**RIGHT-OF-WAY HORIZONTAL REPRESENTATION (2D)**

TRACT NUMBER
OWNERSHIP/AGENCY

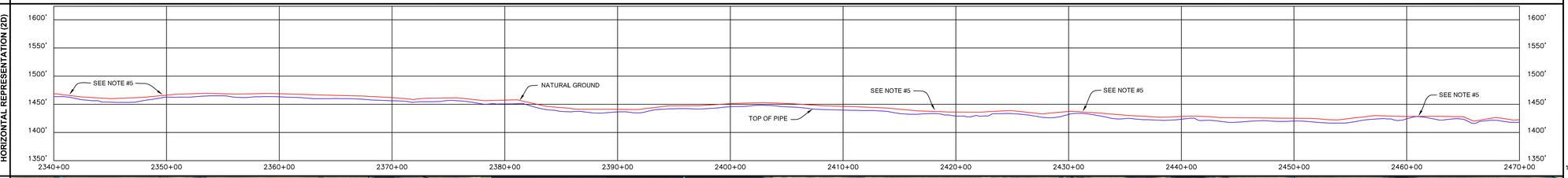
LENGTH
APPLICABLE DWG. NO.

LAND USE

2340+00 | ML-ND-ST-0284.0000 | 2357+61 | ML-ND-ST-0285.0000 | 2380+13 | RD-ND-ST-0285.0000 122ND AVENUE | ML-ND-ST-0286.0000 | RD-ND-ST-0286.0000 9TH STREET SE | 2385+51 | ML-ND-ST-0287.0000 | 2419+00 | ML-ND-ST-0288.0000 | 2442+53 | RD-ND-ST-0288.0000 10TH STREET SE | ML-ND-ST-0289.0000 | 2470+00 | ML-ND-ST-0290.0000 | 2470+00

**PIPELINE PROFILE**

HORIZ. 1"=500' VER. 1"=100'
HORIZONTAL REPRESENTATION (2D)




**LEGEND**

- KEYSTONE PIPELINE
- STATE BOUNDARY
- COUNTY/TOWNSHIP
- SECTIONS
- NATIONAL OR STATE RESERVATION BOUNDARY
- PROPERTY LINE
- FENCE
- EXCLUSIONARY FENCE
- POWER LINE
- TELEPHONE LINE
- BURIED CABLE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER / DRAIN
- FOREIGN PIPELINE
- RAILROAD
- HIGHWAY / ROAD
- STREAM / DITCH
- WETLAND
- INTERSTATE ROUTE
- U.S. ROUTE
- STATE ROUTE
- POINT OF INTERSECTION (PI)
- PIPELINE MILEPOST
- DIRECTION OF FLOW
- HOUSE
- BUILDING
- WATER WELL
- MAINLINE VALVE
- ML-XX-XX-0000.0000 TRACT NUMBER

**PIPELINE PLAN (SCALE 1" = 500')HORIZONTAL REPRESENTATION (2D)**

**DISCLAIMER**

UNIVERSALPEGASUS 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 STATE "ONE CALL" SYSTEM PRIOR TO ANY EXCAVATION.

**PIPELINE SCHEMATIC**

- HEAVYWALL PIPE
- WELD FITTING
- TRANSITION PIECE
- CASING PIPE
- CONCRETE COATING
- SET-ON WEIGHTS
- PIPELINE WARNING SIGN
- PIPELINE MARKER
- MATERIAL ITEM
- GROUNDING MAT
- ZINC RIBBON
- AERIAL MARKER
- CATHODIC TEST STATION
- MAINLINE VALVE
- CHECK VALVE
- O.C. OPEN CUT
- BR. BORE
- D DRINKING WATER USA
- E ECOLOGICAL USA
- H HIGHLY POPULATED AREA
- K OPERATOR (KEYSTONE) DEFINED
- O OTHER POPULATED AREA
- S SOURCE WATER PROTECTION AREA
- W WELLHEAD PROTECTION AREA

**HORIZONTAL STATIONS (2D)**

MATCHLINE 2340+00 | 2342+51 P.I. 00°40'52" RT. | 2371+73 BEGIN SLOUGH 2371+83 CL SLOUGH 2371+94 END SLOUGH | 2372+99 P.I. 09°20'06" LT. 2374+28 P.I. 12°03'03" LT. | 2378+79 UNDERGROUND POWERLINE | 2379+78 EDGE OF ROAD 2380+13 CL 122ND AVENUE 2380+48 EDGE OF ROAD | 2384+86 P.I. 00°49'13" LT. 2385+41 EDGE OF ROAD 2385+51 CL 9TH STREET SE 2385+60 EDGE OF ROAD | 2388+67 P.I. 00°41'36" RT. | 2401+85 P.I. 09°16'16" RT. | 2420+08 P.I. 06°28'31" RT. 2420+48 P.I. 10°07'14" RT. | 2420+60 P.I. 00°54'46" LT. 2430+95 P.I. 08°31'29" LT. 2431+50 P.I. 08°33'22" LT. 2431+74 P.I. 08°25'04" LT. | 2440+76 P.I. 11°05'39" RT. 2441+16 P.I. 11°05'51" RT. 2441+53 TELEPHONE LINE 2441+55 P.I. 11°44'55" RT. 2441+96 P.I. 12°11'05" RT. | 2442+46 EDGE OF ROAD 2442+53 CL 10TH STREET SE 2442+61 EDGE OF ROAD | 2444+49 P.I. 00°34'33" RT. | 2453+08 BEGIN SLOUGH 2453+18 CL SLOUGH 2454+83 END SLOUGH | 2457+17 P.I. 00°57'45" RT. 2457+33 P.I. 10°09'46" LT. 2458+21 P.I. 13°18'51" LT. 2458+62 P.I. 14°52'46" LT. 2459+45 P.I. 14°16'06" LT. 2459+40 P.I. 08°14'09" LT. | 2465+84 BEGIN SLOUGH 2465+94 CL SLOUGH 2466+04 END SLOUGH | 2468+70 BEGIN SLOUGH 2469+47 CL SLOUGH | MATCHLINE 2470+00

**SLOPE STATIONS (3D)**

MATCHLINE 2341+93 | 2344+45 P.I. 00°40'52" RT. 4.8' CVR. | 2347+07 6.2' CVR. | 2355+43 5.0' CVR. | 2360+34 M.P. 121 | 2366+57 6.0' CVR. | 2372+13 5.4' CVR. 2372+23 BEGIN SLOUGH 2373+78 CL SLOUGH 2373+90 END SLOUGH 2374+28 P.I. 12°03'03" LT. 2375+95 P.I. 09°20'06" LT. 2376+23 P.I. 12°03'03" LT. | 2380+75 UNDERGROUND POWERLINE 2380+78 EDGE OF ROAD CLR. LINK 2381+74 EDGE OF ROAD 2382+09 CL 122ND AVENUE 2382+45 EDGE OF ROAD | 2383+04 7.1' CVR. | 2386+83 P.I. 00°49'13" LT. 2387+38 EDGE OF ROAD 2387+47 CL 9TH STREET SE 2387+57 EDGE OF ROAD | 2390+64 P.I. 00°41'36" RT. 2390+97 6.4' CVR. | 2403+86 P.I. 09°16'16" RT. | 2404+66 4.6' CVR. | 2413+11 6.5' CVR. 2413+14 M.P. 122 | 2422+07 P.I. 06°28'31" RT. 2422+47 P.I. 10°07'14" RT. | 2424+09 7.5' CVR. | 2432+18 4.9' CVR. 2432+60 P.I. 00°54'46" LT. 2430+95 P.I. 08°31'29" LT. 2431+50 P.I. 08°33'22" LT. 2431+74 P.I. 08°25'04" LT. | 2442+76 P.I. 11°05'39" RT. 2443+17 P.I. 11°05'51" RT. 2443+54 TELEPHONE LINE 3.0' CVR. 2443+57 P.I. 11°44'55" RT. 2443+99 P.I. 12°11'05" RT. | 2444+48 EDGE OF ROAD 2444+55 CL 10TH STREET SE 2444+63 EDGE OF ROAD | 2446+51 P.I. 00°34'33" RT. | 2455+11 BEGIN SLOUGH 2455+21 CL SLOUGH 2456+40 6.6' CVR. 2456+66 END SLOUGH | 2459+20 P.I. 00°57'45" RT. 2459+36 P.I. 10°09'46" LT. 2460+24 P.I. 13°18'51" LT. 2460+66 P.I. 14°52'46" LT. 2461+49 P.I. 14°16'06" LT. 2461+44 P.I. 08°14'09" LT. | 2465+94 M.P. 123 2467+88 BEGIN SLOUGH 2468+01 CL SLOUGH 2468+09 END SLOUGH | 2470+75 BEGIN SLOUGH 2471+53 CL SLOUGH, 4.0' CVR. | MATCHLINE 2472+05

**PIPELINE DATA**

PIPE SLOPE REPRESENTATION (2D): 2341+93 | ② 3,950' FBE | 2381+43 ③ 161' FBE & ARO O.C. | 2383+04 ② 394' FBE | 2386+86 ③ 79' FBE & ARO O.C. | 2387+77 | 2403+38 | ② 5,639' FBE | 2444+16 ③ 80' FBE & ARO O.C. | 2444+96 | 2453+33 | (38) | 2457+17 | ② 2,709' FBE | 2468+11 | 2470+79 | 2472+05

CPS (3D)

TEST SECTIONS (3D): TEST SECTION 1A-6 ILTO-021-2010

**ENVIRONMENTAL MITIGATION/RECLAMATION STATIONS (2D)**

- TOPSOIL SALVAGE METHOD
- STREAMS
- WETLANDS
- TIMING CONSTRAINTS
- **STATIONS**
- MONITORING
- RECLAMATION
- SPECIAL CONSIDERATIONS

**GENERAL NOTES**

1) ALL CHAINAGES ARE IN FEET UNLESS OTHERWISE SPECIFIED.

2) DATUM ELEVATION AND PROJECTION ARE BASED ON MEAN SEA LEVEL AND NAD 83.

3) FIELD PIPE LOCATING REQUIRED TO DETERMINE PLACEMENT OF PIPELINE WITHIN PERMANENT EASEMENT.

4) UNLESS OTHERWISE NOTED, 48 INCHES MINIMUM COVER EXCEPT 36 INCHES IN AREAS OF CONSOLIDATED ROCK.

5) NO ACTUAL AS-BUILT GROUND SHOTS WERE TAKEN AT THIS LOCATION. THE PROFILE REPRESENTS A PROJECTION FROM SHOTS TAKEN AT 150' TO 250' INTERVALS.

6) THE TYPE OF COATING APPLIED TO THE FIELD WELDS DURING THE ORIGINAL CONSTRUCTION WAS TWO COMPONENT LIQUID EPOXY. THE COATING PRODUCTS USED WERE DENSO 7200 OR SPC SP-2888.

7) THE SUBSTANTIAL CONSTRUCTION COMPLETION DATE, BASED ON CALIPER PIG RUN, WAS AUGUST 16, 2009 FOR M.P. 66.90 TO M.P. 88.54, SEPTEMBER 16, 2009 FOR M.P. 88.54 TO M.P. 114.00 AND SEPTEMBER 23, 2009 FOR M.P. 114.00 TO M.P. 130.00.

8) ORIGINAL IN-SERVICE DATE OF THE KEYSTONE PIPELINE (PHASE 1): JUNE 30, 2010.

9) CPS CALCULATION DATE: MAY 2010.

10) ORION STATION SERIES NUMBER: 1182700.

11) TO DETERMINE THE MILE POST AT A GIVEN LOCATION, ADD THE 3D STATION NUMBER FROM THIS SEGMENT TO STATION NUMBER 4028+46 AND DIVIDE BY 5280.

**OPERATING AND TEST PRESSURE**

1. THE MAXIMUM OPERATING PRESSURE (MOP)IS 1440 PSIG.
2. THE MINIMUM TEST PRESSURE WAS 1801 PSIG.

**BILL OF MATERIALS (3D)**

| ITEM NO. | DESCRIPTION | QUANTITY |
|---|---|---|
| 2 | 30" O.D. X 0.386" W.T., API -5LX-70 W/FBE COATING | 12,692' |
| 3 | 30" O.D. X 0.516" W.T., API -5LX-70 W/FBE COATING & ABRASION RESISTANT OVERCOAT | 320' |
| | PIPELINE MARKERS | 0 EA |
| | PIPELINE WARNING SIGNS | 6 EA |
| | CATHODIC TEST STATION | 2 EA |
| | AERIAL MARKER | 0 EA |

**REFERENCE DRAWINGS**

| REF. NO. | DRAWING NO. | REV. NO. | DRAWING TITLE |
|---|---|---|---|

**REVISIONS**

| NO. | DATE | REV. BY | CHCK BY | APPRD BY | ENV. APPRD | SEC | DESCRIPTION |
|---|---|---|---|---|---|---|---|
| 1 | 5/12/08 | UEI | RDG | LAG | | | ISSUED FOR CONSTRUCTION |
| 2 | 10/11/23 | UEI | | | | | ISSUED FOR AS-BUILT 1829-03-ML-02-019 REPLACES COVERAGE OF IFC DRAWINGS, 1829-03-ML-02-030, 1829-03-ML-02-031 |

**ENGINEERING RECORDS**

| | INITIAL | DATE | | INITIAL | DATE |
|---|---|---|---|---|---|
| DRAWN BY | UEI | 10/01/11 | ENV. APPRD. | | |
| CHECKED BY | | | APPRD. BY | | |
| | | | COMPANY APPROVED | | |

**PROFESSIONAL ENGINEER**

| NAME | STATE | LIC# | REV# | DATE |
|---|---|---|---|---|
| LOYS A. GRAY, III | ND | PE5714 | | |

SCALE: 0 125 250 500 Feet

TransCanada — In business to deliver

UNIVERSAL PEGASUS

KEYSTONE MAINLINE (NPS 30 2008) NIAGRA SECTION

FIA# 1829 | SPREAD 1A | DISCIPLINE 03

# AS-BUILT ALIGNMENT

M.P. 120.65 TO M.P. 123.12

SHEET 19 OF 20 SHEETS

STA. 2341+93 TO STA. 2472+05 (3D)

DRAWING NO. 1829-03-ML-02-019 | REV. 2

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