

KEYSTONE XL PIPELINE PROJECT

0456-SD-P4-305.9-308-S

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 checked="" type="checkbox"/> 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="Harding"/> Quad Map: <input type="text" value="N/A"/> Township: <input type="text" value="(021N), 020N"/> Range: <input type="text" value="(003E), 004E"/> Aerial Map: <input type="text" value="See attached map sheet"/> Section: <input type="text" value="(36), 1, 6, 7"/> Centerline: <input type="text" value="6/11/2013"/> MP: <input type="text" value="305.89"/> to <input type="text" value="308.00"/>			
3	REASON FOR ROUTE VARIATION (Please include reason for route variation): The primary reason for this CL reroute is to avoid 4 Continental Oil wellheads/lines currently crossed by the KXL line. Route variation was field verified and civil surveyed. Proposed CL reroute is requested by Engineering.			
	DETAIL ROUTE VARIATION (Please describe route variation in detail): The reroute begins near MP 305.9 where it deviates from the current CL ~5° in the south direction. It continues in this direction for ~1,839 ft. From there, it angles ~13° south and extends for ~918 ft. prior to continuing in the southeast direction for ~2,554 ft. It then turns south again for ~682 ft. before turning slightly southeast for ~2,190 ft. The proposed reroute continues turning southeast and extends for ~1,054 ft. It then PIs in the east direction, thus straightening the line for a creek crossing. It extends in this direction for ~416 ft. before making a final turn southeasterly towards the current CL. It will extend in this direction ~1,861 ft. before it reconnects with the current CL near MP 308.0. <u>4 Tracts Impacted:</u> ML-SD-HA-00960.000 (Clarkson & Company) ML-SD-HA-00990.000 (David Niemi) ML-SD-HA-01040.000 (David Niemi) ML-SD-HA-01080.000 (David Niemi) ML-SD-HA-01060.000 (David M. Niemi) - CL offline, still will have CAR-173 impact.			
	ADDITIONAL IMPACTS (Please include any additional impacts which may affect cost; crossings, induction bends, etc.): The majority of the proposed route variation will need to be environmentally surveyed.			
	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" value="Proposed reroute avoids 4 Continental oil lines/wellheads."/>			
	COST ANALYSIS (costs incurred or saved from the route variation)			
	Additional length of route realignment:	384 ft.	\$ 138,314.96	\$ 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:	-4 EA	\$ (120,000.00)	\$ 30,000/EA
	Additional water body crossing (streams, ponds, etc.):			
	35 - 65' +	0 EA	\$ -	\$ 185,000/EA
	10' - 19'	0 EA	\$ -	\$ 77,250/EA
	Less than 10'	0 EA	\$ -	\$ 32,500/EA
	Additional survey required:			
	Civil:	0.00 mile	\$ -	\$ 5,000/mile
	Cultural:	2.01 mile	\$ 5,012.56	\$ 2,500/mile
	Biological:	2.01 mile	\$ 5,614.07	\$ 2,800/mile
	Miscellaneous costs saved or added due to route variation from ADDITIONAL IMPACTS listed above: <input type="text"/>			
	Overall estimated costs of the route variation: <input type="text" value="\$ 28,941.60"/> (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*

a) Maximum deviation perpendicular to proposed alignment:

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 - TransCanada** *Sandra Barnett*

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:

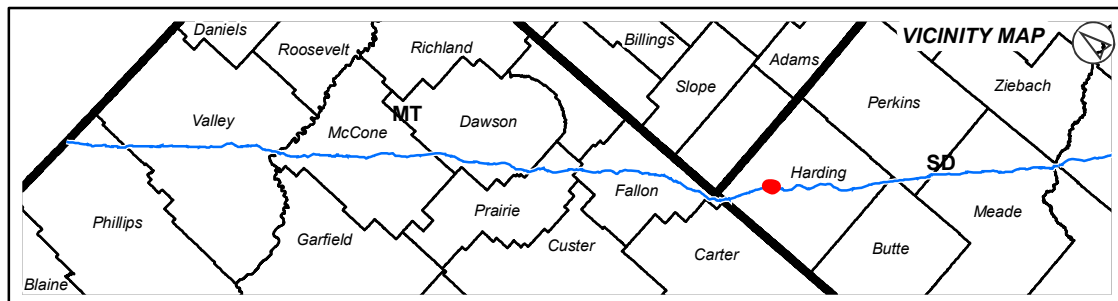
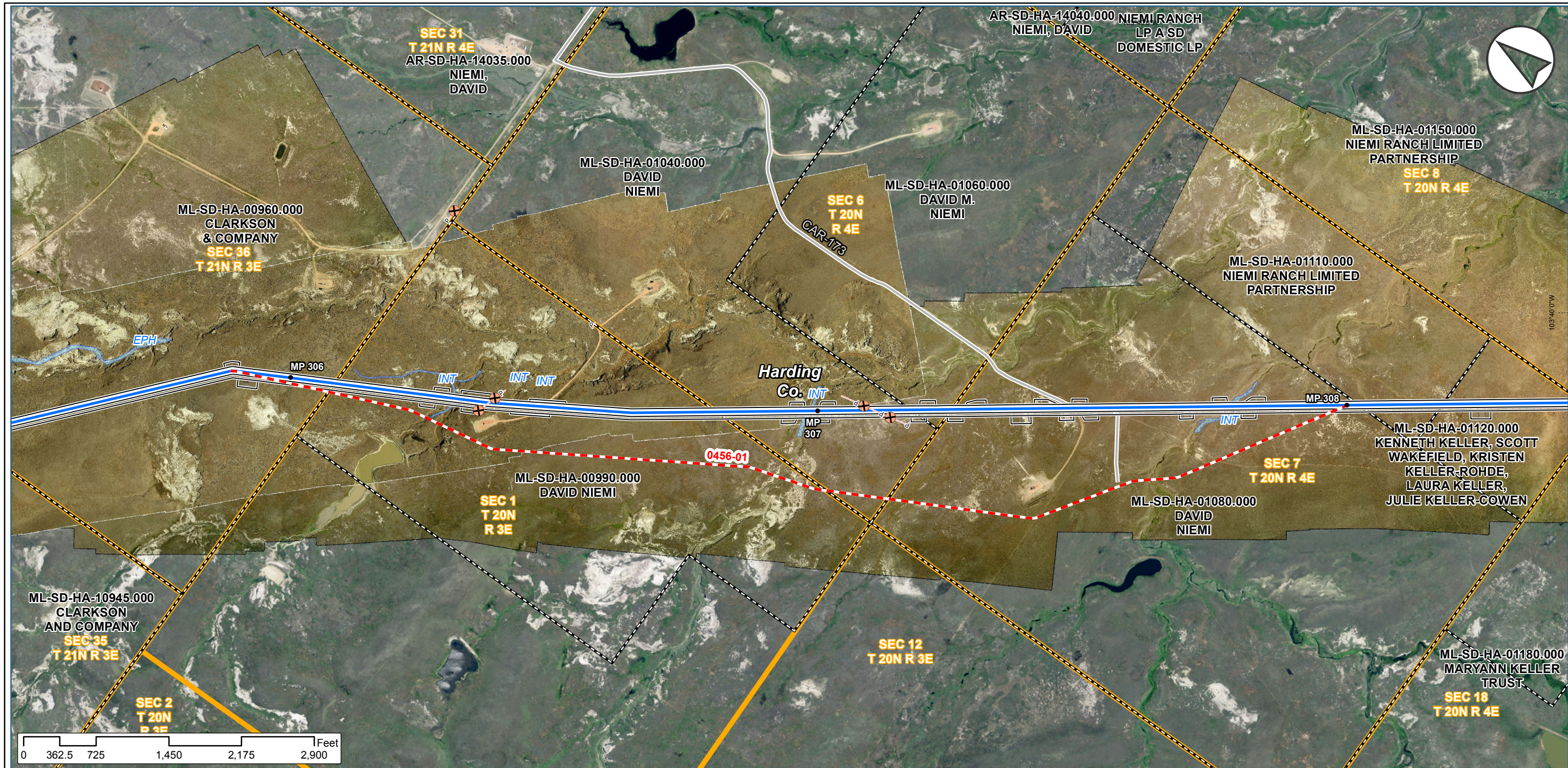
12 Filed by:
 Date:
 Fax to: ?

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KEYSTONE XL PIPELINE PROJECT

KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM		
Date: <u>8/7/2013</u>	Tracking Number: <u>0456-SD-P4-305.9-308-S</u>	
Description: The primary reason for this CL reroute is to avoid 4 Continental Oil wellheads/lines currently crossed by the KXL line.	MP: <u>305.9</u> to <u>308.0</u>	
	Originated By: <u>Engineering</u>	
	Variation Form Attached: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<u>TransCanada - Land</u> Tina Hall	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>[Signature]</i> Date: <u>8/14/13</u>	
	If Rejected Why?	
<u>TransCanada - Engineering</u> Meera Kothari	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>[Signature]</i> Date: <u>8/15/13</u>	
	If Rejected Why?	
<u>Exp - Engineering</u> Kevin McGlynn	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>[Signature]</i> Date: <u>8.20.13</u>	
	If Rejected Why?	
<u>TransCanada - Environmental</u> Sandra Barnett	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>[Signature]</i> Date: <u>8/15/13</u>	
	If Rejected Why? <u>Pending Survey</u>	
<u>Stantec - Risk Assessment</u> Heidi Talquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	Date: _____	
	If Rejected Why?	
<u>TransCanada - Facilities</u> Sandra Gigovic	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	Date: _____	
	If Rejected Why?	
<u>TransCanada - PM (Montana)</u> Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	Date: _____	
	If Rejected Why?	
<u>TransCanada - PM (South Dakota)</u> James Odom	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	<i>[Signature]</i> Date: <u>20-Aug-13</u>	
	If Rejected Why?	
<u>TransCanada - PM (Nebraska)</u> Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	Date: _____	
	If Rejected Why?	
<u>TransCanada - Area Manager</u> Steve Marr	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	
Comments:	Date: _____	
	If Rejected Why?	
Forward to: Tina Hall <input type="checkbox"/> Meera Kothari <input type="checkbox"/> Kevin McGlynn <input type="checkbox"/>	Sandra Barnett <input type="checkbox"/> Heidi Talquist <input type="checkbox"/> Sandra Gigovic <input type="checkbox"/> Alan Lietz <input type="checkbox"/>	James Odom <input type="checkbox"/> Robert Bradley <input type="checkbox"/> Steve Marr <input type="checkbox"/>

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LEGEND

• Milepost	— Access Road	▭ Section Line
⊗ Valve	P—P Overhead Power Line	▭ County Line
⊗ Power Pole	▭ Cultural Site	▭ Waterbody
— Centerline (2012-11-18)	▭ Workspace	▭ Wetland
- - - Route Variation	▭ Wash Station	▭ MDEQ Corridor
	▭ Property Parcel	

KEYSTONE XL PROJECT
PROPOSED ROUTE VARIATION

COUNTY:	HARDING	DRAWN BY:	RJM
STATE:	SOUTH DAKOTA	CHECKED BY:	JP
REV. NO.:	REVISION	DATE	
0	ISSUED FOR REVIEW.	2013-06-27	
PRELIMINARY			
DATE:	2013-06-27	PROJECTION:	NAD83 UTM13 N

PREPARED BY:
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DWG: XL-30-P-9299-A-CLRV SHEET: 1 of 1