

KEYSTONE PIPELINE PROJECT - U.S. PHASE IV (STEELE CITY SEGMENT) PIPELINE ROUTE VARIATION FORM			
1	<b>VARIATION TYPE:</b>		
	Refinement: <input type="text"/>	Reroute: <input checked="" type="checkbox"/>	
	Centerline: <input checked="" type="checkbox"/>	Valve Site: <input type="text"/>	Pump Station: <input type="text"/>
2	<b>LOCATION:</b>		
	Sketch: <input type="text"/> Attached	Pictures: <input type="text"/> See attached.	
	State: <input type="text"/> SD	County: <input type="text"/> Haakon	Quad Map: <input type="text"/> N/A
	Township: <input type="text"/> 4N	Range: <input type="text"/> 20E	Aerial Map: <input type="text"/> See attached map sheet
	Section: <input type="text"/> 10, 15	Centerline: <input type="text"/> 3/26/2010	MP: <input type="text"/> 446.85 to <input type="text"/> 447.47
3	<b>REASON FOR ROUTE VARIATION</b> (Please include reason for route variation):		
<p>The PIs in the current centerline at ~MP 446.8 and ~MP 447.5 were made to square up for road bores at the road crossings. After further investigation, it was found that the road near MP 446.8 and 213th St are two-track field roads and hence will be open cut. This reroute is proposed to eliminate PIs and shorten the centerline.</p>			
<b>DETAIL ROUTE VARIATION</b> (Please describe route variation in detail):			
<p>The proposed reroute starts at the PI near MP 446.8 and deviates (~30°) from the centerline. It continues in this direction for 3,120 ft to rejoin the current centerline at the PI near MP 447.5.</p>			
<b>ADDITIONAL IMPACTS</b> (Please include any additional impacts which may affect cost; crossings, induction bends, etc.):			
<p>The proposed reroute is 165 ft shorter than the current centerline. It eliminates 4 horizontal fittings, the cost savings for the fittings and their installation is not estimated in the costs below.</p>			
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	<input type="text"/> -165	ft.	\$ (59,400.00) \$ 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"/> EA	\$ - \$ 185,000/EA
	10' - 19'	<input type="text"/> EA	\$ - \$ 77,250/EA
	Less than 10'	<input type="text"/> EA	\$ - \$ 32,500/EA
Additional survey required:			
	Civil:	<input type="text"/> 0.59 mile	\$ 2,950.00 \$ 5,000/mile
	Cultural:	<input type="text"/> 0.59 mile	\$ 1,475.00 \$ 2,500/mile
	Biological:	<input type="text"/> 0.59 mile	\$ 1,652.00 \$ 2,800/mile
Miscellaneous costs saved or added due to route variation from <b>ADDITIONAL IMPACTS</b> listed above: <input type="text"/>			
Overall estimated costs of the route variation: \$ <input type="text"/> (53,323) (See "Additional Impacts" above)			

4  
**LAND / UNIVERSAL FIELD**      *Doug Reichley*

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

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

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

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

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

If no, please explain why: \_\_\_\_\_

5  
**ENGINEERING/CONSTRUCTION / STATE PM**      *David Guien*

a) Maximum deviation perpendicular to proposed alignment:      \_\_\_\_\_ 290 ft.

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

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

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

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

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

If no, please explain why: \_\_\_\_\_

6  
**ENVIRONMENTAL / TROW**      *Jonathan Minton*

a) Has the corridor been environmentally surveyed?      Yes       No

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

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

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

-If yes, name of agency(s): \_\_\_\_\_

e) Environmental features:

Added (+): Unknown      Subtracted (-): NA

Wetland ID # for newly impacted wetlands: \_\_\_\_\_

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

If no, please explain why: \_\_\_\_\_

7  
**ENGINEERING / FACILITIES AND HYDRAULICS**      *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?      N/A to PS Engineeri      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**      *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: \_\_\_\_\_

<p>9</p> <p>Originator: <input type="text" value="Engineering"/></p> <p>Date: <input type="text" value="9/23/2010"/></p>	<p>10</p> <p>Received by: _____</p> <p>Date: <input type="text" value="9/23/2010"/></p> <p>Fax to: ?</p>
<p>11</p> <p>Assigned Tracking Number: <input type="text" value="0181-SD-P2-446.8-447.5-S"/></p>	<p>12</p> <p>Filed by: _____</p> <p>Date: _____</p> <p>Fax to: ?</p>

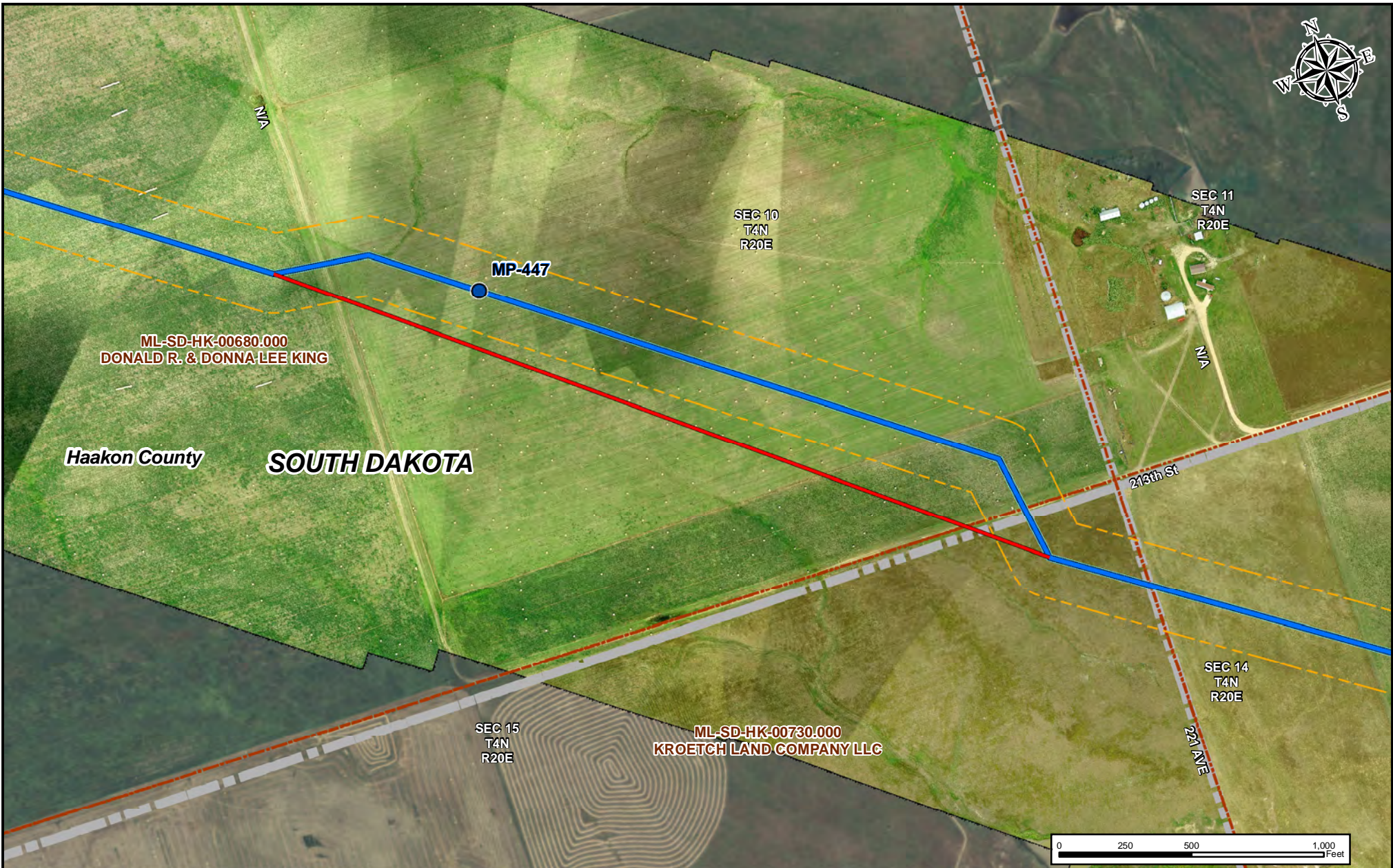
0181-SD-P2-446.8-447.5-S

KEYSTONE PIPELINE PROJECT - U.S. PHASE IV (STEELE CITY SEGMENT)

0181-SD-P2-446.8-447.5-S

KEYSTONE PIPELINE PROJECT - U.S. PHASE IV (STEELE CITY SEGMENT) ROUTE VARIATION AUTHORIZATION FORM	
Date: <input type="text" value="9/23/2010"/> Description: <input type="text" value="Reroute to eliminate PIs and shorten the centerline."/>	Tracking Number: <input type="text" value="0181-SD-P2-446.8-447.5-S"/> MP: <input type="text" value="446.9"/> to <input type="text" value="447.5"/> Originated By: <input type="text" value="Engineering"/> Variation Form Attached: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>Universal Field - Land</b> <span style="float: right;">Doug Reichley</span> Comments: <input type="text"/>	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <input type="text" value="Doug Reichley"/> Date: <input type="text" value="9/28/2010"/> If Rejected Why? <input type="text"/>
<b>State PM - Construction / Eng.</b> <span style="float: right;">David Guien</span> Comments: <input type="text"/>	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <input type="text" value="David Guien"/> Date: <input type="text" value="10/25/2010"/> If Rejected Why? <input type="text"/>
<b>Trow - Environmental</b> <span style="float: right;">Jonathan Minton</span> Comments: <input type="text" value="Biological and cultural surveys will need to be completed."/>	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <input type="text" value="Jonathan Minton"/> Date: <input type="text" value="9/24/2010"/> If Rejected Why? <input type="text"/>
<b>Project Management</b> <span style="float: right;">Butch Wallace</span> Comments: <input type="text"/>	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <input type="text" value="R.E. Wallace"/> Date: <input type="text" value="9/24/2010"/> If Rejected Why? <input type="text"/>
<b>Stakeholder Relations</b> <span style="float: right;">Bud Andersen</span> Comments: <input type="text"/>	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/> <input type="text"/> Date: <input type="text"/> If Rejected Why? <input type="text"/>
<b>Facilities:</b> <span style="float: right;">Sandra Gigovic</span> Comments: <input type="text"/>	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <input type="text" value="Sandra Gigovic"/> Date: <input type="text" value="10/19/2010"/> If Rejected Why? <input type="text"/>
<b>TransCanada:</b> <span style="float: right;">Alan Lietz</span> Comments: <input type="text"/>	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <input type="text" value="Alan Lietz"/> Date: <input type="text" value="10/26/2010"/> If Rejected Why? <input type="text"/>
Forward to: Butch Wallace <input checked="" type="checkbox"/> Jonathan Minton <input checked="" type="checkbox"/> Alan Lietz <input checked="" type="checkbox"/> David Guien <input checked="" type="checkbox"/> Bud Andersen <input checked="" type="checkbox"/> Doug Reichley <input checked="" type="checkbox"/> Sandra Gigovic <input checked="" type="checkbox"/>	
<b>Dispute Resolution, if Required:</b> Yes <input type="checkbox"/> No <input type="checkbox"/> Comments: <input type="text"/> Teleconference Required: Yes <input type="checkbox"/> No <input type="checkbox"/> Decision: <input type="text"/>	
Database - <input type="text"/> Filed By: <input type="text"/> Date: <input type="text"/> Fax to: ?	Database - <input type="text"/> Filed By: <input type="text"/> Date: <input type="text"/> Fax to: ?





**Legend**

- Milepost
- Centerline (2010-03-26)
- Proposed Route Variation
- 300ft Corridor
- Waterbody
- Wetland
- Parcel Boundary
- Section Line
- County Boundary
- State Boundary



KEYSTONE XL PROJECT - STEELE CITY SEGMENT PROPOSED ROUTE VARIATION 0181 HAAKON COUNTY, SD					
	DATE	PROJECT	MAP PARAMETERS		
	Sept. 15, 2010	50388X	PROJECTION: UTM 14, NAD83, US FT SCALE: 1" = 500', 1:6,000		
DRAWN BY	CHECKED BY	APPROVED BY	ROUTE VARIATION NUMBER	SHEET	REV.
ACB	CPA	WSF	0181-SD-P2-446.8-447.5-S	001	0