



ROVER PIPELINE

An ENERGY TRANSFER Company

**ROVER PIPELINE PROJECT
INDIANA BAT CONSERVATION PLAN**

Prepared for:

Rover Pipeline LLC

Prepared by:



2 November 2016

TABLE OF CONTENTS

1.0 INTRODUCTION.....1

1.1 Agency Coordination 1

1.2 Indiana Bat Conservation Plan (IBCP) Covered Lands.....1

1.3 Project Description.....4

2.0 Habitat Assessment and Field Surveys4

2.1 Field Surveys5

 2.1.1 Summer Habitat..... 5

 2.1.1 Mist Net Survey 10

 2.1.2 Winter Habitat..... 10

 2.1.3 Spring Staging and Fall Swarming Habitat..... 11

3.0 Avoidance, Minimization, and Mitigation MEASURES.....11

3.1 Forest Impacts11

3.2 Potential Roost Trees11

3.3 Streams and Wetlands.....12

3.4 Co-location of the Project with Previous Disturbance.....14

3.5 Seasonal Restriction on Tree Cutting14

3.6 Reseeding.....14

3.7 Tree Replanting.....15

3.8 Erosion and Sedimentation Controls15

3.9 Pollution Prevention Plan15

3.10 Summary of Avoidance, Minimization, and Conservation Measures15

4.0 References.....17

LIST OF FIGURES

Figure 1. Rover Pipeline Project General Location Map.....2

Figure 2. Indiana Bat Conservation Plan Covered Lands.....3

LIST OF TABLES

Table 1. Forested Impacts within 1/4 mile of the Rover Pipeline Project IBCP Covered Lands....4

Table 2. Forested Impacts within the Indiana bat known use buffer4

Table 3. Indiana bat habitat survey plots located within the Rover Pipeline Project Indiana Bat Conservation Plan (IBCP) covered lands, Doddridge and Tyler Counties, West Virginia.....6

Table 4. Potential Roost Trees (PRTs) identified within IBCP covered lands.....10

Table 5. Streams identified within IBCP covered lands, Doddridge and Tyler counties, West Virginia.13

Table 6. Wetlands identified within IBCP covered lands, Doddridge and Tyler counties, West Virginia.14

Table 7. Co-location of the proposed Rover Pipeline Project alignment with previously disturbed lands within IBCP covered lands.....14

APPENDICES

- Appendix A: Northern Long-eared Bat 4(d) Rule Streamlined Consolation Form
- Appendix B: Potential Roost Trees (PRTs) Identified within IBCP Covered Lands
- Appendix C: Indiana Bat Conservation Plan Worksheet

1.0 INTRODUCTION

On behalf of Rover Pipeline LLC (Rover), TRC Environmental Corporation (TRC) has prepared the following Indiana Bat Conservation Plan (IBCP) to avoid, minimize and offset potential adverse impacts to Indiana bats, and their habitat, resulting from construction of the proposed Rover Pipeline Project (Project) in Doddridge, Hancock, Marshall, Tyler, and Wetzel counties, West Virginia (Figure 1). The methods used to develop this IBCP were derived from the current Indiana Bat Conservation Plan Guidance (dated 2016), on-going coordination with the U.S. Fish and Wildlife Service (USFWS), USFWS - West Virginia Field Office (WVFO), and the final northern long-eared bat 4(d) rule. This document summarizes Endangered Species Act (ESA) compliance relative to listed bat species and details specific measures taken to avoid, minimize, and offset potential adverse impacts. A complete discussion of all listed bat survey efforts completed to date are provided in the *Rover Pipeline Mist Net Survey Report* (dated November 2015) and the *Rover Pipeline 2016 Mist Net Survey Report* (dated July 2016).

1.1 Agency Coordination

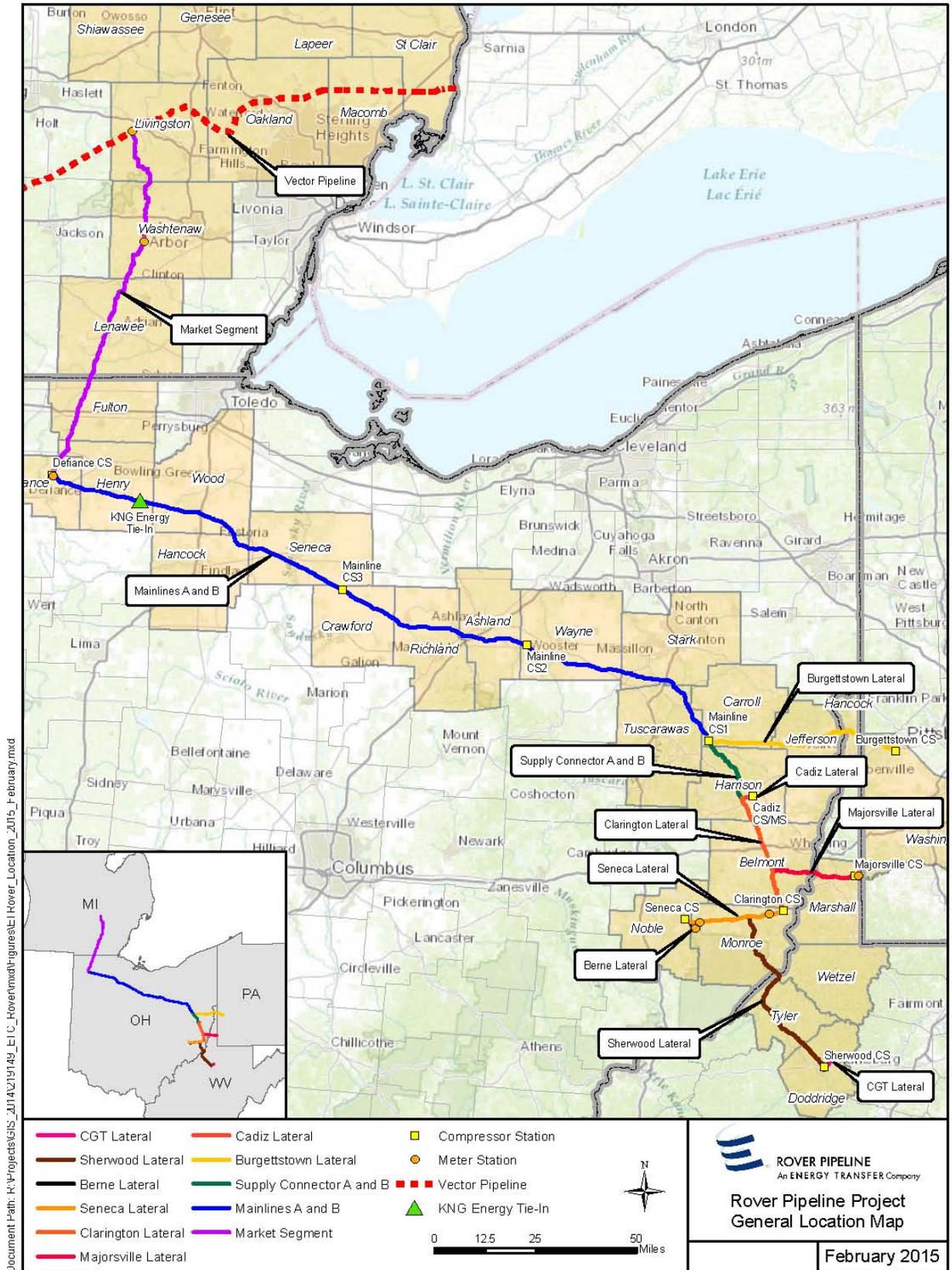
Based on a review of publicly available data, previous coordination with USFWS Field Offices, and field surveys of the Project area, no impacts to forested habitat will occur within:

- 10 miles of a known occupied priority 1 or 2 Indiana bat hibernaculum,
- 5 miles of a known occupied priority 3 or 4 Indiana bat hibernaculum,
- 0.25 miles of a known occupied northern long-eared bat hibernaculum,
- 150 feet of a known occupied northern long-eared bat maternity roost tree.

This represents the due diligence review relative to listed bat species completed for the Project. Pursuant to the final 4(d) rule, the Project may affect the northern long-eared bat, but the resulting incidental take is not prohibited by the final 4(d) rule. As such, no additional conservation measures relative northern long-eared bats are included in this document. A completed Northern Long-Eared Bat 4(d) Rule Streamlined Consultation Form is provided in Appendix A, if required.

1.2 Indiana Bat Conservation Plan (IBCP) Covered Lands

The proposed Project will remove trees located within five miles of a known Indiana bat occurrence buffer in Doddridge County (Figure 2). This area spans approximately 9.8 miles (15.8 km) from approximate MPs 13.3 to 23.1. In addition to this area, a single 1 kilometer (km) segment (MN-SHL-DO-014) of the Sherwood Lateral in Doddridge County was not surveyed due to access issues. To calculate the distance included in IBCP covered lands, a 0.5-km buffer was placed on the two mist net locations (MN-SHL-DO-013 and MN-SHL-DO-015) on either side of the un-surveyed km block. This represents the area covered by these survey sites. No listed bats were captured at these sites, documenting probable absence in these areas. Rover assumes that listed bats may be present within the remaining 0.9 mile (1.3 km) from approximate MP 6.7 to 7.6. Indiana bats are presumed to be absent along the remainder of the proposed Project alignment, and as such, is not included in IBCP covered lands. A third area included in the IBCP covered lands is an approximate 48-acre forested parcel that Rover proposes to protect in perpetuity as part of the Project-specific mitigation for Indiana bats. This parcel is located on land that Rover acquired for the Sherwood Compressor Station in Doddridge County, West Virginia (Figure 3).



Document Path: H:\Projects\GIS_2014\2191743_EIC_Hover\mxd\figures\EI_Hover_Location_2015_February.mxd

Figure 1. Rover Pipeline Project General Location Map

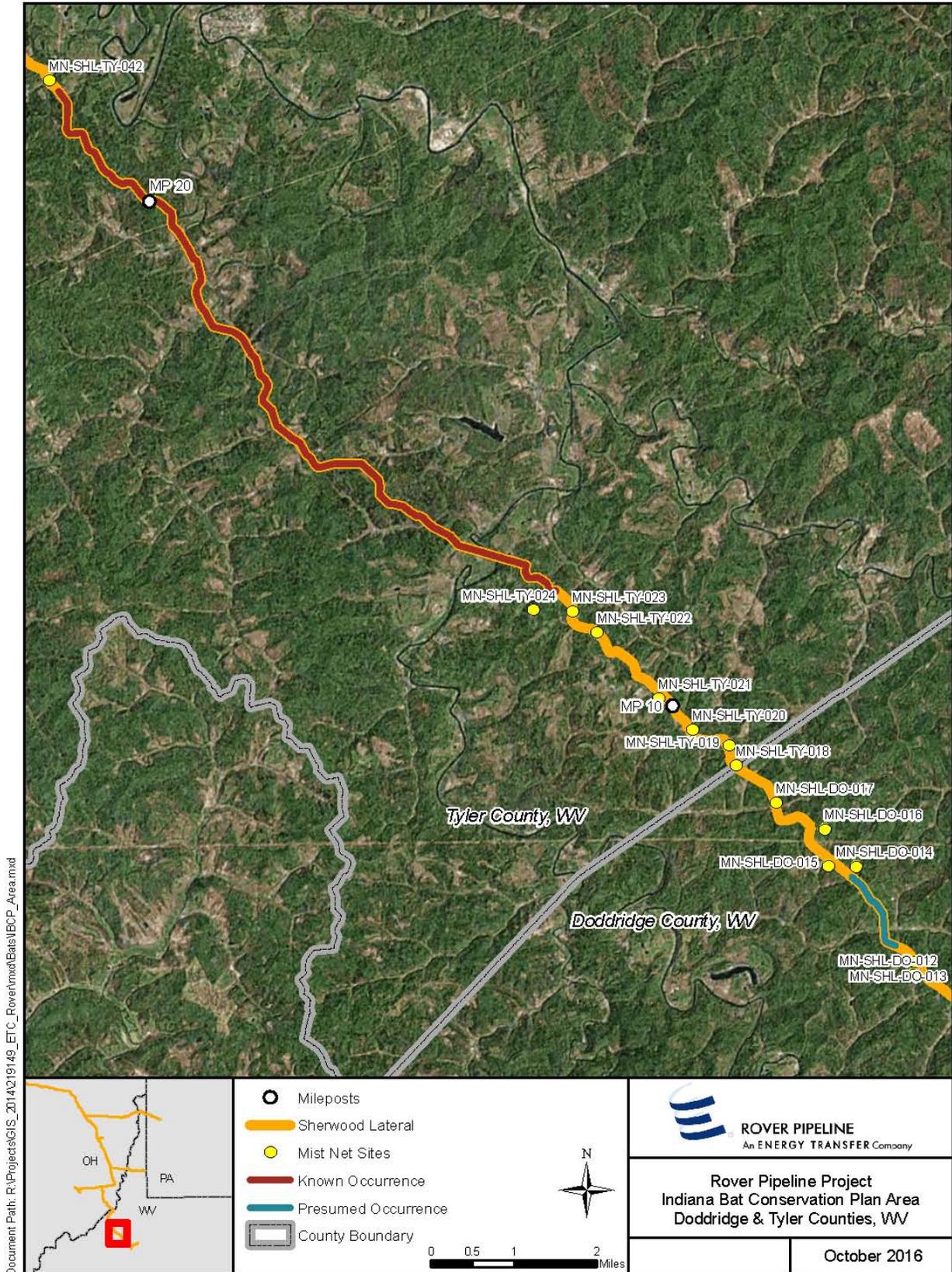


Figure 2. Indiana Bat Conservation Plan Covered Lands

1.3 Project Description

Rover is seeking authorization from the Federal Energy Regulatory Commission (FERC) pursuant to Section 7(c) of the Natural Gas Act (NGA) to construct, own, and operate the proposed Rover Pipeline Project. The is a new natural gas pipeline system that will consist of approximately 713.8 miles of Supply Laterals and Mainlines, 10 compressor stations, and associated meter stations and other aboveground facilities that will be located in parts of West Virginia, Pennsylvania, Ohio, and Michigan (Figure 1). The Project will include approximately 511.4 miles of proposed right-of-way, extending from the vicinity of New Milton, Doddridge County, West Virginia to the vicinity of Howell, Livingston County, Michigan, and will include approximately 202.4 miles of dual pipelines in Ohio.

2.0 HABITAT ASSESSMENT AND FIELD SURVEYS

Pursuant to WVFO guidance, TRC utilized the 2011 National Land Cover Database to calculate the amount of forested habitat that will be impacted within a 0.25-mile buffer placed on the known and presumed occupied Indiana bat habitat (IBCP covered lands), as described above (habitat evaluation area). Forested and non-forested acreages within the habitat evaluation area were calculated for pre-construction and post-construction scenarios (Table 1). A total of approximately 138.1 acres of forested habitat will be impacted within IBCP covered lands, representing an approximate 4.2% temporary reduction in forested habitat within the total habitat evaluation area. Of those 138.1 acres of forested impacts, 46.7 acres will be permanent, representing an approximate 1.4% permanent reduction in forested habitat within the evaluation area.

When the entirety of the Indiana bat known use buffer is considered in the forested and non-forested habitat calculations (Table 2), the removal of 138.1 acres of forested habitat represents a 0.2 percent reduction in forested habitat. Impacts to 46.7 acres will be permanent, representing an approximate 0.09 percent permanent reduction in forested habitat within the Indiana bat known use buffer.

Table 1. Forested Impacts within 1/4 mile of the Rover Pipeline Project IBCP Covered Lands.

	Lateral	Total Acres	Non-Forested Acres	Forested Acres
Pre-Construction	Sherwood Lateral	3305.9	699.8	2606.1
Post Construction	Sherwood Lateral	3305.9	837.9	2468.0
Resulting loss of forested habitat				138.1

Table 2. Forested Impacts within the Indiana bat known use buffer

	Total Acres	Non-Forested Acres	Forested Acres
Pre-Construction	50,264	8554.0	41,710.0
Post Construction	50,264	8692.1	41,571.9
Resulting loss of forested habitat			138.1

2.1 Field Surveys

The proposed Project pipeline alignment was systematically surveyed by qualified biologists in 2015 to enumerate the number of potential roost trees (PRTs) and to assess the quality and quantity of potentially suitable roosting habitat in the Project area. For the purposes of the field surveys, trees were considered potentially suitable if they possessed the following characteristics (USFWS, 2015):

- diameter at breast height (dbh) \geq 5 inches dbh,
- roosting structures (exfoliating bark, cracks, crevices, or cavities) that provide protection from the elements, and
- free from vines or other obstructing vegetation that would preclude use by roosting bats.

Data were collected on all PRTs for the length of the proposed pipeline within a survey corridor approximately 225 feet wide, encompassing the construction work areas for the proposed pipeline (typically 125 feet) and a buffer of 50 feet on each side. All trees that exhibited suitable roosting characteristics, as described above, were geo-referenced and recorded. Characteristics such as tree species and diameter at breast height were recorded as well.

During the course of the PRT survey in 2015, qualified biologists also recorded current forest conditions so that the quality and quantity of Indiana bat travel and foraging habitat can be assessed. At forest crossings where practicable, 30' x 400' plots were evaluated as to canopy and understory characteristics, average dbh, tree species, presence of known jurisdictional water resources, and suitability for Indiana and northern long-eared bat habitat. Habitat plots were evaluated by the type of habitat use supported (i.e. roosting, foraging, commuting).

Field surveys to document actual use of the proposed Project area by Indiana bats were completed in 2015 and 2016 pursuant to methods prescribed in the USFWS 2015/2016 Range-Wide Indiana Bat Summer Survey Guidelines (USFWS, 2015) (USFWS, 2016). Relevant survey results used to inform the development of this IBCP are summarized below. Complete survey results, including project mapping, survey methods and detailed results are provided in the *Rover Pipeline Mist Net Survey Report* (dated November 2015) and the *Rover Pipeline 2016 Mist Net Survey Report* (dated July 2016).

2.1.1 Summer Habitat

2.1.1.1 Potential Roost Trees

Within the IBCP covered lands, a total of 270 Indiana bat PRTs were identified during the field assessment. Of the 270 PRTs, 28 contain moderate or high quality roosting characteristics, including: \geq 9 inches diameter at breast height (dbh) and 25% or greater solar exposure were considered. These trees represent potential primary maternity roost habitat (Table 3). The remaining 242 PRTs ranged from 5 to 46 inches dbh, received $<$ 25% solar exposure and could be used as secondary roosts by maternity colonies as well as non-reproductive females and males. A total of 103 of the 270 PRTs identified are located outside of the proposed Project Limits of Disturbance (LOD), including 10 primary PRTs, and will not be affected during Project construction, and will remain available to roosting Indiana bats in subsequent maternity seasons (Table 3).

Table 3. Indiana bat habitat survey plots located within the Rover Pipeline Project Indiana Bat Conservation Plan (IBCP) covered lands, Doddridge and Tyler Counties, West Virginia.

MP ¹	Latitude	Longitude	Plot Description	Tree Species	Ave DBH	MYSO Habitat ²
5.4	39.33035626	-80.75629685	Early successional forested north facing hillside	<i>Acer rubrum</i> <i>Juglans nigra</i> <i>Prunus serotina</i> <i>Quercus rubra</i> <i>Fraxinus americana</i>	7 10 8 9 11	Non-Maternity Roosting
6	39.32428620	-80.74883837	mixed deciduous forest	<i>Acer saccharum</i> <i>Juglans nigra</i> <i>Liriodendron tulipifera</i> <i>Acer rubrum</i>	11 9 15 8	Non-Maternity Roosting
6.1	39.33751487	-80.76156368	Young upland wooded ridge top. Very open, no clutter on ground. Very little mid story or canopy clutter. Very few saplings	<i>Quercus rubra</i> <i>Quercus alba</i> <i>Acer rubrum</i> <i>Carya glabra</i> <i>Quercus velutina</i>	13 12 5 14 11	Non-Maternity Roosting
6.7	39.34426019	-80.76969944	Young upland wooded southeast facing hillside. Relatively open, little clutter on ground. Little mid story or canopy clutter. Stream located nearby at bottom of hillside	<i>Carya ovata</i> <i>Acer rubrum</i> <i>Quercus rubra</i> <i>Fraxinus americana</i> <i>Pinus sylvestris</i> <i>Prunus serotina</i> <i>Carpinus caroliniana</i>	13 10 6 9 10 9 3	Non-Maternity Roosting
11.7	39.38783399	-80.83047869	Early successional wooded southeast facing hillside. Paved road runs alongside hillside. Woodland is moderately cluttered	<i>Acer rubrum</i> <i>Prunus serotina</i> <i>Diospyros virginiana</i> <i>Fraxinus americana</i> <i>Ulmus rubra</i> <i>Acer negundo</i> <i>Cornus florida</i> <i>Robinia pseudoacacia</i>	12 10 8 14 7 5 3 8	Non-Maternity Roosting

MP ¹	Latitude	Longitude	Plot Description	Tree Species	Ave DBH	MYSO Habitat ²
12.3	39.39389820	-80.83611998	Early successional wooded ridgetop.	<i>Acer rubrum</i> <i>Fraxinus americana</i> <i>Diospyros virginiana</i> <i>Quercus rubra</i> <i>Ulmus rubra</i>	13 12 8 13 7	Non-Maternity Roosting
12.9	39.39881734	-80.84344851	Maturing forest with canopy trees already in place. Understory is developing (elm, mussel wood, and buckeyes). On incline facing north.	<i>Acer saccharum</i> <i>Liriodendron tulipifera</i> <i>Acer rubrum</i> <i>Carpinus caroliniana</i> <i>Fagus grandifolia</i>	10 9 8 3 1	Foraging
13.8	39.39740400	-80.84114200	mixed deciduous forest, open field, residential	<i>Acer saccharum</i> <i>Acer rubrum</i> <i>Fagus grandifolia</i>	15 12 10	Non-Maternity Roosting
14.2	39.40593773	-80.86401605	Lower valley forest, young and recent. Minimal diversity containing mostly sugar maples.	<i>Acer saccharum</i> <i>Quercus sp.</i> <i>Aesculus flava</i> Unknown <i>Carya ovata</i>	11 8 8 3 6	Foraging
14.8	39.41006317	-80.87391007	Northern part of patch follows an existing ROW, the southern part follows a dirt road. Patch also has some buckeye saplings/young trees and autumn olive as part of its riparian zone,	<i>Aesculus glabra</i>	6	Foraging
15.4	39.41572195	-80.88084484	Area cut around 50-60 years ago, not maintained. Forest is comprised of both hardwood and evergreen species. Several dry drainage creeks intersect the area. Understory is cluttered with invasive scrubs most likely a byproduct of multiple ROWs in the area.	<i>Acer saccharum</i> <i>Pinus virginiana</i> <i>Liriodendron tulipifera</i> <i>Carya ovata</i>	14 9 7 6	Foraging
16.1	39.41814354	-80.89079575	Young trees and saplings in a maintained woodlot. Area cleared approximately 25 years ago. Some autumn olive/blackberry/mufti flora rose in understory.	<i>Liriodendron tulipifera</i> <i>Acer saccharum</i> <i>Acer rubrum</i> <i>Pinus virginiana</i>	12 7 10 11	Foraging

MP ¹	Latitude	Longitude	Plot Description	Tree Species	Ave DBH	MYSO Habitat ²
17.7	39.42409110	-80.89815354	Patch runs along a run along a dry drainage stream bed. Understory has a large amount of autumn olive and multiflora rose. Trees are widely spaced and are around 40 years old.	<i>Acer saccharum</i> <i>Quercus sp.</i> <i>Carya glabra</i> <i>Prunus serotina</i> <i>Liriodendron tulipifera</i> <i>Carya ovata</i>	8 7 7 6 7 9	Foraging
18	39.43929200	-80.90853800	mixed deciduous forest, open field	<i>Acer saccharum</i> <i>Juglans nigra</i> <i>Sassafras albidum</i>	16 8 11	Non-Maternity Roosting
18.3	39.43159438	-80.90129194	Early successional forest with a wide array of hardwoods but overgrown shrub layer	<i>Quercus rubra</i> <i>Prunus serotina</i> <i>Acer rubrum</i> <i>Acer saccharum</i> <i>Juglans nigra</i>	15 7 6 5 5	Foraging
19.5	39.44467960	-80.91519181	Typical ridge line maturing mixed forest. Canopy species are transitioning from conifers to hardwoods	<i>Pinus virginiana</i> <i>Acer saccharum</i> <i>Carya ovata</i> <i>Robinia pseudoacacia</i> <i>Cornus florida</i>	14 8 6 4 3	Foraging
20.8	39.46055747	-80.92228825	Ridge line forest dominated by sugar maple. Highly maintained for hunting purposes. Almost all under story trees removed for line of sight. Turkey blind in middle of habitat plot.	<i>Acer saccharum</i> <i>Acer rubrum</i> <i>Juglans nigra</i> <i>Quercus rubra</i> <i>Aesculus flava</i>	11 9 5 3 3	Non-Maternity Roosting
21.4	39.46512068	-80.93114388	Upland forest consisting of maples, poplars, and locusts remnants. A large degree of maintenance present with a mowed path dissecting the path. A very open sub canopy.	<i>Acer saccharum</i> <i>Liriodendron tulipifera</i> <i>Acer rubrum</i> <i>Robinia pseudoacacia</i> <i>Prunus serotina</i>	10 10 8 6 5	Foraging
22.6	39.47655291	-80.94465248	Mixed forest containing a quad path. Quad path is well maintained and well-traveled. The path is bracketed by Virginia pine and sugar maples.	<i>Acer saccharum</i> <i>Pinus virginiana</i>	6 7	Foraging

MP ¹	Latitude	Longitude	Plot Description	Tree Species	Ave DBH	MYSO Habitat ²
22.6	39.48613400	-80.95329200	mixed deciduous forest	<i>Acer rubrum</i> <i>Fraxinus americana</i> <i>Liriodendron tulipifera</i> <i>Acer saccharum</i>	13 15 10 8	Non-Maternity Roosting

¹ MP – approximate mile-post

² MYSO Habitat:

Maternity Roosting – plot contains one or more trees ≥ 9 inches dbh, exhibiting roosting characteristics, and ≥ 25 % solar exposure

Non-Maternity Roosting – plot contains one or more trees > 5 inches dbh, exhibiting roosting characteristics

Foraging – plot does not contain trees with suitable roosting characteristics, but provides habitat suitable for use by foraging and/or commuting bats

Impacts to the remaining 167 PRTs, including 18 primary PRTs, are unavoidable and will be offset as described in Section 3.1 below. A table that includes species, dbh, tree status (live/dead), roosting structure (exfoliating bark, cracks, crevices, or cavities), final disposition, and suitability as a potential primary maternity roost tree or secondary potential roost is provided in Appendix B.

Table 4. Potential Roost Trees (PRTs) identified within IBCP covered lands.

	Primary PRT	Secondary PRT	Total
Avoid	10	93	103
Impact	18	149	167
Total	28	242	270

2.1.1.2 Foraging/Commuting Habitat

Within the IBCP covered lands, all 138.1 acres to be affected by construction represent potentially suitable foraging habitat. On-site conditions within survey plots, as described above, were recorded by qualified surveyors. Habitat conditions ranged from early successional forest with cluttered understories dominated by invasive species to more mature forest stands. Complete survey plot information, including plot description, tree species, average dbh, dominate age and class are provided in Table 4.

2.1.1 Mist Net Survey

2.1.1.1 2015 Survey

In addition to assessing potentially suitable habitat, mist net surveys and radio telemetry studies were completed along 5.5 miles of the Burgettstown Lateral in Hancock County in 2015. No Indiana bats were captured during the course of the survey.

2.1.1.2 2016 Survey

The portions of the Sherwood, Majorsville, and CGT laterals in West Virginia, which were not surveyed during the 2015 maternity season, were surveyed in 2016. With the exception of the IBCP covered lands, as described above, Rover presumes that Indiana bats are absent from the Project alignment based upon negative survey results. A complete discussion of the 2016 survey results are provided in the *Rover Pipeline Project 2016 Mist Net Survey Report* (dated July 2016).

2.1.2 Winter Habitat

As described above, no known occupied Indiana bat hibernacula are present within 10 miles of IBCP covered lands. Concurrent with the 2015 habitat surveys, the proposed alignment was systematically surveyed by qualified biologists to identify cave and portal openings to address the potential for species presence within the Project alignment during the fall swarming, winter hibernation, and spring staging seasons. Identified openings were assessed for potential suitability for use by swarming, staging and/or hibernating bats pursuant to the 2012 *Bat Survey Protocol for Assessing Use of Potential Hibernacula* (USFWS 2012). No cave or mine portal openings were identified within the IBCP covered lands. As

such, no impacts to Indiana bat winter habitat are expected as a result of the proposed Project. Complete portal survey results are provided in the *Rover Pipeline Mist Net Survey Report* (dated November 2015).

2.1.3 Spring Staging and Fall Swarming Habitat

No known Indiana bat hibernacula are known within 10 miles of the IBCP covered lands, and no cave or mine portals were identified within IBCP covered lands. As such, no impacts to Indiana bat fall swarming and spring staging habitat are expected as a result of the proposed Project.

3.0 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Rover has used multiple avoidance and minimization measures, as described below, to reduce impacts to ecological resources to the maximum extent practicable along the proposed route. These conservation measures work to avoid and minimize the potential for adverse impacts to Indiana bats and their habitat in, and adjacent to, IBCP covered lands where Indiana bats are known or assumed to occur.

3.1 Forest Impacts

Across the length of the proposed Project, Rover has used multiple conservation measures to reduce forest impacts to the maximum extent practicable. During the FERC Prefiling period, prior to filing the FERC 7(c) application in February 2015 and in coordination with the USFWS field offices, Rover reduced the proposed construction right-of-way for the 24-inch Majorsville and CGT Laterals from a 100-foot typical width to a 75-foot typical width. The reduction in workspace was a significant effort and a demonstration of Rover's efforts to protect forested resources, especially in light of the rough topography present within these proposed lateral routes.

Rover has also committed to not clearing temporary or permanent workspace between drill boxes at horizontal directional drills (HDD) locations. In the IBCP covered lands, Middle Island Creek is proposed as a 1,907-foot HDD. Not clearing the construction or permanent easements will avoid approximately 5.47 acres of temporary impacts and 2.18 acres of permanent impacts near Middle Island Creek. In addition, FERC requires additional temporary workspace to be set back 50 feet from wetlands and waterbodies to preserve the riparian corridor and wetland fringe, which will also help to preserve riparian and wetland fringe areas. Combined, these activities have reduced the proposed workspace to the smallest amount of space possible to safely install the proposed pipelines, especially given the rugged topography of the region.

A total of 138.1 acres of temporary impacts to forested habitat potentially suitable for use by Indiana bats within IBCP covered lands will be affected during the course of project construction.

3.2 Potential Roost Trees

As described above, a total of 167 PRTs will be removed as a result of Project construction within the IBCP covered lands, including 18 primary PRTs. Every effort was made during Project facility siting to minimize the number of PRTs to be removed as described above. To the greatest extent practicable, and contingent upon landowner approval, Rover will attempt to offset the loss of these resources pursuant to current WVFO Guidance.

To offset the unavoidable removal of potentially suitable Indiana bat habitat, the following conservation measures will be applied to the Project, pursuant to WVFO Guidance. Contingent upon landowner permission, trees will be girdled at a 1:0.5 ratio for the 149 secondary PRTs which are removed during the course of Project construction for total of 75 trees. Rover will coordinate with the WVFO regarding girdling locations. For the remaining 74 secondary trees, Rover proposes to erect one (1) artificial roost structure for every five (5) trees, for a total of 15 structures.

Rover proposes to identify three locations within IBCP covered lands to erect artificial roost structures. Eighteen artificial roost structures will be erected to replace the 18 potential primary maternity roost trees which will be removed during construction and, as described above, 15 artificial roost structures will be erected to replace the 74 secondary roost trees which will not be mitigated by girdling, for a total of 33 artificial roost structures.

At each of the three identified sites, Rover proposes to install 3 BrandonBark structures, four double rocket boxes, and four two-chambered bat houses for a total of 11 structures at each site. Structures will be placed in proximity to each other with similar surrounding habitat conditions. Rover will coordinate with the WVFO and cooperating landowners regarding roost structure placement.

Monitoring of installed structures will begin the first maternity season following deployment and will continue for three years. Structures will be visited twice per year to determine occupancy. Qualified biologists will visit the structures in mid to late May, prior to the pup window, and again in early August, after the pup window. If the structure(s) are determined to be occupied by bats, a qualified bat biologist will then perform a mist-net survey to determine colony size and composition. Current, accepted WNS-decontamination protocols will be followed. This survey will be minimally intrusive to refrain from deterring bats from further usage. Nets will be deployed to maximize capture of individuals utilizing the roost, and nets will be removed soon after emergence to allow bats to return to the roost unhindered. A yearly report of the findings of the monitoring efforts will be submitted to the USFWS office.

3.3 Streams and Wetlands

A list streams and wetlands within the IBCP covered lands are provided in Table 5 and Table 6, respectively. Following construction, pre-construction contours will be restored and the area revegetated per the FERC procedures. To minimize adverse impacts to wetland resources identified within the Project limits of disturbance, Rover has reduced the construction footprint from 100 feet to 75 feet in forested wetlands and from 125 to 75 feet in non-forested wetlands. When constructing across streams, additional temporary workspace areas will be set back at least 50 feet from the water's edge, to reduce impacts to riparian areas to the greatest extent possible. Rover will reduce project impacts by adhering to the Rover Wetland and Waterbody Construction and Mitigation Procedures (Procedures) and the Rover Upland Erosion Control, Revegetation and Maintenance Plan (Plan), as approved by FERC. In addition, following construction, Rover will only maintain a 10-foot-wide corridor centered on the pipeline within wetlands and across streams and riparian areas to facilitate periodic corrosion/leak surveys, rather than the 50-foot permanent easement that will be maintained in upland areas.

Table 5. Streams identified within IBCP covered lands, Doddridge and Tyler counties, West Virginia.

Stream ID	MP	Stream Name	Type
S4H-DO-251	6.94	Nutter Fork	Perennial
S3ES-TY-268	13.52	UT to Jefferson Run	Intermittent
S2ES-TY-320	13.98	UT to Middle Island Creek	Ephemeral
S2ES-TY-319	14.02	UT to Middle Island Creek	Ephemeral
S4ES-TY-244	14.04	UT to Ross Run	Ephemeral
S4ES-TY-243	14.32	Middle Island Creek	Perennial
S4ES-TY-108	14.73	UT to Middle Island Creek	Ephemeral
S4ES-TY-111	14.97	UT to Purgatory Run	Ephemeral
S4ES-TY-113	14.98	UT to Purgatory Run	Ephemeral
S4ES-TY-112	14.99	UT to Purgatory Run	Ephemeral
S4ES-TY-114	15.14	UT to Purgatory Run	Ephemeral
S4ES-TY-115	15.19	Purgatory Run	Perennial
S1ES-TY-254	16.20	UT to Conaway Run	Ephemeral
S1ES-TY-253	16.40	UT to Conaway Run	Intermittent
S1ES-TY-251	16.48	UT to Conaway Run	Ephemeral
S1ES-TY-250	16.51	UT to Conaway Run	Ephemeral
S1ES-TY-249	16.52	UT to Conaway Run	Ephemeral
S1ES-TY-247	16.58	UT to Conaway Run	Ephemeral
S1ES-TY-246	16.59	UT to Conaway Run	Ephemeral
S1ES-TY-244	16.61	UT to Conaway Run	Ephemeral
S2ES-TY-148	16.85	Purgatory Run	Intermittent
S2ES-TY-147	16.97	UT to Purgatory Run	Ephemeral
S2ES-TY-146	16.99	UT to Purgatory Run	Ephemeral
S2TB-TY-177	17.26	UT to Grimms Run	Ephemeral
S2TB-TY-182	17.37	UT to Grimms Run	Ephemeral
S2TB-TY-183	17.42	UT to Grimms Run	Ephemeral
S2TB-TY-187	17.60	UT to Grimms Run	Ephemeral
S2TB-TY-186	17.62	Grimms Run	Intermittent
S7H-TY-265	17.69	UT to Grimms Run	Ephemeral
S5ES-TY-119	18.69	UT to Foster Run	Intermittent
S2ES-TY-151	18.98	UT to Foster Run	Intermittent
S2ES-TY-152	19.36	Sancho Creek	Perennial
S2ES-TY-153	19.58	UT to Sancho Creek	Ephemeral
S4H-TY-282	20.18	Sancho Creek (2 crossings)	Perennial
S4H-TY-258	20.47	Little Sancho Creek	Perennial
S7H-TY-302	21.70	UT to Sancho Creek	Ephemeral
S7H-TY-304	21.97	UT to Sancho Creek	Intermittent

Table 6. Wetlands identified within IBCP covered lands, Doddridge and Tyler counties, West Virginia.

Wetland ID	MP	Type		Acres
W4H-DO-253	6.82	PFO	Pipeline Crossing	0.087
W4H-DO-252	6.93	PEM	Pipeline Crossing	0.026
W5ES-TY-105	11.51	PEM	Pipeline Crossing	0.093
W4ES-TY-109	14.72	PEM	Pipeline Crossing	0.061
W1ES-TY-248	16.59	PEM	Workspace	0.009
W7H-TY-474	16.69	PEM	Pipeline Crossing	0.042

3.4 Co-location of the Project with Previous Disturbance

To minimize adverse impacts to contiguous forested habitat, the proposed alignment was developed to be parallel and overlapping with existing rights-of-way to the greatest extent practicable. In West Virginia, approximately 12.1 miles of the proposed route will be parallel, of this a total of 1.1 miles is located within IBCP covered lands (Table 7).

Table 7. Co-location of the proposed Rover Pipeline Project alignment with previously disturbed lands within IBCP covered lands

Pipeline Segment	From MP	To MP	Length (mi)	Approx. Offset Distance (feet)	Desired Overlap (feet)	Actual Overlap (ft)	Operator
Sherwood Lateral	14.28	14.47	0.2	0'	20'	0	Console Energy Pipeline
	16.9	17.1	0.2	0'	20'	0	Texas Keystone Pipeline
	17.61	17.93	0.3	0'	20'	0	Texas Keystone Pipeline
	20.38	20.74	0.4	0'	20'	0	Unknown Pipeline

3.5 Seasonal Restriction on Tree Cutting

Pursuant to WVFO requirements, all tree clearing activity within the IBCP covered lands will be completed between 15 November 2016 and 31 March 2107. During this time, listed bats will not be present within the IBCP covered lands, ensuring that no direct effects to listed bat species will occur as a result of the proposed Project.

3.6 Reseeding

Rover will use a West Virginia Department of Environmental Protection (WVDEP) approved seed mix for post-construction stabilization with the permanent ROW. Rover assumes that the contents of the WVDEP-approved seed mix do not include invasive species. The species composition of the WVDEP-approved seed mix will be available upon request.

3.7 Tree Replanting

To offset temporary impacts to forested habitat within IBCP covered lands, Rover is proposing to replant 91.4 acres of the temporary workspace following project construction within IBCP covered lands. Pursuant to the 2016 USFWS WVFO *Guidance on Developing and Implementing an Indiana Bat Conservation Plan*, (WVFO Guidance) and on-going project coordination, these areas will be replanted at a density of 300 stems per acre with at least six preferred tree species (as provided in WVFO Guidance Appendix C). As required, shagbark hickory will be planted in addition to 6 additional preferred tree species such that no one species comprises greater than 15% of the total trees planted. Rover will initiate planting efforts during the appropriate time of year following complete restoration of the permanent ROW.

Rover will conduct follow-up inspections of all areas disturbed by construction until revegetation is successful according to the Rover Plan and Procedures, and at a minimum, after the first and second growing seasons. These inspections will include the temporary work areas that will be replanted with trees within the IBCP covered lands. Survival rates for the seedlings will be considered successful if there is a survival rate of 50 percent after the first two growing seasons.

3.8 Erosion and Sedimentation Controls

As part of their permitting process, Rover will strictly adhere to the Rover Plan and Procedures during construction.

3.9 Pollution Prevention Plan

All construction activities will be conducted in compliance with the Spill Prevention and Response Procedures (SPRP), as filed with FERC.

3.10 Summary of Avoidance, Minimization, and Conservation Measures

Pursuant to WVFO Guidance, the following avoidance and minimization measures will be applied to the proposed Project. A completed Indiana Bat Summary Sheet is provided in Appendix C.

- Rover reduced the construction workspace and operational easements to the greatest extent possible to avoid and minimize impacts to potential Indiana bat habitat.
- All tree clearing activity will occur from 15 November to 31 March within IBCP covered lands.
- To the greatest extent practicable, PRT removal was minimized and avoided as described above.
- To the greatest extent practicable, potential habitat removal in wetland and riparian habitats will be minimized.
- To the greatest extent practicable, the proposed Project will be parallel or co-located with existing utilities or other areas of previously disturbed land.
- The Rover Plan and Procedures and the Project-specific SPRP will be implemented.

To offset the unavoidable removal of potentially suitable Indiana bat habitat, the following conservation measures will be applied to the project, pursuant to WVFO Guidance.

- Contingent upon landowner permission, trees will be girdled on a 1:0.5 ratio secondary PRTs which are proposed to be removed during the course of Project construction within the IBCP covered lands. A total of 75 trees will be girdled to fulfill this conservation measure. Rover will coordinate with the WVFO regarding girdling locations.
- A total of 33 artificial roost structures (three varieties in multiple locations at three sites) will be erected to replace 18 potential primary maternity roost trees and a portion of the 74 secondary PRTs. Rover will coordinate with the WVFO regarding roost structure placement.
- Pursuant to IBCP requirements, Artificial roost structures will be monitored twice yearly for a period of three full years following the year of installation to determine occupancy. A yearly report of the findings of the monitoring efforts will be submitted to the WVFO.
A total of 91.4 acres of temporary construction work areas will be replanted using WVFO preferred tree species.

4.0 REFERENCES

- Bunkley, J. P., McClure, C. J., Kleist, N. J., Francis, C. D., & Barber, J. R. (2015). Anthropogenic noise alters bat activity levels and echolocation calls. *Global Ecology and Conservation*, 3, 62-71.
- Pruitt, L. B. (1998). *Biological Opinion on the Construction and Operation of the Multi-Purpose Training Range (MPTR) at the Camp Atterbury Army National Guard Training Site*. U.S. Fish and Wildlife Service, Bloomington, IN.
- USACE. (2005, November). Effects of Military Training Noise on Bat Behavior. *Threatened and Endangered Species Research Update Newsletter*, pp. 3-4.
- USFWS. (2015). *2015 Range-Wide Indiana Bat Summer Survey Guidelines*. Fort Snelling, MN: U.S. Fish and Wildlife Service.
- USFWS. (2016). *2016 Range-Wide Indiana Bat Summer Survey Guidelines*. Fort Snelling, MN: U.S. Fish and Wildlife Service.

APPENDIX A

Northern Long-Eared Bat 4(d) Streamline Consultation Form

APPENDIX B

Potential Roost Trees (PRTs) Identified within IBCP Covered Lands

APPENDIX C
INDIANA BAT CONSERVATION PLAN WORKSHEET