

## Environmental Permitting Agency Coordination for the Keystone Pipeline Project

### Coordination Summary – Wetlands and Other Waters of the U.S.

The Keystone Pipeline Project conducted discussions with the U.S. Army Corps of Engineers and state agencies responsible for water quality and wildlife habitat to determine wetland and water body crossing permitting requirements under Sections 404 and 10 of the Clean Water Act, and state water quality programs. The Keystone Pipeline Project crosses four U.S. Army Corps of Engineers' (USACE) districts including the Omaha, Kansas City, St. Louis, and Tulsa Districts. Each of these districts has slightly different surveying and permitting requirements as outlined below. Meetings were held in 2006 with the Omaha (February 6, March 29), Tulsa (March 13), Kansas City (March 27), and St. Louis Districts (February 17, May 24 and July 14), to discuss surveying, permitting, and construction requirements. The Keystone Project initiated discussions in August with the Saint Louis and Kansas City Districts concerning geotechnical drilling needed for the design of horizontal directional drills at major river crossings. Consultations and correspondence in the attached binders are organized by USACE District.

#### Omaha District (North Dakota, South Dakota, Nebraska)

On February 6, 8, and 15, the Keystone Project team met with the Omaha District representatives, as well as U.S. Fish and Wildlife, Natural Resources Service, and state wildlife agency staff in Bismarck (North Dakota) Pierre (South Dakota), and Omaha (Nebraska). The purpose of these meetings was to introduce the project to the agencies, and obtain initial feedback on permitting and construction issues. On March 21, 2006 the Keystone Project furnished the USACE staff with maps showing proposed survey areas, a table of drainage crossings, wetland crossing construction methods, and protocols for wetlands and waters of the U.S. surveys. On March 29, the Keystone team met with Omaha District staff in Pierre, which was attended by representatives from North Dakota and Nebraska (by phone). The purpose of this meeting was to discuss survey procedures, and the process to be followed for filing the project Section 404 application.

The following understandings were documented in a May 2 letter from ENSR to the Omaha District:

1. It is the Omaha District's preliminary opinion that the project could be permitted under a Nationwide 12 authorization, and that permanent wetland fills would be unlikely, or could be avoided.
2. Because of the linear nature of the project and the temporary nature of the surface disturbance, wetland delineations in accordance with the 1987 USACE wetlands delineation manual will not be required in the Omaha District, with exception of locations where permanent aboveground facilities would be constructed.
3. Field wetland delineation and water crossing surveys along the pipeline route will be conducted in complex or major wetland and stream crossings locations, or where listed or sensitive species are known to occur. At these locations, field data will be collected in accordance with the COE 1987 Manual and/or stream crossing survey protocols. Crossing information on minor crossings, such as ephemeral streams and farmed wetlands will be provided to the USACE, using remote sensing (high quality aerial photos).
4. Keystone will furnish the USACE with tables of the wetland and waters of the U.S. crossings, supported by a description of how boundaries were determined, area of surface disturbance, proposed crossing methods. Wetlands will also be documented as isolated or not isolated, along with the rationale for making the determination.
5. Keystone will make a preliminary determination of USACE jurisdiction for the project wetland and waterbody crossings. An explanation of the regulatory basis for the determination will be provided. The preliminary jurisdiction review will be provided to the USACE when the pipeline

route is accurately defined. Keystone will provide the USACE with the preliminary jurisdiction review. Based on the feedback from the USACE, the project will then file its Section 404 application.

## **Kansas City District (Kansas and the majority of Missouri)**

An introductory meeting between the Keystone Project team and the Kansas City District and other state and federal agencies was held on February 6, 2006. On March 21, the Keystone Project furnished the USACE staff with maps showing proposed survey areas, a table of drainage crossings, wetland crossing construction methods, and protocols for wetlands and waters of the U.S surveys. The Keystone project team met with Mr. Cody Wheeler on March 27 to discuss permit application information requirements and construction methods. In an August 23 letter from ENSR to Mr. Wheeler the following understandings were documented, based on prior meetings and other factors:

1. It is the Kansas City District's preliminary opinion is that the project could be permitted under a Nationwide 12 authorization, and that permanent wetland fills would be unlikely, or could be avoided.
2. Farmed and prior converted wetlands that would be crossed should be defined to the extent possible. Subsequent to the March 27 meeting, Keystone contacted the Natural Resources Conservation Service to obtain information on these types of sites. Much of this information is not available because of privacy concerns.
3. Keystone will furnish the USCAE with tables of the wetland and waters of the U.S. crossings, supported by a description of how boundaries were determined, area of surface disturbance, proposed crossing methods. Wetlands will also be documented as isolated or not isolated, along with the rationale for making the determination, and preliminary USACE jurisdictional determinations will be made.

On August 26, 2006, Keystone notified the Kansas City District for proposed geotechnical drilling locations that were either located below the ordinary high water mark, or would be located in wetlands. The proposed drilling methods and environmental protection measures were included in this notification.

## **St. Louis District (eastern Missouri and Illinois)**

An introductory meeting between the Keystone Project team and the Saint Louis District and was held in Saint Louis on February 17, 2006. On March 21, the Keystone Project furnished the USACE staff with maps showing proposed survey areas, a table of drainage crossings, wetland crossing construction methods, and protocols for wetlands and waters of the U.S surveys. The Keystone Project team held a conference call with Mr. Charles Frerker of the USACE on May 25 to discuss wetland and waters of the U.S. survey methods. On June 14, the Keystone Project Team met with the USACE and Illinois state agencies at Lake Carlyle to discuss the requirements for constructing the pipeline across Lake Carlyle. On August 26, 2006, Keystone notified the Saint Louis District about proposed geotechnical drilling locations within Carlyle Lake and on the banks of the Mississippi River that were either located below the ordinary high water mark, or would be located in wetlands. The proposed drilling methods and environmental protection measures were included in this notification.

The major results of these coordination activities are as follows:

1. Based on the Section 404 permit issued to the Two Rivers Pipeline in 2002, which the Keystone Pipeline would parallel across Illinois, it is possible that an Individual Permit would be required as the result of the long term loss of forested wetlands associated with Lake Carlyle and other major stream crossings. A nationwide permit also is possible, depending on predicted resource effects.
2. Keystone obtained the Two Rivers Environmental Assessment other technical documents from the USACE via a Freedom of Information request.

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3. The Keystone Project cannot use the Two Rivers wetland delineations to substitute for the information needed for the Keystone Section 404 permit application. Two Rivers used an outdated methodology. The Keystone Project will be required to complete comprehensive wetland and drainage crossing surveys across the Saint Louis District using the 1987 manual. Keystone will map farmed or prior converted wetlands that would be crossed.
4. Levees crossings will require permitting, which is conducted through a separate branch of the USCAE. The Keystone Project should contact the levee districts to discuss crossing methods.
5. As the result of the June 14 meeting with USACE and Illinois agencies, Keystone will prepare a site specific Lake Carlyle crossing plan to illustrate the proposed pipeline right of way, and locations of directional drills. Issues that will need to be addressed in the plan include season of construction (avoidance of high water periods and waterfowl hunting seasons), effects on listed species habitats, levee and impoundment crossings, avoidance of cultural resource sites, mitigation requirements for removing forested wetlands, backup construction plans if proposed construction period cannot be used.

## **Tulsa District (Oklahoma)**

Keystone provided written information on the pipeline project to the District on March 9, 2006. Keystone discussed wetland and waters survey requirements with Mr. Timothy Hartsfield at a meeting in Oklahoma City on March 13, 2006. No subsequent discussions with the Tulsa District have been conducted pending the project open season for this portion of the project.

The results of the discussions with Mr. Hartsfield are as follows:

1. Tulsa District's preliminary opinion is that the project could be permitted under a Nationwide 12 authorization, and that permanent wetland fills would be unlikely, or could be avoided.
2. All wetland and drainage crossings along the Cushing Extension in Oklahoma will require ground surveys.
3. Consult the Tulsa USACE website for mitigation requirements, and minimum disturbance thresholds that result in mitigation.
4. Verify whether any USACE lands would be crossed. If so, contact the real estate division.

## **National Park Service, Missouri River crossing at Yankton**

The Keystone Project conducted discussions with the National Park Service and other agencies related to the proposed horizontal directional drill of the Missouri River. The proposed crossing would be located within NPS Wild and Scenic River jurisdiction, but no land owned by the National Park Service would be affected. A meeting was held in Yankton on May 19, 2006 to discuss the proposed directional drill under the Missouri River. Preliminary crossing drawings were provided. A Special Use permit will be required from the National Park Service to conduct geotechnical drilling near the banks of the river. Keystone filed a Special Use Permit Application to the National Park Service on August 17, 2006. Approval of this plan by the National Park Service is pending.

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Action	Date	Participants/Contacts	Communication Objective or Information Provided	Conclusion/Overview/Action Items
<b>OMAHA DISTRICT</b>				
Meeting	Feb 6, 2006	<b>North Dakota –</b> USACE, USFWS, NDG&F, NRCS	<ul style="list-style-type: none"> <li>• Discuss TransCanada project</li> <li>• Discuss Permit requirements and approvals</li> <li>• Determine 404 mitigation, delineations and filing process</li> <li>• USFWS issues</li> <li>• ND Game and Fish Issues</li> </ul>	<ul style="list-style-type: none"> <li>• Initiate Tribal Consultations</li> <li>• All 404, no Section 10</li> <li>• ND COE &amp; SD COE may coordinate</li> <li>• Look into Alliance permitting</li> <li>• COE will consider stratified approach to wetland delineations</li> <li>• COE/USFWS require wetland mitigation</li> <li>• File COE application after FEIS but informal submissions prior</li> <li>• USFWS easement mitigation required</li> <li>• USFWS may require land purchase in lieu of disturbed wetlands</li> <li>• ND Game &amp; Fish WMA user permit Dan Cimarosti, USACE</li> </ul>
Meeting	Feb 8, 2006	<b>South Dakota –</b> USACE, USFWS	<ul style="list-style-type: none"> <li>• Discuss TransCanada project</li> <li>• Discuss Permit requirements and approvals</li> <li>• Determine 404 mitigation, delineations and filing process</li> <li>• USFWS issues</li> </ul>	<ul style="list-style-type: none"> <li>• HDD cross were USFWS T&amp;E concern</li> <li>• COE suggests drilling 2 potential Section 10 crossings and wherever possible</li> <li>• Use NWI maps for sample sites</li> <li>• Contact FWS refuges for easements</li> <li>• Shiner – no crossing May 15 – July 31</li> <li>• Number of T&amp;E species @ Missouri R, Steven</li> </ul>
Meeting	Feb 15, 2006	<b>Nebraska –</b> USACE, USACE, NDOT	<ul style="list-style-type: none"> <li>• Discuss TransCanada project</li> <li>• Discuss Permit requirements and approvals</li> <li>• Determine 404 mitigation, delineations and filing process</li> <li>• USFWS issues</li> </ul>	<ul style="list-style-type: none"> <li>• Primary FWS concern is river dependent species</li> <li>• FWS wants data request to cover EIS.</li> <li>• Suggested 404/process by District. State may be required</li> <li>• Obtain mitigation SOP – Omaha COE</li> <li>• Check State Hwy improvements prior to construction.</li> </ul>
Phone Communication	Feb 22, 2006	<b>North Dakota</b> USACE – Dan Cimarosti	<ul style="list-style-type: none"> <li>• Left Message</li> </ul>	<ul style="list-style-type: none"> <li>• Requested DOS contacts</li> <li>• Confirm soil scientist survey requirements</li> </ul>

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Letter	March 21, 2006	COE Omaha District Russ Rocheford – Omaha District Patsy Crooke – ND Steven Naylor – SD Keith Tillotson - NE	<ul style="list-style-type: none"> <li>• Cover letter</li> <li>• Maps of ROW</li> <li>• Proposed survey locations</li> <li>• Wetland crossing methodology</li> </ul>	<ul style="list-style-type: none"> <li>• Confirm meeting timing and agenda</li> <li>• Provide information on wetland surveys for project</li> </ul>
E-mail	March 24, 2006	COE Omaha District Russ Rocheford – Omaha District Patsy Crooke – ND Steven Naylor – SD Keith Tillotson - NE	<ul style="list-style-type: none"> <li>• E-mail</li> </ul>	<ul style="list-style-type: none"> <li>• Confirming receipt of March 21 letter and attachments</li> <li>• Providing proposed wetland survey protocol, general project location map, and data sheets for their review</li> </ul>
E-mail	March 24	COE Omaha District Russ Rocheford – Omaha District Patsy Crooke – ND Steven Naylor – SD Keith Tillotson - NE	<ul style="list-style-type: none"> <li>• E-mail with meeting confirmation</li> </ul>	<ul style="list-style-type: none"> <li>• Confirming their attendance at March 29 meeting</li> </ul>
Letter	May 2, 2006	COE Omaha District Russ Rocheford – Omaha District Patsy Crooke – ND Steven Naylor – SD Keith Tillotson - NE	<ul style="list-style-type: none"> <li>• Letter</li> </ul>	<ul style="list-style-type: none"> <li>• Summarizing meeting notes</li> <li>• Asking for confirmation of survey protocol</li> </ul>
E-mail	May 8	Patsy Crooke – ND	<ul style="list-style-type: none"> <li>• E-mail with comments on the March 24 letter</li> </ul>	<ul style="list-style-type: none"> <li>• Input on Section 401 requirements</li> <li>• Input on fens and springs and data sources</li> <li>• Input on prior converted wetlands</li> </ul>
E-mail	May 10	Patsy Crooke – ND Cheryl Goldsberry – Omaha District	<ul style="list-style-type: none"> <li>• E-mail with comments on the March 24 letter</li> </ul>	<ul style="list-style-type: none"> <li>• Comments on prior converted wetlands and prairie potholes</li> </ul>
Phone communication	August 10	Russ Rocheford – Omaha District	<ul style="list-style-type: none"> <li>• Discussion related to geotechnical permitting</li> </ul>	<ul style="list-style-type: none"> <li>• Requested input on nationwide permitting for geotechnical drilling studies.</li> <li>• Referred to levee specialists</li> </ul>

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Meeting to be scheduled October		<p><b>COE Omaha District</b></p> <p>Contact: Cheryl Goldsberry – Omaha District Office</p> <p>Omaha, NE, or Pierre, SD.</p> <p>Lead ENSR Staff: K. Caddis</p>	<ul style="list-style-type: none"> <li>• Wetland delineations (field data and photointerpretations)</li> <li>• Tables (disturbance acreages, preliminary jurisdictional calls, crossing methods).</li> <li>• Updated BMPs and crossing plans, as required.</li> <li>• Supplemental information (NRCS wetlands, if available).</li> </ul>	<ul style="list-style-type: none"> <li>• Concurrence on jurisdictional wetlands and waterbodies.</li> <li>• Crossing issues that must be addressed to obtain Nationwide permits.</li> <li>• 404 Application schedule – filing and review.</li> </ul>
<b>KANSAS CITY DISTRICT</b> Phone communication	Jan. 18, 2006	<p><b>USACE Kansas City District</b> Cody Wheeler</p>	<ul style="list-style-type: none"> <li>• Initiate agency communication</li> <li>• Identify COE contacts</li> <li>• Introduce project and protocols</li> </ul>	<ul style="list-style-type: none"> <li>• Cody Wheeler identified as COE contact</li> <li>• COE permits issued when E/A/EIS is complete and ROD/FONSI issued</li> <li>• Project crosses Omaha, Kansas City and St. Louis districts</li> <li>• COE prefers directional drill for crossings</li> <li>• Delineation procedure to be discussed</li> <li>• Confirmed meeting for mid February</li> <li>• Cody Wheeler available for Feb. 6 meeting</li> </ul>
Phone communication Meeting	Jan. 30, 2006 Feb 6, 2006	<p><b>USACE Kansas City District</b> Cody Wheeler</p> <p><b>Kansas-Topeka, KS</b></p> <p>KDHE, KDWP, KDOT, KDA, USACE</p>	<ul style="list-style-type: none"> <li>• Confirm meeting date</li> <li>• Discuss TransCanada project.</li> <li>• Discuss Permit requirements and approvals.</li> </ul>	<ul style="list-style-type: none"> <li>• Generators less than 250t = no permit</li> <li>• Register fuel tanks. May need SPCC</li> <li>• Title V permits apply 18 mths pre-construction</li> <li>• No stormwater permit do BMP/SWPPP</li> <li>• HT permits take 60 days</li> <li>• H2O appropriations permit</li> <li>• 401 process with 404 process</li> <li>• Nationwide 404 permit</li> <li>• Missouri R. HDD crossing</li> </ul>

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Meeting	Feb 17, 2006 8:00-10:00AM	Missouri -- USACE		<ul style="list-style-type: none"> <li>• With 404-state and local station permits</li> <li>• &gt;50 sq mi drainage, Channel mod. Permit -- 45-100 days. HDD no permit</li> <li>• Stations in floodplain need KDA &amp; county permits</li> <li>• Action permits 30 days for approval</li> <li>• 30 days state lands crossing approval</li> <li>• Kansas Turnpike Authority for I-35 Cushing crossing, not DOT</li> <li>• KDOT has different districts (approx 4 mths) Ron Hammerschmidt, KDHE</li> <li>• Obtain Equilon/Shell EA FOIA</li> <li>• Equilon Permit # P2303 as pdf</li> <li>• Contact Wood River Levee District</li> </ul>
Letter	Mar. 21, 2006	USACE Kansas City District Cody Wheeler	<ul style="list-style-type: none"> <li>• Discuss TransCanada project</li> <li>• Discuss Permit requirements and approvals</li> <li>• Determine 404 mitigation, delineations and filing process</li> <li>• Cover letter</li> <li>• Maps of ROW</li> <li>• Proposed survey locations</li> <li>• Wetland crossing methodology</li> </ul>	<ul style="list-style-type: none"> <li>• Confirm meeting timing and agenda</li> <li>• Provide information on wetland surveys for project</li> </ul>
E-mail	Mar. 24, 2006	USACE Kansas City District Cody Wheeler	<ul style="list-style-type: none"> <li>• Submittal of survey protocol</li> </ul>	<ul style="list-style-type: none"> <li>• Requested review of WETLANDFORM2.doc, STREAMFORM.doc, Figure2-1-1_Project_Overview030506.pdf, Wetland Protocol Kansas City 3-23-06</li> </ul>
Phone communication	Aug. 10, 2006	USACE Kansas City District Cody Wheeler	<ul style="list-style-type: none"> <li>• Geotechnical drilling permit information</li> <li>• Confirm Nationwide 6 permit</li> </ul>	<ul style="list-style-type: none"> <li>• Nationwide 6 permit should cover geotechnical drilling</li> <li>• Obtained contacts for levees and other flood control structure drilling</li> <li>• Forward notification letter with maps and coordinates</li> </ul>
E-mail	Aug. 10, 2006	USACE Kansas City District Cody Wheeler	<ul style="list-style-type: none"> <li>• Forward guidance for geotechnical drilling near and within flood control structures</li> </ul>	<ul style="list-style-type: none"> <li>• Forwarded document WBOREF.800.doc</li> </ul>

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Phone communication	Aug. 11, 2006	USACE Kansas City District Charles Detrick	<ul style="list-style-type: none"> <li>Response to request for information on levee drills</li> </ul>	<ul style="list-style-type: none"> <li>No permitting requirements but must follow COE outline if within 500ft landward and 150ft riverward of regulated structure</li> <li>May require special use permits for Missouri R.</li> <li>Forward maps of drill locations for review and authorization</li> </ul>
Phone communication	Aug. 11, 2006	USACE Kansas City District. Milford Lakes Project Office R.J. Harmes	<ul style="list-style-type: none"> <li>Provide contact information with COE in Kansas City District</li> <li>Obtain Milford Wildlife Area crossing permits</li> </ul>	<ul style="list-style-type: none"> <li>Will need Special Use Permit issued by real estate division</li> <li>Provide maps and aerials of crossing an project description</li> <li>Mr. Harmes will forward information after review and notification of issues and final ROW</li> </ul>
Meeting to be scheduled for October	-	USCOE Kansas City, Saint Louis Districts. Contacts: Cody Wheeler, KC, C. Frerker, Saint Louis Lead ENSR Staff: K. Caddis	<ul style="list-style-type: none"> <li>Wetland delineations (field data and photointerpretations)</li> <li>Tables (disturbance acreages, preliminary jurisdictional calls, crossing methods).</li> <li>Updated BMPs and crossing plans, as required.</li> <li>Supplemental information (NRCS wetlands, if available).</li> </ul>	<ul style="list-style-type: none"> <li>Concurrence on jurisdictional wetlands and waterbodies.</li> <li>Crossing issues that must be addressed to obtain Nationwide permits.</li> <li>404 Application schedule – filing and review.</li> </ul>
ST. LOUIS DISTRICT E-mail	Jan. 24, 2006	USACE St. Louis District From Rob Gramke	<ul style="list-style-type: none"> <li>Identification of project point of contact for St. Louis District USACE</li> <li>Receipt of Nationwide 12 and regional conditions</li> </ul>	<ul style="list-style-type: none"> <li>Attachments: Regional Conditions.doc, NW12-Utility line discharges.doc., and NWP12-Final.doc</li> </ul>

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Phone communication	Feb. 3, 2006	USACE St. Louis District Rob Gramke	<ul style="list-style-type: none"> <li>• Returned call in response to request for meeting</li> <li>• Meeting to discuss permitting and consultation process for the Environmental Assessment</li> <li>• Response to acceptance of USFWS representative at project meeting</li> </ul>	<ul style="list-style-type: none"> <li>• Confirmation of St. Louis USCOE project meeting on Feb. 17, 2006</li> </ul>
E-mail	Feb. 10, 2006	USACE St. Louis District From Rob Gramke	<ul style="list-style-type: none"> <li>• Discuss TransCanada project</li> <li>• Discuss Permit requirements and approvals</li> <li>• Determine 404 mitigation, delineations and filing process</li> </ul>	<ul style="list-style-type: none"> <li>• Acceptance of USFWS representative attendance at meeting</li> <li>• Obtain Equilon/Shell EA FOIA</li> <li>• Equilon Permit # P2303 as pdf</li> <li>• Contact Wood River Levee District</li> </ul>
Meeting	Feb. 17, 2006 8:00-10:00AM	Missouri – USACE	<ul style="list-style-type: none"> <li>• Response to voice mail message from Charles Frerker regarding USACE pre-application meeting</li> </ul>	<ul style="list-style-type: none"> <li>• Informed Mr. Frerker that the pre-application being prepared</li> <li>• Description of application contents</li> <li>• Notification of spring delineation surveys</li> <li>• Request to schedule meeting</li> </ul>
E-mail	Mar. 15, 2006	ENSR To Charles Frerker USACE	<ul style="list-style-type: none"> <li>• Response to e-mail for meeting request</li> </ul>	<ul style="list-style-type: none"> <li>• Confirmation of meeting following review of project information.</li> <li>• Notification that agricultural lands delineations be performed under Corps manual</li> <li>• Previous NRCS delineations unacceptable</li> <li>• Designation of Charles Frerker as lead Corps contact in place of Mr. Gramke</li> </ul>
E-mail	Mar. 16, 2006	USACE St. Louis District From Charles Frerker	<ul style="list-style-type: none"> <li>• Cover letter</li> <li>• Maps of ROW</li> <li>• Proposed survey locations</li> <li>• Wetland crossing methodology</li> </ul>	<ul style="list-style-type: none"> <li>• Confirm meeting timing and agenda</li> <li>• Provide information on wetland surveys for project</li> </ul>
Letter	Mar. 22, 2006	USACE St. Louis District To Charles Frerker	<ul style="list-style-type: none"> <li>• Request for confirmation of receipt of March 22, 2006 letter and project information</li> <li>• Provided copy of FOIA request</li> </ul>	<ul style="list-style-type: none"> <li>• Await confirmation and feedback</li> </ul>
E-mail	Apr. 8, 2006	USACE St. Louis District To Charles Frerker		

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Letter	Apr. 8, 2006	<b>USACE St. Louis District</b> Ms. Elizabeth Bertoglio FOIA Officer	<ul style="list-style-type: none"> <li>FOIA request for Two Rivers Pipeline EA or EIS and supporting documents</li> <li>Two River Pipeline 404 permit and application</li> </ul>	<ul style="list-style-type: none"> <li>Await confirmation of request and receipt of information</li> </ul>
E-mails	Apr. 24, 2006	<b>USACE St. Louis District</b> To Charles Frerker	<ul style="list-style-type: none"> <li>Request for input on wetland delineation consultants</li> <li>Response to FOIA inquiry</li> </ul>	<ul style="list-style-type: none"> <li>Resources for consultants identified</li> <li>Confirmed that FOIA was requested</li> </ul>
Certified Letter	May 10, 2006	<b>USACE St. Louis District</b> William R. Levins-District Counsel	<ul style="list-style-type: none"> <li>Notification of releasable information on 2Rivers FOIA</li> </ul>	<ul style="list-style-type: none"> <li>USACE can not release 2Rivers Cultural Resource Survey</li> <li>2Rivers Application could not be found</li> </ul>
E-mail	May 19, 2006	<b>USACE St. Louis District</b> To Charles Frerker and Rob Gramke	<ul style="list-style-type: none"> <li>Confirmation of 2Rivers information provided to ENSR</li> <li>Request for conference call on field studies</li> </ul>	<ul style="list-style-type: none"> <li>Await arrangement of conference</li> </ul>
E-mail	May 22, 2006	<b>USACE St. Louis District</b> From Charles Frerker	<ul style="list-style-type: none"> <li>Response to meeting invite and confirmation of meeting attendance</li> <li>Suggested other invitees</li> </ul>	<ul style="list-style-type: none"> <li>Contact ISHPO, Carlyle Lake assistant manager and IDNR to invite to meeting</li> </ul>
Memo – Conference Call	May 25, 2006	<b>USACE St. Louis District</b> <b>2Rivers Conference Call</b> Charles Frerker and Laurie Farmer (Wetlands sub-contractor)	<ul style="list-style-type: none"> <li>Discussion on the adoption of 2Rivers Pipeline Wetland Delineation studies for Keystone project</li> </ul>	<ul style="list-style-type: none"> <li>Farmed lands and converted wetlands not included in 2Rivers delineations</li> <li>Can use 2Rivers as start only</li> <li>USACE requests that all wetlands and other Waters of the U.S. be delineated</li> </ul>
Meeting	June 14, 2006 10:00AM-12:00PM	<b>Illinois</b> IDNR, USACE, USFWS, IEPA, IHPA	<ul style="list-style-type: none"> <li>Discuss TransCanada corridor and crossing of Illinois with emphasis on Carlyle Lake</li> <li>Environmental survey needs</li> <li>Address WMA crossings approvals</li> </ul>	<ul style="list-style-type: none"> <li>Carlyle – 35 acres flooded in fall, construct late summer/early fall</li> <li>Can adjust levels for construction</li> <li>2Rivers staging area was in Greenville</li> <li>May need valves at water crossings in App A of IL Rule 3704</li> <li>Wetland mitigation sites at USACE</li> </ul>

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Meeting to be scheduled for October	-	<p><b>USCOE</b> Kansas City, Saint Louis Districts. Contacts: Cody Wheeler, KC, C. Frerker, Saint Louis Lead ENSR Staff: K. Caddis</p>	<ul style="list-style-type: none"> <li>Wetland delineations (field data and photointerpretations)</li> <li>Tables (disturbance acreages, preliminary jurisdictional calls, crossing methods).</li> <li>Updated BMPs and crossing plans, as required.</li> <li>Supplemental information (NRCS wetlands, if available).</li> </ul>	<ul style="list-style-type: none"> <li>Concurrence on jurisdictional wetlands and waterbodies.</li> <li>Crossing issues that must be addressed to obtain Nationwide permits.</li> <li>404 Application schedule – filing and review.</li> </ul>
Meeting to be scheduled for October	-	<p><b>USCOE Saint Louis, Mississippi and Missouri levee districts</b> Contact: Lead ENSR Staff: K. Caddis</p>	<ul style="list-style-type: none"> <li>Preliminary levee crossing plans</li> </ul>	<ul style="list-style-type: none"> <li>Discussion about the acceptability of the proposed plans &amp; other issues (environmental, permitting).</li> </ul>
<b>TULSA DISTRICT</b>				
Meeting	Mar. 13, 2006 9:00-11:00AM	<p><b>Oklahoma State Agencies</b> ODWC, OWRB, OKCC, ODOT, ODEQ, OKDOE, USACE</p>	<ul style="list-style-type: none"> <li>Discuss TransCanada project approvals</li> <li>Discuss 404 mitigation, delineations and filing process</li> </ul>	<ul style="list-style-type: none"> <li>EPA Region 6 issues stormwater &amp; HT discharge permits. BMP documentation</li> <li>BIA may be involved if cross tribal land</li> <li>Land commissioners - contact for state school lands</li> <li>May qualify for 404 Nationwide 12</li> </ul>
Letter	Mar. 9, 2006	<p><b>USACE Tulsa</b> David Manning Tulsa Regulatory District</p>	<ul style="list-style-type: none"> <li>Cover letter Describing TransCanada project</li> <li>Overview Maps of Pipeline</li> <li>Identification of USACE contact</li> <li>Identification of Tulsa District project contact</li> </ul>	<ul style="list-style-type: none"> <li>Contact USACE project lead</li> <li>Provide proposed survey protocol</li> <li>Provide ROW maps</li> <li>Schedule Tulsa District meeting</li> <li>Timothy Hartsfield designated as Tulsa District project contact for USACE</li> </ul>
Phone communication	April 2006	<p><b>USACE Tulsa District</b> Brenda Canyon</p>		

**ENSR**

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

## Memorandum

Date: January 26, 2006  
To: Scott Ellis, Heidi Tillquist  
From: Karen Caddis  
Subject: Summary of COE contacts as of January 26, 2006

Distribution: S. Ellis H. Tillquist

### Message

As requested, this memo contains a summary of contacts made with the US Army Corps of Engineers (COE) and the discussions that have occurred between Karen Caddis (ENSR) and the various COE representatives up to January 26, 2006. Contacts made to date are summarized in the following table:

Contact	COE District	Date and Call Summary
Cody Wheeler	Kansas City District, Special Projects Manager	1/18: Established that Cody is the Kansas City District contact (Kansas and Missouri), discussed general survey protocols, including doing surveys only at questionable locations, and how the COE is expecting their permits to be issued. Kansas City may be amenable to doing abbreviated surveys. Recommended contacting Keith Tillotson and Rob Gramke to confirm who the COE leads would be in their districts. Cody is available for meetings in early February if given a week's notice.
Keith Tillotson	Omaha District, Kearney Field Office Program Manager	1/18: Confirmed that Keith will not be an Omaha District contact. Keith provided names and numbers of anticipated leads for North and South Dakota and Nebraska and suggested contacting Russ Rocheford, the Omaha District Chief.
Russ Rocheford	Omaha District Chief	1/19: Russ confirmed that there would be three state leads in the Omaha District, Dan Cimarosti, Stephen Naylor, and Michael Rabbe. Russ is willing to act as mediator if need be; however, the state leads will be the main points of contact. The abbreviated survey protocol was discussed with Russ and he was agreeable; will work with state leads to finalize this idea. He emphasized that Section 10 regs need to be reviewed when crossing rivers in the Omaha District and that this district looks at surface water connections in reference to isolated wetlands. Recommended directional drilling wherever possible to avoid wetland impacts.

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		1/25: ENSR contacted Russ to request the name of a COE contact in Washington, D.C. Russ indicated that Mark Sudol, the COE's Branch Chief would be the best contact. Russ also said that he would try to get the project a lead contact for the Omaha District, probably in Omaha; however, permits would be issued by each state and that meeting at Steve Naylor's office and conferencing in the other COE representatives would likely be the most workable meeting strategy.
Rob Gramke	St. Louis District Program Manager	1/18, 1/19, 1/23: Left voice messages. Received e-mail on 1/24 confirming that Rob will be the St. Louis District contact and is available for meetings in early February.
Stephen Naylor	Omaha District, South Dakota Field Office Regulatory Program Manager	1/23: Steve confirmed that he will be the South Dakota contact for the COE. General survey protocol, including surveying only in questionable areas, was discussed. South Dakota may be amenable to doing abbreviated surveys. Steve would like to have a pre-application conference meeting with Dan Cimarosti, Michael Rabbe, and Russ Rocheford and ENSR so all are on the same page as far as permitting in the Omaha District is concerned. Stephen will contact Russ to discuss how best to accommodate this. He is available weeks of February 6 and 13 for meetings.
Dan Cimarosti	Omaha District, North Dakota State Program	1/25: left message introducing ENSR and the project. Jon Alstad contacted Dan on 1/26 to discuss project.
Michael Rabbe	Omaha District, Nebraska Program Manager	1/25: Michael indicated that he would likely assign another person to prepare the COE permit for his state, but will discuss this with Russ. He would like a formal letter identifying the project that provides a general description and map to be sent to him so that a file can be opened on the project. After reviewing that, he will discuss doing abbreviated field surveys in questionable areas. Michael is available February 6, 9, and 10 for meetings. He said that the main Nebraska Section 401 contact would be Ms. Terry Hickman at 402-471-2875. The COE has an agreement with the state of Nebraska on pipeline project whereas the state will adopt the COE's 404 application and permit for their 401 permitting needs.

COE contacts for Keystone Pipeline Project						
District	Field Offices	Main Contact	Title	Phone	E-mail	Address
Omaha		<b>Cheryl Goldsberry (main contact) and Russ Rocheford</b>	Asst. Branch Chief = Rocheford	402-221-4125 (Russ) 402-221-4142 (Cheryl)	<a href="mailto:Cheryl.goldsberry@usace.army.mil">Cheryl.goldsberry@usace.army.mil</a>	106 S. 15th Street, Omaha, NE 68102
	North Dakota	<b>Patsy Crooke and Dan Cimarosti</b>	Project Manager	701-255-0015	<a href="mailto:patsy.j.crooke@usace.army.mil">patsy.j.crooke@usace.army.mil</a>	USACE-NDRO, 1513 S. 12th Street Bismarck, ND 58504
	South Dakota	<b>Steven Naylor</b>	Regulatory Program Manager	605-224-8531	<a href="mailto:steven.e.naylor@nwo02.usace.army.mil">steven.e.naylor@nwo02.usace.army.mil</a>	28563 Powerhouse Road, Room 118, Pierre, SD 57501
	Nebraska	<b>Keith Tillotson</b>	Project Manager	308-234-1403	<a href="mailto:dwight.k.tillotson@usace.army.mil">dwight.k.tillotson@usace.army.mil</a>	Kearney Field Office, 1430 Central Avenue, Kearney, NE 68847
Kansas City						
	Kansas, western Missouri	<b>Cody Wheeler</b>	Special Projects Manager	816-389-3739	<a href="mailto:cody.s.wheeler@usace.army.mil">cody.s.wheeler@usace.army.mil</a>	USACE - Kansas City District, 700 Federal Building, 601 E. 12th Street, Attn: OD-R, Room 706, Kansas City, MO 64106
St. Louis						
	Carlyle Lake, Illinois, Missouri	<b>Chuck Frerker</b>	Regulatory/Carlyle Lake	314-331-8583	<a href="mailto:Charles.F.Frerker@mvs02.usace.army.mil">Charles.F.Frerker@mvs02.usace.army.mil</a>	USACE Regulatory Office, 1222 Spruce Street, St. Louis, MO 63103
Tulsa						
	Oklahoma	<b>Timothy Hartsfield</b>	Permitting	918-669-7237	Not known at this time	USACE - Tulsa Regulatory District, Regulatory Office - CESWT-RO, 1645 South 101st East Ave., Tulsa, OK 74128

**NOTE: THE TULSA DISTRICT HAS NOT BEEN FORMALLY NOTIFIED OF THE PROJECT SINCE THE ROUTING FOR THE CUSHING EXTENSION PORTION OF THE PIPELINE HAS NOT BEEN FINALIZED AS OF AUGUST 14, 2006.**

**Regulatory Requirement Summary for Wetlands and Other Waters of the U.S.  
Keystone Pipeline Project  
August 2006**

As part of federal regulatory requirements under the Clean Water Act, wetland and other waters of the U.S. (WUS) inventories involving field surveys are required to evaluate the potential for adverse effects to WUS along the proposed pipeline ROW and other associated areas of disturbance related to project construction. Information gathered during the inventories will be used to complete notification and permitting requirements under Section 401 and 404 of the Clean Water Act, as managed by the US Army Corps of Engineers and applicable state agencies. The Keystone Pipeline Project crosses four U.S. Army Corps of Engineers' (USACE) districts; including the Omaha, Kansas City, St. Louis, and Tulsa districts. Each of these districts has slightly different surveying and permitting requirements as outlined below. Meetings were held in 2006 with the Omaha (March 29), Kansas City (March 27), and St. Louis Districts (May 24 and July 14), to discuss surveying, permitting, and construction requirements.

Consultation with the various USACE Districts resulted in the following general survey requirements:

- Omaha District (North Dakota, South Dakota, Nebraska): Field surveys along the Mainline ROW route will be required only at specific locations. Information will be provided to the USACE on other crossings, such as ephemeral streams and farmed wetlands, using remote sensing and GIS.
- Kansas City District (Kansas and the majority of Missouri): The proposed Keystone Pipeline Mainline ROW through Kansas and Missouri parallels an existing pipeline ROW and the proposed Rockies Express Pipeline ROW. Field data obtained during the Rockies Express Pipeline Project surveys can be used to identify wetlands and other WUS crossed by the Keystone Pipeline Project in these states.
- St. Louis District (eastern Missouri and Illinois): All wetland and drainage crossings along the Mainline Route in eastern Missouri and in Illinois will require ground surveys.
- Tulsa District (Oklahoma): All wetland and drainage crossings along the Cushing Lateral in Oklahoma will require ground surveys.

**Omaha District:**

**Meeting Summary**

The March 29, 2006 meeting was held in the USACE office in Pierre, South Dakota with representatives from the North Dakota, South Dakota, Nebraska, and Omaha regional office, Scott Ellis and Karen Caddis with ENSR, and Mike Koski with Trow. During this meeting the USACE agreed that ENSR's modified wetland survey protocol could be applied to delineations in all three states in the Omaha District crossed by the proposed ROW. Based on information provided by the Keystone Pipeline Project to date, the Omaha District expects that pipeline construction disturbance across the Omaha District will be temporary, and will not result in permanent fills within wetlands and Waters of the United States. As a consequence, the USACE anticipates that wetland and waterbody disturbance associated with the project could be permitted under Nationwide Permit 12 (Utility Line Discharges) if the conditions of the Permit are met.

The Omaha District anticipates that the Missouri River crossing can be permitted under Section 10. The USACE can authorize a crossing if all of the conditions of the Nationwide permit are met, including getting a confirmation in writing from the National Park Service that says that construction techniques will meet the conditions of the Wild and Scenic River designation. The USACE recommends that Keystone ask the National Park Service for written documentation

regarding how to comply with the Wild and Scenic River designation. The Omaha District would be interested in participating in an interagency task to discuss the Missouri River crossing.

## **Survey Requirements**

Because of the linear nature of the project, and the temporary nature of the expected surface disturbance, wetland delineation in accordance with the 1987 USACE wetlands delineation manual (three parameter method) will not be required in the Omaha District, with the exception of locations where permanent aboveground facilities will be constructed.

In order for the Omaha District to confirm that Nationwide conditions will be met, and to determine USACE jurisdiction, the Omaha District approves of the following methods for describing wetland and waterbody crossings and making USACE jurisdiction determinations:

- An inventory of wetland and waterbody crossings based on data obtained from the USGS/EPA surface water drainage data base, National Wetland Inventory (NWI) mapping, aerial photography and/or topographic map interpretation will be prepared. A preliminary list was provided to the USACE in a pre-meeting letter provided by ENSR.
- Keystone Project wetland scientists will visit and describe the wetland and waterbody crossings illustrated on the 1:100,000 scale map set, and crossing tables furnished to the USACE prior to the March 29 meeting. These field survey locations include perennial stream crossings and adjacent floodplains; large wetland complexes; streams that have been identified as containing populations of the Topeka Shiner; other streams called out by agencies as containing sensitive aquatic resources; forested wetlands. These crossings will be described in accordance with the ENSR draft survey protocols previously submitted to the USACE (see Appendix A for a summary of these survey protocols). These protocols include the use of the 1987 Manual three parameter delineation methods for wetland crossings to insure consistency of description. Sites not requiring field confirmation will include unnamed ephemeral and intermittent drainages and highly modified channels across farmed fields.

## **Section 404 Permitting Submittals**

Evidence supporting the project's permitting under Nationwide permits will be provided to the USACE and will include information collected from field delineation, tabular data obtained from G National Wetland Inventory (NWI) and USGS GIS databases and mapping, aerial photography, and/or topographic map interpretation for ROW crossings. This supporting information will be provided in tabular format and will include the location of the feature (UTM or Latitude/longitude); county and state; type of feature (e.g.; intermittent drainage, palustrine emergent wetland); crossing distance and potential temporary disturbance acreage; and proposed crossing methodology (e.g.; open cut, horizontal directionally drilled). Wetlands will also be documented as isolated or not isolated along with the rationale used to make that determination. Direct and indirect impacts from construction will be reviewed, including whether hydrology would be altered.

To assist the Omaha District with its project review, Keystone will make a preliminary determination of USACE jurisdiction for the project wetland and waterbody crossings. An explanation of the regulatory basis for the jurisdiction determination will be provided (e.g.; intrastate water, Section 10 water, etc.). The preliminary jurisdiction assessment table/report will be provided to the USACE when the project believes it has a firmly defined pipeline route. After Keystone completes its preliminary jurisdiction review and provides its report, Keystone will request a jurisdictional determination from the Omaha District. When the determination from the USACE is received, Keystone will apply for the Section 404 and/or Section 10 Permits.

## **Other Factors to be Considered Related to Nationwide Permits**

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- The Nationwide 12 Permit cannot be used to permit crossings on Class 1 or 1A streams in North Dakota. The locations of these streams should be discussed with Mike Sauer with North Dakota Department of Health to determine whether any would be crossed by the project.
- Nationwide permits are expiring in March 2007. Although the Omaha District anticipates that the permits will be renewed, they suggest that Keystone work to get permitted now, so that they can be "grandfathered in" if permit requirements change.
- Regional conditions may limit the use of Nationwide permits in areas involving construction through fens and springs in the Omaha District. The Omaha District also indicated that there may be seasonal restrictions on spawning streams in North Dakota. The Maple, Sheyenne, Elkhorn, Missouri, and Platte rivers are of concern and will be field-delineated.
- Cultural resource information should be shared with the USACE as soon as possible after field surveys are completed. No mitigation should begin until the USACE has had time to comment. The USACE needs to be kept apprised of all major project developments and cultural issues and interactions with tribal representatives. USACE contacts should be copied on all major communications with other agencies (e.g. USFWS).
- The USACE is interested in the location of farmed and prior converted (PC) wetlands along the ROW. ENSR has requested this information from the Natural Resources Conservation Service (NRCS) state office; however, based on landowner privacy requirements or price, this information is generally not available. ENSR documented when this information was not available. If PC wetlands are located adjacent to jurisdictional wetlands, the USACE may take jurisdiction on the PC wetlands. If farmed wetlands are isolated, intrastate and can't "float a boat", the USACE will likely not take jurisdiction. Regarding prairie potholes; the Omaha District indicated that if potholes could "float a boat" and are adjacent to or hydrologically influenced by jurisdictional wetlands, the USACE will likely take jurisdiction. Prairie pothole crossings will be included in the wetland summary table and field-evaluated as applicable.

## **St. Louis District:**

### **Meeting Summary**

A conference call was conducted on Wednesday, May 24, 2006 with Chuck Frerker, the Keystone Pipeline Project's contact with the St. Louis District. One of the items discussed included the Two Rivers Pipeline Project Wetland Delineation and whether it can be adopted for use in the Section 404 application for the Keystone Pipeline Project. ENSR participants in the conference call included Scott Ellis, Karen Caddis, and Molly Giere. Mike Koski and Mike Schmaltz with Trow, and Laurie Farmer, an ENSR wetlands subcontractor, also participated.

According to Chuck Frerker, the July 2001 Two Rivers Wetland Delineation was conducted when the US Department of Agriculture (NRCS) still had an MOU with the USACE regarding delineation of farmed and prior converted wetlands. At that time, the USACE could adopt USDA mapping of farmed wetlands for any project. Because of this, no farmed or prior converted wetlands were delineated in the Two Rivers report. Since that time, the MOU is no longer in effect and the USDA is not allowing the use of their mapping for any non-agriculturally related project. With these changes, the USACE is requesting that non-agriculture projects conduct evaluations of farmed/prior converted wetlands that may be affected by the project. For this reason, the St. Louis District will only allow the Two Rivers Delineation to be used as a "starting point" and has requested that all potential wetlands and other Waters of the U.S. (WUS) be delineated along the proposed Keystone ROW. The USACE is also requesting that delineators indicate if they believe the WUS being delineated are jurisdictional or not. Chuck Frerker also suggested reviewing

NRCS "slides" of the ROW areas to determine if any potential farmed or prior converted wetlands could occur along the ROW. Subsequent attempts by ENSR to obtain these slides were not successful due to landowner privacy restrictions.

Chuck also indicated that agricultural drainage ditches would need to be delineated if they are connected to a natural drainage. Chuck also indicated that any levee crossings would require permitting through Public Law 99, which is conducted through a separate branch of the USACE. This branch would evaluate construction techniques for potential consequences to the structural stability of the levee being crossed. He indicated that the review process would involve evaluation of boring depths, setbacks, compaction, backfill perimeters, etc. If this information is provided in the initial application, Chuck indicated that the review process would be expedited, possibly within 1 month. Chuck anticipates that the Keystone Pipeline Project could be permitted under Nationwide permits depending upon the results of the field studies.

A second meeting was held on July 14 at the USACE's Carlyle Lake offices in Illinois to discuss the proposed crossing of the Carlyle Lake Management Area. A summary of that meeting is provided in Appendix B. No additional survey requirements were identified during that meeting.

### **Survey Requirements**

As indicated during the May 24 meeting with Chuck Frerker, the St. Louis District has required 100 percent delineation of all potential WUS along the proposed ROW. The general survey protocol currently being followed is provided in Appendix A.

### **Section 404 Permitting Submittals**

Section 404 permitting submittals for the St. Louis District will follow the strategy outlined in Appendix A.

### **Other Factors to be Considered Related to Nationwide Permits**

No additional factors, other than those previously mentioned, have been identified for the St. Louis District.

### **Kansas City District:**

#### **Meeting Summary**

During the March 27, 2006 meeting with Cody Wheeler (the USACE's Kansas City District contact), ENSR mentioned that biological, wetland, and cultural resource surveys are currently being completed along 100 percent of the Rockies Express (REX) Pipeline Project right-of-way (ROW) in Kansas and Missouri. A majority of the proposed line in those two states is co-located within the proposed Keystone Pipeline Project ROW. REX surveys consist of a 200-foot wide corridor that includes Keystone's proposed 110-foot wide construction corridor, plus an additional 50 feet for Keystone work space areas. At the time of the meeting, ENSR indicated that Keystone was hoping to reach an agreement with REX to share wetland, biological, and cultural data collected along the route in Kansas and Missouri. As of March 31, REX and Keystone have made a commitment to share this information. Cody indicated at the meeting that the USACE Kansas City District would be comfortable with Keystone using REX wetland and waterbody GPS and delineation data to determine wetland/waterbody boundaries within the Keystone ROW. Because of the REX survey overlap, field survey areas for Keystone in the Kansas City District should involve only reroutes that deviate from the REX ROW, pump station sites, and large work spaces that extend beyond the survey corridor evaluated under the REX field program.

Based on discussions during the March 27 meeting, the USACE indicated that it is likely that disturbance associated with construction of the ROW through the Kansas City District would be

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permitted under nationwide permits since disturbance would be temporary, less than 0.5 acre, and no permanent structures would be constructed within wetland boundaries. The USACE would not be likely to issue a Section 404 permit until the EIS Record of Decision had been issued.

## **Survey Requirements**

The basic delineation procedures outlined in Appendix A and provided to the USACE in March is generally acceptable to the Kansas City District. The Kansas City District expects surveys to be completed at all wetland and waterbody crossings along the ROW in their district. REX data should meet that requirement. Minor stream crossings and grassy swales have been identified using ENSR's stream crossing form. Grassy swales were inspected on a case by case basis and photos taken of crossings in those areas.

## **Section 404 Permitting Submittals**

Requirements for Section 404 permitting follow those outlined in Appendix A. ENSR would provide the Kansas City District with a summary table of wetlands and waterbodies crossed by the Keystone Pipeline Project. This table would include: the location of the feature; county and state; type of feature (e.g.; intermittent drainage, palustrine emergent wetland); crossing distance and potential temporary disturbance acreage; if the feature is isolated and the reasoning behind that; if it appears that the feature is jurisdictional or not based upon USGS Statsgo data; and proposed crossing methodology (e.g.; open cut, horizontal directionally drilled).

## **Other Factors to be Considered Related to Nationwide Permits**

Cody requested that forested wetlands be called out so that potential mitigation for loss of these areas could be calculated.

The USACE is interested in the location of farmed and prior converted wetlands along the ROW. This information may be available from the Natural Resources Conservation Service (NRCS) state office or the State of Missouri. If maps of farmed wetlands are not available, ENSR will need to review National Wetland Inventory (NWI) maps of the route, specifically in farmed bottomlands, and identify if any farmed or prior converted wetlands appear to be located in these areas. If so, field delineations may need to be completed in these locations. The procedure for identifying farmed and prior converted wetlands should be clearly documented in the wetland delineation report and Section 404 application. Based on subsequent discussions with the NRCS, data from the NRCS is not available due to landowner privacy issues.

Wetlands crossed by the proposed ROW should be documented as isolated or not isolated along with the thought process used to make that determination.

Drainage ditches may be considered jurisdictional if they function as or took the place of a natural drainage. Road side ditches would not need to be surveyed unless they are associated with streams.

## **Tulsa District:**

Meetings with the Tulsa District to finalize survey requirements have not been finalized as of the date of this summary. Surveys along the Cushing Lateral have not been initiated to date since this routing has not been approved for survey. ENSR anticipates that survey requirements would be similar to those identified for the St. Louis USACE District.

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**APPENDIX A  
GENERAL SURVEY PROTOCOLS BY USCOE DISTRICT**

To initiate this project, ENSR completed a review of USGS topographic maps, National Wetland Inventory (NWI) maps, available soil surveys, and aerial photos pertaining to the proposed ROW. The objectives of this data review were to identify wetlands and other WUS intercepted by the proposed pipeline route, including intermittent and ephemeral streams, and to identify specific wetlands and other WUS that will require field evaluation to confirm their status.

## **Other Waters of the U.S.**

Using USGS GIS watershed drainage databases (USGS surface water drainages and waterbodies, in cooperation with EPA 2004), a draft version of a table that identifies WUS crossed by the proposed ROW centerline was prepared (This table was included in the map package sent to the USACE Districts on March 21, 2006). USGS 1:24,000 topographic maps and high resolution aerial photographs of the proposed route were also evaluated to identify areas where the ROW appears to lie within 50 feet of a water feature or run within the high water mark of a drainage for more than 100 feet. These areas and other potential locations of concern associated with drainages and other waterbodies were highlighted on route maps. A copy of these maps was provided to the applicable USACE District representatives on March 22, 2006.

## **Wetlands**

Maps of the proposed route, including USGS topographic maps and high resolution aerial photography over which NWI wetland polygons were placed, were evaluated for wetland crossings. Areas identified for field checking included: 1) NWI-mapped wetlands intercepted by the pipeline route that are not farmed; 2) areas that appear to meet the wetlands three-parameter criteria, but are not mapped on the NWI; and 3) forested areas where wetland boundaries could not be estimated from aerial photos. Additional areas to be field checked will be included if recommended by the various USACE districts. Areas identified on the NWI maps as farmed wetlands or agricultural or roadway drainage ditches were not considered for field delineations. Potential survey areas were highlighted on maps of the proposed route that were provided to the Omaha District on March 22, 2006.

## **Site-specific Field Delineation of Potential Wetlands and Other Waters of the U.S.**

ENSR will coordinate with USACE representatives regarding features that will be field-checked and delineated. Preliminary areas to be surveyed are identified on maps of the proposed ROW previously provided to Omaha District offices. For each site surveyed a decision will be made by the field team regarding the presence of wetlands and/or other waters of the United States (WUS). For drainages with no wetland (e.g. unvegetated channel, defined bed and bank, etc.) characteristics, a Stream Data field form developed by ENSR (Attachment C) will be completed to evaluate stream crossing characteristics. This data sheet applies to stream crossings that support, or do not support, adjunct wetland plant communities. If both wetlands and other WUS are present, a Stream Data form and a Routine Wetland Determination Form (Attachment C) will need to be completed for the survey site.

The methods and techniques used to evaluate and delineate wetlands and other WUS on the maps of the proposed route will correspond to those specified for "routine on-site delineations" in the publication Corps of Engineers Wetlands Delineation Manual (USACE 1987). As identified in the Manual, a "three-parameter" approach will be used for defining wetlands. The USACE (1987) requires that, under normal circumstances, all three of the conditions listed below must be met for an area to be defined and delineated as wetland.

1. The prevalent vegetation consists of hydrophytic plants that have the ability to grow in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content and depleted soil oxygen levels.

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2. Soils are present and are classified as hydric or possessing characteristics that are associated with reducing soil conditions. Hydric soils are poorly drained and have a seasonal high water table within 6 inches of the surface.

3. The area is inundated either permanently or periodically at mean water depths less than or equal to 6.6 feet or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation (usually 12.5 percent of the growing season) (USACE 1987, WTI 1995).

Formal sample point locations will be identified at each potential wetland site visited to adequately characterize the wetland and uplands present and to justify wetland/upland boundaries. Sample points will be paired, where appropriate, to depict wetland and upland community characteristics. Each sample point will be given a unique identification code number and its location will be recorded with a hand-held GPS unit. Sample pits will be dug to a depth of at least 12 to 16 inches. Vegetation, soil, and hydrology data collected at each sample point will be entered onto a standardized wetland delineation field data sheet. The form will also include a field sketch locating the sample point in relation to the site as a whole. A determination as to whether the sample point qualified as wetland or upland will also be noted on the field data sheet. Wetland/upland boundaries at the sites will be mapped using a GPS system with sub-meter accuracy (Trimble Pro-XRS or equivalent). Photographs showing a representative view of each wetland visited will also be taken. A photo board with the appropriate wetland identification code number will be included in each photograph.

At each sample point, percent total cover of dominant plant species will be visually estimated. Dominant species will be defined as those species in each stratum that, when ranked in decreasing order of abundance and cumulatively totaled, exceed 50 percent of the total dominance measure for that stratum, plus any additional plant species comprising 20 percent or more of the total dominance measure for the stratum. Data form completion will include recording the dominant plant species' wetland indicator status as defined in the U.S. Fish and Wildlife Service's Revision of the National List of Plant Species That Occur in Wetlands, February 1997 (Reed 1997). Recorded data also will indicate whether hydrophytic vegetation was present at the observation point as described in Part III, paragraph 35 of the 1987 USACE Manual. This will include recording all herbaceous species within a 5- to 15-foot radius of the observation point and all woody species within a 30-foot radius in approximate order of dominance in the community. Species will then be classed as OBL (obligate wetland species), FACW (facultative wetland species), FAC (facultative species), FACU (facultative upland species) or UPL (upland species).

Soil and hydrologic data will also be collected to determine the presence or absence of wetlands at each sample point. The presence of hydric soils at each sample point will be determined using the definition, criteria, and indicators identified in Section III, Paragraphs 36, 37, 44, and 45, and Appendix D of the 1987 USACE Manual (with revisions related to the 1991 and 1992 guidance memorandums from the USACE). A Munsell Soil Color Chart will be used to determine soil color and soils will be described using standard USDA nomenclature (Munsell 1979). Soil survey reports for each county will also be reviewed, if available. Wetland soil indicators could potentially include the presence of a histic epipedon, mottling, gleying, an aquic soil moisture regime, and high organic matter content and/or organic matter streaking in the surface layers of sandy soils.

Within North Dakota, a registered soil classifier will also provide input on soils at each site that is delineated.

Potential wetland hydrology indicators (Section III, Paragraph 49 of the 1987 USACE Manual) will include topographic position, presence of standing water and/or saturated soil profile conditions, drainage patterns, water marks, sediment deposits, and/or oxidized root channels in the upper 12 inches of the soil profile. Adjunct test holes will also be dug, where appropriate, to gain additional vegetation, soil, and hydrologic information used to aid in the characterization of wetlands, uplands, and transition zones.

In addition to collecting sufficient data for "routine on-site delineations" as per the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and channel characteristics data for drainage crossings, wetland survey teams will be required to collect and provide sufficient data (e.g., defined bed and bank and connectivity to navigable waters) for the USACE to make jurisdictional determinations for all wetlands and drainage crossings surveyed in the field. However, field personnel will not be required to track the origin and termination of WUS beyond the 300-foot survey corridor. Evidence of connectivity would be completed as an office mapping task using available USGS topographic maps.

## **Additional Regional Condition Requirements**

In addition to general nationwide permit requirements, the following regional conditions have been identified that must be considered during field surveys.

### **North Dakota:**

1. Nationwide permits 1, 2, 4, 6-19, 21-25, 28-30, 33-36 and 39-44 are revoked for use in fens in North Dakota. Wetlands commonly known as fens are defined as wetlands that are characterized by waterlogged spongy ground and contain (in all or in part) soils classified as histosols or mineral soils with a histic epipedon. To determine whether this provision applies, the entire wetland must be examined for the presence of histosols or histic epipedons.

For all nationwide permits, permittees must notify the Corps in accordance with General Condition No. 13 (Notification) for activities located within 100 feet of the water source in natural spring areas in North Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

### **South Dakota:**

1. Fens: (a) All nationwide permits, with the exception of 3, 5, 20, 27, and 32, are revoked for use in fens in South Dakota. For Nationwide Permits 3, 5, 20, 27, and 32, permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any regulated activity impacting fens in South Dakota.

(b) Wetlands commonly known as fens are defined as wetlands that are characterized by waterlogged, spongy ground and contain (in all or in part) soils classified as histosols or mineral soils with a histic epipedon. To determine whether this provision applies, the entire wetland must be examined for the presence of histosols or histic epipedons.

2. Springs: For all nationwide permits except NWP 40(a), permittees must notify the Corps in accordance with General Condition No. 13 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in South Dakota. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

### **Nebraska:**

1. Fens: (a) Nationwide permits 1, 2, 4, 6-19, 21-25, 28-30, 33-36, 39-44 are revoked for use in fens in Nebraska. For nationwide permits 3, 5, 20, and 32, permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any regulated activity impacting fens in Nebraska.

(b) Wetlands commonly known as fens are defined as wetlands that are characterized by waterlogged, spongy ground and contain (in all or in part) soils classified as histosols or mineral soils with a histic epipedon. To determine whether this provision applies, the entire wetland must be examined for the presence of histosols or histic epipedons.

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2. Springs: All nationwide permits, with the exception of NWP's 3, 20, 31, 37, and 38, are revoked for activities located within 100 feet of the water source in natural spring areas in Nebraska. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

Kansas:

1. Notification Requirements. For discharges of dredged or fill material in waters of the United States for the category of activities listed in items b through d below, the permittee must notify the District Engineer in accordance with "Notification" general condition 13.

b. Fens and Bogs. For any regulated activity that impacts a fen or bog of any size.

c. Playa Wetlands. For discharges of dredged or fill material into jurisdictional playa wetlands of any size.

d. Forested Wetlands. For discharges of dredged or fill material into forested wetlands in the state of Kansas, which impact greater than 1/10 acre of these wetlands. Note: forested wetlands are characterized by woody vegetation that is 20 feet tall or taller.

Missouri:

1. Notification Requirements for Activities in Fens, Seeps and Bogs (Applicable To All NWP's). The permittee must notify the District Engineer in accordance with "Notification" general condition of the NWP's (general condition 13) when any regulated activity impacts a fen, seep or bog of any size.

To address these regional conditions, ENSR would implement applicable surveys to identify these locations as determined in consultation with the USACE's Omaha District representatives.

## Work Products

A wetlands delineation report and a Section 404 application package will be prepared upon completion of the wetland and other WUS field surveys. The wetland delineation report will include methodology used, results, a summary and conclusions, and a table identifying wetlands and other WUS that will be crossed by the ROW or associated access roads. The delineation report also would include copies of delineation sheets for ground-truthed wetland areas, photographs of wetlands and waterbody crossings, agency communications, and location maps (presented in 8.5 x 11 inch format). The wetland delineation report will be submitted to the USACE either in conjunction with the Section 404 application or earlier if directed to do so by the USACE. It is assumed that the Section 404 application will consist of a cover letter, the appropriate application form and map attachments, and the wetland delineation report along with proposed crossing methodologies and engineering cross-sections prepared to support the permit.