

KEYSTONE XL PIPELINE PROJECT

0293-SD-P4-505.9-507.1-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"/> Pictures: <input type="text"/> See Attached State: <input type="text"/> SD County: <input type="text"/> Jones Quad Map: <input type="text"/> N/A Township: <input type="text"/> 01 S Range: <input type="text"/> 28E Aerial Map: <input type="text"/> See attached map sheet Section: <input type="text"/> 11, 12 Centerline: <input type="text"/> 3/14/2012 MP: <input type="text"/> 505.87 to <input type="text"/> 507.13		
3	REASON FOR ROUTE VARIATION (Please include reason for route variation): The primary reason for this reroute is to avoid Centerline and workspaces crossing a pond and a levee. Additionally many terrain issues associated with the current alignment (including a side slope) are avoided. The reroute also eliminates reclamation issues at the pond/levee impacted. The southernmost pond has also been labeled a non-eligible cultural feature (Smith #39JN0050). The reroute has been proposed based on the field reconnaissance effort.		
DETAIL ROUTE VARIATION (Please describe route variation in detail): Route variation starts near MP 505.9 and deviates ~7° in the southeast direction. It continues in this direction for ~2,460 ft thus avoiding the pond/stream. Then the reroute turns further southeast and extends in this direction for ~3,694 ft. and thus avoiding crossing the second pond (currently not-eligible cultural feature). Lastly, the reroute turns south and extends for ~703 ft. to rejoin the current CL near MP 507.4			
ADDITIONAL IMPACTS (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-JO-10445.000 (Clinton Iversen) ML-SD-JO-10450.000 and ML-SD-JO-10485.000 (both tracts: Lon & Christine Peters) Miscellaneous Cost savings include: Reclamation issues at the pond crossing: ~\$20,000; Side-hill construction eliminated (~-940 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"/> Eliminates a stream crossing (the pond width is ~77 ft.) and Adds < 10ft. Stream.			
COST ANALYSIS (costs incurred or saved from the route variation)			
Additional length of route realignment:	187	ft.	\$ 67,283.71 \$ 360/ft
Additional length of side-hill construction:	-940	ft.	\$ (17,860.00) \$ 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' +	-1	EA	\$ (185,000.00) \$ 185,000/EA
10' - 19'		EA	\$ - \$ 77,250/EA
Less than 10'	1	EA	\$ 32,500.00 \$ 32,500/EA
Additional survey required:			
Civil:	0.00	mile	\$ - \$ 5,000/mile
Cultural:	0.67	mile	\$ 1,676.20 \$ 2,500/mile
Biological:	0.67	mile	\$ 1,877.35 \$ 2,800/mile
Miscellaneous costs saved or added due to route variation from ADDITIONAL IMPACTS listed above:			\$ (20,000)
Overall estimated costs of the route variation:			\$ (119,522.74) (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:

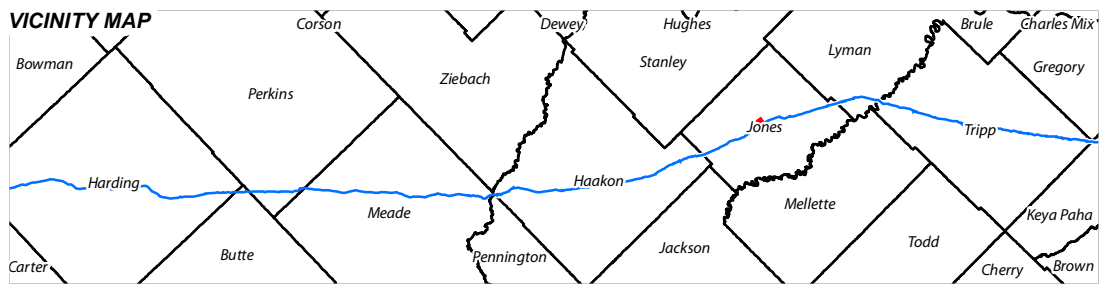
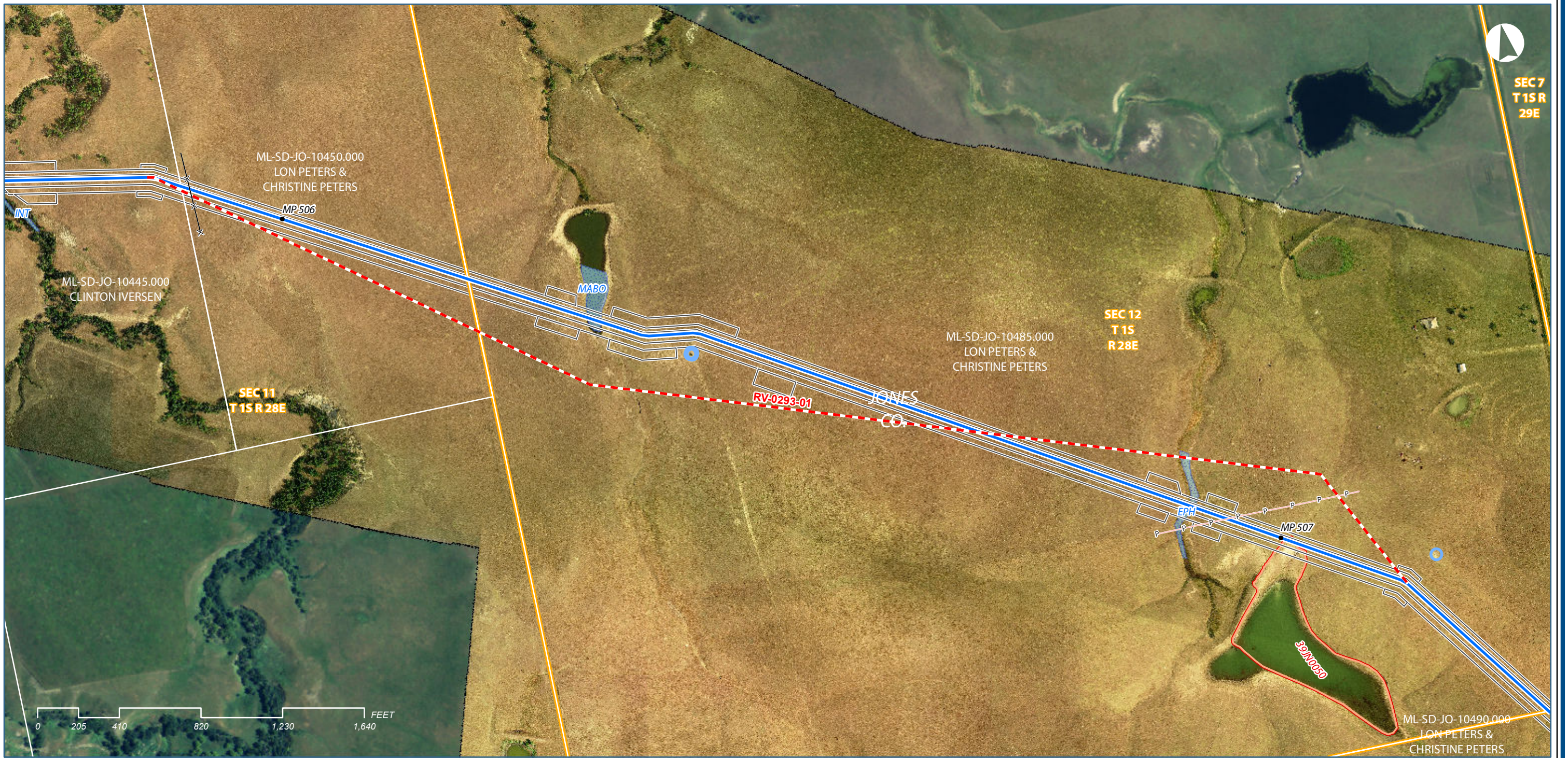
Fax to: ?

0293-SD-P4-505-9-507-1-S

KEYSTONE XL PIPELINE PROJECT

KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM		
Date: 4/10/2012	Tracking Number: 0293-SD-P4-505.9-507.1-S	
Description: The primary reason for this reroute is to avoid Centerline and workspaces crossing a pond and a levee. Additionally, many terrain issues associated with the current alignment (including a side slope) are avoided.	MP: 505.9 to 507.1	Originated By: Engineering
	Variation Form Attached: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
TransCanada - Land Tina Hall	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: 4-16-12
Comments:	If Rejected Why?	
TransCanada - Engineering Meera Kothari	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: 4-27-12
Comments:	If Rejected Why?	
Exp - Engineering Butch Wallace	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: 4-17-2012
Comments:	If Rejected Why?	
Exp - Environmental Jonathan Minton	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date:
Comments: Pending Survey	If Rejected Why?	
Stantec - Risk Assessment Heidi Tillquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date:
Comments:	If Rejected Why?	
TransCanada - Facilities Sandra Gigovic	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date:
Comments:	If Rejected Why?	
TransCanada - PM (Montana) Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date:
Comments:	If Rejected Why?	
TransCanada - PM (South Dakota) James Odum	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: May 23, 2012
Comments:	If Rejected Why?	
TransCanada - PM (Nebraska) Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Date:
Comments:	If Rejected Why?	
TransCanada - Keystone XL Manager Steve Marr	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/>	Date: June 15/12
Comments:	If Rejected Why?	
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 Odum <input type="checkbox"/> Robert Bradley <input type="checkbox"/> Steve Marr <input type="checkbox"/>

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LEGEND

- MILEPOST
- KEYSTONE XL CL (2012-03-14)
- - - PROPOSED ROUTE VARIATION
- ▭ SECTION LINE
- ACCESS ROAD
- ☐ PUMP STATION
- ⊗ VALVE
- ✕ SURVEYED FENCE
- ▭ PROPERTY PARCEL
- ▭ CULTURAL SITE
- ▨ WETLAND
- ▨ WATERBODY
- ▭ 500FT MDEQ CORRIDOR
- WELL

KEYSTONE XL PROJECT

Proposed Route Variation 0293-01

COUNTY:	JONES	DRAWN BY:	PD
STATE:	SOUTH DAKOTA	CHECKED BY:	JP
REV. NO.:	0	REVISION	ISSUED FOR REVIEW.
		DATE	2012-04-05

PRELIMINARY

DATE:	2012-04-05	PROJECTION:	NAD83 UTM14 N
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PREPARED BY:

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- INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

DWG:	XL-30-P-9200	SHEET:	1
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RV-0293 Looking Southeast at minute 04:33.740
03/14/2012 CL - Blue line
Reroute - Red line

RV-0293 Looking Southeast at minute 05:08.808

03/14/2012 CL - Blue line

Reroute - Red line



RV-0293 Looking Northwest at minute 00:14.414
03/14/2012 CL - Blue line
Reroute - Red line

