

0295-SD-P4-598.9-599.4-S

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" value="See Attached"/> State: <input type="text" value="SD"/> County: <input type="text" value="Tripp"/> Quad Map: <input type="text" value="N/A"/> Township: <input type="text" value="095N"/> Range: <input type="text" value="74W"/> Aerial Map: <input type="text" value="See attached map sheet"/> Section: <input type="text" value="26, 25"/> Centerline: <input type="text" value="3/14/2012"/> MP: <input type="text" value="598.88"/> to <input type="text" value="599.36"/>		
3	<b>REASON FOR ROUTE VARIATION</b> (Please include reason for route variation): The primary reason for this reroute is to avoid a drainage crossing and to straighten a road crossing. The reroute also eliminates reclamation issues at the drainage crossing.  The reroute has been proposed based on the field reconnaissance effort.		
<b>DETAIL ROUTE VARIATION</b> (Please describe route variation in detail): Route variation starts near MP 598.9 and deviates ~9° southwest. It continues in this direction for ~753 ft. Then the reroute turns east and extends in this direction for ~1,713 ft. to rejoin the current CL near MP 599.4			
<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. Three tracts are impacted by reroute: ML-SD-TR-12060.000 (Vernon V. Kerner et al.) ML-SD-TR-12080.000 (Bernard Seegers & Betty Seegers Trustees...) ML-SD-TR-12090.000 (John H. Kerner, Filena M. Miller & Lavern A. Kerner)  The drainage at new crossing location is not surrounded by trees and the magnitude of the drop is less (bottom elevation difference is ~28 ft. between the current crossing location and the new crossing location).  Additional Savings include Reclamation issues at the drainage crossing : ~\$20,000			
Is there an increase/decrease in the number of crossings? Yes <input type="text"/> No <input checked="" 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:	-42	ft.	\$ (15,031.85) \$ 360/ft
Additional length of side-hill construction:		ft.	\$ - \$ 19/ft
Additional length of wetland construction:		ft.	\$ - \$ 195/ft
Additional bore length (Road, RR):		ft.	\$ - \$ 540/ft
Additional foreign line/pipeline crossings:		EA	\$ - \$ 30,000/EA
Additional water body crossing (streams, ponds, etc.):			
35 - 65' +		EA	\$ - \$ 185,000/EA
10' - 19'		EA	\$ - \$ 77,250/EA
Less than 10'		EA	\$ - \$ 32,500/EA
Additional survey required:			
Civil:	0.00	mile	\$ - \$ 5,000/mile
Cultural:	0.33	mile	\$ 827.33 \$ 2,500/mile
Biological:	0.33	mile	\$ 926.61 \$ 2,800/mile
Miscellaneous costs saved or added due to route variation from <b>ADDITIONAL IMPACTS</b> listed above:			\$ (20,000)
Overall estimated costs of the route variation:			\$ (33,277.92) (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:  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:

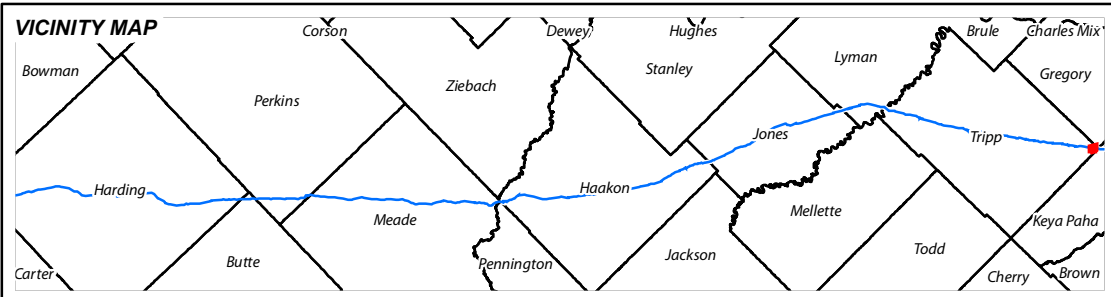
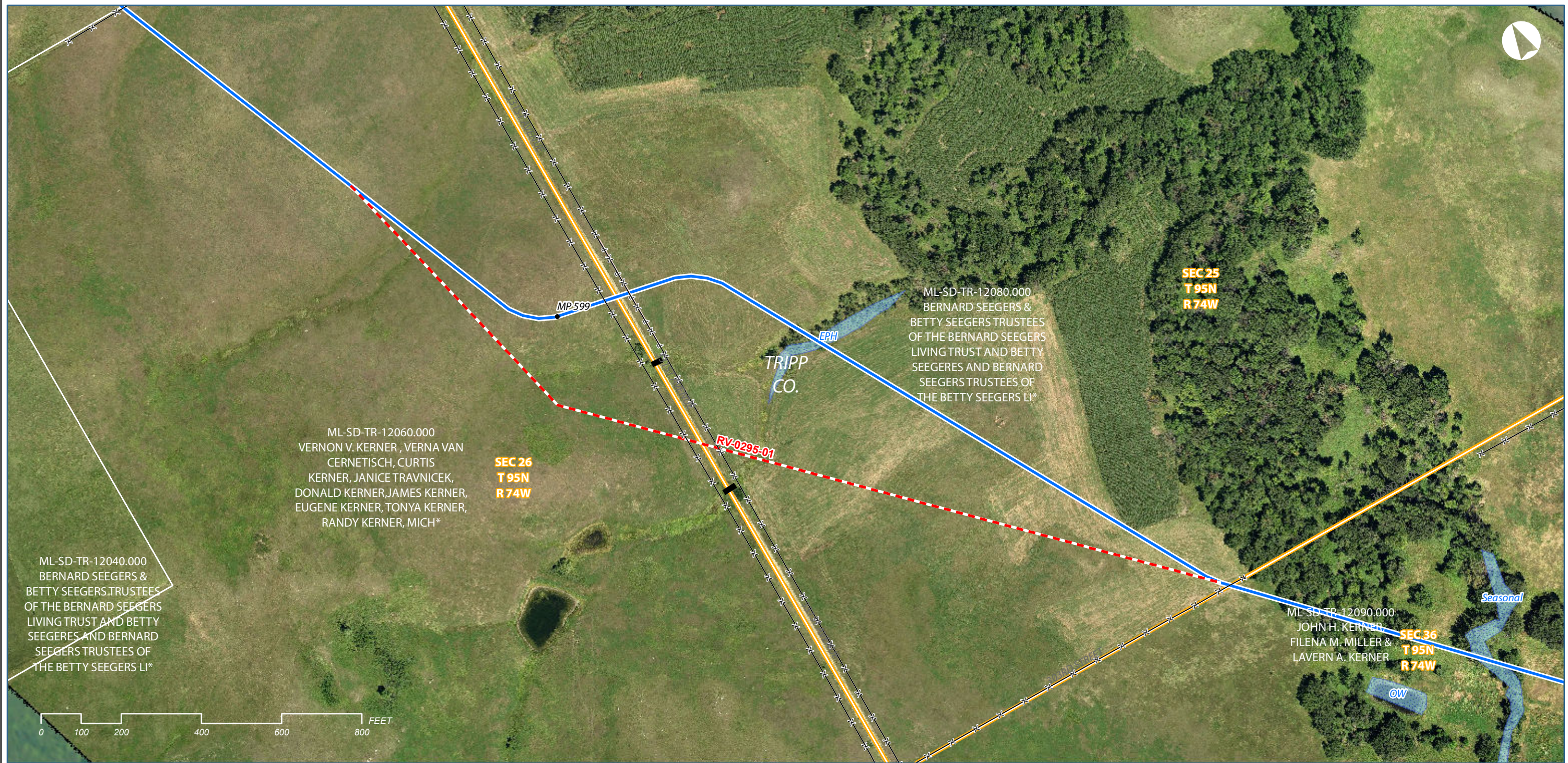
Fax to: ?

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KEYSTONE XL PIPELINE PROJECT

KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM		
Date: <u>4/4/2012</u>	Tracking Number: <u>0295-SD-P4-598.9-599.4-S</u>	
Description: <u>The primary reason for this reroute is to avoid drainage crossing and straighten road crossing. The reroute also eliminates reclamation issues at the drainage crossing.</u>	MP: <u>598.9</u> to <u>599.4</u>	Originated By: <u>Engineering</u>
	Variation Form Attached: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
<b>TransCanada - Land</b> Tina Hall	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: <u>4-16-12</u>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
<b>TransCanada - Engineering</b> Meera Kothari	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: <u>4-27-12</u>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
<b>Exp - Engineering</b> Butch Wallace	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: <u>4-17-2012</u>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
<b>Exp - Environmental</b> Jonathan Minton	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: <u>5/1/12</u>
Comments: <u>Pending Env. Survey</u>	If Rejected Why? <input type="text"/>	
<b>Stantec - Risk Assessment</b> Heidi Tillquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: <input type="text"/>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
<b>TransCanada - Facilities</b> Sandra Gigovic	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: <input type="text"/>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
<b>TransCanada - PM (Montana)</b> Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: <input type="text"/>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
<b>TransCanada - PM (South Dakota)</b> James Odom	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: <input type="text"/>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
<b>TransCanada - PM (Nebraska)</b> Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: <input type="text"/>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
<b>TransCanada - Keystone XL Manager</b> Steve Marr	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date: <input type="text"/>
Comments: <input type="text"/>	If Rejected Why? <input type="text"/>	
Forward to: Tina Hall <input type="checkbox"/> Meera Kothari <input type="checkbox"/> Butch Wallace <input type="checkbox"/>	Jonathan Minton <input type="checkbox"/> Heidi Tillquist <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	✕	SURVEYED FENCE
—	KEYSTONE XL CL (2012-03-14)	□	PROPERTY PARCEL
- - -	PROPOSED ROUTE VARIATION	□	CULTURAL SITE
▭	SECTION LINE	▨	WETLAND
—	ACCESS ROAD	▨	WATERBODY
□	PUMP STATION	▭	500FT MDEQ CORRIDOR
⊗	VALVE	▬	CULVERT

**KEYSTONE XL PROJECT**  
*Proposed Route Variation 0295-01*

COUNTY:	TRIPP	DRAWN BY:	PD
STATE:	SOUTH DAKOTA	CHECKED BY:	JP
REV. NO.:	0	REVISION	ISSUED FOR REVIEW.
		DATE	2012-04-05
<b>PRELIMINARY</b>			
DATE:	2012-04-05	PROJECTION:	NAD83   UTM14 N

PREPARED BY:  
**exp** Energy Services Inc.  
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• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

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

**RV-0295-01 - Looking Southeast at minute 04:26.766**  
**03/14/2012 CL - Blue Line**  
**Reroute - Red Line**



**RV-0295-01 - Looking Northwest at minute 06:52.645**  
**03/14/2012 CL - Blue Line**  
**Reroute - Red Line**

