

Stribley, Sara

From: Castle, Carla
Sent: Monday, February 26, 2007 11:07 AM
To: John.c.kirk@state.sd.us; Leslie.Pertersen@state.sd.us; Doug.Backlund@state.sd.us;
David.Ode@state.sd.us; Andrew.Burgess@state.sd.us
Cc: Johnson, Charlie; Stribley, Sara
Subject: Keystone Pipeline Meeting Minutes
Attachments: SDGFP Minutes 020207D.doc

Thank you for meeting with ENSR representatives for the Keystone Pipeline Project on February 6, 2007. Please find attached the Draft Minutes for your review. Please reply to all in this e-mail with comments. The meeting minutes will be finalized and posted to the Keystone Sharepoint website on Thursday, March 1st. Thank you for your time.

Janie Castle
Project Coordinator
ENSR
1601 Prospect Parkway
Fort Collins, CO 80525
T (970) 493-8878
F (970) 493-0213
ccastle@ensr.aecom.com

3/9/2007

**Draft - South Dakota Game, Fish, and Parks Division of Wildlife; Foss Bldg,
Pierre, SD
February 2, 2007. 9:00am – 10:25am**

Attendees:

Charles Johnson (ENSR)
Jon Alstad (ENSR)
John Kirk (SDGFP)
Doug Backlund (SDGFP)
Leslie Peterson (SDGFP)
Andy Burgess (SDGFP)
David Ode (SDGFP)

Meeting Objectives

ENSR met with the SDGFP to discuss issues pertaining to wildlife and special status species that could potentially occur along the Keystone Project route. The goal of this discussion was to: discuss the 2006 survey results for sensitive mussels, Topeka shiner, and native grassland habitat surveys for Dakota skipper and western prairie fringed orchid; proposed 2007 survey protocol and survey locations; and other issues or concerns that SDGFP have regarding the project.

Response Overview

A number of general questions from SDGFP regarding the project (e.g., size of pipe, width of construction ROW, number of construction spreads, number of construction workers/spread, trenching, laying of pipe, etc.) were answered (in general terms) by ENSR.

ENSR indicated that there are ongoing discussions with the USFWS regarding the Hecla reroute.

Agency Issues, Concerns, and Recommendations:

ENSR should follow-up with DENR regarding possible issues pertaining to the crossing of the Crow Creek Ditch along Hecla reroute. There could be a potential conflict from the Upper and Lower Drainage Districts.

Bald Eagle. No issues with survey protocol and survey locations.

Interior Least Tern/ Piping Plover. No issues with survey protocol and survey locations.

Topeka Shiner. Areas identified in the tables and march-chart is correct as far as SDGFP is aware. Andy Burgess will review the 2006 Topeka Shiner Report and provide input, if necessary.

Recommendations:

- Based on the results from the survey report, SDGFP indicated that they are only concerned with the 5 sites that were identified as having potential habitat for Topeka shiner (sites 1, 7, 10, 11, and 13). Topeka shiner is known to occur within these streams. As a result, SDGFP indicated that presence should be assumed at these locations.
- The SDGFP is not concerned with any of the other streams that were analyzed for the Topeka shiner in 2006.
- Review the Biological Opinion developed for stream crossing methods in South Dakota. This document is located on the South Dakota Department of Transportation website. These measures should be used for all stream crossings in South Dakota.

- If the DOT stream crossing methods are implemented, construction would be able to proceed in Topeka shiner habitat during the spawning period (May through August).

Conclusion: Although SDGFP has provided recommendations that would protect the Topeka shiner and its habitat, they would defer the species issue to USFWS.

Higgin's Eye Pearlymussel/ Scaleshell Mussel/ Winged Mapleleaf. The SDGFP concurs with the 2006 survey report. The SDGFP indicated that although no special status mussels (Higgin's Eye Pearlymussel/ Scaleshell Mussel/ Winged Mapleleaf) were located during the 2006 surveys, a relatively large population of mussels was documented within the construction ROW.

Recommendations:

- Move mussels upstream from the construction ROW prior to construction at the James River crossing. If mussels were moved in 2007, no further mussel surveys or relocation would be required prior to construction. SDGFP recommends Keith Perkins (University of Sioux Falls).

Dakota Skipper. The SDGFP concurs with the 2006 Native grassland survey report and habitat for the Dakota skipper. Habitat surveys will be completed for the Hecla reroute to determine suitable habitat for the Dakota skipper.

Recommendations:

- Change survey window for Dakota skipper to June 1 – June 15.
- Surveyor should contact the SDGFP or Dennis Skaskden in mid-June to determine status of skipper emergence prior to initiating surveys.

Western Prairie Fringed Orchid. The SDGFP concurs with the 2006 Native grassland survey report and habitat for the western prairie fringed orchid. Habitat surveys will be completed for the Hecla reroute to determine suitable habitat for the orchid.

Stribley, Sara

From: Stribley, Sara
Sent: Friday, February 09, 2007 3:26 PM
To: 'Backlund, Doug'; 'Andy.Burgess@state.sd.us'; 'Leslie.Petersen@state.sd.us'; 'John.Kirk@state.sd.us'; 'Dave.Ode@state.sd.us'
Cc: Johnson, Charlie
Subject: Thank you

Doug, Andy, Leslie, John, and Dave,
Charles and I just wanted to quickly thank all of you again for taking time to meet with us last week. We will be distributing meeting minutes for you review in the next few days to ensure that we accurately represented the information we discussed at our meeting. We really appreciate your feedback and input, and your willingness to work with us so that we can get accomplished all that we need to do on a project of this size! Once again, if you ever have any concerns or questions, please feel free to give us a call or send us an email! Thanks again.

Sincerely,
Sara

Sara Stribley
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FOR INTERNAL KEYSTONE PROJECT USE ONLY

TransCanada – Keystone Pipeline Contact Summary Form

Location of Meeting ENSR

Date/Time of Meeting 2/9/07

Keystone Team Member(s) Sara Stribley

Contact Information:

Name	Doug Backlund
Title	Wildlife Biologist
Organization	South Dakota Game, Fish, & Parks
Address	Foss Building, 523 East Capitol Pierre, South Dakota 57501-3182
County	
Phone	605-773-3381
E-mail address	Doug.Backlund@state.sd.us

Meeting Information:

Type of Contact (phone, in-person, etc.): E-mail

Issue: Clarification on Mussel Surveys

Concern Level: High___Moderate___Low_____

Description:

I called Doug to check on any state T&E permits Keystone may need in order to move any species within the ROW. Doug directed me to the SDGF website and stated that the only two permits we may possibly need are the 1) the Scientific Collector's Permit, and 2) the State Endangered Species Permit. These permits only apply to *state listed species*. He did not know of any other permit requirements.

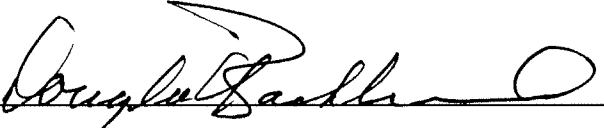
Issue: _____

Concern Level: High___Moderate___Low__.

Description:

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Keystone Pipeline Project Survey Protocol Concurrence Form

<input checked="" type="checkbox"/> CONCUR	Signature: 
	Name: Douglas Facklund
<input type="checkbox"/> DO NOT CONCUR	Title: Wildlife Biologist
	Date: 2/5/2007

If you checked "DO NOT CONCUR," please provide reasons and specific directions in the space provided below on how survey protocols should be changed to meet your acceptance:

<http://www.sdgfp.info/Wildlife/PublicLands/PubLand.htm>

#1 SOUTH DAKOTA PUBLIC LANDS - Microsoft Internet Explorer provided by State of South Dakota

Wildlife Division
Department of Game, Fish and Parks

SOUTH DAKOTA PUBLIC LANDS

Current tool: Zoom In

Legend

- Zoom In
- Zoom Out
- Zoom Full
- Zoom Last
- Pan
- Identify
- Measure
- Map Units
- Buffer
- Select
- Draw
- Clear
- Print
- Download
- Contact Us
- Help

LAYERS

- All Layers
- Base Data
- Interstates
- Highways
- Roads
- Railroads
- Waterways
- Townships
- Sections
- Counties
- States
- Aerial Photos
- Federal Lands
- Hunting Units
- State Lands

Refresh Map
Auto Refresh

Help:





- A closed group, click to open.
- An open group, click to close.
- A map layer.
- A hidden group/layer, click to make visible.
- A visible group/layer, click to hide.
- A visible layer, but not at this scale.
- A partially visible group, click to make visible.
- An inactive layer, click to make active.
- The active layer.

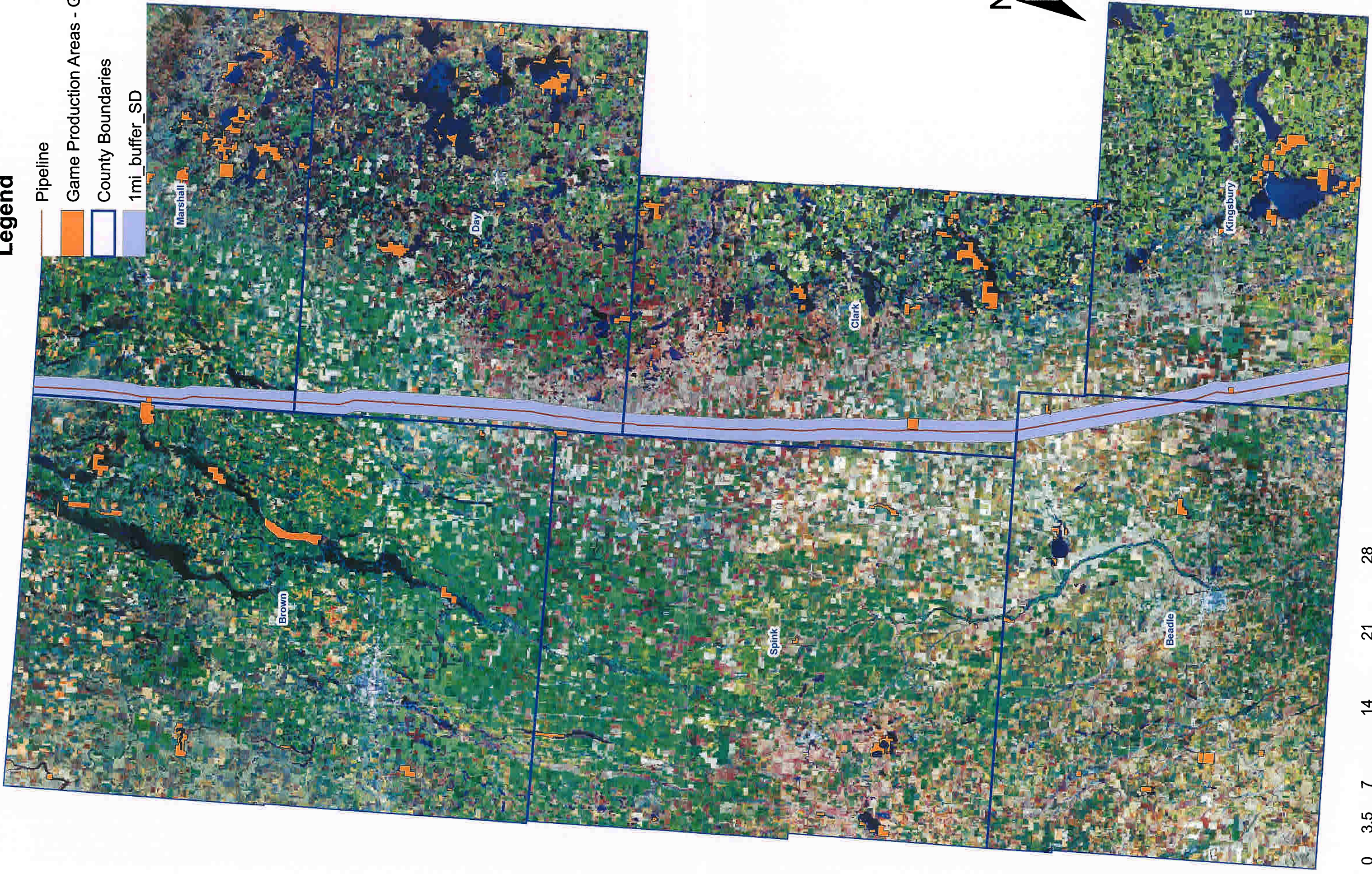
Scale: 1:2,504,506

SD Dept of Game, Fish and Parks (2004)



Legend

-  Pipeline
-  Game Production Areas - GFP
-  County Boundaries
-  1mi_buffer_SD



Legend

- Pipeline
- Game Production Areas - GFP
- County Boundaries
- 1mi_buffer_SD



Doug Backlund
 December 19, 2006
 Page 3

Keystone Pipeline Project Survey Report (Topeka Shiner) Comment and Recommendation Form

Sect. #	Para. #	Specific Comments
3	2	<p>Do Include site 7 is as well as sites listed in Para #3 (1,10,11,13) as assumed TS sites</p>
3	3	<p>Include all of these sites as assumed Topeka Shiner sites and apply SDDOT road crossing protocol</p>

Recommendations

Refer to SD Dept of Transportation stream crossing protocol for Topeka shiner streams when crossing Assumed Topeka Shiner Streams listed in your report (1, 7, 10, 11, 13). Use SDDOT protocols and avoid construction during TS spawning season in SD (May - Aug).

- Seek additional details from FWS (Natalie Gates?) in Pierre.

Andy Burgess
 Name

Aquatic Ecologist
 Title

2/2/07
 Date

Doug Backlund
December 19, 2006
Page 4

Keystone Pipeline Project Survey Report (Unionids) Comment and Recommendation Form

Sect. #	Para. #	Specific Comments

Recommendations

Even though no T+E species were found, the survey documented 5 species that are considered rare in S.D. I recommend that freshwater mussels in the area of the proposed pipeline crossing be moved upstream. The distance downstream for mussel removal can be determined by your consultant.

Also, I commend ENSR for the great job you've done on this issue.

Doug Backlund
Name

Wildlife Biologist
Title

2/2/2007
Date

Doug Backlund
 December 19, 2006
 Page 5

Keystone Pipeline Project Survey Report (Native Grassland) Comment and Recommendation Form

Sect. #	Para. #	Specific Comments
Appendix II	Page 2	<i>Liatris mucronata</i> (or <i>L. punctata</i> var <i>mucronata</i>) has not yet been found in SD. A specimen is needed to prove its existence in the state. (Also Appendix I - Site SDPA #3)
Appendix II	Page 1	<i>Juniperus scopulorum</i> / <i>Juniperus virginiana</i> - substantial introgression in SD, taxonomists usually restrict <i>scopulorum</i> to w/2 of SD
Appendix II	p. 5	<i>Typha angustifolia</i> is pretty well now recognized as an exotic spp in central N. Am. Phalaris, Phragmites have exotic ecotypes

Recommendations
<p style="font-size: 1.2em;">Nice job - Keep up the good work & good luck in 2007.</p>

Dave Cole
 Name

Botanist / Ecologist
 Title

JAN 2007
 Date

Stribley, Sara

From: Doug.Backlund@state.sd.us
Sent: Monday, January 29, 2007 9:37 AM
To: Stribley, Sara
Subject: RE: Accepted: Keystone ENSR - Meeting with the SDGFP

Yes, I've reserved the small conference room for this meeting. Just ask the secretary where that is when you come in.

See you then.

Doug

-----Original Message-----

From: Stribley, Sara [mailto:sstribley@ensr.aecom.com]
Sent: Monday, January 29, 2007 10:27 AM
To: Backlund, Doug
Cc: Johnson, Charlie
Subject: RE: Accepted: Keystone ENSR - Meeting with the SDGFP

Hi Doug,

I just wanted to confirm our meeting this Friday at 9:00 in Pierre, and that you received the package of survey information that I sent out last week? Charles Johnson and I will be attending the meeting. Please let me know if you would like any additional materials, and I can plan on bringing those to our meeting on Friday.

Thanks Doug!
Sara

Sara Stribley
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sstribley@ensr.aecom.com
www.ensr.aecom.com

From: Backlund, Doug [mailto:Doug.Backlund@state.sd.us]
Sent: Thursday, January 11, 2007 8:29 AM
To: Stribley, Sara
Subject: Accepted: Keystone ENSR - Meeting with the SDGFP
When: Friday, February 02, 2007 9:00 AM-11:00 AM (GMT-07:00) Mountain Time (US & Canada).
Where: Pierre, South Dakota

ENSR

1601 Prospect Parkway, Fort Collins, Colorado 80525
T 970.493.8878 F 970.493.0213 www.ensr.aecom.com

January 17, 2007

Doug Backlund
South Dakota Department of Game, Fish and Parks
Foss Building
523 East Capitol
Pierre, SD 57501-3182

Dear Mr. Backlund:

At this time, ENSR Corporation (ENSR) is providing you with information regarding the implementation of the 2007 biological survey program for the Keystone Mainline Pipeline Project in South Dakota, and requesting your feedback and concurrence on certain proposed actions.

Project Description

As provided in previous communications, TransCanada is planning to construct and operate an approximately 1,845-mile-long interstate crude oil transmission system from an oil supply hub near Hardisty, Alberta, Canada, to destinations in the Midwestern United States (U.S). The proposed Project would consist of approximately 1,078 miles of new pipeline constructed from the U.S.-Canada border in Cavalier County, North Dakota, to terminals and refineries in Wood River (Madison County) and Patoka (Marion County), Illinois. This pipeline is referred to as the Keystone Mainline. Approximately 283 miles of the Keystone Mainline would parallel the proposed Rockies Express Pipeline - West (REX-West) Project in Kansas and Missouri. In addition, TransCanada proposes to construct a 292-mile pipeline extension (Cushing Extension) that would extend from the Keystone Mainline south from the Nebraska/Kansas border to Cushing, Oklahoma. TransCanada proposes to begin construction of the Keystone Mainline in early 2008, with the system in-service by the end of 2009. Work on the Cushing Extension will begin in late 2009 or early 2010, with a Cushing Extension in-service date of 2010. The project also will require the construction of pump stations, valves, meters, and other ancillary facilities. The hydraulic characteristics of the pipeline will determine pump station and valve locations. Electrical powerlines and facility upgrades will be required in some locations to provide power for the new pump stations, though these facilities will be constructed by local utility companies, not Keystone.

Biological Survey Program

In 2006, biological surveys were initiated for several species potentially located along the Keystone Mainline Project route in South Dakota. ENSR sent these 2006 biological survey reports to the South Dakota Game, Fish and Parks (SDGFP), and the U.S. Fish and Wildlife Service (USFWS) in December, for review and evaluation. Additional surveys are planned throughout 2007 for the species surveyed in 2006, and for the majority of remaining sensitive species that may be located within the Keystone Mainline Project vicinity (see attached survey schedule). Sensitive species and survey locations have been determined through consultation with the SDGFP, the South Dakota Natural Heritage Program, and the USFWS. Some survey areas have been refined based on information obtained through habitat surveys conducted in 2006. To facilitate your review of the 2007 Keystone Mainline biological survey program, ENSR is providing you with the following materials, and asking for your signed concurrence on several proposed actions:

Doug Backlund
January 17, 2007
Page 2

- Proposed Threatened and Endangered Species Survey Schedule (2006-2007) – This document is provided to give an overview of when and where species specific surveys have been, and will be conducted in South Dakota. Please sign and return the survey schedule concurrence form as “concur” or “do not concur.” Please also provide specific comments in the area provided if you “do not concur,” in order for ENSR to promptly address concerns.
- Biological Survey March-Charts (2007) – These charts are provided as a visual tool to guide your assessment of the proposed Threatened and Endangered species surveys. The y-axis provides information on approximate survey windows. This axis shows the general timeframe in which ENSR proposes to complete the surveys for a specific species (based on nesting, spawning, flowering periods, etc.) The x-axis provides information on the Mainline milepost marker where appropriate habitat has been determined to exist for a species. This axis shows where ENSR proposes to complete species specific surveys.
- Survey Protocols – These documents provide detailed information on how specific surveys will be conducted for Threatened and Endangered species. Wherever possible, survey protocols were produced directly from state or federal agency feedback. Please sign and return the survey protocol concurrence form as “concur” or “do not concur.” Please also provide specific comments in the area provided if you “do not concur,” in order for ENSR to promptly address concerns.
- 1:100k U.S. Geological Survey (USGS) Topographic Maps of the Keystone Mainline in South Dakota – Provided for geographic reference to the Project.

Additional copies of these materials are enclosed for distribution to other state wildlife representatives. Copies of these reports also have been sent to John Cochnar (Nebraska USFWS – Project Lead). ENSR also would like to meet with you in early February to discuss this material in further detail, and you should have already been contacted by ENSR regarding a meeting date and time. If you have any questions regarding the enclosed materials, please contact me at (970) 493-8878 ext. 181 or email cjohnson@ensr.aecom.com.

Sincerely,



Charles Johnson
Senior Wildlife Biologist

CJ/ss

Ref: 10623-004

Enc: Proposed Threatened and Endangered Species Survey Schedule
Biological Survey March-Charts
Survey Protocols
1:100k USGS Topographic Maps

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Keystone Pipeline Project Survey Schedule Concurrence Form

<input type="checkbox"/> CONCUR	Signature:
	Name:
<input type="checkbox"/> DO NOT CONCUR	Title:
	Date:

If you checked "DO NOT CONCUR," please provide reasons and specific directions in the space provided below on how survey schedule should be changed to meet your acceptance:

--

**Keystone Pipeline Project
Survey Protocol Concurrence Form**

<input type="checkbox"/> CONCUR	Signature:
	Name:
<input type="checkbox"/> DO NOT CONCUR	Title:
	Date:

If you checked "DO NOT CONCUR," please provide reasons and specific directions in the space provided below on how survey protocols should be changed to meet your acceptance:

**Keystone Pipeline Project
Proposed Survey Schedule for South Dakota
2006 - 2007**

Completed 2006 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Raptors	April 26 – May 2, 2006	MP: 217 – 436 (Marshall, Day, Clark, Beadle, Kingsbury, Miner, Hanson, McCook, Hutchinson, Yankton counties)	An aerial survey was conducted to identify raptor nest sites and breeding territories within at least 0.25 miles of the proposed ROW.	Karen Caddis, Charles Johnson – ENSR wildlife biologists	
Native Prairie	September 11-16, 2006	Marshall: 228.4-228.9 Day: 258.6-258.8, 260.0-260.8, 261.4-262.6, 264.5-264.8, 265.2-266.2, 267.2-267.7, 270.6-271.6 Clark: 272.3-273.3, 277.2-277.9, 278.4-279.2, 280.1-280.5, 280.8-281.1, 285.3-285.7, 293.7-294.1, 296.9-297.9 Kingsbury: 325.1-326.4 Miner: 342.9-344.0, 358.5-359.9 McCook: 383.9-384.5 Hutchinson: 389.7-390.6, 390.9-391.7 Yankton: 418.7-419.2, 419.6-420, 420.6-420.8, 421.8-422.1, 423.5-423.8, 426.7-428.9	Habitat evaluations were conducted within the construction ROW to determine potential habitat for the Dakota Skipper and Western Prairie Fringed Orchid.	Don Hazlet, Ph.D. - ENSR Botanist	
Topeka shiner Notropis Topeka FE; SD-SC	September 14-19, 2006	Beadle: 309.5 (Trib. of Shue Creek), 313.2 (Shue Creek), 317.8 (Middle Pearl Creek) Clark: 298, 299 (Foster Creek), 304.2 (Trib. of Shue Creek)	Habitat surveys were conducted to document habitat suitability; intermittent/ perennial flow; and spawning habitat.	William J. Stark, Ph.D. - ENSR Aquatic Biologist	

**Keystone Pipeline Project
Proposed Survey Schedule for South Dakota
2006 - 2007**

Completed 2006 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
<p>Higgins-eye pearly mussel <i>Lampsilis higginsii</i></p> <p>Scaleshell mussel <i>Leptodea leptodon</i></p> <p>Winged mapleleaf <i>Quadrula gragosa</i> FE; SD-SC</p>	<p>September 9 and 16, 2006</p>	<p>Hanson: 375.7 (Wolf Creek). Hutchinson: 391 (Wolf Creek), 391.4, 394.8 (Trib. of Wolf Creek). Kingsbury: 326.2 (South Fork Pearl Creek), 334.8 (Redstone Creek), 337.3 (W. Redstone Creek). McCook: 384 (Wolf Creek). Miner: 343 (Redstone Creek), 362.1 (Rock Creek). Yankton: 417.7 (Trib. of James River), 421.8 (James River), 423.5 (Trib. of James River), 427.9 9 (Beaver Creek), 425.7 (Missouri River). Yankton: 421.8-421.9 (James River).</p>	<p>Habitat and occurrence surveys were conducted to determine potential presence at the James River crossing.</p>	<p>Keith Perkins, Ph.D. – ENSR Mussel Expert</p>	

**Keystone Pipeline Project
Proposed Survey Schedule for South Dakota
2006 - 2007**

Proposed 2007 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Bald eagle <i>Haliaeetus leucocephalus</i> FT; SD-T	January	Yankton: 434.9-435.1 (Missouri River)	Aerial survey to locate winter roosts and eagle nests along major river crossings in ROW. Survey will be conducted 1-mile from the construction ROW.	Mike Phelan, Karen Caddis – ENSR wildlife biologists	See attached survey protocol. 2008 pre-construction surveys will not be required if construction occurs outside of the breeding/winter roost seasons for this species.
Raptors	March – April	MP: 217-436 (Brown, Marshall, Day, Clark, Beadle, Kingsbury, Miner, Hansen, McCook, Hutchinson, Yankton counties)	Aerial survey to locate active and inactive nest sites and breeding territories within at least 0.25 miles of the proposed ROW.	Qualified ENSR biologist and/or contractor.	See attached survey protocol. 2008 pre-construction surveys will not be required if construction occurs outside of the breeding season.
Interior Least Tern <i>Sterna antillarum athalassos</i> FE; SD-E	Nesting period: 15-April to 15-Sept.	Yankton: 434.9-435.1 (Missouri River)	One ground or aerial survey will be conducted 0.25-mile from the construction ROW.	Qualified ENSR biologist and/or contractor.	See attached survey protocol. 2008 pre-construction surveys will not be required if construction occurs outside of the breeding season.
Piping Plover <i>Charadrius melodus</i> FT; SD-T					

Keystone Pipeline Project
Proposed Survey Schedule for South Dakota
2006 - 2007

Proposed 2007 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Dakota Skipper <i>Herperia dacotae</i> FC; SD-SC	Emergence: mid-June to 1-Aug. Peak - 1 st week of July.	Clark: 296.9-297.9 Day: 265.2-266.2 Hutchinson: 390.9-391.7 Yankton: 419.6-420.0, 420.6-420.8, 421.8-422.1	One survey will be conducted during the appropriate survey period to determine presence within the construction ROW.	Qualified ENSR biologist and/or contractor.	See attached survey protocol. 2008 pre-construction surveys would only be required in areas where this species was observed in 2007.
Topeka shiner <i>Notropis Topeka</i> FE; SD-SC	Spawning season: 15-May to 31-July	Beadle: 309.5 (Trib. of Shue Creek), 313.2 (Shue Creek), 317.8 (Middle Pearl Creek) Clark: 298, 299 (Foster Creek), 304.2 (Trib. of Shue Creek) Hanson: 375.7 (Wolf Creek). Hutchinson: 391 (Wolf Creek), 391.4, 394.8 (Trib. of Wolf Creek). Kingsbury: 326.2 (South Fork Pearl Creek), 334.8 (Redstone Creek), 337.3 (W. Redstone Creek). McCook: 384 (Wolf Creek). Miner: 343 (Redstone Creek), 362.1 (Rock Creek). Yankton: 417.7 (Trib. of James River), 421.8	One sampling survey to determine species presence at stream crossings, if needed.	Topeka shiner expert and ENSR biologist.	See attached survey protocol. In 2008, if stream channels identified in 2007 as having t. shiner populations are dry, open cut crossing would be appropriate. If stream channels are running, or if pools of water occur, construction should occur outside of the spawning period, and further consultation will be necessary. Obtain necessary permits from the state and federal agencies if salvage and relocation is conducted prior to

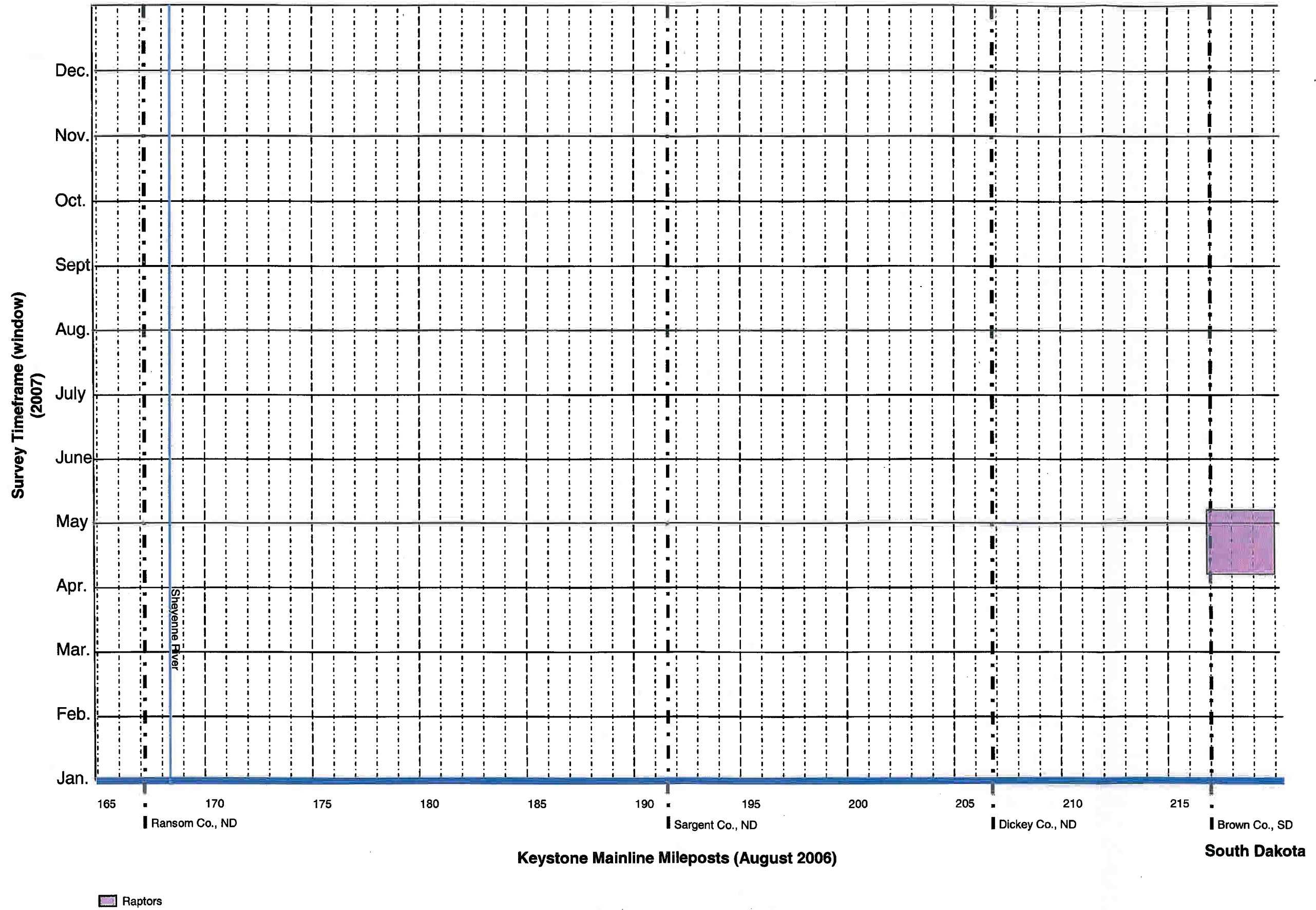
Keystone Pipeline Project
Proposed Survey Schedule for South Dakota
2006 - 2007

Proposed 2007 Surveys					
Species & Status	Approximate Survey Dates	Specific Survey Areas (by County & MP)	Survey Description	Surveyor	Comments
Western Fringed Orchid <i>Platanthera praeclara</i> FT, SD-SC	Flowering period: 15-June to 15-July.	(James River), 423.5 (Trib. of James River), 427.9 9 (Beaver Creek), 425.7 (Missouri River). Clark: 277.2-277.9, 278.4-279.2 Day: 258.6-258.8 Hutchinson: 390.9-391.7 McCook: 383.9-384.5	One survey will be conducted during the flowering period to determine presence within the construction ROW.	Qualified ENSR biologist and/or contractor	construction. See attached survey protocol. 2008 pre-construction surveys would only be required in areas where this species was observed in 2007.

**Keystone Pipeline Project
Proposed Survey Schedule for South Dakota
2006-2007**

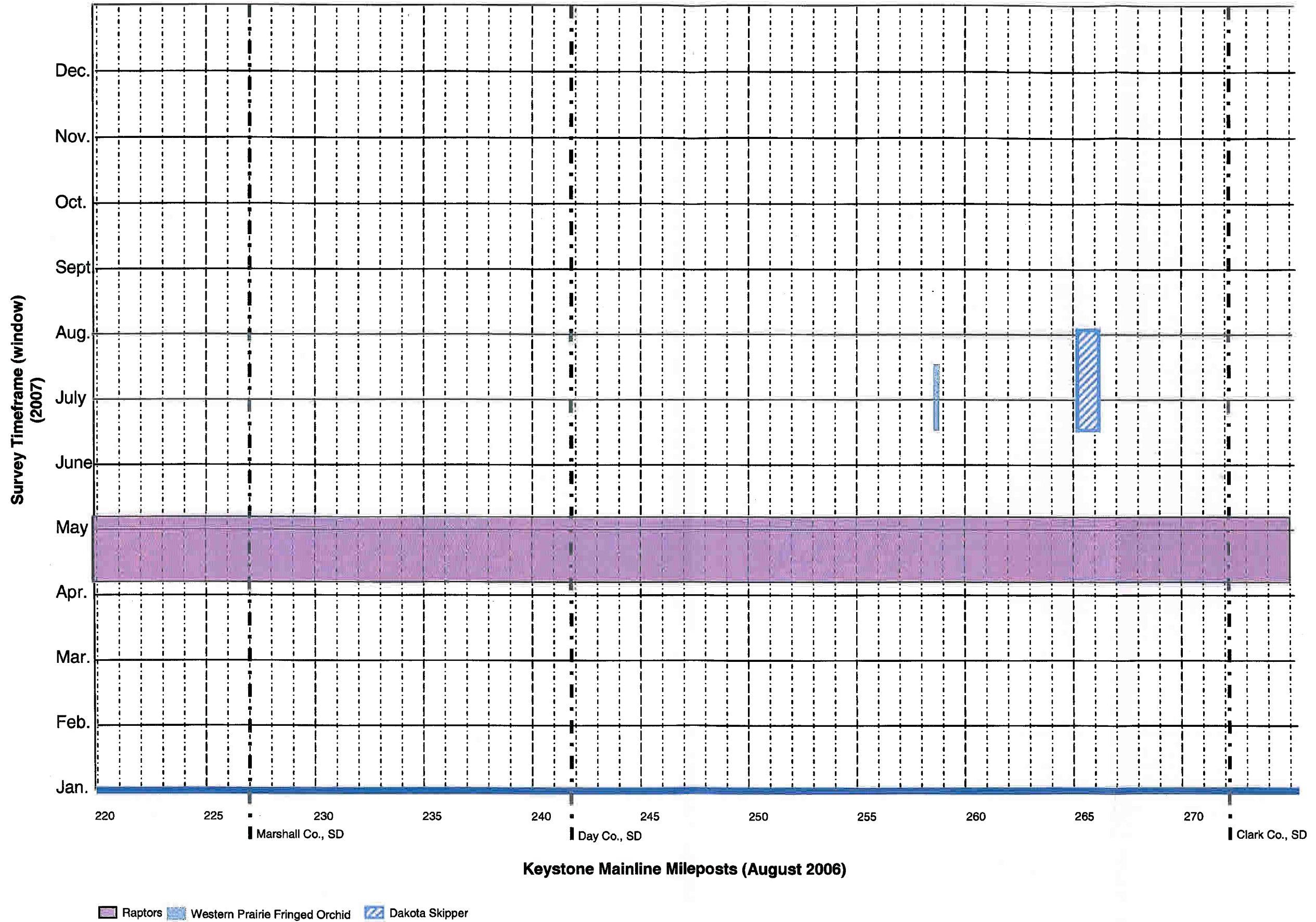
ID	Task Name	Qtr 2, 2006				Qtr 3, 2006				Qtr 4, 2006				Qtr 1, 2007			Qtr 2, 2007			Qtr 3, 2007			
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct		
1	Completed Raptor Surveys		4/26	5/2																			
2	Completed Native Prairie Habitat Surveys							9/11	9/16														
3	Completed Topeka Shiner Habitat Surveys							9/14	9/17														
4	Completed Freshwater Mussel Surveys							9/9	9/16														
5	Bald Eagle Winter Roost and Nest Surveys												1/29	2/10									
6	Raptor Surveys													3/16						5/1			
7	Interior Least Tern & Piping Plover Surveys															4/15					9/15		
8	Topeka Shiner Fish Surveys															5/15					7/31		
9	Western Prairie Fringed Orchid Surveys																6/15				7/15		
10	Dakota Skipper Surveys																	6/15			8/1		

Keystone Pipeline Project
Biological Survey March-Chart 2007



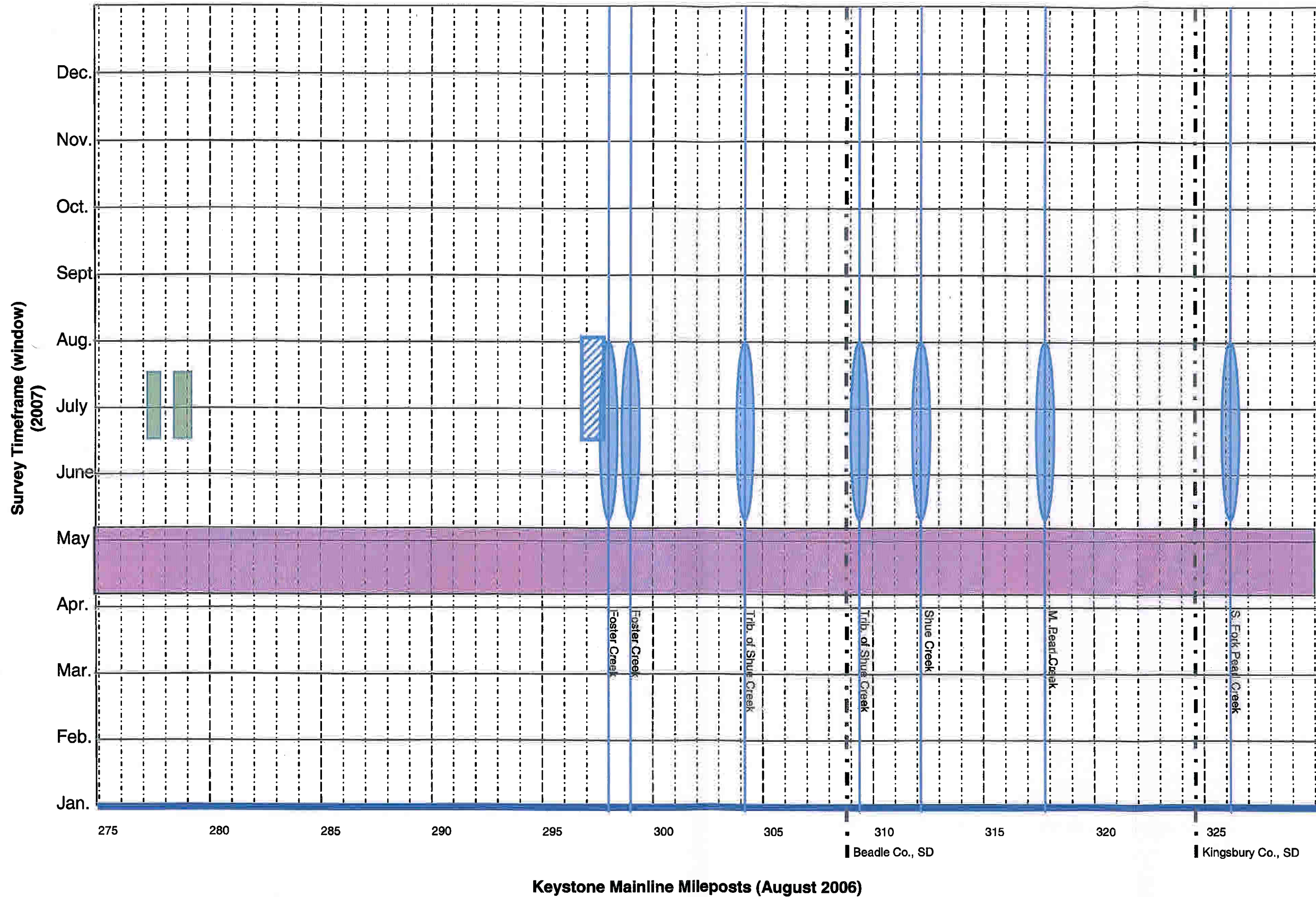
Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

Keystone Pipeline Project
Biological Survey March-Chart 2007



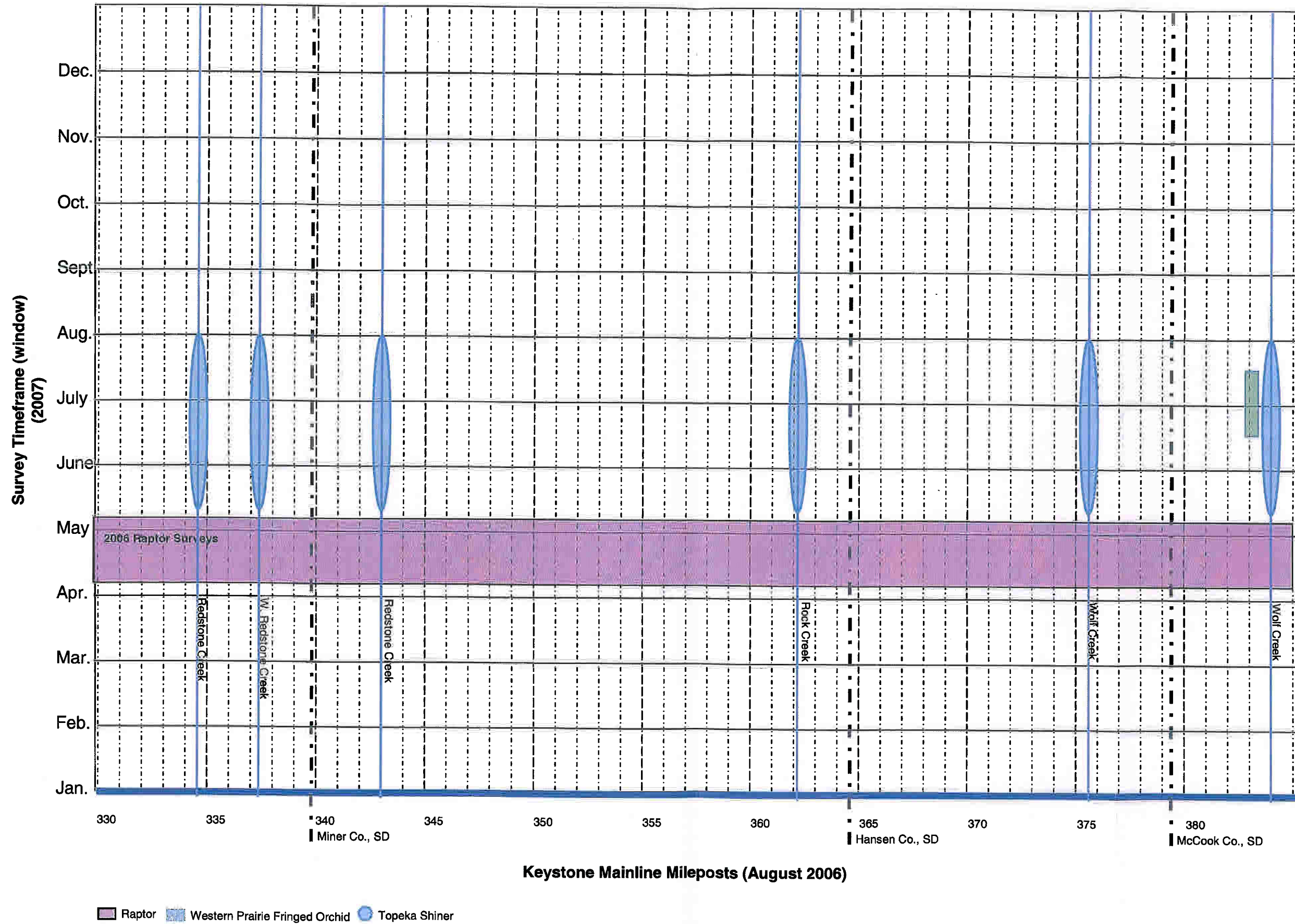
Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

Keystone Pipeline Project
Biological Survey March-Chart 2007



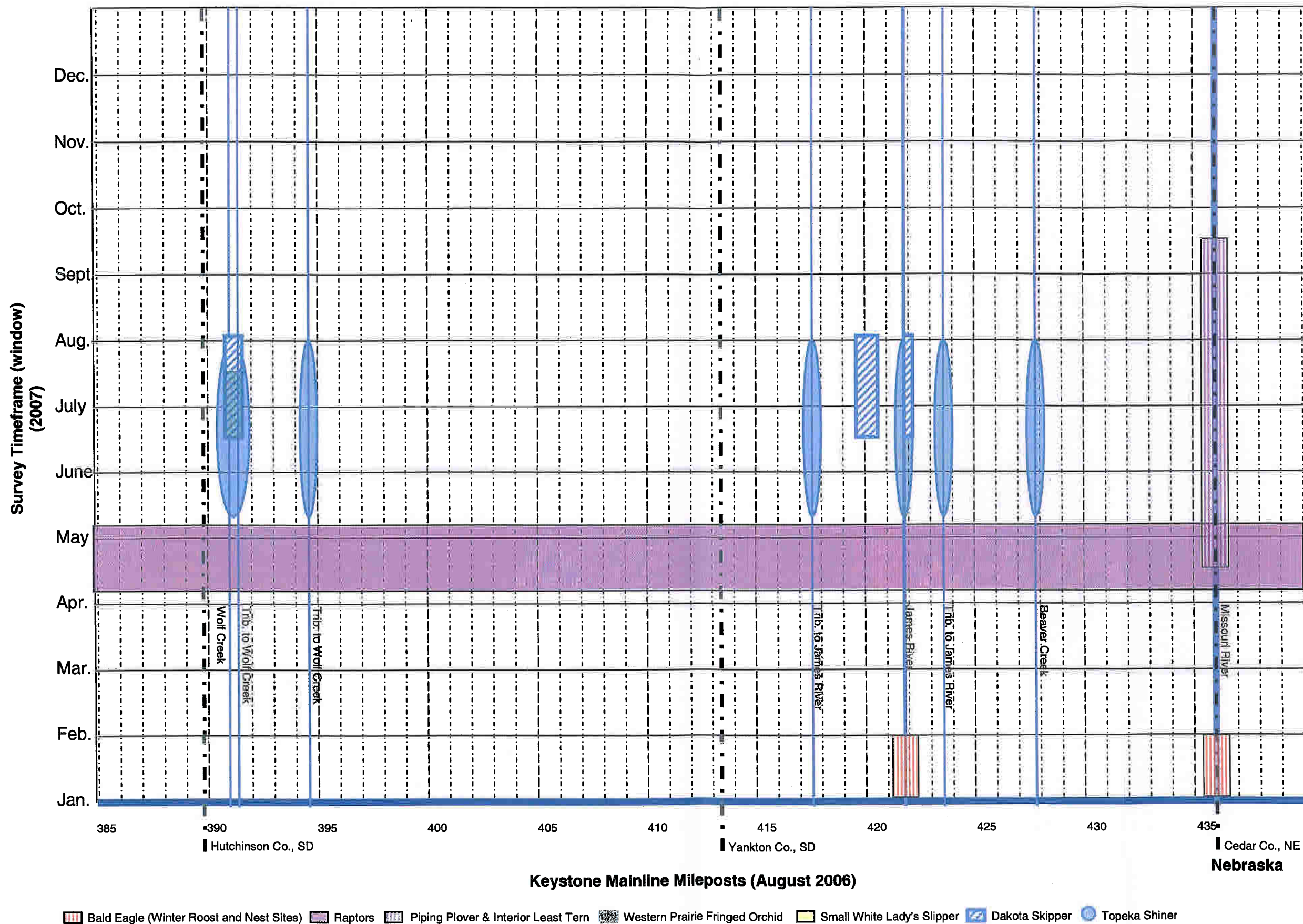
Note: Survey timeframe represents window biological surveys should be completed within, not the actual time it will take to complete surveys.

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**Keystone Pipeline Project
Survey Protocols for South Dakota Special Status Species**

Species & Status	Survey Protocol
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> FT; SD-T</p>	<p>Survey Frequency: Aerial bald eagle surveys will be conducted for nest sites and winter roost sites in 2007. Surveys may also be required prior to construction in 2008, if pipeline construction occurs during the breeding season (1-February through 15-August) or winter roosting season (1-November through 1-April).</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. The bald eagle surveys will be conducted along river corridors or historical bald eagle nest/winter roosting sites that occur within 1-mile from the project Right-of-Way (ROW). Stands of coniferous or deciduous trees will be surveyed for active nest sites during the breeding season 2. Stands of coniferous or deciduous trees will be surveyed for active winter roost sites from 1 hour before sunrise or sunset to 1 hour after sunrise or sunset. 3. A helicopter will be used for the surveys. Whenever possible, two observers will be used to conduct the surveys. 4. Observations of individual eagles, nests, or roosting eagles will be recorded using Global Positioning Systems (GPS). The date, location, nest condition, activity status, nest condition, and habitat will be recorded for each sighting. 5. Qualifications of the surveyor, method of survey, and results of the survey will be submitted to the SDGFP and the appropriate U.S. Fish and Wildlife Service (USFWS) field office.
<p>Raptors</p>	<p>Survey Frequency: A raptor survey (aerial helicopter survey) was conducted within 0.25- to 0.50-mile from the edge of the construction ROW in April of 2006, to identify active and inactive nest sites along the project route. A raptor report was submitted to the USFWS in January 2007.</p> <p>A second raptor survey effort will be conducted prior to leaf-out in the spring of 2007. The focus of this survey is to identify nest sites that would be directly impacted from construction activities.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. Raptor surveys will be conducted along the entire proposed project route, focusing on active and inactive nest sites that occur within the construction ROW.

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Species & Status	Survey Protocol
	<ol style="list-style-type: none"> 2. A helicopter will be used for the raptor surveys. Whenever possible, two observers will be used to conduct the surveys. 3. Observations of raptors and nest sites will be recorded using GPS. The date, location, nest condition, activity status, raptor species, and habitat will be recorded for each sighting. 4. Qualifications of the surveyor, method of survey, and results of the survey will be submitted to the SDGFP and the appropriate USFWS field office.
<p>Interior Least Tern <i>Sterna antillarum</i> <i>athalassos</i> FE; SD-E</p> <p>Piping Plover <i>Charadrius melodus</i> FT; SD-T</p>	<p>Survey Frequency: Surveys will be conducted in 2007 at the Missouri River crossing during the breeding season (15-April to 15-September) to identify occupied nest sites. Surveys may also be required prior to construction in 2008, if pipeline construction occurs during the breeding season.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. Surveys will be conducted between April 15 and September 15 at the Missouri River crossing in Yankton County, SD. Surveys will extend 0.25-mile on either side of the construction ROW, depending on access. 2. Surveys will be conducted by a biologist familiar with the species and familiar with identifying tern and plover nests. 3. Surveys will be conducted from sunrise to approximately 1000, or approximately 1700 to sunset. 4. All plover or terns located within the survey area will be observed long enough to determine if the area is occupied by these species and if a nest is present. 5. Observations of plover and terns will be recorded using GPS. Date, time, observations, and habitat type will be recorded for each sighting. 6. Surveys will not be conducted in poor weather (i.e., high wind, precipitation, etc). 7. Qualifications of the surveyor, method of survey, and results of the survey will be submitted to the SDGFP and the appropriate USFWS field office.
<p>Dakota Skipper <i>Herperia dactotae</i></p>	<p>Survey Frequency: Habitat surveys were conducted in the fall of 2006 to determine areas of potentially suitable native grassland habitat for this species.</p>

**Keystone Pipeline Project
Survey Protocols for South Dakota Special Status Species**

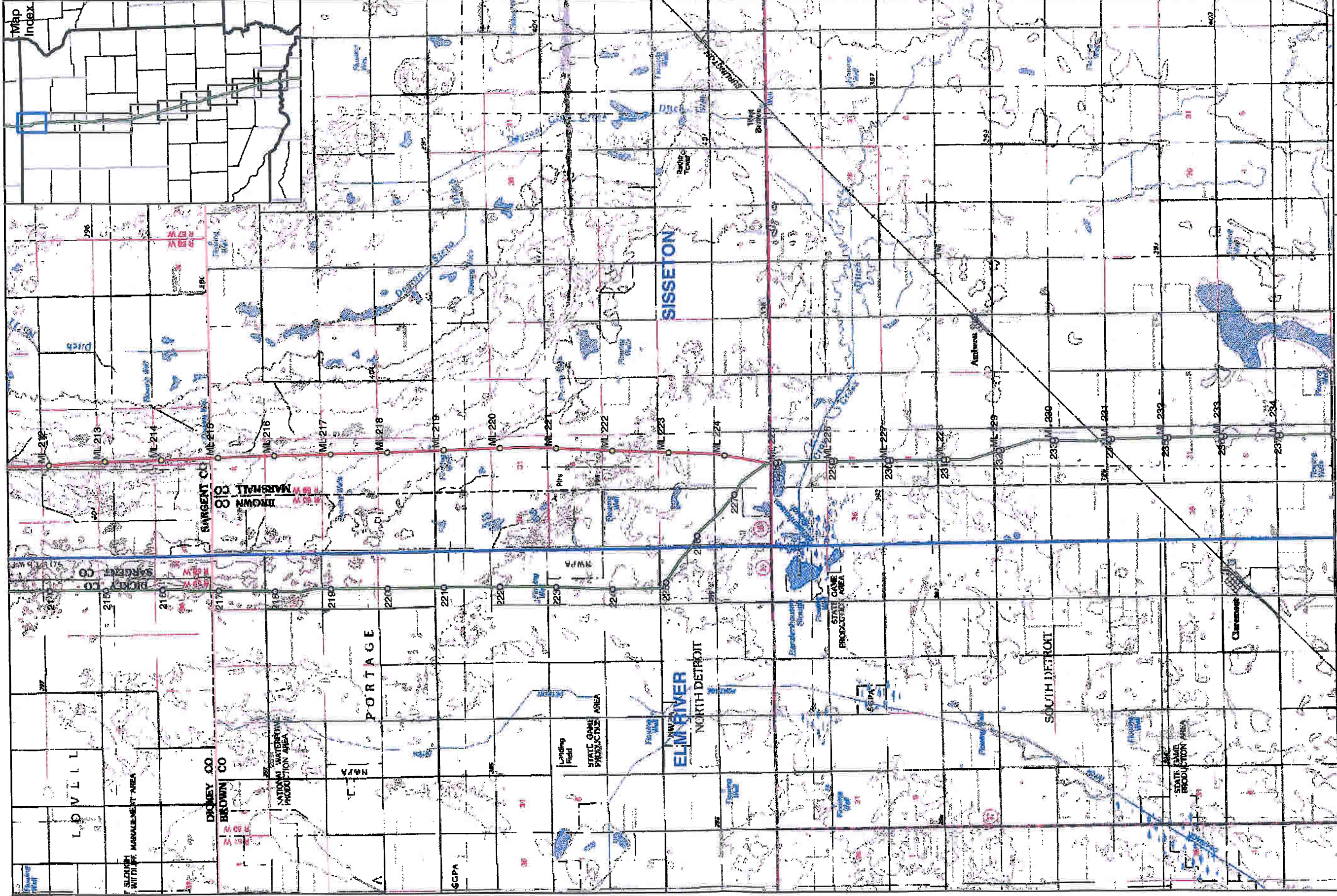
Species & Status	Survey Protocol
<p>FC; SD-SC</p>	<p>Surveys will be conducted in 2007 to determine if the species occurs within the ROW. 2008 pre-construction surveys would be conducted only in areas where this species was observed in 2007.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. Surveys will occur in suitable habitat that was identified during the 2006 habitat surveys. 2. Surveys will occur within the construction ROW for the project. 3. The surveyor will have previous experience with Hesperineae, including sight identification and capture experience (Endangered Species Permit Required) 4. The surveyor will have experience with collecting and preparing voucher specimens of Lepidoptera 5. Surveys will be attempted within 2 weeks of detection of emergence because of the short flight period of the species. 6. Surveys will be completed between the hours of 1000 and 1800. 7. If cloud cover is 0-50%, surveys will not be conducted unless the minimum temperature is at least 75° F; if cloud cover is 50-80%, surveys will not be conducted unless the minimum temperature is at least 80° F; if cloud cover is greater than 80%, surveys will not be conducted. 8. Surveys will not be conducted when wind speeds are greater than 20 mph. 9. Observations of skippers will be recorded using GPS. Date, time, land use and/or habitat type, and weather conditions will be recorded for each area surveyed. 10. Qualifications of the surveyor, method of survey, and results of the survey will be submitted to the SDGFP and the appropriate Service field office.
<p>Topeka Shiner <i>Notropis topeka</i> FE; SD-SC</p>	<p>Survey Frequency: Habitat surveys were conducted in the fall of 2006 at specific Topeka shiner stream crossings to document habitat suitability, stream characteristics (intermittent/perennial flow, water quality), and spawning habitat.</p> <p>One sampling (occurrence) survey will be conducted at each site in 2007 to determine species presence at the stream crossings, in coordination with the USFWS, if needed.</p>

**Keystone Pipeline Project
Survey Protocols for South Dakota Special Status Species**

Species & Status	Survey Protocol
	<p>Procedures:</p> <ol style="list-style-type: none"> 1. Sampling surveys will be conducted only at locations identified as suitable habitat for Topeka shiners, in coordination with the USFWS. 2. Surveys will be conducted within a 200-m site that includes 100-m both upstream and downstream of the pipeline crossing, depending on private access. 3. Fish will be collected throughout the site using a 30x6-ft or 8x6-ft drag seine with ¼-inch mesh netting. 4. All fish collected will be identified to species to establish presence/absence of Topeka shiners. 5. Fish collected in the seine will be transferred immediately into a bucket of freshwater or live cage placed in a suitable part of the stream to minimize injuries and mortalities to fish during processing. 6. If Topeka shiners are present, 1 to 3 voucher specimens may be retained by fixing in 10% formalin and preserving in 70% ethanol and identification verified by USFWS or SDGFP staff. 7. GPS coordinates, detailed locality information, date, collector, and habitat information will be collected for each voucher specimen. 8. Other documentation and data management protocols will follow collection permit requirements. 9. Qualifications of the surveyor, method of survey, and results of the survey will be submitted to the SDGFP and the appropriate USFWS field office.
<p>Western Prairie Fringed Orchid <i>Platanthera praeclara</i> FT; SD-SC</p>	<p>Survey Frequency: Habitat surveys were conducted in the fall of 2006 to determine areas of potentially suitable native grassland habitat for this species.</p> <p>Surveys will be conducted in 2007 to determine if the species occurs within the ROW. 2008 pre-construction surveys would be conducted only in areas where this species was observed in 2007.</p> <p>Procedures:</p> <ol style="list-style-type: none"> 1. Occurrence surveys will occur in areas of "good" habitat that was identified during the 2006 habitat surveys including: <ol style="list-style-type: none"> a. Low (wet) prairie dominated by bluestem grasses, wood lily, harebell, and smooth camas

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Species & Status	Survey Protocol
	<p>b. Upland (dry) prairie on ridges and hillsides dominated by bluestem grasses, needlegrass, pale purple and upright coneflowers and blanketflower.</p> <ol style="list-style-type: none">2. Occurrence surveys will occur within the construction ROW for the project.3. Surveys will be conducted during the flowering period (15-June through 15-July) by a qualified botanist familiar with the species and trained to conduct rare plant surveys.4. Date, time, land use and/or habitat type, and number of orchids observed will be recorded for each sighting. Observations of orchids will be recorded using GPS.5. Qualifications of the surveyor, method of survey, and results of the survey will be submitted to the SDGFP and the appropriate Service field office.
Migratory Birds	TBD

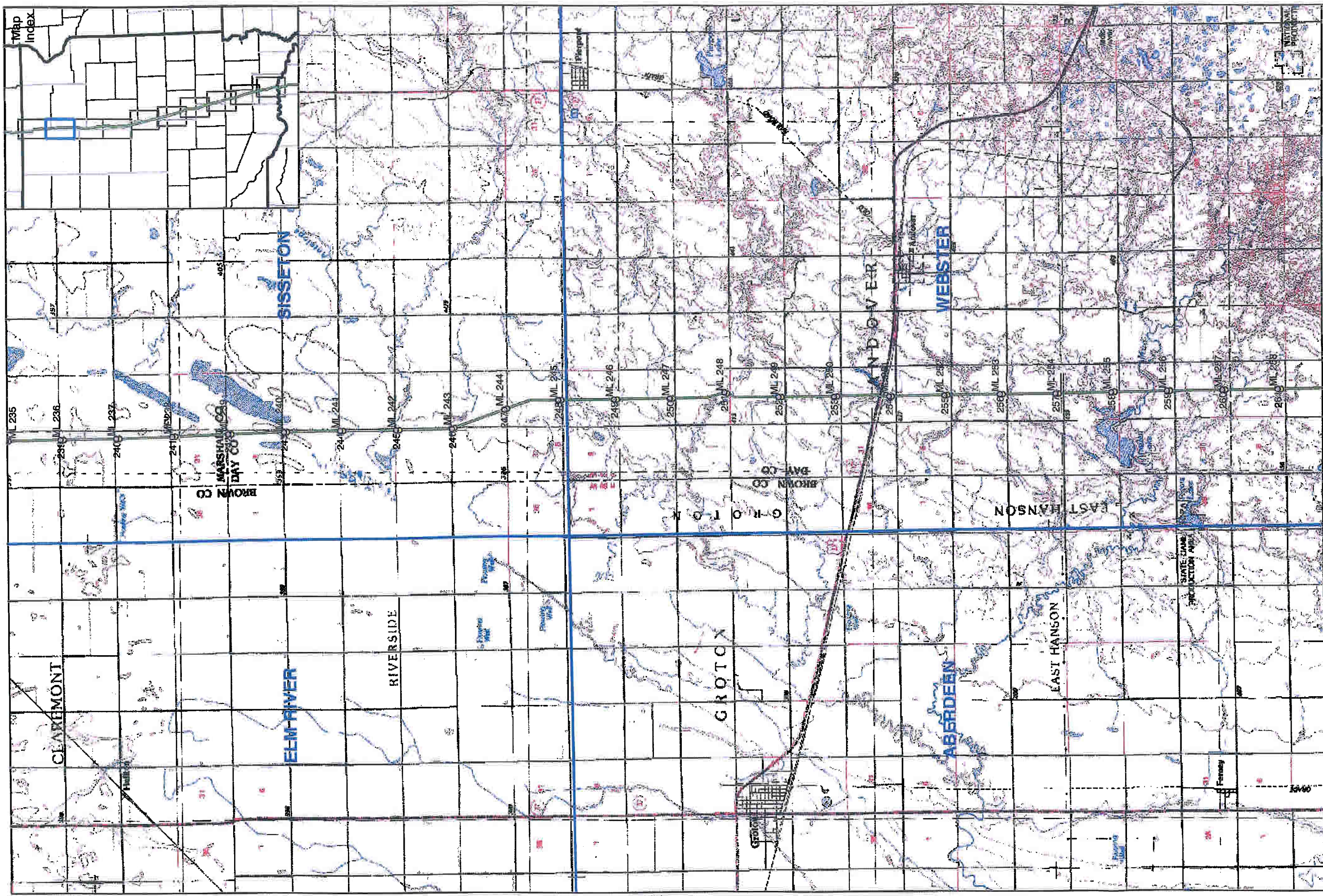


◆ Mileposts (8/17/06)
 ◆ Mileposts (2/9/06)
 — Pipeline (8/17/06)
 — Pipeline (2/9/06)

0 0.5 1 2 Miles
 North Arrow

Keystone Pipeline Project

Map 1 of 10
 General Project Location
 (South Dakota)

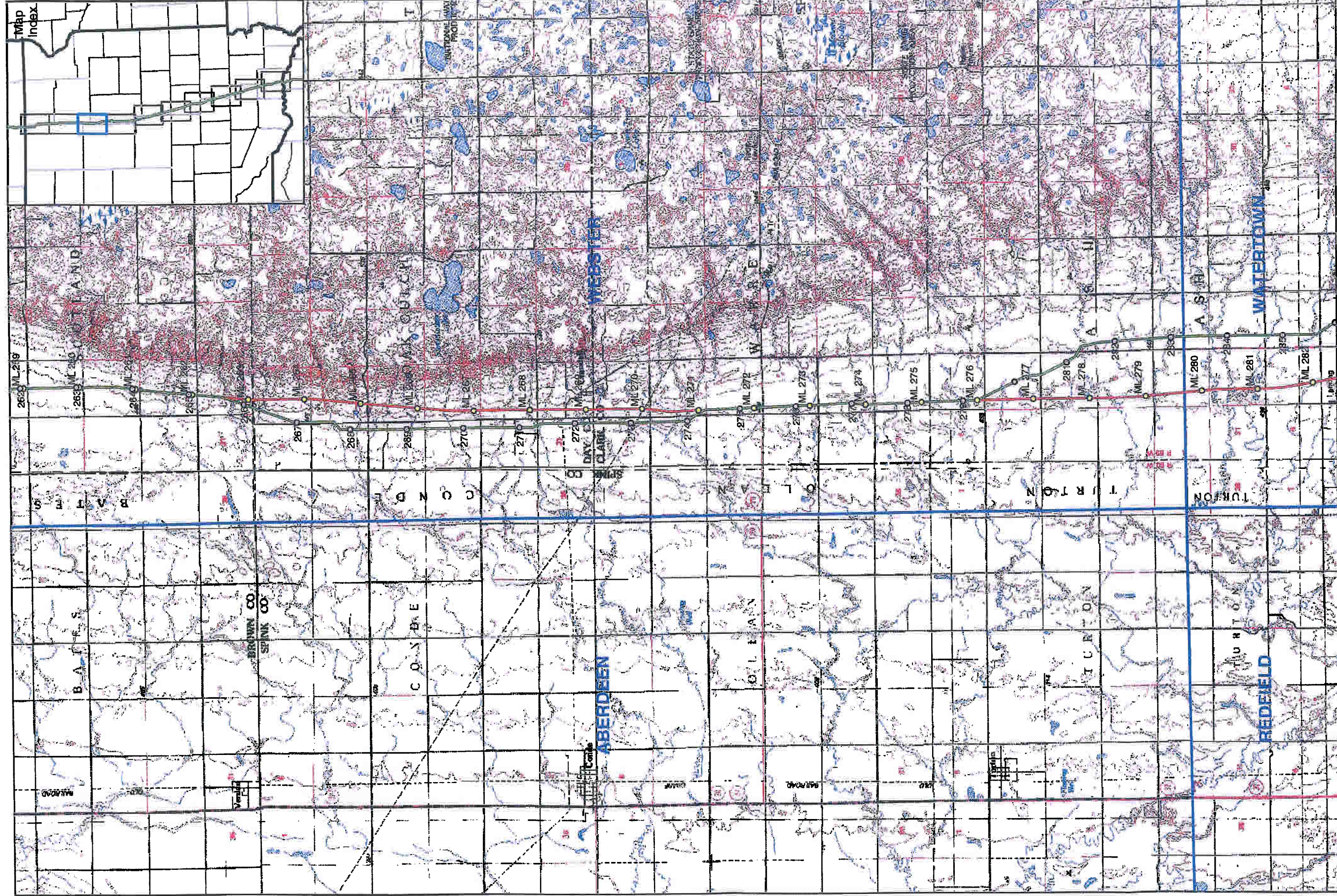


- ◊ Mileposts (8/17/06)
- ◊ Mileposts (2/9/06)
- Pipeline (8/17/06)
- Pipeline (2/9/06)



Keystone Pipeline Project

Map 2 of 10
General Project Location
(South Dakota)

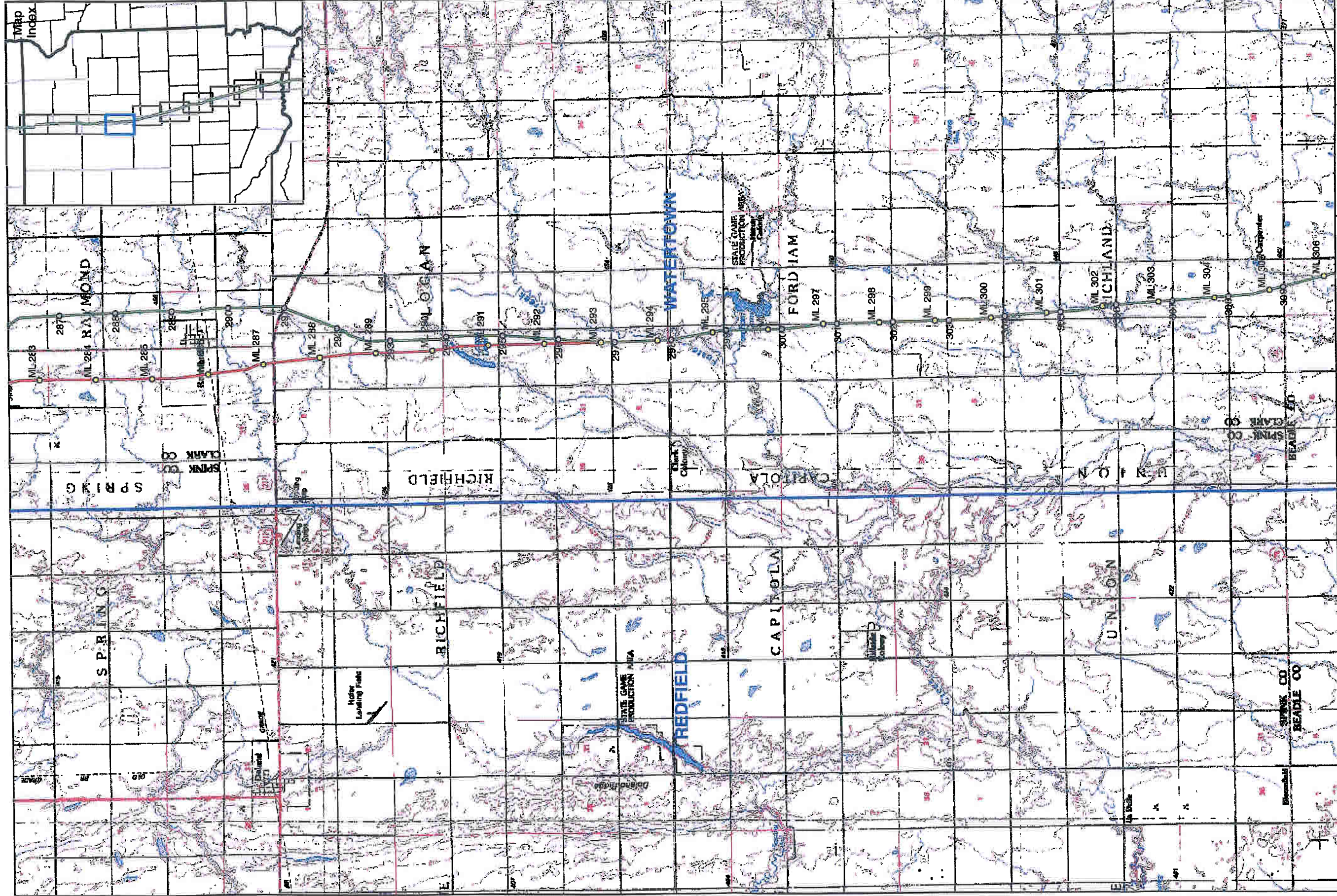


◊ Mileposts (8/17/06)
 ◊ Mileposts (2/9/06)
 — Pipeline (8/17/06)
 — Pipeline (2/9/06)

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 0 0.5 1 2 Miles

Keystone Pipeline Project


Map 3 of 10
 General Project Location
 (South Dakota)

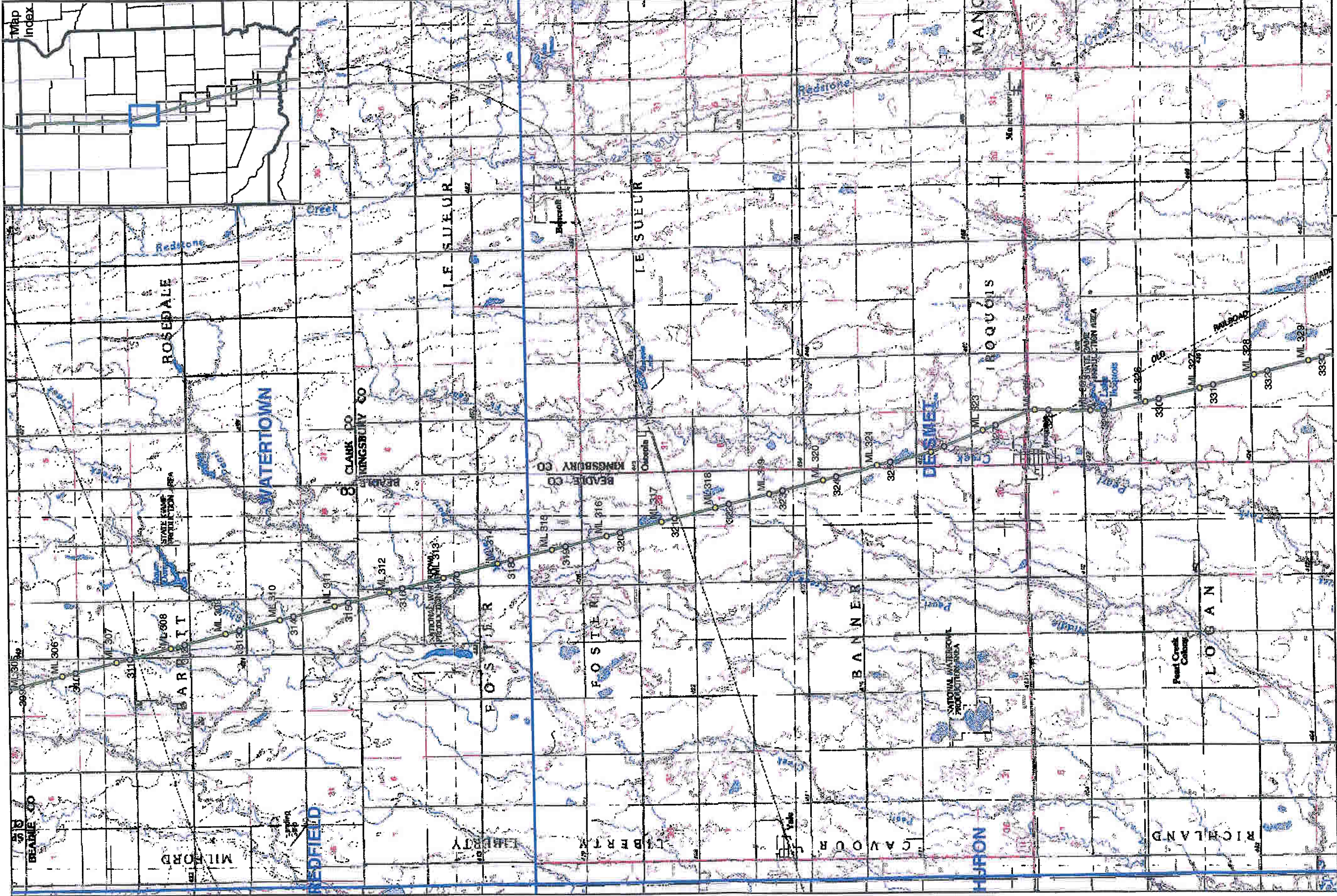


◊ Mileposts (8/17/06)
 ◊ Mileposts (2/9/06)
 — Pipeline (8/17/06)
 — Pipeline (2/9/06)

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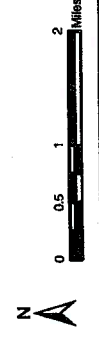
Keystone Pipeline Project

Map 4 of 10
 General Project Location
 (South Dakota)



Map Index

- ◊ Mileposts (8/17/06)
- ◊ Mileposts (2/9/06)
- Pipeline (8/17/06)
- Pipeline (2/9/06)

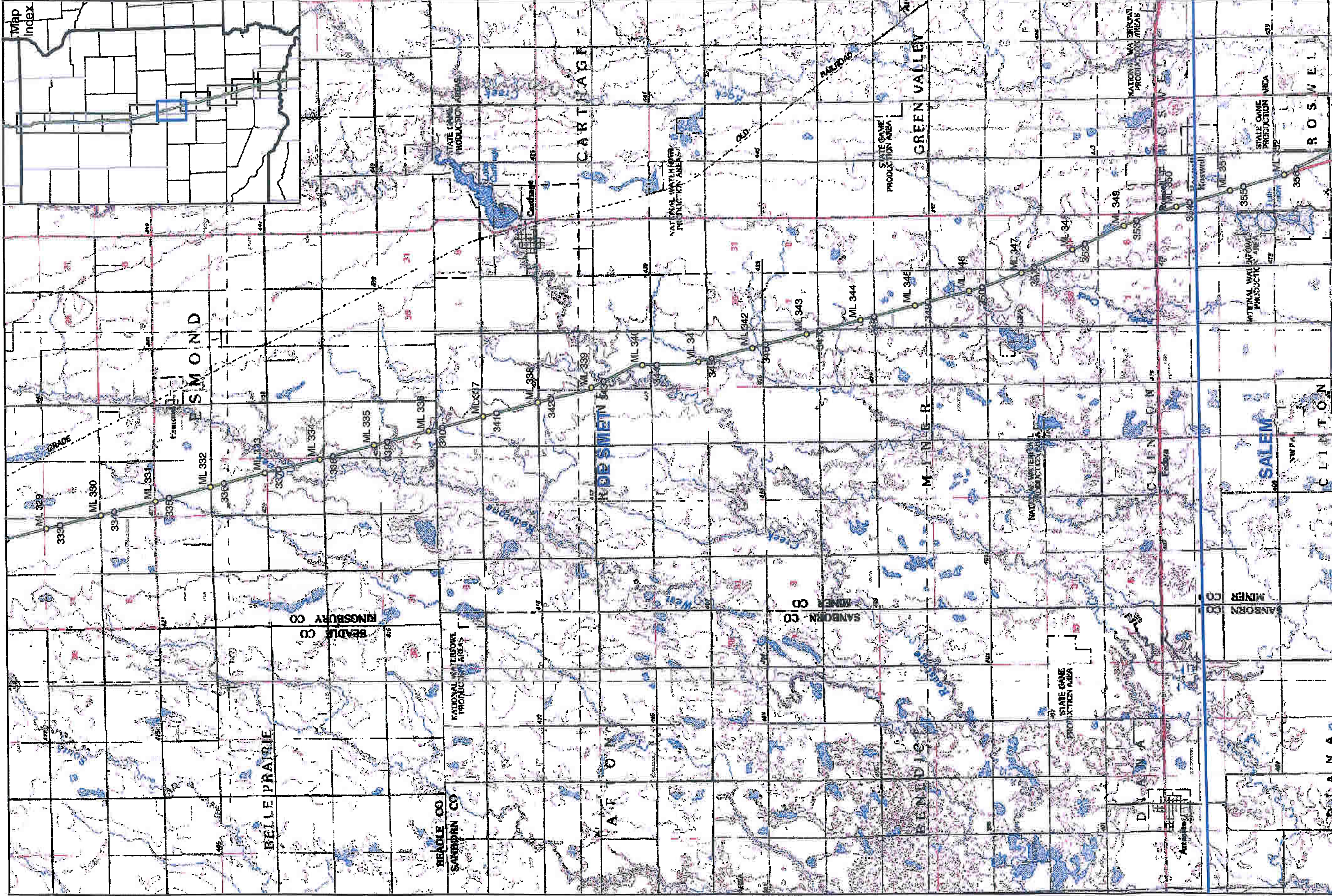


Keystone Pipeline Project

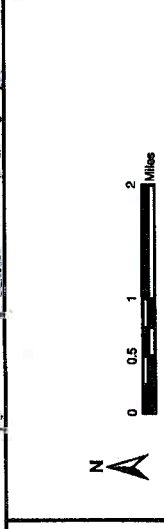
TransCanada
In Alberta we deliver

Map 5 of 10
General Project Location
(South Dakota)

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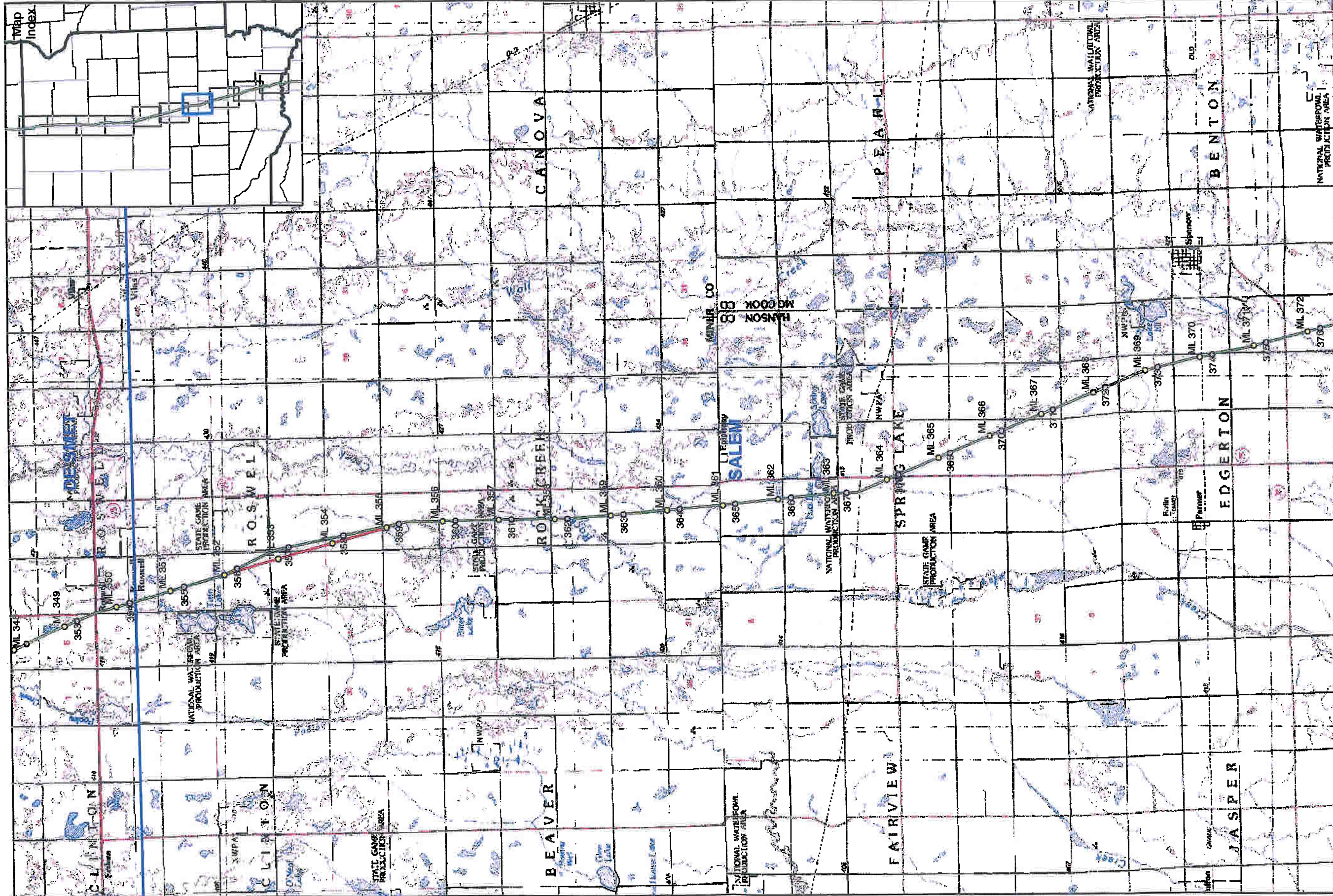


◊ Mileposts (8/17/06)
 ◊ Mileposts (2/9/06)
 Pipeline (8/17/06)
 Pipeline (2/9/06)



Keystone Pipeline Project

Map 6 of 10
 General Project Location
 (South Dakota)



Map Index

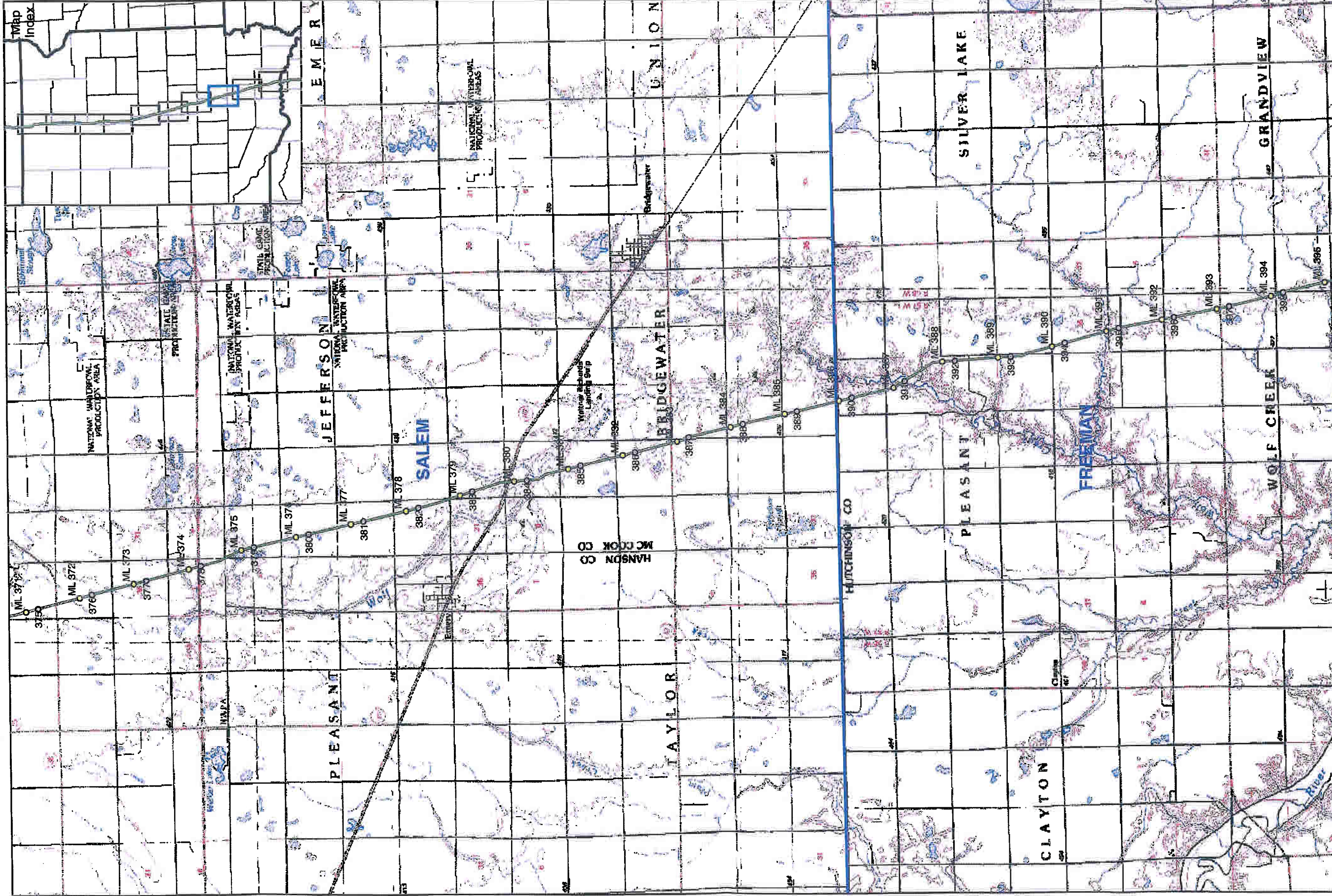
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 ◊ Mileposts (2/9/06)
 — Pipeline (8/17/06)
 — Pipeline (2/9/06)



Keystone Pipeline Project

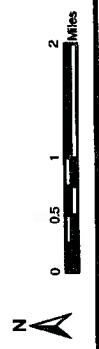
 TransCanada
by business to business

Map 7 of 10
 General Project Location
 (South Dakota)



Map Index

- ◊ Mileposts (8/17/06)
- ◊ Mileposts (2/9/06)
- Pipeline (8/17/06)
- Pipeline (2/9/06)

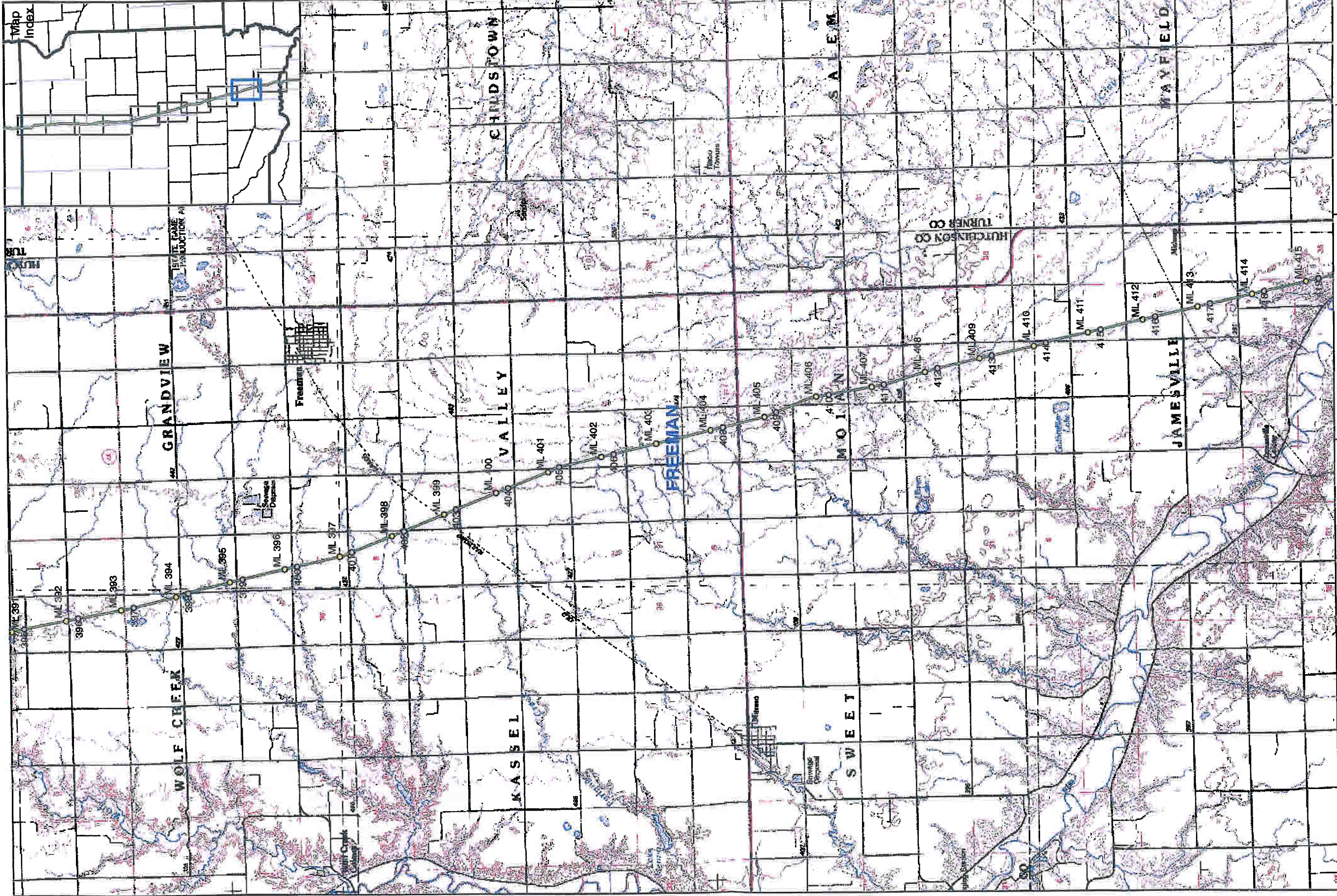


Keystone Pipeline Project

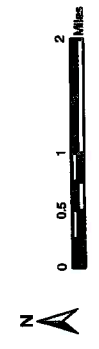
BY SUBSCRIBER'S CHOICE

Map 8 of 10
 General Project Location
 (South Dakota)

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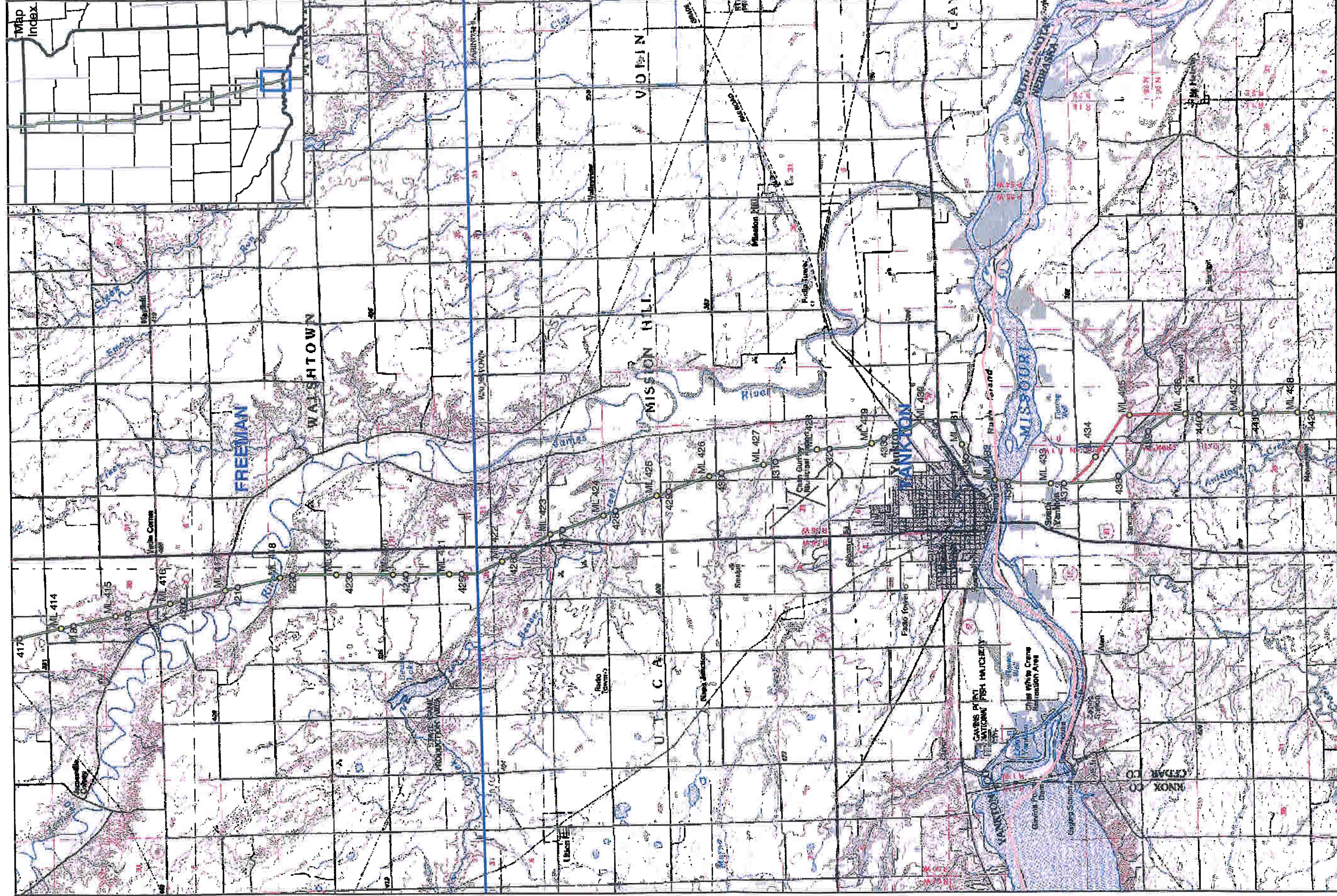


◊ Mileposts (8/17/06)
 ◊ Mileposts (2/9/06)
 — Pipeline (8/17/06)
 — Pipeline (2/9/06)



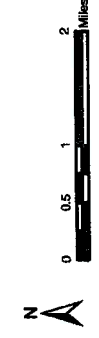
Keystone Pipeline Project

Map 9 of 10
 General Project Location
 (South Dakota)



Map Index

- ◊ Mileposts (8/17/06)
- ◊ Mileposts (2/9/06)
- Pipeline (8/17/06)
- Pipeline (2/9/06)



Keystone Pipeline Project



TransCanada
An American Energy Company

Map 10 of 10
General Project Location
(South Dakota)