SGS MUSCOWPETUNG

ABORIGINAL CONSTRUCTION MONITORING

WEEKLY REPORT

SPREAD# 5

SEPTEMBER 24TH TO SEPTEMBER 30TH, 2018

Social and Cultural Features

Field Observation	# of occurrences	Description and Mitigation Measures	Mitigation Status	Further Action Required (Yes/No)
Traditional Use Area (hunting, fishing, gathering, trapping)	3	HER132 (SSKP623.23-623.47)/177 (SSKP623.69-623.98), HER133 (SSKP623.87-624.12)/178 (SSKP623.69-623.98) &179 (SSKP623.69-623.98), HER-120	Ongoing	Y
Rock Formations (rocks of significance, tipi rings, etc.)	0			
Artifacts	0			
Bones	0			
Potential Gravesites	0			

Environmental Features

Field Observation	# of occurrences	Description and Mitigation Measures	Mitigation Status	Further Action Required (Yes/No)
Medicinal or Cultural Plants	3	SSKP624.02 VG-57, SSKP622.28-625.75	Ongoing	Y
Aquatic Life	0			
Animal Observations or Burrows	0			
Bird Nests	0			
Trees (Red Willow)	0			
Wetlands	2	SK-573 & SK-573A	Ongoing	Y
Watercourse Crossing	3	SK-WC68 SSKP624.3	Ongoing	Y

Additional Observations and Summary of Activities or Concerns

Beginning of the week, observed welding crews in the ditch trench, side booms holding that section, welding shack was used during the process. crews later put up the snow fence and signs around the open ditch. Corrosion services was also on site. Side booms later moved down the east of ROW flaggers and signs were used during the cross over to direct traffic, where they went to about midpoint and had another section of pipe hoisted. SSKP529+000 just off the east side of KO, crews were backfilling the open trench area a spotter was used. Backfilling is the process of putting soil back into a trench or foundation once excavation has been completed. The backfill process requires skills and knowledge on the specifications, contract requirements and understanding soil conditions. Once backfill is done the land used for the pipeline can start the clean-up process. Ditching wheel process HER-120 Near SF 18 563+447 was clearly marked out with a visible sign, excavator was digging the ditch near, no concerns. Ditch must be a minimum of 65 inches or 1.7m. The depth of the ditch depends on the size of the pipe. 36 Inch pipe is used on Line 3 Replacement Project.

Mid-week, Joined Sr. Archaeologist Rob Wondrasek from Jacobs along with his monitors, Michel's continues to prepare for the HDD under Chapleau lake crossing. The components of a horizontal drilling rig used for Pipeline construction are similar to those of an oil well drilling rig with the major exception being that a horizontal drilling rig is equipped with an inclined ramp as opposed to a vertical mast. HDD pilot hole operations are not unlike those Involved in drilling a directional oil well. Drill pipe and downhole tools are generally interchangeable and drilling fluid is used throughout the operation to transport drilled spoil, reduce friction, stabilize the hole because of these similarities, the process is generally referred to as drilling as opposed to boring. When the bore head and rod emerge on the opposite side of the crossing, a special cutter, called a back reamer, is attached and pulled back through the pilot hole. The reamer bores out the pilot hole so that the pipe can be pulled through. The pipe is usually pulled through from the side of the crossing opposite the drill rig. The process starts with the receiving hole and entrance pits; these pits will allow the drilling fluid to be collected and reclaimed to prevent waste. The first stage drills a pilot hole on the designed path, and the second stage enlarges the hole by passing a larger cutting tool known as the back reamer. The reamer's diameter depends on the size of the pipe to be pulled back through the bore hole. SSKP622+000 soil separation layers were being applied to the ditch side and to the top soil piles on the west side of SF51, another 2 tack crews were on the east side of SF51 going down ROW into the West side of Chapleau Lake entering the Native Prairie Zone SSKP622.28-625.75, HER132 (SSKP623.23-623.47)/177 (SSKP623.69-623.98), HER133 (SSKP623.87-624.12)/178 (SSKP623.69-623.98) &179 (SSKP623.69-623.98) Crew was applying the soil separation layer to the ditch side of ROW near Wet Land Crossings SK-505 and SK-504 going east right up to the Rare Plant Area SSKP624.02 VG-57. Crews were putting up more geo tech and wing walls in the area for vegetation protection to improve soils over which roads, pipelines are built. They apply the same nontoxic eco-friendly wood based fibre that won't hurt the environment. It is mainly used for dust control on the pipeline.

End of the week, west side of Chapleau Water Course Crossing Chapleau Lake SK-WC68 SSKP624.3 frac-out occurred due to the drilling process, a hydro vac was on site to assist in containing the spill, crew members sweeping the frac-out into the vac truck hose, silt fence and sand bags were around the affected area. Frac-out is the unintentional return of drilling fluids to the surface during horizontal directional drilling. The drilling fluid itself may not be toxic, but the fine particles can smother plants and animals, particularly in an aquatic environment. Many landowners do not appreciate frac-outs on their land. The potential concern is when the HDD is used under sensitive habitats, waterways, and areas of concern for cultural resources. AAE Tech services Inc was monitoring the lakeside conducting readings every 2 hours from instruments placed in the lake along the HDD path. AAE Tech Services is a Canadian environment consultant, specialized in aquatic ecology, agricultural development, environmental monitoring programs and land survey.

Photos of Sites Visited & Topics Discussed This Week

Backfill process

Bore Process

HDD Entry Point East Chapleau Lake

Bore process SF49

HDD Equipment at entry point

Frac-out clean up

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October 1st , 2018

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October 2nd, 2018

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October 2nd, 2018