

APPENDIX E

MANITOBA HYDRO (GAS) REQUIREMENTS



PO Box 7950 Station Main ♦ Winnipeg, Manitoba Canada • R3C 0J1
Telephone / N° de téléphone : (204) 360-7707 • Fax / N° de télécopieur (204) 360-6172
gblazek@hydro.mb.ca

2013-05-10

Ron Bruce, P. Eng.
Senior Project Manager
Morrison Hershfield Limited
Suite 1, 25 Scurfield Boulevard
Winnipeg, MB R3Y 1O4, Canada

Dear Ron Bruce:

Re: 2013 Local Street Package- Garwood Avenue, Laidlaw Boulevard, Wavell Avenue and Various Other Locations, B.O. 289-2013

Manitoba Hydro (Gas) has reviewed the design submitted by the Morrison Hershfield Limited for the 2013 Local Street Package- Garwood Avenue, Laidlaw Boulevard, Wavell Avenue and Various Other Locations, B.O. 289-2013. The following parameters shall be followed when working in proximity to all natural gas mains. Please ensure that all requirements are communicated to your contractor.

1. Intersection Garwood Ave and Harrow Street. (Sheet 2):

- Proposed road reconstruction crosses over an existing 323.9 mm high pressure natural gas main. A Manitoba Hydro High Pressure Safety Watch is required for all construction activities within 3.0 m of the high pressure natural gas main.
- A minimum 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 323.9mm gas mains. Vibratory compaction cannot be used over or within 3 m of a main where there will be less than 1 m of cover.
- Subbase material shall be bladed into place as opposed to being end dumped over the 323.9mm gas main in areas with less than the minimum cover.
- Contact "Call before you dig" 2 weeks prior to any work commencing within 3.0 m of the high pressure natural gas main to arrange for a Manitoba Hydro High Pressure Safety Watch at **204-480-1212**.
- Prior to construction at this location, please expose the main by hand or hydro-excavation in order to confirm elevation of the pipe. The elevations & corresponding locations shall be forwarded back to Greg Blazek at gblazek@hydro.mb.ca.

2. Catch basin removal and installation (Sheets 2&4)

- Proposed removal and installation of catch basins. Caution must be used when working in the vicinity of the natural gas mains at these locations.

3. Sidewalk Renewals

- Excavations shall be limited to removal of the existing concrete sidewalk. All further excavations within 1.0 meter of any natural gas main or service must be completed by hand or soft dig methods.

4. Asphalt Overlays and Road Reconstruction

- When excavations for concrete works are required within 1.0 meters of any natural gas main, the main must be exposed by hand or soft dig methods to verify the main elevation at intervals to be determined by the site inspector.
- Should a main be exposed to sub-base, the main requires rock wrap and may also require lowering.

5. General:

- Please note that the requirements of Manitoba Hydro's Safe Excavation and Safety Watch guidelines shall apply. 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. All natural gas pipelines and service lines must be properly located and marked by Manitoba Hydro personnel. Construction operations are not to commence unless these conditions are adhered to. **Call before you dig 480-1212.** (1-888-624-9376 outside of Winnipeg).
- All excavations within 1.0 meter of any natural gas main must be completed by hand or Hydro-excavation.
- A minimum vertical separation of 300 mm from gas mains and 100 mm from gas service lines must be maintained between any Manitoba Hydro facility and any new installations.
- A minimum 600 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 114.3 mm and 60.3 mm gas mains. Vibratory compaction cannot be used over or within 1 m of a main where there will be less than 1 m of cover.
- A minimum 450 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the gas service lines. Vibratory compaction cannot be used over or within 1 m of a service where there will be less than 600 mm of cover.
- If 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 meter on either side at each crossing location.
- 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.

As requested, comments have been added to the drawings and forwarded to Ron Bruce, P. Eng.

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

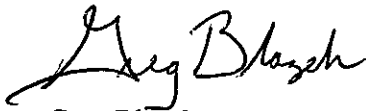
Please note that all construction drawings requiring review or approval must be mailed to Gas Pipeline Engineering, Box 7950 Station Main, Manitoba, R3C 0J1. If you wish to send construction drawings electronically, they may be sent to ManitobaHydroNaturalGasDesign@hydro.mb.ca.

If you have any questions or comments, please contact the undersigned at (204) 360-7707.

Regards,

2013-05-10

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A handwritten signature in black ink, appearing to read "Greg Blazek". The signature is fluid and cursive, with the first name "Greg" being more prominent than the last name "Blazek".

Greg Blazek, P.Eng.
Professional Engineer
Distribution Design Department - Winnipeg

GB/mv

Cc: Vern Los, Gas Supervisor - Notre Dame, Manitoba Hydro
Shane Heiner, Gas Distribution MTCE - Notre Dame, Manitoba Hydro