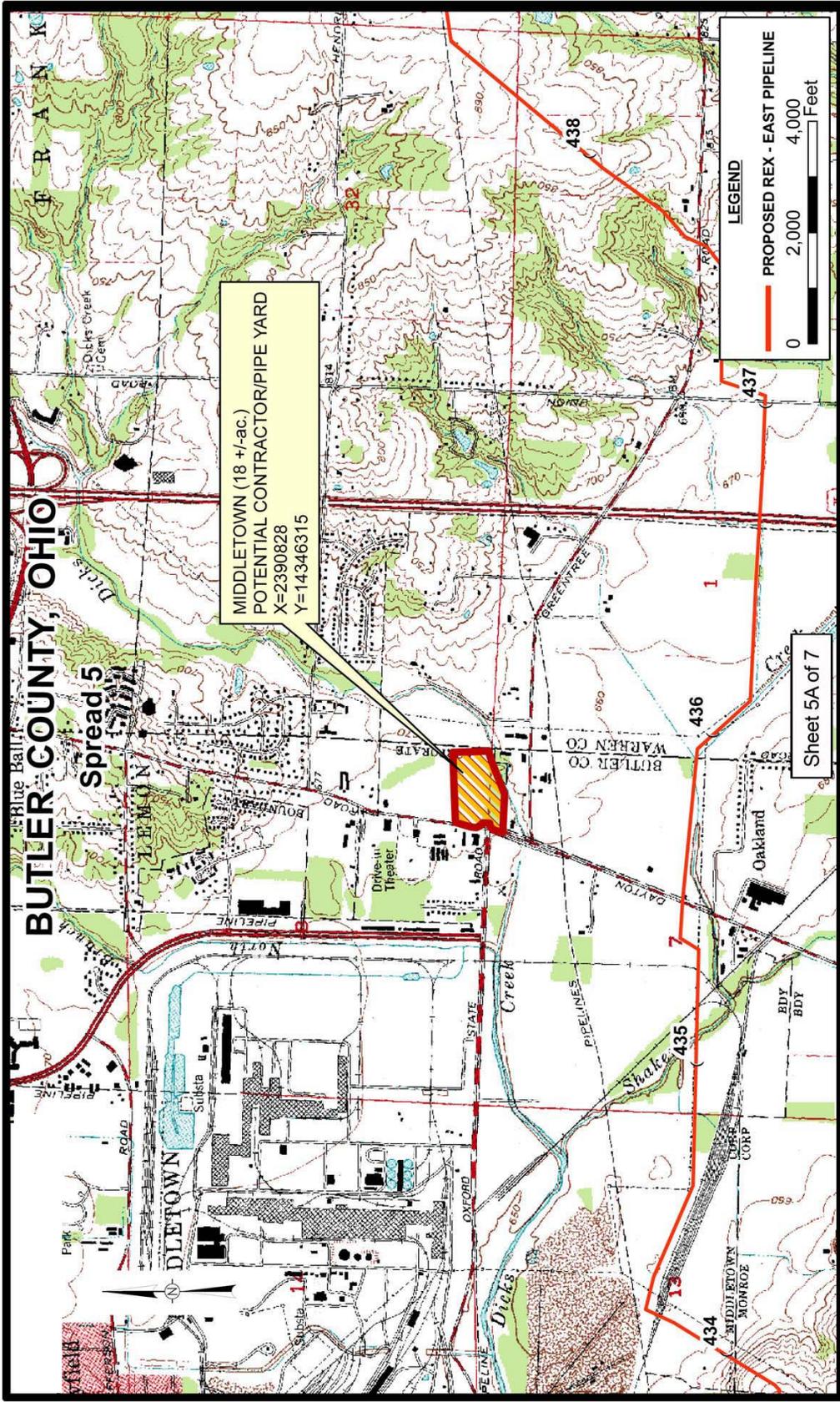
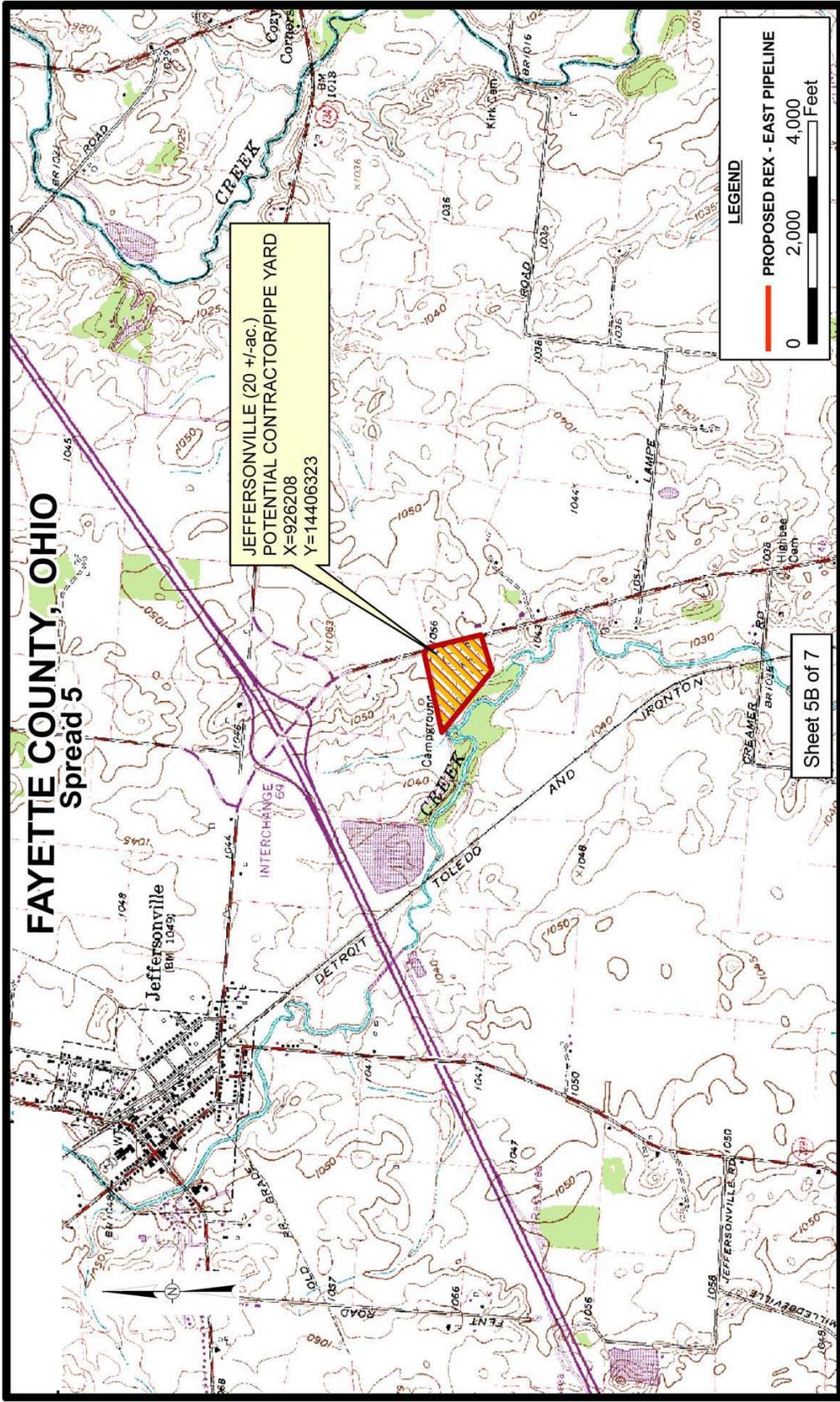


1280-OH-PY-004E\_102407



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**FAYETTE COUNTY, OHIO**  
Spread 5

JEFFERSONVILLE (20 +/-ac.)  
POTENTIAL CONTRACTOR/PIPE YARD  
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Y=14406323

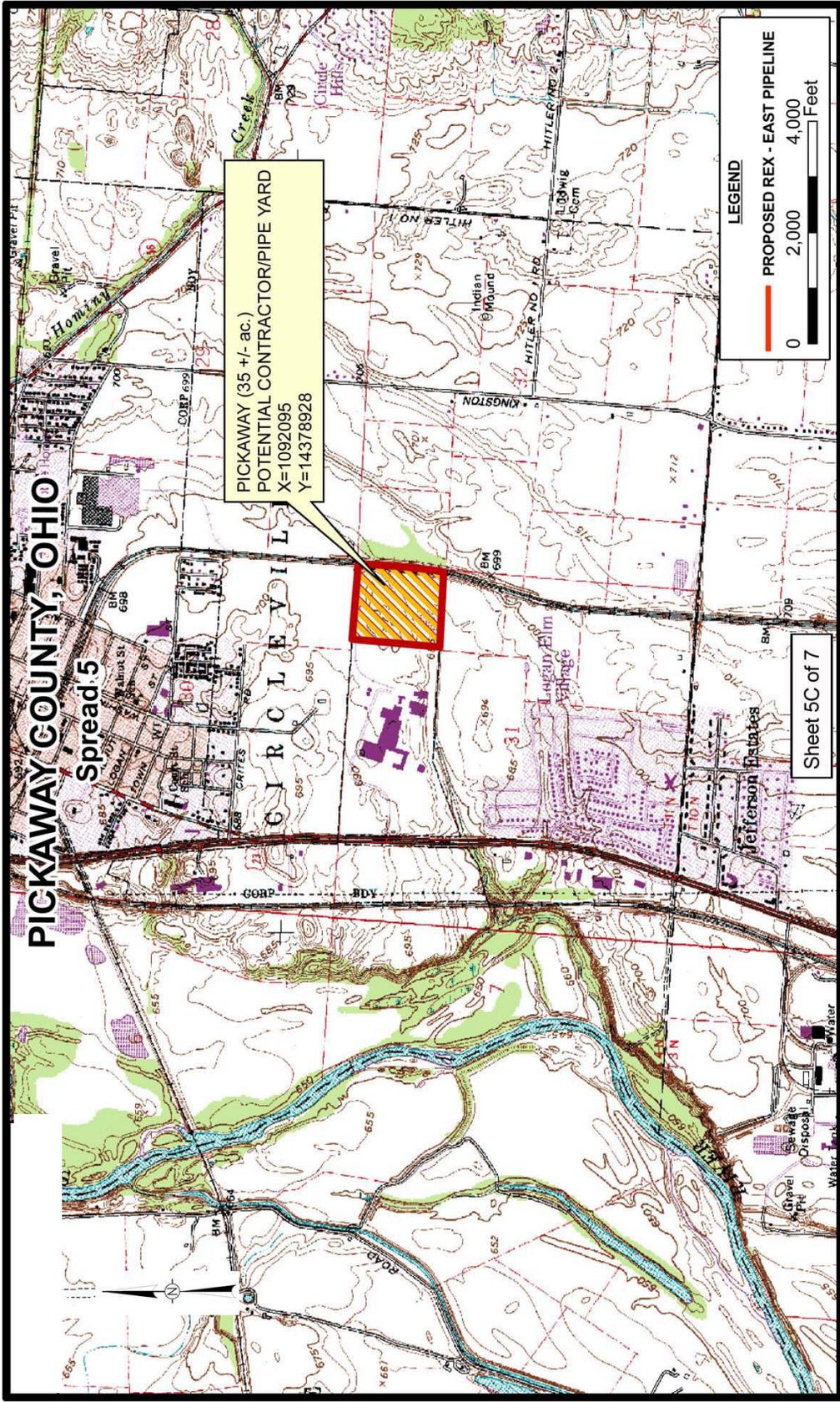
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— PROPOSED REX - EAST PIPELINE

0 2,000 4,000 Feet

Sheet 5B of 7

1280-OH-PY-005E\_102407



**PICKAWAY COUNTY, OHIO**

Spread 5

PICKAWAY (35 +/- ac.)  
 POTENTIAL CONTRACTOR PIPE YARD  
 X=1092095  
 Y=14378928

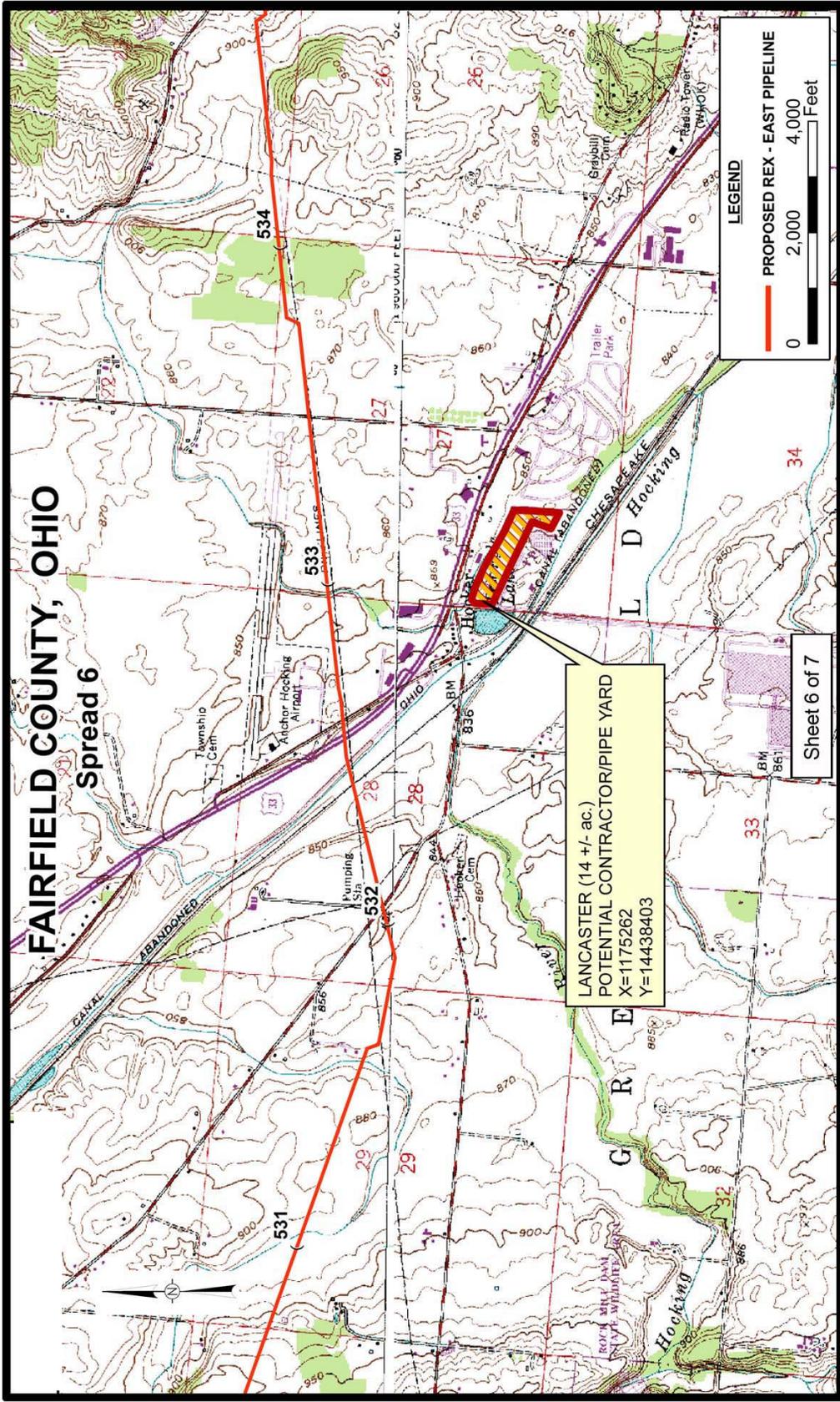
**LEGEND**

— PROPOSED REX - EAST PIPELINE

0 2,000 4,000 Feet

Sheet 5C of 7

1280-OHPY-005C\_102407



**FAIRFIELD COUNTY, OHIO**  
**Spread 6**

LANCASTER (14 +/- ac.)  
 POTENTIAL CONTRACTOR/PIPE YARD  
 X=1175262  
 Y=14438403

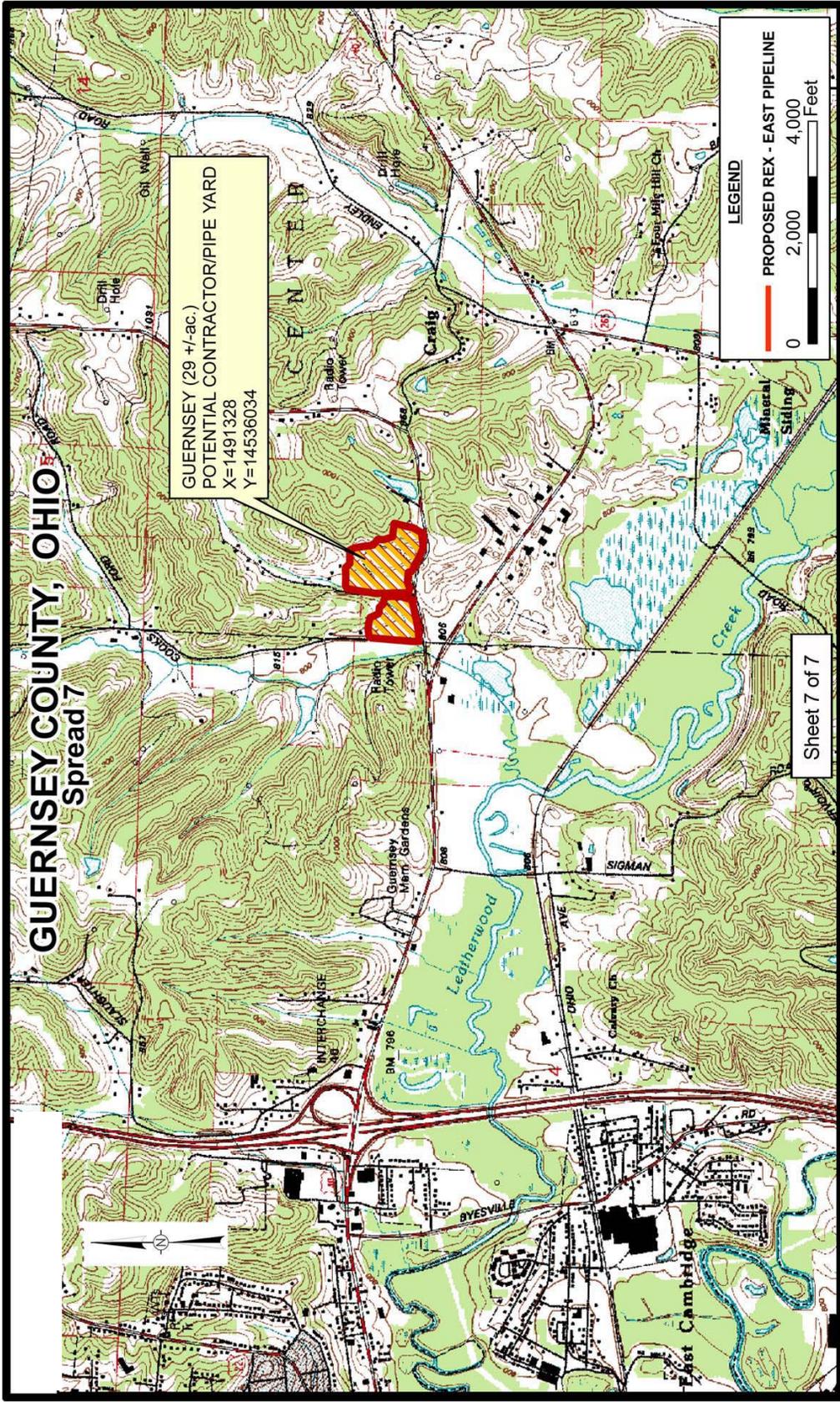
**LEGEND**

— PROPOSED REX - EAST PIPELINE

0 2,000 4,000 Feet

Sheet 6 of 7

1280-OH-PY-006\_102407



## **APPENDIX C**

### **REX-East – Upland Construction Plan (REX-East Plan)**

**ROCKIES EXPRESS PIPELINE COMPANY LLC**

**ROCKIES EXPRESS PIPELINE–EAST PROJECT**  
**UPLAND CONSTRUCTION PLAN**

**April 2007**

# UPLAND CONSTRUCTION PLAN

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**ROCKIES EXPRESS PIPELINE-EAST PROJECT  
UPLAND CONSTRUCTION PLAN (REX-EAST PLAN)**

I. APPLICABILITY

- A. The intent of the Rockies Express Pipeline-East Project Upland Construction Plan (REX-East Plan) is to identify baseline mitigation measures for minimizing erosion and enhancing revegetation. The project sponsor, Rockies Express Pipeline Company LLC (Rockies Express), will specify in their application for a FERC Certificate (Certificate) any individual measures in this REX-East Plan they consider unnecessary, technically infeasible, or unsuitable due to local conditions and to fully describe any alternative measures they would use. Rockies Express should also explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is certificated, further changes can be approved. Any such changes from the measures in this REX-East Plan will be approved by the Director of the Office of Energy Projects (Director), upon the applicant's written request, if the Director agrees that an alternative measure:

1. provides equal or better environmental protection; or
2. is necessary because a portion of this REX-East Plan is infeasible or unworkable based on project-specific conditions; or
3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Any requirements in this REX-East Plan to file material with the Secretary of the FERC (Secretary) do not apply to projects undertaken under the provisions of the blanket certificate program. This exemption does not apply to a request for alternative measures.

Project-related impacts on agricultural lands are addressed in the Agricultural Land Pipeline Construction Standards and Policies for the Rockies Express Pipeline - East Project.

Project-related impacts on wetland and waterbody systems are addressed in the Rockies Express Pipeline – East Project Wetland and Waterbody Construction and Mitigation Procedures (REX-East Procedures).

II. SUPERVISION AND INSPECTION

A. ENVIRONMENTAL INSPECTION

1. At least one Environmental Inspector is required for each construction spread during construction and restoration (as defined by section V). The

number and experience of Environmental Inspectors assigned to each construction spread should be appropriate for the length of the construction spread and the number/significance of resources affected.

2. Environmental Inspectors shall have peer status with all other activity inspectors.
3. Environmental Inspectors shall have the authority to stop activities that violate the environmental conditions of the Certificate, state and Federal environmental permit conditions, or landowner requirements; and to order appropriate corrective action.

#### B. RESPONSIBILITIES OF ENVIRONMENTAL INSPECTORS

At a minimum, the Environmental Inspector(s) shall be responsible for:

1. ensuring compliance with the requirements of this REX-East Plan, the REX-East Procedures, the environmental conditions of the Certificate authorization, the mitigation measures proposed by Rockies Express (as approved and/or modified by the Certificate), other environmental permits and approvals, and environmental requirements in landowner easement agreements;
2. identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;
3. verifying that the limits of authorized construction work areas and locations of access roads are properly marked before clearing;
4. verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;
5. identifying erosion/sediment control and soil stabilization needs in all areas;
6. ensuring that the location of dewatering structures and slope breakers will not direct water into known cultural resources sites or locations of sensitive species;
7. verifying that trench dewatering activities do not result in the deposition of sand, silt, and/or sediment near the point of discharge into a wetland or waterbody. If such deposition is occurring, the dewatering activity shall be stopped and the design of the discharge shall be changed to prevent reoccurrence;
8. ensuring that subsoil and topsoil are tested in agricultural and residential areas to measure compaction and determine the need for corrective action;
9. advising the Chief Construction Inspector when conditions (such as wet weather) make it advisable to restrict construction activities to avoid excessive rutting;

10. ensuring restoration of contours and topsoil;
11. verifying that the soils imported for agricultural or residential use have been certified as free of noxious weeds and soil pests, unless otherwise approved by the landowner;
12. determining the need for and ensuring that erosion controls are properly installed, as necessary to prevent sediment flow into wetlands, waterbodies, sensitive areas, and onto roads;
13. inspecting and ensuring the maintenance of temporary erosion control measures at least:
  - a. on a daily basis in areas of active construction or equipment operation;
  - b. on a weekly basis in areas with no construction or equipment operation; and
  - c. within 24 hours of each 0.5 inch of rainfall;
14. ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification;
15. keeping records of compliance with the environmental conditions of the FERC certificate, and the mitigation measures proposed by Rockies Express in the application submitted to the FERC, and other federal or state environmental permits during active construction and restoration; and
16. identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase.

### III. PRECONSTRUCTION REX-EAST PLANNING

Rockies Express will do the following before construction:

#### A. CONSTRUCTION WORK AREAS

1. Identify all construction work areas (e.g., construction right-of-way, extra work space areas, pipe storage and contractor yards, borrow and disposal areas, access roads, etc.) that would be needed for safe construction. Rockies Express must ensure that appropriate cultural resources and biological surveys have been conducted.
2. Rockies Express has expanded and will continue to expand any required cultural resources and endangered species surveys in anticipation of the need for activities outside of certificated work areas.

B. DRAIN TILE AND IRRIGATION SYSTEMS

1. Attempt to locate existing drain tiles and irrigation systems.
2. Contact landowners and local soil conservation authorities to determine the locations of future drain tiles that are likely to be installed within 3 years of the authorized construction.
3. Develop procedures for constructing through drain-tiled areas, maintaining irrigation systems during construction, and repairing drain tiles and irrigation systems after construction.
4. Engage qualified drain tile specialists, as needed to conduct or monitor repairs to drain tile systems affected by construction. Use drain tile specialists from the project area, if available.

C. GRAZING DEFERMENT

Develop grazing deferment plans with willing landowners, grazing permittees, and land management agencies to minimize grazing disturbance of revegetation efforts as necessary and practical.<sup>1</sup>

D. ROAD CROSSINGS AND ACCESS POINTS

REX-East Plan for safe and accessible conditions at all roadway crossings and access points during construction and restoration.

E. DISPOSAL PLANNING

Determine methods and locations for the disposal of construction debris (e.g., timber, slash, mats, garbage, drilling fluids, excess rock, etc). Off-site disposal in other than commercially operated disposal locations is subject to compliance with all applicable survey, landowner permission, and mitigation requirements.

F. AGENCY COORDINATION

Rockies Express will coordinate with the appropriate local, state, and federal agencies as outlined in this REX-East Plan and in the Certificate.

1. Obtain written recommendations from the local soil conservation authorities or land management agencies regarding permanent erosion control and revegetation specifications.<sup>2</sup>
2. Develop specific procedures in coordination with the appropriate agency to prevent the introduction or spread of noxious weeds and soil pests resulting

---

1 Rockies Express would continue to monitor and maintain the disturbed construction area for revegetation and/or erosion problems resulting from construction. Rockies Express does not believe grazing can be practically deferred from the construction areas due to the length of the project across open grazing lands.

2 The FERC Plan states that written recommendations must be obtained from local soil conservation authorities or land management agencies. The REX-East Plan states that Rockies Express will make a reasonable attempt to obtain such recommendations.

from construction and restoration activities.

G. STORMWATER POLLUTION PREVENTION PLAN

Make available on each construction spread the Stormwater Pollution Prevention Plan prepared for compliance with the U.S. Environmental Protection Agency's National Stormwater Program General Permit requirements where appropriate.

IV. INSTALLATION

A. APPROVED AREAS OF DISTURBANCE

1. Project-related ground disturbance shall be limited to the construction right-of-way, extra work space areas, pipe storage yards, borrow and disposal areas, access roads, and other areas approved in the Certificate. Any project-related ground disturbing activities outside these Certificated areas, except those needed to comply with the REX-East Plan and REX-East Procedures (e.g., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs) will require prior Director approval. All construction or restoration activities outside of the Certificated areas are subject to all applicable survey and mitigation requirements.
2. The construction right-of-way width for this project is described as 125 feet wide.

B. TOPSOIL SEGREGATION

1. Unless the landowner or land management agency specifically approves otherwise, prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench and subsoil storage area (ditch plus spoil side method) in:
  - a. actively cultivated or rotated croplands and pastures;
  - b. residential areas;
  - c. hayfields; and
  - d. other areas, including CRP land, at the landowner's or land managing agency's request.
2. In residential areas importation of topsoil is an acceptable alternative to topsoil segregation.
3. In deep soils (more than 12 inches of topsoil), segregate at least 12 inches of topsoil. In soils with less than 12 inches of topsoil make every effort to segregate the entire topsoil layer.
4. Where topsoil segregation is required, maintain separation of salvaged

topsoil and subsoil throughout all construction activities.

5. Segregated topsoil may not be used for padding the pipe.

#### C. DRAIN TILES

1. Mark locations of drain tiles damaged during construction.
2. Probe all drainage tile systems within the area of disturbance to check for damage.
3. Repair damaged drain tiles to their original or better condition. Do not use filter-covered drain tiles unless the local soil conservation authorities and the landowner agree. Use qualified specialists for testing and repairs.
4. For new pipelines in areas where drain tiles exist or are planned, ensure that the depth of cover over the pipeline is sufficient to avoid interference with drain tile systems. For adjacent pipeline loops in agricultural areas, install the new pipeline with at least the same depth of cover as the existing pipeline(s).

#### D. IRRIGATION

Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties.

#### E. ROAD CROSSINGS AND ACCESS POINTS

1. Maintain safe and accessible conditions at all road crossings and access points during construction.
2. If crushed stone access pads are used in residential or active agricultural areas, place the stone on suitable synthetic fabric to facilitate removal.<sup>3</sup>

#### F. TEMPORARY EROSION CONTROL

Install temporary erosion controls immediately after initial disturbance of the soil. Temporary erosion controls must be properly maintained throughout construction (on a daily basis) and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration is complete.

1. Temporary Slope Breakers
  - a. Temporary slope breakers are intended to reduce runoff velocity and divert water off the construction right-of-way. Temporary slope breakers may be constructed of materials such as soil, silt fence, staked hay or straw bales, sediment logs or sand bags.<sup>4</sup>

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3 The REX-East Plan identifies suitable fabric to prevent inappropriate materials from being utilized.

4 Rockies Express believes use of sediment logs may also be appropriate under some conditions.

- b. Install temporary slope breakers on all disturbed areas, as necessary to avoid excessive erosion. Temporary slope breakers must be installed on all slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody, wetland and/or road crossings at the following spacing (closer spacing should be used if necessary):

<u>Slope (%)</u>	<u>Spacing (feet)</u>
5 - 15	300
>15 - 30	200
>30	100

- c. Direct the outfall of each temporary slope breaker to a stable, well vegetated area or construct an energy-dissipating device at the end of the slope breaker and off the construction right-of-way.
- d. Position the outfall of each temporary slope breaker to prevent sediment discharge into wetlands, waterbodies, or other sensitive resources.

2. Sediment Barriers

- a. Sediment barriers are intended to stop the flow of sediments and to prevent the deposition of sediments into sensitive resources. They may be constructed of materials such as silt fence, staked hay or straw bales, compacted earth (e.g., driveable berms across travelways), sand bags, or other appropriate materials.
- b. At a minimum, install and maintain temporary sediment barriers across the entire construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody, wetland, or road crossing until revegetation is successful as defined in this REX-East Plan. Leave adequate room between the base of the slope and the sediment barrier to accommodate ponding of water and sediment deposition.
- c. Where wetlands or waterbodies are adjacent to and downslope of construction work areas, install sediment barriers along the edge of these areas, as necessary to prevent sediment flow into the wetland or waterbody.

3. Mulch

- a. Apply mulch on all slopes (except in actively cultivated cropland) concurrent with or immediately after seeding, where necessary to stabilize the soil surface and to reduce wind and water erosion. Spread mulch uniformly over the area to cover at least 75 percent of the ground surface at a rate of 2 tons/acre of straw or its equivalent, unless the local soil conservation authority, landowner, or land managing agency approves otherwise in writing.

- b. Mulch can consist of weed-free straw or hay, wood fiber hydromulch, erosion control fabric, or some functional equivalent.
- c. Mulch before seeding if:
  - (1) final grading and installation of permanent erosion control measures, will not be completed in an area within 20 days after the trench in that area is backfilled (10 days in residential areas), as required in section V.A.1; or
  - (2) construction or restoration activity is interrupted for extended periods, such as when seeding cannot be completed due to seeding period restrictions.
- d. If mulching before seeding, increase mulch application on all slopes within 100 feet of waterbodies and wetlands to a rate of 3 tons/acre of straw or equivalent.
- e. If wood chips are used as mulch, do not use more than 1 ton/acre and add the equivalent of 11 lbs/acre available nitrogen (at least 50 percent of which is slow release).
- f. Ensure that mulch is adequately anchored to minimize loss due to wind and water.
- g. When anchoring with liquid mulch binders, use rates recommended by the manufacturer. Do not use liquid mulch binders within 100 feet of wetlands or waterbodies.
- h. Install erosion control fabric on waterbody banks at the time of final bank recontouring. Anchor the erosion control fabric with staples or other appropriate devices.

## V. RESTORATION

### A. CLEANUP

1. Commence cleanup operations immediately following backfill operations. Complete final grading, topsoil replacement, and installation of permanent erosion control structures within 20 days after backfilling the trench (10 days in residential areas). If seasonal or other weather conditions prevent compliance with these time frames, maintain temporary erosion controls (temporary slope breakers and sediment barriers) until conditions allow completion of cleanup.

Rockies Express will file with the Secretary for the review and written approval of the Director, a winterization plan if construction continues into the winter season when conditions could delay successful decompaction, topsoil replacement, or seeding until the following spring.

2. A travel lane may be left open temporarily to allow access by construction traffic if the temporary erosion control structures are installed as specified in section IV.F. and inspected and maintained as specified in sections II.B.12 through 14. When access is no longer required the travel lane must be removed and the right-of-way restored.
3. Rock excavated from the trench may be used to backfill the trench only to the top of the existing bedrock profile. Rock that is not returned to the trench should be considered construction debris, unless approved for use as mulch or for some other use on the construction work areas (see section VI.C.) or by the landowner or land managing agency.
4. Remove excess rock from at least the top 12 inches of soil in all actively cultivated or rotated cropland and pastures, hayfields, and residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction work area should be similar to adjacent areas not disturbed by construction. The landowner may approve other provisions in writing.
5. Grade the construction right-of-way to restore pre-construction contours and leave the soil in the proper condition for planting.
6. Remove construction debris from all construction work areas unless the landowner or land managing agency approves otherwise.
7. Remove temporary sediment barriers when replaced by permanent erosion control measures or when revegetation is successful.

## B. PERMANENT EROSION CONTROL DEVICES

1. Trench Breakers
  - a. Trench breakers are intended to slow the flow of subsurface water along the trench. Trench breakers may be constructed of materials such as sand bags or polyurethane foam. Do not use topsoil in trench breakers.
  - b. An engineer or similarly qualified professional shall determine the need for and spacing of trench breakers. Otherwise, trench breakers shall be installed at the same spacing as and upslope of permanent slope breakers.
  - c. In agricultural fields and residential areas where slope breakers are not typically required, install trench breakers at the same spacing as if permanent slope breakers were required.
  - d. At a minimum, install a trench breaker at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland.

2. Permanent Slope Breakers

- a. Permanent slope breakers are intended to reduce runoff velocity, divert water off the construction right-of-way, and prevent sediment deposition into sensitive resources. Permanent slope breakers may be constructed of materials such as soil, sand bags, or some functional equivalent.
- b. Construct and maintain permanent slope breakers in all areas, except cultivated areas and lawns, using spacing recommendations obtained from the local soil conservation authority or land managing agency.

In the absence of written recommendations, use the following spacing unless closer spacing is necessary to avoid excessive erosion on the construction right-of-way:

<u>Slope (%)</u>	<u>Spacing (feet)</u>
5 - 15	300
>15 - 30	200
>30	100

- c. Construct slope breakers to divert surface flow to a stable area without causing water to pool or erode behind the breaker. In the absence of a stable area, construct appropriate energy-dissipating devices at the end of the breaker.
- d. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction right-of-way to effectively drain water off the disturbed area. Where slope breakers extend beyond the edge of the construction right-of-way, they are subject to compliance with all applicable survey requirements.

C. SOIL COMPACTION MITIGATION

- 1. Test topsoil and subsoil for compaction at regular intervals in agricultural and residential areas disturbed by construction activities. Conduct tests on the same soil type under similar moisture conditions in undisturbed areas to approximate preconstruction conditions. Use penetrometers or other appropriate devices to conduct tests.
- 2. Plow severely compacted agricultural areas with a paraplow or other deep tillage implement. In areas where topsoil has been segregated, plow the subsoil before replacing the segregated topsoil.<sup>5</sup>

Alternatively, make arrangements with the landowner to plant and plow under a "green manure" crop, such as alfalfa, to decrease soil bulk density

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<sup>5</sup> In addition to the decompaction measures stated in this REX-East Plan, Rockies Express will consult with the landowner, NRCS, or other agency relative to the specific soils found at the specific location and perform soil decompaction as required by the affected party.

and improve soil structure. If subsequent construction and cleanup activities result in further compaction, conduct additional tilling.

3. Perform appropriate soil compaction mitigation in severely compacted residential areas.

#### D. REVEGETATION

##### 1. General

- a. Rockies Express is responsible for ensuring successful revegetation of soils disturbed by project-related activities, except as noted in section V.D.1.b.
- b. Restore all turf, ornamental shrubs, and specialized landscaping in accordance with the landowner's request, or compensate the landowner. Restoration work must be performed by personnel familiar with local horticultural and turf establishment practices.

##### 2. Soil Additives

Fertilize and add soil pH modifiers in accordance with written recommendations obtained from the local soil conservation authority, land management agencies, or landowner. Incorporate recommended soil pH modifier and fertilizer into the top 2 inches of soil as soon as possible after application.

##### 3. Seeding Requirements

- a. Prepare a seedbed in disturbed areas to a depth of 3 to 4 inches using appropriate equipment to provide a firm seedbed. When hydroseeding, scarify the seedbed to facilitate lodging and germination of seed.
- b. Seed disturbed areas in accordance with written recommendations for seed mixes, rates, and dates obtained from the local soil conservation authority or the request of the landowner or land management agency. Seeding is not required in actively cultivated croplands unless requested by the landowner.
- c. Perform seeding of permanent vegetation within the recommended seeding dates. If seeding cannot be done within those dates, use appropriate temporary erosion control measures discussed in section IV.F. and perform seeding of permanent vegetation at the beginning of the next recommended seeding season. Lawns may be seeded on a schedule established with the landowner.
- d. In the absence of written recommendations from the local soil conservation authorities, seed all disturbed soils within 6 working days of final grading, weather and soil conditions permitting, subject

to the specifications in section V.D.3.a-c.

- e. Base seeding rates on Pure Live Seed. Use seed within 12 months of seed testing.
- f. Treat legume seed with an inoculant specific to the species using the manufacturer's recommended rate of inoculant appropriate for the seeding method (broadcast, drill, or hydro).
- g. In the absence of written recommendations from the local soil conservation authorities, landowner, or land managing agency to the contrary, a seed drill equipped with a cultipacker is preferred for seed application.

Broadcast or hydroseeding can be used in lieu of drilling at double the recommended seeding rates. Where seed is broadcast, firm the seedbed with a cultipacker or roller after seeding. In rocky soils or where site conditions may limit the effectiveness of this equipment, other alternatives may be appropriate (e.g., use of a chain drag) to lightly cover seed after application, as approved by the Environmental Inspector.

## VI. OFF-ROAD VEHICLE CONTROL

To each owner or manager of forested lands, offer to install and maintain measures to control unauthorized vehicle access to the right-of-way. These measures may include:

- A. signs;
- B. fences with locking gates;
- C. slash and timber barriers, pipe barriers, or a line of boulders across the right of-way; and
- D. conifers or other appropriate trees or shrubs across the right-of-way.

## VII. POST-CONSTRUCTION ACTIVITIES

### A. MONITORING AND MAINTENANCE

- 1. Conduct follow-up inspections of all disturbed areas after the first and second growing seasons to determine the success of revegetation.
- 2. Revegetation in non-agricultural areas shall be considered successful if upon visual survey the density and cover of non-nuisance vegetation are similar in density and cover to adjacent undisturbed lands. In agricultural areas, revegetation shall be considered successful if crop yields are similar to adjacent undisturbed portions of the same field.

Continue revegetation efforts until revegetation is successful.

- 3. Monitor and correct problems with drainage and irrigation systems resulting from pipeline construction in active agricultural areas until restoration is

successful.

4. Restoration shall be considered successful if the right-of-way surface condition is similar to adjacent undisturbed lands, construction debris is removed (unless requested otherwise by the land owner or land managing agency), revegetation is successful, and proper drainage has been restored.
5. Routine vegetation maintenance clearing shall not be done more frequently than every 3 years. However, to facilitate periodic corrosion and leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be maintained annually in a herbaceous state. In no case shall routine vegetation maintenance clearing occur between April 15 and August 1 of any year.
6. Efforts to control unauthorized off-road vehicle use, in cooperation with the landowner, shall continue throughout the life of the project. Maintain signs, gates, and vehicle trails as necessary.

## B. REPORTING

1. Rockies Express will maintain records that identify by milepost:
  - a. method of application, application rate, and type of fertilizer, pH modifying agent, seed, and mulch used;
  - b. acreage treated;
  - c. dates of backfilling and seeding;
  - d. names of landowners requesting special seeding treatment and a description of the follow-up actions; and
  - e. any problem areas and how they were addressed.
2. Rockies Express will file with the Secretary quarterly activity reports documenting problems, including those identified by the landowner, and corrective actions taken for at least 2 years following construction.

## **APPENDIX D**

### **REX-East – Wetland and Waterbody Construction and Mitigation Procedures**

**ROCKIES EXPRESS PIPELINE COMPANY LLC**

**ROCKIES EXPRESS PIPELINE – EAST PROJECT  
WETLAND AND WATERBODY CONSTRUCTION AND  
MITIGATION PROCEDURES**

**April 2007**

# WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES

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**ROCKIES EXPRESS PIPELINE-EAST PROJECT  
WETLAND AND WATERBODY CONSTRUCTION AND MITIGATION PROCEDURES  
(REX-EAST PROCEDURES)**

I. APPLICABILITY

- A. The intent of the Rockies Express Pipeline-East Project Wetland and Waterbody Construction and Mitigation Procedures (REX-East Procedures) is to identify baseline mitigation measures for minimizing the extent and duration of Rockies Express Pipeline-East Project-related disturbance on wetlands and waterbodies. The project sponsor, Rockies Express Pipeline Company LLC (Rockies Express), intends to specify in their applications for a FERC Certificate (Certificate) any individual measures in these Procedures they consider unnecessary, technically infeasible, or unsuitable due to local conditions and to fully describe any alternative measures they would use. Rockies Express also will explain how those alternative measures would achieve a comparable level of mitigation.

Once a project is certificated, further changes can be approved. Any such changes from the measures in these REX-East Procedures (or the applicant's approved procedures) will be approved by the Director of the Office of Energy Projects (Director), upon the applicant's written request, if the Director agrees that an alternative measure:

1. provides equal or better environmental protection; or
2. is necessary because a portion of these REX-East Procedures is infeasible or unworkable based on project-specific conditions; or
3. is specifically required in writing by another federal, state, or Native American land management agency for the portion of the project on its land or under its jurisdiction.

Any requirements in these REX-East Procedures to file material with the Secretary of the FERC (Secretary) do not apply to projects undertaken under the provisions of the blanket certificate program. This exemption does not apply to a request for alternative measures.

Project-related impacts on non-wetland areas are addressed in the Rockies Express Pipeline-East Project Upland Construction Plan (REX-East Plan). Project-related impacts on agricultural lands are addressed in the Agricultural Land Pipeline Construction Standards and Policies for the Rockies Express Pipeline - East Project.

B. DEFINITIONS

1. "Waterbody" includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:
  - a. "minor waterbody" includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of construction;

- b. "intermediate waterbody" includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water's edge at the time of construction; and
  - c. "major waterbody" includes all waterbodies greater than 100 feet wide at the water's edge at the time of construction.
2. "Wetland" includes any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current federal methodology for identifying and delineating wetlands.

## II. PRECONSTRUCTION FILING

- A. The following information shall be filed with the Secretary prior to the beginning of construction:
  - 1. the hydrostatic testing information specified in section VII.B.3. and a wetland delineation report as described in section VI.A.1., if applicable; and
  - 2. a schedule identifying when trenching or blasting would occur within each waterbody greater than 10 feet wide, or within any designated coldwater fishery. Rockies Express will revise the schedule as necessary to provide FERC staff at least 14 days advance notice. Changes within this last 14-day period must provide for at least 48 hours advance notice.
- B. The following site-specific construction plans required by these REX-East Procedures must be filed with the Secretary for the review and written approval by the Director:
  - 1. plans for extra work areas that would be closer than 50 feet from a waterbody or wetland;
  - 2. plans for major waterbody crossings; and
  - 3. plans for horizontal directional drill (HDD) "crossings" of wetlands or waterbodies.

## III. ENVIRONMENTAL INSPECTORS

- A. At least one Environmental Inspector having knowledge of the wetland and waterbody conditions in the project area is required for each construction spread. The number and experience of Environmental Inspectors assigned to each construction spread should be appropriate for the length of the construction spread and the number/significance of resources affected.
- B. The Environmental Inspector's responsibilities are outlined in the REX-East Plan.

## IV. PRECONSTRUCTION PLANNING

- A. A copy of the Stormwater Pollution Prevention Plan (SWPPP) prepared for compliance with the U.S. Environmental Protection Agency's National Stormwater Program General Permit requirements must be available in the field on each construction spread. The SWPPP shall contain Spill Prevention and Response Procedures that meet the requirements of state and federal agencies.
1. It shall be the responsibility of Rockies Express and its contractors to structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands. Rockies Express and its contractors must, at a minimum, ensure that:
    - a. all employees handling fuels and other hazardous materials are properly trained;
    - b. all equipment is in good operating order and inspected on a regular basis;
    - c. fuel trucks transporting fuel to on-site equipment travel only on approved access roads;
    - d. all equipment is parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area at least 100 feet from a wetland boundary. In addition, no refueling will occur within 200 of a private well nor within 400 feet of a municipal well. These activities can occur closer only if the Environmental Inspector finds, in advance, no reasonable alternative and Rockies Express and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;
    - e. hazardous materials, including chemicals, fuels, and lubricating oils, are not stored within 100 feet of a wetland, waterbody, or designated municipal watershed area, unless the location is designated for such use by an appropriate governmental authority. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas; and
    - f. concrete coating activities are not performed within 100 feet of a wetland or waterbody boundary, unless the location is an existing industrial site designated for such use.
  2. Rockies Express and its contractors must structure their operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. At a minimum, Rockies Express and its contractors must:
    - a. ensure that each construction crew (including cleanup crews) has on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and knows the procedure for reporting spills;

- b. ensure that each construction crew has on hand sufficient tools and material to stop leaks;
- c. know the contact names and telephone numbers for all local, state, and federal agencies (including, if necessary, the U.S. Coast Guard and the National Response Center) that must be notified of a spill; and
- d. follow the requirements of those agencies in cleaning up the spill, in excavating and disposing of soils or other materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup.

#### B. AGENCY COORDINATION

Rockies Express will coordinate with the appropriate local, state, and federal agencies as outlined in these REX-East Procedures and in the Certificate.

### V. WATERBODY CROSSINGS

#### A. NOTIFICATION PROCEDURES AND PERMITS

- 1. Apply to the U.S. Army Corps of Engineers (COE), or its delegated agency, for the appropriate wetland and waterbody crossing permits.
- 2. Provide written notification to authorities responsible for potable surface water supply intakes located within 3 miles downstream of the crossing at least 1 week before beginning work in the waterbody, or as otherwise specified by that authority.
- 3. Apply for state-issued waterbody crossing permits and obtain individual or generic section 401 water quality certification or waiver.
- 4. Notify appropriate state authorities at least 48 hours before beginning trenching or blasting within the waterbody, or as specified in state permits.

#### B. INSTALLATION

- 1. Time Window for Construction

Unless expressly permitted or further restricted by the appropriate state agency in writing on a site-specific basis, instream work, except that required to install or remove equipment bridges, must occur during the following time windows:

- a. coldwater fisheries – June 1 through September 30; and<sup>1</sup>
- b. coolwater and warmwater fisheries – June 1 through November 30.

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<sup>1</sup> No coldwater fisheries have been identified along the project route.

2. Extra Work Areas

- a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water's edge, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land.
- b. Rockies Express will file with the Secretary for review and written approval by the Director, a site-specific construction plan for each extra work area with a less than 50-foot setback from the water's edge, (except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land) and a site-specific explanation of the conditions that will not permit a 50-foot setback.
- c. Limit clearing of vegetation between extra work areas and the edge of the waterbody to the certificated construction right-of-way.
- d. Limit the size of extra work areas to the minimum needed to construct the waterbody crossing.

3. General Crossing Procedures

- a. Comply with the COE, or its delegated agency, permit terms and conditions.
- b. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.
- c. If the pipeline parallels a waterbody, attempt to maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right-of-way.
- d. Where waterbodies meander or have multiple channels, route the pipeline to minimize the number of waterbody crossings.
- e. Maintain adequate flow rates to protect aquatic life, and prevent the interruption of existing downstream uses.
- f. Waterbody buffers (extra work area setbacks, refueling restrictions, etc.) must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

4. Spoil Pile Placement and Control

- a. All spoil from minor and intermediate waterbody crossings, and upland spoil from major waterbody crossings, must be placed in the construction right-of-way at least 10 feet from the water's edge or in additional extra work areas as described in section V.B.2.

- b. Use sediment barriers to prevent the flow of spoil or heavily silt-laden water into any waterbody.

5. Equipment Bridges

- a. Only clearing equipment and equipment necessary for installation of equipment bridges may cross waterbodies prior to bridge installation. Limit the number of such crossings of each waterbody to one per piece of clearing equipment.
- b. Construct equipment bridges to maintain unrestricted flow and to prevent soil from entering the waterbody. Examples of such bridges include:
  - (1) equipment pads and culvert(s);
  - (2) equipment pads or railroad car bridges without culverts;
  - (3) clean rock fill and culvert(s); and
  - (4) flexi-float or portable bridges.

Additional options for equipment bridges may be utilized that achieve the performance objectives noted above. Do not use soil to construct or stabilize equipment bridges.

- c. Design and maintain each equipment bridge to withstand and pass the highest flow expected to occur while the bridge is in place. Align culverts to prevent bank erosion or streambed scour. If necessary, install energy dissipating devices downstream of the culverts.
- d. Design and maintain equipment bridges to prevent soil from entering the waterbody.
- e. Remove equipment bridges as soon as possible after permanent seeding unless the COE, or its delegated agency, authorizes it as a permanent bridge.
- f. If there will be more than 1 month between final cleanup and the beginning of permanent seeding and reasonable alternative access to the right-of-way is available, remove equipment bridges as soon as possible after final cleanup.

6. Dry-Ditch Crossing Methods

- a. Unless approved otherwise by the appropriate state agency, install the pipeline using one of the dry-ditch methods outlined below for crossings of waterbodies up to 30 feet wide (at the water's edge at the time of construction) that are state-designated as either coldwater or significant coolwater or warmwater fisheries.
- b. Dam and Pump

- (1) The dam-and-pump method may be used without prior approval for crossings of waterbodies where pumps can adequately transfer streamflow volumes around the work area, and there are no concerns about sensitive species passage.
- (2) Implementation of the dam-and-pump crossing method must meet the following performance criteria:
  - (i) use sufficient pumps, including on-site backup pumps, to maintain downstream flows;
  - (ii) construct dams with materials that prevent sediment and other pollutants from entering the waterbody (e.g., sandbags or clean gravel with plastic liner);
  - (iii) screen pump intakes;
  - (iv) prevent streambed scour at pump discharge; and
  - (v) monitor the dam and pumps to ensure proper operation throughout the waterbody crossing.

c. Flume Crossing

The flume crossing method requires implementation of the following steps:

- (1) install flume pipe after blasting (if necessary), but before any trenching;
- (2) use sand bag or sand bag and plastic sheeting diversion structure or equivalent to develop an effective seal and to divert stream flow through the flume pipe (some modifications to the stream bottom may be required in to achieve an effective seal);
- (3) properly align flume pipe(s) to prevent bank erosion and streambed scour;
- (4) do not remove flume pipe during trenching, pipelaying, or backfilling activities, or initial streambed restoration efforts; and
- (5) remove all flume pipes and dams that are not also part of the equipment bridge as soon as final cleanup of the stream bed and bank is complete.

d. Horizontal Directional Drill

To the extent they were not provided as part of the pre-certification process, for each waterbody or wetland that would be crossed using the HDD method, provide a plan that includes:

- (1) site-specific construction diagrams that show the location of mud pits, pipe assembly areas, and all areas to be disturbed or cleared for construction;
- (2) a description of how an inadvertent release of drilling mud would be contained and cleaned up; and
- (3) a contingency plan for crossing the waterbody or wetland in the event the directional drill is unsuccessful and how the abandoned drill hole would be sealed, if necessary.

## 7. Crossings of Minor Waterbodies

Where a dry-ditch crossing is not required, minor waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

- a. except for blasting and other rock breaking measures, complete instream construction activities (including trenching, pipe installation, backfill, and restoration of the streambed contours) within 24 hours. Streambanks and unconsolidated streambeds may require additional restoration after this period;
- b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and
- c. equipment bridges are not required at minor waterbodies that do not have a state-designated fishery classification (e.g., agricultural or intermittent drainage ditches). However, if an equipment bridge is used it must be constructed as described in section V.B.5.

Where feasible, pipe segments may be welded together and temporarily strung above and across the waterbody feature until the pipeline is installed. The Pipeline shall be placed in a manner that will not obstruct highest expected flow of the stream. Stream bed and bank restoration will occur within the 24-hour time limit as described above unless site specific conditions prevent otherwise.

## 8. Crossings of Intermediate Waterbodies

Where a dry-ditch crossing is not required, intermediate waterbodies may be crossed using the open-cut crossing method, with the following restrictions:

- a. complete instream construction activities (not including blasting and other rock breaking measures) within 48 hours, unless site-specific conditions make completion within 48 hours infeasible;
- b. limit use of equipment operating in the waterbody to that needed to construct the crossing; and
- c. all other construction equipment must cross on an equipment bridge as specified in section V.B.5.

Where feasible, pipe segments may be welded together and temporarily strung above and across the waterbody feature until the pipeline is installed. The pipeline shall be placed in a manner that will not obstruct highest expected flow of the stream. Stream bed and bank restoration will occur within the 48-hour time limit as described above unless site specific conditions prevent otherwise.

9. Crossings of Major Waterbodies

Before construction, Rockies Express will file with the Secretary for the review and written approval by the Director a detailed, site-specific construction plan and scaled drawings identifying all areas to be disturbed by construction for each major waterbody crossing (the scaled drawings are not required for any offshore portions of pipeline projects). The plan will be developed in consultation with the appropriate state and federal agencies and should include extra work areas, spoil storage areas, sediment control structures, etc., as well as mitigation for navigational issues.

The Environmental Inspector may adjust the final placement of the erosion and sediment control structures in the field to maximize effectiveness.

10. Temporary Erosion and Sediment Control

Install sediment barriers (as defined in section IV.F.2.a. of the REX-East Plan) immediately after initial disturbance of the waterbody or adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the REX-East Plan; however, the following specific measures must be implemented at stream crossings:

- a. install sediment barriers across the entire construction right-of-way at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody. Removable sediment barriers (or driveable berms) must be installed across the travel lane. These removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent;
- b. where waterbodies are adjacent to the construction right-of-way, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way; and
- c. use trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody.

## 11. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in heavily silt-laden water flowing into any waterbody. Remove the dewatering structures as soon as possible after the completion of dewatering activities.

### C. RESTORATION

1. Use clean gravel or native cobbles for the upper 1 foot of trench backfill in all waterbodies that contain coldwater fisheries (see section V.B.1.b.).
2. For open-cut crossings, stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities. For dry-ditch crossings, complete streambed and bank stabilization before returning flow to the waterbody channel.
3. Return all waterbody banks to preconstruction contours or to a stable angle of repose as approved by the Environmental Inspector.
4. Application of riprap for bank stabilization must comply with COE, or its delegated agency, permit terms and conditions.
5. Unless otherwise specified by state permit, limit the use of riprap to areas where flow conditions preclude effective vegetative stabilization techniques such as seeding and erosion control fabric.
6. Revegetate disturbed riparian areas with conservation grasses and legumes or native plant species, preferably woody species.
7. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent that are less than 50 feet from the waterbody, or as needed to prevent sediment transport into the waterbody. In addition, install sediment barriers as outlined in the REX-East Plan.

In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the waterbody.

8. Sections V.C.3. through V.C.6. above also apply to those perennial or intermittent streams not flowing at the time of construction.

### D. POST-CONSTRUCTION MAINTENANCE

1. Limit vegetation maintenance adjacent to waterbodies to allow a riparian strip at least 25 feet wide, as measured from the waterbody's mean high water mark, to permanently revegetate with native plant species across the entire construction right-of-way. 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.

2. Do not use herbicides or pesticides in or within 100 feet of a waterbody except as allowed by the appropriate land management or state agency.

## VI. WETLAND CROSSINGS

### A. GENERAL

1. Rockies Express will conduct a wetland delineation using the current Federal methodology and file a wetland delineation report with the Secretary before construction. This report shall identify:
  - a. by milepost all wetlands that would be affected;
  - b. the National Wetlands Inventory (NWI) classification for each wetland;
  - c. the crossing length of each wetland in feet; and
  - d. the area of permanent and temporary disturbance that would occur in each wetland by NWI classification type.

The requirements outlined in this section do not apply to wetlands in actively cultivated or rotated cropland. Standard upland protective measures, including workspace and topsoiling requirements, apply to these agricultural wetlands.

2. Route the pipeline to avoid wetland areas to the maximum extent possible. If a wetland cannot be avoided or crossed by following an existing right-of-way, route the new pipeline in a manner that minimizes disturbance to wetlands. Where looping an existing pipeline, overlap the existing pipeline right-of-way with the new construction right-of-way. In addition, locate the loop line no more than 25 feet away from the existing pipeline unless site-specific constraints would adversely affect the stability of the existing pipeline.
3. Limit the width of the construction right-of-way to 100 feet or less. Prior written approval of the Director is required where topographic conditions or soil limitations require that the construction right-of-way width within the boundaries of a federally delineated wetland be expanded beyond 100 feet. Rockies Express has attempted to identify site-specific areas where existing soils lack adequate unconfined compressive strength that would result in excessively wide ditches and/or difficult to contain spoil piles.
4. Wetland boundaries and buffers must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.

5. Implement the measures of sections V. and VI. in the event a waterbody crossing is located within or adjacent to a wetland crossing. If all measures of sections V. and VI. cannot be met, Rockies Express will file with the Secretary a site-specific crossing plan for review and written approval by the Director before construction. This crossing plan shall address at a minimum:
  - a. spoil control;
  - b. equipment bridges;
  - c. restoration of waterbody banks and wetland hydrology;
  - d. timing of the waterbody crossing;
  - e. method of crossing; and
  - f. size and location of all extra work areas.
6. Do not locate aboveground facilities in any wetland except where the location of such facilities outside of wetlands would prohibit compliance with U.S. Department of Transportation regulations.

## B. INSTALLATION

1. Extra Work Areas and Access Roads
  - a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land.
  - b. Rockies Express will file with the Secretary for review and written approval by the Director, a site-specific construction plan for each extra work area with a less than 50-foot setback from wetland boundaries (except where adjacent upland consists of actively cultivated or rotated cropland or other disturbed land) and a site-specific explanation of the conditions that will not permit a 50-foot setback.
  - c. Limit clearing of vegetation between extra work areas and the edge of the wetland to the certificated construction right-of-way.
  - d. The construction right-of-way may be used for access when the wetland soil is firm enough to avoid rutting or the construction right-of-way has been appropriately stabilized to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats).

In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing shall use access roads located in upland areas. Where access roads in upland areas do not provide reasonable access, limit all

other construction equipment to one pass through the wetland using the construction right-of-way.

- e. The only access roads, other than the construction right-of-way, that can be used in wetlands without Director approval, are those existing roads that can be used with no modification and no impact on the wetland.

## 2. Crossing Procedures

- a. Comply with COE, or its delegated agency, permit terms and conditions.
- b. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.
- c. Use "push-pull" or "float" techniques to place the pipe in the trench where water and other site conditions allow.
- d. Minimize the length of time that topsoil is segregated and the trench is open.
- e. Limit construction equipment operating in wetland areas to that needed to clear the construction right-of-way, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the construction right-of-way.
- f. Cut vegetation just aboveground level, leaving existing root systems in place, and remove it from the wetland for disposal.
- g. Limit pulling of tree stumps and grading activities to directly over the trenchline. Do not grade or remove stumps or root systems from the rest of the construction right-of-way in wetlands unless the Chief Inspector and Environmental Inspector determine that safety-related construction constraints require grading or the removal of tree stumps from under the working side of the construction right-of-way.
- h. Segregate the top 1 foot of topsoil from the area disturbed by trenching, except in areas where standing water is present or soils are saturated or frozen. Immediately after backfilling is complete, restore the segregated topsoil to its original location.
- i. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to support equipment on the construction right-of-way.
- j. If standing water or saturated soils are present, or if construction equipment causes ruts or mixing of the topsoil and subsoil in wetlands, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats, or terra mats.

- k. Do not cut trees outside of the approved construction work area to obtain timber for riprap or equipment mats.
- l. Attempt to use no more than two layers of timber riprap to support equipment on the construction right-of-way.
- m. Remove all project-related material used to support equipment on the construction right-of-way upon completion of construction.

### 3. Temporary Sediment Control

Install sediment barriers (as defined in section IV.F.2.a. of the REX-East Plan) immediately after initial disturbance of the wetland or adjacent upland.

Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench). Except as noted below in section VI.B.3.c., maintain sediment barriers until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the REX-East Plan.

- a. Install sediment barriers across the entire construction right-of-way immediately upslope of the wetland boundary at all wetland crossings where necessary to prevent sediment flow into the wetland.
- b. Where wetlands are adjacent to the construction right-of-way and the right-of-way slopes toward the wetland, install sediment barriers along the edge of the construction right-of-way as necessary to prevent sediment flow into the wetland.
- c. Install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way through wetlands. Remove these sediment barriers during right-of-way cleanup.

### 4. Trench Dewatering

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in heavily silt-laden water flowing into any wetland. Remove the dewatering structures as soon as possible after the completion of dewatering activities.

## C. RESTORATION

- 1. Where the pipeline trench may drain a wetland, construct trench breakers and/or seal the trench bottom as necessary to maintain the original wetland hydrology.

2. For each wetland crossed, install a trench breaker at the base of slopes near the boundary between the wetland and adjacent upland areas. Install a permanent slope breaker across the construction right-of-way at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from the wetland, or as needed to prevent sediment transport into the wetland. In addition, install sediment barriers as outlined in the REX-East Plan. In some areas, with the approval of the Environmental Inspector, an earthen berm may be suitable as a sediment barrier adjacent to the wetland.
3. Do not use fertilizer, lime, or mulch unless required in writing by the appropriate land management or state agency.
4. Consult with the appropriate land management or state agency to develop a project-specific wetland restoration plan. The restoration plan should include measures for re-establishing herbaceous and/or woody species, controlling the invasion and spread of undesirable exotic species (e.g., purple loosestrife and phragmites), and monitoring the success of the revegetation and weed control efforts. Provide this plan to the FERC staff upon request.
5. Until a project-specific wetland restoration plan is developed and/or implemented, temporarily revegetate the construction right-of-way with annual ryegrass at a rate of 40 pounds/acre (unless standing water is present).
6. Ensure that all disturbed areas successfully revegetate with wetland herbaceous and/or woody plant species.
7. Remove temporary sediment barriers located at the boundary between wetland and adjacent upland areas after upland revegetation and stabilization of adjacent upland areas are judged to be successful as specified in section VII.A.5. of the REX-East Plan.

#### D. POST-CONSTRUCTION MAINTENANCE

1. Do not conduct vegetation maintenance over the full width of the permanent right-of-way in wetlands. 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 within 15 feet of the pipeline that are greater than 15 feet in height may be selectively cut and removed from the permanent right-of-way.
2. Do not use herbicides or pesticides in or within 100 feet of a wetland, except as allowed by the appropriate land management agency or state agency.
3. Monitor and record the success of wetland revegetation annually for the first 3 years after construction or until wetland revegetation is successful. At the end of 3 years after construction, file a report with the Secretary identifying the status of the wetland revegetation efforts. Include the percent cover achieved and problem areas (weed invasion issues, poor revegetation, etc.). Continue to file a report annually until wetland revegetation is successful.

4. Wetland revegetation shall 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, develop and implement (in consultation with a professional wetland ecologist) a remedial revegetation plan to actively revegetate the wetland. Continue revegetation efforts until wetland revegetation is successful.

## VII. HYDROSTATIC TESTING

### A. NOTIFICATION PROCEDURES AND PERMITS

1. Apply for state-issued water withdrawal permits, as required.
2. Apply for NPDES or state-issued discharge permits, as required.
3. Notify appropriate state agencies of intent to use specific sources at least 48 hours before testing activities unless they waive this requirement in writing.

### B. GENERAL

1. Perform 100 percent radiographic inspection of all pipeline section welds or hydrotest the pipeline sections, before installation under waterbodies or wetlands.
2. If pumps used for hydrostatic testing are within 100 feet of any waterbody or wetland, address the operation and refueling of these pumps in the project's Spill Prevention and Response Procedures.
3. Rockies Express will file with the Secretary before construction a list identifying the location of all waterbodies proposed for use as a hydrostatic test water source or discharge location.

### C. INTAKE SOURCE AND RATE

1. Screen the intake hose to prevent entrainment of fish.
2. Do not use state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and/or local permitting agencies grant written permission.
3. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.
4. Locate hydrostatic test manifolds outside wetlands and riparian areas to the maximum extent practicable.

D. DISCHARGE LOCATION, METHOD, AND RATE

1. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow.
2. Do not discharge into state-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate federal, state, and local permitting agencies grant written permission.

## **APPENDIX E**

### **Agency Correspondence**

APPENDIX E

**Rockies Express Pipeline - East Project  
Index of Agency Correspondence Regarding Federally Listed Species**

Date	Agency <sup>a</sup>	Summary of Communication
4/17/2006	ILDNR	Email from T. Kieninger, ILDNR, to D. Kelly, Natural Resource Group LLC (NRG), providing Natural Heritage Inventory data.
4/19/2006	MDC	Email from S. Cave, MDC, to D. Kelly, NRG, providing Natural Heritage Database data.
4/24/2006	INDNR	Email from R. Hellmich, INDNR, to D. Kelly, NRG, providing Natural Heritage Database data.
4/28/2006	ODNR	Email from D. Woischke, ODNR, to K. Kelly, NRG, providing Natural Heritage Database data.
6/21/2006	FWS - OH	Letter from J. Thommes, NRG, to M. Knapp, FWS, summarizing survey plans for listed species in Ohio.
7/5/2006	FWS - IL	Letter from J. Thommes, NRG, to J. Collins and R. Nelson, FWS, summarizing survey plans for listed species in Illinois.
7/5/2006	FWS - IN	Letter from J. Thommes, NRG, to S. Pruitt, FWS, summarizing survey plans for listed species in Indiana.
7/5/2006	FWS - MO	Letter from J. Thommes, NRG, to C. Scott, FWS, summarizing survey plans for listed species in Missouri.
8/3/2006	FWS - IL	Letter from J. Collins, FWS, to J. Thommes, NRG, responding to survey plan letter for listed species in Illinois.
8/4/2006	FWS - IN	Letter from S. Pruitt, FWS, to J. Thommes, NRG, responding to survey plan letter for listed species in Indiana.
8/7/2006	FWS - OH	Letter from M. Knapp, FWS, to J. Thommes, NRG, responding to survey plan letter for listed species in Ohio.
8/23/2006	FWS - NE	Meeting minutes from meeting involving FWS, Nebraska Game and Parks Commission, and Rockies Express regarding surveys for listed species on Rockies Express Pipeline - West Project route.
9/14/2006	FWS - MO	Telephone communication between C. Scott, FWS, and D. Kelly, NRG, to discuss survey plans for listed species in Missouri.
11/30/2006	FWS - OH	Email from A. Zimmerman, FWS, to D. Kelly, NRG, regarding a known Indiana bat maternity colony located near Big Darby Creek.
2/27/2007	FWS - IN	Telephone communication between F. Clark, FWS; J. Thommes, B. Jensen, and D. Kelly, NRG; and J. Thompson and C. Bertram, Rockies Express, to discuss Indiana bat habitat analysis methodology.
4/2/2007	FWS - IL	Meeting minutes from meeting involving FWS - IL, NRG, and Rockies Express to discuss listed species survey plans in Illinois.
4/24/2007	FWS - MO	Email from C. Scott, FWS, to J. Thommes, NRG, providing approval for mussel survey protocol in the Mississippi River dredge area.
4/26/2007	FWS - OH	Email from S. Selbo, FWS, to J. Thommes, NRG, approving the Running Buffalo Clover Survey Plan.
5/15/2007	FWS - OH	Email from A. Zimmerman, FWS, to J. Thommes, NRG, providing approval for mussel survey protocol in Ohio.
5/15/2007	FWS - OH	Email from A. Zimmerman, FWS, to J. Thommes, NRG, stating that mussel surveys should not be conducted at the Big Darby Creek crossing location.
6/6/2007	FWS - OH	Email from J. Thommes, NRG, to A. Zimmerman, FWS, asking for approval of a change to the mussel survey protocol in Ohio.
6/8/2007	FWS - OH	Email from A. Zimmerman, FWS, to J. Thommes, NRG, approving change to the mussel survey protocol in Ohio.
6/27/2007	FWS - MO	Email from H. Kuska, FWS, to J. Thommes, NRG, stating that surveys are not necessary in Missouri for the gray bat or decurrent false aster.
9/27/2007	FWS - NE	Letter from J. Thompson, Rockies Express, to Steve Anschutz, FWS, summarizing listed species with the potential to occur in the vicinity of the Bertrand Compressor Station.
9/27/2007	FWS - WY	Letter from J. Thompson, Rockies Express, to Brian Kelly, FWS, summarizing listed species with the potential to occur in the vicinity of the Arlington Compressor Station.

<sup>a</sup> MDC: Missouri Department of Conservation  
 ILDNR: Illinois Department of Natural Resources  
 INDNR: Indiana Department of Natural Resources  
 ODNR: Ohio Department of Natural Resources  
 FWS - MO: U.S. Fish and Wildlife Service - Columbia, MO Ecological Services Field Office  
 FWS - IL: U.S. Fish and Wildlife Service - Marion, IL Suboffice  
 FWS - IN: U.S. Fish and Wildlife Service - Bloomington, IN Ecological Services Field Office  
 FWS - OH: U.S. Fish and Wildlife Service - Reynoldsburg, OH Ecological Services Field Office

**Appendix E**

**REX East Project –  
Additional Index of Agency Correspondence Regarding Federally Listed Species**

<b>Date</b>	<b>Agency</b>	<b>Summary of Consultation</b>
1/17/2008	FERC - FWS	Conference Call between the FERC and FWS; RE: Review of Biological Assessment and EIS process and procedures
1/22/2008	FWS	E-mail from J. Thommes, NRG to J. Szymanski, FWS; RE: Indiana bat conservation measures
1/28/2008	FERC - FWS	Technical Conference on FWS Conservation Agreement and Threatened and Endangered Species
2/7/2008	FWS	E-mail from J. Szymanski, FWS to J. Thommes, NRG; RE: Indiana bat conservation measures and determination
2/13/2008	FWS	E-mail from A. Zimmerman, FWS to J. Thommes and C. Lapin, NRG; RE: Comments on Eastern Massasauga habitat assessment
2/27/2008	FERC - FWS	Conference Call between the FERC and FWS; RE: Review of Biological Assessment Report prepared by REX East
2/28/2008	FWS	E-mail from J. Szymanski, FWS to J. Thommes, NRG; RE: Indiana bat conservation measures
3/3/2008	FERC - FWS	Conference Call between the FERC and FWS; RE: Review of Biological Assessment Report prepared by REX East and Distribution of the Biological Assessment prepared by the FERC

**From:** [TARA KIENINGER](#)  
**To:** [Delia Kelly;](#)  
**CC:**  
**Subject:** Re: FW: REX East Projection  
**Date:** Monday, April 17, 2006 11:19:47 AM  
**Attachments:** [rex\\_inpc.shx](#)  
[rex\\_eorep.dbf](#)  
[rex\\_eorep.sbn](#)  
[rex\\_eorep.sbx](#)  
[rex\\_eorep.shp](#)  
[rex\\_eorep.shx](#)  
[rex\\_inai.dbf](#)  
[rex\\_inai.sbn](#)  
[rex\\_inai.sbx](#)  
[rex\\_inai.shp](#)  
[rex\\_inai.shx](#)  
[rex\\_inpc.dbf](#)  
[rex\\_inpc.sbn](#)  
[rex\\_inpc.sbx](#)  
[rex\\_inpc.shp](#)

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Dear Delia,

I have attached 3 sets of shapefiles which contain sensitive resources which intersect the proposed Rockies Express natural gas pipeline corridor which runs horizontally through Illinois. The data is in Lambert Conformal Conic custom projection. The parameters for reprojecting are:

Datum: NAD 27  
Spheroid: Clarke 1866  
Central Meridian: -89.5  
Reference Latitude: 33  
Standard Parallel 1: 33  
Standard Parallel 2: 45  
False Easting: 2999994.0  
False Northing: 0

Units: Feet

**The rex\_eorep dataset** contains locations of state and federal endangered and threatened species, rookeries, high quality natural communities, etc. within the Rockies Express pipeline corridor.

*The main fields in the associated attribute table are defined as:*

eo\_num = tracking number for a particular species (i.e. bald eagle 1, bald eagle 2, bald eagle 3, etc.)

sname = scientific name or community name

scomname = common name or community type

name\_category\_desc = general category

Information on the status (state threatened or endangered) of plants and animals in this dataset can be found at: <http://dnr.state.il.us/espb/datelist.htm>.

**The rex\_inai dataset** contains locations of Illinois Natural Areas Inventory (INAI) sites with the Rockies Express pipeline corridor.

*The main fields in the associated attribute table are defined as:*

site\_name = INAI name

primary\_area\_acres = acreage

nai\_number = INAI number

categories = categories under which a site qualifies for inclusion on the INAI (see below)

#### **INAI Category Descriptions:**

Cat. I = High quality natural community

Cat. II = Specific suitable habitat for state-listed species

Cat. III = State dedicated Nature Preserve

Cat. IV = Outstanding geological feature

Cat. V = Species reintroduction and/or translocation

Cat. VI = Unusual concentration of flora or fauna

Cat. VII = High quality stream

**The rex\_inpc dataset** contains locations of lands enrolled in Illinois Nature Preserves Commission (INPC) land protection programs including Nature Preserves, Land and Water Reserves, and Natural Heritage Landmarks within the Rockies Express pipeline corridor.

*The main fields in the associated attribute table are defined as:*

managed\_area\_name = INPC name

area\_in\_state\_acres = acreage

inpc\_number = INPC number

Please be aware that the Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of significant natural features in Illinois. The Department of Natural Resources can only summarize the existing information known to us at the time of the request. This report should not be regarded as a final statement on the area being considered, nor should it substitute for field surveys required for environmental assessments.

This letter is separate from the Illinois Department of Natural Resources consultation requirement under the Illinois Endangered Species Act (530 ILCS 10/11) and the Illinois Natural Areas Preservation Act (525 ILCS 30/17). For more information on this process, please contact the Illinois Department of Natural Resources, Division of Resource Review and Coordination, at One Natural Resources Way, Springfield, Illinois 62702-1271 or by telephone at (217)785-5500.

Let me know if you have any questions or have trouble reprojecting the data.

Please note my new email address below....

Tara Gibbs Kieninger, Database Administrator  
ORC - Illinois Natural Heritage Database  
Illinois Department of Natural Resources  
One Natural Resources Way  
Springfield, IL 62702-1271  
217.782.2685  
217.785-2438 (fax)  
[tara.kieninger@illinois.gov](mailto:tara.kieninger@illinois.gov)

>>> "Delia Kelly" <drkelly@nrginc.com> 04/14/06 11:05 AM >>>

Tara,  
Hopefully this will work. We will use your new email address in the future.  
Thank you,  
Delia

---

**Delia Kelly**

[drkelly@nrginc.com](mailto:drkelly@nrginc.com)

612.347.6794 Direct

612.347.6780 Fax

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**From:** Randy McGregor  
**Sent:** Friday, April 14, 2006 10:45 AM  
**To:** 'tara.kieninger@illinois.gov'  
**Cc:** Delia Kelly  
**Subject:**

Tara,

This is the coordinate system of the shapefiles that we sent you:

Projected Coordinate System:  
USA\_Contiguous\_Albers\_Equal\_Area\_Conic\_USGS\_version  
Projection: Albers  
False\_Easting: 0.00000000  
False\_Northing: 0.00000000  
Central\_Meridian: -96.00000000  
Standard\_Parallel\_1: 29.50000000  
Standard\_Parallel\_2: 45.50000000  
Latitude\_Of\_Origin: 23.00000000  
Linear Unit: Meter

Geographic Coordinate System: GCS\_North\_American\_1983  
Datum: D\_North\_American\_1983  
Prime Meridian: 0  
Angular Unit: Degree

Please contact me with any questions



**Randy McGregor**  
[rsmcgregor@nrginc.com](mailto:rsmcgregor@nrginc.com)  
612.359.5682 Direct  
612.347.6780 Fax

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# Heritage Review Report

Missouri Department of Conservation  
 Policy Coordination Unit  
 P. O. Box 180  
 Jefferson City, MO 65102  
 573-522-4115 X 3250 - Shannon.Cave@mndc.mo.gov

**Project type:** Rockies Express Pipeline, eastern section  
**Location:** per shape file provided, in the following counties only  
**County:** Carroll, Chariton, Randolph, Audrain, Ralls, Pike  
**Described in query as:** Req. for Natural Heritage Inventory data  
**Date query received:** April 7, 2006

Ms. Delia Kelly  
 Natural Resource Group, Inc.  
 1000 IDS Center  
 80 South Eighth Street  
 Minneapolis, MN 55402  
 Copy: Doyle Brown

**This is not a site clearance letter**, but a report of Missouri Department of Conservation records concerning public lands and sensitive resources known to be near and possibly affected by the proposed project. I am returning your CD, having added two shapefiles (MDC areas, and REXE\_sections which marks sections in which a species/habitat of concern is recorded.

Prepared by:   
 11-Apr-06

## Species/habitats with Federal and State concerns:

Scientific Name	Common Name	Federal Status	State Status	State Rank	Quadrangle	County	Last record	Sec	Twp/Rng
Haliaeetus leucocephalus	Bald Eagle	T	E	S3	Louisiana	Pike	2001		
Tympanuchus cupido	Greater Prairie-chicken		E	S1	Ladonia	Audrain	1993	36	T52N R8W
Tympanuchus cupido	Greater Prairie-chicken		E	S1	Hutchison	Audrain	1993	27	T52N R7W
Tympanuchus cupido	Greater Prairie-chicken		E	S1	Tulip	Audrain	1988	24	T52N R12W
Tympanuchus cupido	Greater Prairie-chicken		E	S1	Hutchison	Audrain	1993	22	T52N R7W
Tympanuchus cupido	Greater Prairie-chicken		E	S1	Rowena	Audrain	1988	27	T52N R10W
Tympanuchus cupido	Greater Prairie-chicken		E	S1	Hutchison	Audrain	1988	28	T52N R7W
Tympanuchus cupido	Greater Prairie-chicken		E	S1	Ladonia	Audrain	1994	36	T52N R8W
Circus cyaneus	Northern Harrier		E	S2	Tina	Carroll	1990	7	T54N R22W
Dry-mesic loess/glacial till prairie				S1	Coloma	Carroll	2002	28	T55N R24W
Wet bottomland prairie				S1	Salisbury	Chariton	1999	12	T53N R17W
Carex arkansana	A Sedge			S3	Salisbury	Chariton	1999	12	T53N R17W
Cycleptus elongatus	Blue Sucker			S3	Bosworth	Chariton			
Macrhybopsis storiana	Silver Chub			S3	Keyesville	Chariton	1957	11	T53N R18W
Speyeria idalia	Regal Fritillary			S3	Vandalia	Ralls	1971	32	T53N R5W
Creeks and small rivers (prairie region)					Brunswick West	Chariton	1982	17	T54N R20W

*FEDERAL STATUS is derived from the Endangered Species Act, administered by the U.S. Fish and Wildlife Service. The ESA provides federal protection for plants and animals listed as: E = Endangered, T = Threatened, C = Candidate, PE = Proposed Endangered for Federal listing.*

*STATE STATUS is either blank or E, for "endangered" as defined in the Wildlife Code of Missouri.*

*STATE RANKS refer to species tracked but not listed, S1 = critically imperiled, S2 = rare and uncommon or SE = exotic/invasive species.*

Major concerns would include:

- revegetation with native species, especially in areas where greater prairie-chickens may occur;
- proper management for Indiana bats along the entire route, primarily preserving large trees, living or dead, that may serve as summer roost sites. More information is on attached best management sheet, also available at <http://www.mdc.mo.gov/documents/nathis/endangered/indianabat.pdf>.
- proper management of river and stream crossings. Best management recommendations relating to streams and rivers may be found at <http://www.mdc.mo.gov/documents/nathis/endangered/streams.pdf>

**Concerns & management recommendations** based on site or project details, not related to specific heritage records:

Streams should be protected from soil erosion, water pollution and in-stream activities that modify or diminish aquatic habitats. Best management recommendations relating to streams and rivers may be found at <http://www.mdc.mo.gov/documents/nathis/endangered/streams.pdf>

Bald eagles (*haliaeetus leucocephalus*, Federally threatened, State endangered) may overwinter or nest in big river habitats and lakes along the proposed line, where they feed on fish. See <http://www.mdc.mo.gov/documents/nathis/endangered/baldeagle.pdf> for best management recommendations.

Habitat loss can impact populations of grassland birds native to the area, including barn owls (state endangered), northern harriers (state endangered), Henslow's sparrow (imperiled in the state), and greater prairie-chickens (state endangered). Revegetation with native grasses and other flowering plants will minimize the impact of habitat disturbance. Best management practices may be found on-line at <http://www.mdc.mo.gov/nathis/endangered/bmp.htm>.

Indiana bats (*myotis sodalis*, Federally endangered, State endangered) roost and raise young under the bark of trees in riparian forests and upland forests near perennial streams across north Missouri. During project activities, avoid degrading stream quality and where possible leave snags standing and preserve mature forest canopy. Additional information to incorporate in planning documents is available at <http://www.mdc.mo.gov/documents/nathis/endangered/indianabat.pdf>. Gray bats (*myotis grisescens*, Federally endangered, State endangered) could also occur along streams, rivers, and reservoirs in Randolph County and east. See <http://www.mdc.mo.gov/documents/nathis/endangered/graybat.pdf> for best management recommendations.

Randolph, Pike and Ralls county have known karst geologic features (e.g. caves, springs, and sinkholes, all characterized by subterranean water movement). Such features are not routinely identified in heritage records but may be encountered by the project.

Since cave fauna are influenced by changes to water quality, every effort should be made to protect groundwater in the project area. See <http://www.mdc.mo.gov/documents/nathis/endangered/karst.pdf> for best management information.

Pallid sturgeons (scaphirhynchus albus, Federal and State endangered) are big river fish that may range widely in the Mississippi and Missouri River system (including parts of major tributaries). Because the preferred habitat and range of the species are unknown, any project that modifies big river habitat or impacts water quality should consider the possible impact to pallid sturgeon populations. See [http://www.mdc.mo.gov/documents/nathis/endangered/lp\\_sturgeon.pdf](http://www.mdc.mo.gov/documents/nathis/endangered/lp_sturgeon.pdf) for best management recommendations.

The Randolph and Audrain sections are mostly in the vicinity of "booming grounds", or courtship areas, for greater prairie chickens (*Tympanuchus cupido*, state endangered). This grassland bird may nest and forage in grasslands several miles away from the booming ground. Prairie chickens may use grasslands in the project area. See <http://www.mdc.mo.gov/documents/nathis/endangered/prairiechicken.pdf> for best management recommendations

The Missouri and Mississippi Rivers are home to a number of species of state and federal concern, including pallid sturgeon, gray bats, Indiana bats, bald eagles, lake sturgeon, flathead chubs and others. Terrestrial projects that manage construction and include operation plans to avoid runoff of sediment or pollutants are unlikely to affect these species. Projects that place fill in or discharge water to the river are subject to federal permits, and strict observance of conditions required in those permit is important to minimize risk of damage to endangered species.

**Conservation Department Areas:** The proposed line appears to cross near the following Conservation Areas. If plans will include transit or impact to these areas, please contact Doyle Brown, 573-522-4115 X 3355 to identify the appropriate staff to review plans and secure approval for area impacts other than species of concern. The following public lands are within the 1-mile corridor:

AREA NAME	COUNTY	Acres
Jacks (Maude Shores) CA	Audrain	21
Sears (F. O. & Leda J.) Mem CA	Audrain	163
Sterling Price Community Lake	Chariton	84
Pine Ridge Lake	Chariton	0
Upper Mississippi CA	Lewis, Lincoln, St Charles, Pike	337

MISSOURI

### Conservation Opportunity Areas

MDC has identified a few areas in the state as the most promising places to restore or enhance species diversity or populations/habitats of concern. These are called Conservation Opportunity Areas and those crossed by or within one-mile of the proposed line are listed below. Public/private partnerships within these areas are being developed to improve the state's fish and wildlife diversity, and some federal funding may be available to help with habitat restoration projects within them.

NAME	Land Type	CRITERIA
Peno Creek	TP Woodland/Forest Hills	Solid block of woods; Aquatic COA; Existing conservation land
Bunch Hollow	TP Prairie/Woodland Hills	Woodland/savanna/grassland mix; High concentration of forest and grassland birds; Heritage communities; Existing conservation land
Upper Mississippi - Shanks	TP Alluvial Plains	Wetlands complex, Heritage elements; Existing conservation lands
Duck Lake	TP Alluvial Plains	Aquatic COA; Heritage elements
Grassy Creek	Aquatic	Only AES with small river and associated richness
Towstring Creek	Aquatic	Less channelized; existing focus; rare species;

A HERITAGE REVIEW provides information about species and habitats of concern that could be affected by the project. Heritage records note things that were positively identified at some date and time, marked at a location that may be more or less precise. Animals move quickly but plant communities can move also. To say "there is a record" does not mean the species/habitat is still there. To say that "there is no record" does not mean the project may not encounter something. Because of this, reports include information about records near but not necessarily on the project site. Three different kinds of information are provided.

- FEDERAL Concerns are species/habitats protected under the Federal Endangered Species Act and that have been known near enough to the project site to warrant consideration. For these, project managers must contact the U.S. Fish and Wildlife Service Ecological Services (101 Park Deville Drive Suite 4, Columbia, Missouri 65203-0007; Phone 573-234-2132; Fax 573-234-2181) for consultation.
- STATE Concerns are species/habitats known to exist near enough to the project site to warrant concern and protected under the Wildlife Code of Missouri (RSMo 3 CSR 10). "State Endangered Status" is determined by the Missouri Conservation Commission under constitutional authority, with requirements expressed in the Missouri Wildlife Code, rule 3CSR10-4.111. "State Rank" is numeric rank of relative rarity, protected under general provisions of the Wildlife Code but not endangered.
- "Concerns & management recommendations" are things for which one might prudently look. There is no specific heritage record, but our knowledge of the surrounding landscape suggests consideration. 93% of Missouri's lands in private ownership, so most sites have never been carefully inspected by conservation professionals

This report is not a site clearance letter. Rather, it provides an indication of whether or not public lands and sensitive resources are known to be (or are likely to be) located close to the proposed project. Incorporating information from our Heritage Database into project plans is an important step that can help reduce unnecessary impacts to Missouri's sensitive natural resources. However, the Heritage Database is only one reference that should be used to evaluate potential adverse impacts. Other types of information, such as wetland and soils maps and on-site inspections or surveys, should be considered. Reviewing current landscape and habitat information and species biological characteristics would additionally ensure that species of conservation concern are appropriately identified and addressed.

Additional information on rare, endangered and watched species may be found at <http://www.mdc.mo.gov/natils/endangered/>. If you would like printed copies of best management practices cited as internet URLs, please contact us.

**From:** [Hellmich, Ron](#)  
**To:** [Delia Kelly;](#)  
**CC:**  
**Subject:** Rockies Express pipeline  
**Date:** Monday, April 24, 2006 7:41:24 AM  
**Attachments:** [IN\\_protectedareas\\_rex\\_east-pipeline.zip](#)  
[IN\\_heritage\\_rex\\_east-pipeline.zip](#)  
[r119\\_NRG\\_REX-pipeline.doc](#)

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Ms. Kelly,

I am responding to your request for information on the endangered, threatened, or rare (ETR) species, high quality natural communities, and natural areas documented from the Rockies Express pipeline project area, Indiana. The Indiana Natural Heritage Data Center has been checked and following you will find information on the ETR species and significant areas documented from the project area.

For more information on the animal species mentioned, please contact Katie Smith, Nongame Supervisor, Division of Fish and Wildlife, 402 W. Washington Room W273, Indianapolis, Indiana 46204, (317)232-4080.

The information I am providing does not preclude the requirement for further consultation with the U.S. Fish and Wildlife Service as required under Section 7 of the Endangered Species Act of 1973. You should contact the Service at their Bloomington, Indiana office.

U.S. Fish and Wildlife Service  
620 South Walker St.  
Bloomington, Indiana 47403-2121  
(812)334-4261

At some point, you may need to contact the Department of Natural Resources' Environmental Review Coordinator so that other divisions within the department have the opportunity to review your proposal. For more information, please contact:

Kyle Hupfer, Director  
Department of Natural Resources  
attn: Christie Kiefer

Environmental Coordinator  
Division of Water  
402 W. Washington Street  
Indianapolis, IN 46204

Please note that the Indiana Natural Heritage Data Center relies on the observations of many individuals for our data. In most cases, the information is not the result of comprehensive field surveys conducted at particular sites. Therefore, our statement that there are no documented significant natural features at a site should not be interpreted to mean that the site does not support special plants or animals.

Due to the dynamic nature and sensitivity of the data, this information should not be used for any project other than that for which it was originally intended. It may be necessary for you to request updated material from us in order to base your planning decisions on the most current information.

Also please find the included invoice <<IN\_protectedareas\_rex\_east-pipeline.zip>> . Thank you for contacting the Indiana Natural Heritage Data Center. You may reach me at (317)232-8059 if you have any questions or need additional information.

<<IN\_heritage\_rex\_east-pipeline.zip>> <<r119\_NRG\_REX-pipeline.doc>>

Ronald Hellmich  
Division of Nature Preserves  
402 W. Washington St., Rm W267  
Indianapolis, IN 46204  
(317)232-8059  
(317)233-0133 fax  
rhellmich@dnr.IN.gov

**From:** [Delia Kelly](#)  
**To:** ["Woischke, Debbie";](#)  
**CC:**  
**Subject:** RE: Ohio Natural Heritage Data, REX East  
**Date:** Friday, April 28, 2006 2:42:29 PM  
**Attachments:**

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Dear Ms. Woischke,

Thank you for your quick response to my Natural Heritage Data request. The information you have sent to us will be most useful in our impact assessment. Unfortunately, the files marked data.xxx did not translate in your email and I have been asked by our GIS staff to ask that you re-send the information in a zip file. Please let me know if this will pose any problems for you and, again, thank you for sharing this information with us.

Best regards,  
Delia Kelly

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**Delia Kelly**  
[drkelly@nrginc.com](mailto:drkelly@nrginc.com)  
612.347.6794 Direct  
612.347.6780 Fax

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**From:** Woischke, Debbie [mailto:Debbie.Woischke@dnr.state.oh.us]  
**Sent:** Thursday, April 27, 2006 10:35 AM  
**To:** Delia Kelly  
**Subject:** Ohio Natural Heritage Data, REX East

Dear Ms. Kelly:

Per your request, I have e-mailed you a set of ArcView shape files with our Natural Heritage Database records for the Rockies Express Pipeline - REX East project area ('data'). The projection is NAD83 Ohio

South. Records included may be for rare and endangered plants and animals, geologic features, high quality plant communities and breeding and non-breeding animal concentrations. Fields included are scientific and common names, state and federal statuses, as well as managed area, date of the most recent observation and feature ID and elcode. The feature ID and elcode fields are codes we use to differentiate between records of the same species. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, FE = federal endangered and FT = federal threatened.

Also included are layers for managed areas ('ma') and scenic rivers ('sr'). The 'ma' layer includes state nature preserves, parks, forests and wildlife areas, national wildlife refuges, county metro parks, as well as sites owned by non-profit groups (such as The Nature Conservancy), museums (such as the Cleveland Museum of Natural History), and others. Please be aware that the managed areas layer may not be complete. We are continually updating this layer as additional information becomes available to us.

If this project is located within 1000 feet of a state designated scenic river, the approval of the Director of ODNR may be required in accordance with Ohio Revised Code section 1517.16. Please contact the Scenic Rivers Group Manager for further information. Bob Gable can be reached at 614-265-6814.

You will notice that some of the locations are represented by circles of two sizes. This represents the locational accuracy of the record, and can be translated as follows: an exact location = a circle with a 328 foot radius and a general location within a square mile = a circle with a half mile radius. As time allows, these circles will be edited into more appropriate shapes.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain

records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For National Wetlands Inventory maps, please contact Madge Fitak in the Division of Geological Survey at 614-265-6576.

Please contact me at 614-265-6818 if I can be of further assistance. I will send a hard copy of this letter along with an invoice.

<<data.dbf>> <<data.sbn>> <<data.sbx>> <<data.shp>> <<data.shx>> <<ma.dbf>> <<ma.sbn>> <<ma.sbx>> <<ma.shp>> <<ma.shx>> <<sr.dbf>> <<sr.sbn>> <<sr.sbx>> <<sr.shp>> <<sr.shx>>

**Debbie Woischke, Ecological Analyst**  
**Ohio Department of Natural Resources**  
**Division of Natural Areas and Preserves**  
**Ohio Natural Heritage Program**  
**2045 Morse Rd., Bldg. F-1**  
**Columbus, OH 43229-6605**

**phone: 614-265-6818**

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**e-mail: [debbie.woischke@dnr.state.oh.us](mailto:debbie.woischke@dnr.state.oh.us)**

1000 IDS Center  
80 South Eighth Street  
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June 21, 2006

Mary Knapp  
U.S. Fish and Wildlife Service  
Reynoldsburg Ecological Services Field Office  
6950 Americana Parkway, Suite H  
Reynoldsburg, OH 43068

RE: Rockies Express Pipeline LLC, Rockies Express-East Project  
Threatened and Endangered Species Survey Plans

Dear Dr. Knapp:

Rockies Express Pipeline LLC (Rockies Express) is proposing to construct and operate a new pipeline, including compressor 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 Midwest and eastern United States. The Rockies Express pipeline system consists of existing and new natural gas pipeline facilities extending from Rio Blanco County, Colorado to a terminus in Marion County, Ohio.

Existing pipeline facilities are being extended this summer under a Federal Energy Regulatory Commission (FERC) Certificate of Public Convenience and Necessity (Certificate), CP04-413-000. This project, referred to as the REX- Entrega Project, involves the completion of a 326-mile-long segment from Rio Blanco County, Colorado to Weld County, Colorado. A second segment, REX-West, will extend approximately 713 miles from Weld County, Colorado to Audrain County, Missouri. An application for a Certificate has been filed with the FERC (Docket No. CP06-354-000). A third segment, REX-East, will continue for another 622 miles from Audrain County, Missouri, to Monroe County, Ohio. Rockies Express has filed a request to participate in the FERC Pre-Filing process (Docket No. PF06-30-000) for this project.

Each project, while connected, will serve separate markets. The REX-East Project is the subject of this consultation.

In addition to the pipeline, REX-East will include construction of some aboveground facilities including compressor stations, block valves, and metering/regulation facilities. With the exception of compressor stations, aboveground facilities will be located within or adjacent to existing facilities or largely within the permanent right-of-way of the proposed project. These facilities will be sited to avoid impacts on special status species and sensitive vegetation communities. Pipeline construction will generally involve a 125-foot-wide construction right-of-way and is anticipated to begin in May 2008 with an expected in-service date of winter 2008. The Federal Energy Regulatory Commission (FERC) is the lead federal agency for the project.

Pursuant to 18 CFR 380.13, Rockies Express is acting as the FERC's non-federal representative for purposes of complying with section 7(a) of the Endangered Species

Act (ESA). Rockies Express has retained Natural Resource Group, Inc. (NRG) to assist with various aspects of project development, including agency consultations, environmental field surveys, and preparation of an application to the FERC. NRG, on behalf of Rockies Express, will be preparing environmental review documents for the project.

Based on a review of public documents for the REX-East Pipeline, including lists of federally endangered or threatened species found on websites maintained by the FWS, the following species were identified as potentially occurring in the general project area in Ohio:

- Indiana bat,
- running buffalo clover
- clubshell
- fanshell
- pink mucket
- Northern riffleshell, and
- bald eagle.

In order to complete an assessment of potential project impacts on these species, Rockies Express is proposing to conduct a general habitat review of the project area and focused follow-up surveys as necessary. Details of this general review and the potential surveys are described below.

The federally endangered Scioto madtom is also listed as potentially occurring in waterbodies crossed by the proposed project. This species is thought to be endemic to the Scioto River basin. This species prefers gravel bottomed stream riffles with moderate current and requires high quality water with low turbidity. Last observed in 1957, the 18 fish collected from Big Darby Creek are the only individuals that have ever been collected. Rockies Express believes that presence of this species within the project area is unlikely and that the project will have no effect on the Scioto madtom. As such, no surveys are currently proposed for this species.

### **General Habitat Assessment**

Rockies Express is currently planning to conduct wetland and waterbody surveys within a 250-foot-wide corridor along the project route beginning in mid-August 2006. Wetland surveys will follow the methodology outlined in the 1987 Corps of Engineers Wetland Delineation Manual. Waterbody surveys will include identification of both perennial and intermittent waterbodies occurring along the project corridor as well as a qualitative assessment of many stream characteristics. Specifically, survey crews will record approximate stream width (bank-to-bank and at water level), depth, flow, substrate, bank slope, and bank vegetation (type and percent cover).

During these surveys, field crews will assess wetlands, waterbodies, and undisturbed upland areas within the survey corridor for suitable habitat for the eight species listed above. Where suitable habitat is identified, Rockies Express proposes to conduct additional species specific details as described in the following sections.

### **Indiana Bat**

The federally endangered Indiana bat is listed as occurring in all 14 Ohio counties crossed by the proposed route, where individuals may roost under the bark of trees in

riparian and upland forests near perennial streams. During the summer, maternity colonies are typically found roosting behind sloughing bark or in cavities, often in, but not limited to, dead trees. Indiana bats forage on insects in and around the tree canopy of floodplain, riparian, and upland forests. Streams associated with floodplain forests and impounded bodies of water such as ponds, reservoirs, and wetlands are sometimes considered preferred foraging habitats for bats. The Ohio Division of Natural Areas and Preserves reports no known occurrences of the Indiana bat within one mile of the proposed pipeline route. However, Rockies Express will conduct surveys in forested areas along the project corridor to identify areas of suitable summer roosting habitat. Surveys will involve pedestrian meander searches for trees with the appropriate bark structure or cavities to sustain roosting bats. Rockies Express will not limit surveys to upland or wetland forests nor restrict identification of suitable trees to certain species or size. If suitable roost trees are identified, trees will be uniquely marked in the field and noted on aerial photographs.

### **Running Buffalo Clover**

The federally endangered running buffalo clover is known to exist in Warren County. This clover requires moderate, periodic disturbance and grows in partially shaded areas on the fringe of forests and bottomland meadows. This species has also been known to occur in mowed areas and along streams and trails. The 21.1 miles of Warren County crossed by the proposed pipeline route is dominated by agricultural land, which is unlikely to sustain populations due to severe disturbance and exposure. According to information provided by the Ohio Division of Natural Areas and Preserves, there are no known occurrences of this species within one mile of the proposed route. However, areas may be present along the proposed route with the appropriate habitat for running buffalo clover. In areas of suitable habitat, as identified during preliminary habitat reviews, Rockies Express will perform species-specific surveys during the flowering season in 2007, between mid-April and June.

### **Mussels and Mussel Beds**

There are four federally endangered mussel species with the potential to occur along the proposed route in Ohio. The *clubshell* is known to occur in only 13 streams throughout its range. Sensitive to disturbance, this mussel prefers areas with low turbidity in medium to small rivers and streams with loose sand or gravel substrate. Ohio populations are known to occur in Greene, Pickaway, and Fairfield Counties. According to information provided by the Ohio Division of Natural Areas and Preserves, clubshell populations may exist in the Scioto River and within Deer Creek State Park. The *northern riffleshell* inhabits firm sand or gravel substrates of streams of varying size. Known to occur in Pickaway County, Natural Heritage Data reports populations in the Scioto River and Big Darby Creek. The *fanshell*, known to occur in Morgan and Muskingum Counties, is found in medium or large rivers with moderate current and sand or gravel substrate. The *pink mucket*, known to occur in Morgan County, is found in major rivers and tributaries. The proposed route crosses less than two miles of the northwest corner of Morgan County where there are no perennial stream crossings. Rockies Express anticipates having no effect on this area. Of the seven perennial streams crossed in Muskingum County, four may be large enough to support fanshell populations. However, no known records of fanshell or pink mucket have been reported within one mile of the proposed route. *Mussel beds*, containing between 11 and 15 mussel species, are reported to be within a mile of the proposed route as far west as the Great Miami River as well as within the Virginia Military District. Waterbody surveys scheduled to begin along the project route in August 2006 will include an analysis of the substrate and hydrology of waterbody

crossings. In streams identified as having suitable habitat for mussels or mussel beds, Rockies Express will conduct surveys using trained biologists to determine presence or absence and species composition of mussels in the waterbodies.

### **Bald Eagle**

The federally threatened bald eagle has known populations in Pickaway, Muskingum, Guernsey, and Noble counties, where they are likely to be present from November 15 to March 15 and may also be casual summer residents. Nesting populations are known to occur in Morgan County, where they may maintain a nest site between February 1 and June 31. Of the 96 perennial streams crossed by the proposed route in Ohio, 19 could be large enough to support nesting bald eagles. Rockies Express will conduct surveys in areas of suitable nesting habitat during the nesting season to determine if bald eagle nests are present.

Upon completion of preliminary habitat assessments and focused species surveys, as necessary, Rockies Express will determine the potential for the project to affect listed species and develop conservation measures to avoid or minimize effects. Rockies Express will then submit the survey results, assessment of potential effects, and discussion of conservation measures to the FWS for review.

With this letter Rockies Express requests approval of both the list of species identified as potentially occurring along the project route (as shown on the attached map) and approval of the proposed survey methods. If additional species or alternate survey methods are recommended or required, please provide details in your response letter. Rockies Express would appreciate a response within 30 days to allow incorporation into the survey planning process.

If you have any questions or need additional information regarding protected species, please contact me at (612) 359-5678 or jrthommes@nrginc.com.

Sincerely,

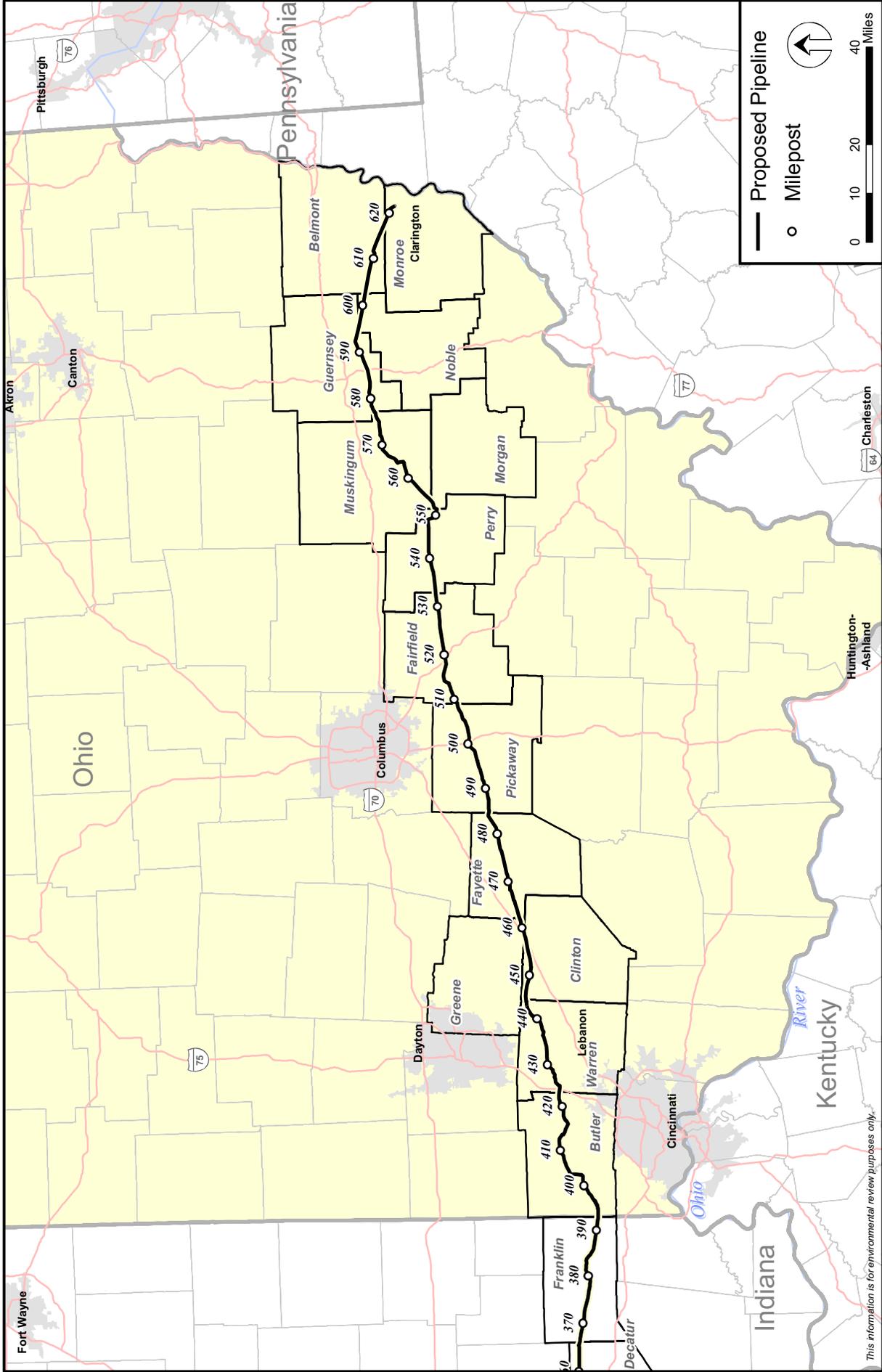
Natural Resource Group, Inc.



Jeff Thommes  
Natural Resource Specialist

Enclosure: Project Location Map

cc: Jim Thompson, Rockies Express  
Ryan Childs, Rockies Express  
Elizabeth Dolezal, Natural Resource Group  
Project File

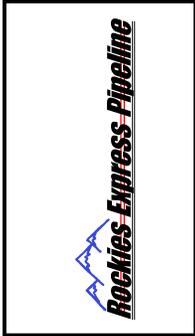


— Proposed Pipeline  
 ○ Milepost

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REVISED: 05/05/06
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## Rockies Express Pipeline - East Project Project Overview Map Ohio



1000 IDS Center  
80 South Eighth Street  
Minneapolis, MN 55402



telephone (612) 347-6789  
facsimile (612) 347-6780  
www.NRGINC.com

July 5, 2006

Richard Nelson  
U.S. Fish and Wildlife Service  
Rock Island Ecological Services Field Office  
4469 48<sup>th</sup> Avenue Court  
Rock Island, IL 61201

Joyce Collins  
U.S. Fish and Wildlife Service  
Marion Illinois Suboffice  
8588 Route 148  
Marion, IL 62959

RE: Rockies Express Pipeline LLC, Rockies Express-East Project  
Threatened and Endangered Species Survey Plans

Dear Mr. Nelson and Ms. Collins:

Rockies Express Pipeline LLC (Rockies Express) is proposing to construct and operate a new pipeline, including compressor 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 Midwest and eastern United States. The Rockies Express pipeline system consists of existing and new natural gas pipeline facilities extending from Rio Blanco County, Colorado to a terminus in Marion County, Ohio.

Existing pipeline facilities are being extended this summer under a Federal Energy Regulatory Commission (FERC) Certificate of Public Convenience and Necessity (Certificate), CP04-413-000. This project, referred to as the REX- Entrega Project, involves the completion of a 326-mile-long segment from Rio Blanco County, Colorado to Weld County, Colorado. A second segment, REX-West, will extend approximately 713 miles from Weld County, Colorado to Audrain County, Missouri. An application for a Certificate has been filed with the FERC (Docket No. CP06-354-000). A third segment, REX-East, will continue for another 622 miles from Audrain County, Missouri, to Monroe County, Ohio. Rockies Express has filed a request to participate in the FERC Pre-Filing process (Docket No. PF06-30-000) for this project.

Each project, while connected, will serve separate markets. The REX-East Project is the subject of this consultation.

In addition to the pipeline, REX-East will include construction of some aboveground facilities including compressor stations, block valves, and metering/regulation facilities. With the exception of compressor stations, aboveground facilities will be located within or adjacent to existing facilities or largely within the permanent right-of-way of the proposed project. These facilities will be sited to avoid impacts on special status species and sensitive vegetation communities. Pipeline construction will generally involve a 125-foot-

wide construction right-of-way and is anticipated to begin in May 2008 with an expected in-service date of winter 2008. The Federal Energy Regulatory Commission (FERC) is the lead federal agency for the project.

Pursuant to 18 CFR 380.13, Rockies Express is acting as the FERC's non-federal representative for purposes of complying with section 7(a) of the Endangered Species Act (ESA). Rockies Express has retained Natural Resource Group, Inc. (NRG) to assist with various aspects of project development, including agency consultations, environmental field surveys, and preparation of an application to the FERC. NRG, on behalf of Rockies Express, will be preparing environmental review documents for the project.

Based on a review of public documents for the REX-East Pipeline, including lists of federally endangered or threatened species found on websites maintained by the FWS, the following species were identified as potentially occurring in the general project area in Illinois:

- Indiana bat,
- gray bat,
- prairie bush clover,
- bald eagle,
- decurrent false aster,
- eastern prairie fringed orchid

In order to complete an assessment of potential project impacts on these species, Rockies Express is proposing to conduct a general habitat review of the project area and focused follow-up surveys as necessary. Details of this general review and the potential surveys are described below.

#### **General Habitat Assessment**

Rockies Express is currently planning to conduct wetland and waterbody surveys within a 250-foot-wide corridor along the project route beginning in mid-August 2006. Wetland surveys will follow the methodology outlined in the 1987 Corps of Engineers Wetland Delineation Manual. Waterbody surveys will include identification of both perennial and intermittent waterbodies occurring along the project corridor as well as a qualitative assessment of many stream characteristics. Specifically, survey crews will record approximate stream width (bank-to-bank and at water level), depth, flow, substrate, bank slope, and bank vegetation (type and percent cover).

#### **Indiana Bat**

The federally endangered Indiana bat is listed as occurring statewide. Individuals may roost under the bark of trees in riparian and upland forests near perennial streams. During the summer, maternity colonies are typically found roosting behind sloughing bark or in cavities, often in, but not limited to, dead trees. Indiana bats forage on insects in and around the tree canopy of floodplain, riparian, and upland forests. Streams associated with floodplain forests and impounded bodies of water such as ponds, reservoirs, and wetlands are sometimes considered preferred foraging habitats for bats. The Illinois Department of Natural Resources, Natural Heritage Database reports no known occurrences of the Indiana bat within one mile of the proposed pipeline route. However, Rockies Express will conduct surveys in forested areas along the project corridor to identify areas of suitable summer roosting habitat. Surveys will involve

pedestrian meander searches for trees with the appropriate bark structure or cavities to sustain roosting bats. Rockies Express will not limit surveys to upland or wetland forests nor restrict identification of suitable trees to certain species or size. If suitable roost trees are identified, trees will be uniquely marked in the field and noted on aerial photographs.

### **Gray Bat**

The federally endangered gray bat is known to inhabit caves and/or abandoned mines in Pike County. Rockies Express will not be constructing during the period of winter hibernation, generally lasting from October to April, and does not anticipate having any impact on the area of the hibernation caves. In the spring, gray bats migrate to scattered caves with domed ceilings where maternity colonies cluster to retain heat. Disturbance of maternity colonies may result in the abortion or abandonment of young. The Illinois Department of Natural Resources, Natural Heritage Database has identified no gray bat populations or individuals within one mile of the proposed route. While cave locations in Illinois are not known, Rockies Express has identified 100 sinkholes within 10 miles of the proposed route. These sinkholes, concentrated in Pike and Scott Counties, indicate a strong likelihood of karst terrain. Rockies Express will survey the route for cave locations and will incorporate this information into project planning.

### **Prairie Bush Clover**

The federally threatened prairie bush clover is listed as potentially occurring statewide in counties containing dry/mesic/wet prairies. This Midwestern endemic prairie legume is found only in the tall-grass prairie region of 23 counties, where it is restricted to fewer than 40 sites. The rarity of this species can be attributed primarily to the loss of tall-grass prairie habitat, specifically mesic to dry prairie. Remaining populations occur primarily in areas that were not converted to cropland because the terrain is too steep or rocky. According to the Illinois Department of Natural Resources, Natural Heritage Database there are no known occurrences of this species within one mile of the proposed route and there are no prairie regions in the general area of the project. Wetland delineations are scheduled to begin along the proposed route in August 2006, and will include surveys for suitable prairie bush clover habitat. In areas determined to be appropriate for this species, Rockies Express will perform species-specific surveys during the flowering season (mid-July) of 2007.

### **Bald Eagle**

The federally threatened bald eagle has wintering populations in Pike, Scott, Morgan, Sangamon, Christian, and Moultrie counties, where they are likely to be present from November 15 to March 15. Of the 56 perennial streams crossed by the proposed route in Illinois, 10 could be large enough to support nesting bald eagles. Rockies Express will coordinate with your office regarding any known and currently monitored bald eagle nesting locations. Additionally, Rockies Express will conduct surveys in areas of suitable nesting habitat during the nesting season to determine if bald eagle nests are present.

### **Decurrent False Aster**

The federally threatened decurrent false aster has been recorded in Pike, Scott, and Morgan Counties. This big river floodplain species primarily inhabits wetlands and borders of marshes, lakes, oxbows, and sloughs. It reportedly favors sites characterized by moist soil and regular disturbance, typically periodic flooding, which maintains open areas with high light levels. Seeds are dispersed primarily by floodwater. Natural Heritage records supplied to Rockies Express by the Illinois Department of Natural Resources, Natural Heritage Database indicate that the decurrent false aster has not

been observed within one mile of the proposed route. Wetland delineations along the route will begin in August 2006, and will identify areas of suitable habitat for the decurrent false aster to be targeted by future species-specific surveys.

### **Eastern Prairie Fringed Orchid**

The federally threatened eastern prairie fringed orchid is listed as potentially occurring statewide in counties containing dry/mesic/wet prairies. This species occurs in a wide variety of habitats, from mesic prairie to wetlands such as sedge meadows, marsh edges, and bogs. It requires full sun and a grassy habitat with little or no woody encroachment. Historically threatened by the conversion of habitat to cropland, the eastern prairie fringed orchid is currently most threatened by the drainage and development of wetlands as well as competition from non-native species. According to the Illinois Department of Natural Resources, Natural Heritage Database there are no known occurrences of this species within one mile of the proposed route and there are no prairie regions in the general area of the project. Wetland delineations are scheduled to begin along the proposed route in August 2006, and will include surveys for suitable eastern prairie fringed orchid habitat. In areas determined to be appropriate for this species, Rockies Express will perform species-specific surveys during the flowering season (which peaks between mid-June and August) of 2007.

Upon completion of preliminary habitat assessments and focused species surveys, as necessary, Rockies Express will determine the potential for the project to affect listed species and develop conservation measures to avoid or minimize effects. Rockies Express will then submit the survey results, assessment of potential effects, and discussion of conservation measures to the FWS for review.

With this letter Rockies Express requests approval of both the list of species identified as potentially occurring along the project route (as shown on the attached map) and approval of the proposed survey methods. If additional species or alternate survey methods are recommended or required, please provide details in your response letter. Rockies Express would appreciate a response within 30 days to allow incorporation into the survey planning process.

If you have any questions or need additional information regarding protected species, please contact me at (612) 359-5678 or jrthommes@nrginc.com.

Sincerely,

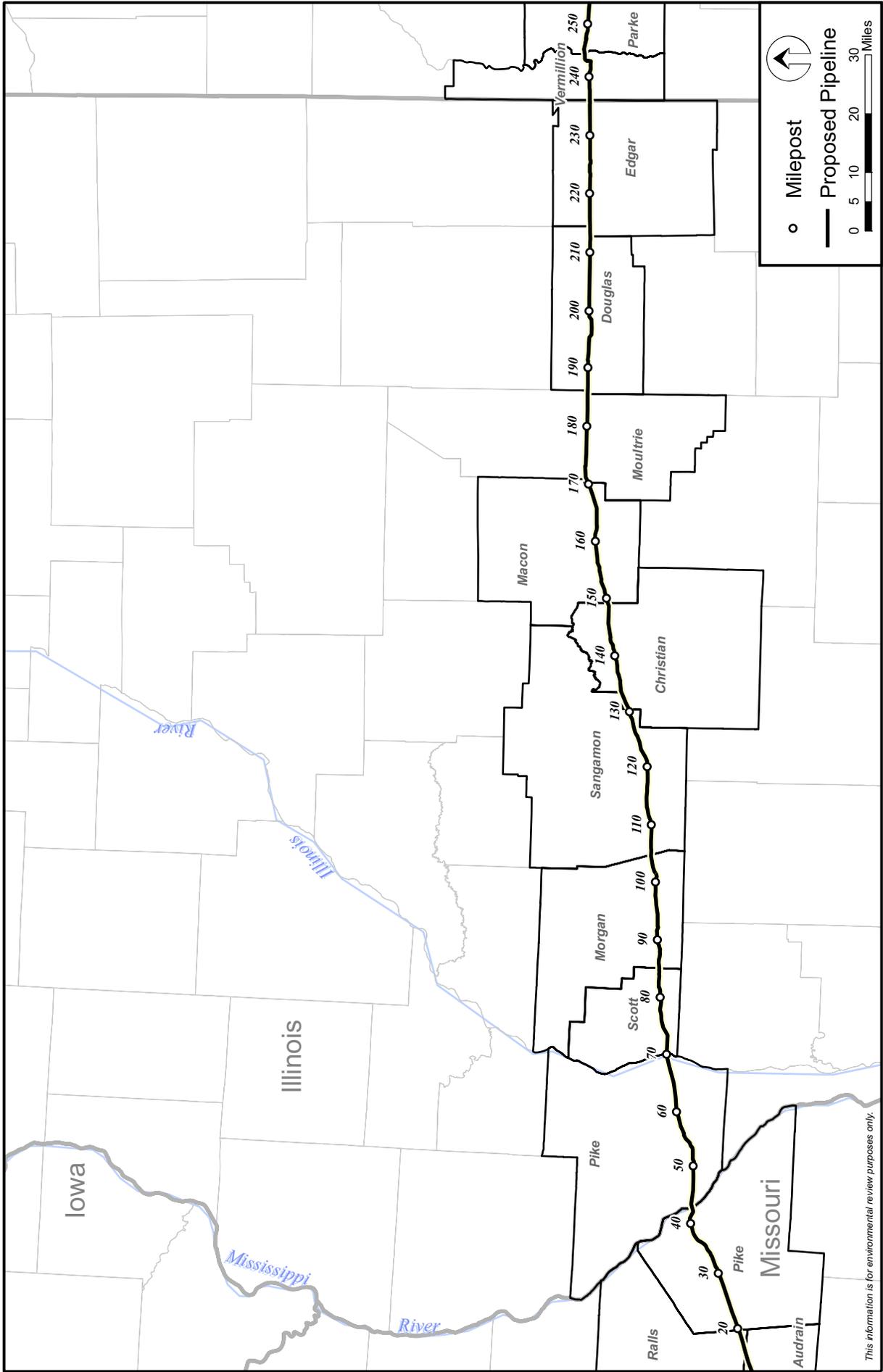
Natural Resource Group, Inc.



Jeff Thommes  
Natural Resource Specialist

Enclosure: Project Location Map

cc: Jim Thompson, Rockies Express  
Ryan Childs, Rockies Express  
Elizabeth Dolezal, Natural Resource Group



○ Milepost

— Proposed Pipeline



This information is for environmental review purposes only.

DATE: 07/05/06
REVISED: 07/05/06
SCALE: 1:1,492,471
DRAWN BY: KRSOLBERG
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## Rockies Express Pipeline Project (REX-East) General Location Map Illinois



1000 IDS Center  
80 South Eighth Street  
Minneapolis, MN 55402



telephone (612) 347-6789  
facsimile (612) 347-6780  
www.NRGINC.com

July 5, 2006

Scott Pruitt  
U.S. Fish and Wildlife Service  
Bloomington Ecological Services Field Office  
620 South Walker Street  
Bloomington, IN 47403

RE: Rockies Express Pipeline LLC, Rockies Express-East Project  
Threatened and Endangered Species Survey Plans

Dear Mr. Pruitt:

Rockies Express Pipeline LLC (Rockies Express) is proposing to construct and operate a new pipeline, including compressor 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 Midwest and eastern United States. The Rockies Express pipeline system consists of existing and new natural gas pipeline facilities extending from Rio Blanco County, Colorado to a terminus in Marion County, Ohio.

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Each project, while connected, will serve separate markets. The REX-East Project is the subject of this consultation.

In addition to the pipeline, REX-East will include construction of some aboveground facilities including compressor stations, block valves, and metering/regulation facilities. With the exception of compressor stations, aboveground facilities will be located within or adjacent to existing facilities or largely within the permanent right-of-way of the proposed project. These facilities will be sited to avoid impacts on special status species and sensitive vegetation communities. Pipeline construction will generally involve a 125-foot-wide construction right-of-way and is anticipated to begin in May 2008 with an expected in-service date of winter 2008. The Federal Energy Regulatory Commission (FERC) is the lead federal agency for the project.

Pursuant to 18 CFR 380.13, Rockies Express is acting as the FERC's non-federal representative for purposes of complying with section 7(a) of the Endangered Species

Act (ESA). Rockies Express has retained Natural Resource Group, Inc. (NRG) to assist with various aspects of project development, including agency consultations, environmental field surveys, and preparation of an application to the FERC. NRG, on behalf of Rockies Express, will be preparing environmental review documents for the project.

Based on a review of public documents for the REX-East Pipeline, including lists of federally endangered or threatened species found on websites maintained by the FWS, the following species were identified as potentially occurring in the general project area in Indiana:

- Indiana bat,
- bald eagle

In order to complete an assessment of potential project impacts on these species, Rockies Express is proposing to conduct a general habitat review of the project area and focused follow-up surveys as necessary. Details of this general review and the potential surveys are described below.

### **General Habitat Assessment**

Rockies Express is currently planning to conduct wetland and waterbody surveys within a 250-foot-wide corridor along the project route beginning in mid-August 2006. Wetland surveys will follow the methodology outlined in the 1987 Corps of Engineers Wetland Delineation Manual. Waterbody surveys will include identification of both perennial and intermittent waterbodies occurring along the project corridor as well as a qualitative assessment of many stream characteristics. Specifically, survey crews will record approximate stream width (bank-to-bank and at water level), depth, flow, substrate, bank slope, and bank vegetation (type and percent cover).

### **Indiana Bat**

The federally endangered Indiana bat is listed as occurring statewide. Individuals may roost under the bark of trees in riparian and upland forests near perennial streams. During the summer, maternity colonies are typically found roosting behind sloughing bark or in cavities, often in, but not limited to, dead trees. Indiana bats forage on insects in and around the tree canopy of floodplain, riparian, and upland forests. Streams associated with floodplain forests and impounded bodies of water such as ponds, reservoirs, and wetlands are sometimes considered preferred foraging habitats for bats. The Indiana Department of Natural Resources, Natural Heritage Data Center reports no known occurrences of the Indiana bat within one mile of the proposed pipeline route. However, Rockies Express will conduct surveys in forested areas along the project corridor to identify areas of suitable summer roosting habitat. Surveys will involve pedestrian meander searches for trees with the appropriate bark structure or cavities to sustain roosting bats. Rockies Express will not limit surveys to upland or wetland forests nor restrict identification of suitable trees to certain species or size. If suitable roost trees are identified, trees will be uniquely marked in the field and noted on aerial photographs.

### **Bald Eagle**

The federally threatened bald eagle has wintering populations in all counties crossed by the proposed route, where they are likely to be present from November 15 to March 15. Individuals may also be casual summer residents and nesting has been recorded in

Morgan County. Of the 57 perennial streams crossed by the proposed route in Indiana, 11 could be large enough to support nesting bald eagles. Rockies Express will coordinate with your office regarding any known and currently monitored bald eagle nesting locations. Additionally, Rockies Express will conduct surveys in areas of suitable nesting habitat during the nesting season to determine if bald eagle nests are present.

Upon completion of preliminary habitat assessments and focused species surveys, as necessary, Rockies Express will determine the potential for the project to affect listed species and develop conservation measures to avoid or minimize effects. Rockies Express will then submit the survey results, assessment of potential effects, and discussion of conservation measures to the FWS for review.

With this letter Rockies Express requests approval of both the list of species identified as potentially occurring along the project route (as shown on the attached map) and approval of the proposed survey methods. If additional species or alternate survey methods are recommended or required, please provide details in your response letter. Rockies Express would appreciate a response within 30 days to allow incorporation into the survey planning process.

If you have any questions or need additional information regarding protected species, please contact me at (612) 359-5678 or jrthommes@nrginc.com.

Sincerely,

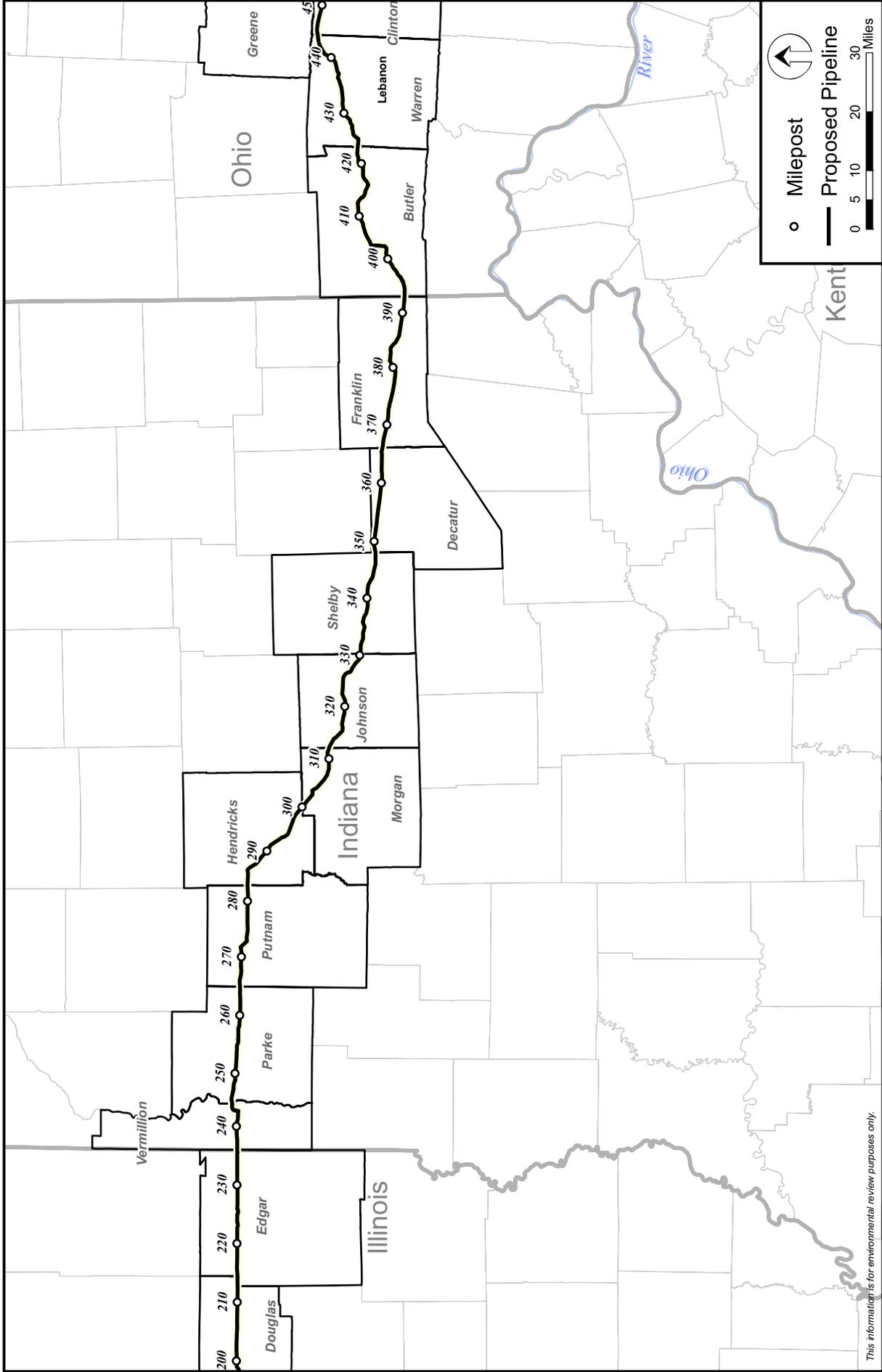
Natural Resource Group, Inc.



Jeff Thommes  
Natural Resource Specialist

Enclosure: Project Location Map

cc: Jim Thompson, Rockies Express  
Ryan Childs, Rockies Express  
Elizabeth Dolezal, Natural Resource Group  
Project File



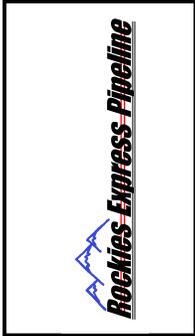
○ Milepost  
 — Proposed Pipeline  
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DATE: 07/05/06
REVISED: 07/05/06
SCALE: 1:1,492,471
DRAWN BY: KRSOLBERG
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## Rockies Express Pipeline Project (REX-East)

### General Location Map

Indiana



This information is for environmental review purposes only.

1000 IDS Center  
80 South Eighth Street  
Minneapolis, MN 55402



telephone (612) 347-6789  
facsimile (612) 347-6780  
www.NRGINC.com

July 5, 2006

Mr. Charlie Scott  
U.S. Fish and Wildlife Service  
Columbia Ecological Services Field Office  
101 Park DeVille Drive Suite A  
Columbia, MO 65203

RE: Rockies Express Pipeline LLC, Rockies Express-East Project  
Threatened and Endangered Species Survey Plans

Dear Mr. Scott:

Rockies Express Pipeline LLC (Rockies Express) is proposing to construct and operate a new pipeline, including compressor 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 Midwest and eastern United States. The Rockies Express pipeline system consists of existing and new proposed natural gas pipeline facilities extending from Rio Blanco County, Colorado to a terminus in Marion County, Ohio.

Existing pipeline facilities are being extended this summer under a Federal Energy Regulatory Commission (FERC) Certificate of Public Convenience and Necessity (Certificate), CP04-413-000. This project, referred to as the REX- Entrega Project, involves the completion of a 326-mile-long segment from Rio Blanco County, Colorado to Weld County, Colorado. A second segment, REX-West, will extend approximately 713 miles from Weld County, Colorado to Audrain County, Missouri. An application for a Certificate has been filed with the FERC (Docket No. CP06-354-000). A third segment, REX-East, will continue for another 622 miles from Audrain County, Missouri, to Monroe County, Ohio. Rockies Express has filed a request to participate in the FERC Pre-Filing process (Docket No. PF06-30-000) for this project.

Each project, while connected, will serve separate markets. The REX-East Project is the subject of this consultation.

In addition to the pipeline, REX-East will include construction of some aboveground facilities including compressor stations, block valves, and metering/regulation facilities. With the exception of compressor stations, aboveground facilities will be located within or adjacent to existing facilities or largely within the permanent right-of-way of the proposed project. These facilities will be sited to avoid impacts on special status species and sensitive vegetation communities. Pipeline construction will generally involve a 125-foot-wide construction right-of-way and is anticipated to begin in spring 2008 with an expected in-service date of winter 2008. The Federal Energy Regulatory Commission (FERC) is the lead federal agency for the project.

Pursuant to 18 CFR 380.13, Rockies Express is acting as the FERC's non-federal representative for purposes of complying with section 7(a) of the Endangered Species Act (ESA). Rockies Express has retained Natural Resource Group, Inc. (NRG) to assist with various aspects of project development, including agency consultations, environmental field surveys, and preparation of an application to the FERC. NRG, on behalf of Rockies Express, will be preparing environmental review documents for the project.

Based on a review of public documents for the REX-East Pipeline, including lists of federally endangered or threatened species found on websites maintained by the FWS, the following species were identified as potentially occurring in the general project area in Missouri:

- Indiana bat,
- gray bat,
- fat pocketbook,
- bald eagle,
- decurrent false aster

In order to complete an assessment of potential project impacts on these species, Rockies Express is proposing to conduct a general habitat review of the project area and focused follow-up surveys as necessary. Details of this general review and the potential surveys are described below.

#### **General Habitat Assessment**

Rockies Express is currently planning to conduct wetland and waterbody surveys within a 250-foot-wide corridor along the project route beginning in mid-August 2006. Wetland surveys will follow the methodology outlined in the 1987 Corps of Engineers Wetland Delineation Manual. Waterbody surveys will include identification of both perennial and intermittent waterbodies occurring along the project corridor as well as a qualitative assessment of many stream characteristics. Specifically, survey crews will record approximate stream width (bank-to-bank and at water level), depth, flow, substrate, bank slope, and bank vegetation (type and percent cover).

During these surveys, field crews will assess wetlands, waterbodies, and undisturbed upland areas within the survey corridor for suitable habitat for the six species listed above. Where suitable habitat is identified, Rockies Express proposes to conduct additional species specific details as described in the following sections.

#### **Indiana Bat**

The federally endangered Indiana bat is listed as occurring in all 3 Missouri counties crossed by the proposed route, where individuals may roost under the bark of trees in riparian and upland forests near perennial streams. During the summer, maternity colonies are typically found roosting behind sloughing bark or in cavities, often in, but not limited to, dead trees. Indiana bats forage on insects in and around the tree canopy of floodplain, riparian, and upland forests. Streams associated with floodplain forests and impounded bodies of water such as ponds, reservoirs, and wetlands are sometimes considered preferred foraging habitats for bats. The Missouri Department of Conservation, Heritage Report, identified no known occurrences of the Indiana bat within one mile of the proposed pipeline route. However, Rockies Express will conduct surveys in forested areas along the project corridor to identify areas of suitable summer roosting

habitat. Surveys will involve pedestrian meander searches for trees with the appropriate bark structure or cavities to sustain roosting bats. Rockies Express will not limit surveys to upland or wetland forests nor restrict identification of suitable trees to certain species or size. If suitable roost trees are identified, trees will be uniquely marked in the field and noted on aerial photographs.

### **Gray Bat**

The federally endangered gray bat is known to inhabit areas in Ralls and Pike counties during part of its migratory cycle. During winter hibernation, generally lasting from October to April, the population is concentrated in three caves in southern Missouri. Rockies Express will not have any impact on the area of these three hibernation caves. In the spring, gray bats migrate to scattered caves with domed ceilings where maternity colonies cluster to retain heat. Disturbance of maternity colonies may result in the abortion or abandonment of young. The Missouri Department of Conservation, Heritage Report, identified no gray bat populations or individuals within one mile of the proposed route. However, caves are known to occur within five miles of the route along approximately 18.4 miles of Pike County. Rockies Express will survey the route for cave locations and will incorporate this information into the engineering of project planning.

### **Fat Pocketbook**

The federally endangered fat pocketbook is known to occur in Pike and Ralls counties. This freshwater mussel is generally found in large rivers, seemingly preferring a mixture of silt, mud, and sand. Spawning occurs from late August through September and successful reproduction is reliant on the presence of a suitable population of its host fish, the freshwater drum. Like many mussel species, fat pocketbooks are sensitive to siltation and habitat destruction. The fat pocketbook is only known to occur in three large rivers, none of which are crossed by the proposed route in Missouri. In addition, according to Natural Heritage Data supplied by the Missouri Department of Conservation, there are no known observations of the mussel within one mile of the proposed route. Waterbody surveys scheduled to begin along the project route in August 2006 will include an analysis of the substrate and hydrology of waterbody crossings. In streams identified as having suitable habitat for the fat pocketbook, Rockies Express will conduct surveys using trained biologists to determine presence or absence of populations along the proposed route.

### **Bald Eagle**

The federally threatened bald eagle has known populations in Pike and Ralls counties, where they are likely to be present from November 15 to March 15 and may also be casual summer residents. Of the 3 perennial streams crossed by the proposed route in Missouri, one unnamed creek in Pike County could be large enough to support nesting bald eagles. Rockies Express will coordinate with your office regarding any known and currently monitored bald eagle nesting locations. Additionally, Rockies Express will conduct surveys in areas of suitable nesting habitat during the nesting season to determine if bald eagle nests are present.

### **Decurrent False Aster**

The federally threatened decurrent false aster has been recorded in Pike County. This big river floodplain species primarily inhabits wetlands and borders of marshes, lakes, oxbows, and sloughs. It reportedly favors sites characterized by moist soil and regular disturbance, typically periodic flooding, which maintains open areas with high light levels. Seeds are dispersed primarily by floodwater. Natural Heritage records supplied to

Rockies Express by the Missouri Department of Conservation indicate that the decurrent false aster has not been observed within one mile of the proposed route. Wetland delineations along the route will begin in August 2006, and will identify areas of suitable habitat for the decurrent false aster to be targeted by future species-specific surveys.

Upon completion of preliminary habitat assessments and focused species surveys, as necessary, Rockies Express will determine the potential for the project to affect listed species and develop conservation measures to avoid or minimize effects. Rockies Express will then submit the survey results, assessment of potential effects, and discussion of conservation measures to the FWS for review.

With this letter Rockies Express requests approval of both the list of species identified as potentially occurring along the project route (as shown on the attached map) and approval of the proposed survey methods. If additional species or alternate survey methods are recommended or required, please provide details in your response letter. Rockies Express would appreciate a response within 30 days to allow incorporation into the survey planning process.

If you have any questions or need additional information regarding protected species, please contact me at (612) 359-5678 or jrthommes@nrginc.com.

Sincerely,

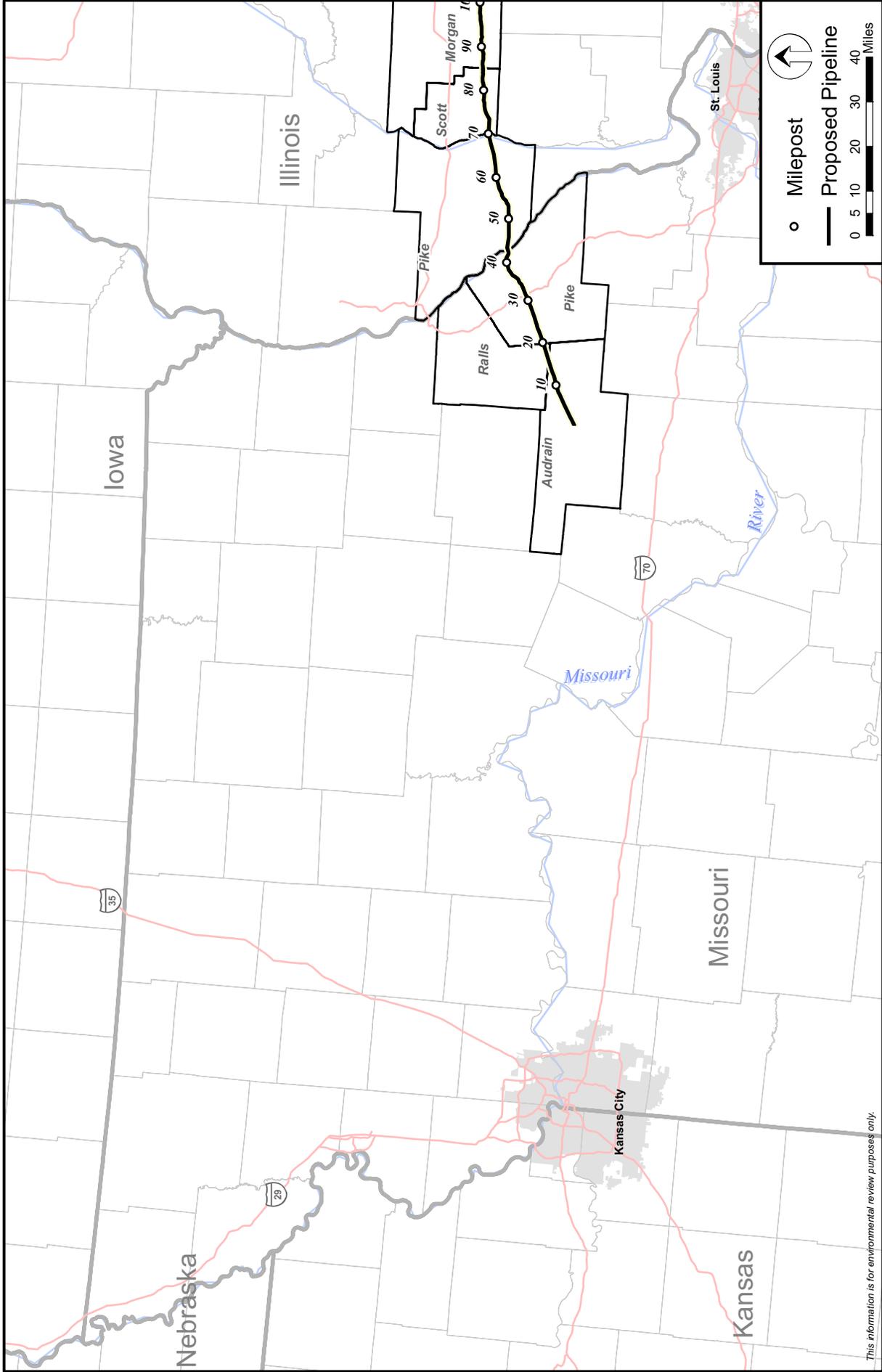
Natural Resource Group, Inc.



Jeff Thommes  
Natural Resource Specialist

Enclosure: Project Location Map

cc: Jim Thompson, Rockies Express  
Ryan Childs, Rockies Express  
Elizabeth Dolezal, Natural Resource Group  
Project File



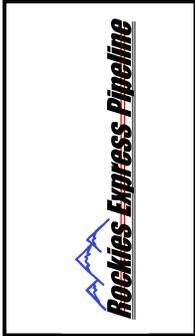
This information is for environmental review purposes only.

DATE: 07/05/06
REVISED: 07/05/06
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## Rockies Express Pipeline Project (REX-East)

### General Location Map

Missouri





# United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Marion Illinois Suboffice (ES)  
8588 Route 148  
Marion, IL 62959  
(618) 997-3344

August 3, 2006

Mr. Jeff Thommes  
Natural Resource Specialist  
Natural Resources Group, Inc.  
1000 IDS Center  
80 South Eighth Street  
Minneapolis, MN 55402

Dear Mr. Thommes:

This is in reference to your July 5, 2006 letter regarding the Rockies Express Pipeline, LLC, Rockies Express-East Project. Your letter requested Fish and Wildlife Service (Service) approval of the list of federally threatened and endangered species identified as potentially occurring along the project route and approval of the proposed survey methods for each species. The letter was provided to both the Rock Island Field Office and the Marion, Illinois Sub-Office for response. This response will fulfill the request for both offices and until otherwise indicated this office will be the lead field office for consultation and coordination associated with this project within the state of Illinois.

In general we concur with the species list provided in your letter. We do note that a candidate mussel species, Spectaclecase (*Cumberlandia monodonta*), is known to occur in the Mississippi River in the vicinity of the proposed pipeline route. We recommend impacts to candidate species be avoided wherever practical in order to protect existing populations and potentially prevent the need for listing these species in the future. Per a telephone conversation with Delia Kelly of NRG on July 28, 2006, we understand that the proposed pipeline will be directionally drilled under the Mississippi River. Therefore, impacts to mussel beds are unlikely to occur.

In general we also concur with the proposed habitat assessment methodologies and focused survey efforts, as necessary. However, the maps provided thus far are insufficient for determining the location of large blocks of forested habitat that may be suitable for Indiana bat maternity colonies or use by individual males and/or non-reproductive females. While the initial habitat survey will provide an indication of potential habitat, it does not preclude the possible need for mist-net surveys to further assess the potential for the presence of Indiana bats in the project area. We recommend more refined maps (e.g., topographic maps) and/or aerial photographs with the proposed

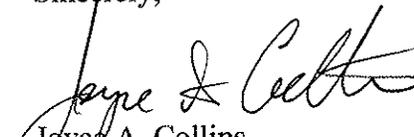
Mr. Jeff Thommes

2.

pipeline route identified be provided to this office as soon as practical. This will then enable identification of potential areas that may require mist-netting for Indiana bats.

Thanks you for the opportunity to review the species list and proposed habitat assessment methodologies. Please contact me at 618/997-3344, ext. 340, should you have any questions or require additional information.

Sincerely,



Joyce A. Collins  
Assistant Field Supervisor

cc: USFWS (Nelson, Scott, Clark, Zimmerman)  
IDNR (Rettig, Kruse)



# United States Department of the Interior

## Fish and Wildlife Service



Bloomington Field Office (ES)  
620 South Walker Street  
Bloomington, IN 47403-2121  
Phone: (812) 334-4261 Fax: (812) 334-4273

August 4, 2006

Jeff Thommes  
Natural Resource Specialist  
Natural Resource Group, Inc.  
1000 IDS Center  
80 South Eighth Street  
Minneapolis, Minnesota 55402

Dear Mr. Thommes:

The U.S. Fish and Wildlife Service (FWS) has reviewed the information provided in your letter of 5 July 2006 concerning the proposed Rockies Express East project (FERC Docket No. PF06-30-000) crossing multiple counties in Indiana.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, as amended, and the U.S. Fish and Wildlife Service's Mitigation Policy.

The proposed Rockies Express East project would construct a pipeline, compressor stations, and ancillary facilities extending over 622 miles from Audrain County, Missouri to Monroe County, Ohio. The General Location Map provided in your 5 July 2006 letter shows the proposed pipeline entering Indiana in Vermillion County then traversing Parke, Putnam, Hendricks, Morgan, Johnson, Shelby, and Decatur Counties before exiting Indiana at Franklin County.

The landscape across the central-south section of Indiana varies based on natural and human factors. Homoya, et al. (1985) describe the natural regions of Indiana based on climate, soil, presettlement vegetation, glacial history, and other factors. From west to east the proposed project would cross the Grand Prairie Section of the Grand Prairie Natural Region; the Entrenched Valley and Tipton Till Plain Sections of the Central Till Plain Natural Region; and the Muscatatuck Flats and Canyons and Switzerland Hills Sections of the Bluegrass Natural Region. Large areas of upland forest, wetlands, numerous rivers and streams, karst, and possibly small areas of remnant prairie occur along the line of the proposed project.

Development also directly and indirectly influences the landscape in central Indiana. Among the most profound change has been the conversion of natural vegetation to agriculture. There are extensive areas of farm land especially in the Tipton Till Plain Section, but across the central part

of the state. More intensive landuse has accelerated especially in the counties surrounding Indianapolis. There are developed areas throughout the proposed project area from small villages, to suburbs, to large cities.

### **Important Fish and Wildlife Resources**

#### **Forest**

The proposed project would cross important forested sections of the state. The first of these is the Entrenched Valley Section that roughly corresponds to Vermillion and Parke Counties. This landscape is characterized by numerous headwater streams and higher order rivers that dissect a heavily forested upland. More common forest types dominate, but Homoya et al. (1985) describe the disjunct white pine (*Pinus strobes*) and hemlock (*Tsuga Canadensis*) assemblages that occupy the cliff and ravine communities in this section.

The other comparatively heavily forested area is in the eastern part of the state where the proposed pipeline would cross the Switzerland Hills Section. This area like the Entrenched Valley Section is characterized by dissected, forested uplands. Forested areas within the Tipton Till Plain would typically involve comparatively small woodlots and forests associated with rivers and streams.

#### **Rivers and Streams**

The proposed project would cross the Wabash River as it enters Indiana from the west. The Wabash is a large river in Vermillion County with a wide floodplain in many areas. The Wabash and its major tributaries in this section (Sugar Creek, Raccoon Creek, and Big Walnut Creek) provide important habitat for the federally threatened bald eagle and the federally endangered Indiana bat, migratory birds, and of course numerous aquatic species.

In the central part of Indiana, primarily within the Tipton Till Plain Section, the proposed project would cross the West Fork White River and major tributaries to the East Fork White River. These rivers also provide habitat for the Indiana bat and bald eagle. Federally endangered mussels comprise part of the fauna of the East Fork White River, but as in the Wabash, federally listed species are unlikely to occur in the proposed project area. Mussel beds, possibly including state listed species, however, may be present in these and other streams in the path of the proposed project.

Within the Switzerland Hills Section, along the east edge of Indiana, the Whitewater River is the most important drainage. Both the Switzerland Hills Section and the Entrenched Valley Section contain numerous headwater streams that form the dissected landscape characteristic of these areas. Headwater streams are also numerous in the drainages of the West Fork White River and East Fork White River in the central part of the state. Information on the importance of headwater streams to the biological integrity of connected higher order streams and rivers, and on the terrestrial landscape is readily accessible. The Ohio Environmental Protection Agency (OEPA) maintains a website devoted to issues involving headwater streams and their ecologic and economic importance (<http://www.epa.state.oh.us/dsw/wqs/headwaters/>).

Of particular importance to the FWS, impacts to headwater streams may have consequences for the conservation of biodiversity. Headwater streams are important habitat for aquatic invertebrates, salamanders, and fish. The fishes, crayfishes, and amphibians harbored by the small ephemeral and headwater streams may be particularly vulnerable; across the country, proportionally the most at risk groups of animals are freshwater mussels, crayfishes, amphibians, and freshwater fishes (Master, 1998).

### Wetlands

Prior to European settlement, approximately one quarter of Indiana was wetland. Even though the state has lost nearly 87% of this important habitat, the proposed project would undoubtedly impact a variety of wetland types. The most likely impacts may be to forested wetlands within the floodplains or in the riparian zones of the major rivers and their tributaries. Riparian forested wetlands are particularly important habitat for migratory birds, bats, and various other species. They also function as important travel corridors through central Indiana landscapes with large areas of agricultural land. The proposed project is most likely to encounter large emergent wetlands and flatwoods wetlands in the Tipton Till Plain Section and the Muscatatuck Flats and Canyons Section of the state.

### Prairie

The proposed project would cross the extreme southern end of the Grand Prairie Natural Region. Small remnants of prairie persist in the Grand Prairie Section and in other areas of the state, however, no large expanses of prairie remain.

### Karst

The eastern part of the proposed project may cross one of Indiana's two major karst areas known as the Muscatatuck Plateau, which underlies eastern Decatur County. Karst limestone formations are associated with an extensive network of subterranean caves, passages, and waterways. Sinkholes, which may occur in the proposed project area are typical surface features of karst formations; they function as conduits for water recharge from surface drainage. Caves often support assemblages of unique subterranean fauna. Excavation which intersects karst features or rerouting of drainage can drastically alter underground water and air flow patterns, resulting in significant adverse impacts to cave ecosystems. Drainage containing contaminants from construction sites or other sources can also have substantial impacts.

### Endangered Species

The proposed project is within the range of the federally endangered Indiana bat (*Myotis sodalis*) and federally threatened bald eagle (*Haliaeetus leucocephalus*).

Indiana bats are forest bats that hibernate in caves during the colder months, then disperse to reproduce and forage in relatively undisturbed forested areas associated with water resources during spring and summer. Young are raised in nursery colony roosts in trees, typically near drainageways in undeveloped areas. There is suitable summer habitat for this species present

throughout the proposed project area. Indiana bats have been identified at multiple sites in Vermillion, Parke, Putnam, Hendricks, Morgan, Johnson, and Shelby counties. There are no records for Decatur and Franklin counties, but Indiana bats could occupy suitable habitat in these counties. You indicate in your 5 July 2006 letter that there are no known occurrences within one mile of the proposed pipeline. A more relevant distance to consider would be five miles. Based on the type of record, foraging habitat could be within five miles of a mist net capture site (further if the record is an old one and the ephemeral roost habitat has shifted). The land within 2.5 miles of a known roost tree would be considered particularly important to that maternity colony. We support your proposed pedestrian meander searches for suitable Indiana bat trees provided the search is conducted by biologists with experience working with Indiana bats. The FWS, however, may request additional surveys, including mist net surveys, when we have more detailed information on the proposed project route. Known Indiana bat hibernacula in Indiana all occur outside the area of the proposed project.

Bald eagles have been successfully reintroduced into Indiana and in 2006 nearly 70 pairs nested in the state. The Indiana Department of Natural Resources, Division of Fish and Wildlife (IDNR) conducts a thorough breeding survey every year. A disproportionate number of bald eagle nests occur in association with the Wabash River and its major tributaries, and the West Fork White River. In 2006, Vermillion, Parke, Putnam, Hendricks, Morgan, and Johnson Counties had one or more active bald eagle nests. In Indiana, eagle nests can occur along comparatively small streams or outside of the riparian zone of rivers and streams if there are lakes or large wetlands in the area. The Wabash River in the area of the proposed project also serves as important winter habitat for this species.

This endangered species information is provided for technical assistance only, and does not fulfill the requirements of Section 7 of the Endangered Species Act.

### **Conclusion**

The proposed project would cross the entire state of Indiana. Significant fish and wildlife resources exist within the area identified for the proposed project. Forested uplands, wetlands, large rivers, headwater streams, possible subterranean habitat, and habitat for two federally endangered species occur within Rockies Express East corridor. Based on the information provided in your 5 July 2006 letter, and currently available information on federally threatened and endangered species, the Indiana bat and bald eagle are the only federally listed species in the proposed project area. The initial habitat surveys planned should provide at least preliminary data for evaluating the potential impacts of the proposed project. We request that you provide the FWS with detailed information on the proposed project route as it becomes available.

Sincerely yours,



Scott E. Pruitt  
Field Supervisor

cc: Christie Stanifer, IDNR, Division of Fish and Wildlife, Indianapolis, IN  
Danny Gautier, IDNR, Division of Fish and Wildlife, Bloomington, IN  
Jason Randolph, IDEM, Water Quality Standards Section, Indianapolis, IN  
U.S. Army Corps of Engineers, Louisville District, Louisville, KY

**References Cited**

Homoya, M. A., D. B. Abrell, J. R. Aldrich, and T. W. Post. 1985. The Natural Regions of Indiana. *Indiana Academy of Science* 94: 245-267.

Master, L. L., S.R. Flack, and B.A. Stein, eds. 1998. *Rivers of Life: Critical Watersheds for Protecting Freshwater Biodiversity*. The Nature Conservancy, Arlington, Virginia.



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ecological Services  
6950 Americana Parkway, Suite H  
Reynoldsburg, Ohio 43068-4127

(614) 469-6923 / FAX (614) 469-6919  
August 7, 2006

**COPY FOR YOUR  
INFORMATION**

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

TAILS #: 31420-2006-TA-0757

Dear Mr. Thommes:

This is in response to your letter received on June 26, 2006 requesting a list of Federally-listed species that may occur in the vicinity of the proposed Rockies Express Pipeline LLC's Rockies Express-East Project. The project consists of existing and new natural gas pipeline facilities extending from Audrain County, Missouri, to Monroe County, Ohio. The proposed project will impact the following Ohio counties: Butler, Warren, Greene, Clinton, Fayette, Pickaway, Fairfield, Perry, Muskingum, Morgan, Guernsey, Noble, Belmont, and Monroe.

The proposed project lies within the range of the following Federally-listed endangered, threatened, and candidate species:

Species	County
Indiana bat (E)	All Ohio counties
running buffalo clover (E)	Warren
clubshell (E)	Greene, Pickaway, Fairfield
northern riffleshell (E)	Pickaway
fanshell (E)	Muskingum, Morgan
pink mucket pearly mussel (E)	Morgan
Scioto madtom (E)	Pickaway
bald eagle (T)	Nest Records: Pickaway, Muskingum, Morgan, Guernsey, Noble
eastern massasauga (C)	Warren, Greene, Clinton, Fayette, Fairfield
rayed bean (C)	Warren, Pickaway
sheepnose (C)	Morgan

E=Endangered T=Threatened C=Candidate

### **Indiana Bat** (*Myotis sodalis*)

Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and

degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. Summer habitat requirements for the species are not well defined but the following are considered important:

- (1) dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas;
- (2) live trees (such as shagbark hickory and oaks) which have exfoliating bark;
- (3) stream corridors, riparian areas, and upland woodlots which provide forage sites.

Should the proposed project area contain trees or associated habitats exhibiting any of the characteristics listed above, we recommend that the habitat and surrounding trees be saved wherever possible. If the trees must be cut, further coordination with this office is requested in order for the Service to evaluate potential impacts to the Indiana bat. We recommend the following information be provided to this office:

- (1) a map of the site with all forested areas indicated, including acreage;
- (2) a description of forested habitat, including dominant species composition, age, density of understory, and canopy cover;
- (3) please indicate the location of suitable roost trees (dead or live trees with peeling bark, cracks, or crevices), and describe the species, condition (live or dead), size (diameter breast high), and canopy cover;
- (4) descriptions and the sizes of any forested parcels onsite that will be preserved – preservation of forested habitat is the most significant way to minimize potential impacts to the Indiana bat and its habitat;
- (5) please note the location and size of any other forested properties within the vicinity of the project that are protected in perpetuity (e.g. parks, conservation easements, etc.);
- (6) please include the locations of any wetlands, streams, ponds, and cleared paths or trails;
- (7) describe connectivity of the site and other adjacent forested parcels;
- (8) any avoidance and minimization measures necessary to protect the bat and its habitat (such as seasonal tree clearing, temporary preservation of suitable habitat, etc.);
- (9) please include your determination of whether or not the project is likely to adversely affect the Indiana bat, using the information above as justification for your position.

Based on this information, the Service will evaluate potential impacts to the Indiana bat from the proposed project. Depending on the extent of impacts to suitable Indiana bat habitat, we may recommend mist net or emergence surveys to determine bat usage of the project area. These surveys would need to be designed and conducted in coordination with this office, and may only be completed during the summer months. If sufficient information is not provided to document a “not likely to adversely affect” determination, formal consultation under Section 7 of the Endangered Species Act of 1973, as amended, will be necessary.

**Running Buffalo Clover** (*Trifolium stoloniferum*)

This species can be found in partially shaded woodlots, mowed areas (lawns, parks, cemeteries), and along streams and trails. Running buffalo clover requires periodic disturbance and a somewhat open habitat to successfully flourish, but cannot tolerate full-sun, full-shade, or severe

disturbance. If suitable habitat is present, we recommend that surveys for this species be conducted by a trained botanist in May or June when the plant is in flower. Surveys for running buffalo clover should be designed and conducted in coordination with this office.

**Clubshell and Northern Riffleshell** (*Pleurobema clava* and *Epioblasma torulosa rangiana*)

These freshwater mussel species inhabit stream areas with sand or gravel substrate and also prefers areas with riffles and runs. Should the proposed project directly or indirectly impact any of the habitat types described above, we recommend that a survey be conducted to determine the presence or probable absence of these mussels in the vicinity of the proposed site. Surveys for the clubshell and northern riffleshell should be designed and conducted in coordination with this office.

**Fanshell and Pink Mucket Pearly Mussel** (*Cyprogenia stegaria* and *Lampsilis abrupta*)

These freshwater mussel species inhabit rivers with strong currents in shallow riffles to deep water with boulders; gravel, sand, or silt substrates. Should the proposed project directly or indirectly impact any of the habitat types described above, we recommend that a survey be conducted to determine the presence or probable absence of these mussels in the vicinity of the proposed site. Surveys for the fanshell and pink mucket pearly mussel should be designed and conducted in coordination with this office.

**Scioto Madtom** (*Noturus trautmani*)

This species is known only from Big Darby Creek in Jackson Township of Pickaway County. It has not been seen since 1957. The known habitat includes riffles where the water velocity was decreasing and the substrate was composed of sandy gravel with some small stones no larger than 4 inches in diameter. The presence of this species in the project area is unlikely since the Scioto madtom is thought to be extinct.

**Bald Eagle** (*Haliaeetus leucocephalus*)

We recommend that you annually contact Mr. Mark Shieldcastle, with the Ohio Department of Natural Resources, Division of Wildlife, (419) 898-0960, for the location(s) of the eagle nest(s) in the project counties. If any nests are located within ½ mile of the project site, further coordination with this office is necessary. If the nest is active, we recommend that work at the site be restricted from mid-January through July to allow pre-nesting activities, incubation, and raising of the young.

**Eastern Massasauga** (*Sistrurus catenatus catenatus*)

This is a docile rattlesnake that is declining throughout its national range and is currently a Federal Candidate specie and listed as endangered by the State of Ohio. Your proactive efforts to conserve this species now may help avoid the need to list the species under the Endangered Species Act in the future. Due to their reclusive nature, we encourage early project coordination to avoid potential impacts to massasaugas and their habitat. At a minimum, project evaluations should contain delineations of whether or not massasauga habitat occurs within project boundaries.

The massasauga is often found in or near wet areas, including wetlands, wet prairie, or nearby woodland or shrub edge habitat. This often includes dry goldenrod meadows with a mosaic of

early successional woody species such as dogwood or multiflora rose. Wet habitat and nearby dry edges are utilized by the snakes, especially during the spring and fall. Dry upland areas up to 1.5 miles away are utilized during the summer, if available. For additional information on the eastern massasauga, including project management ideas, please visit the following website: <http://www.fws.gov/midwest/Endangered/lists/candidat.html> or contact this office directly. Surveys for the eastern massasauga should be designed and conducted in coordination with this office.

**Rayed Bean** (*Villosa fabalis*)

The rayed bean is generally known from smaller, headwater creeks, but records exist in larger rivers. They are usually found in or near shoal or riffle areas, and in the shallow, wave-washed areas of lakes. Substrates typically include gravel and sand, and they are often associated with, and buried under the roots of, vegetation, including water willow (*Justicia americana*) and water milfoil (*Myriophyllum* sp.). Should the proposed project directly or indirectly impact any of the habitat types described above, we recommend that a survey be conducted to determine the presence or probable absence of the rayed bean in the vicinity of the proposed site. Surveys for the rayed bean should be designed and conducted in coordination with this office.

**Sheepnose** (*Plethobasus cyphus*)

The sheepnose is primarily known from larger streams. It typically occurs in shallow shoal habitats with moderate to swift currents over coarse sand and gravel. Habitats with sheepnose may also have mud, cobble, and boulders. Should the proposed project directly or indirectly impact any of the habitat types described above, we recommend that a survey be conducted to determine the presence or probable absence of the sheepnose in the vicinity of the proposed site. Surveys for the sheepnose should be designed and conducted in coordination with this office.

For your convenience, we have attached lists of qualified surveyors for the following species: Indiana bat, freshwater mussels, and the eastern massasauga. Please note that USFWS permit holders must contact this office in advance in writing for site-specific authorization before conducting surveys for federally-listed species in Ohio. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

We appreciate this opportunity to provide the above comments. If you have questions, or if we may be of further assistance in this matter, please contact Angela Zimmerman at extension 22 in this office.

Sincerely,

  
for Mary Knapp, Ph.D.  
Field Supervisor

cc: USFWS – BIFO, CMFO, RIFO, and MISO  
ODNR, DOW, SCEA Unit, Columbus, OH