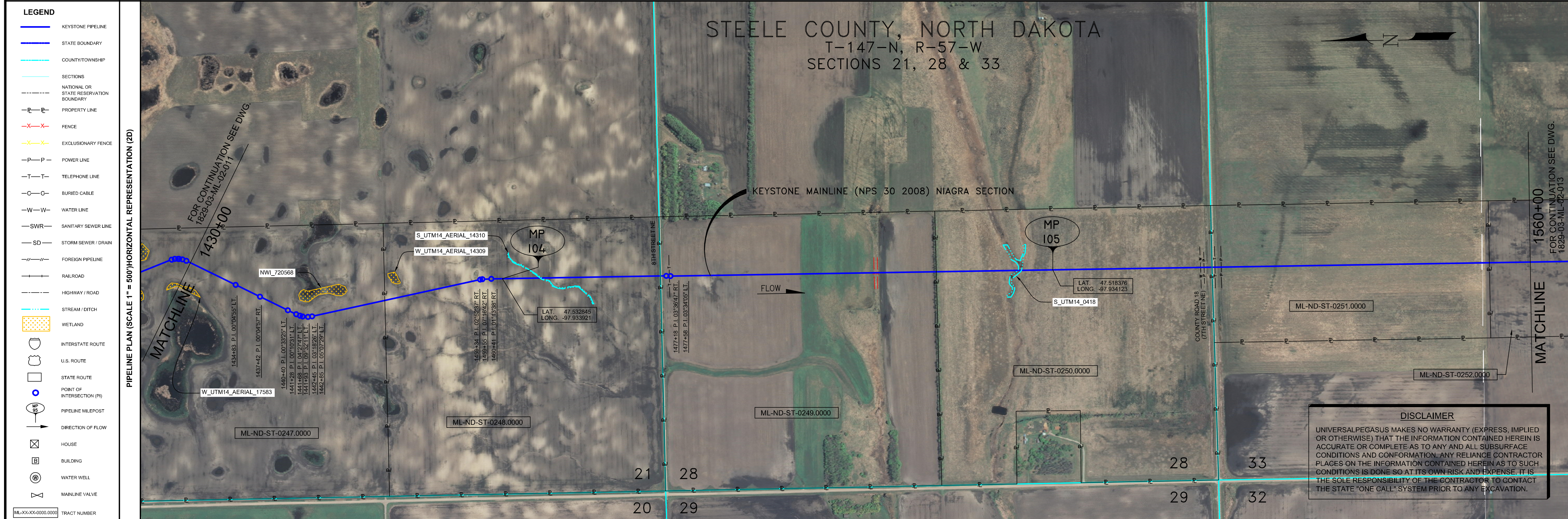


- GENERAL NOTES**
- 1) ALL CHAINAGES ARE IN FEET UNLESS OTHERWISE SPECIFIED.
 - 2) DATUM ELEVATION AND PROJECTION ARE BASED ON MEAN SEA LEVEL AND NAD 83.
 - 3) FIELD PIPE LOCATING REQUIRED TO DETERMINE PLACEMENT OF PIPELINE WITHIN PERMANENT EASEMENT.
 - 4) UNLESS OTHERWISE NOTED, 48 INCHES MINIMUM COVER 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 1601 PSIG.

BILL OF MATERIALS (3D)

ITEM NO.	DESCRIPTION	QUANTITY
2	30" O.D. X 0.386" W.T. API 5L-X70 WFBE COATING	12,772'
3	30" O.D. X 0.516" W.T. API 5L-X70 WFBE COATING & ABRASION RESISTANT OVERCOAT	240'

REFERENCE DRAWINGS

REF. NO.	DRAWING NO.	REV. NO.	DRAWING TITLE

REVISIONS

NO.	DATE	REV. BY	CHECKED BY	APPROVED BY	DESCRIPTION
1	5/7/09	UEI	RDG	LAG	ISSUED FOR CONSTRUCTION
2	3/17/23	UEI			ISSUED FOR AS-BUILT
					1829-03-ML-02-012
					REPLACES COVERAGE OF IFC DRAWINGS.
					1829-03-ML-02-018.
					1829-03-ML-02-019.
					1829-03-ML-02-020

PIPELINE SCHEMATIC

STATION	DESCRIPTION
1430+00	MATCHLINE
1432+98	6.5' COVER
1438+06	P.I. 00'04'55" L.L.
1437+42	P.I. 00'04'57" R.L.
1440+40	P.I. 00'03'25" L.L.
1441+28	P.I. 00'03'21" L.L.
1441+68	P.I. 00'03'21" L.L.
1441+83	P.I. 00'03'21" L.L.
1442+45	P.I. 00'03'21" L.L.
1442+85	P.I. 00'03'21" L.L.
1442+85	P.I. 00'03'21" L.L.
1445+49	4.8' COVER
1458+14	6.8' COVER
1460+58	P.I. 02'52'37" R.L.
1460+80	P.I. 02'18'22" R.L.
1461+66	P.I. 01'13'38" R.L.
1461+44	4.1' COVER
1462+74	M.P. 104
1469+40	6.8' COVER
1477+44	1477+44
1477+79	EDGE OF ROAD
1477+97	CL 8TH STREET NE
1477+86	EDGE OF ROAD
1478+44	P.I. 03'38'17" R.L.
1478+73	TELEPHONE LINE
1478+84	P.I. 03'38'15" L.L.
1479+04	4.1' COVER
1486+22	4.2' COVER
1488+38	FENCE (BARBED WIRE)
1488+72	FENCE (BARBED WIRE)
1502+48	6.0' COVER
1511+03	1511+03
1511+22	CL DITCH
1512+01	TOP BANK
1515+54	M.P. 105
1528+58	7.4' COVER
1528+73	OVERHEAD POWERLINE
1528+95	ROAD BAR DITCH
1529+24	CL DITCH
1529+35	EDGE OF ROAD
1529+48	CL COUNTY ROAD 18
1529+42	EDGE OF ROAD
1529+76	TELEPHONE LINE
1529+88	ROAD BAR DITCH
1530+38	UNDERGROUND POWERLINE
1531+17	3.0' COVER
1531+17	5.9' COVER
1557+17	5.9' COVER
1560+00	MATCHLINE

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TEST SECTIONS (3D)

TEST SECTION 1A-5
ILTO-021-2010

ENVIRONMENTAL MITIGATION/RECLAMATION STATIONS (2D)

STATION	REPRESENTATION	DESCRIPTION
1431+22	②	4.622' FBE
1477+44	③	87 FBE & ARO BR.
1511+03	②	5.170' FBE
1511+22	③	160' FBE & ARO BR.
1531+17	②	2.981' FBE

TEST SECTIONS (3D)

TOPSOIL SALVAGE METHOD

STREAMS

WETLANDS

TIMING CONSTRAINTS

STATIONS

MONITORING

RECLAMATION

SPECIAL CONSIDERATIONS

ENGINEERING RECORDS

DRAWN BY	INITIAL	DATE	ENY. APPRD.	INITIAL	DATE
UEI		10/01/11	ENY. APPRD.		

PROFESSIONAL ENGINEER

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

SCALE: 0 125 250 500 Feet

TransCanada
In business to deliver

KEYSTONE MAINLINE (NPS 30 2008) NIAGRA SECTION

AS-BUILT ALIGNMENT

M.P. 103.40 TO M.P. 105.87

SHEET 12 OF 20 SHEETS

STA. 1431+22 TO STA. 1561+35 (3D)

DRAWING NO. 1829-03-ML-02-012

REV. 2

Z:\00_KEYSTONE_AS_BUILT\14-alignment sheets for North Dakota\ND1829_03-ML-02-012.dwg, 3/9/2011 1:01:45 PM, pdfFactory.p3