

Hamre, John G.

From: Fahn, Patrick J.
Sent: Wednesday, February 04, 2009 3:27 PM
To: Hamre, John G.
Subject: FW: PSC Project PU-06-421
Attachments: North Spread Report 1-27-09.pdf; North Spread Report 2-2-09-.pdf; Sink Hole HDD Bore Area Pembina 2.jpg; Sink Hole HDD Bore Area Pembina.jpg

John - please docket in 06-421 from KLJ and then forward to Commissioners, PUD and Legal

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-----Original Message-----

From: Mark Anderson [mailto:mark.anderson@kljeng.com]
Sent: Tuesday, February 03, 2009 4:47 PM
To: Fahn, Patrick J.
Subject: PSC Project PU-06-421

Patrick:

Here are Dennis' reports for 1-27 and 2-2-09. Also attached are 2 pictures of the sink holes that have developed over the pipeline where the bore took place. I will have more pictures that I will put on a CD and send to you.

Please note Dennis' suggestion of contacting the ND State Forest Service to verify they are satisfied with the immediate plans the contractor has and their proposal to repair the sink holes in the spring.

Patrick, please give me a call to discuss the reports and pictures. We should also discuss if we need to continue to monitor the sink holes through the winter shut down period and what we should communicate to the contractor as far as our expectations for them to monitor the project. Thank you Patrick.

Mark Anderson, PE

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DAILY REPORT

1/4

Job Site: North SPREAD

Date: January 27, 2009

Location and

Operations Observed:

Mi. 7	HDD	Operation
Mi. 68	Security	Fence
Mi. 73	"	"
Mi. 92	"	"

General Notes: Arrived on site at the HDD site in
Mi. 7 located west of Walthalla in Pembina Gorge.
Contractor has broken through & completed final bore.
They have been experiencing problems with the
stability of the bored tunnel.... i.e. numerous cave-
ins etc. However it appears the contractor is ready
to begin pulling pipe.

The contractor has hired 2 cranes to
assist in the process. To properly thread this pipe
into the tunneled bore, the angle of entry for the
pipe requires a higher lift than the offset caterpillars
can provide. That is the reason the 2 cranes were

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DAILY REPORT (Cont.)

Date 1-27-09

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hired to assist. Work got underway at 1:00 p.m. According to construction manager Bill Laffoon, the drilling rig stationed on the south side of the gorge has over 1 million pounds of pulling force available as it pulls the pipe through the bore. Progress was slow at first ... crews were working to position equipment such that the pipe was entering bore at proper angle, so as to prevent binding of pipe as it moved through the bore. I left the site to spot check security fence installations near the Niagara - Petersburg area. I observed proper winterization activities had been completed at sites located in Mi. 68, Mi. 73, & Mi. 92. The spoil banks that did exist at these locations were off of the observed public right-of-way.

I returned to the Gorge in Mile 7 at approximately 8:00 p.m. The worksite was well lit with auxiliary lights positioned up and down the pipe line. I observed a portion of the pipe was now sheltered & the pipe-pulling process temporarily suspended while a weld was performed on a segment of the pipe line. Temperatures at this point

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DAILY REPORT (Cont.)

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were in the $-20^{\circ} F$ range with strong North westerly winds. I left the site for the night @ approximately 9:15 p.m. Crews continued their work around the clock. At this point in time they had pulled approximately 200 l.f. of the 4400 l.f. of pipe designated at this site.

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DAILY REPORT (Cont.)

Date 1/27/2009

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The following deviations from the finding of facts were found:

- None -

Signature: Dennis Markusen

Print Name: Dennis Markusen

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DAILY REPORT

1/5

Job Site: North Spread

Date: Feb 2, 2009

Location and
Operations Observed:

Mi. 7	HOO	Bore - Pembina Gorge
Mi. 96		Security Fence
Mi. 113		" "
Mi. 116-118		" "
Mi. 123		" "

General Notes: As I write this report it appears we are near completion of the winterization phase of this project. The contractor is buttoning up all operations & preparing to shut down for the balance of the winter.

In A spot check of several locations throughout this spread, I found water bars had been installed on slopes >5%, in accordance with section 2.1.1. Sediment barriers were in place (section 2.1.4) & Temporary Mulch & seeding has been performed on designated sites. However much of this work was done too late in the growing season so the process may not benefit the affected areas as much as it should.

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Date 2-2-2009Page 2 of 5

I observed that many of the temporary bridges & mats, have been removed from natural waterways in accordance with guidelines set forth in section 2.3 of the keystone Winterization manual.

I did observe an alarming problem that has occurred in the last 2 weeks, and illustrates the need for winter monitoring.

I revisited the HDD bore site on Mi. 7 of our project, just west of Walhalla in the Pembina Gorge. As you know by reading my previous report, the HDD contractor began pulling the pipe for this bore last Tuesday, Jan 27th. They completed the pull of some 4000+ l.f. of pipe on Friday January 30th. On my Monday visit to the site, (Feb. 2, 2009) I noticed 5 large sink-holes had developed on the North end of this project, directly over the pipeline. They range in size from 20' in diameter to 50' in diameter. The depth of the sink-holes vary from 20' to 30'. One of the sinkholes is directly below a stand of Pine trees in the Tetault State Forest. The trees appear to be standing erect, but the root system is hanging in mid-air for several

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DAILY REPORT (Cont.)

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of the Pine trees. One of the sinkholes is near a snow-mobile route. The actions taken by the contractor are preventative at this point. They have completely surrounded the holes with orange security fence & posted "road closed" signs at points of intersection with existing road trails. I spoke to Dean Di Thomasso, lead Environmental Inspector for ENSR. He said this all has happened in recent days. Bill Haffoon, Resident Construction Supervisor for Universal Enasco, said the contractor plans to monitor the area this winter, & when they (contractor) return in the spring they will haul in material to back-fill the sink holes. Bill also added that he has been in close touch with Tom of the N. Dak Forest Service & that he has been kept apprised of these occurring events & is satisfied with the counter actions taken by the contractor at this time.

In light of these events I think it would be most important to closely monitor this area. If additional cave-ins occur they could be tragic for anyone in the vicinity who may be caught in the ground shift.

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Section 3 ~~is~~ 3.1 of the keystone Pipeline Project winterization Plan addresses the company monitoring intentions. A contact to the company ~~is~~ the Forest Service may be advisable, to confirm that everyone is on the same page with regards to the type ~~is~~ frequency of monitoring.

lastly I had opportunity to spot check the line route on the extreme south end of this project. There are long stretches of open trench near the Luverne area. However I observed that security fence had been installed around these lengthy reaches as well as intermittent short stretches of open trench at tie-in locations. The contractor indicated he has installed some 38,000 l.f. of fence throughout the project

I expect my final report for the season will be next week.

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The following deviations from the finding of facts were found:

- None -

Signature: Dennis Markusen

Print Name: Dennis Markusen





