

Environmental Surveillance Activity

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| Project Name | Trans Mountain Pipeline Reactivation |
| Parks Canada Internal File | J17-015 |
| Project Proponent | Trans Mountain Pipeline ULC (TM) |
| Prime Contractor | Simpco Ledcor Limited Partnership (SLLP) |

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| Event Type | Parks Canada - IAMC Joint Field Inspection |
| Date | September 15-16, 2020 |
| Location | Various locations within Jasper National Park |
| Environmental Surveillance Officer(s) | <ul style="list-style-type: none"> • Jasper National Park ESO • Indigenous Monitor – Montana First Nation • Indigenous Monitor – Sucker Creek First Nation |
| TM or SLLP representative | <ul style="list-style-type: none"> • Trans Mountain Indigenous Monitors (accompanied inspection for Day 2) |
| Description of Field Inspection | <ul style="list-style-type: none"> • Construction Sites – Snaring River North • Post Construction sites – Sleeves 9, 13, 14, 15; Digs 12, 16, 24, 25, 29, 16 • Pre-Construction Sites – Vine Creek, Devona Creek, Dig 25A |
| Activities Monitored | <ul style="list-style-type: none"> • Pre-Construction • Post-construction • Construction |

Observations
July 21, 2020

| Sept 15, 2020 | JNP ESO |
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| <ul style="list-style-type: none">- ESO and IMs meet at Parks Canada Compound in Jasper- Review maps, discuss plans for site visits, areas of interest and concern.- Acknowledge limited construction activity currently underway – inspection focus to be on post-construction sites and pre-construction locations. | |
| <p>Sleeve 9 KP 379.2 Post-Construction/Restoration</p> <ul style="list-style-type: none">- Site access directly off Wynd Road- Discussion about clearing poplar and willow shrubs from footprint, leaving coarse woody debris at base of slope- Coco matting used to help stabilize steep side slope above dig. Use of biodegradable plastic stakes for matting has been discontinued in favour of using natural wood stakes or willow stakes.- Straw waddles were placed at top of slope for erosion control, but were an attractant for elk, so were removed shortly after installation. Erosion did not appear to be an issue on the slope. <p>Dig 24 KP380.1 Post-Construction/Restoration</p> <ul style="list-style-type: none">- Access route where mats were placed in good shape, vegetation growing well and showing no lasting impact- No signs of erosion or sedimentation at dewatering site.- High volume of coarse woody debris on site, vegetation coming back slowly, establishment of some small shrubs and forbs (strawberry, rose).- Portion of site will be re-disturbed for access to Dig 25A | |
| <p>Dig 25 KP 380.2 Post-construction/Restoration</p> <ul style="list-style-type: none">- Vegetation regrowth is sparse, soils are rocky with surface shales – difficult growing medium.- Small poplar stems left as woody debris beginning to produce shoots- Elk tracks and scat on site.- Portion of site will be re-disturbed for access to Dig 25A | |
| <p>Dig 25A KP 380.34 Pre-Construction</p> <ul style="list-style-type: none">- Dig planned for this fall/winter. Access will be across Digs 24 and 25.- Portion of the access and dig site on a steep slope – will require some stripping for safe access since mats can not be used.- Dig site staked out and within the riparian area of small wetland (non-fish bearing). Potential for dig to extend below the top of bank. | |

- Vegetation removal for dig will include tall willows, alders and poplar saplings on site. Adjacent forest beyond worksite boundaries (18m wide x 50m long) will not be impacted.
- Discussion about Traditional Use in this area. IMs indicated that if work remained within digsite footprint, impacts to cultural resources was not likely.

Sleeve 13, 14, 15

Dig 28A, 29

KP 383.9 – 384.2

Post-Construction

- Walked long access route into digsites. Dead grasses where matting was at initial access area, new grasses coming up and establishing. Three kinds of large mushrooms noted in several areas along access route.
- Sleeve 13 and Dig 28A – drier sites, sparse grass cover, some forbs and shrubs establishing. Salvaged and replanted conifer rootballs not surviving well at this site.
- Sleeve 14, 15 and Dig 29 – wetter area, much better reestablishment of grass, forbs and shrubs. Alder rootballs coming back very well, lots of new growth. Willow and alder staking effective, some stems appear to have started producing new shoots, then died off. May require additional staking effort during Spring 2021 work. Silt fence in good shape, no impact to adjacent wetland. Riparian area near digsite is un-impacted. Dewatering site showing no signs of erosion or sediment deposition.

Sept 15, 2020 | Indigenous Monitor – Sucker Creek First Nation

- 1:00 pm Jasper National Park Compound with JNP Officer and Montana First Nation IM
- Discussed the day's activities
- Visiting non active sites
- Pipeline: 24" 1953 and 36" 2008 (Restoration 2018 to get pipeline up running through)

Sleeve 9:

- they removed and replaced
- Vegetation regrowth is slow
- coco matting in place

Integrity digs 24, 25, 25A

- All three digs are close to each other
- Dig 24: vegetation growing, no concerns at this time
- Dig 25: vegetation growing, no concern
- Dig 25A: hasn't started, concerns regarding footprint within wetland

Sleeves 13, dig 28A, dig 29, Sleeves 14, 15

- Two sleeves flowing through 14, 15 and dig 29
- Willow stakes in place and not all are budding

Sept 15,
2020

Indigenous Monitor – Montana First Nation

- We met with the Parks Canada ESO at the Jasper compound went over what was happening and what was currently being done at the sites we planned to look at. Reviewed which areas we would like to look at.
- We looked at the restoration stage of a couple sites.
- Sleeve 9 seems to be of okay regrowth. One thing I would point out is the plastic stakes being used to hold the mesh barrier in place. Says to be eco-friendly appears not so. I don't feel these to be eco-friendly with mother nature. Suppose use of a better material would be okay. Not only for environmental purpose but for the safety of the workers and public.

Observations
September 16, 2020

July 22,
2020

JNP ESO

- Sucker Creek First Nation IM and Montana First Nation IM met with both the Trans Mountain Indigenous Monitors (TM-IM from Simpcw and AWN) that were on shift to discuss the project. ESO did not take part in this meeting.
- Made plan on safe travel and COVID precautions.
- TM-IMs accompanied the inspection for the day

Snaring North

KP 360.2

Construction

- No workers on site, no machinery on site.
- Work on the Snaring River pipe replacement is complete, but there is still an open ditch near the north bank of the river that is being used for mud-plug removal for other sections of the line.
- Matted access route from Celestine Road still in place.
- Portable toilets and smoking area tidy and well-secured. No unsecured garbage on site.
- Dewatering location not currently required (no water in ditch). Filter bags rubber mats still on site.
- Ditch was securely fenced with fast fence. No water in ditch so no pumping required.
- Topsoil and subsoil storage areas do not have good vegetation re-establishing. Site is quite dry and featureless.
- Very little vegetation establishing in riparian area. Only a small portion of willow stakes appear to be rooting and producing shoots.

Vine Creek

KP351.32

Pre-construction

- Noted signage along the road indicating sensitive area next to the creek should not be disturbed. One large fir tree on edge of creek and dig site is marked with flagging indicating tree should not be removed.
- Several sensitive features within this zone, it is important that construction activities stay on the previously cleared right-of-way and do not encroach into the adjacent forest.
- Vine creek bridge – tarping along the access ramps to the bridge are not keyed in so are ineffective in ensuring no sediment enters the watercourse. The tarps are also degrading quickly and shredding – a large amount of plastic tarp strips were collected from the road and ditch. Potential to cause harm to wildlife if ingested, or could cause entrapment issues. Wooden rails along bridge are falling apart and signage is knocked down. Erosion – sediment control measures are required to be installed properly, using materials that will not cause harm to wildlife.

Dig 16

KP350.3

Post-Construction/Restoration

- Digsite is on a very steep slope. Most of the access required stripping a 6-metre-wide path to safely get machinery to digsite.
- Hydroseeding of stripped access and digsite recently completed, appears to be holding well. Too soon to see any vegetation growth.
- Crytogamic crust replacement completed. TM IMs heavily involved in replacing salvaged crust.

- Logs placed across access path – may require keying in if they are not effective in promoting veg growth and water retention.

Dig 12

KP341.6

Post-Construction/Restoration

- Dig recently completed and mats removed. Access route packed down with dead grasses, new grass bunches pushing through in most areas.
- Salvaged conifer rootballs replanted in digsite are not surviving.
- Matting removed from extra workspace – vegetation growing well, showing little signs of impact.

Devona Creek

KP341.66

Pre-Construction

- Plan to install concrete half-sleeves over exposed section of pipe in creekbed this fall/winter. Timing of work must meet instream work windows.
- Looked at the bank re-construction and restoration of the 36” pipeline (installed 2007). Bank was rebuilt with log cribbing to provide steep sides that match adjacent undisturbed banks and to provide overhangs for fish. Riparian vegetation is over 2 meters tall and very dense at this site. Should do the same effort on the 24” after installing pipe protection.

Sept 16,
2020

Indigenous Monitor – Sucker Creek First Nation

- Parks Canada Compound with TMX IM's and Montana First Nation's IM
- Discussed and compare concerns and issues
- Meet with Parks ESO to discuss day's activities

Snaring North KP 360.2

- Site accessed using Celestine Road
- road to location is matted throughout
- Spill kits on site, dated and secured with supplies
- Fenced off restoration area and wildlife tree
- Black and White Spruce, Willow, Alder, barberry, birch, Labrador tea, Rose, Buffaloberry
- Sign in place for water crossing
- Shrub stakes in place
- Restoration within approved footprint

Vine Creek:

- protection of bridge

Dig 16:

- Access from Celestine road
- Heritage resource off footprint
- Rare plants outside footprint
- regrowth is good

Dig 12:

- Mats were taken out 3 weeks prior to our inspection (mats were set for 2 months)

Devona Creek:

- Not started yet
- Attention to the Bull trout at the right time
- Water diversion planned

| Sept 16, 2020 | Indigenous Monitor – Montana First Nation |
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| <ul style="list-style-type: none"> - I have no other concerns overall clear and well placed signage I am impressed with how they are handling and doing the proper protocol with the heritage preserving the area. - It was great working with the Trans Mountain I.M's on day 2. Listening and learning from them was great. - I look forward to seeing more of the production, post construction and restoration on this project | |

Schedule of Action Items

| Item No. | Date Identified | Issue to be Addressed | Action | TM Response |
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| 1. | Sept 15, 2020 | Use of plastic staking (biodegradable in the long run) in coco-mat installation | Email to TMPL Lead EI and SLLP Lead Enviro | Use of stakes discontinued. |
| 2. | Sept 15, 2020 | Salvaged and replanted conifer rootballs dying or dead at numerous sites | Email to TMPL Lead EI and SLLP Lead Enviro | Part of restoration planning and long-term monitoring to meet JNP MODERs. |
| 3. | Sept 16, 2020 | Snaring River north bank riparian vegetation not establishing – very little growth, staking appears ineffective | Email to TMPL Lead EI and SLLP Lead Enviro | Part of long-term restoration monitoring. Will replant as required. Additional planting of shrub species (wolf willow and buffaloberry) planned for spring 2021. |
| 4. | Sept 16, 2020 | Celestine Road in very rough shape, old ruts and holes from construction traffic | Email to TMPL Lead EI and TMPL Construction Manager and Project Manager | TM Construction Manager working with SLLP to develop plan for road repairs. Access along Celestine Road still |

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| | | | | required for several digsites. |
| 5. | Sept 16, 2020 | Sensitive area adjacent to KP 351 Vine Creek – should be entirely avoided by all construction activity | Conversation with TM Enviro Planner to ensure avoidance mitigation is included in SSEPP. Email to TMPL Lead EI and SLLP Lead Enviro | Included in Site Specific EPP – avoid this area. TM-IMs onsite to oversee site setup and avoidance measures and will conduct regular inspections. |
| 6. | Sept 16, 2020 | Vine Creek bridge – ESC measures improperly installed, materials degrading into environment | Email to TMPL Lead EI and TMPL Construction Manager and Project Manager requiring repair of ESC measures. | SLLP crew re-installed bridge ESC measures correctly and with better materials. Cleaned up loose materials. |