

APPENDIX 'B'

MANITOBA HYDRO

3/20/2020

MH Gas File # 2020-0062

Michael Van Helden
TREK Geotechnical Inc.
1712 St. James Street
Winnipeg, Manitoba R3H 0L3

Dear Michael Van Helden:

Re: Slope Failure Pembina and Bishop - Gas line location

Manitoba Hydro (Gas) has reviewed the request submitted by TREK Geotechnical for information on the 219.1 mm steel gas main impacted by the slope failure at the Bishop Grandin and Pembina interchange (south slope, west of the bridge). The following parameters shall be adhered to for investigative digs around this natural gas main. **Please note that this letter is to provide information on investigative digs only and does not consider the slope failure remediation, which should be resubmitted to gasdesign@hydro.mb.ca once finalized.** Please ensure that all requirements are communicated to your contractor.

1. Natural Gas Record Drawings

- Unfortunately, there is no alignment distances for this gas main available in Manitoba Hydro's eGIS system so it is difficult to determine the accuracy of both TREK's and the City of Winnipeg's survey of the main. Soft digging will need to be conducted to confirm location, as per the requirements listed below. An as-built of the gas main is attached, however.
- CAUTION: Large diameter gas main present.
- Yellow lines represent energized gas mains.
- Purple dashed lines represent abandoned gas mains.

2. Special Concerns

Upon review, it was noted that proposed investigative digs for slope stabilization works at Bishop Grandin and Pembina Hwy impact a large diameter distribution pressure 219.1 mm steel gas main. A Manitoba Hydro High Pressure Safety Watch may be required for all construction activities within 1.0 m of this gas main. All excavations within 1.0 m of any natural gas main must be completed by hand or Hydro-excavation. During construction, gas mains should not be undermined or exposed past the 3 o'clock and 9 o'clock positions on the cross section of the pipe.

Please locate any mains within 1.0 m or underneath the proposed construction, and investigate by hand or soft-digging to determine depth of cover and location in relation to both existing and proposed grades. Note that all locating and soft-digging requirements listed below are to be upheld.

For consideration in future remediation work at this location, if it is determined that a final minimum depth of cover of 900 mm for the 219.1 mm steel distribution main cannot be maintained, then relocations or lowerings may be required. Contact Andrew Greaves at agreaves@hydro.mb.ca or (204) 360-4170 to discuss options pertaining to lowerings or relocations. Additionally, a minimum separation of 300 mm from gas mains must be maintained for any new underground structure installations. If an underground structure must be installed with less than the minimum separation, an underground rigid foam barrier shall be placed over the main for protection. Submit plans for barrier installation to GasDesign@hydro.mb.ca if this is required.

3. 219.1 mm Distribution Pressure Natural Gas Main

- Proposed slope failure remediation occurs over an existing steel 219.1 mm distribution pressure natural gas main. A Manitoba Hydro Safety Watch may be required if any excavations are within 1.0 m of the 219.1 mm natural gas main.
- Contact “Click before you dig” a minimum of 2 weeks prior to any work commencing within 1.0 m of the 219.1 mm distribution pressure natural gas main to arrange for the pipeline to be properly located and marked by Manitoba Hydro personnel at **ClickBeforeYouDigMB.com** or **Call 1-800-940-3447**. Upon receiving clearances, the excavator will be provided with the phone number of the appropriate District in order to coordinate a Manitoba Hydro Safety Watch, if required.
- A minimum 900 mm of cover shall be maintained in all areas where highway rated equipment will be crossing, traveling or compacting over the 219.1 mm gas main. Vibratory compaction cannot be used over or within 1.0 m of a main.
- If highway rated equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a minimum of 1.0 m on either side at each crossing location. If equipment heavier than highway rated load cross the main, then submit construction plans to GasDesign@hydro.mb.ca.
- When working with less than minimum cover, a minimum 300 mm of granular material shall be bladed into place with tracked equipment offset from the pipeline. Then static compaction equipment would be allowed and built up in layers until minimum cover is achieved.
- Once the pipeline depth and location has been confirmed by hand or hydro-excavation, the safety watcher may authorize the limited use of mechanical excavation. A smooth edged bucket must be used for excavations within 1.0 m of the main.
- Subbase material shall be bladed into place as opposed to being end dumped over the 219.1 mm gas main in areas with less than the minimum cover.
- Caution must be used to ensure the integrity of the pipeline coating. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.

4. Insufficient Cover

- Absolutely no work including concrete cutting or pavement breaking may occur over the pipeline (regardless of size) until depth of cover is determined and a safety watch is on site.

5. Rockfill Rib Installation for Slope Stabilization

- Proposed excavations for slope stabilization installations appear to be within 1.0 m of a gas main in which case will require exposure to be completed by hand or Hydro-excavation. Caution must be used when working in the vicinity of the natural gas mains at these locations.
- A minimum separation of 300 mm from gas mains must be maintained for any new underground structure installations. If an underground structure must be installed with less than the minimum separation, an underground rigid foam barrier shall be placed over the main for protection. Submit plans for barrier installation to GasDesign@hydro.mb.ca.

6. General:

- Please note that the requirements of Manitoba Hydro's Safe Excavation and Safety Watch guidelines shall apply. All natural gas pipelines and service lines must be properly located and marked by Manitoba Hydro personnel. This can be arranged by visiting **ClickBeforeYouDigMB.com** or call **1-800-940-3447**. Construction operations are not to commence unless these conditions are adhered to.
- All excavations within 1.0 m of any natural gas main must be completed by hand or Hydro-excavation.
- All construction operations within the vicinity of natural gas pipelines are to take place in a manner so as not to damage or cause detriment to the integrity of the natural gas pipeline. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.

Manitoba Hydro believes that there should be no problem with this work however; Manitoba Hydro makes no representations or warranties in that regard.

Please note that all construction drawings requiring review or approval must be mailed to Gas Design, 360 Portage Ave (18) Winnipeg, Manitoba, R3C 0G8. If you wish to send construction drawings electronically, they may be sent to GasDesign@hydro.mb.ca.

If you have any questions or comments, please contact the undersigned.

Regards,

Andrew Greaves, P.Eng.
Gas Design Engineer – City of Winnipeg
Manitoba Hydro - Gas Design
360 Portage Ave (18), Wpg. MB., R3C 0G8
P: (204) 360-4170 C: (204) 479-2850
Email: agreaves@hydro.mb.ca

AG/DF

Cc: Larry Tole, Gas Distribution MTCE – Sutherland Ave, Manitoba Hydro
Robert Morrison, Damage Prevention – Sutherland Ave, Manitoba Hydro
Aaron Dueck, District Service Worker – Henlow Bay, Manitoba Hydro
Brian Jensen, Gas Distribution MTCE – Sutherland Ave, Manitoba Hydro
Aldo Garofalo, Gas Distribution MTCE – Sutherland Ave, Manitoba Hydro