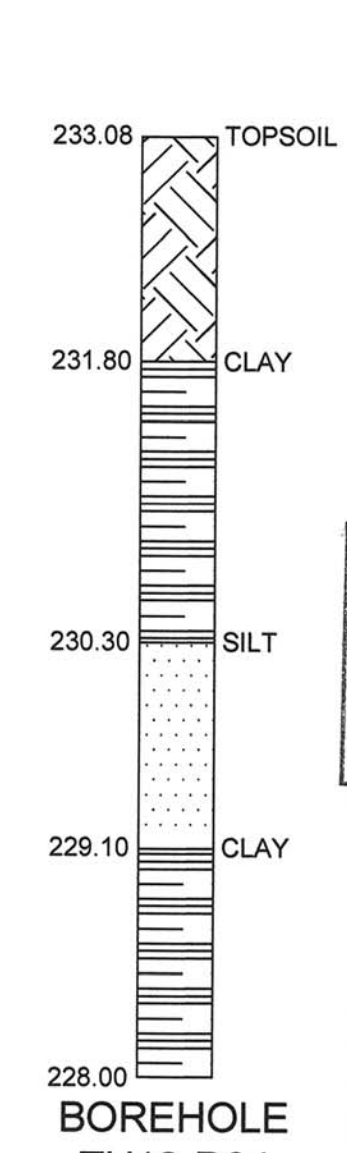
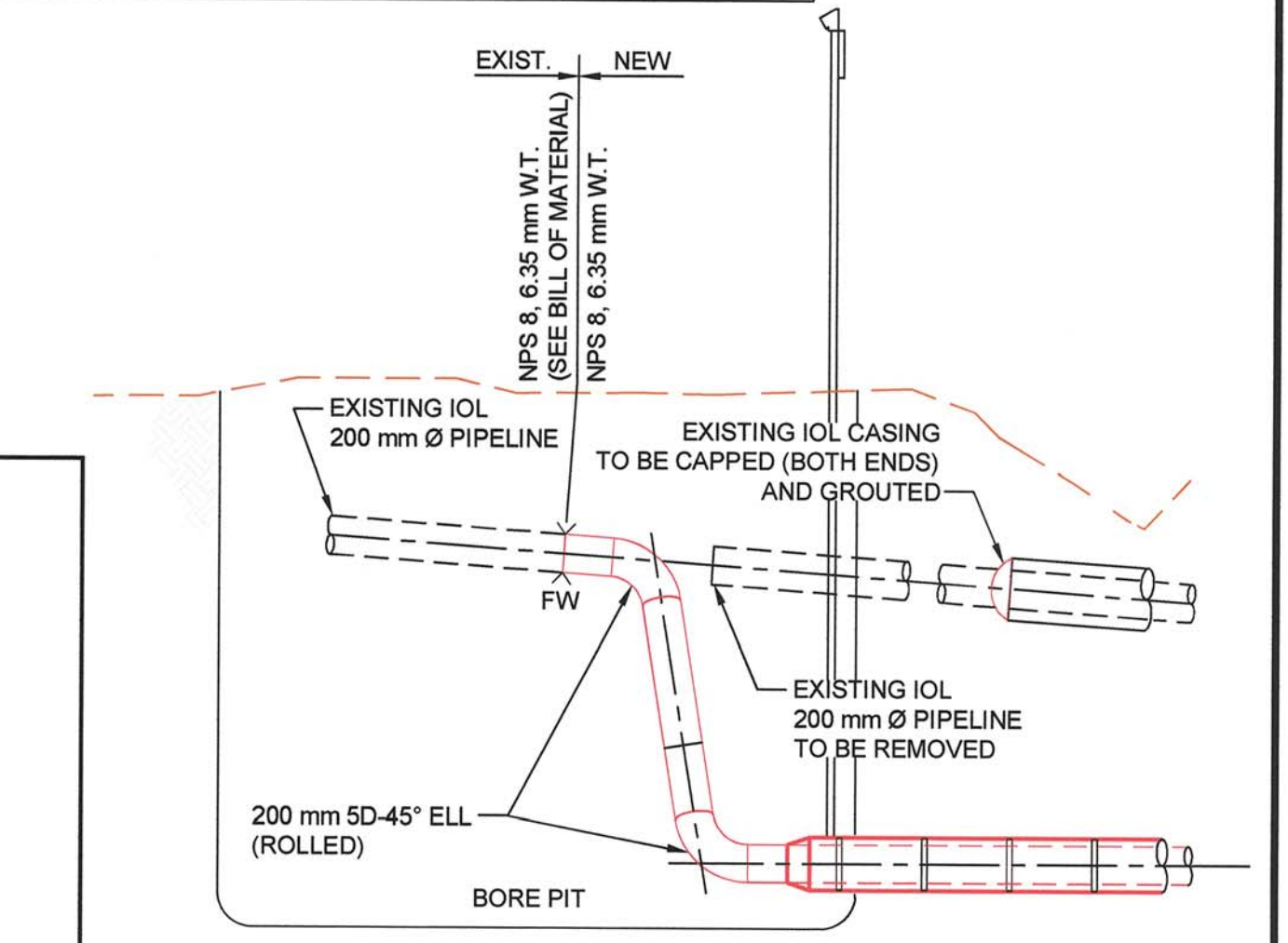
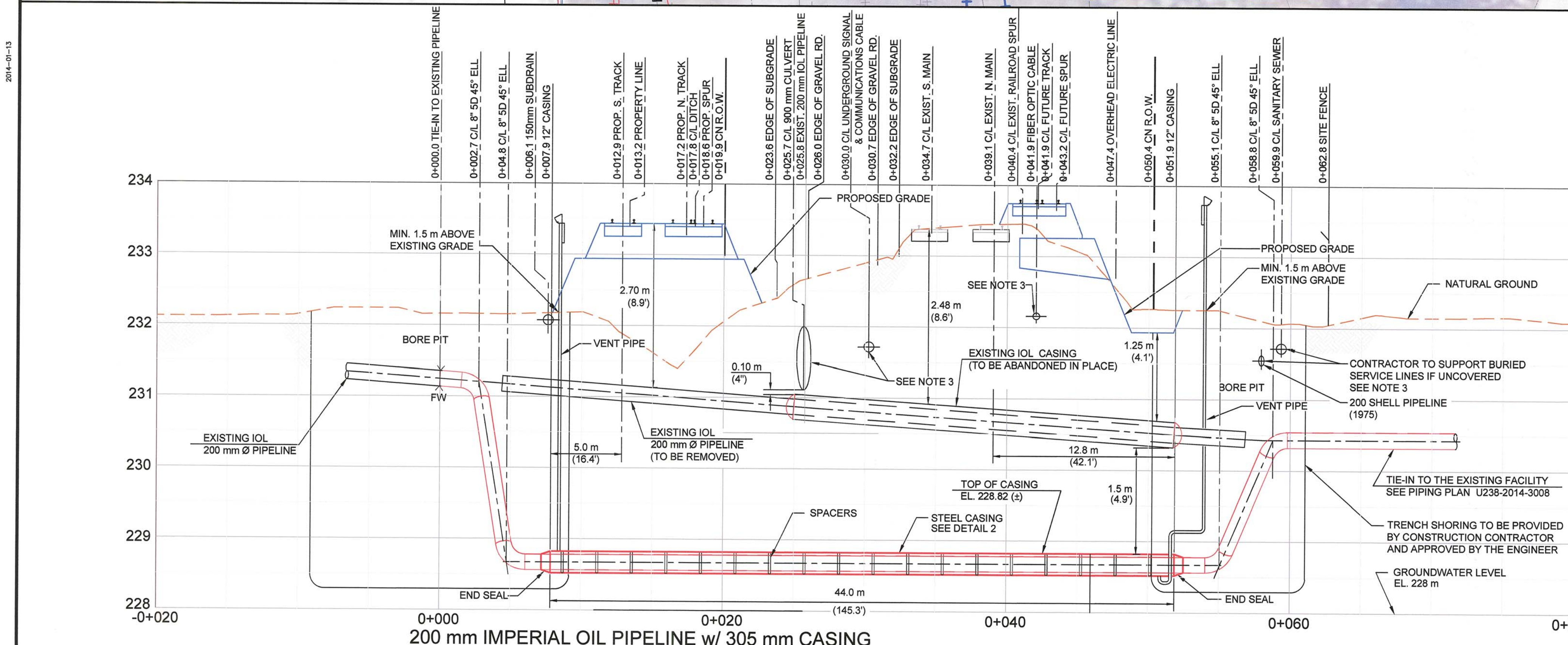


| BILL OF MATERIAL | | | |
|------------------|--------|---|--------|
| Item | NS | Description | QTY |
| 1 | 8" | PIPE, 8.625" OD (219.1 mm OD), 0.25" WT (6.35 mm WT), CS, API 5L CAT II, X42, CLASS 600, SMLS CSA 45.1, EXTERNALLY COATED USING YJ2K TYPE, DSAW, WELDED IN ACCORDANCE WITH GP 29-03-18. | 70 m |
| 2 | 8" | PIPE, 8.625" OD (219.1 mm OD), 0.25" WT (6.35 mm WT), CS, API 5L CAT II, X42, CLASS 600, SMLS CSA Z245.1, BARE PIPE, DSAW, WELDED IN ACCORDANCE WITH GP 29-03-18. | 6.5 m |
| 3 | 12" | PIPE, 12.75" OD (323.85 mm OD), 0.375" WT (9.525 mm WT), CS, API 5L CAT II, X42, CLASS 600, SMLS CSA Z245.1, BARE PIPE, DSAW, TO USE AS CASING. | 45 m |
| 4 | 8" | ELBOW, 8.625" OD (219.1 mm OD), 5D, 0.25" WT (6.35 mm WT), CS, BW, CAT II, X42, CLASS 600, CSA Z245.11, EXTERNALLY COATED USING YJ2K TYPE | 4 EA. |
| 5 | 8" | FLANGE, WN, ANSI 600, RF, 8.125" BORE (206.375 mm BORE), CSA Z245.12 CAT II, | 1 EA. |
| 6 | 1 1/8" | BOLT, 7 3/4" L, STUD, ASTM A-193 GR. B, w/ 2 HEAVY HEX NUTS ASTM A-194 GR. 2HM, (FOR 8.625" ANSI 600 RF FLG.) | 12 EA. |
| 7 | 8" | PSI RANGER II, MIDI SPACER, MIN 1.8 m SPACING, MIN 0.6 EACH SIDE OF THE JOINT, TO BE USED FOR THE 8" LINE. | 25 EA. |
| 8 | 8" | PSI END SEAL MODEL C | 2 EA. |
| 9 | 8" | GASKET, ANSI 600, 1/8" WT, SPIRAL WOUND, FLEXIBLE GRAPHITE FILLER, SS INNER AND CS OUTER RING, ASME B16.5 & ASME B16.20. | 1 EA. |
| 10 | 8" | WELD CAP, BW, 8.625" OD, CS, API 5L, CLASS 600 X42, ASME B16.9 | 2 EA. |

DISCLAIMER:
URS MAKES NO WARRANTY (EXPRESS, IMPLIED OR OTHERWISE) THAT THE INFORMATION CONTAINED HEREIN IS ACCURATE OR COMPLETE AS TO ANY AND ALL SUBSURFACE CONDITIONS AND CONFORMATION. ANY RELIANCE CONTRACTOR PLACES ON THE INFORMATION CONTAINED HEREIN AS TO SUCH CONDITIONS IS DONE SO AT ITS OWN RISK AND EXPENSE. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT THE PROVINCE "ONE CALL" SYSTEM PRIOR TO ANY EXCAVATION.



LEGEND

- 305 mm (12") CASING
- 219 mm (8") NEW STEEL PIPELINE
- 406 mm (16") CASING
- 273 mm (10") NEW STEEL PIPELINE
- 219 mm (8") EXISTING PIPELINE
- 273 mm (10") EXISTING PIPELINE
- PROPOSED TRACKS
- FUTURE TRACKS

T.U.A. - TEMPORARY USE AREA

BID OPPORTUNITY NO. 1058-2013

NOTES:

- PIPELINE STATIONING IS TEMPORARY AND SHOWN FOR PIPELINE CROSSING PURPOSES ONLY.
- ANY VACUUM TRUCK APPROACHING BURIED UTILITIES MUST HAVE LOADING ANALYSIS REVIEWED AND ASSURE SAFE CROSSING.
- CONSTRUCTION CONTRACTOR TO CONFIRM LOCATION AND DEPTH OF ALL BURIED UTILITIES.
- FOR IMPERIAL OIL GENERAL NOTES, SEE ENGINEERING WORK PACKAGE (5421-B-SR-0001).
- CONTRACTOR TO REVIEW CN REQUIREMENTS PRIOR TO CONSTRUCTION.
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
- THE EXISTING 8" AND 10" PIPELINES WILL BE ABANDONED IN PLACE EXCEPT FOR THE LAST SEGMENT WHICH WILL BE REMOVED.
- DESIGNS ARE NOT YET FINALIZED AND APPROVED BY IMPERIAL OIL.
- REQUIRES EASEMENT AGREEMENT WITH EAST SIDE STORAGE.
- REQUIRES CN RIGHT OF ENTRY PERMIT.
- BEDDING AND BACKFILLING REQUIREMENTS ARE DETAILED IN THE ENGINEERING WORK PACKAGE (5421-B-SR-0001).
- FOR DRAINAGE AND EROSION SEDIMENT CONTROL, REFER TO AECOM CIVIL DRAWINGS.

LOCATION APPROVED UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

MBTCall
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204 777-6590

URS
4th FLOOR, 30 LEEK CR
RICHMOND HILL, ON
L4B 4N4

DESIGNED BY LN CHECKED BY LN
DRAWN BY CMC APPROVED BY LN

HOR. SCALE: AS NOTED
VERTICAL: AS NOTED

RELEASED FOR CONSTRUCTION BY:
URS

DATE 2013-11-11 DATE 2013-12-26

PROVINCE OF MANITOBA
G. RAMNATH
Member
36779
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

IMPERIAL OIL LIMITED AND SHELL CANADA PIPELINES RELOCATION WORKS

CITY DRAWING NUMBER: U238-2014-3004
SHEET 01 OF 01

PIPELINE CASSED BORE RAILWAY CROSSING WPL NPS 8 GRETTA TO TRANSCONA

01