

KEYSTONE XL PIPELINE PROJECT

0499-SD-P4-419.7-421.1-S

KEYSTONE XL PIPELINE PROJECT PIPELINE ROUTE VARIATION FORM			
1	VARIATION TYPE:	Refinement: <input type="text"/>	Reroute: <input type="text"/> Footprint: <input checked="" type="checkbox"/> Design: <input type="text"/>
		Centerline: <input type="text"/>	Pump Station: <input type="text"/> Valve Site: <input checked="" type="checkbox"/> CAR: <input checked="" type="checkbox"/>
2	LOCATION:	Sketch: <input type="text"/>	Pictures: <input type="text" value="N/A"/>
	State: <input type="text" value="SD"/>	County: <input type="text" value="Meade"/>	Quad Map: <input type="text" value="N/A"/>
	Township: <input type="text" value="008N, (007N)"/>	Range: <input type="text" value="016E"/>	Aerial Map: <input type="text" value="See attached map sheet"/>
	Section: <input type="text" value="035, (002, 001)"/>	Centerline: <input type="text" value="6/11/2013"/>	MP: <input type="text" value="419.68"/> to <input type="text" value="421.09"/>
3	REASON FOR ROUTE VARIATION (Please include reason for route variation):		
	<p>The primary reason for this footprint change is to relocate mainline valve MLV-18 due to compliance requirement of being less than 10 miles away from the Cheyenne River (MP 429.8). Currently, MLV-18 is ~ 10.1 miles away from River, so the MLV-18 is being shifted 1.4 miles south.</p> <p>This proposed footprint changes are requested by Engineering and were field verified by civil survey.</p>		
	DETAIL ROUTE VARIATION (Please describe route variation in detail):		
	<p>Also see "Supplemental Info" for Valve Details.</p> <p>CAR-148 (Near MP 419.7, Temporary): Due to the relocation of MLV-18, CAR will now be temporary access road. Original Length: 684 ft. New Length: 624 ft. 1 Tract Impacted by modification: ML-SD-ME-11040 (Freda Wilson, LE; Linda Grenz, Jennifer Silbaugh).</p> <p>CAR-166 (Near MP 419.7, Permanent): Due to the relocation of MLV-18, CAR-166 will now be a permanent access road. It was also extended based on civil survey data to the new MLV-18 location. Original Length: 654 ft. New Length: 8,297 ft. 1 Tract Impacted by modification: ML-SD-ME-11040 (Freda Wilson, LE; Linda Grenz, Jennifer Silbaugh); ML-SD-ME-11050 (Hugh G. Hudson & Beverly J. Hudson, Trustees of the Hugh G. & Beverly J. Hudson Family Trust); ML-SD-ME-11060 (Edward C. Hawks & Gloria Hawks).</p>		
	ADDITIONAL IMPACTS (Please include any additional impacts which may affect cost; crossings, induction bends, etc.):		
	<p>PHMSA Spacing requirements are not impacted by this check and manual valve relocation.</p> <p>A small portion of CAR-166 will require environmental survey.</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"/>		
	COST ANALYSIS (costs incurred or saved from the route variation)		
	Additional length of route realignment	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 360/ft
	Additional length of side-hill construction:	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 19/ft
	Additional length of wetland construction:	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 195/ft
	Additional bore length (Road, RR):	<input type="text"/> ft.	\$ <input type="text" value="-"/> \$ 540/ft
	Additional foreign line/pipeline crossings:	<input type="text"/> EA	\$ <input type="text" value="-"/> \$ 30,000/EA
	Additional water body crossing (streams, ponds, etc.):		
	35 - 65' +	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 185,000/EA
	10' - 19'	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 77,250/EA
	Less than 10'	<input type="text" value="0"/> EA	\$ <input type="text" value="-"/> \$ 32,500/EA
	Additional survey required:		
	Civil:	<input type="text" value="0.00"/> mile	\$ <input type="text" value="-"/> \$ 5,000/mile
	Cultural:	<input type="text" value="0.34"/> mile	\$ <input type="text" value="858.35"/> \$ 2,500/mile
	Biological:	<input type="text" value="0.34"/> mile	\$ <input type="text" value="961.35"/> \$ 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="1,819.69"/> (See "Additional Impacts" above)	

4 LAND / TransCanada <i>Tina Hall</i>	
a) Is a new landowner affected by the proposed variation?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Is the affected landowner/tract a possible condemnation?	Yes <input type="checkbox"/> No <input type="checkbox"/>
c) Does proposed route variation impact Tribal Lands?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does proposed route variation impact any Federal/State Lands?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, name type (i.e. USFWS, BLM, etc.): <input type="text"/>	
e) Is proposed realignment outside the easement/workspace?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
f) Is realignment proposed to satisfy landowner request?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, name of landowner(s)/track number(s): <input type="text"/>	
<input type="text"/>	
g) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
5 ENGINEERING/CONSTRUCTION - TransCanada <i>Meera Kothari</i>	
a) Maximum deviation perpendicular to proposed alignment:	<input type="text" value="N/A"/> ft.
b) Does variation (CL) (including workspaces) falls within 500 ft. MDEQ Corridor?	Yes <input type="text" value="N/A"/> No <input type="checkbox"/>
c) Has the centerline been staked for construction?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does route variation affect HDD crossing alignment?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
e) Is realignment proposed for engineering/construction reasons?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
f) Will the route variation require the relocation of a pump station?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
g) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
6 ENVIRONMENTAL / TransCanada <i>Sandra Barnett</i>	
a) Has the corridor been environmentally surveyed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
b) Has the proposed variation been environmentally surveyed?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c) Does proposed route variation impact Sage Grouse areas?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Does route variation impact ABB areas?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
e) Was variation proposed to satisfy environmental issues?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
f) Was realignment proposed to satisfy agency request?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, name of agency(s): <input type="text"/>	
g) Environmental features:	
Added (+): <input type="text"/>	Subtracted (-): <input type="text"/>
Wetland ID # for newly impacted wetlands: <input type="text"/>	
h) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
7 ENGINEERING / FACILITIES AND HYDRAULICS (if applicable) <i>Sandra Gigovic</i>	
a) Will the route variation require the relocation of a pump station?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Will route variation impact hydraulics?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
c) Are additional valves required at HCA's or water crossing?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
d) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
8 STAKEHOLDER RELATIONS / TCPL (if applicable) <i>Bud Andersen</i>	
a) Does the variation result in any new stakeholders?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
b) Does the variation require follow-up with specific stakeholder groups?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
c) Was the variation proposed to satisfy stakeholder request?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
-If yes, please specify issue type (as it aligns to stakeholder database): <input type="text"/>	
d) Has all the evaluation criteria been examined/provided for this specific discipline?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If no, please explain why: <input type="text"/>	
<input type="text"/>	
9 Originator: <input type="text" value="Engineering"/> Date: <input type="text" value="8/8/2013"/>	10 Received by: <input type="text"/> Date: <input type="text" value="8/8/2013"/> Fax to: ?
11 Assigned Tracking Number: <input type="text" value="0499-SD-P4-419.7-421.1-S"/>	12 Filed by: <input type="text"/> Date: <input type="text"/> Fax to: ?

0499-SD-P4-419.7-421.1-S

Keystone XL Pipeline - Supplemental Information for Route Variation Report 0499

Prepared: 2013-08-08

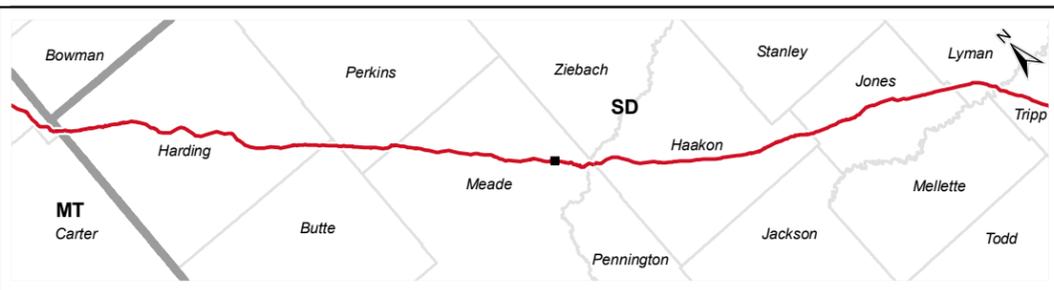
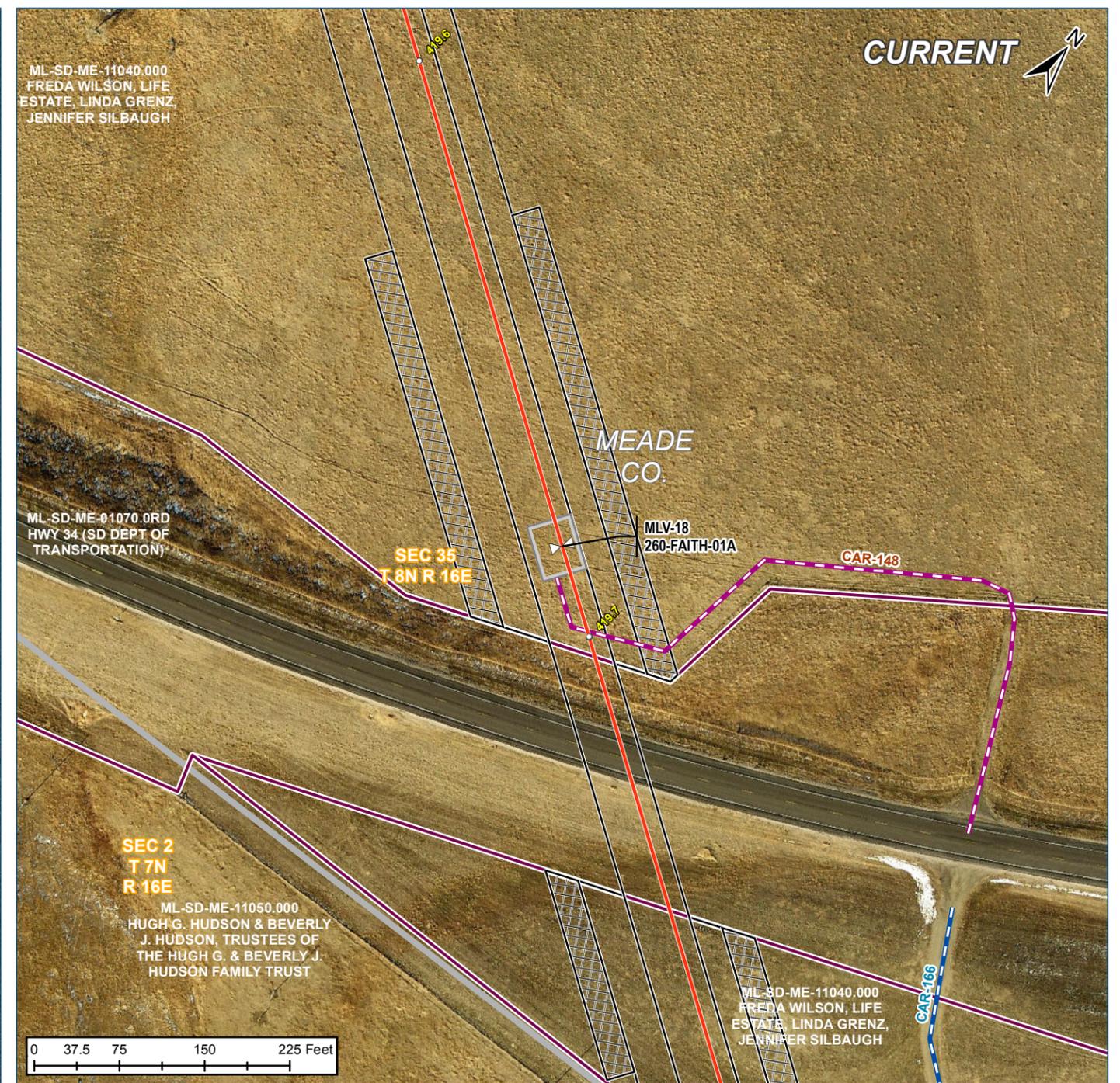
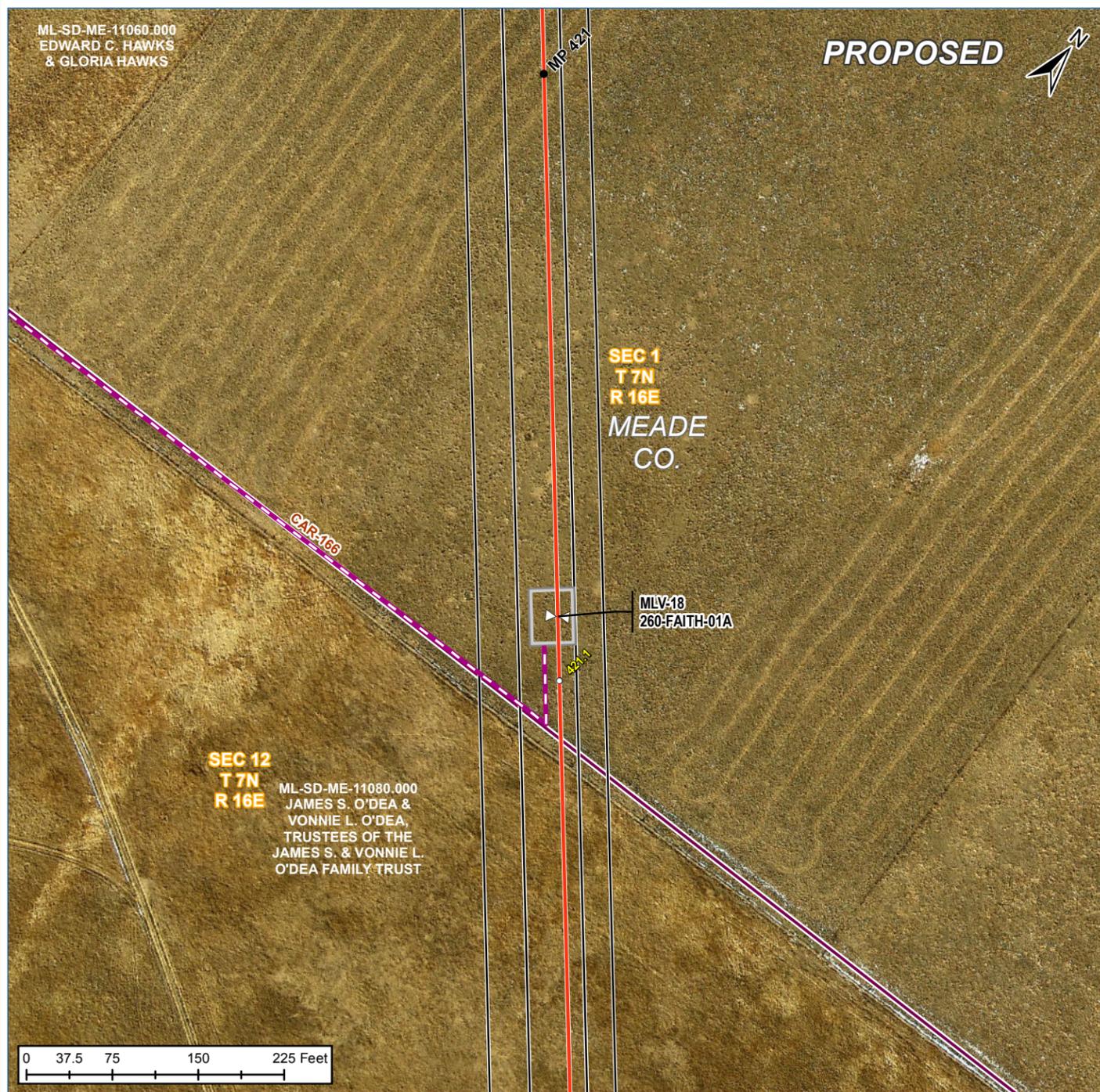
RV-ID	Status	Previous Scenario		New Scenario		Relocated Distance (miles)	Upstream distance to next motorised valve or PS (miles)	Downstream distance to next motorised valve or PS (miles)	Spread	Previous Scenario	New Scenario	County	State	Previous Scenario			New Scenario			Tag (Motor operated valve)	Tag (Check valve)	Tag (Manual valve)
		Milepost	Valve ID	Milepost	Valve ID					Type	Type			Legal	Latitude	Longitude	Legal	Latitude	Longitude			
0499-01		419.68	MLV-18	421.09	MLV-18	1.41	12.2	15.0	6	MOV	MOV	Meade	South Dakota	035-08N-16E	44° 36' 17.272" N	102° 8' 38.222" W	028-29N-040E	44° 35' 22.597" N	102° 7' 31.382" W	260-FAITH-01A-B0-MLV-01		

RV-ID	New Scenario		Closest Road	Side	Previous Scenario		New Scenario		Required building setback	Distance from Road ROW/FENCE to valve (whichever greater) (ft)	Distance from CL of Road to valve (ft)
	Milepost	Valve ID			Tract Number	Owner	Tract Number	Owner			
0499-01	72.6	MLV-18	CAR-166	Upstream	ML-SD-ME-11040.000	Freda Wilson, LE; Linda Grenz, Jennifer Silbaugh	ML-SD-ME-11060.000	Edward C. Hawks & Gloria Hawks	NONE	60	46

KEYSTONE XL PIPELINE PROJECT

KEYSTONE XL PIPELINE PROJECT ROUTE VARIATION AUTHORIZATION FORM													
Date: 8/8/2013	Tracking Number: 0499-SD-P4-419.7-421.1-S												
Description: The primary reason for this footprint change is to relocate mainline valve MLV-18 due to compliance issues with being less than 10 miles away from the Cheyenne River (MP 429.8). Currently, MLV-18 is ~ 10.1 miles away from River, so the MLV-18 is being shifted 1.4 miles south.	MP: 419.7 to 421.1 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"/> <i>Tina Hall</i> Date: 8-19-13 If Rejected Why? will need to change CAR-166 to a perm. road												
TransCanada - Engineering Meera Kothari	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <i>Meera Kothari</i> Date: 8/15/13 If Rejected Why?												
Exp - Engineering Kevin McGlynn	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <i>Kevin McGlynn</i> Date: 8-20-13 If Rejected Why?												
TransCanada - Environmental Sandra Barnett	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <i>Sandra Barnett</i> Date: 8/15/13 If Rejected Why? Pending Survey												
Stantec - Risk Assessment Heidi Tillquist	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/> Date: _____ If Rejected Why?												
TransCanada - Facilities Sandra Gigovic	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/> Date: _____ If Rejected Why?												
TransCanada - PM (Montana) Alan Lietz	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/> Date: _____ If Rejected Why?												
TransCanada - PM (South Dakota) James Odom	Variation: Approved <input checked="" type="checkbox"/> Rejected <input type="checkbox"/> <i>James Odom</i> Date: 20-Aug-13 If Rejected Why?												
TransCanada - PM (Nebraska) Robert Bradley	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/> Date: _____ If Rejected Why?												
TransCanada - Area Manager Steve Marr	Variation: Approved <input type="checkbox"/> Rejected <input type="checkbox"/> Date: _____ If Rejected Why?												
Forward to:	<table border="0"> <tr> <td>Tina Hall <input type="checkbox"/></td> <td>Sandra Barnett <input type="checkbox"/></td> <td>James Odom <input type="checkbox"/></td> </tr> <tr> <td>Meera Kothari <input type="checkbox"/></td> <td>Heidi Tillquist <input type="checkbox"/></td> <td>Robert Bradley <input type="checkbox"/></td> </tr> <tr> <td>Kevin McGlynn <input type="checkbox"/></td> <td>Sandra Gigovic <input type="checkbox"/></td> <td>Steve Marr <input type="checkbox"/></td> </tr> <tr> <td></td> <td>Alan Lietz <input type="checkbox"/></td> <td></td> </tr> </table>	Tina Hall <input type="checkbox"/>	Sandra Barnett <input type="checkbox"/>	James Odom <input type="checkbox"/>	Meera Kothari <input type="checkbox"/>	Heidi Tillquist <input type="checkbox"/>	Robert Bradley <input type="checkbox"/>	Kevin McGlynn <input type="checkbox"/>	Sandra Gigovic <input type="checkbox"/>	Steve Marr <input type="checkbox"/>		Alan Lietz <input type="checkbox"/>	
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	Alan Lietz <input type="checkbox"/>												

0499-SD-P4-419.7-421.1-S



LEGEND

- 1/10 Mile Post
- Centerline Mile Post (2013-06-11)
- ⊗ Valve
- ▭ Valve Site
- ⊗ Power Pole
- ⚡ Keystone XL Centerline (2013-06-11)
- ▭ Access Road - Permanent
- ▭ Access Road - Temporary
- Transmission Line
- ▭ Workspace
- ▭ Pump Station
- ▭ Property Parcel
- ▭ Section Line
- ▭ County Line
- ▭ Waterbody
- ▭ Wetland

KEYSTONE XL PROJECT

RV-0499-01 MLV-18 RELOCATION

COUNTY:	MEADE	DRAWN BY:	CC
STATE:	SOUTH DAKOTA	CHECKED BY:	PD
REV. NO.:	REVISION	DATE	
A	ISSUED FOR REVIEW	2013-08-08	

PRELIMINARY

DATE:	2013-08-08	PROJECTION:	NAD83 UTM13 N
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PREPARED BY:

exp Energy Services Inc.

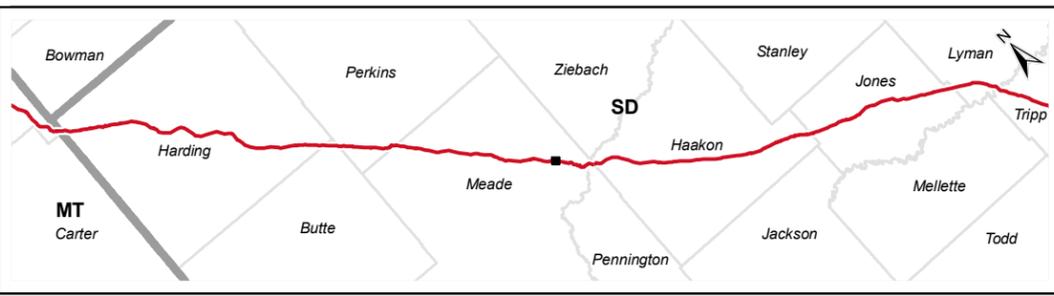
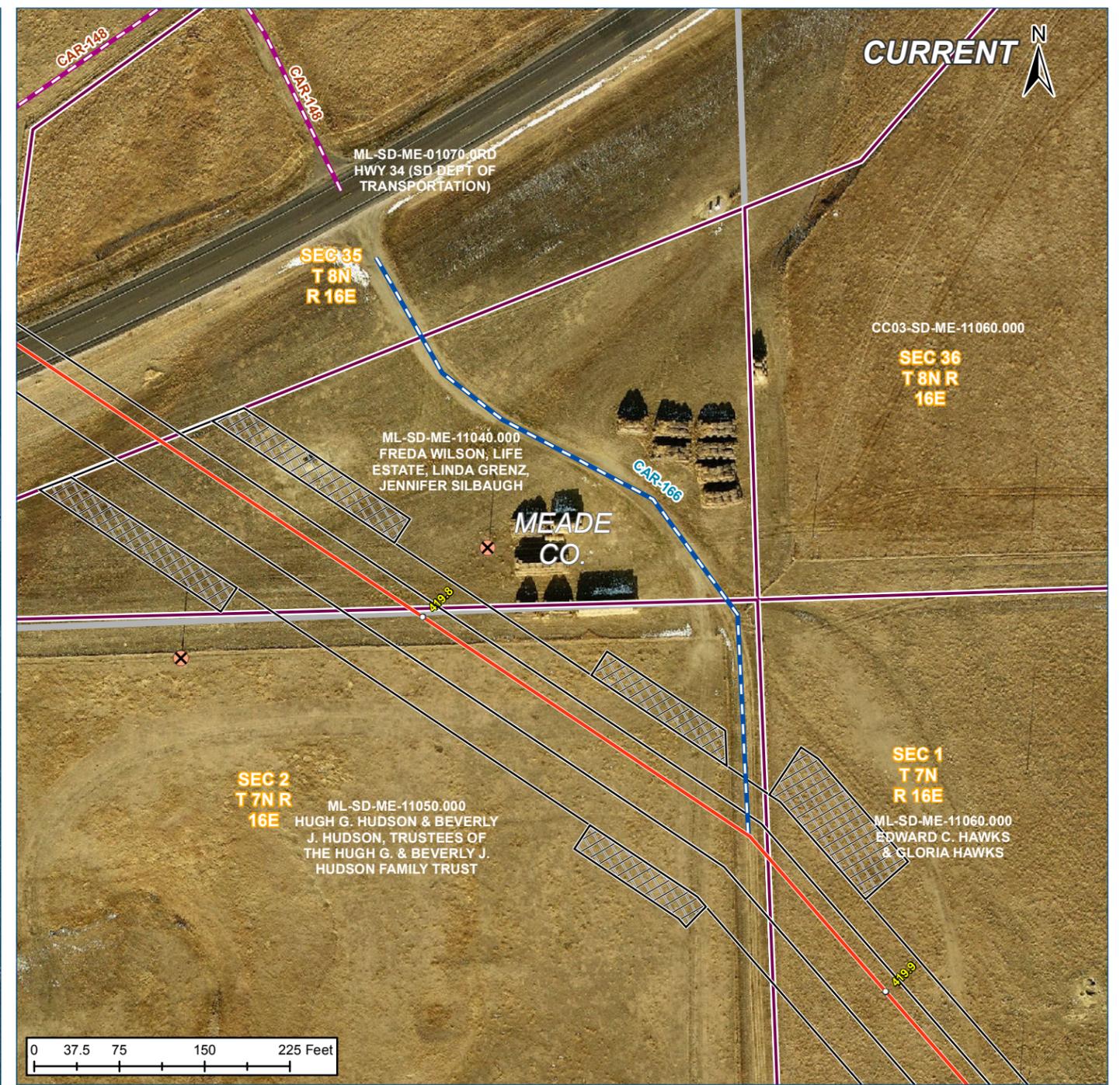
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DWG:	XL-46-P-9299-RV-499-01_MLV18	SHEET:	1
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LEGEND

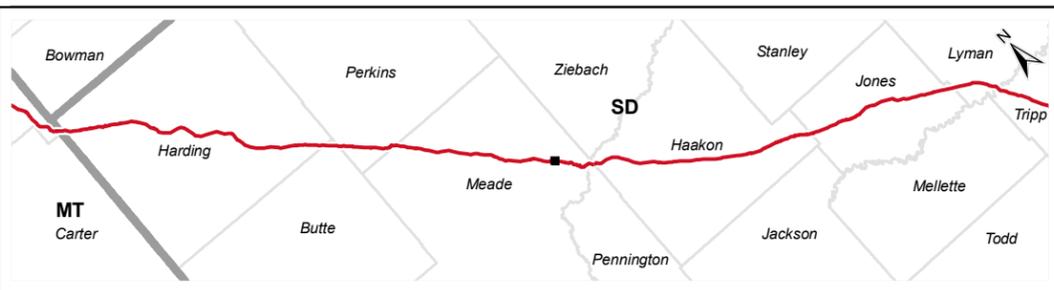
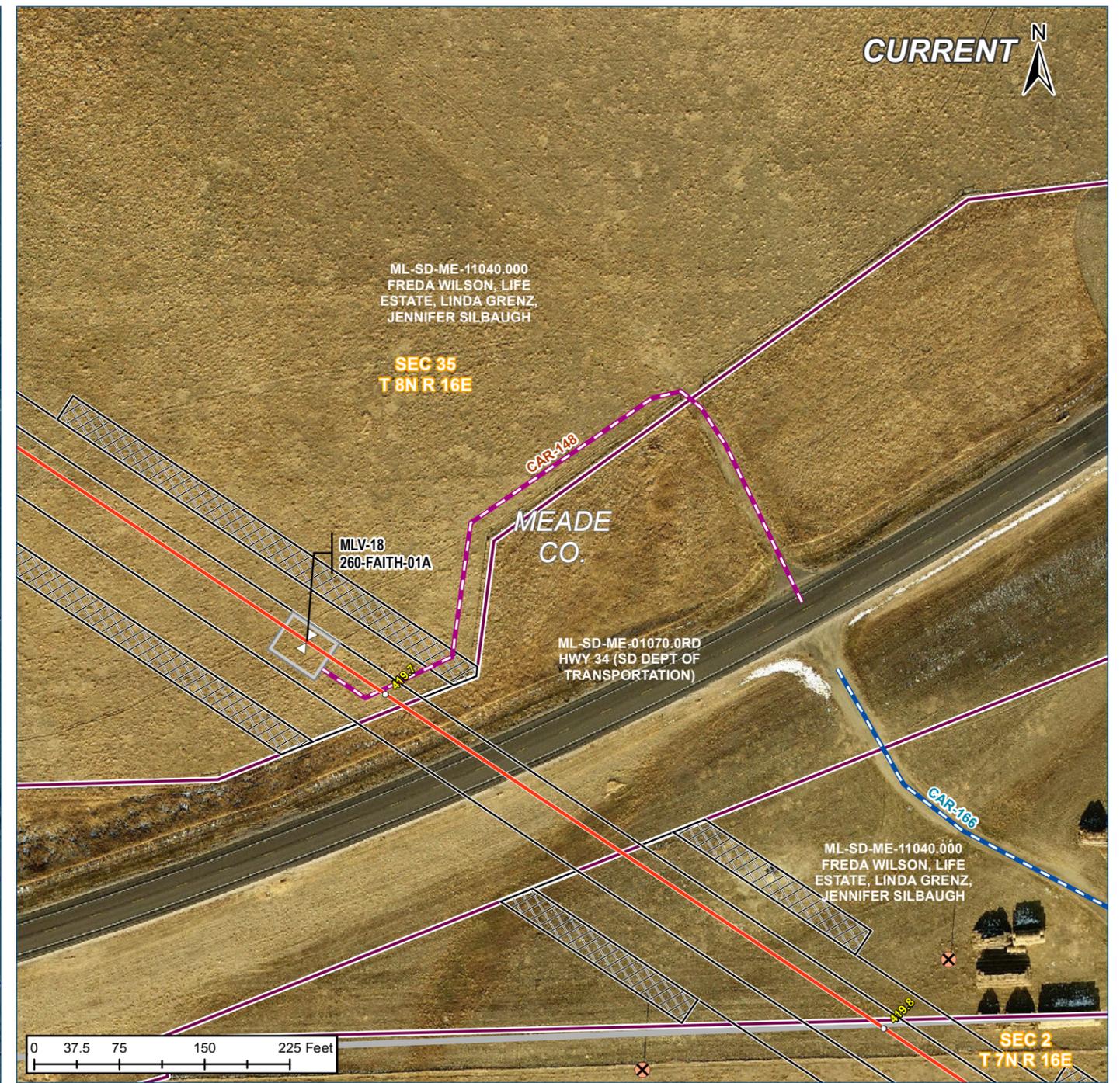
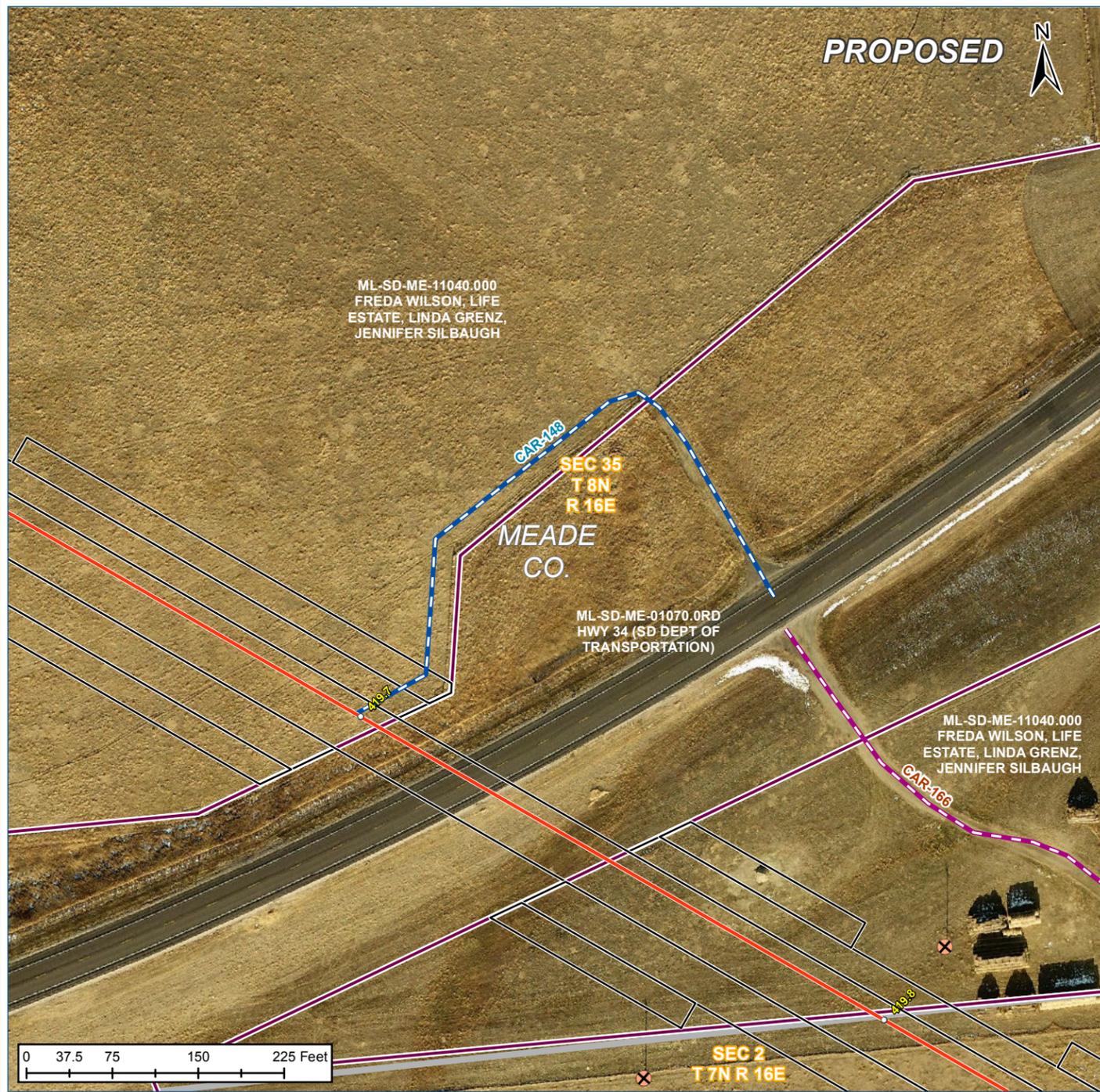
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- Transmission Line
- Workspace
- Pump Station
- ▭ Property Parcel
- ▭ Section Line
- ▭ County Line
- ▭ Waterbody
- ▭ Wetland

KEYSTONE XL PROJECT
RV-0499-01 CAR-166 RELOCATION

COUNTY:	MEADE	DRAWN BY:	CC
STATE:	SOUTH DAKOTA	CHECKED BY:	PD
REV. NO.:	REVISION	DATE	
A	ISSUED FOR REVIEW	2013-08-08	
PRELIMINARY			

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LEGEND

- 1/10 Mile Post
- Centerline Mile Post (2013-06-11)
- ⊗ Valve
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- Access Road - Permanent
- Access Road - Temporary
- Transmission Line
- Workspace
- Pump Station
- Property Parcel
- Section Line
- County Line
- Waterbody
- Wetland

KEYSTONE XL PROJECT

RV-0499-01 CAR-148 RELOCATION

COUNTY:	MEADE	DRAWN BY:	CC
STATE:	SOUTH DAKOTA	CHECKED BY:	PD
REV. NO.:	REVISION	DATE	
A	ISSUED FOR REVIEW	2013-08-08	

PRELIMINARY

DATE:	2013-08-08	PROJECTION:	NAD83 UTM13 N
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PREPARED BY:

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DWG:	XL-46-P-9299-RV-499-01_CAR148	SHEET:	1
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