

KEYSTONE XL PIPELINE PROJECT

0270-SD-P4-405-3-405.4-1

KEYSTONE XL PIPELINE PROJECT PIPELINE ROUTE VARIATION FORM			
1	<b>VARIATION TYPE:</b> Refinement: <input type="text"/> Reroute: <input checked="" type="checkbox"/> Footprint: <input type="text"/> Design: <input type="text"/> Centerline: <input checked="" type="checkbox"/> Pump Station: <input type="text"/> Valve Site: <input type="text"/> CAR: <input type="text"/>		
2	<b>LOCATION:</b> Sketch: <input type="text"/> Pictures: <input type="text"/> See attached State: <input type="text"/> SD County: <input type="text"/> Meade Quad Map: <input type="text"/> N/A Township: <input type="text"/> 09N Range: <input type="text"/> 14E Aerial Map: <input type="text"/> See attached map sheet Section: <input type="text"/> 13 Centerline: <input type="text"/> 3/14/2012 MP: <input type="text"/> 405.29 to <input type="text"/> 405.41		
3	<b>REASON FOR ROUTE VARIATION</b> (Please include reason for route variation): The primary reason for this reroute is to shift workspaces out and away of Cattle guard/fence. The reroute has been proposed based on a combination of Flyover video of Centerline, LIDAR data, Pictometry and other aeriels.		
<b>DETAIL ROUTE VARIATION</b> (Please describe route variation in detail): Route variation starts near MP 405.3 and deviates ~15.5° west of current C/L. It extends in this direction for ~614 ft. before it rejoins the C/L near MP 405.4. The reroute allows ~45 ft. distance between the cattle fence and the CL.			
<b>ADDITIONAL IMPACTS</b> (Please include any additional impacts which may affect cost; crossings, induction bends, etc.): No New Landowners are impacted by this route variation. Two Tracts are impacted: ML-SD-ME-00665.000 (Lake Flat Land Company, LLC) ML-SD-ME-00670.000 (Green Valley Limited Partnership) This reroute is favorable to Landowner. The reroute decreases pipe length by ~15 ft.			
Is there an increase/decrease in the number of crossings? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, please list: <input type="text"/>			
<b>COST ANALYSIS</b> (costs incurred or saved from the route variation)			
Additional length of route realignment:	<input type="text"/> -15	ft.	\$ (5,226.53) \$ 360/ft
Additional length of side-hill construction:	<input type="text"/>	ft.	\$ - \$ 19/ft
Additional length of wetland construction:	<input type="text"/>	ft.	\$ - \$ 195/ft
Additional bore length (Road, RR):	<input type="text"/>	ft.	\$ - \$ 540/ft
Additional foreign line/pipeline crossings:	<input type="text"/>	EA	\$ - \$ 30,000/EA
Additional water body crossing (streams, ponds, etc.):			
35 - 65' +	<input type="text"/> 0	EA	\$ - \$ 185,000/EA
10' - 19'	<input type="text"/> 0	EA	\$ - \$ 77,250/EA
Less than 10'	<input type="text"/> 0	EA	\$ - \$ 32,500/EA
Additional survey required:			
Civil:	<input type="text"/> 0.12	mile	\$ 581.77 \$ 5,000/mile
Cultural:	<input type="text"/> 0.00	mile	\$ - \$ 2,500/mile
Biological:	<input type="text"/> 0.00	mile	\$ - \$ 2,800/mile
Miscellaneous costs saved or added due to route variation from <b>ADDITIONAL IMPACTS</b> listed above:			\$ (10,000)
Overall estimated costs of the route variation:	\$ (14,644.76)		(See "Additional Impacts" above)

4 **LAND / TransCanada** Tina Hall

a) Is a new landowner affected by the proposed variation? Yes  No

b) Is the affected landowner/tract a possible condemnation? Yes  No

c) Does proposed route variation impact Tribal Lands? Yes  No

d) Does proposed route variation impact any Federal/State Lands? Yes  No

-If yes, name type (i.e. USFWS, BLM, etc.):

e) Is proposed realignment outside the easement/workspace? Yes  No

f) Is realignment proposed to satisfy landowner request? Yes  No

-If yes, name of landowner(s)/track number(s):

g) Has all the evaluation criteria been examined/provided for this specific discipline? Yes  No

If no, please explain why:

5 **ENGINEERING/CONSTRUCTION - TransCanada** Meera Kothari, Bobby Curbow

a) Maximum deviation perpendicular to proposed alignment:  ft.

b) Does variation (CL) (including workspaces) falls within 500 ft. MDEQ Corridor? Yes  No

c) Has the centerline been staked for construction? Yes  No

d) Does route variation affect HDD crossing alignment? Yes  No

e) Is realignment proposed for engineering/construction reasons? Yes  No

f) Will the route variation require the relocation of a pump station? Yes  No

g) Has all the evaluation criteria been examined/provided for this specific discipline? Yes  No

If no, please explain why:

6 **ENVIRONMENTAL / exp** Jonathan Minton

a) Has the corridor been environmentally surveyed? Yes  No

b) Has the proposed variation been environmentally surveyed? Yes  No

c) Does proposed route variation impact Sage Grouse areas? Yes  No

d) Does route variation impact ABB areas? Yes  No

e) Was variation proposed to satisfy environmental issues? Yes  No

f) Was realignment proposed to satisfy agency request? Yes  No

-If yes, name of agency(s):

g) Environmental features:

Added (+):  Subtracted (-):

Wetland ID # for newly impacted wetlands:

h) Has all the evaluation criteria been examined/provided for this specific discipline? Yes  No

If no, please explain why:

7 **ENGINEERING / FACILITIES AND HYDRAULICS (if applicable)** Sandra Gigovic

a) Will the route variation require the relocation of a pump station? Yes  No

b) Will route variation impact hydraulics? Yes  No

c) Are additional valves required at HCA's or water crossing? Yes  No

d) Has all the evaluation criteria been examined/provided for this specific discipline? Yes  No

If no, please explain why:

8 **STAKEHOLDER RELATIONS / TCPL (if applicable)** Bud Andersen

a) Does the variation result in any new stakeholders? Yes  No

b) Does the variation require follow-up with specific stakeholder groups? Yes  No

c) Was the variation proposed to satisfy stakeholder request? Yes  No

-If yes, please specify issue type (as it aligns to stakeholder database):

d) Has all the evaluation criteria been examined/provided for this specific discipline? Yes  No

If no, please explain why:

9

Originator:

Date:

10

Received by:

Date:

Fax to: ?

11

Assigned Tracking Number:

12

Filed by:

Date:

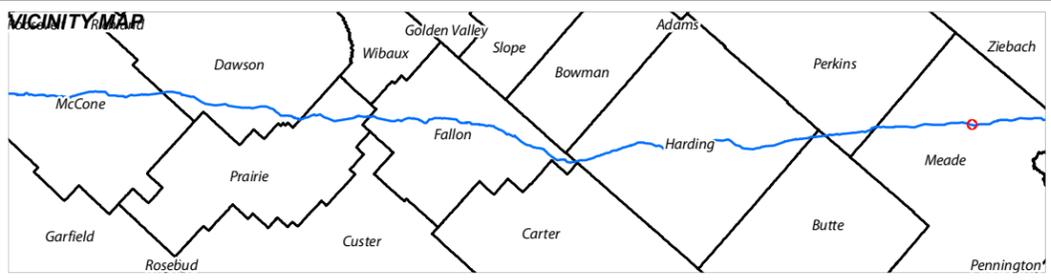
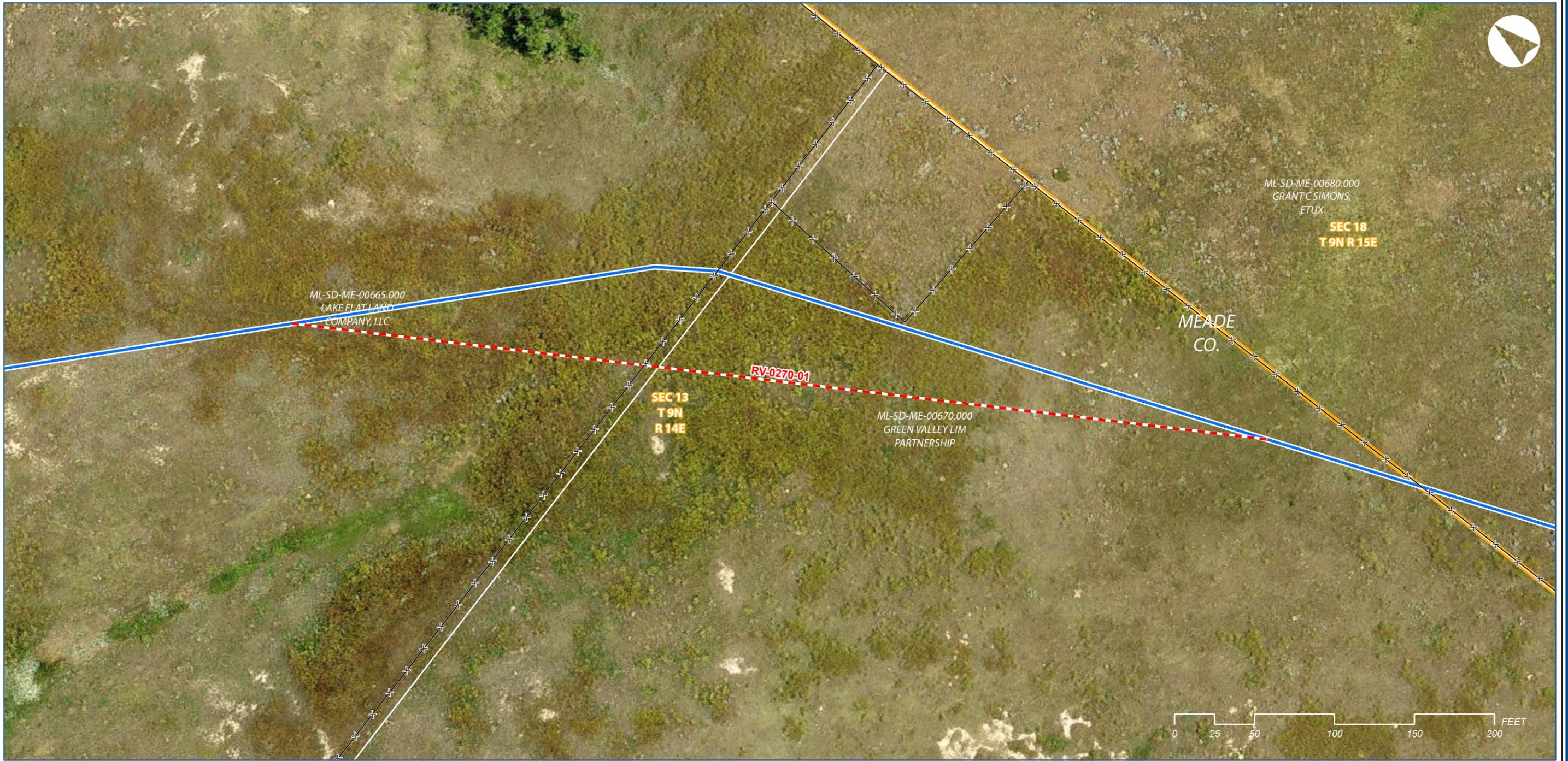
Fax to: ?

0270-SD-P4-405.3-405.4-I

KEYSTONE XL PIPELINE PROJECT

0270-SD-P4-405.3-405.4-1

KEYSTONE PIPELINE PROJECT - U.S. PHASE IV (STEELE CITY SEGMENT) ROUTE VARIATION AUTHORIZATION FORM		
Date: 3/19/2012	Tracking Number: 0270-SD-P4-405.3-405.4-1	MP: 405.3 to 405.4
Description: The primary reason for this reroute is to shift workspaces out and away of Cattle guard/fence.	Originated By: Engineering	Variation Form Attached: Yes <input type="checkbox"/> X No <input type="checkbox"/>
<b>TransCanada - Land</b> Tina Hall	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: 4-16-12
Comments:	If Rejected Why?	
<b>TransCanada- Engineering</b> Meera Kothari	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments:	If Rejected Why?	
<b>Exp - Engineering</b> Butch Wallace	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: 3/22/2012
Comments:	If Rejected Why?	
<b>Exp - Environmental</b> Jonathan Minton	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: 5-11-12
Comments:	If Rejected Why?	
<b>Stantec - Risk Assessment</b> Heidi Tillquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments:	If Rejected Why?	
<b>Facilities - TransCanada</b> Sandra Gigovic	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments:	If Rejected Why?	
<b>TransCanada - PM (Montana)</b> Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments:	If Rejected Why?	
<b>TransCanada - PM (South Dakota)</b> James Odom	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: May 23, 2012
Comments:	If Rejected Why?	
<b>TransCanada - PM (Nebraska)</b> Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: _____
Comments:	If Rejected Why?	
<b>TransCanada - Keystone XL Manager</b> Steve Marr	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: Jun 15/12
Comments:	If Rejected Why?	
Forward to: Tina Hall <input type="checkbox"/> Jonathan Minton <input type="checkbox"/> James Odom <input type="checkbox"/> Meera Kothari <input type="checkbox"/> Heidi Tillquist <input type="checkbox"/> Robert Bradley <input type="checkbox"/> Butch Wallace <input type="checkbox"/> Sandra Gigovic <input type="checkbox"/> Steve Marr <input type="checkbox"/> Alan Lietz <input type="checkbox"/>		



**LEGEND**

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

**KEYSTONE PHASE IV, US**

*Proposed Route Variation 0270-01*

COUNTY:	MEADE	DRAWN BY:	PD
STATE:	SOUTH DAKOTA	CHECKED BY:	JP
REV. NO.:	REVISION	DATE	
0	ISSUED FOR REVIEW.	2012-01-10	

**PRELIMINARY**

DATE:	2012-01-10	PROJECTION:	NAD83   UTM13 N
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PREPARED BY:

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DWG:	XL-30-P-9200	SHEET:	1
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Cattle Guard