | 2:43 PM   | Fox (Silver Phase) | 1  | Adult             | No | 11V | 500509.00 | 7004438.00 | Wildlife Sightings Log | Jeff J     | Kiewit | Carrying snowshoe hare             |
| 2020 | 03-Nov-20 | 11:53 AM  | Fox                | 1  | Adult             | No | 11V | 508699.00 | 6938941.00 | Wildlife Road Survey   | Dave G.    | Kiewit | Crossing RoW                       |
| 2020 | 04-Nov-20 | 6:00 PM   | Wolf               | 1  | Adult             | No | 11V | 509445.00 | 6959929.00 | Wildlife Sightings Log | JF C.      | Kiewit | Edge of RoW                        |
| 2020 | 04-Nov-20 | 6:45 PM   | Owl Sp.            | 1  | Adult             | No | 11V | 508690.00 | 6958018.00 | Wildlife Sightings Log | JF C.      | Kiewit | Ege of RoW                         |
| 2020 | 05-Nov-20 | 8:30 AM   | Wolf               |    | Adult             | No | 11V | 508288.00 | 6967309.00 | Wildlife Sightings Log | Joe E      | Kiewit | Crossing RoW                       |
| 2020 | 05-Nov-20 | 9:11 AM   | Wolf               | 1  | Adult             | No | 11V | 506656.00 | 6973801.00 | Wildlife Sightings Log | James A    | FT     | Crossing RoW                       |
| 2020 | 06-Nov-20 | 2:30 AM   | Snowshoe Hare      | 1  | Adult             | No | 11V | 506882.00 | 6976779.00 | Wildlife Sightings Log | JF C.      | Kiewit | Crossing RoW                       |
| 2020 | 06-Nov-20 | 10:00 PM  | Snowshoe Hare      | 1  | Adult             | No | 11V | 508106.00 | 6964379.00 | Wildlife Sightings Log | JF C.      | Kiewit | Edge of RoW                        |
| 2020 | 06-Nov-20 | 2:00 PM   | Pine Marten        | 1  | Adult             | No | 11V | 506656.00 | 6973801.00 | Wildlife Sightings Log | JF C.      | Kiewit | Edge of RoW                        |
| 2020 | 08-Nov-20 | 11:58 AM  | Spruce Grouse      | 1  | Adult             | No | 11V | 506897.00 | 6971983.00 | Wildlife Road Survey   | Dave G     | Kiewit | flushed off road                   |
| 2020 | 10-Nov-20 | 112:40 PM | Boreal Caribou     | 12 | Adult             | No | 11V | 508419.00 | 6943417.00 | Wildlife Sightings Log | Cristian P | Kiewit | Crossing RoW                       |
| 2020 | 10-Nov-20 | 5:30 PM   | Wood Bison         | 1  | Adult             | No | 11V | 509259.00 | 6961474.00 | Wildlife Sightings Log | Ken F      | Kiewit | Middle of Road                     |
| 2020 | 11-Nov-20 | 10:26 AM  | Spruce Grouse      | 3  | Adult             | No | 11V | 506897.00 | 6971983.00 | Wildlife Road Survey   | Dave G     | Kiewit | flushed off Road                   |
| 2020 | 11-Nov-20 | 10:45 PM  | Ptarmigan          | 1  | Adult             | No | 11V | 501577.00 | 6993428.00 | Wildlife Sightings Log | Ryan P     | Kiewit | In RoW                             |
| 2020 | 11-Nov-20 | 11:00 PM  | Snowshoe Hare      | 1  | Adult             | No | 11V | 503911.00 | 6984909.00 | Wildlife Sightings Log | JF C.      | Kiewit | Edge of RoW                        |
| 2020 | 13-Nov-20 | 5:00 PM   | Spruce Grouse      | 1  | Adult             | No | 11V | 503104.00 | 6989798.00 | Wildlife Sightings Log | Danny H    | Kiewit | Middle of Road                     |
| 2020 | 13-Nov-20 | 5:45 PM   | Wood Bison         | 1  | Adult             | No | 11V | 508545.00 | 6957031.00 | Wildlife Sightings Log | Danny H    | Kiewit | Edge of RoW                        |
| 2020 | 13-Nov-20 | 9:30 AM   | Wolverine          | 1  | Adult             | No | 11V | 499651.00 | 7005406.00 | Wildlife Sightings Log | Ryan P     | Kiewit | Edge of RoW                        |
| 2020 | 14-Nov-20 | 10:41 AM  | Spruce Grouse      | 6  | Adult             | No | 11V | 508300.00 | 6940153.00 | Wildlife Road Survey   | Dave G     | Kiewit | flushed off Road                   |
| 2020 | 14-Nov-20 | 11:30 AM  | Spruce Grouse      | 22 | Adult             | No | 11V | 506926.00 | 6970954.00 | Wildlife Sightings Log | Danny H    | Kiewit | Flushed off Road                   |
| 2020 | 14-Nov-20 | 12:00 PM  | Wood Bison         | 3  | Adult             | No | 11V | 507382.00 | 6953279.00 | Wildlife Sightings Log | Aileen R   | Kiewit | In RoW                             |
| 2020 | 19-Nov-20 | 4:00 PM   | Fox                | 1  | Adult             | No | 11V | 504785.00 | 6982120.00 | Wildlife Sightings Log | Kenny F    | Kiewit | Edge of RoW                        |
| 2020 | 20-Nov-20 | 9:00 AM   | Wood Bison         | 2  | Adult             | No | 11V | 508426.00 | 6943436.00 | Wildlife Sightings Log | Joe E      | Kiewit | Edge of RoW                        |
| 2020 | 20-Nov-20 | 10:15 AM  | Wolverine          | 1  | Adult             | No | 11V | 507881.00 | 6949346.00 | Wildlife Sightings Log | Kenny      | Kiewit | Edge of RoW                        |
| 2020 | 20-Nov-20 | 11:30 AM  | Fox                | 1  | Adult             | No | 11V | 507390.00 | 6952286.00 | Wildlife Sightings Log | JT         | Kiewit | Edge of RoW                        |
| 2020 | 24-Nov-20 | 11:30 AM  | Wolf               | 1  | Adult             | No | 11V | 503780.00 | 6985871.00 | Wildlife Sightings Log | Max        | Kiewit | Edge of RoW                        |
| 2020 | 24-Nov-20 | 4:00 PM   | Canada Lynx        | 1  | Adult             | No | 11V | 501171.00 | 6998354.00 | Wildlife Sightings Log | Max        | Kiewit | Edge of RoW                        |
| 2020 | 25-Nov-20 | 12:00 PM  | Moose              | 1  | Adult             | No | 11V | 509470.00 | 6936760.00 | Wildlife Sightings Log | Declan     | Kiewit | Crossing RoW                       |
| 2020 | 26-Nov-20 | 3:30 PM   | Beaver             | 1  | Adult             | No | 11V | 501234.00 | 6997772.00 | Wildlife Sightings Log | Ron H      | Kiewit | Edge of Ice                        |

## APPENDIX G PRESENCE OF COLLARED BOREAL CARIBOU WITHIN 4-6KM CAUTIONARY BUFFER ZONES ALONG THE TASR ROUTE



| WEEKLY REPORT<br>(PROVIDED BY<br>KIEWIT) | TIME<br>PERIOD OF<br>COLLAR<br>DATA<br>COVERED<br>BY MAPS<br>PROVIDED<br>BY ENR | SEGMENT 1<br>(KM 0 TO<br>24) | SEGMENT 2<br>(KM 25<br>TO 46) | SEGMENT 3<br>(KM 47-<br>85) | SEGMENT 4<br>(KM 85-<br>97) | MITIGATION IMPLEMENTED (AS INDICATED IN WEEKLY<br>REPORT)                                                                                                                                                              |
|------------------------------------------|---------------------------------------------------------------------------------|------------------------------|-------------------------------|-----------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Jan 5-11                                 | Jan 2-9                                                                         | 4                            | 4                             |                             |                             | Appropriate site personnel were notified of the potential for caribou (3.0km collar buffer) that may intersect with the 4.0km TASR buffer in Segment 1 and 2 as well as the interest with the 6km buffer in Segment 3. |
| Jan 5-11, Jan 12-18                      | Jan 9-16                                                                        | 4                            | 4                             | 4                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Jan 12-18, Jan 19-25                     | Jan 16-23                                                                       | 4                            |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Jan 26-Feb 1                             | Jan 26-30                                                                       |                              |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Jan 26, Feb 1, Feb 2-8                   | Jan 30-Feb 6                                                                    | 4                            | 4                             |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Feb 2-8, Feb 9-15                        | Feb 6-13                                                                        | 4                            | 6                             |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Feb 9-15, Feb 16-22                      | Feb 13-20                                                                       | 4                            | 6                             | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Feb 16-22, Feb 23-29                     | Feb 20-27                                                                       | 4                            |                               |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Feb 15-22, Feb 23-29,<br>Mar 1-7         | Feb 17-Mar 5                                                                    | 4                            | 4                             |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 1-7, Mar 8-14                        | Mar 5-12                                                                        |                              | 4                             |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 8-14, Mar 15-21                      | Mar 9-16                                                                        | 4                            |                               |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 8-14, Mar 15-22                      | Mar 11-19                                                                       | 6                            |                               |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 8-14, Mar 15-23                      | Mar 13-20                                                                       | 4                            |                               |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 15-24                                | Mar 16-23                                                                       | 4                            |                               |                             |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 15-24                                | Mar 18-25                                                                       | 4                            |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 15-24                                | Mar 20-27                                                                       | 4                            |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 22-28, Mar 29-Apr 4                  | Mar 23-30                                                                       | 4                            |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 22-28, Mar 29-Apr 4                  | Mar 25-Apr 1                                                                    | 4                            |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 22-28, Mar 29-Apr 4                  | Mar 27-Apr 3                                                                    | 4                            |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |
| Mar 29-Apr 4                             | Mar 30-Apr 6                                                                    | 4                            |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                               |

| WEEKLY REPORT<br>(PROVIDED BY<br>KIEWIT) | TIME<br>PERIOD OF<br>COLLAR<br>DATA<br>COVERED<br>BY MAPS<br>PROVIDED<br>BY ENR | SEGMENT<br>T 1<br>(KM 0 TO<br>24) | SEGMENT<br>T 2<br>(KM 25<br>TO 46) | SEGMENT<br>T 3<br>(KM 47-<br>85) | SEGMENT<br>T 4<br>(KM 85-<br>97) | MITIGATION IMPLEMENTED (AS INDICATED IN WEEKLY<br>REPORT)                                                                                                                                                                |
|------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------|------------------------------------|----------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mar 29-Apr 4                             | Apr 1-8                                                                         | 4                                 |                                    | 6                                |                                  | Appropriate site personnel were notified                                                                                                                                                                                 |
| NA                                       | May 4-11                                                                        | 4                                 | 4                                  | 4                                |                                  | NA                                                                                                                                                                                                                       |
| NA                                       | May 8-15                                                                        | 4                                 | 4                                  | 4                                |                                  | NA                                                                                                                                                                                                                       |
| NA                                       | May 11-18                                                                       |                                   | 4                                  | 4                                |                                  | NA                                                                                                                                                                                                                       |
| NA                                       | May 13-20                                                                       | 6                                 | 4                                  | 4                                |                                  | NA                                                                                                                                                                                                                       |
| May 24-30                                | May 18-25                                                                       |                                   | 4                                  | 4                                | 4                                | Data acquired from ENR maps                                                                                                                                                                                              |
| May 24-30                                | May 20-27                                                                       |                                   | 4                                  | 4                                | 4                                | NA                                                                                                                                                                                                                       |
| May 24-30                                | May 22-30                                                                       |                                   | 4                                  | 4                                | 4                                | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| May 24-30, May 31-Jun 6                  | May 25-Jun 1                                                                    |                                   | 4                                  | 4                                | 4                                | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| May 24-30, May 31-Jun 6                  | May 27-Jun 3                                                                    |                                   | 4                                  | 4                                |                                  | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| May 24-30, May 31-Jun 6                  | May 29-Jun 5                                                                    |                                   | 4                                  | 4                                |                                  | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| May 31-Jun 6, Jun 7-13                   | Jun 1-8                                                                         |                                   | 4                                  |                                  |                                  | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |

| WEEKLY REPORT<br>(PROVIDED BY<br>KIEWIT) | TIME<br>PERIOD OF<br>COLLAR<br>DATA<br>COVERED<br>BY MAPS<br>PROVIDED<br>BY ENR | SEGMENT 1<br>(KM 0 TO<br>24) | SEGMENT 2<br>(KM 25<br>TO 46) | SEGMENT 3<br>(KM 47-<br>85) | SEGMENT 4<br>(KM 85-<br>97) | MITIGATION IMPLEMENTED (AS INDICATED IN WEEKLY<br>REPORT)                                                                                                                                                                |
|------------------------------------------|---------------------------------------------------------------------------------|------------------------------|-------------------------------|-----------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| May 31-Jun 6, Jun 7-13                   | Jun 3-10                                                                        |                              | 4                             |                             |                             | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| May 31-Jun 6, Jun 7-13                   | Jun 5-12                                                                        |                              |                               | 4                           |                             | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| May 31-Jun 6, Jun 7-13,<br>Jun 14-20     | Jun 8-15                                                                        |                              | 4                             | 4                           | 4                           | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| Jun 7-13,<br>Jun 14-20                   | Jun 10-17                                                                       |                              | 4                             | 4                           | 4                           | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| Jun 7-13,<br>Jun 14-20                   | Jun 12-19                                                                       |                              | 4                             | 4                           | 4                           | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| Jun 14-20, Jun 21-27                     | Jun 15-22                                                                       |                              |                               | 6                           |                             | Appropriate site personnel were notified. Limited haul truck traffic was noted during this period. Only short duration and localized hauls occurred, and these were generally south of potential intersect with caribou. |
| Jun 14-20, Jun 21-27                     | June 17-24                                                                      |                              |                               | 6                           |                             | Appropriate site personnel were notified                                                                                                                                                                                 |
| Jun 14-20, Jun 21-27                     | Jun 19-26                                                                       | 6                            | 4                             |                             |                             | Appropriate site personnel were notified                                                                                                                                                                                 |
| Jun 21-27, Jun 28-Jul 4                  | Jun 22-29                                                                       | 6                            | 4                             |                             |                             | Appropriate site personnel were notified                                                                                                                                                                                 |
| Jun 21-27, Jun 28-Jul 4                  | Jun 25-Jul 2                                                                    |                              | 4                             |                             |                             | Appropriate site personnel were notified                                                                                                                                                                                 |
| Jun 21-27, Jun 28-Jul 4                  | Jun 26-Jul 3                                                                    | 4                            | 4                             |                             |                             | Appropriate site personnel were notified                                                                                                                                                                                 |
| Jun 28-Jul 4, Jul 5-11                   | Jun 29-Jul 6                                                                    | 4                            | 4                             | 4                           |                             | Appropriate site personnel were notified                                                                                                                                                                                 |
| Jun 28-Jul 4, Jul 5-11                   | Jul 1-10                                                                        | 4                            | 4                             | 4                           |                             | Appropriate site personnel were notified                                                                                                                                                                                 |

| WEEKLY REPORT<br>(PROVIDED BY<br>KIEWIT) | TIME<br>PERIOD OF<br>COLLAR<br>DATA<br>COVERED<br>BY MAPS<br>PROVIDED<br>BY ENR | SEGMENT<br>T 1<br>(KM 0 TO<br>24) | SEGMENT<br>T 2<br>(KM 25<br>TO 46) | SEGMENT<br>T 3<br>(KM 47-<br>85) | SEGMENT<br>T 4<br>(KM 85-<br>97) | MITIGATION IMPLEMENTED (AS INDICATED IN WEEKLY<br>REPORT) |
|------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------|------------------------------------|----------------------------------|----------------------------------|-----------------------------------------------------------|
| Jun 28-Jul 4, Jul 5-11,<br>Jul 12-18     | Jul 6-13                                                                        |                                   | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Jul 5-11, Jul 12-18                      | Jul 8-15                                                                        | 4                                 | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Jul 5-11, Jul 12-18                      | Jul 10-17                                                                       | 4                                 | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Jul 12-18, Jul 19-25                     | Jul 13-20                                                                       | 4                                 | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Jul 12-18, Jul 19-25                     | Jul 15-22                                                                       | 4                                 | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Jul 5-11, Jul 12-18                      | Jul 10-17                                                                       | 4                                 | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Jul 19-25, Jul 26-Aug 1                  | Jul 20-27                                                                       | 6                                 | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Jul 19-25, Jul 26-Aug 1                  | Jul 23-30                                                                       |                                   | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Jul 26-Aug 1, Aug 2-8                    | Jul 28-Aug 4                                                                    |                                   | 4                                  | 4                                |                                  | Appropriate site personnel were notified                  |
| Aug 2-8, Aug 9-15                        | Aug 3-10                                                                        |                                   | 4                                  | 6                                |                                  | Appropriate site personnel were notified                  |
| Aug 9-15, Aug 16-22                      | Aug 10-17                                                                       | 4                                 |                                    | 4                                |                                  | Appropriate site personnel were notified                  |
| Aug 16-22, Aug 23-29                     | Aug 17-24                                                                       | 4                                 | 4                                  |                                  |                                  | Appropriate site personnel were notified                  |
| Aug 23-29, Aug 30-Sept<br>5              | Aug 24-31                                                                       |                                   |                                    | 6                                |                                  | Appropriate site personnel were notified                  |
| Aug 30 - Sept 5, Sept 6-<br>12           | Sept 1-8                                                                        |                                   |                                    | 6                                |                                  | Appropriate site personnel were notified                  |
| Sept 6-12, Sept 13-19,<br>Sept 20-26     | Sept 14-21                                                                      |                                   |                                    | 4, 6                             |                                  | Appropriate site personnel were notified                  |
| Sept 13-19, Sept 20-26                   | Sept 17-24                                                                      | 4                                 | 4                                  |                                  |                                  | Appropriate site personnel were notified                  |
| Sept 13-19, Sept 20-26                   | Sept 14-20                                                                      | 4                                 |                                    | 4, 6                             |                                  | Appropriate site personnel were notified                  |
| Sept 20-26, Sept 27-<br>Oct 3            | Sept 21-28                                                                      |                                   |                                    | 4                                |                                  | Appropriate site personnel were notified                  |
| Sept 27- Oct 3, Oct 4-10                 | Sept 29-Oct<br>5                                                                |                                   |                                    | 4, 6                             |                                  | Appropriate site personnel were notified                  |
| Oct 4-10, Oct 11-17                      | Oct 6-13                                                                        |                                   | 4                                  |                                  |                                  | None                                                      |
| Oct 11-17, Oct 18-24                     | Oct 12-19                                                                       | 6                                 |                                    |                                  |                                  | None                                                      |
| Oct 18-24, Oct 25-31                     | Oct 20-27                                                                       | 4                                 | 4                                  | 4                                |                                  | None                                                      |



| WEEKLY REPORT<br>(PROVIDED BY<br>KIEWIT) | TIME<br>PERIOD OF<br>COLLAR<br>DATA<br>COVERED<br>BY MAPS<br>PROVIDED<br>BY ENR | SEGMENT 1<br>(KM 0 TO<br>24) | SEGMENT 2<br>(KM 25<br>TO 46) | SEGMENT 3<br>(KM 47-<br>85) | SEGMENT 4<br>(KM 85-<br>97) | MITIGATION IMPLEMENTED (AS INDICATED IN WEEKLY<br>REPORT) |
|------------------------------------------|---------------------------------------------------------------------------------|------------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------------------------------------|
| Oct 25-31, Nov 1-7                       | Oct 26-Nov 2                                                                    | 4                            | 4                             | 6                           |                             | None                                                      |
| Nov 1-7, Nov 4-14                        | Nov 2-Nov 9                                                                     | 4                            | 4                             | 4,6                         |                             | None                                                      |
| Nov 4-14                                 | Nov 9-16                                                                        | 4                            | 4                             |                             |                             | None                                                      |
| NA                                       | Nov 14-21                                                                       | 4                            |                               | 4                           |                             | Data acquired from ENR maps                               |
| Nov 22-28                                | Nov 16-23                                                                       | 4                            | 4                             | 4                           |                             | None                                                      |
| Nov 22-28                                | Nov 23-30                                                                       | 4                            | 4                             | 4                           |                             | None                                                      |
| NA                                       | Nov 30-Dec 7                                                                    | 4,6                          | 4                             | 4                           |                             | Data acquired from ENR maps                               |
| NA                                       | Dec 6-12                                                                        | 4                            | 4                             | 4                           |                             | None                                                      |

# TLICHO ALL-SEASON ROAD

DESIGN, BUILD & FINANCE

## Schedule Narrative Report

Update Period:

February, 27<sup>th</sup> 2021 to March, 27<sup>th</sup> 2021

Submitted:

15-April-2021

Effective Date – 13-Feb-2019

Target Substantial Completion – 30-Nov-2021

Target Total Completion – 30-Nov-2022

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## 2 General

### 2.1 Schedule Purpose

The Purpose of this schedule is to report progress for the period of February, 27<sup>th</sup> 2021 to March, 27<sup>th</sup> 2021, as part of the March 2021 Works Report in accordance with the Tlichó All Season Road Project Agreement, Appendix 3C.

### 2.2 Description of Most Significant Changes

Since the February 13<sup>th</sup>, 2019 *Effective Date*, Kiewit design has progressed substantially, quantities have been refined and sequence of work has been optimized. Segments have also been refined to better describe the sequence of work.

Kiewit has thoroughly reviewed its schedule logic this month and updated the status of activities up-to March 27<sup>th</sup> 2021 to reflect the ongoing work and its current plan for the execution of upcoming activities.

### 2.3 Time Impacts during this Reporting Period

| Date of Impact              | Time Impact Description                                                                                                                                                              | Mitigation Effort/Plan                                                                                                                                                                                                          | Date Client Notified                     |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| October/November 2019       | Material availability reduced in Pit 21B due to archeological potential                                                                                                              | Revise mass flow plan for borrow; modify aggregate processing strategy (increase haul distances for mass excavation and roadway gravels)                                                                                        | October 26 <sup>th</sup> 2019            |
| November/December 2019      | Additional pit development and material extraction effort in Pit 33A. INF prospects geotechnical report not representative of actual pit material type, availability and conditions. | Additional equipment allocated to Pit 33A operations, and productivity adjustment/reduction to LH operations                                                                                                                    | November 24 <sup>th</sup> 2019           |
| January/February 2020       | WLWB requires 90 days to review/approve use of Pit 48 after submitting amended Quarry Operations Plan (Version 3.0) once results of AIA and ARD/ML obtained                          | WLWB expedites the approval process by avoiding public consultation step in the review of version 3.0 of QOP; projected WLWB approval was Feb 27 <sup>th</sup> or later. Approval was granted February 28 <sup>th</sup> , 2020. | Verbal notice provided to client via NSI |
| January/February/March 2020 | WLWB requires 90 days to review/approve use of Pit 68A and 109 after submitting amended Quarry Operations Plan (Version 4.0) once results of AIA and ARD/ML obtained                 | WLWB expedites the approval process by avoiding public consultation step in the review of version 4.0 of QOP; projected WLWB approval is now March or later                                                                     | Verbal notice provided to client via NSI |



| Date of Impact | Time Impact Description                                                                                                                                                                                                                                                                                                                 | Mitigation Effort/Plan                                                                                                                                                                                                                                                                                                                                  | Date Client Notified                                                                                                  |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| February 2020  | Rock expected to be found at Pit 86 was not encountered. INF prospects geotechnical report not representative of actual pit material type, availability and conditions.                                                                                                                                                                 | Alternative sources of rock are being investigated to mitigate the impact of hauling material from pits farther away than planned.                                                                                                                                                                                                                      | Verbal notice provided to client via NSI                                                                              |
| March 2020     | COVID-19 – Effective March 15, 2020, NSI took precautionary measures including the suspension of all non-essential on-site work to mitigate the impacts from Coronavirus. A detailed breakdown of the impacts associated with COVID-19 is provided in section 2.3.1 below.                                                              | NSI will continue to follow guidelines issued by Territorial and Federal governments that apply to our work location. Opportunities to minimize the impact from this impact will be evaluated as the situation develops and more information becomes available.                                                                                         | Formal Notice provided on March 17, 2020.                                                                             |
| April/May 2020 | COVID-19 – In addition to the continuing effects of measures taken in March, NSI and GNWT agreed to pause work on site until May 15, 2020 to protect the health and safety of those involved with the project.                                                                                                                          | As of April 5 <sup>th</sup> , 2020, all craft and staff have demobilized from site except for a skeleton care and custody crew. Installation of temporary culverts and additional Erosion and Sediment Controls (ESC) above and beyond design continued to be installed to protect permanent work during site shutdown.                                 | Ongoing and regular informal communication. Formal notice and status updates provided on March 28 and April 14, 2020. |
| June 2020      | A forest fire was first observed close to kilometre 53 of the project on June 29, 2020, and the Project was subsequently instructed by the Ministry of Environment and Natural Resources (ENR) to limit accessibility to certain project areas.                                                                                         | <ul style="list-style-type: none"> <li>- Delaying critical path work at the LaMartre bridge;</li> <li>- Delaying the subcontractor engaged to install panels on the LaMartre bridge;</li> <li>- Utilization of Project resources including workers and equipment.</li> </ul>                                                                            | Formal Notice provided on July 07, 2020.                                                                              |
| July 2020      | <ul style="list-style-type: none"> <li>- COVID-19 – Labor retention has been a major challenge over the last few months. People have cancelled last minute, worked only 1 turn-around before quitting, left early. The primary cause of this has been due to COVID, and either not willing to travel any longer, or camp not</li> </ul> | <ul style="list-style-type: none"> <li>- Since shortly after start-up, we began working 12 hours shifts in place of 11, providing additional overtime.</li> <li>- We've looked at method to improving camp life with outdoor amenities.</li> <li>- Hiring more than we need, the 14-day monitoring remains a challenge since we're unable to</li> </ul> | Informally during unrelated meetings.                                                                                 |

| Date of Impact | Time Impact Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mitigation Effort/Plan                                                                                                                                                                                                                                                                                                                                                                                           | Date Client Notified                  |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
|                | <ul style="list-style-type: none"> <li>- being the same it used to be.</li> <li>- Weather: There was ~2.4x (97.6mm vs. 40.8mm) more rainfall than normal in July, with three days of &gt;10mm of rain (vs. an average of one) with one day of 39.3mm.</li> </ul>                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>- immediately replace operators.</li> <li>- Extended road repairs were required, with 1-2 shifts of work impacted during the worst of the 3 rainfalls. The continued rainfall has made quick progress challenging.</li> </ul>                                                                                                                                             |                                       |
| August 2020    | <ul style="list-style-type: none"> <li>- Cold and Flu Season is starting which has similar symptoms to COVID-19 leading to increased numbers of camp pre-screening denials, reduced workforce and productivity impacts.</li> <li>- COVID-19 – Labor retention has been a major challenge over the last few months. People have cancelled last minute, worked only 1 turn-around before quitting, left early. The primary cause of this has been due to COVID, and either not willing to travel any longer, or camp not being the same it used to be.</li> </ul> | <ul style="list-style-type: none"> <li>- Following COVID-19 protocols to reduce the chance of cold and flu being introduced to the camp.</li> <li>- Since shortly after start-up, we began working 12 hours shifts in place of 11, providing additional overtime.</li> <li>- Hiring more than we need, the 14-day monitoring remains a challenge since we're unable to immediately replace operators.</li> </ul> | Informally during unrelated meetings. |
| September 2020 | <ul style="list-style-type: none"> <li>- Continued manpower issues with Cold and Flu season. Foreman and supervisors have been delayed coming to site due to illness/proximity to ill person.</li> <li>- Starting to see reduced amount of returning workers due to winter season. Employees looking for longer term work while the Project is pushing to complete planned 2020 work that was delayed.</li> </ul>                                                                                                                                               | <ul style="list-style-type: none"> <li>- Following COVID-19 protocols to reduce the chance of cold and flu being introduced to the camp.</li> <li>- Hiring more than we need, the 14-day monitoring remains a challenge since we're unable to immediately replace operators.</li> </ul>                                                                                                                          | Informally during meetings.           |

| Date of Impact | Time Impact Description                                                                                                                                                                                                                                                                                                                                                                                | Mitigation Effort/Plan                                                                                                                                                                                                                                                                        | Date Client Notified        |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| October 2020   | <ul style="list-style-type: none"> <li>- Continued manpower issues with Cold and Flu season. Foreman and supervisors have been delayed coming to site due to illness/proximity to ill person.</li> <li>- After Oct. 11 the temperatures dropped below 0C and frost started to penetrate into the ground which in turn related to production impacts as well as increased wear on equipment.</li> </ul> | <ul style="list-style-type: none"> <li>- Following COVID-19 protocols to reduce the chance of cold and flu being introduced to the camp.</li> <li>- Utilizing winter spec placement for embankment operations, prioritize frost critical work and defer finishing work until 2021.</li> </ul> | Informally during meetings. |
| November 2020  | <ul style="list-style-type: none"> <li>- Continued manpower issues with Cold and Flu season.</li> <li>- Sub-zero temperatures and frost penetration into the ground which in turn related to production impacts as well as increased wear on equipment.</li> </ul>                                                                                                                                     | <ul style="list-style-type: none"> <li>- Following COVID-19 protocols to reduce the chance of cold and flu being introduced to the camp.</li> <li>- Utilizing winter spec placement for embankment operations, prioritize frost critical work and defer finishing work until 2021.</li> </ul> | Informally during meetings. |
| December 2020  | <ul style="list-style-type: none"> <li>- Remaining work unable to be completed due to frozen conditions has been postponed to 2021.</li> </ul>                                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>- Schedule analysis to re-sequence work and look for opportunities to regain schedule.</li> </ul>                                                                                                                                                      | Informally during meetings. |
| January 2021   | <ul style="list-style-type: none"> <li>- N/A</li> </ul>                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>- N/A</li> </ul>                                                                                                                                                                                                                                       | N/A                         |
| February 2021  | <ul style="list-style-type: none"> <li>- N/A</li> </ul>                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>- N/A</li> </ul>                                                                                                                                                                                                                                       | N/A                         |
| March 2021     | <ul style="list-style-type: none"> <li>- N/A</li> </ul>                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>- N/A</li> </ul>                                                                                                                                                                                                                                       | N/A                         |

### 2.3.1 COVID-19 Impacts

The COVID-19 virus has caused significant impacts to the project. In detail, the impacts experienced to the end of this schedule reporting period and included in the project schedule are:

| Impact Type         | Description                                                                                                                                                                                                                                                                                                                                           | Impact Type                         | Effect                                                                                                                                                                                                                                             | Impact Period    |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Non-Essential Work  | Craft associated with non-essential site work were sent off site as a precautionary measure. This impact began on approximately March 15, 2020. Personnel who were off site were advised to remain off site.                                                                                                                                          | Productivity                        | Production rates were not as expected during this period as key craft needed to complete this work were unavailable. Productivity impacts are incorporated into the schedule as known at this time.                                                | March 2020       |
| Crushing Production | It was expected that crushing operations would begin approximately mid-March to ensure sufficient supply of aggregate for the upcoming construction season.                                                                                                                                                                                           | Stop Work                           | As a result of COVID-19, the crushing subcontractor was not able to mobilize to site as anticipated. The crushing operations are delayed until such time as travel restrictions are lifted and the crushing crews can safely return to site.       | March 2020       |
| Temporary Culverts  | In preparation for site-wide shut down, NSI installed a number of temporary culverts to ensure protection of the site during any potential shut down period(s). Temporary culverts were installed in Segment 2B and 3. Where permanent culvert installation could occur, such as Segment 2A, NSI advanced these activities ahead of planned schedule. | Additional or out of sequence work. | Additional work has been added to protect already completed work and help mitigate any adverse environmental impacts. Further additional work will be required to remove these temporary measures and complete permanent work upon return to site. | April 2020       |
| Piling              | Piling for bridge work was ongoing during the outbreak of COVID-19. As a result of travel and quarantine restrictions put in place, key crew members from piling subcontractors were unable to return to site after their normal turnaround cycle.                                                                                                    | Stop Work                           | As subcontractor piling crews became unavailable, subcontract piling work stopped.                                                                                                                                                                 | April – May 2020 |
| Site Shutdown       | To protect the health and safety of those involved with the project, NSI and GNWT agreed to suspend work on site. All staff and craft have demobilized from                                                                                                                                                                                           | Stop Work                           | Effects of the site shutdown are documented in the April 14, 2020 report <u>UPDATE: COVID-19 SUPERVENING EVENTS</u> .                                                                                                                              | April – May 2020 |



| Impact Type | Description                                                                                             | Impact Type | Effect | Impact Period |
|-------------|---------------------------------------------------------------------------------------------------------|-------------|--------|---------------|
|             | site except for a skeleton care and custody crew. The shutdown will remain in place until May 15, 2020. |             |        |               |

The above only reflects the known time impacts occurring during the reporting period at time of report writing. This list does not include time impacts associated with overhead support items such as camp facilities and operational support, including additional security measures or procurement items.

Schedule impacts associated with these impacts are occurring and will be and adjusted in the schedule as they occur and are actualized.

## 2.4 Implementation Strategy

### 2.4.1 Design – Plans - Permitting

No changes to the implementation strategy to during this reporting period.

### 2.4.2 Procurement

No changes to the implementation strategy to during this reporting period.

### 2.4.3 Mobilization and site setup

No changes to the implementation strategy to during this reporting period.

### 2.4.4 Construction Segment 1

No changes to the implementation strategy to during this reporting period.

### 2.4.5 Construction Segment 2A

No changes to the implementation strategy to during this reporting period.

### 2.4.6 Construction Segment 2B

No changes to the implementation strategy to during this reporting period.

### 2.4.7 Construction Segment 3

No changes to the implementation strategy to during this reporting period.

### 2.4.8 Construction Segment 4

No changes to the implementation strategy to during this reporting period.

### 3 Milestones Table

| Milestone Description                 | Activity ID | Baseline Date | Current Date |
|---------------------------------------|-------------|---------------|--------------|
| Effective Date                        | ML-00-ED    | 13-Feb-19     | 13-Feb-19    |
| Substantial Completion                | ML-20-SC    | 30-Nov-21     | 30-Nov-21    |
| Total Completion                      | ML-30-TC    | 30-Nov-22     | 30-Nov-22    |
| Projected Substantial Completion date | PD-20-SC    |               | 30-Nov-21    |
| Projected Total Completion Date       | PD-30-TC    |               | 23-Apr-22    |

### 4 Key Completed and In-progress Activities in this Period

| Activity ID          | Activity Name                                                                                              | O.D | Start       | Finish    |
|----------------------|------------------------------------------------------------------------------------------------------------|-----|-------------|-----------|
| Milestones           |                                                                                                            |     |             |           |
| Design               |                                                                                                            |     |             |           |
| Procurement          |                                                                                                            |     |             |           |
| Construction         |                                                                                                            |     |             |           |
| C01GRDIN.EEEWEXEM    | SEG1 - Exc/Embank Load & Haul from 00+000 to 22+500 (Rough Grade)                                          | 73  | 10-Sep-19 A | 05-Aug-21 |
| C01GRDIN.RRARIPRP00  | SEG1 - Sta. 0+000 - 22+500 Install Rip Rap                                                                 | 30  | 14-Aug-20 A | 05-Aug-21 |
| C01GRDIN.LOFINISLP00 | SEG1 - Sta. 0+000 - 22+500 Install Finish Slopes Finish Slopes and Ditches                                 | 185 | 10-Sep-19 A | 05-Aug-21 |
| C01CUTIN.EBDCS01     | SEG1 - Install Cut Circular Culverts ELB Pipe                                                              | 39  | 25-Sep-19 A | 5-Jun-21  |
| C01AGGIN.ABASUBB     | SEG1 - Place and compact Road Topping from 0+000 to 22+500                                                 | 19  | 03-Aug-20 A | 26-Jul-21 |
| C01GRDIN.SFASUBB     | SEG1 - Subgrade Finish from 0+000 to 22+500                                                                | 22  | 13-Aug-20 A | 22-Jul-21 |
| C2AGRDIN.EEEWEXEM    | SEG2a - Exc/Embank Load & Haul from 22+500 to 32+000 (Rough Grade)                                         | 20  | 24-Oct-19 A | 2-Jul-21  |
| C2AGRDIN.RRARIPRP00  | SEG2a - Sta. 22+500 - 32+000 Install Riprap Rip Rap Direct                                                 | 23  | 14-Aug-20 A | 05-Jun-21 |
| C2AGRDIN.LOFINISLP00 | SEG2a - Sta. 22+500 - 32+000 Install Finish Slopes Finish Slopes and Ditches                               | 9   | 22-Nov-19 A | 13-Jul-21 |
| C2AGRDIN.SFASUBB     | SEG2a - Subgrade Finish from 22+500 to 32+000                                                              | 12  | 31-Aug-20 A | 30-Jul-21 |
| C2AAGGIN.ABASUBB     | SEG2a - Place & Compact Road Topping from 22+500 to 32+000                                                 | 9   | 14-Sep-20 A | 30-Jul-21 |
| C2BGRDIN.EEEWEXEM    | SEG2b - Exc/Embank Load & Haul from 32+000 to 47+500 (Rough Grade)                                         | 50  | 21-Nov-19 A | 13-Jul-21 |
| C2BGRDIN.RRARIPRP00  | SEG2b - Sta. 32+000 to 47+500 Install Riprap Rip Rap Direct                                                | 10  | 14-Aug-20 A | 13-Jul-21 |
| C2BGRDIN.LOFINISLP00 | SEG2b - Sta. 32+000 to 47+500 Install Finish Slopes Finish Slopes and Ditches                              | 36  | 14-Sep-20 A | 13-Jul-21 |
| C2BGRDIN.SFASUBB     | SEG2b - Subgrade Finish from 32+000 to 47+500                                                              | 60  | 15-Sep-20 A | 16-Jun-21 |
| C2BAGGIN.ABASUBB     | SEG2b - Place & Compact Road Topping from 32+000 to 47+500                                                 | 85  | 21-Sep-20 A | 06-Aug-21 |
| CDPGRDIN.WWABASS08   | SEG2b - Bridge - Duport - Set Baskets and Strap Zone Backfill at 40+400                                    | 9   | 29-Feb-20 A | 16-Jul-21 |
| CDPGRDIN.ECENVSCS08  | SEG2b - Bridge - Duport - Install Silt Curtain at 40+400                                                   | 7   | 26-Mar-20 A | 15-Jul-21 |
| CUNCONIN.AWABASS09   | SEG2b - Bridge - Unnamed - 45+137.7 to 45+186.3 Install Abutments & Wing Walls Abutments and Approach Slab | 26  | 21-Sep-20 A | 17-Jul-21 |
| CUNGRDIN.WWABASS09   | SEG2b - Bridge - Unnamed - Construct Abutments & Approach Slab at 45+170                                   | 9   | 09-Jul-20 A | 20-Jul-21 |
| C03GRDIN.RRARIPRP00  | SEG3 - Sta. 47+500 to 85+200 Install Riprap Rip Rap Direct                                                 | 50  | 14-Aug-20 A | 31-Aug-21 |
| C03GRDIN.DWENVSCS00  | SEG3 - Sta. 47+500 to 85+200 Install Dewatering Install / Remove Dewatering System - Install Pumps Direct  | 85  | 24-Aug-20 A | 31-Aug-21 |

TLCHO

Schedule Narrative

Version: 3

REV:0

April 15, 2021

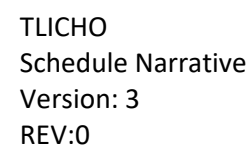
9

| Activity ID               | Activity Name                                                                                      | O.D | Start       | Finish    |
|---------------------------|----------------------------------------------------------------------------------------------------|-----|-------------|-----------|
| C03GRDIN.EEWEXEM          | SEG3 - Exc/Embank Load & Haul from 47+500 to 85+200                                                | 190 | 21-Jan-20 A | 31-Aug-21 |
| C03GRDIN.DWENVSCS00       | SEG3 - Sta. 47+500 to 85+200 Install Dewatering Install / Remove Dewatering System - Install Pumps | 50  | 24-Aug-20 A | 31-Aug-21 |
| C03GRDIN.EEGRCRB          | SEG3 - Excavation to Waste from 47+500 to 85+200                                                   | 84  | 21-Jan-20 A | 02-Aug-21 |
| CJRGRDIN.WWABASS14        | SEG3 - Bridge - James River - Set Baskets and Strap Zone Backfill at 69+665                        | 50  | 29-Feb-20 A | 22-Jun-21 |
| CJRGRDIN.EEABASS14        | SEG3 - Bridge - James River - Haul Backfill Abutments and Approach Slab at 69+665                  | 20  | 13-Jul-20 A | 28-Jun-21 |
| CJRGRDIN.ECENVSCS14       | SEG3 - Bridge - James River - Install Silt Curtain at 69+665                                       | 7   | 29-Mar-20 A | 24-Jul-21 |
| C04GRDIN.PIGRRPTR         | SEG4 - Pioneering from 85+200 to 97+000                                                            | 12  | 18-Feb-20 A | 1-Jun-21  |
| C04GRDIN.EEWEXEM          | SEG4 - Exc/Embank Load & Haul from 85+200 to 97+000                                                | 40  | 31-Aug-20 A | 22-Sep-21 |
| C04GRDIN.SZEWEXEM00       | SEG4 - Sta. 85+200 to 96+066 Install Soil Stabilization Ex and Embank                              | 25  | 31-Aug-20 A | 09-Jul-21 |
| C04GRDIN.RRARIPRP00       | SEG4 - Sta. 85+200 to 96+066 Install Riprap Rip Rap                                                | 10  | 07-Sep-20 A | 05-Jun-21 |
| CLMGRDIN.ECENVSCS15       | SEG4 - Bridge - La Martre - Install Silt Curtain at 85+400                                         | 7   | 26-Mar-20 A | 22-Jul-21 |
| CLMGRDIN.EEABASS15        | SEG4 - Bridge - La Martre - Haul Backfill for Abutments and Approach Slab at 85+400                | 14  | 13-Jul-20 A | 27-Jul-21 |
| CLMGRDIN.WWABASS15        | SEG4 - Bridge - La Martre - Set Baskets and Strap Zone Backfill at 85+400                          | 52  | 20-Jul-20 A | 02-Aug-21 |
| Environmental Constraints |                                                                                                    |     |             |           |

## 5 Longest or Critical Path

Kiewit tracks Longest Path activities, i.e.; a series of activities in-chain that adds up to the longest duration to project completion, there can only be one (1) longest path. Kiewit also tracks “near” Longest Path (critical) activities. Critical path activities can be described as activities that can affect the Longest Path if they are delayed. Note: not all critical activities will appear on a longest path diagram.

With modifications made to the schedule to mitigate delay from COVID-19 impacts, the progressed schedule for this period has a longest path / critical path that differs from previous months. Longest path activities are now mainly comprised of road topping placement activities in Segments 4. The longest path then follows through finishing activities including signage, reclamation works, and finally post construction road safety audits for Segment 4. Completion of punch list items leads to projected substantial completion of November 30<sup>th</sup>, 2021.





## 6 Planned Work Calendars

(for typical year refer to Appendix A)

| P6 Calendar Name                                                                    | P6 Activity Types                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01 - 7d/week No Holiday                                                             | <ul style="list-style-type: none"> <li>Start/Finish Milestones</li> <li>Camp Activities</li> <li>Environmental Constraints</li> <li>Administration Activities</li> </ul>                                                                                                                                    |
| 02 – 5d Office + Holidays                                                           | <ul style="list-style-type: none"> <li>All Design/Permits/Procurement/Safety Audits</li> </ul>                                                                                                                                                                                                              |
| 03 – [NFS] Non-Frost Susceptible (non-work windows Dec/Jan/Feb & Mid-April/May)6x10 | <ul style="list-style-type: none"> <li>Clearing/Stripping &amp; Grubbing</li> <li>Pre/Post Survey</li> <li>Drill &amp; Blasting</li> <li>Embankment (Segments 1, 2, &amp; 3)</li> <li>Culverts</li> <li>Bridge Work for Access and Piles</li> <li>Signage</li> <li>Seeding</li> <li>Reclamations</li> </ul> |
| 04 – Gravel – Rd Topping (work window – June01-Oct30)                               | <ul style="list-style-type: none"> <li>Road Topping</li> </ul>                                                                                                                                                                                                                                              |
| 05 – Structures Summer (work window June-Sept)                                      | <ul style="list-style-type: none"> <li>Structural work at bridges</li> </ul>                                                                                                                                                                                                                                |
| 06 - Topsoil Stripping (work windows Jun15-Nov10 & Mar05-April20)                   | <ul style="list-style-type: none"> <li>Topsoil Stripping</li> </ul>                                                                                                                                                                                                                                         |
| 07 – [FS] Frost Susceptible (work window June – Oct)                                | <ul style="list-style-type: none"> <li>Embankment (Segments 4)</li> <li>(SEGMENT 4 IS NOW OUTSIDE THIS WINDOW DUE TO COVID DELAY)</li> </ul>                                                                                                                                                                |
| 08 – Pioneering thru winter 6x10                                                    | <ul style="list-style-type: none"> <li>Pioneering &amp; Winter Embankment</li> <li>Temporary Bridge work</li> <li>Crusher &amp; Crushing</li> </ul>                                                                                                                                                         |

## 6.1 Weather Days – Force Majeure

| Reporting Period           | Days Incurred |
|----------------------------|---------------|
| 13-FEB-2019 to 31-AUG-2019 | 0             |
| 01-SEP-2019 to 30-SEP-2019 | 0             |
| 01-OCT-2019 to 31-OCT-2019 | 0             |
| 01-NOV-2019 to 30-NOV-2019 | 0             |
| 01-DEC-2019 to 31-DEC-2019 | 0             |
| 01-JAN-2020 to 31-DEC-2020 | 3             |
| 01-FEB-2020 to 29-FEB-2020 | 0             |
| 01-MAR-2020 to 28-MAR-2020 | 0             |
| 29-MAR-2020 to 25-APR-2020 | 0             |

## 7 Self-Perform/Sub-contracting Strategy

Table below indicates which work is intended to be self-performed or sub-contracted:

| Scope of Work                 | Self/Sub                            |
|-------------------------------|-------------------------------------|
| Camp Operation                | Sub-Contract                        |
| Clearing                      | Sub-Contract                        |
| Pioneering                    | Self-Perform                        |
| Stripping and Grubbing        | Self-Perform                        |
| Embankment operations         | Self-Perform                        |
| Drill and Shoot               | Sub-Contract                        |
| Crushing                      | Sub-Contract                        |
| Culvert installation          | Self-Perform                        |
| Bridge Piles                  | Sub-Contract                        |
| Permanent bridge installation | Sub-Contract                        |
| Post-Tensioning and grouting  | Sub-Contract                        |
| Signage and Guardrail         | Sub-Contract                        |
| Road Topping                  | Self-Perform & Subcontract Trucking |

## 8 Activity ID Structure (see Appendix B for expanded ID tree)

| 1st                                             | 2nd       | 3rd                                                                                                               | 4th       | 5th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6th                                                                                                                                                   | 7th | 8th |
|-------------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|
| <b>CONTRACT MILESTONES</b>                      |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| ML (for Milestone)                              | -         | 00 (number)                                                                                                       | -         | XX (2 letter descriptive)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                       |     |     |
| <b>PROJECT SCHEDULE MILESTONES (APPENDIX A)</b> |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| PW (Project Wide)                               | -         | 000 (number)                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| <b>PLAN SUBMITTALS</b>                          |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| PW (Project Wide)                               | -         | 000 (number)                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| <b>INTERIM MILESTONES (EMBANKMENT COMPLETE)</b> |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| ML (for Milestone)                              | -         | EC (Embarkment)                                                                                                   | -         | 000 (number)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                       |     |     |
| 1st                                             | 2nd       | 3rd                                                                                                               | 4th       | 5th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6th                                                                                                                                                   | 7th | 8th |
| <b>DESIGN</b>                                   |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| DE (Design)                                     | .(period) | <b>Design Type:</b><br>GT (Geotech Design)<br>RD (Roadway Design)<br>ST (Structures Design)<br>HY (Hydrotech)     | .(period) | <b>Location:</b><br>SOXx - Segment<br>CUL - Culvert<br>DR - Drainage<br>BDP - Duport Bridge<br>BUN - Unnamed Bridge<br>BJM - James Bridge<br>BLM - LaMartre Bridge<br>CGA - Clear & Grub<br>ADS(R,D,H) - Support Hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Design Stage:</b><br>1000 - Prepare 50%<br>2000 - Prepare 90%<br>3000 - Complete IFC<br>4010 - Review 50%<br>4000 - Review 30%<br>(not consistent) |     |     |
| 1st                                             | 2nd       | 3rd                                                                                                               | 4th       | 5th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6th                                                                                                                                                   | 7th | 8th |
| <b>PROCUREMENT</b>                              |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| PR (Procurement)                                | -         | <b>What:</b><br>CMP - Camp<br>EQP - Equipment<br>PIL - Piles<br>GRD - Gerders/Deck                                | -         | <b>Location:</b><br>SOX - Segment<br>ALL - Project Wide<br>DUP - Duport Bridge<br>JAM - James Bridge<br>LAM - La Martre Bridge<br>UNM - Unnamed Bridge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                       |     |     |
| 1st                                             | 2nd       | 3rd                                                                                                               | 4th       | 5th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6th                                                                                                                                                   | 7th | 8th |
| <b>PERMITS</b>                                  |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| PE (Permits)                                    | -         | 000 (number)                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| 1st                                             | 2nd       | 3rd                                                                                                               | 4th       | 5th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6th                                                                                                                                                   | 7th | 8th |
| <b>CONSTRUCTION</b>                             |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| CON (Construction)                              | -         | <b>Location:</b><br>S01 - Segment 1<br>S2A - Segment 2a<br>S2B - Segment 2b<br>S03 - Segment 3<br>S04 - Segment 4 | -         | <b>What:</b><br>CAMP - Camp<br>CSG - Clearing/Stripping & Grubbing<br>CPD - Clearing/Stripping & Grubbing for Pits & Quarry & Rock Cuts<br>FPS - Pre/Post Survey<br>MCR - Mob & Set-up Crusher<br>PIO - Pioneering<br>IDV - Initial Development<br>TBR - Temporary Bridge<br>TOP - Topsoil Stripping<br>DBT - Drill & Blasting<br>CRS - Crushing<br>ECIC - Embankment Crew 1 at common areas<br>ECIR - Embankment Crew 1 at rock areas<br>EC2C - Embankment Crew 2 at common areas<br>EC2R - Embankment Crew 2 at rock areas<br>CUL - Culvert<br>APL - Build Access for Pile crew at Bridge<br>PIL - Construct Piles<br>ABT - Construct Abutments and Approach Slabs<br>DCK - Erect Precast Panels, & Grout<br>STL - Set Steel Caps & Pre-cast Girders<br>GRD - Guardrails<br>PST - Post Tensioning<br>RTP - Road Topping<br>SGN - Install Signage<br>SDG - Seeding<br>RCL - Reclamations<br>AUD - Safety Audit | DUP - Duport Bridge<br>JAM - James River Bridge<br>LAM - LaMartre Bridge<br>UNM - Unnamed Bridge                                                      |     |     |
| 1st                                             | 2nd       | 3rd                                                                                                               | 4th       | 5th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6th                                                                                                                                                   | 7th | 8th |
| <b>ENVIRONMENTAL CONSTRAINTS</b>                |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| ENV (Environmentals)                            | -         | BIRD<br>FISH<br>FLORA<br>WILD                                                                                     | -         | 000 (number)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                       |     |     |
| 1st                                             | 2nd       | 3rd                                                                                                               | 4th       | 5th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6th                                                                                                                                                   | 7th | 8th |
| <b>ADMINISTRATION CARRY COSTS</b>               |           |                                                                                                                   |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                       |     |     |
| ADM (Administration)                            | -         | IND - Indirect<br>PCAMP - Perm. Camp<br>TCAMP - Temp Camp                                                         | -         | S2019 - Summer 2019<br>S2020 - Summer 2020<br>S2021 - Summer 2021<br>W2019 - Winter 2019<br>W2020 - Winter 2020<br>UTL - Utilization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                       |     |     |



## APPENDIX A - Calendars



Schedule ToolKit - General calendar view - 2021

65 - 74/week No Holiday

Standard Working

Exception Working

Not Working (Std)

Not Working (Spec)

Outside Selected Range

January

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Schedule Toolkit - General calendar view - 2021

62 - Std Office + Holidays

Standard Working

Exception Working

Not Working (Std)

Not Working (Spec)

Outside Selected Range

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| Schedule ToolKit - General calendar view - 2021                                      |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
|--------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-----|-----|--------------------|-----|-----|-----|-----|-----|-----|
| 01 - (WIS) Non-Frost Susceptible (non-work windows Dec/Jan/Feb & Mid-April/May) 6x15 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| Standard Working                                                                     |     |     |     |     |     |     | Exception Working |     |     |     |     |     |     | Not Working (Std) |     |     |     |     |     |     | Not Working (Spec) |     |     |     |     |     |     |
| January                                                                              |     |     |     |     |     |     | February          |     |     |     |     |     |     | March             |     |     |     |     |     |     | April              |     |     |     |     |     |     |
| Sun                                                                                  | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun                | Mon | Tue | Wed | Thu | Fri | Sat |
|                                                                                      |     |     |     |     | 1   | 2   |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| 3                                                                                    | 4   | 5   | 6   | 7   | 8   | 9   | 7                 | 8   | 9   | 10  | 11  | 12  | 13  | 7                 | 8   | 9   | 10  | 11  | 12  | 13  |                    |     |     |     |     |     |     |
| 10                                                                                   | 11  | 12  | 13  | 14  | 15  | 16  | 14                | 15  | 16  | 17  | 18  | 19  | 20  | 14                | 15  | 16  | 17  | 18  | 19  | 20  |                    |     |     |     |     |     |     |
| 17                                                                                   | 18  | 19  | 20  | 21  | 22  | 23  | 21                | 22  | 23  | 24  | 25  | 26  | 27  | 21                | 22  | 23  | 24  | 25  | 26  | 27  |                    |     |     |     |     |     |     |
| 24                                                                                   | 25  | 26  | 27  | 28  | 29  | 30  | 28                |     |     |     |     |     |     | 28                | 29  | 30  | 31  |     |     |     |                    |     |     |     |     |     |     |
| 31                                                                                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| May                                                                                  |     |     |     |     |     |     | June              |     |     |     |     |     |     | July              |     |     |     |     |     |     | August             |     |     |     |     |     |     |
|                                                                                      |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| 4                                                                                    | 5   | 6   | 7   | 8   | 9   | 10  | 2                 | 3   | 4   | 5   | 6   | 7   | 8   | 6                 | 7   | 8   | 9   | 10  | 11  | 12  |                    |     |     |     |     |     |     |
| 11                                                                                   | 12  | 13  | 14  | 15  | 16  | 17  | 9                 | 10  | 11  | 12  | 13  | 14  | 15  | 13                | 14  | 15  | 16  | 17  | 18  | 19  |                    |     |     |     |     |     |     |
| 18                                                                                   | 19  | 20  | 21  | 22  | 23  | 24  | 16                | 17  | 18  | 19  | 20  | 21  | 22  | 20                | 21  | 22  | 23  | 24  | 25  | 26  |                    |     |     |     |     |     |     |
| 25                                                                                   | 26  | 27  | 28  | 29  | 30  |     | 23                | 24  | 25  | 26  | 27  | 28  | 29  | 27                | 28  | 29  | 30  |     |     |     |                    |     |     |     |     |     |     |
|                                                                                      |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| September                                                                            |     |     |     |     |     |     | October           |     |     |     |     |     |     | November          |     |     |     |     |     |     | December           |     |     |     |     |     |     |
|                                                                                      |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| 5                                                                                    | 6   | 7   | 8   | 9   | 10  | 11  | 3                 | 4   | 5   | 6   | 7   | 8   | 9   | 5                 | 6   | 7   | 8   | 9   | 10  | 11  |                    |     |     |     |     |     |     |
| 12                                                                                   | 13  | 14  | 15  | 16  | 17  | 18  | 10                | 11  | 12  | 13  | 14  | 15  | 16  | 12                | 13  | 14  | 15  | 16  | 17  | 18  |                    |     |     |     |     |     |     |
| 19                                                                                   | 20  | 21  | 22  | 23  | 24  | 25  | 17                | 18  | 19  | 20  | 21  | 22  | 23  | 19                | 20  | 21  | 22  | 23  | 24  | 25  |                    |     |     |     |     |     |     |
| 26                                                                                   | 27  | 28  | 29  | 30  |     |     | 24                | 25  | 26  | 27  | 28  | 29  | 30  | 26                | 27  | 28  | 29  | 30  |     |     |                    |     |     |     |     |     |     |
|                                                                                      |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |



Schedule Toolkit - General calendar view - 2021

01 - General - Rd Toggling (week schedule - Jan2021-Oct2021)

Standard Working

Exception Working

Not Working (Std)

Not Working (Etc)

Outside Selected Range

January

SunMonTueWedThuFriSat

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July

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October 2021

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| Schedule Toolkit - General calendar view - 2021 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
|-------------------------------------------------|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-----|-----|--------------------|-----|-----|-----|-----|-----|-----|
| 05 - Structures Summer (work window June-Sept)  |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| Standard Working                                |     |     |     |     |     |     | Exception Working |     |     |     |     |     |     | Not Working (Std) |     |     |     |     |     |     | Not Working (Flex) |     |     |     |     |     |     |
| January                                         |     |     |     |     |     |     | February          |     |     |     |     |     |     | March             |     |     |     |     |     |     | April              |     |     |     |     |     |     |
| Sun                                             | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun                | Mon | Tue | Wed | Thu | Fri | Sat |
|                                                 |     |     |     |     | 1   | 2   |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| 3                                               | 4   | 5   | 6   | 7   | 8   | 9   | 7                 | 8   | 9   | 10  | 11  | 12  | 13  | 7                 | 8   | 9   | 10  | 11  | 12  | 13  |                    |     |     |     |     |     |     |
| 10                                              | 11  | 12  | 13  | 14  | 15  | 16  | 14                | 15  | 16  | 17  | 18  | 19  | 20  | 14                | 15  | 16  | 17  | 18  | 19  | 20  |                    |     |     |     |     |     |     |
| 17                                              | 18  | 19  | 20  | 21  | 22  | 23  | 21                | 22  | 23  | 24  | 25  | 26  | 27  | 21                | 22  | 23  | 24  | 25  | 26  | 27  |                    |     |     |     |     |     |     |
| 24                                              | 25  | 26  | 27  | 28  | 29  | 30  | 28                |     |     |     |     |     |     | 28                | 29  | 30  | 31  |     |     |     |                    |     |     |     |     |     |     |
| 31                                              |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| May                                             |     |     |     |     |     |     | June              |     |     |     |     |     |     | July              |     |     |     |     |     |     | August             |     |     |     |     |     |     |
| Sun                                             | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun                | Mon | Tue | Wed | Thu | Fri | Sat |
|                                                 |     |     |     |     | 1   | 2   |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| 4                                               | 5   | 6   | 7   | 8   | 9   | 10  | 2                 | 3   | 4   | 5   | 6   | 7   | 8   | 6                 | 7   | 8   | 9   | 10  | 11  | 12  |                    |     |     |     |     |     |     |
| 11                                              | 12  | 13  | 14  | 15  | 16  | 17  | 9                 | 10  | 11  | 12  | 13  | 14  | 15  | 13                | 14  | 15  | 16  | 17  | 18  | 19  |                    |     |     |     |     |     |     |
| 18                                              | 19  | 20  | 21  | 22  | 23  | 24  | 16                | 17  | 18  | 19  | 20  | 21  | 22  | 20                | 21  | 22  | 23  | 24  | 25  | 26  |                    |     |     |     |     |     |     |
| 25                                              | 26  | 27  | 28  | 29  | 30  |     | 23                | 24  | 25  | 26  | 27  | 28  | 29  | 27                | 28  | 29  | 30  |     |     |     |                    |     |     |     |     |     |     |
|                                                 |     |     |     |     |     |     | 30                | 31  |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| September                                       |     |     |     |     |     |     | October           |     |     |     |     |     |     | November          |     |     |     |     |     |     | December           |     |     |     |     |     |     |
| Sun                                             | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun                | Mon | Tue | Wed | Thu | Fri | Sat |
|                                                 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |
| 4                                               | 5   | 6   | 7   | 8   | 9   | 10  | 3                 | 4   | 5   | 6   | 7   | 8   | 9   | 5                 | 6   | 7   | 8   | 9   | 10  | 11  |                    |     |     |     |     |     |     |
| 11                                              | 12  | 13  | 14  | 15  | 16  | 17  | 10                | 11  | 12  | 13  | 14  | 15  | 16  | 12                | 13  | 14  | 15  | 16  | 17  | 18  |                    |     |     |     |     |     |     |
| 18                                              | 19  | 20  | 21  | 22  | 23  | 24  | 17                | 18  | 19  | 20  | 21  | 22  | 23  | 19                | 20  | 21  | 22  | 23  | 24  | 25  |                    |     |     |     |     |     |     |
| 25                                              | 26  | 27  | 28  | 29  | 30  | 31  | 24                | 25  | 26  | 27  | 28  | 29  | 30  | 26                | 27  | 28  | 29  | 30  | 31  |     |                    |     |     |     |     |     |     |
|                                                 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                    |     |     |     |     |     |     |

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Schedule ToolKit - General calendar view - 2021

07 - [0] Front Suspension (work window June - Oct)

Standard Working

Exception Working

Not Working (Ind)

Not Working (Etc)

Outside Selected Range

January

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     | 1   | 2   |
| 3   | 4   | 5   | 6   | 7   | 8   | 9   |
| 10  | 11  | 12  | 13  | 14  | 15  | 16  |
| 17  | 18  | 19  | 20  | 21  | 22  | 23  |
| 24  | 25  | 26  | 27  | 28  | 29  | 30  |
| 31  |     |     |     |     |     |     |

February

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     | 1   | 2   | 3   | 4   | 5   | 6   |
| 7   | 8   | 9   | 10  | 11  | 12  | 13  |
| 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| 21  | 22  | 23  | 24  | 25  | 26  | 27  |
| 28  |     |     |     |     |     |     |

March

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     | 1   | 2   | 3   | 4   | 5   | 6   |
| 7   | 8   | 9   | 10  | 11  | 12  | 13  |
| 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| 21  | 22  | 23  | 24  | 25  | 26  | 27  |
| 28  | 29  | 30  | 31  |     |     |     |

April

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     | 1   | 2   | 3   |
| 4   | 5   | 6   | 7   | 8   | 9   | 10  |
| 11  | 12  | 13  | 14  | 15  | 16  | 17  |
| 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 25  | 26  | 27  | 28  | 29  | 30  |     |

May

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     |     |     | 1   |
| 2   | 3   | 4   | 5   | 6   | 7   | 8   |
| 9   | 10  | 11  | 12  | 13  | 14  | 15  |
| 16  | 17  | 18  | 19  | 20  | 21  | 22  |
| 23  | 24  | 25  | 26  | 27  | 28  | 29  |
| 30  | 31  |     |     |     |     |     |

June

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     |     | 1   | 2   | 3   | 4   | 5   |
| 6   | 7   | 8   | 9   | 10  | 11  | 12  |
| 13  | 14  | 15  | 16  | 17  | 18  | 19  |
| 20  | 21  | 22  | 23  | 24  | 25  | 26  |
| 27  | 28  | 29  | 30  |     |     |     |

July

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     |     | 1   | 2   | 3   |
| 4   | 5   | 6   | 7   | 8   | 9   | 10  |
| 11  | 12  | 13  | 14  | 15  | 16  | 17  |
| 18  | 19  | 20  | 21  | 22  | 23  | 24  |
| 25  | 26  | 27  | 28  | 29  | 30  | 31  |

August

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
| 1   | 2   | 3   | 4   | 5   | 6   | 7   |
| 8   | 9   | 10  | 11  | 12  | 13  | 14  |
| 15  | 16  | 17  | 18  | 19  | 20  | 21  |
| 22  | 23  | 24  | 25  | 26  | 27  | 28  |
| 29  | 30  | 31  |     |     |     |     |

September

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 1   | 2   | 3   | 4   |
| 5   | 6   | 7   | 8   | 9   | 10  | 11  |
| 12  | 13  | 14  | 15  | 16  | 17  | 18  |
| 19  | 20  | 21  | 22  | 23  | 24  | 25  |
| 26  | 27  | 28  | 29  | 30  |     |     |

October 2021

| <  | >  | Mon | Tue | Wed | Thr | Fri | Sat | Sun |
|----|----|-----|-----|-----|-----|-----|-----|-----|
|    |    |     |     |     |     | 1   | 2   | 3   |
| 4  | 5  | 6   | 7   | 8   | 9   | 10  |     |     |
| 11 | 12 | 13  | 14  | 15  | 16  | 17  |     |     |
| 18 | 19 | 20  | 21  | 22  | 23  | 24  |     |     |
| 25 | 26 | 27  | 28  | 29  | 30  | 31  |     |     |

November

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     | 1   | 2   | 3   | 4   | 5   | 6   |
| 7   | 8   | 9   | 10  | 11  | 12  | 13  |
| 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| 21  | 22  | 23  | 24  | 25  | 26  | 27  |
| 28  | 29  | 30  |     |     |     |     |

December

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
|     |     |     | 1   | 2   | 3   | 4   |
| 5   | 6   | 7   | 8   | 9   | 10  | 11  |
| 12  | 13  | 14  | 15  | 16  | 17  | 18  |
| 19  | 20  | 21  | 22  | 23  | 24  | 25  |
| 26  | 27  | 28  | 29  | 30  | 31  |     |

| Schedule ToolKit - General calendar view - 2021 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |
|-------------------------------------------------|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-----|-----|
| 00 - Planning this winter 6030                  |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |
| Standard Working                                |     |     |     |     |     |     | Exception Working |     |     |     |     |     |     | Not Working (Std) |     |     |     |     |     |     | Not Working (Res) |     |     |     |     |     |     |
| January                                         |     |     |     |     |     |     | February          |     |     |     |     |     |     | March             |     |     |     |     |     |     | April             |     |     |     |     |     |     |
| Sun                                             | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat | Sun               | Mon | Tue | Wed | Thu | Fri | Sat |
|                                                 |     |     |     |     | 1   | 2   |                   | 1   | 2   | 3   | 4   | 5   | 6   |                   | 1   | 2   | 3   | 4   | 5   | 6   |                   |     |     |     |     |     |     |
| 3                                               | 4   | 5   | 6   | 7   | 8   | 9   | 7                 | 8   | 9   | 10  | 11  | 12  | 13  | 7                 | 8   | 9   | 10  | 11  | 12  | 13  |                   |     |     |     |     |     |     |
| 10                                              | 11  | 12  | 13  | 14  | 15  | 16  | 14                | 15  | 16  | 17  | 18  | 19  | 20  | 14                | 15  | 16  | 17  | 18  | 19  | 20  |                   |     |     |     |     |     |     |
| 17                                              | 18  | 19  | 20  | 21  | 22  | 23  | 21                | 22  | 23  | 24  | 25  | 26  | 27  | 21                | 22  | 23  | 24  | 25  | 26  | 27  |                   |     |     |     |     |     |     |
| 24                                              | 25  | 26  | 27  | 28  | 29  | 30  | 28                | 29  | 30  |     |     |     |     | 28                | 29  | 30  | 31  |     |     |     |                   |     |     |     |     |     |     |
| 31                                              |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |
| May                                             |     |     |     |     |     |     | June              |     |     |     |     |     |     | July              |     |     |     |     |     |     | August            |     |     |     |     |     |     |
|                                                 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |
| 4                                               | 5   | 6   | 7   | 8   | 9   | 10  | 4                 | 5   | 6   | 7   | 8   | 9   | 10  | 4                 | 5   | 6   | 7   | 8   | 9   | 10  |                   |     |     |     |     |     |     |
| 11                                              | 12  | 13  | 14  | 15  | 16  | 17  | 11                | 12  | 13  | 14  | 15  | 16  | 17  | 11                | 12  | 13  | 14  | 15  | 16  | 17  |                   |     |     |     |     |     |     |
| 18                                              | 19  | 20  | 21  | 22  | 23  | 24  | 18                | 19  | 20  | 21  | 22  | 23  | 24  | 18                | 19  | 20  | 21  | 22  | 23  | 24  |                   |     |     |     |     |     |     |
| 25                                              | 26  | 27  | 28  | 29  | 30  |     | 25                | 26  | 27  | 28  | 29  | 30  |     | 25                | 26  | 27  | 28  | 29  | 30  |     |                   |     |     |     |     |     |     |
|                                                 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |
| September                                       |     |     |     |     |     |     | October           |     |     |     |     |     |     | November          |     |     |     |     |     |     | December          |     |     |     |     |     |     |
|                                                 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |
| 5                                               | 6   | 7   | 8   | 9   | 10  | 11  | 5                 | 6   | 7   | 8   | 9   | 10  | 11  | 5                 | 6   | 7   | 8   | 9   | 10  | 11  |                   |     |     |     |     |     |     |
| 12                                              | 13  | 14  | 15  | 16  | 17  | 18  | 12                | 13  | 14  | 15  | 16  | 17  | 18  | 12                | 13  | 14  | 15  | 16  | 17  | 18  |                   |     |     |     |     |     |     |
| 19                                              | 20  | 21  | 22  | 23  | 24  | 25  | 19                | 20  | 21  | 22  | 23  | 24  | 25  | 19                | 20  | 21  | 22  | 23  | 24  | 25  |                   |     |     |     |     |     |     |
| 26                                              | 27  | 28  | 29  | 30  |     |     | 26                | 27  | 28  | 29  | 30  |     |     | 26                | 27  | 28  | 29  | 30  |     |     |                   |     |     |     |     |     |     |
|                                                 |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |                   |     |     |     |     |     |     |





## APPENDIX B - Activity ID Structure

The diagram illustrates the hierarchy of project cost estimation, starting from broad categories at the top and breaking them down into increasingly detailed sub-items.

- Level 1 Categories:** X, X, X, X, X, ., X, X, X, X, X
- Level 2 Breakdowns:**
  - X → Direct/Subs (C, Const)
  - X → Area/Block (01 Segment 1, 2A Segment 2, 2B Segment 2A, 2B Segment 2B, 03 Segment 3, 04 Segment 4, UN Unnamed [Structure #9], DP Duport [Structure #8], JR James River [Structure #14], LM La Martre [Structure #15])
  - X → Discipline (OHD Overhead, COM Commercial Cost, JRO Job Related Overhead, OPS Operational Support, CTN Contingency, RAD Removals & Demolition, GRD Grading, CUT Civil Utilities, AGG Aggregates & Paving, TPW Temporary Work, RMT Routine Maintenance, DPF Deep Foundations, CON Concrete, MTL Metals, PPG Piping, MEQ Mechanical Equipment, WWW Water and Wastewater, SPT Startup and Testing, PRI Process Insulation, RWY Railway, EIT Electrical Instrumentation, WWM Waterway and Marine, BLG Building, OSF Offshore Fabrication, SAT Shafts and Tunnels, MNG Mining, MSW Misc Specialty Work, ENR Engineering, EQP Construction Equipment, BLK Bulk Commodities, SBC Subcontracts)
  - . → Group (AC Align / Checkout / Test, AD Additional Design Services, AF Align and Fit, CL Clean & Close, CS SB Checkout / Test, CT UG Checkout / Test, DM Demo, DT Detail, ER Erect, FH Fabricate and Hydrotest, HT Hydro Test, IN Install, IS Load / Inspect / Secure, OF Offload, PF Pre-fab, PT Pneumatic Test, SF Strip Forms / Finish, ST Set, XM Commission, XP Perform)
  - X → Activity Type (AB Agg Base, BB Concrete Accessories - Bridge Bearings, BC Box Culvert, BL Rock Blasting Subs, BR Bridge Removal, BS Traffic Control Subs, CG Clear & Grub, DP Piling, DW Dewatering, EB Ex Lay Backfill Piping, EC Environmental Controls, EE Exc & Embank, EP Erect Structural Precast, EW Ecoblock Wall, GD Gaurdrail, GO Concrete Accessories - Install Grout, GU Clear and Grub Subs, PI Pioneering- Road, PL Pilling, PS Set Precast Small / Misc, RL Railings, SB Structure Exc and Backfill, SC Structural Steel and Connections, SF Subgrade Finish, ST Steel, TG Temp Bridge, TW Temporary Work, WW Wire Faced Walls)
  - X → EquipSysStr Num (ABASS08 Abutments and Approach Slab - Dupont [Structure #8], ABASS09 Abutments and Approach Slab - Unnamed [Structure #9], ABASS14 Abutments and Approach Slab - James River [Structure #14], ABASS15 Abutments and Approach Slab - La Martre [Structure #15], ARIPRP Rip Rap, ASUBB Sub Base Finish and Road Topping, BRG008 Bridge 8 - Duport 40+373.4 to 40+416.6, BRG009 Bridge 9 - Unnamed 45+137.7 to 45+186.3, BRG014 Bridge 14 - James River 69+640.8 to 69+683.2, BRG015 Bridge 15 - La Martre 85+361.9 to 85+424.1, DAC01 Multi-Plate Culvert - Single Cell Box, DAC02 Multi-Plate Culvert - Single Cell Box, DAC03 Multi-Plate Culvert - Single Cell Box, DAC10A Multi-Plate Culvert - Single Cell Box, DBCP01 Rock Processing Subcontracts, DBCP102 Rock Blasing Subcontracts, DBCP328 Rock Blasing Subcontracts, DBCP33A Rock Blasing Subcontracts, DCS01 Circular Culverts, DCS02A Circular Culverts, DCS02B Circular Culverts, DCS03 Circular Culverts, DCS04 Circular Culverts, DFPCS08 Deep Foundations Drilled Shaft Subcontracts - Bored and Socketed Piles, DFPCS09 Precast Abutment, DFPCS14 Deep Foundations Drilled Shaft Subcontracts - Bored and Socketed Piles, DFPCS15 Deep Foundations Drilled Shaft Subcontracts - Bored and Socketed Piles, ENVSCS08 Install / Remove Dewatering System - Other - Install Pumps, ENVSCS09 Install / Remove Dewatering System - Other - Install Pumps, ENVSCS14 Install / Remove Dewatering System - Other - Install Pumps, ENVSCS15 Install / Remove Dewatering System - Other - Install Pumps, EWEXEM Ex and Embank, GBS01 Rock Blasing Subcontracts, GBS02 Rock Blasing Subcontracts, GBS03 Rock Blasing Subcontracts, GBS04 Rock Blasing Subcontracts, GBS05 Rock Blasing Subcontracts, GBS06 Rock Blasing Subcontracts, GBS07 Rock Blasing Subcontracts, GBS08 Rock Blasing Subcontracts, GBS09 Rock Blasing Subcontracts, GBS10 Rock Blasing Subcontracts, GBS11 Rock Blasing Subcontracts, GBS12 Rock Blasing Subcontracts, GBS13 Rock Blasing Subcontracts, GBS14 Rock Blasing Subcontracts, GBS15 Rock Blasing Subcontracts, GBS16 Rock Blasing Subcontracts, GBS17 Rock Blasing Subcontracts, GRCRB Clear and Grub, GRGR01 Misc Civil - Guard Rail Subcontracts, GRGR03 Misc Civil - Guard Rail Subcontracts, GRGR04 Misc Civil - Guard Rail Subcontracts, GRGR2A Misc Civil - Guard Rail Subcontracts, GRGR2B Misc Civil - Guard Rail Subcontracts, GRGRMS08 Railings Traditional - Steel, GRGRMS09 Railings Traditional - Steel)
- Level 3 Details:**
  - C (Const) → Sequence (01, 02, 03, 04, 05, 06, 07, 08, 09). Note: \*\* As Needed



|          |                                                                      |
|----------|----------------------------------------------------------------------|
| GRGRM514 | Railings Traditional - Steel                                         |
| GRGRM515 | Railings Traditional - Steel                                         |
| GRPT01   | Clear and Grub - Pit 1                                               |
| GRPT03   | Clear and Grub - Pit 3                                               |
| GRPT102  | Clear and Grub - Pit 1001-1002                                       |
| GRPT116  | Clear and Grub - Pit 116                                             |
| GRPT13C  | Clear and Grub - Pit 13C                                             |
| GRPT21B  | Clear and Grub - Pit 21B                                             |
| GRPT32B  | Clear and Grub - Pit 32B                                             |
| GRPT33A  | Clear and Grub - Pit 33A                                             |
| GRPT48   | Clear and Grub - Pit 48                                              |
| GRPT69A  | Clear and Grub - Pit 69A                                             |
| GRPT76   | Clear and Grub - Pit 76                                              |
| GRPT98   | Clear and Grub - Pit 96                                              |
| GRRC01   | Embankment (Non-Scraper) Common - Site                               |
| GRRC102  | Embankment (Non-Scraper) Common - Site                               |
| GRRC32B  | Embankment (Non-Scraper) Common - Site                               |
| GRRC48   | Embankment (Non-Scraper) Common - Site                               |
| GRRC69A  | Embankment (Non-Scraper) Common - Site                               |
| GRRP01   | Excavator Excavation Load Only - Common 60-99 MT Op Wt (Cat 365-385) |
| GRRP102  | Excavator Excavation Load Only - Common 60-99 MT Op Wt (Cat 365-385) |
| GRRP32B  | Excavator Excavation Load Only - Common 60-99 MT Op Wt (Cat 365-385) |
| GRRP48   | Excavator Excavation Load Only - Common 60-99 MT Op Wt (Cat 365-385) |
| GRRP69A  | Excavator Excavation Load Only - Common 60-99 MT Op Wt (Cat 365-385) |
| GRRPTR   | Pioneering- Road                                                     |
| GRTOPS   | Stripping                                                            |
| RMWS01   | Traffic Sign Subcontracts                                            |
| RMWS03   | Traffic Sign Subcontracts                                            |
| RMWS04   | Traffic Sign Subcontracts                                            |
| RMWS2A   | Traffic Sign Subcontracts                                            |
| RMWS2B   | Traffic Sign Subcontracts                                            |
| RTWBDUP  | Remove Bridge                                                        |
| RTWBJRV  | Remove Bridge                                                        |
| RTWBUNN  | Remove Bridge                                                        |
| SPCSGS08 | Set Pile Caps and Girders                                            |
| SPCSGS09 | Set Pile Caps and Girders                                            |
| SPCSGS14 | Set Pile Caps and Girders                                            |
| SPCSGS15 | Set Pile Caps and Girders                                            |
| TWBDUP   | Launch / Set Bridge                                                  |
| TWBJRV   | Launch / Set Bridge                                                  |
| TWBUNN   | Launch / Set Bridge                                                  |



## APPENDIX C - March 2021 Progressed Works Schedule



## TLICHO ALL SEASON ROAD - Project Schedule



| Activity ID                                          | Activity Name                                                                | O.D  | Start       | Finish      | 2019 |   |   |    |   |   |    |   |   |    |    |    | 2020 |    |    |    |    |    |    |    |    |    |    |    | 2021 |    |    |    |    |    |    |    |    |    |    |    | 2022 |    |    |    |    |    |    |    |    |    |    |    | 2023 |    |
|------------------------------------------------------|------------------------------------------------------------------------------|------|-------------|-------------|------|---|---|----|---|---|----|---|---|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|----|----|------|----|
|                                                      |                                                                              |      |             |             | Q1   |   |   | Q2 |   |   | Q3 |   |   | Q4 |    |    | Q1   |    |    | Q2 |    |    | Q3 |    |    | Q4 |    |    | Q1   |    |    | Q2 |    |    | Q3 |    |    | Q4 |    |    | Q1   |    |    |    |    |    |    |    |    |    |    |    |      |    |
|                                                      |                                                                              |      |             |             | 1    | 2 | 3 | 4  | 5 | 6 | 7  | 8 | 9 | 10 | 11 | 12 | 13   | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25   | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37   | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49   | 50 |
| Tlicho - All Season Road - 2021 Mar MER and WatchDog |                                                                              | 1192 | 13-Feb-19 A | 30-Nov-22   |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| Milestones                                           |                                                                              | 1192 | 13-Feb-19 A | 30-Nov-22   |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| COVID-19                                             |                                                                              | 156  | 01-Mar-20 A | 25-May-20 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| A1000                                                | FOR MATERIAL RESOURCES                                                       | 5    | 01-Mar-20 A | 01-Mar-20 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| CON-030-1                                            | COVID-19 Overall Impact Period                                               | 13   | 15-Mar-20 A | 25-May-20 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| CON-000-1                                            | COVID-19 Reduced Productivity Period - Initial Impact                        | 13   | 15-Mar-20 A | 25-May-20 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| ML-00-CV                                             | Start of COVID-19 Measures                                                   | 0    | 15-Mar-20 A |             |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| CON-140-1                                            | COVID-19 Site Shutdown Period                                                | 29   | 06-Apr-20 A | 25-May-20 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| ML-10-CV                                             | End of COVID-19 Measures                                                     | 0    | 25-May-20 A |             |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| Contractual Milestones                               |                                                                              | 1733 | 13-Feb-19 A | 30-Nov-22   |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| ML-00-ED                                             | Contractual Milestone - Effective Date                                       | 0    |             | 13-Feb-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| ML-10-WS                                             | Contractual Milestone - Submit Work Schedule                                 | 0    |             | 13-Apr-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| ML-40-DC                                             | Design Completion Date                                                       | 0    |             | 27-Mar-21   |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| ML-20-SC                                             | Contractual Milestone - Substantial Completion                               | 0    |             | 30-Nov-21*  |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| ML-30-TC                                             | Contractual Milestone - Total Completion                                     | 0    |             | 30-Nov-22   |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| Projected Completion Dates                           |                                                                              | 180  | 05-Nov-21   | 29-Mar-22   |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PD-20-SC                                             | Projected Substantial Completion Date                                        | 0    |             | 05-Nov-21   |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PD-30-TC                                             | Projected Total Completion Date                                              | 0    |             | 29-Mar-22   |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| Project Schedule Milestones (Appendix A)             |                                                                              | 262  | 13-Feb-19 A | 22-Aug-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-150                                               | Project Safety Plan - Prepare                                                | 20   | 13-Feb-19 A | 14-Mar-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-140                                               | Environmental Management Plan (First Submission) - Prepare                   | 32   | 13-Feb-19 A | 29-Mar-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-130                                               | Quality Management Plan - Prepare                                            | 30   | 13-Feb-19 A | 29-Mar-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-180                                               | Design Management Plan - Prepare                                             | 30   | 13-Feb-19 A | 29-Mar-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-250                                               | Adaptive Management Plan (Version 0) Plan - Prepare                          | 100  | 13-Feb-19 A | 30-May-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-270                                               | Emergency Response Plan (Version 1) Plan - Prepare                           | 30   | 13-Feb-19 A | 30-May-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-310                                               | Incineration Management Plan (Version 1.1) Plan - Prepare                    | 30   | 13-Feb-19 A | 30-May-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-320                                               | Interim Closure and Reclamation Monitoring Plan (Version 0) Plan - Prepare   | 30   | 13-Feb-19 A | 13-Feb-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-321                                               | Interim Closure and Reclamation Monitoring Plan (Version 0) Plan - Submitted | 0    |             | 13-Feb-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-350                                               | Spill Contingency Plan (Version 1) Plan - Prepare                            | 30   | 13-Feb-19 A | 30-May-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-160                                               | Works Schedule - Prepare                                                     | 60   | 13-Feb-19 A | 13-Apr-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-570                                               | Revised Baseline Work Schedule - Prepare                                     | 13   | 14-Feb-19 A | 12-Aug-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-151                                               | Project Safety Plan - Submitted                                              | 0    |             | 14-Mar-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-141                                               | Environmental Management Plan (First Submission) - Submitted                 | 0    |             | 29-Mar-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-131                                               | Quality Management Plan - Submitted                                          | 0    |             | 29-Mar-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-181                                               | Design Management Plan - Submitted                                           | 0    |             | 29-Mar-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-161                                               | Works Schedule - Submitted                                                   | 0    |             | 13-Apr-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-251                                               | Adaptive Management Plan (Version 0) Plan - Submitted                        | 0    |             | 30-May-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-271                                               | Emergency Response Plan (Version 1) Plan - Submitted                         | 0    |             | 30-May-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-311                                               | Incineration Management Plan (Version 1.1) Plan - Submitted                  | 0    |             | 30-May-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-351                                               | Spill Contingency Plan (Version 1) Plan - Submitted                          | 0    |             | 30-May-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-380                                               | Wildlife Management & Monitorng Plan (Version 3.3) Plan - Prepare            | 30   | 03-Jun-19 A | 10-Jun-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-260                                               | Archaeological Site Protocol (Version 1.1) Plan - Prepare                    | 30   | 06-Jun-19 A | 13-Jun-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-290                                               | Erosion and Sedimentation Control Plan (Version 1.1) Plan - Prepare          | 30   | 07-Jun-19 A | 16-Jul-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-381                                               | Wildlife Management & Monitorng Plan (Version 3.3) Plan - Submitted          | 0    |             | 10-Jun-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-261                                               | Archaeological Site Protocol (Version 1.1) Plan - Submitted                  | 0    |             | 13-Jun-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-340                                               | Quarry Operations Plan (Version 1.1) Plan - Prepare                          | 30   | 04-Jul-19 A | 16-Jul-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-330                                               | Permafrost Management Plan (Version 1.1) Plan - Prepare                      | 30   | 08-Jul-19 A | 16-Jul-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-280                                               | Engagement Plan (version 1.1) Plan - Prepare                                 | 0    | 10-Jul-19 A | 22-Aug-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-300                                               | Fish and Habitat Protection Plan (Version 1.1) Plan - Prepare                | 0    | 12-Jul-19 A | 22-Aug-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-370                                               | Water Monitoring Plan (Version 1.1) Plan - Prepare                           | 0    | 12-Jul-19 A | 22-Aug-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-360                                               | Waste Management Plan (Version 1.1) Plan - Prepare                           | 0    | 15-Jul-19 A | 22-Aug-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |
| PW-291                                               | Erosion and Sedimentation Control Plan (Version 1.1) Plan - Submitted        | 0    |             | 16-Jul-19 A |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |

## TLICHO ALL SEASON ROAD - Project Schedule



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TLICHO ALL SEASON ROAD - Project Schedule



| Activity ID | Activity Name                                                    | O.D | Start       | Finish      | 2019 |   |    |   |    |   |    |   |    |    | 2020 |    |    |    |    |    |    |    |    |    | 2021 |    |    |    |    |    |    |    |    |    | 2022 |    |    |    |    |    |    |    |    |    | 2023 |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
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|             |                                                                  |     |             |             | Q1   |   | Q2 |   | Q3 |   | Q4 |   | Q1 |    | Q2   |    | Q3 |    | Q4 |    | Q1 |    | Q2 |    | Q3   |    | Q4 |    | Q1 |    | Q2 |    | Q3 |    | Q4   |    | Q1 |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
|             |                                                                  |     |             |             | 1    | 2 | 3  | 4 | 5  | 6 | 7  | 8 | 9  | 10 | 11   | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21   | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31   | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41   | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
| DE.GT       | SEG4 - Prepare IFC Geotech Design Pkg. for LaMartre Bridge - IFC | 37  | 18-Sep-19 A | 19-Nov-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | </ |



TLICHO ALL SEASON ROAD - Project Schedule



| Activity ID | Activity Name | O.D | Start | Finish | 2019 |  |  |    |  |  |    |  |  |    |  |  | 2020 |  |  |    |  |  |    |  |  |    |  |  | 2021 |  |  |    |  |  |    |  |  |    |  |  | 2022 |  |  |    |  |  |    |  |  |    |  |  | 2023 |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |  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|             |               |     |       |        | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  |  |  |  |



## TLICHO ALL SEASON ROAD - Project Schedule



# Kiewit



TLICHO ALL SEASON ROAD - Project Schedule



| Activity ID | Activity Name | O.D | Start | Finish | 2019 |  |  |    |  |  |    |  |  |    |  |  | 2020 |  |  |    |  |  |    |  |  |    |  |  | 2021 |  |  |    |  |  |    |  |  |    |  |  | 2022 |  |  |    |  |  |    |  |  |    |  |  | 2023 |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |  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|             |               |     |       |        | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  |  |  |  |





TLICHO ALL SEASON ROAD - Project Schedule



| Activity ID                                    | Activity Name                                                                              | O.D | Start       | Finish      | 2019 |   |    |   |    |   |    |   |    |    | 2020 |    |    |    |    |    |    |    |    |    | 2021 |    |    |    |    |    |    |    |    |    | 2022 |    |    |    |    |    |    |    |    |    | 2023 |    |    |    |    |    |    |    |    |
|------------------------------------------------|--------------------------------------------------------------------------------------------|-----|-------------|-------------|------|---|----|---|----|---|----|---|----|----|------|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|----|------|----|----|----|----|----|----|----|----|
|                                                |                                                                                            |     |             |             | Q1   |   | Q2 |   | Q3 |   | Q4 |   | Q1 |    | Q2   |    | Q3 |    | Q4 |    | Q1 |    | Q2 |    | Q3   |    | Q4 |    | Q1 |    | Q2 |    | Q3 |    | Q4   |    | Q1 |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
|                                                |                                                                                            |     |             |             | 1    | 2 | 3  | 4 | 5  | 6 | 7  | 8 | 9  | 10 | 11   | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21   | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31   | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41   | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| Borrow Pit 13B at 16+800 (Deleted )            |                                                                                            | 0   |             |             |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Borrow Pit 13C at 19+000                       |                                                                                            | 256 | 10-Oct-19 A | 05-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| CON-S01-                                       | SEG1 - Clear & Grub Borrow Pit 13C at 19+000                                               | 1   | 10-Oct-19 A | 10-Oct-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG1 - Stripping Topsoil Pit 13C at 19+000                                                 | 10  | 10-Oct-19 A | 21-Oct-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01MNG                                         | SEG1 - Access Road Pit 13C at 19+000                                                       | 4   | 11-Oct-19 A | 16-Oct-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| CON-S01-                                       | SEG1 - Reclamation at Borrow Pit 13C at 19+000                                             | 3   | 02-Jul-21*  | 05-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Embankment Segment 1                           |                                                                                            | 551 | 10-Sep-19 A | 05-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG1 - Sta. 0+000 - 22+500 Install Soil Stabilization Ex and Embank                        | 6   | 10-Sep-19 A | 23-Aug-20 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG1 - Sta. 0+000 - 22+500 Install Finish Slopes Finish Slopes and Ditches                 | 185 | 10-Sep-19 A | 05-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG1 - Exc/Embank Load & Haul from 00+000 to 22+500 (Rough Grade)                          | 90  | 10-Sep-19 A | 05-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG1 - Sta. 0+000 - 22+500 Install Rip Rap                                                 | 13  | 14-Aug-20 A | 05-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG1 - Exc/Embank Load & Haul from 00+000 to 22+500 (Top-up to Final Grade)                | 10  | 14-Aug-20 A | 05-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01MNG                                         | SEG1 - Sta. 0+000 - 22+500 Install Haul Road Construct / Maintain Clear and Grub - Pit 29  | 30  | 01-Jun-21   | 06-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Culverts                                       |                                                                                            | 213 | 10-Sep-19 A | 05-Jun-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG1 - Sta. 0+000 - 22+500 Install Dewatering Install / Remove Dewatering System - Install | 73  | 10-Sep-19 A | 30-Aug-20 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01CUTI                                        | SEG1 - Install Cut Circular Culverts ELB Pipe                                              | 39  | 25-Sep-19 A | 05-Jun-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01CUTI                                        | SEG1 - Install Culvert 5 (Multiplate)                                                      | 40  | 17-Aug-20 A | 05-Jun-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01CUTI                                        | SEG1 - Install Culvert 6 (Multiplate)                                                      | 40  | 24-Aug-20 A | 05-Jun-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Road Topping, Signage, Finishing & Reclamation |                                                                                            | 321 | 03-Aug-20 A | 16-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG1 - Subgrade Finish from 0+000 to 22+500                                                | 119 | 03-Aug-20 A | 26-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01AGGI                                        | SEG1 - Place and compact Road Topping from 0+000 to 22+500                                 | 85  | 03-Aug-20 A | 26-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01AGGI                                        | SEG 1 - Sta. 0+000 - 22+500 Install Agg Base Finish - Mainline Direct                      | 10  | 15-Jul-21*  | 26-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01SBCIN                                       | SEG1 - Install Guardrail from 0+000 to 22+500                                              | 9   | 02-Aug-21*  | 11-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01SBCIN                                       | SEG1 - Finishing - Install Signage from 0+000 to 22+500                                    | 9   | 02-Aug-21*  | 11-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| CON-S01-                                       | SEG1 - Reclamation Finishing from 0+000 to 22+500                                          | 4   | 12-Aug-21   | 16-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Post Construction Safety Audit                 |                                                                                            | 12  | 17-Aug-21   | 30-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| CON-S01-                                       | SEG1 - Post Construction Road Safety Audit                                                 | 2   | 17-Aug-21   | 18-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| CON-S01-                                       | SEG1 - Post Construction Road Safety Audit - Punch List                                    | 10  | 18-Aug-21   | 30-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Segment 2a - 22+500 to 32+000                  |                                                                                            | 624 | 06-Oct-19 A | 15-Oct-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Access Pioneering & Clearing                   |                                                                                            | 24  | 06-Oct-19 A | 05-Jun-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2ASBCIN                                       | SEG2a - Clearing from 22+500 to 32+000                                                     | 12  | 06-Oct-19 A | 30-Oct-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Topsoil Stripping from 22+500 to 32+000                                            | 3   | 20-Oct-19 A | 18-Nov-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Excavation to Waste from 22+500 to 32+000                                          | 3   | 20-Oct-19 A | 05-Jun-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Pioneering from 22+500 to 32+000                                                   | 10  | 20-Oct-19 A | 31-Oct-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Borrow Pit 21B                                 |                                                                                            | 246 | 28-Oct-19 A | 08-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AMNG                                         | SEG2a - Access Road at Pit 21B at 24+500                                                   | 5   | 28-Oct-19 A | 15-Nov-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG2a - Stripping & Grubbing at Pit 21B at 24+500                                          | 4   | 01-Nov-19 A | 17-Nov-19 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C01GRDI                                        | SEG2a - Reclamation for Pit 21B at 24+500                                                  | 4   | 05-Jul-21*  | 08-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Embankment Segment 2a                          |                                                                                            | 379 | 24-Oct-19 A | 13-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Sta. 22+500 - 32+000 Install Soil Stabilization Ex and Embank Direct               | 6   | 24-Oct-19 A | 25-Sep-20 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Exc/Embank Load & Haul from 22+500 to 32+000 (Rough Grade)                         | 20  | 24-Oct-19 A | 02-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Sta. 22+500 - 32+000 Install Finish Slopes Finish Slopes and Ditches Direct        | 9   | 22-Nov-19 A | 13-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Sta. 22+500 - 32+000 Install Riprap Rip Rap Direct                                 | 23  | 14-Aug-20 A | 05-Jun-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Exc/Embank Load & Haul from 22+500 to 32+000 (Top-up to Final Grade)               | 9   | 14-Aug-20 A | 25-Sep-20 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Culverts                                       |                                                                                            | 10  | 30-Mar-20 A | 20-Nov-20 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2ACUTI                                        | SEG2a - Install Cut Circular Culverts ELB Pipe 22+500 to 32+000                            | 10  | 30-Mar-20 A | 20-Nov-20 A |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| Road Topping, Signage, Finishing & Reclamation |                                                                                            | 260 | 31-Aug-20 A | 20-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AGRDII                                       | SEG2a - Subgrade Finish from 22+500 to 32+000                                              | 40  | 31-Aug-20 A | 30-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AAGGI                                        | SEG2a - Place & Compact Road Topping from 22+500 to 32+000                                 | 37  | 14-Sep-20 A | 30-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2AAGGI                                        | SEG2a - Sta. 22+500 - 32+000 Install Agg Base Finish - Mainline Direct                     | 32  | 23-Jun-21   | 30-Jul-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2ASBCIN                                       | SEG2a - Instal Guardrail from 22+500 to 32+000                                             | 4   | 12-Aug-21*  | 16-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| C2ASBCIN                                       | SEG2a - Finishing - Install Signage from 22+500 to 32+000                                  | 4   | 12-Aug-21   | 16-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |
| CON-S2A                                        | SEG2a - Reclamation Finishing from 22+500 to 32+000                                        | 4   | 17-Aug-21   | 20-Aug-21   |      |   |    |   |    |   |    |   |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |



TLICHO ALL SEASON ROAD - Project Schedule



| Activity ID | Activity Name | O.D | Start | Finish | 2019 |  |  |    |  |  |    |  |  |    |  |  | 2020 |  |  |    |  |  |    |  |  |    |  |  | 2021 |  |  |    |  |  |    |  |  |    |  |  | 2022 |  |  |    |  |  |    |  |  |    |  |  | 2023 |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |  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|             |               |     |       |        | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1   |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  | Q1 |  |  | Q2 |  |  | Q3 |  |  | Q4 |  |  |  |  |  |



## TLICHO ALL SEASON ROAD - Project Schedule



# Kiewit



 Remaining Work
  Actual Work
  Critical Remaining Work
  Remaining Level of Effort
  Milestone
  Summary





TLICHO ALL SEASON ROAD - Project Schedule



| Activity ID | Activity Name                                             | O.D | Start      | Finish    | 2019 |   |   |    |   |   |    |   |   |    |    |    | 2020 |    |    |    |    |    |    |    |    |    |    |    | 2021 |    |    |    |    |    |    |    |    |    |    |    | 2022 |    |    |    |    |    |    |    |    |    |    |    | 2023 |    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
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|             |                                                           |     |            |           | Q1   |   |   | Q2 |   |   | Q3 |   |   | Q4 |    |    | Q1   |    |    | Q2 |    |    | Q3 |    |    | Q4 |    |    | Q1   |    |    | Q2 |    |    | Q3 |    |    | Q4 |    |    | Q1   |    |    |    |    |    |    |    |    |    |    |    |      |    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
|             |                                                           |     |            |           | 1    | 2 | 3 | 4  | 5 | 6 | 7  | 8 | 9 | 10 | 11 | 12 | 13   | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25   | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37   | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49   | 50 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
| C03AGGI     | SEG3 - Place & Compact Road Topping from 47+500 to 85+200 | 32  | 21-Jul-21* | 26-Aug-21 |      |   |   |    |   |   |    |   |   |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |    |    |    |    |    |    |    |    |    |    |      |    |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | </ |

## TLICHO ALL SEASON ROAD - Project Schedule



# Kiewit