

KEYSTONE XL PIPELINE PROJECT PIPELINE ROUTE VARIATION FORM	
1	VARIATION TYPE: Refinement: <input type="text"/> Reroute: <input checked="" type="checkbox"/> Footprint: <input type="text"/> Design: <input type="text"/> Centerline: <input type="text"/> Pump Station: <input type="text"/> Valve Site: <input type="text"/> CAR: <input type="text"/>
2	LOCATION: Sketch: <input type="text" value="Attached"/> Pictures: <input type="text" value="N/A"/> State: <input type="text" value="SD"/> County: <input type="text" value="Multiple"/> Quad Map: <input type="text" value="N/A"/> Township: <input type="text" value="Multiple"/> Range: <input type="text" value="Multiple"/> Aerial Map: <input type="text" value="See attached map sheets"/> Section: <input type="text" value="Multiple"/> Centerline: <input type="text" value="3/14/2012"/> MP: <input type="text" value="XXX.X"/> to <input type="text" value="XXX.X"/>
3	REASON FOR ROUTE VARIATION (Please include reason for route variation): <div style="border: 1px solid black; padding: 5px; min-height: 100px;"> <p>This report consists of 2 proposed reroutes related to avoid CL and Workspaces paralleling roads. The reason for each route variation is listed in the "Supplemental Info" tab.</p> <p>The route variations have been proposed based on a combination of Flyover video of Centerline, LIDAR data, Pictometry and other aeriels.</p> </div>
	DETAIL ROUTE VARIATION (Please describe route variation in detail): <div style="border: 1px solid black; padding: 5px; min-height: 100px;"> <p>Listed in "Supplemental Info" Tab.</p> <p>No new landowners have been affected by the proposed route variations.</p> </div>
	ADDITIONAL IMPACTS (Please include any additional impacts which may affect cost; crossings, induction bends, etc.): <div style="border: 1px solid black; padding: 5px; min-height: 50px;"> <p>Listed in "Cost Analysis" Tab.</p> </div>
9	Originator: <input type="text" value="Engineering"/> Date: <input type="text" value="3/19/2012"/>
10	Received by: <input type="text"/> Date: <input type="text" value="3/19/2012"/> <i>Fax to: ?</i>
11	Assigned Tracking Number: <input type="text" value="0257-SD-P4-XXX.X-XXX.X-1"/>
12	Filed by: <input type="text"/> Date: <input type="text"/> <i>Fax to: ?</i>

Keystone XL Pipeline - Supplemental Information for Route Variation Report 0257

Prepared: 2012-03-19

RV ID	MP Start	MP End	State	County	Section	Township	Range	Original Length (ft)	Reroute Length (ft)	Change in Length (ft)	Max. Perp. Deviation (ft)	Reason for Variation	Brief Variation Description	Additional Impacts/Comments	Does variation (CL) (including workspaces) falls within 500 ft. MDEQ Corridor?	Civil Survey Complete?	Civil Survey Needed (ft)
0257-01	375.45	376.03	SD	Perkins	34, 35	13N	11E	3,060	3,020	-40	89	To avoid Workspaces Paralleling a road (two track)	Route variation starts near MP 375.4 and deviates -9.5' east from C.L. It continues in this direction for -262 ft. It continues east and extends for -432 ft. before turning northeast to parallel the existing field road for -2,328 ft. C.L. It continues paralleling the road until stretches for -625.5 before turning further east. It extends in this direction for -525.5 before it rejoins the C.L. near MP 376.0.	- To avoid any potential issues with landowner. There is a potential of closing the use of the field road during the pipeline construction time.	YES	NO	3,020
0257-02	419.94	420.22	SD	Meade	1	07N	16E	1,475	1,502	26	97	To avoid paralleling road/avoid workspaces in road.	Route variation starts near MP 419.9 and deviates -23.5' west from C.L. thus shifting the CL -46 ft to avoid workspaces blocking the field road. It then continues in this direction for -241 ft. before turning southeast, thus paralleling the road for -772 ft. Finally the reroute turns further east for -488 ft. and rejoins the C.L. near MP 420.2.	- To avoid any potential issues with landowner. There is a potential of closing the use of the field road during the pipeline construction time.	YES	NO	1,502

RV ID	Moves Pump Station?	Moves Valve Site?	In Co-located Area?	Does proposed route variation impact Sage Grouse areas?	Does route variation impact ABB areas?	Biological Survey Complete for Existing Corridor?	Cultural Survey Complete for Existing Corridor?	Biological Survey Complete for Proposed Corridor?	Cultural Survey Complete for Proposed Corridor?	Estimated Length Requiring new Environmental Surveys (ft)	Number of New Landowners impacted by reroute	Number of Landowners on current route impacted by reroute	Is the affected landowner a possible condemnation?	Number of tracts purchased on original route.	Does proposed route variation impact Tribal Lands?	Does proposed route variation impact any Federal/State Lands?
0257-01	NO	NO	NO		N/A	Yes	Yes	YES	YES	0	0	1		2	NO	NO
0257-02	NO	NO	NO		N/A	Yes	Yes	NO	NO	1,502	0	1		1	NO	NO

Keystone XL Pipeline - Cost Analysis for Route Variation Report 0257

Prepared: 2012-03-19

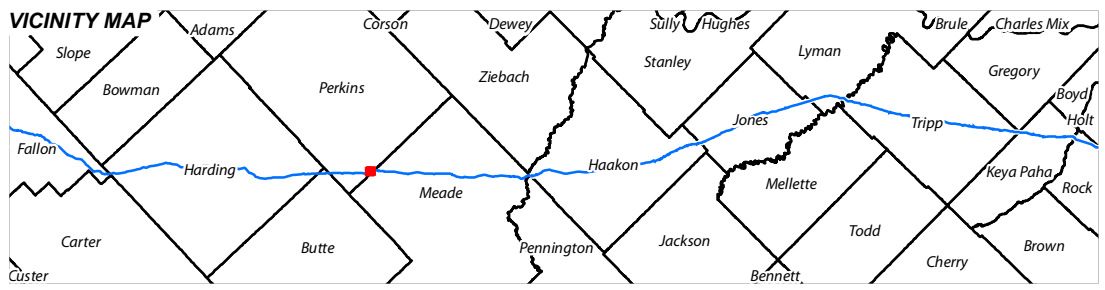
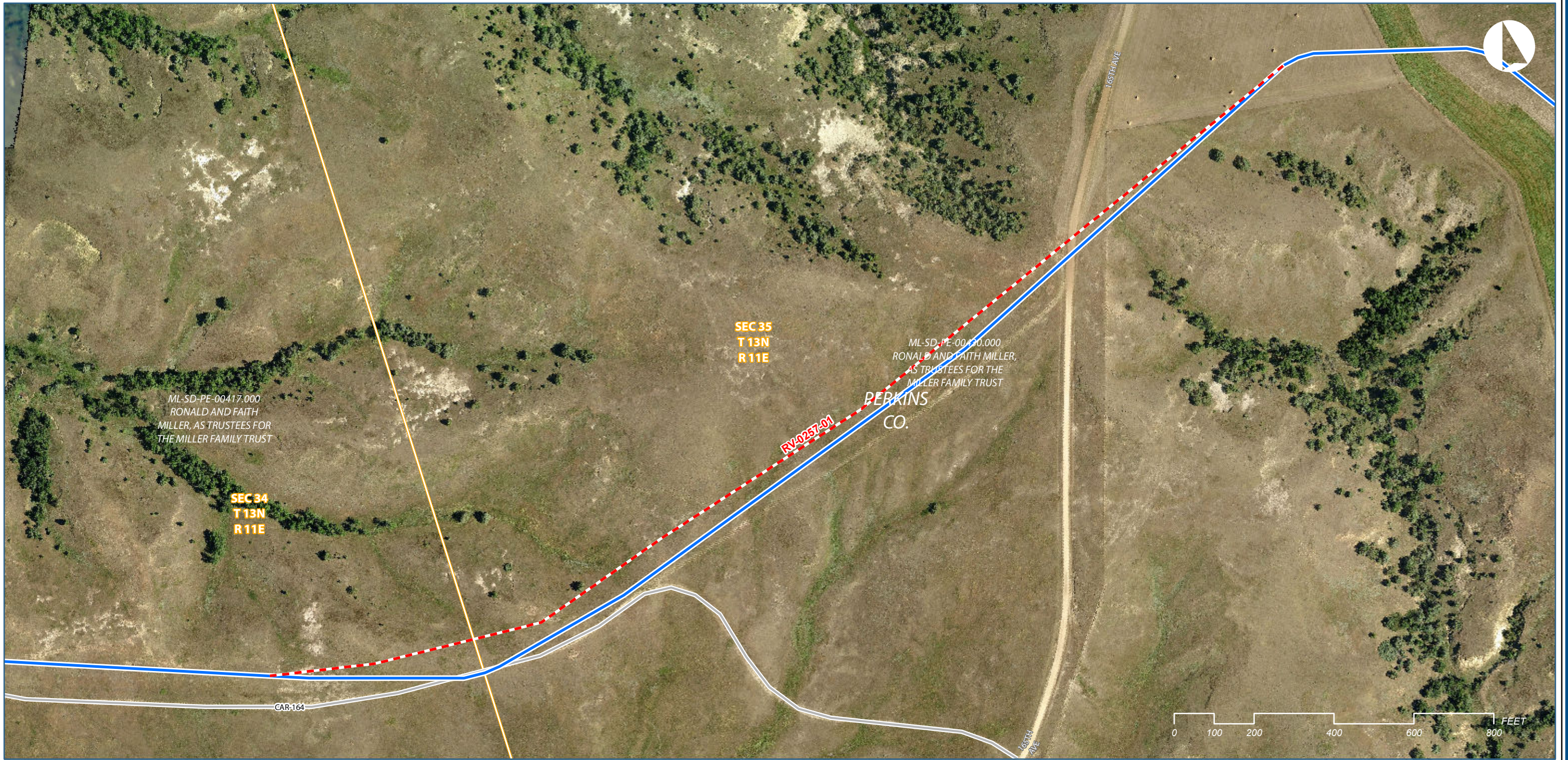
RV ID	Additional length (ft)	Cost \$360/ft	Additional length of wetland construction (ft)	Cost \$195/ft	Additional length of side hill construction (ft)	Cost \$19/ft	Additional bore length (ft)	Cost \$540/ft	Additional Waterbody crossings	Cost (\$77,250/EA btw 10' - 19') (\$32,500/EA < 10')	Cost of Environmental survey (\$5,300/mile)	Cost of Civil survey (\$5,000/mile)	Approximate cost for land purchased on current centerline	Miscellaneous cost for additional impacts	Total Cost
0257-01	-40	\$ (14,404.39)	0	\$ -		\$ -	0	\$ -	0	\$ -	\$ -	\$ 2,859.85	\$ -	\$ (20,000.00)	\$ (31,544.54)
0257-02	26	\$ 9,456.38	0	\$ -			0	\$ -	0	\$ -	\$ 1,507.24	\$ 1,421.93	\$ -	\$ (20,000.00)	\$ (7,614.45)

Overall Estimated Costs of Routes Variations= \$ (39,159.00)

Keystone XL Pipeline- Approval form for Route Variation Report 0257

Prepared: 2012-03-19

RV ID		0257-01	0257-02
LAND (TransCanada) Tina Hall	Approval (Y/N)	Y	Y
	Comments		
	Signature	<i>Tina Hall</i> #16-12	Y <i>Tina Hall</i>
ENGINEERING (TransCanada) Meera Kothari	Approval (Y/N)		
	Comments		
	Signature	<i>Meera Kothari</i> 3/22/12	<i>Meera Kothari</i> 3/22/12
ENGINEERING (exp) Butch Wallace	Approval (Y/N)	Y	Y
	Comments		
	Signature	<i>Butch Wallace</i> 3/22/2012	<i>Butch Wallace</i> 3/22/2012
ENVIRONMENTAL (exp) Jonathan Minton	Approval (Y/N)	Y	Y
	Comments		Pending Survey
	Signature	<i>Jonathan Minton</i>	<i>Jonathan Minton</i>
FACILITIES (TransCanada) Sandra Gigovic	Approval (Y/N)	N/A	N/A
	Comments		
	Signature		
PROJECT MANAGEMENT - MONTANA (TransCanada) Alan Lietz	Approval (Y/N)		
	Comments		
	Signature		
PROJECT MANAGEMENT - SOUTH DAKOTA (TransCanada) James Odom	Approval (Y/N)	Y	Y
	Comments		
	Signature	<i>James Odom</i> May 23, 2012	<i>James Odom</i> May 23, 2012
PROJECT MANAGEMENT - NEBRASKA (TransCanada) Robert Bradley	Approval (Y/N)		
	Comments		
	Signature		
PHAE IV AREA MANAGER (TransCanada) Steve Marr	Approval (Y/N)	Y	Y
	Comments		
	Signature	<i>Steve Marr</i> June 15/12	<i>Steve Marr</i> June 15/12



LEGEND

- MILEPOST
- PHASE IV CL (2010-09-21)
- - - PROPOSED ROUTE VARIATION
- ▭ SECTION LINE
- ACCESS ROAD
- ▭ PUMP STATION
- ⊗ VALVE
- ▭ PROPERTY PARCEL
- ▭ CULTURAL SITE
- ▭ WETLAND
- ▭ WATERBODY
- ▭ 500FT MDEQ CORRIDOR
- HDD ENTRY / EXIT

KEYSTONE PHASE IV, US

Proposed Route Variation 0257-01

COUNTY:	PERKINS	DRAWN BY:	PD
STATE:	SOUTH DAKOTA	CHECKED BY:	JP

REV. NO.:	REVISION	DATE
0	ISSUED FOR REVIEW.	2011-11-28

PRELIMINARY

DATE:	2011-11-28	PROJECTION:	NAD83 UTM13 N
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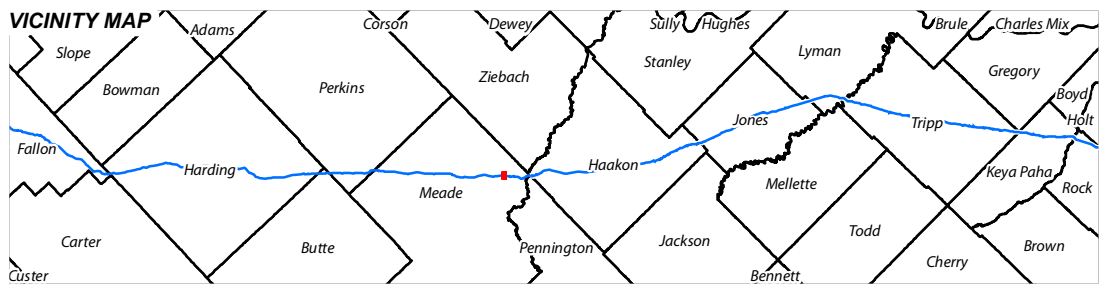
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- INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

DWG:	XL-30-P-9200	SHEET:	1
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LEGEND

- MILEPOST
- PHASE IV CL (2010-09-21)
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- ▭ WETLAND
- ▭ WATERBODY
- ▭ 500FT MDEQ CORRIDOR
- HDD ENTRY / EXIT

KEYSTONE PHASE IV, US

Proposed Route Variation 0257-02

COUNTY:	MEADE	DRAWN BY:	PD
STATE:	SOUTH DAKOTA	CHECKED BY:	JP
REV. NO.:	REVISION	DATE	
0	ISSUED FOR REVIEW.	2011-11-28	

PRELIMINARY

DATE:	2011-11-28	PROJECTION:	NAD83 UTM13 N
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