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July 9, 2014

Via Electronic Filing

Ms. Barcy McNeal
Administration/Docketing
Public Utilities Commission of Ohio
180 East Broad Street, 11th Floor
Columbus, OH 43215-3793

**Re: Hardin Wind Energy LLC
OPSB Case No. 14-1030-EL-BGA**

Dear Ms. McNeal:

On July 3, 2014, Hardin Wind Energy LLC filed a partial response to Staff Data Request No. 1. Attached for filing is a copy of the Bald Eagle and Raptor Nest Survey (Attachment 1), which responds completely to the wildlife aspect of Data Request No. 1. There are no other wildlife studies at this time.

Also attached, in Response to Data Request No. 3, is copy of the maps that present a more accurate representation of the preliminary design for access roads, and cables (Attachments 2 and 3).

Applicant previously provided to Staff a copy of the survey, along with a copy of the maps and shape files. Please do not hesitate to contact me if you have any questions.

Sincerely,

Sally W. Bloomfield

Attachments

Cc: Don Rostofer (w/Attachments)

Responses to Staff Data Requests and Interrogatories

Hardin Wind Energy LLC
Case No. 14-1030-EL-BGA
July 9, 2014

1. When would staff expect to have the noise and wildlife study results?

Attached is a copy Hardin Wind Energy LLC's Raptor Nest Survey for the environmental studies as previously discussed with the OPSB Staff. A copy of the survey was also provided to Staff on July 8, 2104.

3. Staff noticed that the collection lines presented on the mapping traverse through houses, outbuildings, and woodlots. Could the Applicant please provide mapping that depicts a more precise (final) placement of collection lines and access roads?

See attached maps see for a more accurate representation of the preliminary design for access roads and cables, which was previously provided to Staff.

**Fixed-wing Aerial Straight-Line
Transect Bald Eagle and Raptor
Nest Survey**

Hardin Wind Energy Center
Hardin County, Ohio

Confidential Business Information



Prepared for:
Invenergy
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Chicago, IL 60606

Prepared by:
Stantec Consulting Services Inc.
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Project #193702970

July 3, 2014

FIXED-WING AERIAL STRAIGHT-LINE TRANSECT BALD EAGLE AND RAPTOR NEST SURVEY

CONFIDENTIAL BUSINESS INFORMATION

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Figure 1. Raptor Nest Survey Overview

FIXED-WING AERIAL STRAIGHT-LINE TRANSECT BALD EAGLE AND RAPTOR NEST SURVEY

CONFIDENTIAL BUSINESS INFORMATION

1.0 INTRODUCTION

In support of the Hardin Wind Energy Center (Project) proposed by Invenergy, LLC (Invenergy), Stantec Consulting Services Inc. (Stantec) completed a fixed-wing aerial straight-line transect bald eagle (*Haliaeetus leucocephalus*) and raptor nest survey in Hardin County, Ohio. This report outlines the project description, objectives, methods, and results of the aerial survey effort. The survey was conducted as part of the pre-construction and planning phase of the Project.

1.1 PROJECT DESCRIPTION

The proposed Project is located in western Hardin County in Ohio (Figure 1). Land use within the Project area and a 10-mile buffer is dominated by agriculture (i.e., row crops and hay/pastureland) with woodlands found primarily associated with riparian corridors along the Blanchard River, Scioto River, and around Indian Lake.

1.2 OBJECTIVES

On July 9, 2007, the U.S. Fish and Wildlife Service (USFWS) announced that the bald eagle would be removed in the lower 48 states from the Federal List of Endangered and Threatened Wildlife (72 Fed.Reg. 37346-37372). The rule became effective on August 8, 2007. The bald eagle remains protected under the federal Bald and Golden Eagle Protection Act (BGEPA).

In 2013, the USFWS published the Eagle Conservation Plan Guidance (ECPG) Module 1 – Land-based Wind Energy (Version 2; USFWS 2013), which provides in-depth guidance for conserving bald eagles in the course of siting, constructing, and operating wind energy facilities. While compliance with the ECPG is voluntary, the guidance provides a means of complying with regulatory requirements. The ECPG recommends that surveys for active eagle nests be conducted within the project footprint, as well as a 10-mile buffer. In areas where raptor nests are widely scattered and conspicuous, fixed-wing aerial surveys are considered acceptable (USFWS 2013).

To accomplish this, a fixed-wing straight-line aerial transect survey was completed with the following objectives:

- Document active and inactive bald eagle and other raptor species nests within the Project area.
- Document active and inactive bald eagle nests within a 10-mile buffer of the Project area.

2.0 METHODS

2.1 FIXED-WING RAPTOR NEST SURVEY

Fixed-wing aerial straight-line surveys were completed for the proposed Project on May 8, May 9 and May 13, 2014. The surveys were conducted between 0730 hours and 1930 hours, during favorable flying conditions. Surveys followed the mapped transect lines shown on Figure 1.

FIXED-WING AERIAL STRAIGHT-LINE TRANSECT BALD EAGLE AND RAPTOR NEST SURVEY

CONFIDENTIAL BUSINESS INFORMATION

Prior to flight, parallel transects were established on aerial photographs for the pilot to track while in flight. Transects were spaced 0.5 mile apart. If forested areas were located between transects and were not visible from a transect, the plane deviated from the established transect route to survey these forested areas.

The fixed-wing aerial straight-line surveys were conducted by two wildlife biologists with experience detecting and identifying raptor species and nests. Each biologist was assigned to one side of the plane, surveying for nests and birds as each transect was flown. Observed nests were identified to species, if possible, and documented as active or inactive based on visual activity observations (whether birds were present at or near the nest site). A rough latitude and longitude was taken at each nest, which was later verified on a desktop computer with aerial imagery.

The aircraft flew at approximately 800 feet in elevation for most of the survey, climbing to 1000 feet in areas where no nesting habitat was present. For the portions of transects which involved airspace above Indian Lake State Park, regulations required flight at a height of 2,000 feet above the ground. Due to this, visibility of nests in this area was limited, and information on any eagle nest locations within the park was collected from the Ohio Department of Natural Resources' website after the nest survey. Flight was sustained at around 75 knots in areas where habitat was present. When a nest was observed, the aircraft was brought in lower (approximately 500 feet) and slower (approximately 60 knots) to give the biologists a better view for species identification and determination of status (active or inactive).

3.0 RESULTS

3.1 BALD EAGLES

No bald eagle nests were identified during the survey; however, a single bald eagle nest is known to occur within Indian Lake State Park¹, and the approximate location has been mapped (Figure 1). This nest is located approximately 6.2 miles southwest of the Project boundary. It was not visible during the survey due to the flight restrictions above the state park, forcing the plane to fly at a higher altitude (2,000 feet).

3.2 OTHER RAPTOR SPECIES

Three raptor nests were identified during the aerial survey (Figure 1). All three nests were red-tailed hawk (*Buteo jamaicensis*) nests, identified as RTHA 1, 2, and 3. None of these nests were within Project area, but they did fall within the 10-mile buffer.

RTHA-1 had a single bird at the nest, and a second was seen flying in from the northwest. This nest is located 6.8 miles northeast of the Project boundary. The second nest, RTHA-2, is located 5.7 miles northwest of the Project boundary, and had a single bird at the nest as well, though observers were not able to see into the nest itself. The third nest, RTHA-3, is located 6.5 miles south of the Project and had a single bird at the nest.

¹ <http://parks.ohiodnr.gov/indianlake>

FIXED-WING AERIAL STRAIGHT-LINE TRANSECT BALD EAGLE AND RAPTOR NEST SURVEY

CONFIDENTIAL BUSINESS INFORMATION

3.3 OTHER OBSERVATIONS

In addition to raptor nests, six great blue heron (*Ardea herodias*) rookeries were observed outside of the Project area but within the 10-mile Project buffer. These rookeries are identified as GBHE-1 through GBHE-6 (Figure 1).

Great blue heron rookeries were found 1.5 to 9.3 miles from the Project boundary, and none were observed within the boundary itself. GBHE-1 consisted of 19-20 nests and 19 birds, and is located 9.3 miles from the Project boundary. GBHE-2 consisted of approximately 15 nests and 15 birds, and is located 6.9 miles from the nearest Project boundary. GBHE-3 contained approximately 9 nests and 6 birds were observed at the location, located 2.5 miles from the Project boundary. The fourth rookery observed, GBHE-4, was smaller with only 5 nests and 5 birds, and is located 1.5 miles from the Project boundary. GBHE-5 consisted of 10 to 12 nests and approximately 10 birds, and is located 4.2 miles from the Project boundary. The last rookery, GBHE-6, contained 14 nests and 14 birds, and is located 8.3 miles from the Project boundary.

Observations of live raptors, in addition to those seen at the active nests described above, included two red-tailed hawks on transect 17. These birds were seen flying towards and perched in a tree, but no nest was observed. A single red-tailed hawk was seen flying on transect 23, and a single bald eagle was seen flying on transect 32. On transect 59, an unidentified hawk (either a red-tailed hawk or red-shouldered hawk [*Buteo lineatus*]) was seen flying near the transect.

4.0 SUMMARY

No bald eagle nests or other raptor nests were found within the Project area. One bald eagle nest is known to occur within the 10-mile Project buffer, on the northeast shore of Indian Lake. This nest is located approximately 6.2 miles from the Project boundary. Three active red-tailed hawk nests and six great blue heron rookeries were identified during the survey. The red-tailed hawk nests ranged from 5.7 miles to 6.8 miles from the nearest Project boundary, and the great blue heron rookeries were located 1.5 miles to 9.3 miles from the Project boundary.

5.0 LITERATURE CITED

USFWS. 2013. Eagle conservation plan guidance, Module 1 – land-based wind energy, Version 2. U.S. Fish and Wildlife Service, Migratory Birds Division. <<http://www.fws.gov/migratorybirds/PDFs/Eagle%20Conservation%20Plan%20Guidance-Module%201.pdf>> Accessed 1 May 2013.

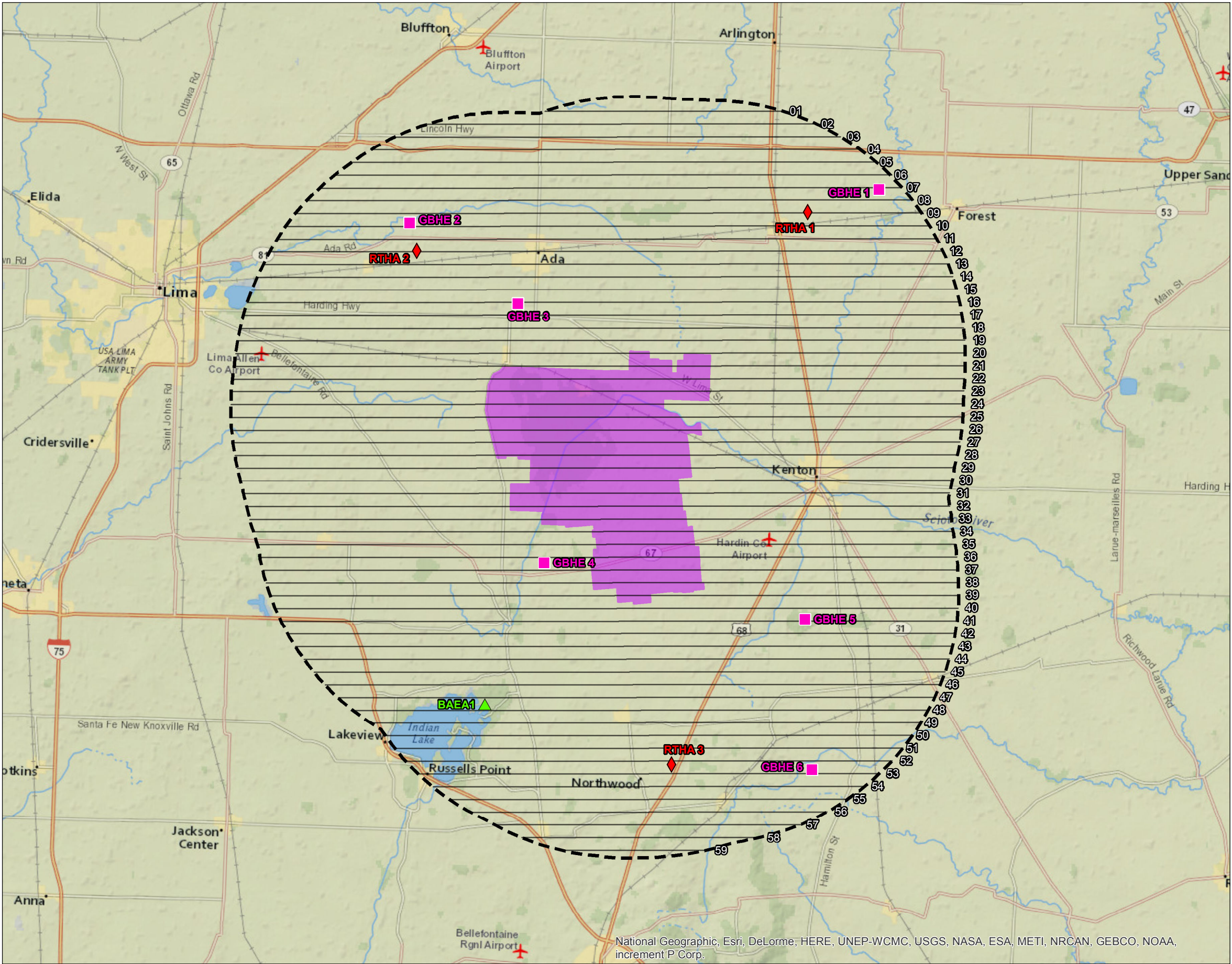
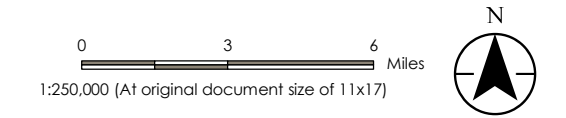
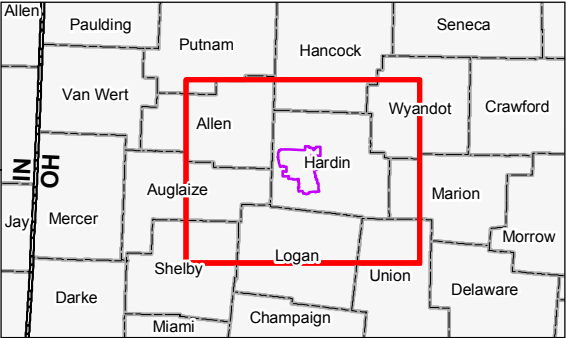


Figure No. 1
Title
Raptor Nest Survey Overview
Client/Project
Invenergy
Hardin Co. Wind Farm
Project Location
Hardin Co., OH
193702970
Prepared by KAS on 2014-05-20
Technical Review by AB on 2014-05-20
Independent Review by TVDW on 2014-06-04



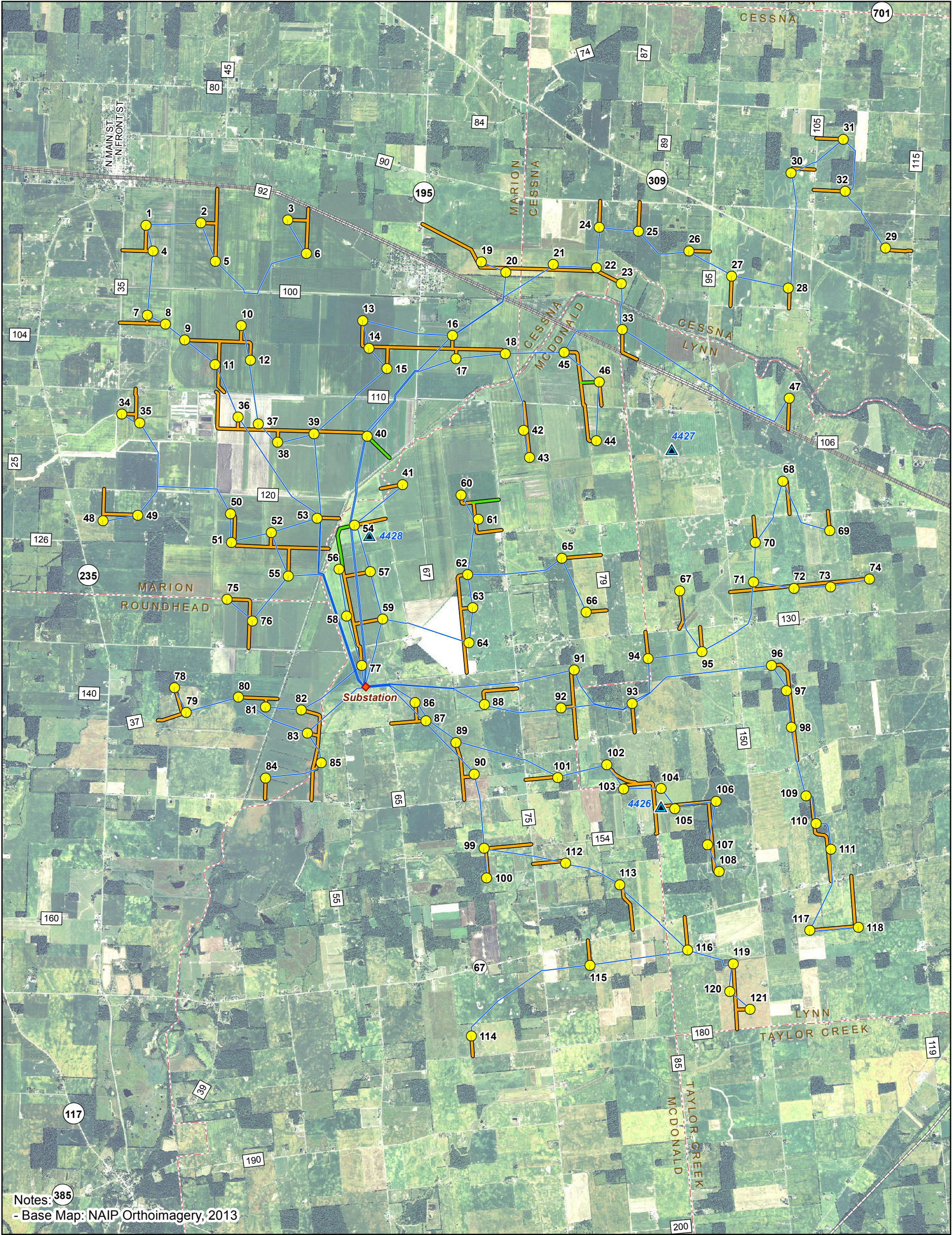
- Legend
- Project Boundary 10 mi Buffer
 - Project Boundary
 - Raptor Survey Transect (with corresponding ID)
- Nest / Rookery Locations
- Great Blue Heron Rookery
 - Red-tailed Hawk Nest
 - Bald Eagle Nest (Not Field Verified)



- Notes
- Coordinate System: NAD 1983 UTM Zone 17N
 - Data Sources Include: Invenergy, Stantec, and Esri.
 - Background: National Geographic World Map



Date Saved: Tuesday, July 08, 2014 10:38:51 AM Prepared By: K.Hanusiak Path: \\Arcgis-dh\DI_MXD\US\OH\Hardin\hardin_fg05-01_turbine\layout_11x17.mxd



Legend

- | | | |
|---------------------|-------------------------|----------------------|
| Permanent Met Tower | Collection | Collector Substation |
| Wind Turbine | Access Road | Township |
| | Access Road (Alternate) | |

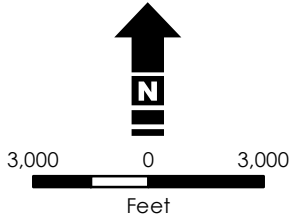


Figure 05-01 Project Layout

Hardin Wind Energy Center, Hardin County, Ohio

Rev. 00
July 08, 2014

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This foregoing document was electronically filed with the Public Utilities

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Case No(s). 14-1030-EL-BGA

Summary: Response of Hardin Wind Energy LLC to Staff Data Requests - Part 1 of 2
electronically filed by Teresa Orahod on behalf of Sally Bloomfield