

LARGE FILING SEPERATOR SHEET

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APPENDIX 2A

Revised September 2007

Rockies Express Pipeline-East Project
Waterbodies Crossed by the Pipeline Route

State/County	Milepost ⁴	Unique Feature ID ⁵	HHEI Score	QHEI Score	Waterbody Name	Waters Edge-to-Waters Edge Width (feet)	Bank-to-Bank Width (feet)	Waterbody Type ⁶	Preferred Crossing Method ⁷	Alternative Crossing Method ⁸	State Water Classification ⁹
Belmont	627.3	WB-OH-611-C	75	NA	Tributary to South Fork Captina Creek	10	50		Open Cut	Dam & Pump	N/A
Belmont	627.4 and 627.5	WB-OH-611-A	63	NA	Tributary to South Fork Captina Creek	6	23		Open Cut	Dam & Pump	N/A
Belmont	627.4	WB-OH-611-B	37	NA	Tributary to South Fork Captina Creek	2	3	E	Open Cut	Dam & Pump	N/A
Belmont	628.1	WB-OH-612-B	37	NA	Tributary to Piney Creek	1	1	E	Open Cut	Dam & Pump	N/A
Belmont	628.4	WB-OH-612-C	25	NA	Tributary to Piney Creek	1	3	E	Open Cut	Dam & Pump	N/A
Belmont	628.5	WB-OH-612-D	92	74	Tributary to Piney Creek	15	30	F	Open Cut	Dam & Pump	N/A
Belmont	628.6	WB-OH-612-F	26	NA	Tributary to Piney Creek	1	1	E	Open Cut	Dam & Pump	N/A
Belmont	628.8	WB-OH-612-E	17	NA	Tributary to Piney Creek	1	2	E	Open Cut	Dam & Pump	N/A
Belmont	628.6	WB-OH-612-G	26	NA	Tributary to Piney Creek	1	1	E	Open Cut	Dam & Pump	N/A
Belmont	629.2	WB-OH-627-AAA	52	NA	Tributary to Piney Creek	1	4	E	Open Cut	Dam & Pump	N/A
Belmont	629.7	WB-OH-628-AAA	31	NA	Tributary to Piney Creek	1	3	E	Open Cut	Dam & Pump	N/A
Belmont	629.8	WB-OH-628-BBB	N/A	65	Piney Creek	30	40	P	Open Cut	Dam & Pump	N/A
Belmont	629.8	WB-OH-628-CCC	80	NA	Tributary to Piney Creek	8	10	P	Open Cut	Dam & Pump	N/A
Belmont	630.2	WB-OH-628-DDD	28	NA	Tributary to Piney Creek	2	3		Open Cut	Dam & Pump	N/A
Belmont	630.7	WB-OH-614-A	67	NA	Tributary to Crabapple Creek	4	5		Open Cut	Dam & Pump	N/A
Belmont	630.8	WB-OH-614-B	20	NA	Tributary to Crabapple Creek	2	3	E	Open Cut	Dam & Pump	N/A
Belmont	630.9	WB-OH-615-A	45	NA	Tributary to Crabapple Creek	3	3		Open Cut	Dam & Pump	N/A
Belmont	631.1	WB-OH-615-C	28	NA	Tributary to Crabapple Creek	1	2	E	Open Cut	Dam & Pump	N/A
Belmont	631.1	WB-OH-615-B	50	NA	Tributary to Crabapple Creek	3	5		Open Cut	Dam & Pump	N/A
Belmont	631.2	WB-OH-615-D	25	NA	Tributary to Crabapple Creek	1	3	E	Open Cut	Dam & Pump	N/A
Belmont	631.9	WB-OH-616-A	NA	76	Crabapple Creek	12	15	P	Open Cut	Dam & Pump	WWH, AWS, IWS, PCR
Belmont	632.0	WB-OH-616-D	13	NA	Tributary to Crabapple Creek	1	2	E	Open Cut	Dam & Pump	N/A
Belmont	632.0	WB-OH-616-B	29	NA	Tributary to Crabapple Creek	3	4	E	Open Cut	Dam & Pump	N/A
Belmont	632.0	WB-OH-616-C	22	NA	Tributary to Crabapple Creek	1	2	E	Open Cut	Dam & Pump	N/A
Belmont	632.2	WB-OH-616-E	44	NA	Tributary to Crabapple Creek	5	10	E	Open Cut	Dam & Pump	N/A
Belmont	632.4	WB-OH-616-F	43	NA	Tributary to Crabapple Creek	3	4	E	Open Cut	Dam & Pump	N/A
Belmont	632.6	WB-OH-616-G	38	NA	Tributary to Crabapple Creek	2	3	E	Open Cut	Dam & Pump	N/A
Belmont	632.7	WB-OH-616-H	50	NA	Tributary to Crabapple Creek	6	7	E	Open Cut	Dam & Pump	N/A
Belmont	632.8	WB-OH-617-A	42	NA	Tributary to Crabapple Creek	2	5		Open Cut	Dam & Pump	N/A
Belmont	633.1	WB-OH-617-B	57	NA	Tributary to Peavine Creek	4	5		Open Cut	Dam & Pump	N/A
Belmont	633.1	WB-OH-617-B	50	NA	Tributary to Peavine Creek	4	8	E	Open Cut	Dam & Pump	N/A
Belmont	633.3	WB-OH-629-AA	NA	NA	Tributary to Peavine Creek	<10	<10	E	Open Cut	Dam & Pump	N/A
Belmont	633.4	WB-OH-629-BB	NA	NA	Tributary to Peavine Creek	<10	<10	E	Open Cut	Dam & Pump	N/A
Belmont	633.5	WB-OH-630-AA	NA	NA	Tributary to Peavine Creek	20	20	P	Open Cut	Dam & Pump	N/A
Belmont	633.7	WB-OH-617-C	66	NA	Tributary to Peavine Creek	7	8		Open Cut	Dam & Pump	N/A
Monroe	634.1	WB-OH-618-C	14	NA	Tributary to Peavine Creek	2	2		Open Cut	Dam & Pump	N/A
Monroe	634.2	WB-OH-618-B	39	NA	Tributary to Peavine Creek	1	5	E	Open Cut	Dam & Pump	N/A
Monroe	634.2	WB-OH-618-A	39	NA	Tributary to Peavine Creek	1	3	E	Open Cut	Dam & Pump	N/A
Monroe	634.6	WB-OH-631-DD	29	NA	Tributary to Cat Run	3	6	E	Open Cut	Dam & Pump	N/A
Monroe	634.8	WB-OH-631-CC	27	NA	Tributary to Cat Run	3	3	E	Open Cut	Dam & Pump	N/A
Monroe	635.3	WB-OH-631-AA	72	NA	Cat Run	7	10	P	Open Cut	Dam & Pump	WWH, AWS, IWS, SCR

APPENDIX 2A
Revised September 2007Rockies Express Pipeline-East Project
Waterbodies Crossed by the Pipeline Route

State/County	Milepost ^a	Unique Feature ID ^b	HNEI Score	QHEI Score	Waterbody Name	Waters Edge-to-Edge Width (feet)	Bank-to-Bank Width (feet)	Waterbody Type ^c	Preferred Crossing Method ^d	Alternative Crossing Method ^e	State Water Classification ^f
Monroe	635.3	WB-OH-631-8B	24	NA	Tributary to Cat Run	2	4	E	Open Cut	Dam & Pump	N/A
Monroe	635.6	WB-OH-632-AA	17	NA	Tributary to Cat Run	3	4	E	Open Cut	Dam & Pump	N/A
Monroe	635.8	WB-OH-632-BB	73	NA	Tributary to Cat Run	8	20	P	Open Cut	Dam & Pump	WWH, AWS, IWS, SCR
Monroe	635.9	WB-OH-632-CC	32	NA	Tributary to Cat Run	3	4	E	Open Cut	Dam & Pump	N/A
Monroe	636.0	WB-OH-632-EE	32	NA	Tributary to Big Run	3	3	E	Open Cut	Dam & Pump	N/A
Monroe	636.3	WB-OH-634-AAA	91	NA	Tributary to Cat Run	6	10	P	Open Cut	Dam & Pump	N/A
Monroe	636.4	WB-OH-634-BBB	54	NA	Tributary to Cat Run	2	4	E	Open Cut	Dam & Pump	N/A
Monroe	636.6	WB-OH-635-AAA	83	NA	Tributary to Cat Run	5	14	P	Open Cut	Dam & Pump	N/A
Monroe	637.0	WB-OH-635-BBB	84	NA	Tributary to Cat Run	6	15	P	Open Cut	Dam & Pump	N/A
Monroe	637.7	WB-OH-636-FFF	26	NA	Tributary to Big Run	2	3	E	Open Cut	Dam & Pump	N/A
Monroe	637.8	WB-OH-636-DDD	54	NA	Tributary to Big Run	2	5	E	Open Cut	Dam & Pump	N/A
Monroe	637.9	WB-OH-636-CCC	67	NA	Tributary to Big Run	5	8	E	Open Cut	Dam & Pump	N/A
Monroe	638.0	WB-OH-636-HHH	20	NA	Tributary to Big Run	1	2	E	Open Cut	Dam & Pump	N/A
Monroe	638.1	WB-OH-636-GGG	14	NA	Tributary to Big Run	1	2	E	Open Cut	Dam & Pump	N/A

^a Mileposts based on a desktop analysis of proposed pipeline route. Mileposts will not match those found in Wetland and Waterbody Reports. Please use Unique Feature ID to locate data specific to individual features. Those waterbodies that list more than one milepost are crossed more than once by the centerline.

^b Feature IDs correspond to Wetland and Waterbody Reports, where available. Those that include a "D" in the initial identifier were identified in a desktop review using aerial photographs, topographic maps, and NWI records, and actual field conditions have not been observed. To be delineated at a later date. All waterbodies without this identifier have been field delineated.

^c P = perennial; I = intermittent; E = ephemeral

^d HDD = horizontal directional drill; Where multiple crossing methods are listed, they will be considered as options in the order in which they are listed. Crossing method used during construction will depend upon site conditions (i.e. flow) at the time of construction.

^e Missouri State Water Quality Classifications - Irrigation (IRR), Livestock and Wildlife Watering (LWW), Protection of Warmwater Aquatic Life and Human Health - Fish Consumption (AQL), Cold Water Fishery (CLF), Cold water Fishery (CDF), Whole Body Contact Recreation (WBC - Class A and B), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial process and cooling water (IND); Illinois State Water Quality Classifications - Full (fully supporting), Partial (partially supporting), N/S (non support), N/A (not assessed); Indiana State Water Quality Classifications - Full (fully supporting), Partial (partially supporting), N/S (not supporting) - The N/S identifier pertains to trout under the Aquatic Life Support designation, N/E (not established - not classified by Indiana Department of Environmental Management)

^f Ohio State Water Quality Classifications - State resource water (SRW), Warmwater habitat (WWH), Exceptional warmwater habitat (EWH), Limited resource water (LRW), Public water supply (PWS), agricultural water supply (AWS), Industrial water supply (IWS), Primary contact recreation (PCR), Not assessed (N/A), Superior high quality water (SHQW), Outstanding state water based on ecological values (OSW-E)

^g Waterbodies are found in the Barnesville neopole. They have not been field surveyed.

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

2. Provide National Park Service and other pertinent agencies comments on the HDD crossing plans filed in July for the Little Miami River and the Big Darby Creek.

Rockies Express' Response:

The National Park Service has not formally responded to the horizontal directional drill (HDD) crossing plans filed in July for the Little Miami River and the Big Darby Creek. Rockies Express representatives met with Sue Jennings of the National Park Service (NPS) on July 10, 2007 to discuss the crossing plan and geotechnical investigation findings. Ms. Jennings's initial review of the geotechnical investigation reports was positive in that the summary indicated feasibility of directional drills of both waterbodies. Ms. Jennings re-emphasized during the meeting that the preference of the NPS is that HDD technology be utilized for these crossings.

A contingency-only open-cut crossing of these waterbodies was also generally discussed at the meeting and subsequent discussions (as recently as September 10, 2007). Ms. Jennings has made clear that in order to consider approval for an open-cut crossing, the NPS would have to conduct an environmental review under the Wild and Scenic River Act with particular regard to each Outstanding Resource Value. Ms. Jennings indicated a willingness to work with Rockies Express should more detailed contingency-only open-cut crossing plan be necessary to ensure that each Outstanding Resource Value for the crossings was identified and appropriately addressed for review.

Rockies Express representatives have emphasized to Ms. Jennings that the company is proposing only a HDD crossing of these waterbodies. As discussed, should a first attempt at a HDD crossing prove unsuccessful, repeated attempts would be made with different trajectory or configurations in accordance with Rockies Express's HDD contingency plan. However, since the geotechnical investigation reports indicate that the underlying geology of the crossings should allow a favorable HDD crossing, Rockies Express is confident that a HDD will be successful and that detailed contingency-only open-cut crossing plans are unnecessary at this time. Rockies Express will continue its consultation with the NPS and any other pertinent agencies should revisions occur to the previously provided HDD plans for these waterbodies.

Submitted by:

Ryan H. Childs - Cimarron Environmental Consulting, Inc.
Project Environmental Manager (contractor)
Rockies Express Pipeline-East Project

September 17, 2007

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

- 3. Provide a draft Wetland Mitigation Plan developed in consultation with the US Army Corps of Engineers (COE), US Fish and Wildlife Service (FWS) and other pertinent agencies for the Illinois, Missouri, and Ohio portion of the project.**

Rockies Express' Response:

Missouri and Illinois

A draft Restoration and Mitigation Plan prepared for the St. Louis District was submitted to the U. S. Fish and Wildlife Service's (FWS) Missouri and Marion, Illinois field offices, the U.S. Army Corps of Engineers (COE), the Missouri Department of Conservation (MDC), the Missouri Department of Natural Resources (MODNR), and the Illinois Environmental Protection Agency on July 17, 2007. Rockies Express has received comments on the draft plan from the Missouri and Marion FWS field offices, the MDC, and the MODNR. Below are the comments received and how they have been addressed by Rockies Express.

Rockies Express Pipeline-East Project	
Comments Received On Draft Wetland Mitigation Plan	
Agency/Comment	Rockies Express' Response
U.S. FISH AND WILDLIFE SERVICE (FWS) MARION ILLINOIS FIELD OFFICE	
Recommended that hard-mast species make up at least 50 percent of the tree species planted for stream crossings, emergent, scrub-shrub and forested wetlands.	Incorporated the recommendation into the Restoration and Mitigation Plan.
Recommended that specific species be added to the species lists for stream crossings, emergent, scrub-shrub and forested wetlands.	Incorporated species listed by the FWS into the Restoration and Mitigation Plan with the exception of Osage orange due to concerns that it may be considered invasive within the project area.
Recommended the monitoring of restoration sites for 5 years with an 80 percent survival rate of planted trees.	Incorporated the recommendation into the Restoration and Mitigation Plan.
Recommended obtaining credits from wetland mitigation banks in Illinois.	Incorporated the recommendation into the Restoration and Mitigation Plan.
Recommended preparing a single mitigation plan for Illinois.	Revised the Restoration and Mitigation Plan to apply to the entire project within Missouri and Illinois.
FWS MISSOURI FIELD OFFICE	
Recommended compensatory mitigation to offset the temporary loss of wooded riparian forest, emergent, scrub-shrub wetlands and forested wetlands.	The Restoration and Mitigation Plan includes mitigation measures to replant and restore the areas temporarily affected by construction with native herbaceous, shrub, and tree species. Because areas will be restored/replanted following construction, Rockies Express is not proposing compensatory mitigation for these areas.
Requested a copy of the final mussel survey at Blackburn Island, and a mussel relocation protocol that addresses federally listed species if found during the relocation and future monitoring activities.	A final copy of the mussel survey was provided to the FWS on August 17, 2007. Rockies Express will develop a mussel relocation plan in coordination with the FWS and Missouri Department of Conservation.
Recommended incorporating best management practices/restoration efforts during dredging.	Rockies Express will implement best management practices during dredging operations. For example, Rockies Express will utilize a clamshell bucket during dredging operations to minimize sediment loss and turbidity in the area of dredging operations and will implement measures to prevent the introduction of invasive species (see responses below).
Recommended that an alternative be presented that allows for the return of the dredge material to the removal area at completion of the project.	Rockies Express will continue to consult with the COE, MODNR and the other reviewing agencies on an acceptable disposal location for the dredge material.

September 17, 2007

**Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007**

Rockies Express Pipeline-East Project	
Comments Received On Draft Wetland Mitigation Plan	
Agency/Comment	Rockies Express' Response
MISSOURI DEPARTMENT OF CONSERVATION	
Recommended that care be exercised when backfilling at stream crossings to ensure minimal settling of the substrate. Recommended that toe protection and grade control be considered at some crossings.	Rockies Express will implement its REX-East Wetland and Waterbody Construction and Mitigation Procedures that includes measures to restore original contours.
Recommended that impacts in the Salt River/Mississippi River Conservation Opportunity Area (COA) be mitigated within the COA if at all possible. Credits purchased from a mitigation bank with similar exposure to the river may be an appropriate contingency for REX-East to explore.	Rockies Express is proposing to purchase mitigation credits in mitigation banks with exposure to the river.
Requested a copy of the final mussel survey at Blackburn Island.	A final copy of the mussel survey was provided to the MDC on August 17, 2007.
Recommended the implementation of certain methods to prevent the spread of zebra mussels.	Revised the Restoration and Mitigation Plan to state that mussel relocation will occur in accordance with MDC recommendations.
Recommended compensatory mitigation to offset the temporary loss of forested wetlands	The Restoration and Mitigation Plan includes mitigation measures to replant and restore the areas temporarily affected by construction with native herbaceous, shrub, and tree species. Because areas will be restored/replanted following construction, Rockies Express is not proposing compensatory mitigation for these areas.
Recommended specific treatments to prevent the introduction and spread of invasive species.	In a letter to the MDC dated May 17, 2007, Rockies Express agreed to implement best-management practices recommended by the MDC (e.g., ensuring that water is drained from equipment following use, equipment is washed and dried following use, and plant materials are disposed of in accordance with agency recommendations). A copy of this letter is attached to this response.
Recommended the use of a Missouri seed source when procuring seeds proposed for Missouri.	Rockies Express will use a Missouri seed source if one is readily available.
MISSOURI DEPARTMENT OF NATURAL RESOURCES	
Recommended that the heading Beneficial Reuse in reference to the disposal of dredge material be changed to Reuse.	Incorporated the recommendation into the Restoration and Mitigation Plan.

The revised copy of the draft Restoration and Mitigation Plan will be sent to the agencies for concurrence. Any follow up comments will be provided to the Federal Energy Regulatory Commission (FERC) upon receipt. The revised Restoration and Mitigation Plan for Missouri and Illinois and the agency correspondence are attached to this response.

Indiana

Rockies Express prepared a Conceptual Mitigation Plan for Indiana that was provided to the Indiana Department of Environmental Management and COE, Louisville District on June 15, 2007 (a copy of the mitigation plan is provided under response to Resource Report 2, Environmental Information Request No. 5). Rockies Express has not received any comments to date. Rockies Express will provide a copy of the plan to the Bloomington, Indiana FWS for review and comment and file any comments with the FERC upon receipt.

Ohio

Rockies Express prepared a Conceptual Mitigation Plan for Ohio that was submitted to the Ohio Environmental Protection Agency and the COE Huntington District on September 5, 2007. To date, Rockies Express has not received any comments on the Ohio Conceptual Mitigation Plan.

September 17, 2007

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

A copy of the Conceptual Mitigation Plan for Ohio is attached to this response. Rockies Express will provide a copy of the plan to the Reynoldsburg, Ohio FWS for review and comment and file any comments with the FERC upon receipt.

Submitted by:
Ryan H. Childs - Cimarron Environmental Consulting, Inc.
Project Environmental Manager (contractor)
Rockies Express Pipeline-East Project

September 17, 2007

Bart Jensen

From: Joyce_Collins@fws.gov
Sent: Monday, August 20, 2007 11:35 AM
To: Bart Jensen
Cc: Bart Jensen; Charles Bertram; dan.heacock@epa.state.il.us; Doyle Brown; heidi_kuska@fws.gov; Jeff_Gosse@fws.gov; Jim Thompson; Robert MVS Gramke; Robert Stout
Subject: Re: Rockies Express Pipeline - Wetland and Waterbody Restoration/Mitigation Plan
Attachments: pic26238.gif; Draft_Restoration_and_Mitigation_Plan-St_Louis_District 7-17-07.pdf



pic26238.gif (3 KB) Draft_Restoration_
and_Mitigati...

Bart,

I've reviewed the wetland and waterbody restoration and mitigation plan for the St. Louis District provided on 7/17/07 and offer the following comments for consideration:

- 1) Section 2.1.2, Vegetation Restoration at Stream Crossings with Wooded Riparian Fringe - It would be more beneficial to wildlife to plant a greater diversity of tree species in the restoration areas, particularly to include a hard-mast component. Based on the tree species identified, adding northern hackberry, black walnut, shingle oak and black cherry would be appropriate.
- 2) Section 2.1.3, Vegetation Restoration at Stream Crossings with Wooded Riparian Forest - While hard mast is included in this list, I recommend it be expanded to include northern hackberry, osage orange, shingle oak and honey locust to add greater diversity. Typically we recommend that hard-mast species make up at least 50% of the tree species planted as the soft-mast species will easily regenerate.
- 3) Section 2.2.1, Emergent and Scrub-Shrub Wetlands - I recommend adding buttonbush and red-osier dogwood to the planted species to increase the diversity in the scrub-shrub wetlands.
- 4) Section 2.2.2, Forested Wetlands - The hard mast component in the forested wetland restoration sites should be at least 50% of the planted species. The species diversity should be increased by including northern hackberry and honey locust. Although not found in existing sites, shagbark/shellbark hickory and swamp white oak would also be good additions.
- 5) Section 3.0, Monitoring - Typically we recommend monitoring of restoration sites for 5 years with an 80% survival rate of planted trees.
- 6) Section 6.0, Mitigation Banking - I believe all of the Mitigation Banks listed in Table 4-1 are located in Missouri. We would be looking to have wetlands impacted in IL replaced in IL.

Do you anticipate a similar plan for the Rock Island and Louisville Districts in IL? We would be looking for the same kinds of things in terms of species diversity and monitoring. For my part, I should think you could have one plan for the entire state (if not for the entire project)?

Finally, I looked over the Wetland and Waterbody Survey Report and did not have any questions or concerns.
Thanks for the opportunity to provide early input. Let me know if you have

any questions.
Thanks,
Joyce

Joyce A. Collins
Assistant Field Supervisor
U.S. Fish and Wildlife Service
Marion Illinois Sub-Office
8588 Route 148
Marion, Illinois 62959
phone: 618/997-3344, ext. 340
fax: 618/997-8961
email: joyce_collins@fws.gov

"Bart Jensen"
<BMJENSEN@rginc.com>

07/17/2007 11:35
AM

To

"Robert MVS Gramke"
<Robert.Gramke@mvs02.usace.army.mil>
, "Robert Stout"
<robert.stout@dnr.mo.gov>, "Doyle
Brown" <Doyle.Brown@mdc.mo.gov>,
<Jeff_Gosse@fws.gov>,
<heidi_kuska@fws.gov>,
<Joyce_Collins@fws.gov>,
<dan.heacock@epa.state.il.us>

cc

"Jim Thompson"
<jimt@caprockenvironmental.com>,
"Charles Bertram"
<cmbertram@yahoo.com>, "Bart Jensen"
<BMJENSEN@rginc.com>

Subject

Rockies Express Pipeline - Wetland
and Waterbody Restoration/Mitigation
Plan

All:

Attached is a copy of the Restoration and Mitigation Plan that Rockies Express has prepared for wetland and waterbody crossings located within the St. Louis Corps District in Missouri and Illinois. Please review and let me know if you have any comments. Rockies Express is planning on filing its 404/401 application in the August 2007 timeframe and they would like to incorporate your comments into the application materials.

During past multi-agency meetings, we discussed the possibility of Rockies Express assisting with restoration projects within or near Ted Shanks Conservation Area (dredging, invasive species removal, beneficial reuse of dredge material). If there are projects that you are aware of that Rockies Express could offer some assistance, please let me know. Rockies Express would be interested in evaluating other opportunities that may exist in the project area.

If you have any questions or need additional information, do not hesitate to

contact me. We look forward to receiving comments and finalizing wetland and waterbody restoration measures for the project.

Thanks,

-Bart

(Embedded image moved to Bart Jensen
file: pic26238.gif)NRG bmjensen@nrginc.com
Logo 612.359.5686 Direct
612.812.8558 Cell
612.347.6780 Fax

(See attached file:
Draft Restoration_and_Mitigation_Plan-St_Louis_District 7-17-07.pdf)

Bart Jensen

From: Heidi_Kuska@fws.gov
Sent: Thursday, August 16, 2007 9:46 AM
To: Bart Jensen
Cc: charlie_scott@fws.gov
Subject: RE: Rockies Express Pipeline - Wetland and Waterbody Restoration/Mitigation Plan

Bart,

We appreciate the opportunity to provide these preliminary comments on the Wetland and Waterbody Restoration/Mitigation Plan. We will also provide more detailed comments under the Corps 404/401 permit.

1)The Service is concerned with the permanent and temporary loss of:

a) Wooded riparian forest at stream crossings and emergent and scrub-shrub wetlands. The plan contains no proposal for temporary impacts and we feel that compensation will be necessary to offset these losses.

b) Forested wetlands throughout the project area. The proposed 3:1 habitat impact ratio is acceptable for forested wetland mitigation, however, this does not account for the temporal loss of forested wetland acres that will be temporarily lost during the regrowth period after revegetation. We recommend additional compensation for acreage that will be temporarily lost.

2)The Service would like to request a final report of the mussel survey at Blackburn Island when it is complete. We concur with the MDC recommendations for relocation of mussels occupying the area. We would also like to request a mussel relocation protocol, as well as what will be done if a federally listed species is found during the relocation and future monitoring of the success of the relocation.

3) We recommend providing best management practices/restoration efforts that will be done during dredging.

4) We recommend that an alternative be presented that allows for the return of the dredge material to the removal area at completion of the project.

Thank you,
Heidi

Heidi Kuska
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Missouri Ecological Services Field Office
101 Park DeVille Drive, Suite A
Columbia MO 65203-0057
Ph: 573-234-2132
Fax: 573-234-2181
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"Bart Jensen" <BMJENSEN@nrginc.com>

To

9/14/2007

08/06/2007 09:11 PM

<Heidi_Kuska@fws.gov>

cc: "Bart Jensen" <BMJENSEN@nrginc.com>

Subject RE: Rockies Express Pipeline - Wetland and Waterbody Restoration/Mitigation Plan

Heidi:

We would welcome your comments at your earliest convenience. Rockies Express will be providing supplemental filings to the FERC in the upcoming weeks and we would like to include any comments you may have on the restoration/mitigation plan. If you can provide comments by the middle to end of August, we can include them in the supplemental filings to FERC.

Based on conversations with Jim Thompson, it is my understanding that you are interested in an updated map set of the pipeline route. I have asked for an updated Missouri set and should receive that tomorrow. We will forward a copy on to you.

If you have any questions, please feel free to give me a call at (612) 359-5686 office or (612) 812-8558 cell.

Thanks.

-Bart

From: Heidi_Kuska@fws.gov [mailto:Heidi_Kuska@fws.gov]
Sent: Monday, August 06, 2007 10:26 AM
To: Bart Jensen
Subject: Re: Rockies Express Pipeline - Wetland and Waterbody Restoration/Mitigation Plan

Hello Bart,

By what date would you like to receive comments?

Thanks, Heidi

Heidi Kuska
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Missouri Ecological Services Field Office
101 Park DeVillie Drive, Suite A
Columbia MO 65203-0057
Ph: 573-234-2132
Fax: 573-234-2181
Email: heidi_kuska@fws.gov

"Bart Jensen"
<BMJENSEN@nrginc.com>

To: "Robert MVS Gramke" <Robert.Gramke@mvs02.usace.army.mil>; "Robert Stout"

9/14/2007

07/17/2007 11:35 AM

<robert.stout@dnr.mo.gov>, "Doyle Brown" <Doyle.Brown@mdc.mo.gov>, <Jeff_Gosse@fws.gov>, <heidi_kuska@fws.gov>, <Joyce_Collins@fws.gov>, <dan.heacock@epa.state.il.us>
cc "Jim Thompson" <jiml@caprockenvironmental.com>, "Charles Bertram" <cbertram@yahoo.com>, "Bart Jensen" <BMJENSEN@nrginc.com>

Subject: Rockies Express Pipeline - Wetland and Waterbody Restoration/Mitigation Plan

All:

Attached is a copy of the Restoration and Mitigation Plan that Rockies Express has prepared for wetland and waterbody crossings located within the St. Louis Corps District in Missouri and Illinois. Please review and let me know if you have any comments. Rockies Express is planning on filing its 404/401 application in the August 2007 timeframe and they would like to incorporate your comments into the application materials.

During past multi-agency meetings, we discussed the possibility of Rockies Express assisting with restoration projects within or near Ted Shanks Conservation Area (dredging, invasive species removal, beneficial reuse of dredge material). If there are projects that you are aware of that Rockies Express could offer some assistance, please let me know. Rockies Express would be interested in evaluating other opportunities that may exist in the project area.

If you have any questions or need additional information, do not hesitate to contact me. We look forward to receiving comments and finalizing wetland and waterbody restoration measures for the project.

Thanks,

-Bart



Bart Jensen
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612.359.5686 Direct
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612.347.6780 Fax

9/14/2007

Missouri Department of Conservation

2901 West Truman Boulevard, P.O. Box 180

Jefferson City, MO 65102-0180

Telephone: 573/571-4115

John D. Hoskins, Director

July 23, 2007

Bart Jensen
Natural Resource Group, Inc.
1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402

Dear Mr. Jensen:

Missouri Department of Conservation (MDC) appreciates the opportunity to comment on the potential impacts (both permanent and temporary) to streams and wetlands along the REX-East pipeline route. MDC is not a regulatory agency; however it has state constitutional authority for the protection, conservation, and the sustainable management of fish, forest, and wildlife resources. MDC comments and recommendations are intended to assist the applicant in considering additional avoidance and minimization measures. Some of the issues raised in this document are also adequately reflected in the REX-East Restoration and Mitigation Plan, MDC wants to place an emphasis on certain aspects of their implementation.

Typical Stream Crossings

The only major comment MDC wants to raise is about streams with an alluvial substrate. Unintended changes to the existing stream gradient during re-construction may leave these streams vulnerable to head-cutting. Exercise care in backfilling to ensure minimal settling of the substrate. MDC would recommend at some crossings, toe protection and grade control should be considered. *Aquatic organism passage, including low flow conditions is an important factor on all streams.*

Salt and Mississippi River Crossing (including dredging)

MDC considers this an important conservation opportunity area (COA) for both terrestrial and aquatic organisms. REX-East is familiar with MDC's views for this COA and the amount of planning effort going on in this area and has outlined minimization techniques that MDC supports.

Impacts in this geography should be mitigated within the COA if at all possible. MDC will explore mitigation options on the public lands; however barriers for compensatory mitigation do exist on these lands. Credits purchased from a mitigation bank with similar exposure to the river may be an appropriate contingency for REX-East to explore.

REX-East Wetland and Stream Crossing

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The location and beneficial re-use of the dredged material suggested by REX-East is supported by MDC. Relocation of all mussel species found in the dredge site is also supported by MDC. MDC would appreciate obtaining a copy of the mussel survey when it is finalized. Zebra mussel, an aquatic nuisance species, is a growing concern on the Mississippi River and MDC would ask REX-East to adopt the following considerations.

CONSIDERATIONS TO PREVENT THE SPREAD OF ZEBRA MUSSELS

Description Zebra mussels have infested several bodies of water in the United States and can be transported by vessels (barges, boats, tugs, etc.) and equipment that is used in zebra mussel areas. If equipment is not properly inspected and treated to prevent the spread of zebra mussels, this invasive aquatic species can be introduced into areas not currently known to harbor a population. To assist in the prevention of introduction and spread of this aquatic nuisance species in Missouri streams and lakes, the following precautions shall be followed.

Construction Requirements Prior to transporting temporary barges, tugs, boats, or other equipment used for work in MO streams or lakes, the contractor shall wash and rinse all equipment thoroughly with hard spray (power wash) or HOT (104 degrees Fahrenheit) water, e.g. at a truck wash facility.

When possible, the contractor shall dry equipment thoroughly, 5-7 days, in the hot sun before using in or transporting between MO streams and lakes.

If complete drying is not possible, the contractor shall treat all bilge water, and reservoirs holding water with a 10% bleach solution to kill any aquatic nuisance species. This solution shall be disposed of at a properly regulated facility.

Vessels and equipment shall be inspected upon removal from any body of water, cleaning hulls, anchors, moorings, trailers, etc. of all mud, vegetation, and any noticeable attached zebra mussels. This practice will assist in preventing the spread of invasive aquatic species between bodies of water. If zebra mussels are found upon inspection, please contact the Missouri Department of Conservation Invasive Species Coordinator (573-522-4115).

Wetland Impacts

MDC supports the approach taken with many of the emergent and forested wetlands. Forested wetlands, historically a dominate wetland type in Missouri, is rapidly disappearing due to land use changes and any compensatory mitigation ratio needs to reflect the temporal lag and perhaps even the spatial lag component. Invasive and exotic species are quickly becoming a challenge in many areas of the state and MDC suggests the following simple steps to help address the issue all along the entire pipeline route.

REX-East Wetland and Stream Crossing
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Simple steps to prevent introduction and spread of Invasive Species (including species on Missouri's Noxious Plant List)

- Inspect equipment thoroughly, and remove any mud, soil, trash, plants or animals before leaving any water body or work area.
- Wash and rinse ALL equipment thoroughly with hard spray or HOT water, like that found at a do-it-yourself carwash.
- When possible, dry equipment thoroughly in the hot sun before using them again.
- Inspect and remove seed, mowing debris and soil from tires and tracks, and from the decks of mowers, trailers and other equipment.
- Properly dispose of all plant materials to prevent re-growth or introduction to new areas.

Missouri Native Plants and Seed Source

MDC supports the use of NRCS native grass mixes as proposed by REX-East. MDC has a preference for seed mixes considered important for wildlife and has provided comments in previous correspondence. For optimum success of the re-vegetation plan, make every effort to obtain Missouri native seeds or plants. MDC does maintain a list of retail nurseries and business and will provide a copy, if REX-East is unable to find local providers.

In closing, MDC appreciates the opportunity to provide these initial comments. If there are any questions or need to clarify, please do not hesitate to call.

Sincerely,

DOYLE F. BROWN
POLICY COORDINATOR

Cc: Rob Gramke, U.S. Army Corps of Engineers
Charlie Scott, U.S. Fish and Wildlife Service

1000 IDS Center
80 South Eighth Street
Minneapolis, MN 55402



telephone (612) 347-6789
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May 11, 2007

Mr. Doyle Brown, Policy Coordinator
Missouri Department of Conservation
P.O. Box 180
2901 West Truman Blvd.
Jefferson City, MO 65109

Re: Rockies Express Pipeline - East Project
Sensitive Species and Conservation Opportunity Areas Consultation Follow Up

Dear Mr. Brown:

Thank you for your letter dated March 19, 2007 in which you offer recommendations appropriate for the minimization of impacts from the above-referenced project on Conservation Opportunity Areas (COAs); and best management practices for associated fisheries. This letter summarizes Rockies Express' proposed construction and restoration methods through the COAs potentially affected by the project, specifically the Grassy Creek Aquatic Conservation Opportunity Area and the Upper Mississippi Terrestrial Conservation Opportunity Area.

Grassy Creek Aquatic Conservation Opportunity Area (Grassy Creek COA) will be crossed by the project in Pike County, between mileposts (MPs) 33.5 and 42.6. The majority of the Grassy Creek COA is actively cultivated. Rockies Express will implement the measures contained in its Rockies Express Pipeline - East Project Upland Construction Plan and Agriculture Impact Mitigation Plan to minimize impacts on agricultural lands. Grassy Creek will be crossed twice at MPs 34.0 and 40.9. As currently proposed, both crossings of Grassy Creek will be crossed by open-cut, dam and pump, or flume techniques as described in the Rockies Express Pipeline - East Project Wetland and Waterbody Construction and Mitigation Procedures (REX-East Procedures). The corridor of in-stream disturbance will be narrow and increases in suspended sediments will be short in duration, which will not result in population level impacts on fish species. The Upper Mississippi Terrestrial Conservation Opportunity Area (Upper Mississippi COA) will be crossed by the project in Pike County, between MPs 42.6 and 42.9. Rockies Express intends to install the pipeline beneath the Salt River and the Mississippi River using the horizontal directional drill (HDD) construction technique, which will require partial clearing of Blackburn Island for placement of drilling equipment. Following construction, the workspace on Blackburn Island will be revegetated. Rockies Express will continue to coordinate with you as it develops a restoration plan that contains suitable herbaceous and/or woody species.

Equipment and materials will be transported to Blackburn Island from the Mississippi River and will be unloaded and loaded on the east side of Blackburn Island. Equipment will be cleaned of mud, trash, and plant material prior to arriving on the island. The landing area is shallow and will require dredging of an area approximately 200 feet along the shore by 100 feet into the river to a depth of 10 feet, excavating about 4,500 cubic

Mr. Doyle Brown
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yards of sediment. Excavated material will be transported approximately three miles downstream to the Wayne B. Smith, Inc. quarry where it will be reused as a beneficial fill (please see attached map). All dredging activities will be performed within Missouri waters and in accordance with applicable permits and authorizations.

To address concerns related to construction practices in wetlands and waterbodies throughout the project area, Rockies Express will implement the measures contained in the REX-East Procedures. The REX-EAST Procedures contain mitigation measures for minimizing the extent and duration of project-related disturbance on wetlands and waterbodies. In accordance with the REX-East Procedures and associated project documents, the concerns identified in your letter will be addressed as follows:

Timing Restrictions

Unless expressly permitted or further restricted by the appropriate state agency in writing on a site-specific basis, Rockies Express will conduct instream work in warmwater fisheries (of which all of Missouri's waterbodies are classified) from June 1 through November 30. By delaying waterbody crossings until early to mid-summer, Rockies Express will minimize impacts on spawning and young-of-the-year fish to the maximum extent possible.

Reducing Width of Construction Right-of-Way

Rockies Express will require a 125-foot-wide construction corridor across each waterbody along the pipeline route using one of four methods: conventional open cut, dry flume, dam and pump, or horizontal directional drill (HDD). For certain environmentally sensitive minor or intermediate waterbodies, dry-ditch methods (i.e., dry flume or dam and pump) may be feasible, and would allow aquatic organisms passage during instream activities. Rockies Express anticipates that the open-cut method will be used for all ephemeral and intermittent waterbodies and the majority of perennial waterbodies, unless precluded by engineering considerations or environmental sensitivities and associated regulatory requirements.

Rockies Express has attempted to route the pipeline to avoid wetland areas to the maximum extent possible. Where wetlands can not be avoided, Rockies Express will limit the width of the construction right-of-way to 100 feet or less, except where topographic conditions or soil limitations require that the construction right-of-way width within the boundaries of a wetland be expanded beyond 100 feet.

Riparian Clearing

To limit the extent of clearing in riparian areas, Rockies Express will locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetlands and waterbodies, except where the adjacent upland consists of actively cultivated cropland, disturbed land, or where engineering constraints require a location closer than 50 feet. Rockies Express will limit clearing of vegetation between extra work areas and the edge of the waterbody to the certificated construction right-of-way, and will limit the size of extra work areas to the minimum needed to construct the waterbody crossing. Where banks are wooded, trees will be preserved wherever possible. After construction, the disturbed area will be reseeded and vegetation maintenance adjacent to waterbodies will be restricted within 25 feet of the waterbody, as measured from the

Mr. Doyle Brown
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waterbody's mean high water mark. However, to facilitate periodic pipeline corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be maintained in a herbaceous state. In addition, trees that are located within 15 feet of the pipeline that are greater than 15 feet in height may be cut and removed from the permanent right-of-way.

Revegetation

In wetlands, Rockies Express will cut vegetation just above ground level, leaving existing root systems in place, and will remove cuttings from the wetland for disposal. Rockies Express will revegetate disturbed riparian areas with conservation grasses and legumes or native plant species.

Invasive Species Control

To facilitate the control of invasive and exotic species within the project area, Rockies Express has created the Rockies Express Pipeline – East Project Weed Management Plan (Weed Plan; see attached). The purpose of the Weed Plan is to prescribe methods to prevent and control the spread of noxious weeds during and following construction of the project. Rockies Express and its contractors will be responsible for carrying out the methods described in this plan, including the following measures:

- All contractor vehicles and equipment will arrive at the work site clean and weed-free. Prior to being allowed access to the right-of-way or ancillary facilities, an inspector will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes.
- The contractor will implement the reclamation of disturbed lands following construction. Continuing revegetation efforts will ensure adequate vegetative cover to prevent the invasion of noxious weeds.
- The contractor will ensure that straw and hay bales used on the project for sediment barrier installations or mulch are certified weed-free.
- Equipment will not be sprayed with pre-emergent chemicals as a preventative measure as these chemicals target a wide range of vegetation. As a result, the use of such chemicals could affect the success of revegetation efforts.

In addition to these measures, Rockies Express will make every effort to drain water from equipment at the point of origin to prevent the transfer of invasive species. Whenever possible, washed equipment will be allowed to dry in the hot sun before subsequent use, per your recommendation. Plant materials will be disposed of in accordance with agency recommendations to prevent regrowth or introduction to new areas.

Mr. Doyle Brown
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To identify noxious weeds that potentially occur within the proposed project area and known locations of noxious weed infestations crossed by the proposed project, Rockies Express consulted with the Missouri Natural Resources Conservation Service (Missouri NRCS). The Missouri NRCS has provided a list of statewide noxious weed species, to assist with project planning. Early identification of existing infestations is intended to help minimize the spread of noxious weeds by identifying sites where preventative measures could be implemented. To date, wetland delineations have not discovered the presence of purple loosestrife or phragmites within the project area.

In addition to COA concerns, we are awaiting your response to a letter sent from this office on January 15, 2007, describing our evaluation criteria for sensitive species and habitats potentially affected within the project area. In this letter, attached for your reference, we indicated that the greater prairie chicken has been historically present within the project area and sought your input regarding known lek sites. This input would be valuable to us as the project moves forward in the planning process. If it is determined that active lek sites or populations are present within the project area, Rockies Express will seek further consultation with your office regarding appropriate conservation measures and the possible need for presence/absence surveys. Your prompt response would allow us to incorporate a prescribed course of action into project planning.

If you have any questions or require additional materials for your review, please contact me at 612-359-5678 or by e-mail at jrthommes@nrginc.com.

Thank you for your continued involvement in this project.

Sincerely,

Natural Resource Group, Inc.

A handwritten signature in cursive script, appearing to read "Jeff Thommes".

Jeff Thommes
Natural Resource Specialist

Enclosure: January 15, 2007, Threatened and Endangered Species Consultation
Letter
Location Map of Wayne B. Smith, Inc. Quarry
Rockies Express Pipeline - East Project Weed Management Plan

cc (without enclosures): Jim Thompson, Contractor for Rockies Express Pipeline
Charlie Bertram, Contractor for Rockies Express Pipeline
Bart Jensen, Natural Resource Group, Inc.

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Matt Blunt, Governor • Doyle Childers, Director

www.dnr.mo.gov

August 8, 2007

Mr. Bart Jensen
Natural Resource Group, Inc.
1000 IDS Center
80 South 8th Street
Minneapolis, MN 55402

Re: Restoration and Mitigation Plan for Rockies Express Pipeline

Dear Mr. Jensen:

The Missouri Department of Natural Resources (department) has reviewed the Restoration and Mitigation Plan developed for Rockies Express Pipeline -East Project (Rex-East). This plan addresses the site-specific conditions found at wetland and stream bank crossings along the proposed pipeline right-of-way. The plan appears to effectively address the procedures for re-seeding, planting and monitoring reclamation success.

The department concurs with the plan to use approved mitigation banks to consolidate off-site compensation for various authorized impacts to aquatic environment in advance of the impacts resulting from the authorized project.

REX-East plans to dispose of up to 4,500 cubic yards of dredge material excavated east of Blackburn Island at the Wayne B. Smith, Inc. Quarry located in Pike County, Missouri in accordance with the REX-East Project Dredge Plan. The department's records indicate that the Wayne B. Smith Quarry has been re-permitted as the S-S-S Quarry. The S-S-S Quarry has a reclamation plan that will need to be followed. This reclamation plan would not preclude filling the quarry with dredged materials, but the quarry operator would need to consider the requirements for stability, vegetation, terrain, etc that must be met for the bond release at the end of the reclamation process. The quarry operator should be made fully aware of these requirements to ensure that all final reclamation plan standards are met.

The department suggests that the reference to "beneficial reuse" of dredge material be changed simply to "reuse." Beneficial reuse is a term related to the use of regulated solid waste, and should not be applied to this dredged material.

Rex-East has indicated that applications for 404 Permits from the St. Louis District of the U.S. Army Corps of Engineers and 401 Water Quality Certifications from the department will be initiated this month.

ROCKIES EXPRESS PIPELINE-EAST PROJECT

**Restoration and Mitigation Plan for the
U.S. Army Corps of Engineers
Rock Island, St. Louis, and Louisville Districts
Missouri and Illinois**

Prepared by

September 2007

Rockies Express Pipeline – East Project
Restoration and Mitigation Plan, U.S. Army Corps of Engineers

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Rockies Express Pipeline – East Project
Restoration and Mitigation Plan, U.S. Army Corps of Engineers

1.0 INTRODUCTION

This *Restoration and Mitigation Plan* has been developed for Rockies Express Pipeline – East Project (REX-East) for the site-specific conditions found at wetland and stream bank crossings along the proposed pipeline right-of-way in Missouri and Illinois. The purpose of this plan is to describe and prescribe methods for re-seeding, planting, and monitoring reclamation success.

2.0 REVEGETATION AND RESTORATION

Rockies Express will revegetate impacted riparian vegetation and forested wetlands with native species similar to the composition removed. As recommended by the Missouri Department of Conservation, Rockies Express will attempt to obtain seed from local sources where available. Table 2-1 lists the recommended seed mixture, seeding rates, and seeding dates provided by the Natural Resources Conservation Service (NRCS).

TABLE 2-1 Rockies Express Pipeline – East Project Wetland and Stream Crossing Seed Mixture			
Scientific Name	Common Name	Pure Live Seed Rate (lbs/acre)	Seeding Dates
<i>Panicum virgatum</i>	Switchgrass	5.6	11/16 – 06/30
<i>Agrostis alba</i>	Redtop	1.5	11/16 – 06/30
<i>Elymus virginicus</i>	Virginia wild rye	7.2	11/16 – 06/30
References: NRCS, 2007. Written correspondence from R. Hansen, State Conservationist, NRCS Missouri State Office, Columbia, Missouri to B. Jensen, NRG on June 23, 2007.			

2.1 Stream Bank Restoration

2.1.1 Vegetation Restoration at Open Stream Crossings

Stream banks with no or very few bankside trees will be seeded in accordance with the NRCS recommendations listed in Table 2-1. In addition, temporary cover grasses such as annual rye (*Lolium multiflorum*) and/or seed oats (*Avena sativa*) will be used during the first year for streambank stabilization.

2.1.2 Vegetation Restoration at Stream Crossings with Wooded Riparian Fringe

Stream banks will be seeded in accordance with the NRCS recommendations listed in Table 2-1. In addition, temporary cover grasses such as annual rye and/or seed oats will be used during the first year for streambank stabilization.

With the exception of the 50-foot-wide permanently maintained right-of-way, trees within the cleared wooded riparian fringe area (i.e., riparian corridors less than 200 feet wide) will be replanted following construction primarily by vegetative propagation (i.e., cuttings, stakes, and posts). The preparation of plant materials to be vegetatively propagated will be done in accordance with the Illinois Urban Manual Construction Specification 750 Use of Dormant Woody Plantings for Streambank Stabilization, section 2 (see Appendix A). The diameter and length of plant materials include:

Cuttings 0.5 inch to 1 inch in diameter and at least 12 inches but less than 18 inches in length;

**Rockies Express Pipeline – East Project
Restoration and Mitigation Plan, U.S. Army Corps of Engineer**

Stakes 1 to 3 inches in diameter and 30 inches to 6 feet in length; and

Posts greater than 3 inches in diameter and up to 7 feet in length.

Cuttings, stakes, and posts will be planted at a average spacing of 5 feet on center with some variation to allow for the appearance of a more random/natural spacing. Black willow cuttings will planted between rows of cuttings, stakes, and/or posts as necessary to facilitate slope stablization. Species not conducive to vegetative propagation will be planted as bare-root seedlings at a spacing of 10 feet on center.

Table 2.1.2-1 lists the most frequent (in descending order of prominence) riparian fringe tree species along the proposed pipeline route based on field surveys.

TABLE 2.1.2-1 Rockies Express Pipeline – East Project Existing Tree Species at Riparian Corridors Less Than 200 feet Wide			
Order of Prominence ^a	Scientific Name	Common Name	Indicator
1	<i>Celtis occidentalis</i>	Northern hackberry	FAC-
1	<i>Maclura pomifera</i>	Osage orange	FACU
3	<i>Acer saccharinum</i>	Silver maple	FACW
4	<i>Prunus serotina</i>	Black cherry	FACU
5	<i>Gleditsia triacanthos</i>	Honey locust	FAC
6	<i>Salix nigra</i>	Black willow	FACW
6	<i>Acer negundo</i>	Box elder	FACW-
7	<i>Juglans nigra</i>	Black walnut	FACU
8	<i>Populus deltoides</i>	Eastern cottonwood	FAC+
9	<i>Platanus occidentalis</i>	Eastern sycamore	FACW
9	<i>Quercus imbricata</i>	Shingle oak	FAC-

^a - Representation of species occurrence at stream crossings and not the number of occurrences per stream crossing.

Based on availability and regeneration potential, REX East's predominant planting regime will promote bank stabilization, will reestablish riparian fringes, and will include black willow, black walnut, black cherry, eastern cottonwood, eastern sycamore, northern hackberry, shingle oak, and silver maple. Black willow, eastern cottonwood, eastern sycamore can be planted as woody cuttings, stakes, or posts. Black walnut, black cherry, northern hackberry, shingle oak, and silver maple will be planted as bare-root seedlings. Hard-mast species will comprise approximately 50 percent of the species to be planted.

2.1.3 Vegetation Restoration at Stream Crossings with Wooded Riparian Forest

Bank slopes that are not located adjacent to wetlands and contain tree cover greater than 200-feet wide across both banks will be seeded in accordance with the NRCS recommendations listed in Table 2-1. In addition, temporary cover grasses such as annual rye and/or seed oats will be used during the first year for streambank stablization.

With the exception of the 50-foot-wide permanently maintained right-of-way, trees within the cleared wooded riparian forest area will be replanted following construction primarily by vegetative propagation (i.e., cuttings, stakes, and posts). The preparation of plant materials to be vegetatively propagated will be done in accordance with the Illinois Urban Manual Construction Specification 750 Use of Dormant Woody Plantings for Streambank Stabilization, section 2 (see Appendix A). The diameter and length of plant materials include:

Rockies Express Pipeline – East Project
Restoration and Mitigation Plan, U.S. Army Corps of Engineer

- Cuttings** 0.5 inch to 1 inch in diameter and at least 12 inches but less than 18 inches in length;
- Stakes** 1 to 3 inches in diameter and 30 inches to 6 feet in length; and
- Posts** greater than 3 inches in diameter and up to 7 feet in length.

Similar to the riparian fringe areas, cuttings, stakes, and posts will be planted in areas of riparian forest at a average spacing of 5 feet on center with some variation to allow for the appearance of a more random/natural spacing. Species not conducive to vegetative propagation will be planted as bare-root seedlings at a spacing of 10 feet on center.

Table 2.1.3-1 lists the most frequent (in descending order of prominence) riparian fringe tree species along the proposed pipeline route based on field surveys.

TABLE 2.1.3-1 Rockies Express Pipeline – East Project Existing Tree Species at Riparian Corridors Greater Than 200-feet Wide			
Order of Prominence ^a	Scientific Name	Common Name	Indicator
1	<i>Celtis occidentalis</i>	Northern hackberry	FAC-
2	<i>Platanus occidentalis</i>	Eastern sycamore	FACW
3	<i>Carya ovata</i>	Shagbark hickory	FACU
3	<i>Maclura pomifera</i>	Osage orange	FACU
5	<i>Quercus alba</i>	White oak	FACU
6	<i>Acer saccharinum</i>	Silver maple	FACW
7	<i>Ulmus americana</i>	American elm	FACW-
8	<i>Quercus imbricata</i>	Shingle Oak	FAC-
8	<i>Gleditsia triacanthos</i>	Honey locust	FAC
8	<i>Acer negundo</i>	Box elder	FACW-

^a - Representation of species occurrence at stream crossings and not the number of occurrences per stream crossing.

Based on availability and regeneration potential, REX East's predominant planting regime will promote bank stabilization, will reestablish riparian vegetation, and include eastern sycamore, honey locust, northern hackberry, shagbark hickory, shingle oak, silver maple, and white oak. Eastern sycamore can be planted as woody cuttings, stakes, or posts. Honey locust, northern hackberry, shagbark hickory, shagbark hickory, shingle oak, silver maple, and white oak will be planted as bare-root seedlings. Hard-mast species will comprise approximately 50 percent of the species to be planted.

2.2 Wetland Restoration

2.2.1 Emergent and Scrub-shrub Wetlands

Emergent and scrub-shrub wetlands affected by the project will be seeded in accordance with the NRCS recommendations listed in table 2-1. To promote species diversity buttonbush and red-osier dogwood will be planted in scrub-shrub wetlands using either cuttings planted at an average spacing of 5 feet on center or bare-root seedlings planted 10 feet on center.

**Rockies Express Pipeline – East Project
Restoration and Mitigation Plan, U.S. Army Corps of Engineer**

2.2.2 Forested Wetlands

Most of the forested wetlands along the pipeline route are associated with linear drainage features. Table 2.2.2-1 lists the most frequent (in descending order of prominence) wetland forest tree species along the proposed pipeline route based on field surveys.

TABLE 2.2.2-1 Rockies Express Pipeline – East Project Existing Tree Species within Forested Wetlands			
Order of Prominence ^a	Scientific Name	Common Name	Indicator
1	<i>Acer saccharinum</i>	Silver maple	FACW
2	<i>Fraxinus pennsylvanica</i>	Green ash	FACW
3	<i>Populus deltoides</i>	Eastern cottonwood	FAC+
4	<i>Acer negundo</i>	Box elder	FACW-
4	<i>Ulmus americana</i>	American elm	FACW-
4	<i>Celtis occidentalis</i>	Northern hackberry	FAC-
7	<i>Platanus occidentalis</i>	Eastern sycamore	FACW
7	<i>Gleditsia triacanthos</i>	Honey locust	FAC
7	<i>Machura pomifera</i>	Osage orange	FACU
10	<i>Quercus palustris</i>	Pin oak	FACW

^a - Representation of species occurrence at stream crossings and not the number of occurrences per stream crossing.

Forested wetlands will be seeded in accordance with the NRCS recommendations listed in table 2-1. In addition Rockies Express will replant tree species. Based on availability and regeneration potential, REX East's predominant planting regime to reestablish trees in forested wetlands will involve eastern cottonwood, eastern sycamore, honey locust, northern hackberry, pin oak, shagbark/shellbark hickory, silver maple, and swamp white oak. Eastern cottonwood and eastern sycamore can be planted as woody cuttings, stakes, or posts. Honey locust, northern hackberry, pin oak shagbark/shellbark hickory, silver maple and swamp white oak will be planted as bare-root seedlings. Hard-mast species will comprise approximately 50 percent of the species to be planted. Stakes, posts, cuttings, and bare-root seedlings will be planted in a similar manner to that described for riparian fringe and riparian woodland areas. In forested wetlands, trees will not be replanted within a 30-foot-wide corridor centered over the pipeline as described in the REX-East Wetland and Waterbody Construction and Mitigation Procedures (REX-East Procedures) (see Appendix B).

3.0 MONITORING

REX-East will monitor the restoration of wetland and stream bank crossings along the proposed pipeline right-of-way in accordance with the REX-East Procedures. The success of wetland revegetation in the areas affected by construction will be monitored and documented annually for the first 5 years after construction or until wetland revegetation is successful.

At the end of 5 years after construction, a report will be submitted to the COE documenting the status of the wetland revegetation efforts that includes the percent cover achieved and problem areas (weed invasion issues, poor revegetation, etc.). Reports will continue to be filed annually until wetland revegetation is deemed successful by the COE.

Wetland revegetation will be considered successful if the survival rate of the planted woody species is at least 80 percent. If revegetation is not successful at the end of 5 years, a remedial revegetation plan will be developed and implemented (in consultation with a

Rockies Express Pipeline – East Project
Restoration and Mitigation Plan, U.S. Army Corps of Engineer

professional wetland ecologist) to actively revegetate the wetlands. Revegetation efforts will continue until wetland revegetation is deemed successful by the COE.

4.0 MUSSEL RELOCATION

REX-East will relocate mussels located within 200-feet upstream or downstream of the proposed Blackburn Island dredge site in accordance with Missouri Department of Conservation recommendations. REX-East will relocate the mussels during the scheduled survey and select the most appropriate mussel relocation site based on the species identified.

5.0 RE-USE OF DREDGE MATERIAL

REX-East will dispose of the 4,500 cubic yards of dredge material excavated east of Blackburn Island at the Wayne B. Smith, Inc. Quarry located in Pike County, Missouri in accordance with the REX-East Project Dredge Plan.

6.0 MITIGATION BANKING

Based on the St. Louis District's *Mitigation and Monitoring Guidelines*, approved mitigation banks may be used to consolidate off-site compensation for various authorized impacts to aquatic environment in advance of the impacts resulting from the authorized project. Table 4-1 lists approved mitigation banks within the watersheds crossed by the pipeline route or those within the next closest proximity. REX-East will coordinate with two (one in Missouri and one in Illinois) of the approved banks listed in Table 4-1 to confirm mitigation banking credit availability based on a typical "in service area" habitat impact ratio for palustrine forested wetland of 3:1. Compensatory acreage will be calculated based on a 30 foot wide permanent easement to be maintained in a non-forested condition as described in the REX-East Procedures (Appendix B). All other palustrine forested wetland areas affected by construction will be revegetated and monitored for success as described above in Sections 2.2.2 and 3.0 respectively.

TABLE 4-1 Rockies Express Pipeline – East Project Approved Mitigation Banks in the Watersheds Crossed by the Pipeline or Adjacent Watersheds			
Name	Location (County)	HUC	HUC Name
Missouri			
Westwinds Mitigation Bank	St. Charles	07110008	Cuivre and
		07110009	Peruque-piase
Big Rivers Wetland Mitigation Bank	Pike	07110004	The Sny
Rosedale Wetland Mitigation Bank	St. Charles	07110008	Peruque-piase
		07110009	
Illinois			
Richland Creek Wetland Mitigation Bank	St. Clair	07140204	Lower Kaskaskia
Southern Illinois Wetland Mitigation Bank	Clinton	07140204	Lower Kaskaskia
Crooked Creek Mitigation Bank	Marion	07140202	Middle Kaskaskia

APPENDIX A

CONSTRUCTION SPECIFICATION

750. USE OF DORMANT WOODY PLANTINGS FOR STREAMBANK STABILIZATION

1. SCOPE

Dormant woody planting, as referred to in Practice Standard 995-Vegetative Streambank Stabilization, is the use of live dormant stem cuttings of woody plant species of one-half inch to over three (3) inches in diameter for the purpose of vegetatively reproducing a selected tree or shrub species. This work shall consist of furnishing and installing the necessary vegetative materials, woody or grass species, as specified in Section 7 of this specification or related standard drawings.

2. PREPARATION AND HANDLING OF MATERIALS

The proper preparation and handling of selected materials is very important. The following guidelines will increase the chances of success:

- a. Always select healthy materials native or adaptable to the planting site.
- b. Make clean cuts and avoid split ends. Cutting tools to be used, including pruning shears, bow saws, chain saws, etc., should be based on the diameter of materials to be cut.
- c. Always plant materials with the butt end down. The butt end should be tapered to mark it for proper orientation as well as facilitate driving it into the soil if done so manually. The top end should be flat, especially on stakes and posts, to facilitate manual driving (see Figure 1).
- d. Trim lateral branches as shown in Figure 1 to leave the bark ridge and branch collar intact.
- e. The diameter and length of the plant materials varies with the type:

Dormant "cutting" - The diameter of cuttings shall be a minimum of one-half inch and a maximum of less than one (1) inch. Cuttings shall be at least 12 inches but less than 18 inches in length.

Dormant "stake" - "Stakes" will be one (1) to three (3) inches in diameter at the top and 30 inches to six (6) feet in length.

Dormant "Posts" - "Posts" will be greater than three (3) inches in diameter at the top end. Length will vary with the depth to saturated soil and the difference in feet between the channel bottom and low bank elevation. However, posts will be a minimum length equal to the difference in feet between the lowest point of channel scour and the low bank elevations or 7 feet, whichever is less.

All "stakes" and "posts" shall extend a minimum of two (2) feet below the maximum depth of the streambed scour.

- f. At least two (2) lateral buds and/or terminal bud scars will be above the ground on "cuttings". It is recommended that a terminal bud scar be located within 1 to 4 inches of the top. Cuttings put out the largest number and strongest shoots just below a terminal bud scar (annual growth scar).
- g. Planting materials must not be allowed to dry out. They will be kept moist and covered during transport to the planting site and during planting operations. Material will be kept submerged in water up to the time of planting. It is best to plant materials the same day they are cut and prepared. One exception to this is eastern cottonwood which has exhibited increased survival rates if soaked in water for 1 to 2 days prior to planting.

3. SITE EVALUATION

A number of considerations will be addressed during the planning and design phases of a streambank stabilization project. Some of these considerations include:

- a. Streambank Characteristics - What is the stream channel bottom to low bank height difference for determining minimum "post" length, the existing bank slope or planned bankslope to determine the row placement requirements, and the existing vegetation in relation to its incorporation into the final project design?
- b. Soil Types - What soil type(s) are present and what plant species will grow well on the site, especially in relation to tree, shrub and grass/legume species planted in the riparian zone? How stable are the soil types present on the project site(s)?
- c. Stream Channel Characteristics - The important consideration here is the stability of the channel bottom. This method of stabilization will be limited to those streams with a stable channel bottom characterized by the lack of channel scour and overfalls and having a typical "meandering" channel.

See "Streambank Stabilization Site Evaluation Worksheet" at the end of this specification for additional information.

- d. Equipment, Time and Costs - Based on the above items, what kind of equipment will be needed to prepare the site and install the planting materials? How many man-hours will be required to complete the project? How much will it cost, including equipment, materials and labor?

4. SPECIES TO PLANT

For dormant planting materials, select native or naturalized species that are known to root readily with or without the use of rooting hormones. Rooting hormones, if used, shall be applied according to manufacturers' recommendations. Eastern cottonwood (*Populus deltoides*) and Black willow (*Salix nigra*) are native species which root readily without hormonal treatments.

Woody species with short, dense, flexible top growth and large, deep, fibrous root systems are recommended. Other desirable characteristics include rapid initial growth, ability to reproduce by seed or vegetatively, and resistance to insects and diseases.

Species suitable for use as planting materials or bare-root planting stock are listed in Table 1.

5. DESIGN AND LAYOUT

Spacing of dormant "stakes" and "posts" will be on 2'x 2', 2'x4', or 4'x4' staggered spacings. Dormant "cuttings" may be scattered between rows of "stakes" and "posts" in Plant Zone 1 and the lower one-half of Plant Zone 2 (see Figure 3 for a sample layout).

On eroding streambanks over 15 feet high, a minimum of 4 rows of dormant "stakes" or "posts" will be included in the design.

Planting row arrangement shall conform to those minimums listed in the standard and specification for this practice (see Figure 4).

6. INSTALLATION

Dormant planting materials must be properly installed to improve the chances of success. The following guidelines shall be followed:

- a. Be sure that the planting material is planted correctly. (Butt end in the ground.)
- b. Set the materials as deep as possible with at least the bottom 12 inches into a saturated soil layer. Deep planting insures an adequate moisture supply for root development, minimizes water loss due to transpiration and prevents root breakage caused by movement between the planting material and the soil during high velocity water flows.
- c. Avoid excessive damage to the bark of the planting material, especially stripping.
- d. Be sure there is good contact between the soil and planting material. "Dormant cuttings" will have the soil tamped around them. Dormant materials may be installed using an iron bar for "cuttings" and a post hole digger, powered auger or a metal ram on a backhoe or similar equipment for "stakes" and "posts". In soft, non-restricted soils, "stakes" or "posts" may be manually driven into place using a wooden maul. If a sledge is used, care must be taken to avoid splitting the planting material. Extreme care in driving the stakes or posts is needed and shall be limited to those soils where use of the other methods is not feasible, such as sandy soils. Post lengths will be extended 4" to 6" to allow for a new flat cut to eliminate any damaged materials after manual driving. At least 40 percent, and preferably 50 percent or more, of the planting material shall be below ground level after planting.

- e. Where damage by beaver may occur, treating materials with a repellant, such as ropel, or enclosing them with chicken wire is recommended.
- f. All "stakes" and "posts" located in the stream channel shall have a minimum of 12 inches extending above the normal water level.

All materials will be cut and installed while in a dormant stage. Therefore, the following periods will be used for practice installation: November 1 until ground becomes frozen or February 1 to April 1 provided ground is not frozen or buds have not broken dormancy.

7. SPECIAL SITE SPECIFICATIONS

Species selection shall consider the position of the plant in the bank profile (see Figure 2).

Zone 1 - Below normal waterline to upper limit of saturation area kept moist by capillary water movement. This zone includes the greatest potential for periodic inundation and the least moisture stress.

Zone 2 - Area from upper limit of Zone 1 to 2-3 feet from the top of the bank. This area may be subject to rapid drying and greater moisture stress.

Zone 3 - Area 2-3 feet below the top of the bank to a minimum of 30 feet into the floodplain (riparian area)

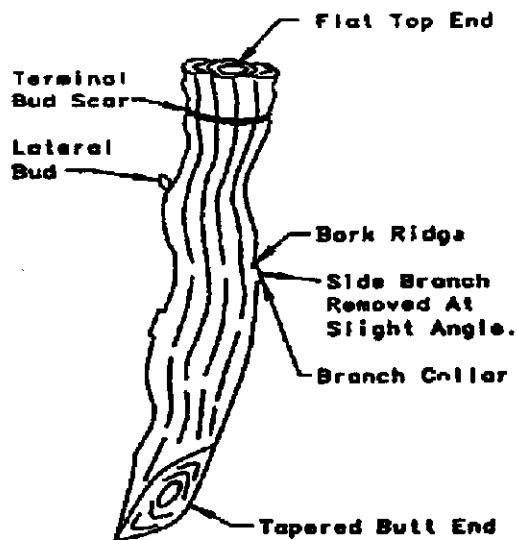
Table 1.
Recommended Woody Species for Streambank and Shoreline Protection

<u>Plant Zone</u>	<u>Common Name</u>	<u>Genus Species</u>	<u>Growth Form</u>
1	*Black Willow	Salix nigra	Tree
1	*Bankers Willow	Salix cottettii	Shrub
1	*Purple-osier Willow	Salix purpurea	Shrub
1	*Sandbar Willow	Salix interior	Tree
1	*Carolina Willow	Salix caroliniana	Tree
1	*Peach-leaved Willow	Salix amygdaloides	Tree
1	*Buttonbush	Cephalanthis occidentalis	Shrub
1,2,3	*Red-osier Dogwood	Cornus stolonifera	Shrub
2,3	*Silky Dogwood	Cornus amomum	Shrub
2,3	Flowering Dogwood	Cornus florida	Tree
2,3	Green Ash	Fraxinus pennsylvanica	Tree
2,3	*Sycamore	Platanus occidentalis	Tree
1,2,3	Baldcypress	Taxodium distichum	Tree
1,2	River Birch	Betula nigra	Tree
1,2,3	*Eastern Cottonwood	Populus deltoides	Tree
1,2,3	*Swamp Cottonwood	Populus heterophylla	Tree

* These species are suitable for use as dormant woody cuttings, stakes or posts. All species of willow and cottonwood do not require hormone treatment for rooting.

Any deciduous hardwood species listed in the corresponding Woodland Planting Group in the NRCS Field Office Technical Guide for the applicable soil type is suitable for planting as bareroot stock in zones 2 and 3.

Figure 1
Planting Material Preparation



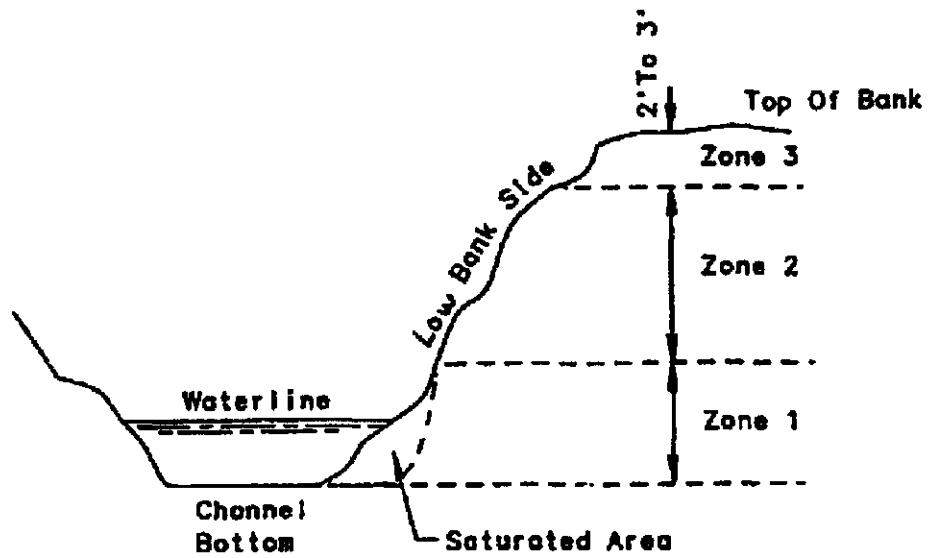


Figure 2
Plant Zones

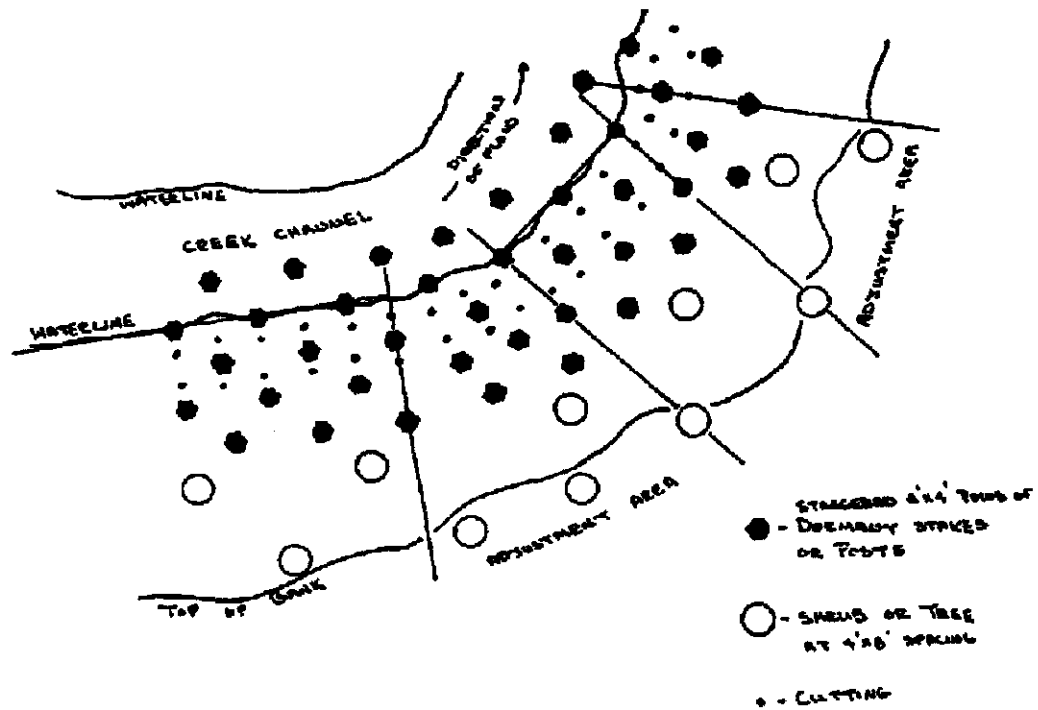


Figure 3
Sample Layout

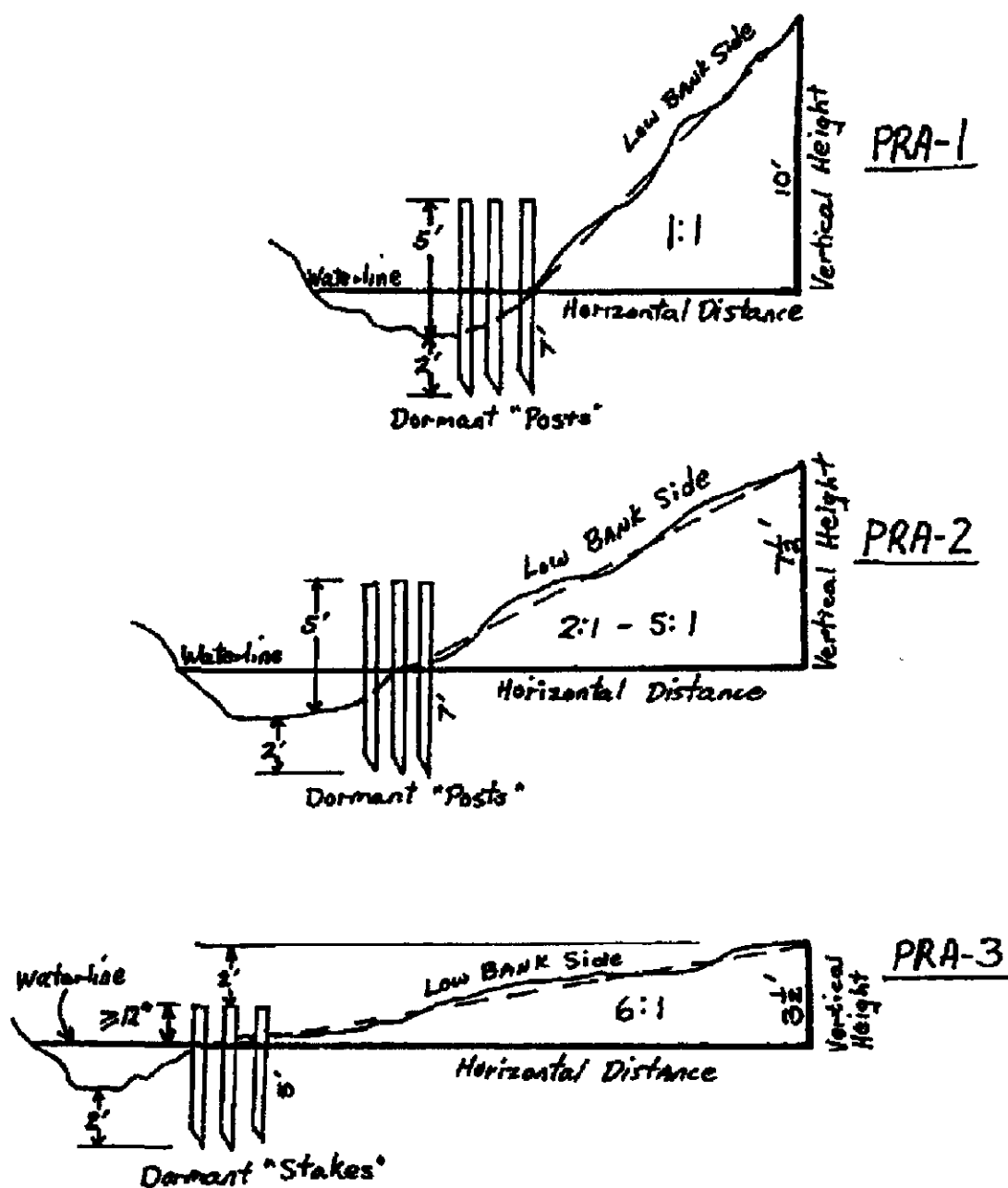


Figure 4
Minimum Planting Row Arrangements (PRA)

STREAMBANK STABILIZATION SITE EVALUATION WORKSHEET

1. Determine channel bottom to low bank height differences:

A = Elevation of low bank at lowest point on its profile = _____

B = Elevation of channel bottom at lowest point of channel scour = _____

C = Difference in elevation (A - B) = _____

2. Determine minimum length of "stake" or "post" required:

If difference (C) exceeds 5 feet – Use a minimum length of 7 feet.

If difference (C) is less than 5 feet – Use a minimum length equal to C.

3. Determine the ratio of horizontal distance to vertical height of the streambank (low bank side) for row arrangement to be used (see figure 4):

Example: Horizontal distance of streambank equals 12 feet vertical height of streambank equals 6 feet Horizontal distance to vertical height ratio equals 12:6 or 2:1

Horizontal Distance to Vertical Height Ratio	Minimum Planting Row Arrangement to Use
Seeper than 2:1	PRA-1
2:1 to 5:1	PRA-2
Flatter than 5:1	PRA-3

4. Will it be necessary to regrade the streambank to a different ratio? If yes:

A. To what ratio will the completed project be graded? ____:____

B. Based on "A" above, what PRA will be used? PRA-____

C. What equipment will be needed to complete the regrading? _____

5. Determine soil type(s) at the project site:

A. Predominant soil type(s) in the riparian zone for design purposes: _____

B. Other major soil types present: _____

C. Determine Woodland Planting Group(s) (WPG) to use from Section II-F of the Field Office Technical Guide.

<u>Predominant Soil Type(s)</u>	<u>WPG</u>	<u>Species to be Used</u>
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

D. Are predominant soil type(s) considered stable if properly protected? _____

If no, what alternative actions might be needed to assure stability? _____

6. Determine stream channel bottom stability:

A. Does stream channel bottom have "overfalls" in or immediately below the project site? _____

B. Does the stream channel bottom continuously fluctuate in elevation due to scour holes? _____

C. Does the stream have segments of rushing water in an otherwise tranquil stream flow? _____

If any of the above can be answered "yes," careful evaluation by an experienced hydrologist may be needed before designing or installing this project.

7. Determine cost estimates: 1/

A. Equipment: _____ hours x _____/hour \$ _____

B. Labor: _____ hours x _____/hour \$ _____

C. Materials: _____ \$ _____

Total \$ _____

1/ Average cost of \$77/100' length for sloping 12' high bank to 1:1 slope. Cost per hole @ \$2.40/6' post and \$2.90/9' post. Average of 10 posts/person/hour labor costs for cutting and transporting posts.

APPENDIX B

(Provided in April 30, 2007 Application)

CONCEPTUAL MITIGATION PLAN INDIANA

ROCKIES EXPRESS PIPELINE – EAST PROJECT

September 2007

Prepared for:

NATURAL RESOURCE GROUP

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CONCEPTUAL MITIGATION PLAN

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Figure 2-Vegetation Maintenance in Wetlands

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Table A-2 Waterbodies Crossed in Indiana

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Appendix C Table C-1 Potential Herbaceous Species to be Planted Within Emergent Wetlands

Table C-2 Potential Tree and Shrub Species to be Planted Within and Adjacent to Wetland and Waterbody Crossings

Table C-3 Potential Herbaceous Species to be Planted Within and Adjacent to Waterbody Crossings (Riparian Areas)

Appendix D Table D-1 Wetland Mitigation Requirements by Watershed

**Conceptual Mitigation Plan-Indiana
Rockies Express Pipeline – East Project (Rex –East)**

1.0 INTRODUCTION

Rockies Express Pipeline LLC (Rockies Express) is proposing to construct a new natural gas pipeline, the Rockies Express Pipeline-East (REX-East) Project that will link producing areas in the Rocky Mountain region to the upper Midwest and Eastern United States. The linear nature of the pipeline facilities will require the crossings of numerous streams and wetlands in Indiana. Construction of the pipeline facilities will result in temporary impacts on waterbodies and wetlands, and operation of the facilities will result in permanent impacts on forested and scrub-shrub wetland vegetation.

The U.S. Army Corps of Engineers (COE) has authority under section 404 of the Clean Water Act (CWA) to issue permits for activities that would result in the discharge of dredged or fill material into waters of the United States, including wetlands. Section 401 of the CWA requires that proposed dredge and fill activities under section 404 be reviewed for compliance with state water quality standards and certified by the designated state agency, which in Indiana, is the Indiana Department of Environmental Management (IDEM). IDEM also regulates isolated wetlands, which because they are not considered waters of the United States, are not regulated by the COE.

J.F. New & Associates, Inc. (JFNew) was contracted by Natural Resource Group (NRG) to prepare a mitigation plan that meets the regulatory requirements of the COE and IDEM to offset potential project-related impacts on federal and state jurisdictional areas, including wetlands, streams, and open water areas.

2.0 PROJECT DESCRIPTION

Rockies Express proposes to construct and operate a natural gas pipeline, compression, and ancillary facilities to transport natural gas produced in the Rocky Mountain basins for delivery primarily to other pipelines and distribution customers located in the upper Midwest and Eastern United States (U.S.). The REX-East Project, will consist of approximately 639.1 miles of new pipeline facilities in Missouri, Illinois, Indiana, and Ohio.

Rockies Express proposes to commence construction of the REX-East Project in 2008. The pipeline and its related facilities are expected to be in-service by December 2008 with the exception of two compressor stations (Arlington and Chandlersville), which will be in-service by June 2009.

This mitigation plan addresses the portion of the proposed pipeline that will cross the state of Indiana where Rockies Express proposes to construct 166.5 miles of 42-inch-diameter pipeline through Vermillion, Parke, Putnam, Hendricks, Morgan, Johnson, Shelby, Decatur, and Franklin Counties (see Table 2-1). Other facilities that will be constructed in Indiana include one compressor station, four meter stations, and ten mainline valves, all of which will be located in upland areas. Figure 1 provides a general project location map.

**Conceptual Mitigation Plan-Indiana
Rockies Express Pipeline – East Project (Rex –East)**

TABLE 2.1

REX-East Project
Mileposts Crossed by the Pipeline in Indiana by County

County	Begin Mile Post *	End Mile Post *	Miles Crossed *
Vermillion	236.2	247.3	9.1
Parke	247.3	267.9	20.8
Putnam	267.9	286.9	19.0
Hendricks	286.9	304.3	17.5
Morgan	304.3	318.9	14.6
Johnson	318.9	339.2	20.3
Shelby	339.2	358.7	19.4
Decatur	358.7	376.9	18.2
Franklin	376.9	404.7	27.8
Total Miles			166.5

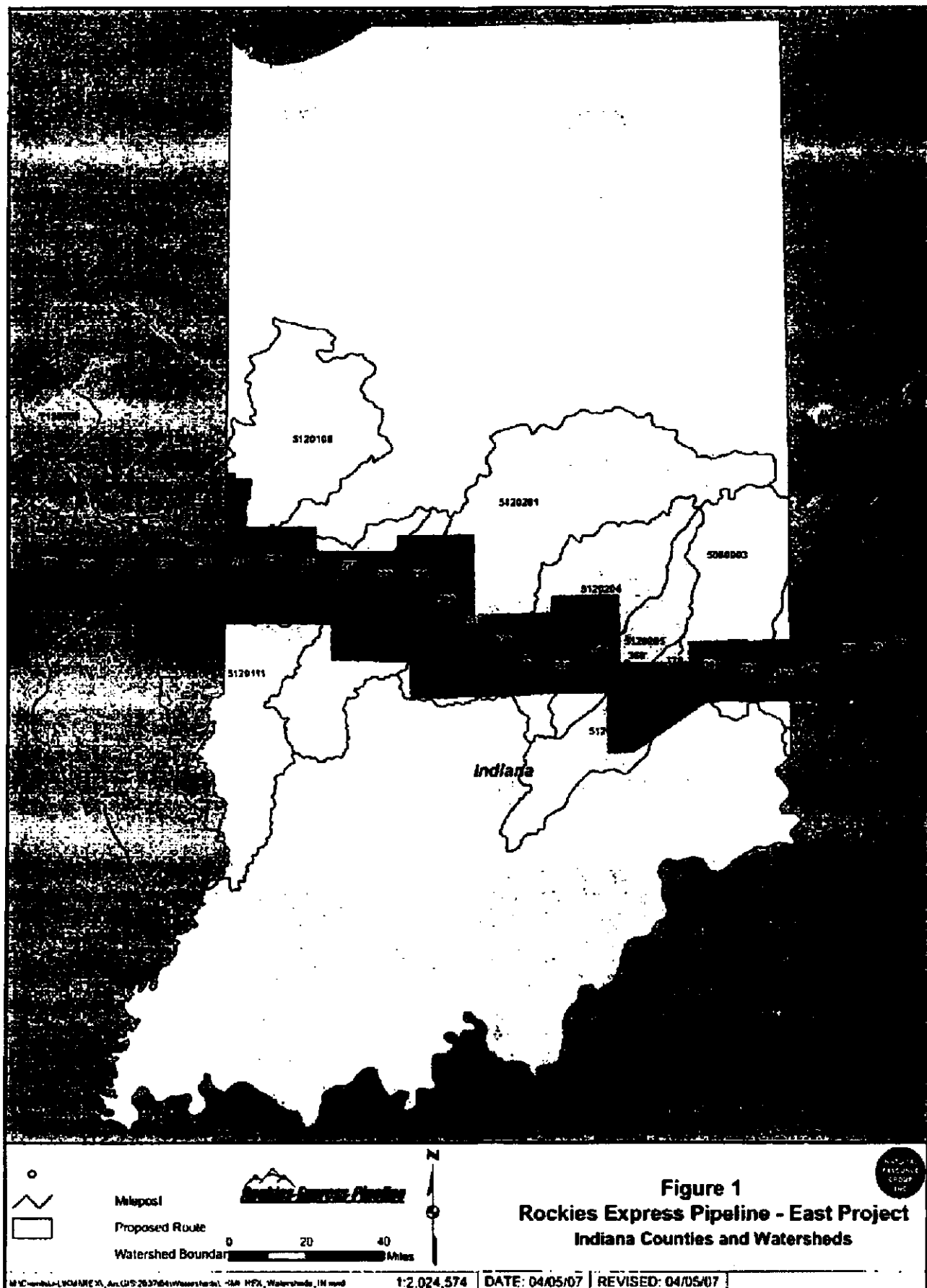
3.0 REGULATED WATER RESOURCES AFFECTED IN INDIANA

3.1 Wetlands

Table A-1 in Appendix A lists each wetland affected in Indiana including wetland type, location, crossing length, and acres affected. Table A-1 also indicates the jurisdictional status of each wetland as either isolated or non-isolated.

Both temporary and permanent wetland impacts will occur as a result of pipeline construction and operation, respectfully. Rockies Express will use a 125-foot-wide construction right-of-way in uplands areas and narrow the construction right-of-way width to 100 feet through wetlands to reduce wetland impacts. Of the 100-foot-wide construction right-of-way in wetlands, 50 feet will become the permanent easement. Within the 50-foot-wide permanent easement in forested wetlands, forest vegetation may be periodically maintained over a 30-foot-wide corridor centered over the pipeline in order to protect the pipeline from large trees, and in scrub-shrub wetlands, shrubby vegetation may be maintained annually over a 10-foot-wide corridor centered over the pipeline to facilitate pedestrian surveys.

Temporary impacts will occur outside of the maintained portions of the permanent easement where wetlands will be restored and allowed to return to preconstruction conditions to the extent practicable. Although no wetlands will be permanently filled as a result of pipeline construction (i.e., no loss of wetlands), a conversion of forested and scrub-shrub wetland habitat will occur over the maintained portions of the permanent easement (see Figure 2).



DRAWN BY: JABENNETT

**Conceptual Mitigation Plan-Indiana
Rockies Express Pipeline – East Project (Rex –East)**

3.2 Waterbodies

Based on the results of the field investigation, a majority of the waterbodies affected by the project are ephemeral streams followed by intermittent, perennial, and open water areas (i.e., lakes or ponds). Table A-2 in Appendix A identifies the flow regime and proposed construction method for each waterbody crossed in Indiana.

4.0 MITIGATION PLAN

To mitigate construction-related impacts on wetlands and waterbodies, Rockies Express will implement mitigation measures during construction to minimize impacts on wetlands and waterbodies, and conduct on-site restoration of all disturbed areas following construction. To offset permanent conversion to forested and scrub shrub wetland vegetation, Rockies Express will provide compensatory mitigation to meet the requirements of the COE and IDEM.

4.1 Mitigation Measures Implemented During Construction

Rockies Express has prepared its Wetland and Waterbody Construction and Mitigation Procedures (REX-East Procedures) to minimize impacts on wetlands and waterbodies during pipeline construction (See Appendix B). Below are some of the mitigation measures included in the REX-East Procedures:

- installing and maintaining sediment barriers to prevent silt-laden water from entering wetland and waterbodies;
- restoring original contours and revegetating disturbed areas.
- completing all in-stream work within 24 hours for minor waterbody crossings and within 48 hours for intermediate waterbody crossings, and minimizing duration of construction-related disturbance within wetlands;
- prohibiting storage of hazardous materials, chemicals, fuels, and lubricating oils within a wetland or within 100 feet of a wetland or waterbody boundary;
- requiring that native vegetation on the right-of-way within wetlands be cut at ground level, leaving existing root systems in place to promote regrowth;
- segregating the uppermost 1 foot of wetland topsoil in non-saturated wetlands;
- limiting the operation of construction equipment within wetlands to that equipment essential for clearing, excavation, pipe installation, backfilling, and restoration activities; and
- requiring all nonessential equipment to traverse around wetlands using upland access roads where wetland soils are prone to rutting and/or cannot be appropriately stabilized.

Additionally, Rockies Express will implement the HDD crossing method at the Big Blue River, Wabash River, and Whitewater River, which will avoid instream impacts at these waterbody crossings.

4.2 On-site Mitigation Post Construction

4.2.1 Wetlands

**Conceptual Mitigation Plan-Indiana
Rockies Express Pipeline – East Project (Rex –East)**

All wetlands affected by construction will be restored to preconstruction grade and subsequently monitored in accordance with the REX-East Procedures.

Emergent Wetlands - Emergent wetlands within the temporary workspace and permanent easement will be seeded with a variety of herbaceous species native to wetlands in Indiana following construction and allowed to return to preconstruction conditions. See Table C-1 in Appendix C for a list of potential species to be planted within emergent wetlands. Because there will be no permanent conversion of emergent wetlands, no additional compensatory mitigation is proposed.

Scrub-shrub Wetlands - The temporary workspace and a majority of the permanent easement within scrub-shrub wetlands will be seeded with a variety of herbaceous and woody species native to wetlands in Indiana following construction and allowed to return to preconstruction conditions. See tables C-1 and C-2 in Appendix C for a list of potential species to be planted within scrub-shrub wetlands (tree species listed in table C-2 would be omitted from scrub-shrub wetlands). Scrub-shrub vegetation may not be restored over a 10-foot-wide corridor centered over the pipeline where maintenance activities may cause a conversion to emergent wetland vegetation. Because there may be a permanent conversion of scrub-shrub vegetation to emergent vegetation, Rockies is proposing compensatory mitigation to offset this loss (see section 4.3).

Forested Wetlands - The temporary workspace and a portion of the permanent easement within forested wetlands will be seeded with a variety of herbaceous and woody species native to wetlands in Indiana following construction and allowed to return to preconstruction conditions. See tables C-1 and C-2 in Appendix C for a list of potential species to be planted within forested wetlands. Forest vegetation will not be restored over a 10-foot-wide corridor centered over the pipeline where maintenance activities will cause a conversion to emergent wetland vegetation. In addition, trees greater than 15 feet in height may be removed from a 30-foot-wide corridor centered over the pipeline as often as every 3 years. Because there will be a permanent loss of forested wetland vegetation, compensatory mitigation will be required to offset this loss (see Section 4.3).

4.2.2 Waterbodies

Following pipeline construction and restoration of the streambed and banks, riparian vegetation will be restored at streams where riparian vegetation was present prior to construction. Riparian tree planting will be conducted within the temporary workspace and non-maintained portions of the permanent easement (see Appendix C, Table C-2 for a list of tree and shrub species to be planted in riparian areas). Vegetation maintenance in the permanent easement (with the exception of the maintenance activities over the 30-foot and 10-foot corridors centered over the pipeline described above) would be restricted within 25 feet of the waterbody (as measured from the water's mean high water mark) to allow the establishment of riparian vegetation. This replanting effort within the riparian zone of each stream will vary, as several streams are located within agricultural areas, which contain a very limited riparian zone. The maintained portions of the permanent easement will be planted with native grasses and forbs up to 25-feet from the top-of-bank (see Appendix C, Table C-3). For streams crossed by the HDD method, no vegetation clearing or vegetation maintenance will be conducted over the drill path.

**Conceptual Mitigation Plan-Indiana
Rockies Express Pipeline – East Project (Rex –East)**

4.3 Compensatory Mitigation

Compensatory Mitigation requirements vary by agency and by resource type. Below are descriptions of the agency requirements for compensatory mitigation. Appendix D, Table D-1 lists wetland impacts and compensatory mitigation required for each wetland type per 8-digit watershed. Although compensatory wetland mitigation is preferred to occur in as close to the affected area as possible, in certain situations (e.g., such as where the mitigation would total less than 1 acre) combining certain mitigation requirements at one location might provide a more environmentally beneficial result. Therefore, a variety of mitigation opportunities are being investigated to address permanent wetland conversion impacts

4.3.1 COE and IDEM

To satisfy the requirements of the COE and IDEM for wetlands regulated under section 404 of the CWA (i.e., non-isolated), Rockies Express is proposing compensatory mitigation at a replacement ratio of 4:1 for forested wetland and 3:1 for scrub-shrub wetland impacts. The amount of proposed compensatory wetland mitigation per 8-digit watershed is summarized in Appendix D, Table D-1.

4.3.2 IDEM

Because there will be no permanent impacts on isolated wetlands, no compensatory mitigation is proposed.

5.0 MONITORING PLAN

The following is a description of the predetermined goals set forth for the proposed wetland mitigation. A failure to meet these goals will result in the need for remedial actions which may include supplemental plantings, replanting or reseeding, removal of aggressive species, and/or adding acreage. In order to be considered successful, the mitigation area must meet all of the following success criteria for two consecutive years within a five year period.

5.1 Success Criteria

5.1.1 On-Site Mitigation Areas

The success of wetland revegetation in the areas affected by construction will be monitored and documented annually for the first 3 years after construction or until wetland revegetation is successful. At the end of 3 years after construction, a report will be submitted to the COE and IDEM documenting the status of the wetland revegetation efforts that includes the percent cover achieved and problem areas (weed invasion issues, poor revegetation, etc.). Reports will continue to be filed annually until wetland revegetation is deemed successful by the COE and IDEM.

Wetland revegetation will be considered successful if the cover of herbaceous and/or woody species is at least 80 percent of the type, density, and distribution of the vegetation in adjacent

**Conceptual Mitigation Plan-Indiana
Rockies Express Pipeline – East Project (Rex –East)**

wetland areas that were not disturbed by construction. If revegetation is not successful at the end of 3 years, a remedial revegetation plan will be developed and implemented (in consultation with a professional wetland ecologist) to actively revegetate the wetlands. Revegetation efforts will continue until wetland revegetation is deemed successful by the COE and IDEM.

5.1.2 Off-Site Mitigation Areas

The mitigation areas will be monitored for a minimum period of five years. To be released from monitoring, the mitigation area must meet the success criteria listed below for two consecutive years within a five year period.

- The total vegetative cover must be at least 80 percent in each mitigation area.
- The combined surface area coverage of reed canary grass (*Phalaris arundinacea*) and cattail (*Typha* spp.) shall not exceed 15 percent of the mitigation area (based on transect data).
- The wetland meets wetland criteria per the Corps of Engineers 1987 Wetland Delineation Manual
- Forested wetlands will have a minimum of 380 live tree seedlings/saplings per acre.

Once it is determined that a mitigation area has met these requirements, a final monitoring report will be submitted and monitoring for that area will be suspended unless notified otherwise by the IDEM, and the COE. If the agencies determine that the success criteria have not been met, then a remedial action plan will be implemented and monitoring will resume. When the agencies confirm that the success criteria have been met, then monitoring will be discontinued permanently upon written notification by the agencies.

5.2 Monitoring Methodology

The monitoring period will commence with notice by the permittee to the agencies that the planting of the mitigation area has been completed. Site visits will be made during the summer/fall to document the survivability of the trees at the mitigation areas. The summer/fall monitoring inspection will observe the following guidelines:

- Percent plant cover will be estimated for all species present and for the site as a whole.
- Permanent photographic stations will be set up to provide visual documentation of wetland development. The photographic stations will be representative of the mitigation site and sampling points.
- A botanical inventory of the mitigation area will be performed.
- Survivability of the trees will be recorded.

An annual monitoring report based on the results of each year's inspection will be filed with the COE and IDEM by December 31. This report will include:

- The COE and IDEM project identification number or numbers.
- As-built plans (in the first year's report).
- Discussion of methods or means used to determine compliance with the success criteria.
- Discussion of plant community development at the mitigation site. This discussion will

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consist of tables listing the most dominant species. In addition, a botanical species inventory will be provided. Each year's data will be compared to previous year's data as they become available.

- Photographs from each photographic station.
- Identification of any problems with meeting the success criteria.

Appendix A

**[Note: Tables A-1 and A-2 will be provided with the
Application for Indiana Section 401 Water Quality Certification and
U.S. Army Corps of Engineers pre-construction notification]**

Appendix B

**[Note: REX-East Wetland and Waterbody Construction and Mitigation
Procedures were filed previously]**

Appendix C

TABLE C-1 REX - East Project Potential Herbaceous Species to be Planted Within Emergent Wetlands	
Scientific Name	Common Name
<i>Alisma subcordatum</i>	Water Plantain
<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Avena sativa</i>	Seed Oats
<i>Bidens cernua</i>	Nodding Bur Marigold
<i>Carex lupulina</i>	Hop Sedge
<i>Carex vulpinoidea</i>	Fox Sedge
<i>Elymus virginicus</i>	Virginia Wild Rye
<i>Epilobium coloratum</i>	Cinnamon Willow Herb
<i>Eupatorium perfoliatum</i>	Boneset
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod
<i>Glyceria striata</i>	Fowl Manna Grass
<i>Iris virginica</i>	Blue Flag
<i>Juncus effusus</i>	Soft Rush
<i>Leersia oryzoides</i>	Rice Cut-grass
<i>Lolium multiflorum</i>	Annual Rye
<i>Mimulus ringens</i>	Monkey Flower
<i>Panicum virgatum</i>	Switchgrass
<i>Rudbeckia laciniata</i>	Black-eyed Susan
<i>Sagittaria latifolia</i>	Arrowhead
<i>Scirpus atrovirens</i>	Dark Green Bulrush
<i>Scirpus pendulus</i>	Red Bulrush
<i>Verbena hastata</i>	Blue Vervain
<i>Vernonia gigantea</i>	Tall Ironweed

<p>TABLE C-2 REX - East Project Potential Tree and Shrub Species to be Planted Within and Adjacent to Wetland and Waterbody Crossings</p>	
Scientific Name	Common Name
<i>Acer rubrum</i>	Red Maple
<i>Cephalanthus occidentalis</i>	Buttonbush
<i>Cornus obliqua</i>	Silky Dogwood
<i>Ilex verticillata</i>	Winterberry
<i>Physocarpus opulifolius</i>	Ninebark
<i>Platanus occidentalis</i>	Sycamore
<i>Quercus bicolor</i>	Swamp White Oak
<i>Quercus palustris</i>	Pin Oak
<i>Quercus rubra</i>	Red Oak
<i>Sambucus canadensis</i>	Elderberry

TABLE C-3 REX - East Project Potential Herbaceous Species to be Planted Within and Adjacent to Waterbody Crossings (Riparian Areas)	
Scientific Name	Common Name
<i>Arisaema triphyllum</i>	Jack in the Pulpit
<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Aster lateriflorus</i>	Side-flowering Aster
<i>Avena sativa</i>	Seed Oats
<i>Bidens frondosa</i>	Beggarticks
<i>Campanula americana</i>	Tall Bellflower
<i>Carex crinita</i>	Fringed Sedge
<i>Carex hystericina</i>	Porcupine Sedge
<i>Carex lupulina</i>	Hop Sedge
<i>Carex vulpinoidea</i>	Fox Sedge
<i>Diarrhena americana</i>	Beak Grass
<i>Elymus riparius</i>	Riverbank Wild Rye
<i>Elymus virginicus</i>	Virginia Wild Rye
<i>Eupatorium perfoliatum</i>	Boneset
<i>Eupatorium rugosum</i>	White Snakeroot
<i>Glyceria striata</i>	Fowl Manna Grass
<i>Lobelia cardinalis</i>	Cardinal Flower
<i>Lobelia siphilitica</i>	Great Lobelia
<i>Lolium multiflorum</i>	Annual Rye
<i>Mimulus ringens</i>	Monkey Flower
<i>Panicum virgatum</i>	Switchgrass
<i>Rudbeckia laciniata</i>	Black-eyed Susan
<i>Scirpus pendulus</i>	Red Bulrush
<i>Senecio aurea</i>	Golden Ragwort
<i>Silphium perfoliatum</i>	Cup Plant
<i>Spartina pectinata</i>	Prairie Cordgrass
<i>Verbena hastata</i>	Blue Vervain
<i>Vernonia gigantea</i>	Giant Ironweed

Appendix D

**[Note: Table D-1 will be provided with the
Application for Indiana Section 401 Water Quality Certification and
U.S. Army Corps of Engineers pre-construction notification]**

CONCEPTUAL MITIGATION PLAN

ROCKIES EXPRESS PIPELINE – EAST PROJECT Ohio

September 2007

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	Table C-2	Tree and Shrub Species to be Planted within Scrub-shrub and Forested Wetlands and Riparian Areas
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1.0 INTRODUCTION

Rockies Express Pipeline LLC (Rockies Express) is proposing to construct a new natural gas pipeline, that will link producing areas in the Rocky Mountain region to the upper Midwest and Eastern United States. The facilities associated with this new system crossing Ohio originate in Audrain County, Missouri and terminate in Monroe County, Ohio and are referred to as the Rockies Express Pipeline-East Project (REX-East). The linear nature of the pipeline facilities will require the crossings of numerous streams and wetlands in Ohio. Construction of the pipeline facilities will result in temporary impacts on waterbodies and wetlands within the approved construction corridor, and operation of the facilities will result in permanent conversion impacts to forested wetland vegetation within a portion of the approved operation easement.

The U.S. Army Corps of Engineers (COE) has authority under section 404 of the Clean Water Act (CWA) to issue permits for activities that would result in the discharge of dredged or fill material into waters of the United States, including wetlands. Section 401 of the CWA requires that proposed dredge and fill activities under section 404 be reviewed for compliance with state water quality standards and certified by the designated state agency, which in Ohio, is the Ohio Environmental Protection Agency (OEPA). OEPA also regulates isolated wetlands, which because they are not considered waters of the United States, are not regulated by the COE.

J.F. New & Associates, Inc. (JFNew) was contracted by Natural Resource Group (NRG) to prepare a mitigation plan that meets the regulatory requirements of the COE and OEPA to offset potential project-related impacts on federal and state jurisdictional areas, including wetlands, streams, and open water areas.

2.0 PROJECT DESCRIPTION

Rockies Express proposes to construct and operate a natural gas pipeline, compression, and ancillary facilities to transport natural gas produced in the Rocky Mountain basins for delivery primarily to other pipelines and distribution customers located in the upper Midwest and Eastern United States (U.S.). The REX-East Project, will consist of:

- approximately 639.1 miles of new pipeline facilities in Missouri, Illinois, Ohio, and Ohio;
- five new compressor stations located along the REX-East Project pipeline route, one new compressor station located along Rockies Express' REX-West pipeline route, and one new compressor station located along Rockies Express' REX-Entrega pipeline route; and
- ancillary facilities consisting of approximately 41 mainline valves, 20 meter stations and interconnects, 4 temporary pig launchers, and 4 temporary pig receivers.

Rockies Express proposes to commence construction of the REX-East Project in spring of 2008. The pipeline and its related facilities are expected to be in-service by December 2008 with the exception of two compressor stations (Arlington and Chandlersville), which will be in-service by June 2009.

Conceptual Mitigation Plan Rockies Express Pipeline – East Project Ohio

This mitigation plan addresses the portion of the proposed pipeline that will cross the state of Ohio where Rockies Express proposes to construct 234.4 miles of 42-inch-diameter pipeline through 13 counties (see Table 1). Other facilities that will be constructed in Ohio include two compressor stations, six meter stations, and eighteen mainline valves, all of which will be located in upland areas. Figure 1 provides a general project location map.

TABLE 1			
REX-East Project			
Mileposts Crossed by the Pipeline in Ohio by County			
County	Begin Mile Post *	End Mile Post *	Miles Crossed *
Builer	404.7	436.8	32.0
Warren	436.6	459.4	22.7
Clinton	459.4	473.7	14.3
Greene	473.7	476.5	2.8
Fayette	476.5	499.8	23.4
Pickaway	499.8	524.0	24.1
Fairfield	524.0	548.4	24.4
Perry	548.4	566.3	17.9
Muskingum	566.3	591.7	25.4
Guernsey	591.7	611.3	19.6
Noble	611.3	618.0	6.7
Belmont	618.0	633.8	15.8
Monroe	633.8	639.1	5.2
Total Miles			234.4

* Mileposts are used for reference and may not reflect actual surveyed distances.

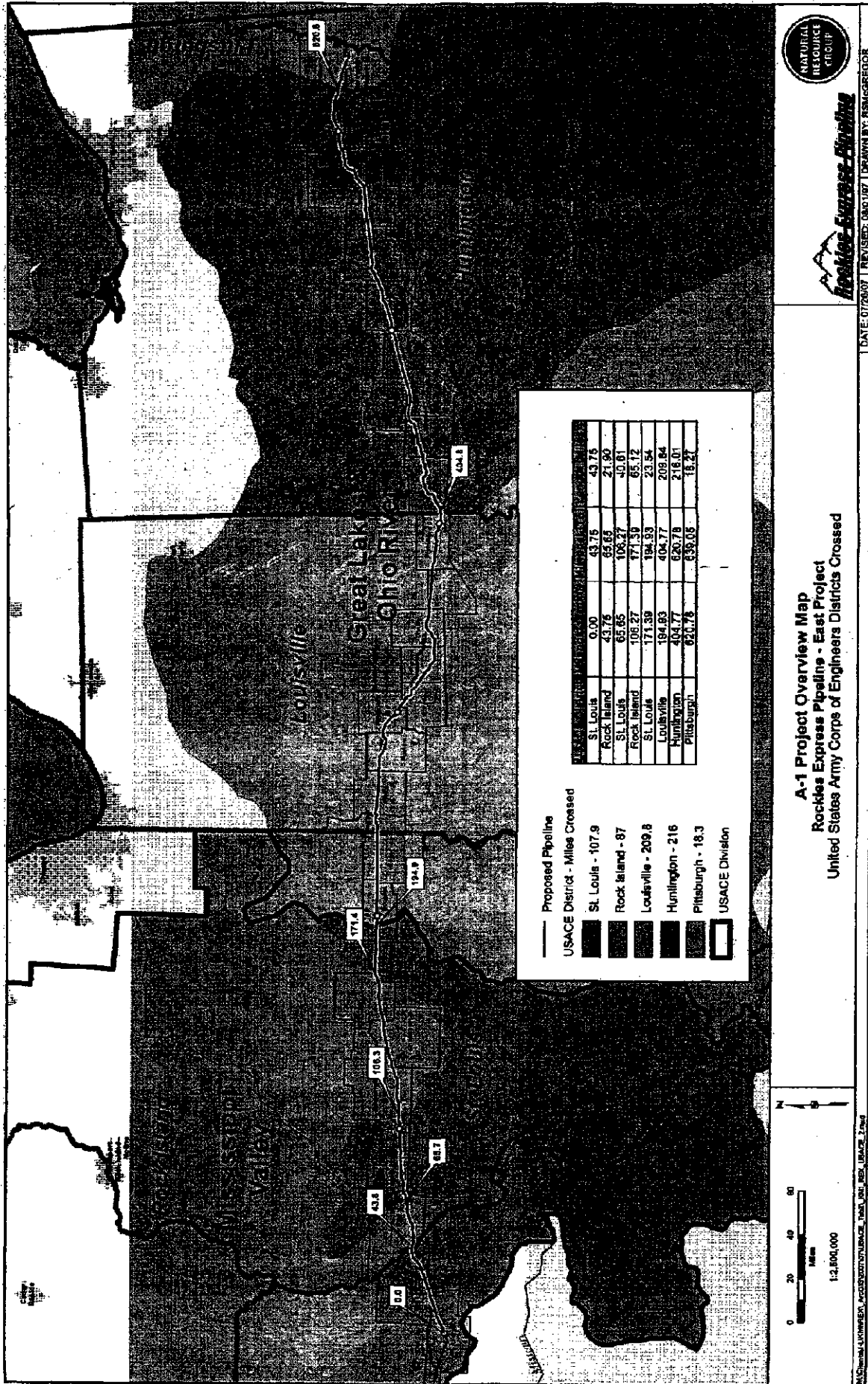
3.0 REGULATED WATER RESOURCES AFFECTED IN OHIO

3.1 Wetlands

Table A-1 in Appendix A lists each wetland affected in Ohio including wetland type, location, crossing length, and acres affected. Table A-1 also indicates the jurisdictional status of each wetland as either isolated or non-isolated¹. This distinction is necessary to address the COE's and OEPA's differing regulatory requirements. In Ohio, 195 wetlands (131 non-isolated and 64 isolated,) will be affected by the project. Additional detailed information for each wetland is included in the Wetland and Waterbodies Delineation Report (previously provided at the March 27, 2007 multi-agency meeting).

Both temporary and permanent conversion wetland impacts will occur as a result of pipeline construction and operation, respectfully. Rockies Express will use a 125-foot-wide construction right-of-way in upland areas and narrow the construction right-of-way width to 100 feet through wetlands to reduce wetland impacts. Of the 100-foot-wide construction right-of-way in wetlands, 50 feet will become the permanent easement. In forested wetlands, vegetation may be periodically maintained in an herbaceous or scrub-shrub state over a 30-foot-wide corridor centered over the pipeline in order to facilitate safety inspections and protect the pipeline from

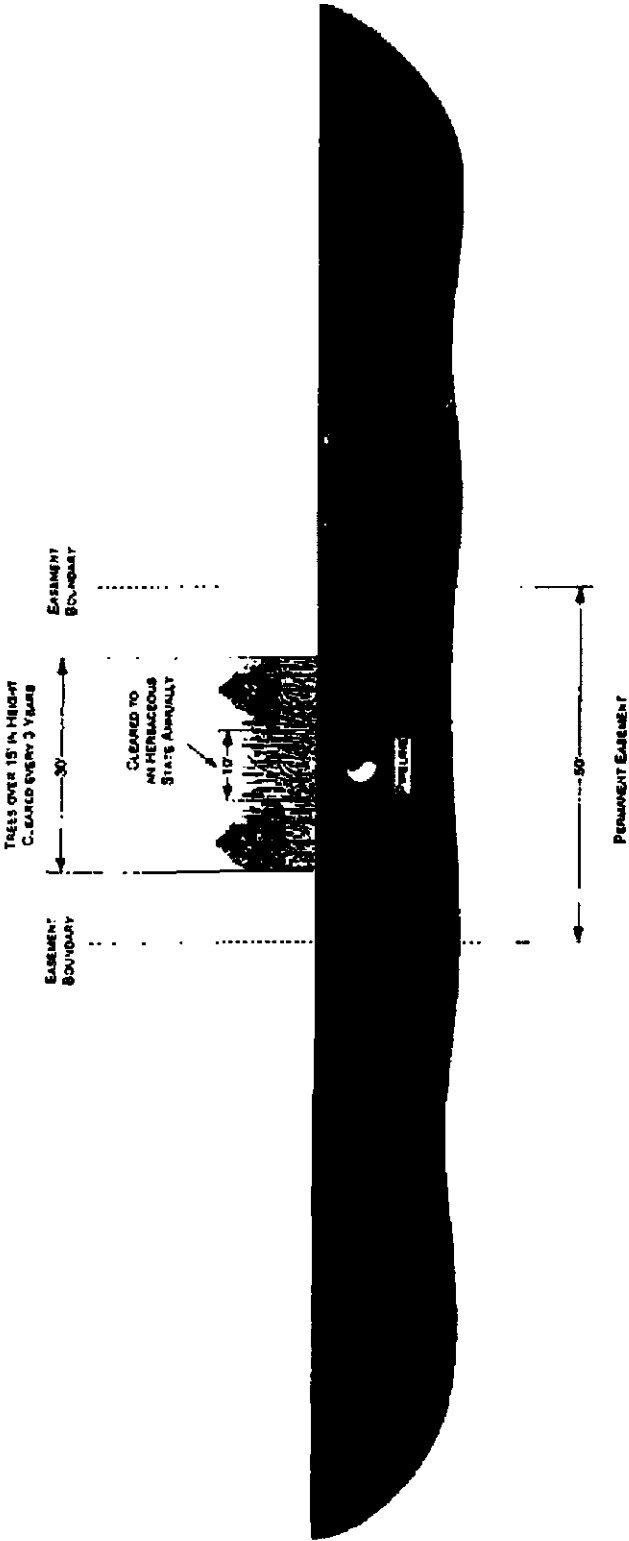
¹ The jurisdictional status listed is a preliminary determination made by JFNew. The status of each wetland must be verified by the COE.



**Conceptual Mitigation Plan Rockies Express Pipeline – East Project
Ohio**

large trees. In scrub-shrub wetlands, a 10-foot-wide corridor centered over the pipeline may be maintained in an herbaceous state to facilitate leak surveys. Temporary impacts will occur during construction outside of the maintained portions of the permanent easement where wetlands will be restored and allowed to return to preconstruction conditions to the extent practicable. Although no wetlands will be permanently filled or drained as a result of pipeline construction (i.e., no loss of wetlands), a conversion of forested and scrub-shrub wetland habitat will occur over the maintained portions of the permanent easement. In forested and scrub-shrub wetlands, annual vegetation maintenance over a 10-foot-wide corridor centered over the pipeline will result in the conversion of vegetation to an emergent cover type. In forested wetlands, trees greater than 15 feet in height within a 30-foot-wide corridor centered over the pipeline will be removed as often as every three years, limiting the regeneration of the forest overstory and resulting in a conversion to a scrub-shrub cover type (see Figure 2).

Forested and Scrub-Shrub Wetlands



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Figure 2
Rockies Express Pipeline – East Project
Vegetation Maintenance in Wetlands

DATE: 09/18/07	REVIS: 01/18/07
SCALE: NTS: 1"=100'	DRAWN: G. D. B. / J. B. T.
BY: J. B. T.	DATE: 09/18/07
BY: J. B. T.	DATE: 09/18/07

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As shown in Table 2, a total of about 25.9 acres (23.9 acres temporary impacts and 2.0 acres permanent conversion impacts) of wetlands will be affected by the project in Ohio. Of the temporary impacts, about 15.2 acres classified as emergent, 1.4 acres classified as scrub-shrub, and 7.3 acres classified as forested. About 7.4 acres of the temporary wetland impacts are classified as isolated.

About 2.0 acres of forested and scrub-shrub wetlands will be converted to scrub-shrub and emergent during operation of the pipeline by the maintenance activities described above. This includes about 1.9 acres of forested wetlands and 0.1 acre of scrub-shrub wetlands, of which, about 0.5 acre is classified as isolated.

Wetland Impacts by Type and Status		
	Temporary	Permanent
Non-Isolated^a		
PEM ^d	10.7	0.0
PSS ^d	0.2	0.0
PFO ^d	5.6	1.5
Total Non-Isolated Acres	16.5	1.5
Isolated^a		
PEM ^d	4.5	0.0
PSS ^d	1.2	0.1
PFO ^d	1.7	0.4
Total Isolated Acres	7.4	0.5
Subtotal PEM	15.2	0.0
Subtotal PSS	1.4	0.1
Subtotal PFO	7.3	1.9
Totals Wetland Impact	23.9	2.0
^a Temporary wetland impacts include all wetland types within the construction workspace including the additional temporary workspace and non-maintained portions of the permanent easement and emergent wetlands located within the maintained portion of the permanent easement. ^b Permanent wetland conversions include forested wetlands within a 30-foot-wide corridor centered over the pipeline and scrub-shrub wetlands within a 10-foot-wide corridor centered over the pipeline where vegetation maintenance activities will limit the regeneration of these cover types. ^c Non-isolated wetlands are areas that are delineated as wetlands in accordance with the 1987 Army Corps of Engineers' Wetland Delineation Manual, are connected seasonally or permanently to another surface water and are regulated by the COE and OEPA. ^d NWI Wetland Classification (Cowardin et al., 1979): PFO = Palustrine forested, PSS = Palustrine scrub-shrub, PEM = Palustrine emergent. ^e Isolated wetlands are those wetlands that are not connected seasonally or permanently to another surface water and regulated by OEPA. Note: The jurisdictional status listed is a preliminary determination made by JFNew. The status of each wetland must be verified by the COE.		

3.2 Waterbodies

Based on the results of the field investigation, 732 waterbodies will be affected by the project, of which, 713 are lotic systems (streams, rivers, drainages, etc.), (including 141 perennial, 192

Conceptual Mitigation Plan Rockies Express Pipeline – East Project Ohio

intermittent, and 380 ephemeral streams), and 12 are open water or lentic systems (i.e., lakes or ponds). The status of seven waterbodies is undetermined pending survey in Ohio.² A majority of the waterbodies will be crossed via the open-cut crossing method; however, 19 streams will be crossed via the horizontal directional drilling (HDD) method, which will avoid disturbance to the bed and banks of these waterbodies. Table A-2 in Appendix 2 lists the waterbodies crossed in Ohio and the proposed waterbody crossing methods.

4.0 MITIGATION PLAN

To mitigate construction-related impacts on wetlands and waterbodies, Rockies Express will implement mitigation measures during construction to minimize impacts on wetlands and waterbodies, and conduct on-site restoration of all disturbed areas following construction. To offset permanent conversion to forested and scrub shrub wetland vegetation, Rockies Express will provide compensatory mitigation to meet the requirements of the COE and OEPA.

4.1 Mitigation Measures Implemented During Construction

Rockies Express has prepared its Wetland and Waterbody Construction and Mitigation Procedures (REX-East Procedures) to minimize impacts on wetlands and waterbodies during pipeline construction (See Appendix B). Below are some of the mitigation measures included in the REX-East Procedures:

- installing and maintaining sediment barriers to prevent silt-laden water from entering wetland and waterbodies;
- restoring original contours and revegetating disturbed areas.
- completing all in-stream work within 24 hours for minor waterbody crossings and within 48 hours for intermediate waterbody crossings, and minimizing duration of construction-related disturbance within wetlands;
- prohibiting storage of hazardous materials, chemicals, fuels, and lubricating oils within a wetland or within 100 feet of a wetland or waterbody boundary;
- requiring that native vegetation on the right-of-way within wetlands be cut at ground level, leaving existing root systems in place to promote regrowth;
- segregating the uppermost 1 foot of wetland topsoil in non-saturated wetlands;
- limiting the operation of construction equipment within wetlands to that equipment essential for clearing, excavation, pipe installation, backfilling, and restoration activities; and
- requiring all nonessential equipment to traverse around wetlands using upland access roads where wetland soils are prone to rutting and/or cannot be appropriately stabilized.

Also included in Appendix B is the REX-East Weed Management Plan that includes measures to control noxious/invasive weeds during and after construction.

4.2 On-site Mitigation Post Construction

² These waterbodies occur on the recently identified Barnesville Reservoir Alternative between MPs 619.8 to 625.4. Surveys for these areas will begin in September 2007. The results of the surveys will be provided to the COE and Ohio EPA.

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4.2.1 Wetlands

All wetlands affected by construction will be restored to preconstruction grade and subsequently monitored in accordance with the REX-East Procedures.

Emergent Wetlands - Emergent wetlands within the temporary workspace and permanent easement will be seeded with a variety of herbaceous species native to wetlands in Ohio following construction and allowed to return to preconstruction conditions. See Table C-1 in Appendix C for a list of potential species to be planted within emergent wetlands. Because there will be no permanent conversion of emergent wetlands, no additional compensatory mitigation is proposed.

Scrub-shrub Wetlands - The temporary workspace and a majority of the permanent easement within scrub-shrub wetlands will be seeded with a variety of herbaceous and woody species native to wetlands in Ohio following construction and allowed to return to preconstruction conditions. See tables C-1 and C-2 in Appendix C for a list of potential species to be planted within scrub-shrub wetlands. Scrub-shrub vegetation may not be restored over a 10-foot-wide corridor centered over the pipeline where maintenance activities may cause a conversion to emergent wetland vegetation. Because there may be a permanent conversion of scrub-shrub vegetation to emergent vegetation, Rockies Express is proposing compensatory mitigation to offset this loss (see section 4.3).

Forested Wetlands - The temporary workspace and a portion of the permanent easement within forested wetlands will be seeded with a variety of herbaceous and woody species native to wetlands in Ohio following construction and allowed to return to preconstruction conditions. See tables C-1 and C-2 in Appendix C for a list of potential species to be planted within forested wetlands. Forest vegetation will not be restored over a 10-foot-wide corridor centered over the pipeline where maintenance activities will cause a conversion to emergent wetland vegetation. In addition, trees greater than 15 feet in height may be removed from a 30-foot-wide corridor centered over the pipeline as often as every 3 years. Because there will be a permanent loss of forested wetland vegetation, compensatory mitigation will be required to offset this loss (see Section 4.3).

4.2.2 Waterbodies

Following pipeline construction and restoration of the streambed and banks, riparian vegetation will be restored at streams where riparian vegetation was present prior to construction. Riparian tree planting will be conducted within the temporary workspace and non-maintained portions of the permanent easement (see Appendix C, Table C-2 for a list of tree and shrub species to be planted in riparian areas). Vegetation maintenance in the permanent easement (with the exception of the maintenance activities over the 30-foot and 10-foot corridors centered over the pipeline described above) would be restricted within 25 feet of the waterbody (as measured from the water's mean high water mark) to allow the establishment of riparian vegetation. This replanting effort within the riparian zone of each stream will vary, as several streams are located within agricultural areas, which contain a very limited riparian zone. The maintained portions of the permanent easement will be planted with native grasses and forbs up to 25-feet from the top-of-bank (see Appendix C, Tables C-3 and C-4). For streams crossed by the HDD method, no vegetation clearing or vegetation maintenance will be conducted over the drill path.

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Ohio**

4.3 Compensatory Mitigation

Compensatory Mitigation requirements vary by agency and by resource type. Below are descriptions of the agency requirements for compensatory mitigation. Appendix D, Table D-1 lists wetland impacts and compensatory mitigation required for each wetland type per 8-digit watershed. Although compensatory wetland mitigation is preferred to occur in as close to the affected area as possible, in certain situations (e.g., such as where the mitigation would total less than 1 acre) combining certain mitigation requirements at one location might provide a more environmentally beneficial result. Therefore, a variety of mitigation opportunities are being investigated to address permanent wetland conversion impacts.

4.3.1 COE and OEPA

To satisfy the requirements of the COE and OEPA for wetlands regulated under section 404 of the CWA (i.e., non-isolated), Rockies Express is proposing compensatory mitigation at a replacement ratio of 3:1 for forested wetland and 2.5:1 for scrub-shrub wetland impacts. Compensatory wetland mitigation will total 4.5 acres of forested wetlands for non-isolated forested wetland vegetation impacts. No non-isolated scrub-shrub wetlands will be permanently affected.

4.3.2 OEPA

To satisfy the requirements of the OEPA for wetlands regulated under Ohio Isolated Wetland (i.e., isolated), Rockies Express is proposing compensatory mitigation at a replacement ratio of 2.5:1 for forested wetland and 2:1 for scrub-shrub wetland impacts. Compensatory wetland mitigation will total 1.0 acre of forested wetlands and 0.2 acre of scrub-shrub wetlands for non-isolated wetland vegetation impacts.

4.3.3 Proposed Mitigation

Rule 3745-1-54 (D)(2) of the Ohio Administrative Code (OAC) states that "Compensatory mitigation for linear projects (e.g. highways) in wetlands, as allowed by paragraphs (D)(1)(b)(v) and (D)(1)(c)(vii) of this rule, may be mitigated for by the following, in descending order of practicability:

- (a) In accordance with paragraph (E) of rule 3745-1-54 (see Appendix E); or
- (b) Wetland impacts associated with a linear project may be mitigated at a single mitigation location or wetland mitigation bank, acceptable to the director, within each watershed in which such impacts occur; or
- (c) If no wetland mitigation bank acceptable to the director is located within the watershed in which the impact occurs, then mitigation may occur in another watershed impacted by the linear project; at a single mitigation location, or a wetland mitigation bank, acceptable to the director; or
- (d) If no wetland mitigation bank occurs within any of the watersheds connected with the linear project, then mitigation may occur within the watershed in which the largest impacts (in terms of area) occur.

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After reviewing the OAC, the amounts and locations of wetland impacts, and potential mitigation options, Rockies Express is proposing to purchase 5.7 credits in three wetland mitigation banks across the state of Ohio to mitigate for the permanent impacts on wetlands resulting from construction of the REX-East Pipeline Project.

Wetland banking was chosen as the most ecologically beneficial and practical choice for mitigation on this project for several reasons. The 2.0 acres of permanent wetland impacts requiring mitigation are comprised of 29 small individual impact areas. Many of these impact areas are 0.10 acre in size or less. Creating this many individual mitigation areas is impractical and would provide negligible, if any, regional wetland benefits.

Rockies Express considered the possibility of onsite mitigation, which is typically preferable, as stated in paragraph (E) of the rule; however, Rockies Express does not own the land on which the pipeline will be constructed. Due to the fact that individual wetland impact areas are very small and fragmented and that there are existing wetland mitigation banks along the proposed pipeline route, mitigation banking was determined to be the most feasible and best-suited option for the proposed pipeline project through Ohio in accordance with the OAC. Because individual wetland impacts are small in size and distributed over nine different watersheds along the route, REX proposes to combine the required wetland mitigation into larger wetland banking complexes.

In an attempt to distribute and provide wetland mitigation in multiple watersheds across the length of the project, three wetland bank sites are proposed to be utilized for mitigation needs in the state of Ohio. The three selected banks have approved service areas that include the affected pipeline corridor. These banks include:

- Little Scioto Wetland Mitigation Bank in the Upper Scioto watershed (HUC 05060001), Marion County
- Chippewa North Wetland Mitigation Bank in the Muskingum River and Wills Creek watershed service areas (HUC 05040004 and 05040005), Medina County
- Panzner Wetland Wildlife Refuge Mitigation Bank in the Muskingum River and Wills Creek watershed service areas (HUC 05040004 and 05040005), Summit County

5.0 MONITORING PLAN

The following is a description of the predetermined goals set forth for the proposed wetland mitigation. A failure to meet these goals will result in the need for remedial actions which may include supplemental plantings, replanting or reseeding, removal of aggressive species, and/or adding acreage. In order to be considered successful, the mitigation area must meet all of the following success criteria for two consecutive years within a five year period.

5.1 Success Criteria

5.1.1 On-Site Mitigation Areas

**Conceptual Mitigation Plan Rockies Express Pipeline – East Project
Ohio**

The success of wetland revegetation in the areas affected by construction will be monitored and documented annually for the first 3 years after construction or until wetland revegetation is successful. At the end of 3 years after construction, a report will be submitted to the COE and OEPA documenting the status of the wetland revegetation efforts that includes the percent cover achieved and problem areas (weed invasion issues, poor revegetation, etc.). Reports will continue to be filed annually until wetland revegetation is deemed successful by the COE and OEPA.

Wetland revegetation will be considered successful if the cover of herbaceous and/or woody species is at least 80 percent of the type, density, and distribution of the vegetation in adjacent wetland areas that were not disturbed by construction. If revegetation is not successful at the end of 3 years, a remedial revegetation plan will be developed and implemented (in consultation with a professional wetland ecologist) to actively revegetate the wetlands. Revegetation efforts will continue until wetland revegetation is deemed successful by the COE and OEPA.

Appendix A-1
Wetlands Crossed in Ohio

**See Appendix B-2 included with the supplemental
information provided with the Ohio EPA Application for
401 Water Quality Certification**

**Appendix A-2
Waterbodies Crossed in Ohio**

**See Appendix B-1 included with the supplemental
information provided with the Ohio EPA Application for
401 Water Quality Certification**

Appendix B
REX-East Wetland and Waterbody Construction
and Mitigation Procedures

(provided as Appendix E of Supplemental Information)

Appendix B
REX-East Weed Management Plan

ROCKIES EXPRESS PIPELINE COMPANY LLC

ROCKIES EXPRESS PIPELINE – EAST PROJECT
WEED MANAGEMENT PLAN

July 2007

Prepared by:



Natural Resource Group, Inc.

WEED MANAGEMENT PLAN

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ROCKIES EXPRESS PIPELINE-EAST PROJECT WEED MANAGEMENT PLAN

1.0 INTRODUCTION

Under Executive Order 13112, federal agencies shall not authorize, fund, or carry out actions that are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species. Under the Noxious Weed Act, county, state, and federal agencies are charged with the responsibility to identify and control invasive plant species that are harmful to public health, crops, livestock, land, or other property. To assist this effort, Rockies Express Pipeline Company LLC (Rockies Express) has developed this Weed Management Plan to support the Rockies Express Pipeline-East (REX-East) Project.

1.1 PLAN PURPOSE

The purpose of this plan is to prescribe methods to prevent and control the spread of noxious weeds during and following construction of the REX-East Project. Rockies Express and its contractors will be responsible for carrying out the methods described in this plan.

1.2 GOALS AND OBJECTIVES

Noxious weeds have the potential to invade areas disturbed by construction and may spread along the cleared areas of the pipeline right-of-way. Soil disturbance may also allow weed seed already present to germinate and grow. The goals of weed control are to implement preventative measures to eliminate the spread of noxious weeds during construction of the pipeline and to implement prescribed treatments to eliminate, to the maximum extent possible, the invasion of noxious weeds from surrounding lands.

2.0 NOXIOUS WEED INVENTORY

Rockies Express conducted file searches and noxious weed consultations to identify existing noxious weed infestations along the pipeline right-of-way and adjacent additional temporary workspace areas, at aboveground facility sites, along new or improved access roads, and within ancillary facility locations where clearing will be required. To identify noxious weeds that potentially occur within the proposed project area and known locations of noxious weed infestations crossed by the proposed project, as well as seeding recommendations, erosion control recommendations, and the identification of Wetland Reserve Program and Conservation Reserve Program lands in the project area, Rockies Express consulted with the Natural Resources Conservation Service (NRCS) offices in Missouri, Illinois, Indiana, and Ohio. Early identification of existing infestations is intended to help minimize the spread of noxious weeds by identifying sites where preventative measures could be implemented.

NRCS offices in Missouri, Illinois, and Indiana all responded to consultation requests by providing state-specific NRCS Critical Area Planting Conservation Standards. In addition, the Missouri NRCS provided a list of statewide noxious weed species. The Ohio NRCS declined participation in the consultation process. Table 2-1 lists the noxious weeds that have been identified as potentially occurring along the pipeline route.

TABLE 2-1					
Rockies Express Pipeline-East Project					
Designated Noxious Weeds Potentially Occurring Along the Proposed Pipeline Route					
Noxious Weed Species		State of Potential Occurrence			
		Missouri	Illinois	Indiana	Ohio
Burcucumber	(<i>Sicyos angulatus</i>)			X	
Canada Thistle	(<i>Cirsium arvense</i>)	X	X	X	X
Columbus Grass	(<i>Sorghum alnum</i>)		X	X	
Common Ragweed	(<i>Ambrosia artemisiifolia</i>)		X		
Common Teasel	(<i>Dipsacus latifolium</i>)	X			
Cressleaf Groundsel	(<i>Senecio glabellus</i>)				X
Cut-leaved Teasel	(<i>Dipsacus laciniatus</i>)	X			
Field Bindweed	(<i>Convolvulus arvensis</i>)	X			
Giant Ragweed	(<i>Ambrosia trifida</i>)		X		
Grapevines	(<i>Vitis L.</i>)				X
Johnsongrass	(<i>Sorghum halepense</i>)	X	X	X	X
Kudzu	(<i>Pueraria lobata</i>)	X	X		
Mile-a-minute Weed	(<i>Polygonum perfoliatum</i>)				X
Multiflora Rose	(<i>Rosa multiflora</i>)	X		X	
Musk Thistle	(<i>Carduus nutans</i>)	X	X		X
Ox-eye Daisy	(<i>Chrysanthemum leucanthemum</i>)				X
Perennial Sowthistle	(<i>Sonchus arvensis</i>)		X		
Poison Hemlock	(<i>Conium maculatum</i>)				X
Purple Loosestrife	(<i>Lythrum salicaria</i>)	X		X	X
Russian Thistle	(<i>Salsola kali</i>)				X
Scotch Thistle	(<i>Onopordum acanthium</i>)	X			
Shattercane	(<i>Sorghum bicolor</i>)			X	X
Wild Carrot	(<i>Daucus carota</i>)				X
Wild Mustard	(<i>Brassica kaber</i>)				X
Wild Parsnip	(<i>Pastinaca sativa</i>)				X
Source: U.S. Department of Agriculture, 2007, State Noxious Weed Reports, Available online at https://plants.usda.gov/java/noxiousDriver . Accessed March 2007.					

3.0 NOXIOUS WEED MANAGEMENT

Weeds are spread by a variety of means including humans (e.g., hikers/recreationalists), vehicles, construction equipment, construction and reclamation materials, livestock, and wildlife. Implementation of preventative measures to control the spread of noxious weeds is the most cost effective management approach.

3.1 PREVENTATIVE MEASURES

The following preventative measures will be used to prevent the spread of noxious weeds along the REX-East Project:

- All Contractor vehicles and equipment will arrive at the work site clean and weed-free. Prior to being allowed access to the right-of-way or ancillary facilities, an inspector will ensure that vehicles and equipment are free of soil and debris capable of transporting noxious weed seeds, roots, or rhizomes.

- The contractor will implement the reclamation of disturbed lands following construction as outlined in the Rockies Express Pipeline-East Project Upland Construction Plan. Continuing revegetation efforts will ensure adequate vegetative cover to prevent the invasion of noxious weeds.
- The contractor will ensure soils imported for agricultural or residential use are free of noxious weeds, unless otherwise approved by the landowner.
- Equipment will not be sprayed with pre-emergent chemicals as a preventative measure as these chemicals target a wide range of vegetation. As a result, the use of such chemicals could affect the success of revegetation efforts.
- Field wash stations will not be used as a preventative measure as they have not proven to be an effective means of weed control. In order for a wash station to be effective, high pressure steam cleaners and controlled drainage are essential. These criteria cannot be met in the field. As a result, field wash stations run the risk of creating conditions favorable to seed germination (e.g., presence of seeds or rhizomes, presence of disturbed soils, water from uncontrolled drainage).

3.2 TREATMENT METHODS

Noxious weed controls will be used in accordance with existing regulations and landowner or agency agreements in non-agricultural lands and in above ground facilities. Upon locating and identifying noxious weeds subsequent to, during, or after construction, appropriate herbicides may be applied on the identified weed infestations along the construction right-of-way to reduce the spread or proliferation of weeds. Post-construction control measures may also include one or more of the following methods:

- Mechanical methods reliant on the use of equipment to disc or excavate weed populations. If this method is used, subsequent seeding will be conducted to re-establish a desirable vegetative cover which will stabilize the soils and slow the potential re-invasion of noxious weeds. Seed selection will be based on site-specific conditions, and the appropriate seed mix identified for those conditions.
- Biological methods can be an effective means of controlling the spread of noxious weed populations. The use of biological agents should be coordinated with local agencies on a site-specific basis as some agents may also attack native species.
- Herbicide application is an effective means of reducing the size of noxious weed populations. Herbicide application and handling methods are described in section 5.0.
- In the event that an area is not seeded until the following spring because of weather or scheduling constraints, undesirable vegetation will be eradicated prior to seeding. A short-lived herbicide may be used to avoid impact to subsequent seeding.

3.3 EDUCATION

Rockies Express and the contractor(s) will provide information regarding noxious weed identification, management, and impacts on agriculture, livestock, and wildlife to their appropriate employees. The critical importance of preventing the spread of noxious weeds in areas not infested and controlling the proliferation of weeds already present will be explained. The importance of adhering to measures to prevent the spread of noxious weeds (e.g., not driving off the cleared right-of-way, cleaning vehicles that collect soil and plant seeds, and quickly identifying new infestations of noxious weeds) will be stressed.

4.0 MONITORING

Rockies Express will periodically monitor the right-of-way and ancillary facilities for noxious weeds following construction of the project. Treatment of infestation sites on the right-of-way or ancillary facilities identified during the monitoring is addressed in Rockies Express' Agricultural Impact Mitigation Plan.

5.0 HERBICIDE APPLICATION, HANDLING, SPILLS, AND CLEANUP

Herbicide selection (if required) would be based on information gathered from the NRCS state offices.

5.1 HERBICIDE APPLICATION AND HANDLING

- Prior to herbicide application, the contractor of Rockies Express will obtain any required permits from the NRCS if necessary, and in accordance to the REX-East Procedures. Herbicides will not be used within 100 feet of a wetland or waterbody, except as allowed by the appropriate land management agency or state agency. The chemical application will be done by a licensed contractor in accordance with all applicable laws and regulations. Herbicide label instructions will be strictly adhered to. Application of herbicides will be suspended when the following conditions exist:
 - wind velocity exceeds 6 miles per hour for application of liquids or 15 miles per hour for application of granular herbicides;
 - snow or ice covers the foliage of noxious weeds; or
 - precipitation is occurring or likely to occur.

Vehicle-mounted sprayers (e.g., handgun, boom, injector) will be used primarily in open areas that are readily accessible by vehicle. Hand application methods (e.g., backpack spraying) that target individual plants will be used to treat small scattered weed populations in rough terrain. Calibration checks of equipment will be conducted at the beginning of spraying and periodically thereafter to ensure proper application rates are being achieved.

Herbicides will be transported daily to the project site with the following provisions:

- concentrate will be transported only in containers in a manner that will prevent tipping or spilling, and in a compartment that is isolated from food, clothing, and safety equipment; and

- mixing will only be conducted on-site and will only be done more than 200 feet from open or flowing water, wetlands, or other sensitive resources.

All herbicide equipment and containers will be inspected daily for leaks.

5.2 HERBICIDE SPILLS AND CLEANUP

Rockies Express has created a Spill Prevention, Containment, and Countermeasure Plan. All reasonable precautions will be taken to avoid spilling herbicides. In the event of an herbicide spill, a spill kit carried in company vehicles and/or kept in herbicide storage areas will allow for a quick and effective response to spills. Items in a spill kit may include (but is not limited to):

- Protective clothing and gloves;
- Absorptive clay, "kitty litter", or other commercial adsorbent;
- Plastic bags and bucket;
- Shovel;
- Fiber brush and screw-in handle;
- Dust pan;
- Caution tape;
- Highway flares (for use on established roads only); and
- Detergent.

Response to a herbicide spill will vary with the size and location of the spill, but general procedures include:

- Traffic control;
- Dress cleanup team with protective clothing;
- Stop leaks;
- Contain spilled material;
- Clean up and remove spilled herbicide and contaminated adsorptive material and soil; and
- Transport spilled pesticide and contaminated material to an authorized disposal site.

5.3 WORKER SAFETY AND SPILL REPORTING

All herbicide contractors will obtain and have readily available copies of the appropriate Material Safety Data Sheets for the herbicides being used. Herbicide spills will be reported in accordance with all applicable laws and requirements.

6.0 REFERENCES

Natural Resources Conservation Service (NRCS). 2006. Letter dated June 23, from R. Hansen (NRCS) to B. Jensen (Natural Resource Group, Inc.).

Appendix C-1
Herbaceous Species to be Planted within
Emergent Wetlands

TABLE C-1 REX - East Project Potential Herbaceous Species to be Planted Within Emergent Wetlands	
Scientific Name	Common Name
<i>Alisma subcordatum</i>	Water Plantain
<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Avena sativa</i>	Seed Oats
<i>Bidens cernua</i>	Nodding Bur Marigold
<i>Carex lupulina</i>	Hop Sedge
<i>Carex vulpinoidea</i>	Fox Sedge
<i>Elymus virginicus</i>	Virginia Wild Rye
<i>Epilobium coloratum</i>	Cinnamon Willow Herb
<i>Eupatorium perfoliatum</i>	Boneset
<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod
<i>Glyceria striata</i>	Fowl Manna Grass
<i>Iris virginica</i>	Blue Flag
<i>Juncus effusus</i>	Soft Rush
<i>Leersia oryzoides</i>	Rice Cut-grass
<i>Lolium multiflorum</i>	Annual Rye
<i>Mimulus ringens</i>	Monkey Flower
<i>Panicum virgatum</i>	Switchgrass
<i>Rudbeckia laciniata</i>	Black-eyed Susan
<i>Sagittaria latifolia</i>	Arrowhead
<i>Scirpus atrovirens</i>	Dark Green Bulrush
<i>Scirpus pendulus</i>	Red Bulrush
<i>Verbena hastata</i>	Blue Vervain
<i>Vernonia gigantea</i>	Tall Ironweed

Appendix C-2
Tree and Shrub Species to be Planted within
Scrub-shrub and Forested Wetlands and Riparian Areas

TABLE C-2 REX - East Project Potential Tree and Shrub Species to be Planted Within and Adjacent to Wetland and Waterbody Crossings	
Scientific Name	Common Name
<i>Acer rubrum</i>	Red Maple
<i>Cephalanthus occidentalis</i>	Buttonbush
<i>Cornus obliqua</i>	Silky Dogwood
<i>Ilex verticillata</i>	Winterberry
<i>Physocarpus opulifolius</i>	Ninebark
<i>Platanus occidentalis</i>	Sycamore
<i>Quercus bicolor</i>	Swamp White Oak
<i>Quercus palustris</i>	Pin Oak
<i>Quercus rubra</i>	Red Oak
<i>Sambucus canadensis</i>	Elderberry

Appendix C-3
Potential Herbaceous Species to be Planted within
And Adjacent to Waterbody Crossings (Riparian Areas)
In Western Ohio

<p align="center">TABLE C-3 REX - East Project Potential Herbaceous Species to be Planted Within and Adjacent to Waterbody Crossings (Riparian Areas) in Western Ohio¹</p>	
Scientific Name	Common Name
<i>Arisaema triphyllum</i>	Jack in the Pulpit
<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Aster lateriflorus</i>	Side-flowering Aster
<i>Avena sativa</i>	Seed Oats
<i>Bidens frondosa</i>	Beggarticks
<i>Campanula americana</i>	Tall Bellflower
<i>Carex crinita</i>	Fringed Sedge
<i>Carex hystericina</i>	Porcupine Sedge
<i>Carex lupulina</i>	Hop Sedge
<i>Carex vulpinoidea</i>	Fox Sedge
<i>Diarrhena americana</i>	Beak Grass
<i>Elymus riparius</i>	Riverbank Wild Rye
<i>Elymus virginicus</i>	Virginia Wild Rye
<i>Eupatorium perfoliatum</i>	Boneset
<i>Eupatorium rugosum</i>	White Snakeroot
<i>Glyceria striata</i>	Fowl Manna Grass
<i>Lobelia cardinalis</i>	Cardinal Flower
<i>Lobelia siphilitica</i>	Great Lobelia
<i>Lolium multiflorum</i>	Annual Rye
<i>Mimulus ringens</i>	Monkey Flower
<i>Panicum virgatum</i>	Switchgrass
<i>Rudbeckia laciniata</i>	Black-eyed Susan
<i>Scirpus pendulus</i>	Red Bulrush
<i>Senecio aurea</i>	Golden Ragwort
<i>Silphium perfoliatum</i>	Cup Plant
<i>Spartina pectinata</i>	Prairie Cordgrass
<i>Verbena hastata</i>	Blue Vervain
<i>Vernonia gigantea</i>	Giant Ironweed
<p>¹ Includes the following counties: Butler, Warren, Clinton, Greene, Fayette, and Pickaway</p>	

Appendix C-4
Potential herbaceous Species to be Planted within
And Adjacent to Waterbody Crossings (Riparian Areas)
for Eastern Ohio

TABLE C-4
REX - East Project
Potential Herbaceous Species to be Planted Within and Adjacent to Waterbody Crossings
(Riparian Areas) for Eastern Ohio¹

Scientific Name	Common Name
<i>Asclepias incarnata</i>	Swamp Milkweed
<i>Aster lateriflorus</i>	Side-flowering Aster
<i>Avena sativa</i>	Seed Oats
<i>Campanula americana</i>	Tall Bellflower
<i>Carex crinita</i>	Fringed Sedge
<i>Carex lupulina</i>	Hop Sedge
<i>Carex vulpinoidea</i>	Fox Sedge
<i>Elymus canadensis</i>	Canada Wild Rye
<i>Elymus riparius</i>	Riverbank Wild Rye
<i>Eupatorium perfoliatum</i>	Boneset
<i>Glyceria striata</i>	Fowl Manna Grass
<i>Lobelia siphilitica</i>	Great Lobelia
<i>Lolium multiflorum</i>	Annual Rye
<i>Mimulus ringens</i>	Monkey Flower
<i>Panicum virgatum</i>	Switchgrass
<i>Polygonatum biflorum</i>	Smooth Solomon's Seal
<i>Rudbeckia hirta</i>	Black-eyed Susan
<i>Rudbeckia laciniata</i>	Black-eyed Susan
<i>Senecio aurea</i>	Golden Ragwort
<i>Smilacina racemosa</i>	False Solomon's Seal
<i>Solidago caesia</i>	Blue-stem Goldenrod

¹ Includes the following counties: Fairfield, Perry, Muskingum, Guernsey, Noble, Belmont, Monroe Counties

Appendix D-1
Wetland Mitigation Requirements by Watershed

Rockies Express Pipeline-East Project
Conceptual Mitigation Plan
Appendix D-1 Mitigation Requirements by Watershed

NOTES:

* Acres calculated as follows: 30 feet x crossing width of impact for PFO and 10 feet x length of impact for PSS.

**Ratios for Isolated Mitigation are as follows: 2.5:1 for PFO / 2:1 for PSS (Assumes all PFO and PSS are Category II wetlands) / No Off Site Mitigation required for PEM.

***Ratios for Non-Isolated Mitigation are as follows: 3:1 for PFO / 2.5:1 for PSS / No Off Site Mitigation required for PEM.

Watershed: 05080003: Whitewater

Counties: Butler

Wetland Type	Number of Isolated Wetlands	Crossing Width of Isolated Impact (ft)	Isolated Impact Acres*	Isolated Off Site Mitigation Acres Needed**	Number of Non-Isolated Wetlands	Crossing Width of Non-Isolated Impact (ft)	Non-Isolated Impact Acres*	Non-Isolated Off Site Mitigation Acres Needed***	Total Mitigation Acres Needed
PFO	0	0	0.00	0	2	93	0.10	0.30	0.30

Watershed: 05080002: Lower Great Miami

Counties: Butler, Warren

Wetland Type	Number of Isolated Wetlands	Crossing Width of Isolated Impact (ft)	Isolated Impact Acres*	Isolated Off Site Mitigation Acres Needed**	Number of Non-Isolated Wetlands	Crossing Width of Non-Isolated Impact (ft)	Non-Isolated Impact Acres*	Non-Isolated Off Site Mitigation Acres Needed***	Total Mitigation Acres Needed
PFO	2	163	0.10	0.25	8	1008	0.60	1.80	2.05

Watershed: 05090202: Little Miami

Counties: Warren, Clinton, Greene

Wetland Type	Number of Isolated Wetlands	Crossing Width of Isolated Impact (ft)	Isolated Impact Acres*	Isolated Off Site Mitigation Acres Needed**	Number of Non-Isolated Wetlands	Crossing Width of Non-Isolated Impact (ft)	Non-Isolated Impact Acres*	Non-Isolated Off Site Mitigation Acres Needed***	Total Mitigation Acres Needed
PFO	2	151	0.10	0.25	0	0	0.00	0.00	0.25

Watershed: 05060003: Paint

Counties: Greene, Fayette

Wetland Type	Number of Isolated Wetlands	Crossing Width of Isolated Impact (ft)	Isolated Impact Acres*	Isolated Off Site Mitigation Acres Needed**	Number of Non-Isolated Wetlands	Crossing Width of Non-Isolated Impact (ft)	Non-Isolated Impact Acres*	Non-Isolated Off Site Mitigation Acres Needed***	Total Mitigation Acres Needed
PFO	0	0	0.00	0.00	2	190	0.10	0.30	0.80

Rockies Express Pipeline-East Project
Conceptual Mitigation Plan
Appendix D-1 Mitigation Requirements by Watershed

Watershed: 05060001: Upper Scioto

Counties: Pickaway, Fairfield

Wetland Type	Number of Isolated Wetlands	Crossing Width of Isolated Impact (ft)	Isolated Impact Acres*	Isolated Off Site Mitigation Acres Needed**	Number of Non-Isolated Wetlands	Crossing Width of Non-Isolated Impact (ft)	Non-Isolated Impact Acres*	Non-Isolated Off Site Mitigation Acres Needed***	Total Mitigation Acres Needed
PFO	2	303	0.20	0.50	0	0	0.00	0.00	0.50

Watershed: 05030204: Hocking

Counties: Fairfield, Perry

Wetland Type	Number of Isolated Wetlands	Crossing Width of Isolated Impact (ft)	Isolated Impact Acres*	Isolated Off Site Mitigation Acres Needed**	Number of Non-Isolated Wetlands	Crossing Width of Non-Isolated Impact (ft)	Non-Isolated Impact Acres*	Non-Isolated Off Site Mitigation Acres Needed***	Total Mitigation Acres Needed
PFO	0	0	0.00	0	3	250	0.10	0.30	0.30

Watershed: 05040004: Muskingum

Counties: Perry, Muskingum

Wetland Type	Number of Isolated Wetlands	Crossing Width of Isolated Impact (ft)	Isolated Impact Acres*	Isolated Off Site Mitigation Acres Needed**	Number of Non-Isolated Wetlands	Crossing Width of Non-Isolated Impact (ft)	Non-Isolated Impact Acres*	Non-Isolated Off Site Mitigation Acres Needed***	Total Mitigation Acres Needed
PFO	0	0	0.00	0	8	1001	0.60	1.80	1.80
PSS	3	404	0.10	0.20	0	0	0.00	0.00	0.20

SUMMARY - ALL WATERSHEDS

Wetland Type	Number of Isolated Wetlands	Crossing Width of Isolated Impact (ft)	Isolated Impact Acres*	Isolated Off Site Mitigation Acres Needed**	Number of Non-Isolated Wetlands	Crossing Width of Non-Isolated Impact (ft)	Non-Isolated Impact Acres*	Non-Isolated Off Site Mitigation Acres Needed***	Total Mitigation Acres Needed
	9.00		0.50	1.20	23.00		1.50	4.50	
TOTAL ISOLATED WETLAND MITIGATION ACRES NEED									1.20
TOTAL NON-ISOLATED WETLAND MITIGATION ACRES NEED									4.50
									5.70

Appendix E
Ohio Administrative Code

Ohio Administrative Code

Rule 3745-1-54 Wetland Antidegradation

(E) Compensatory mitigation ratio, replacement category, and mitigation location requirements. Compensatory mitigation ratio, replacement category, and mitigation location requirements for antidegradation categories 1 to 3 are listed in the table 1 of this rule. Options for mitigation projects which may be acceptable to the director are described in paragraphs (E)(3) to (E)(6) of this rule.

(1) When compensatory mitigation is approved.

(a) For category 2 wetlands and category 3 wetlands, if compensatory mitigation is to be off-site, the applicant shall demonstrate the impracticability of mitigating on-site.

(b) Compensatory mitigation shall be in-kind unless there is a compelling ecological reason that it should not be.

(c) The mitigation location shall be as defined in paragraph (F) of this rule unless the applicant demonstrates:

(i) The mitigation is located at a mitigation bank, acceptable to the director, and the wetland which is proposed to be impacted is within the mitigation service area for the mitigation bank, and the director determines that mitigation at the mitigation bank is acceptable; or

(ii) There is a significant ecological reason that the mitigation location should not be limited to the mitigation location specified in table 1 and the proposed mitigation will result in a substantially greater ecological benefit. Generally, if compensatory mitigation is approved to occur outside of the watershed specified in paragraph (F) of this rule, it shall be located in a watershed which is adjacent to the watershed where the impact is proposed to occur, or has occurred.

(d) Restoration or creation of wetlands as the sole component of compensatory mitigation shall be in accordance with the ratios and other provisions in paragraph (F) of this rule.

(e) The director shall require the applicant to conduct ecological monitoring of the compensatory mitigation project and submit annual reports detailing the results of the ecological monitoring for a period of at least five years following construction of the compensatory mitigation. The ecological monitoring may include, but is not limited to, collection of data on hydrologic characteristics, vegetation communities and soils at the compensatory mitigation site and conducting an assessment of the compensatory mitigation wetlands using an appropriate wetland evaluation method acceptable to the director. The director may reduce or increase the number of years for which ecological monitoring is required to be conducted based on the effectiveness of the compensatory mitigation project.

(f) The applicant must demonstrate that the compensatory mitigation site will be protected in perpetuity and that appropriate management measures are, or will be, in place to restrict harmful activities that may jeopardize the mitigation wetland.

(2) Wetland restoration shall be the form of compensatory mitigation unless it can be demonstrated by the applicant that wetland restoration is impracticable. Alternative compensatory mitigation options include wetland creation, and wetland enhancement. These and other alternative compensatory mitigation options, including preservation of high quality wetlands and non-wetland buffers adjacent to wetlands assigned to category 2 or category 3 which have been avoided in accordance with other provisions of this rule, may be considered on a case-by-case basis.

(3) Restoration or creation of wetlands as compensatory mitigation shall replace the impacted wetland with an equivalent or higher quality wetland.

(4) Wetland enhancement

(a) Wetland enhancement may be a component of acceptable compensatory mitigation. In determining the acceptability of wetlands enhancement as compensatory mitigation, the director shall consider the extent to which the enhancement activities will improve or repair the existing or natural functions and values of the wetland.

(b) Wetland enhancement will be considered most favorably as a component of compensatory mitigation when it is located adjacent to a wetlands restoration project.

(c) When wetland enhancement is a component of acceptable compensatory mitigation, wetlands restoration or creation must also be a component of the compensatory mitigation and shall result in at least one acre of restored or created wetland for each acre of wetland that is impacted. Wetland enhancement must occur at a rate of at least two acres of wetland enhancement for every remaining acre of the compensatory wetland mitigation requirement. The wetland enhancement requirement can be calculated using the following equation:

$$E = [(LMR - 1) \times 2] \times N; \text{ where}$$

E = minimum number of acres of wetlands required to be enhanced;

LMR = left side of mitigation ratio, from the wetland mitigation table of paragraph (F)(1) of this rule; and

N = number of acres of impacted wetlands.

For example, if the required mitigation ratio is 3:1 for an impact to two acres of wetland, an acceptable mitigation plan may include at least two acres of restored or created wetlands and at least eight acres of enhanced wetlands.

(5) Wetland preservation.

(a) The director may, in exceptional circumstances, consider wetland preservation, as defined in rule 3745-1-50 of the Administrative Code, for mitigation if the applicant can demonstrate the following:

(i) The wetland to be preserved is a category 3 wetland which will be preserved in perpetuity, or the wetland to be preserved is pivotal in protecting a category 3 wetland and both wetlands will be preserved in perpetuity; and

(ii) There is concurrence with the decision to accept the wetland to be preserved for mitigation purposes by the Ohio department of natural resources, and other environmental resource agencies the director deems necessary; and

(iii) The wetland to be preserved for mitigation purposes should have important habitat and/or water quality characteristics which are imminently threatened; and

(iv) The wetland to be preserved for mitigation purposes shall be deeded to a responsible party for management and/or enhancement in accordance with a plan approved by the director; and

(v) Purchase and transfer of the deed for the wetland to be preserved for mitigation purposes shall occur prior to any filling of wetlands at the project site.

(b) When preservation is a component of acceptable compensatory mitigation, wetlands restoration or creation must also be a component of the mitigation and shall result in at least one acre of restored or created wetland for each acre of wetland that is impacted, unless the director determines that restoration or creation need not be a component of compensatory mitigation based on significant ecological reasons. Wetland preservation must occur at a rate of two acres of preservation for every remaining acre of the compensatory wetland mitigation requirement. The wetland preservation requirement can be calculated using the following equation:

$$P = [(LMR - 1) \times 2] \times N, \text{ where}$$

P = minimum number of acres of wetlands required to be preserved;

LMR = left side of mitigation ratio, from wetland mitigation table in paragraph (F)(1) of this rule; and

N = number of acres of impacted wetlands.

For example, if the required mitigation ratio is 3:1 for an impact to two acres of wetland, an acceptable mitigation plan may include at least two acres of restored wetlands and at least eight acres of preserved wetlands.

(6) Non-wetland buffers which are adjacent to wetlands assigned to category 2 or category 3 and which are avoided in accordance with the requirements of paragraph (D)(1)(b)(i) or (D)(1)(c)(i) of this rule, may be a component of acceptable compensatory mitigation, if the applicant can demonstrate the following:

(a) The non-wetland buffer and the wetland are preserved in perpetuity;

(b) The non-wetland buffer consists of natural vegetation which is not maintained through mowing, application of herbicide or other means which would result in deleterious effects to either the non-wetland buffer or the adjacent wetland; and

(c) When non-wetland buffers are a component of acceptable compensatory mitigation, the buffers shall not be considered to fulfill more than 0.5 units of the required mitigation ratio, as identified in table 1 of this rule. For example, non-wetland buffers could be used to reduce the mitigation requirement from 2.0:1 to 1.5:1.

Ohio Laws and Rules 2007 Website accessed at <http://codes.ohio.gov/oac/3745-1-54>

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

4. Provide detailed plans and geotechnical survey reports for the crossing of: Embarras River (MP 202.9), Wabash River (MP 247.3), HDD crossings of Tributaries to White Lick Creeks and open area (MP 312.4), White water River (MP 393.2), Four Mile Creek, Deer Creek (MP 499.6), Muskingum River (577.2) and HDD in the Slope Creek Barnesville Reservoir area (MP 621.9).
-

Rockies Express' Response:

Rockies Express has filed its geotechnical reports for the Tributary to White Lick Creek (August 27, 2007 supplemental filing), Whitewater River (June 19, 2007 Environmental Information Request response filing), and Four Mile Creek (July 27, 2007 supplemental filing). Geotechnical investigations for the Embarras River, Wabash River, Deer Creek, and Muskingum River are in progress or have not been completed due to landowner denied survey access. Copies of these geotechnical studies will be filed with the Federal Energy Regulatory Commission as soon as they are completed.

Rockies Express has included as "Non-Internet Public" information its horizontal directional drill crossing plans for the requested waterbodies, with the exception of Slope Creek Barnesville Reservoir. Rockies Express no longer proposes to cross the Slope Creek Barnesville Reservoir (see the response to Resource Report 10, Environmental Information Request No. 6).

Submitted by:
Ryan H. Childs - Cimarron Environmental Consulting, Inc.
Project Environmental Manager (contractor)
Rockies Express Pipeline-East Project

September 17, 2007

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

5. **Provide restoration and mitigation plans developed in consultation with Indiana Department of Natural Resources (INDNR) to minimize impact to riparian areas. Also, identify waterbodies that require "Floodway Licensing" from the INDNR.**
-

Rockies Express' Response:

Rockies Express' Conceptual Mitigation Plan for Indiana identifies the restoration and mitigation procedures that will be implemented to minimize impacts on riparian areas. A copy of the plan is attached to this response. Copies also will be provided to the U.S. Army Corps of Engineers as part of the Section 404 application, the Indiana Department of Environmental Management (IDEM) as part of the Section 401 application, and the Indiana Department of Natural Resources (INDNR) Division of Water as part of the floodway license applications. Rockies Express will file comments on the plan from these agencies, if any, once they are received.

As part of the flood control act permitting requirements, Rockies Express understands that the INDNR will require tree planting (either bare root seedlings or containerized trees) within temporary extra workspace in riparian areas that are cleared during construction. Requirements for species types and density of plantings will be confirmed with INDNR staff as part of their review of the individual permit applications.

The REX-East Project pipeline will cross 74 waterbodies in Indiana that require a crossing license from the INDNR Division of Water under IC 14-28-1. Our analysis indicated that of these 74 waterbodies, 29 waterbodies qualify for the Utility Line Crossing General License defined at 312 IAC 10-5-2; an individual license is not required for these waterbodies. The remainder requires an individual license because they are classified as "outstanding waters" at 16 IR 1677 (n=5) or because they do not qualify for the general license (n=40). Attached to this response is a table listing the waterbodies that require a crossing license and identifies the license type (general or individual) for each crossing.

Submitted by:
Ryan H. Childs - Cimarron Environmental Consulting, Inc.
Project Environmental Manager (contractor)
Rockies Express Pipeline-East Project

September 17, 2007

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

Rockies Express Pipeline-East Project				
Waterbodies Requiring a Crossing License from the INDNR				
County	Milepost	Feature ID	Waterbody Name	License Type
Vermillion	238.6	WB-IN-236-A	Tributary to Goose Creek	General
Vermillion	243.4	WB-IN-243-CCCC	Buck Creek	Individual
Vermillion	244.9	WBD-IN-244-EE	Little Raccoon Creek	Individual
Vermillion/Parke	247.3	WB-IN-246-AA	Wabash River	Individual
Parke	250.7	WB-IN-250-AA	Leatherwood Creek	General
Parke	256.2	WB-IN-256-DDDD	Williams Creek	Individual
Parke	257.1	WB-IN-257-AAAA	Tributary to Williams Creek	General
Parke	258.7	WB-IN-258-BBBB	Sand Creek	Individual
Parke	260.4	WB-IN-257-C	Tributary to Little Raccoon Creek	General
Parke	260.6	WB-IN-260-DDD	Little Raccoon Creek	General
Parke	261.0	WB-IN-258-A	Tributary to Little Raccoon Creek	General
Parke	262.7	WB-IN-259-C	Tributary to Little Raccoon Creek	General
Putnam	268.4	WB-IN-265-A	Byrd Branch	Individual
Putnam	269.9	WB-IN-266-I	Big Raccoon Creek	Individual
Putnam	270.6	WB-IN-267-B	Tributary to Big Raccoon Creek	Individual
Putnam	273.2	WB-IN-270-C	Peters Creek	Individual
Putnam	281.5	WB-IN-277-A	Big Walnut Creek	Individual
Putnam	282.2	WB-IN-278-A	Plum Creek	Individual
Putnam	285.3	WB-IN-281-A	Clear Creek	General
Putnam	286.6	WB-IN-282-B	Monarchs Fork Clear Creek	General
Hendricks	288.7	WB-IN-288-AAA	Miller Creek	General
Hendricks	291.8	WB-IN-291-AAA	Mill Creek	Individual
Hendricks	293.6	WB-IN-289-A	Tributary to East Fork Mill Creek	Individual
Hendricks	294.3	WB-IN-290-A	East Fork Mill Creek	Individual
Hendricks	299.4	WB-IN-295-A	Mud Creek	General
Hendricks	303.2	WBD-IN-302-AA	Tributary to McCracken Creek	Individual
Morgan	304.4	WB-IN-304-AAA	McCracken Creek	Individual
Morgan	311.0	Not available	White Lick Creek	Individual
Morgan	312.4	WB-IN-312-DDD	Tributary to White Lick Creek	General
Morgan	315.8	Not available	West Fork White River	Individual
Morgan	317.5	WBD-IN-315-EE	Crooked Creek	Individual
Morgan	318.1	WBD-IN-316-CC	Banta Creek	General
Johnson	321.3	WB-IN-321-AAAA	Henderson Creek	Individual
Johnson	322.7	WB-IN-322-GGG	North Prong Slotts Creek	General
Johnson	328.9	WB-IN-328-AAA	Ray Creek	Individual
Johnson	330.4	WB-IN-329-AAA	Vandiver Ditch	Individual
Johnson	331.3	WB-IN-330-CCC	Buckhart Creek	General
Johnson	332.2	WB-IN-331-BBB	Tucker Creek	Individual
Johnson	336.1	WB-IN-336-BBBB	Youngs Creek	Individual
Johnson	337.8	WB-IN-337-BBBB	Sugar Creek	Individual
Shelby	340.8	WB-IN-340-AAA	Big Blue River	Individual
Shelby	345.4	WBD-IN-343-BB	Slash Creek	General
Shelby	345.9	WBD-IN-343-CC	East Fork Slash Creek	General
Shelby	349.8	WB-IN-339-B	Van Pelt Ditch	Individual
Shelby	350.2	WB-IN-339-C	Thompson Ditch	General
Shelby	351.5	WB-IN-351-AAAA	Lewis Creek	Individual
Shelby	353.0	WB-IN-352-AAAA	Little Lewis Creek	Individual

September 17, 2007

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

Rockies Express Pipeline-East Project				
Waterbodies Requiring a Crossing License from the INDNR				
County	Milepost	Feature ID	Waterbody Name	License Type
Shelby	353.4	WBD-IN-351-BB	Tributary to Little Lewis Creek	Individual
Shelby	355.1	WBD-IN-354-AAAA	South Fork Lewis Creek	General
Shelby	356.2	WBD-IN-353-AA	Conns Creek	Individual
Shelby	357.2	WB-IN-356-AAA	Deer Creek	Individual
Decatur	359.8	WB-IN-349-A	Mill Creek	Individual
Decatur	362.6	WB-IN-362-CCC	Trib to Flatrock River	General
Decatur	362.7	WBD-IN-360-DD	Flatrock River	General
Decatur	363.8	WB-IN-353-A	Hurricane Creek	Individual
Decatur	364.2	WB-IN-353-C	Little Flatrock River	General
Decatur	367.3	WB-IN-356-A	North Branch Clifty Creek	Individual
Decatur	369.5	WB-IN-356-B	Middle Branch Clifty Creek	General
Decatur	370.1	WBD-IN-367-AA	Tributary to Middle Branch Clifty Creek	Individual
Decatur	375.6	WB-IN-374-AAA	Righthand Fork Salt Creek	General
Franklin	377.1	WBD-IN-374-JJ	Bull Fork	General
Franklin	378.6	WB-IN-367-I	Long Branch	General
Franklin	382.1	WB-IN-370-A	Salt Creek	General
Franklin	386.5	WB-IN-375-A	Walnut Fork Creek	Individual
Franklin	386.6	WB-IN-375-B	Pipe Creek	General
Franklin	390.9	WB-IN-390-AAA	Wolf Creek	Individual
Franklin	392.5	WBD-IN-390-AA	Blue Creek	Individual
Franklin	392.8	WB-IN-392-AAA	Blue Creek	Individual
Franklin	393.2	WBD-IN-391-AA	Whitewater River	Individual
Franklin	394.7	WB-IN-394-AAA	Little Cedar Creek	Individual
Franklin	395.8	Not available	Tributary to Richland Creek	Individual
Franklin	397.5	WBD-IN-395-BB	Big Cedar Creek	General
Franklin	399.6	WBD-IN-396-HH	Tributary to Big Cedar Creek	Individual
Franklin	404.1	WB-IN-392-B	Saler Run	Individual

September 17, 2007

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

- 6. Provide correspondence from state and federal agencies regarding the waterbodies listed in table 2.2.4-4 (as revised), known to or suspected of being contaminated with PCBs or other persistent chemicals, proposed for open-cut crossing by the Project. Provide specific construction and mitigation measures that Rockies Express would use to avoid the spread of contaminants in these locations.**

Rockies Express' Response:

Rockies Express has consulted with the U.S. Environmental Protection Agency's (EPA) Superfund Sediment Resource Center regarding contaminated waterbodies. A copy of this correspondence is attached.

After reviewing the EPA's Comprehensive Environmental Response, Compensation, and Liability Information System database of Superfund Information Systems and the EPA's National Priorities List, Rockies Express has confirmed that none of the waterbodies crossed by the proposed pipeline are known to or are suspected of having contaminated sediments or waters in concentrations that pose an unacceptable risk to human health and/or the environment. No superfund sites will be affected by the project and, therefore, no further correspondence is necessary.

Based on meetings conducted throughout the project planning and permitting process, no state agencies have identified any waterbodies crossed by the proposed project that are known to be or suspected of being contaminated with PCBs or other persistent chemicals.

Submitted by:
Ryan H. Childs - Cimarron Environmental Consulting, Inc.
Project Environmental Manager (contractor)
Rockies Express Pipeline-East Project

September 17, 2007



LOG

LOG OF TELEPHONE CONVERSATION

CALL TO/FROM WHOM: Kelly Madalinski	PHONE NO. 703-603-9901
COMPANY: U.S. Environmental Protection Agency – Superfund Sediment Resource Center	
NRG CONTACT: Carly Lapin	PHONE NO. 612-215-6085
DATE: 9/10/07	TIME OF CONVERSATION:
RE: Rockies Express Pipeline – East Project and proximate superfund sites	

LOG OF CONVERSATION:

Ms. Lapin called Mr. Madalinski to inquire as to the occurrence of superfund sites in the vicinity of the Rockies Express Pipeline – East Project. Lapin told Madalinski that she had checked the route against the US EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database of Superfund Information Systems and the EPA's National Priority List to verify that no waterbodies crossed by the proposed pipeline are known to or suspected of having contaminated sediments or waters in concentrations that pose an unacceptable risk to human health and/or the environment. Lapin asked whether the Superfund Sediment Resource Center maintained a database that would more accurately identify sites in close proximity to the proposed pipeline. Madalinski responded that the CERCLIS database and National Priority Lists identify all superfund sites and that if the route had been checked against these two sources to show that no superfund sites are crossed, then no further research or consultation is necessary. Lapin thanked Madalinski for his time and the call was concluded.

○
MINNEAPOLIS

○
HOUSTON

○
DENVER

○
PROVIDENCE

○
CHARLOTTE

○
BATON ROUGE

○
PORTLAND

Rockies Express Pipeline-East Project
Response to Environmental Information Request dated August 29, 2007

7. **Rockies Express is proposing to cross the West Fork White River at MP 315.8 using conventional open cut method. Evaluate the feasibility of using HDD method to cross West Fork White River in order minimize impact on riparian areas.**
-

Rockies Express' Response:

No federal or state agencies have requested that Rockies Express complete the crossing of the West Fork White River using the horizontal directional drill (HDD) method. Agency concerns have focused on maintaining bank stability during and after construction of the pipeline.

The banks of the West Fork White River in the crossing area are lined with mostly fragmented forest of varying depth. The crossing site is bordered on the west by riparian forest and on the east by a steep bank leading up to an agricultural field. Although an HDD crossing of the West Fork White River potentially could avoid disturbing these banks, subsurface conditions in the area indicate a high probability of drill failure at this location.

A key element in determining the feasibility of using HDD as a crossing method is the suitability of the subsurface ground conditions for maintaining a large diameter open borehole as part of the installation process. Unconsolidated formations containing significant amounts of gravel, cobbles, and boulders are generally considered to be unsuitable for HDD installations due to their inability to support an open borehole of large diameter. An active gravel and sand pit is located approximately 0.5 mile from the crossing location. This would indicate that significant concentrations of gravel are present in the subsurface formations in the area making the feasibility of a successful HDD installation highly unlikely.

Submitted by:
Ryan H. Childs - Cimarron Environmental Consulting, Inc.
Project Environmental Manager (contractor)
Rockies Express Pipeline-East Project

September 17, 2007