

# **Site Specific Resource Information and Protection and Enhancement Plan**

## **Ornate Box Turtle (*Terrapene ornata*)**

Permit 399 - IBR 18 Ventilation and  
Utility Boreholes Montgomery County, IL

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## **1.0 INTRODUCTION**

### **1.1 Project Description**

Hillsboro Energy, LLC (Hillsboro), has proposed to permit an IBR area for ventilation and utility boreholes in Montgomery County, Illinois. The proposed permit area consists of 8.82 acres west of Coffeen in Montgomery County, Illinois (Drawing No. 1). Pursuant to Sections 1780.16(a)(2)(A) and 1780.16(b)(2), the Illinois Department of Natural Resources (Department) requires an assessment of threatened and endangered (T&E) species and Protection and Enhancement Plans (PEP) for those deemed likely to occur in or adjacent to the proposed permit area. Due to the distance to known occurrences of the ornate box turtle (*Terrapene ornata*), presence of the species is assumed. As a result, pursuant to 1780.16(b), a Protection and Enhancement Plan has been prepared for the ornate box turtle using the best available resources and current technology.

### **1.2 Species Description**

The ornate box turtle is a small reptile of the *Emydidae* family. It has a moderately high dark brown carapace that is flattened along the yellow midline and without a keel. Its hinged plastron is patterned with yellow lines radiating from the center of each scute. It ranges up to 13 cm and its head is occasionally spotted (INHS). The ornate box turtle can be found from South Dakota to Texas with the Mississippi Valley on the most eastern edge of its territory (NatureServe). The habitat of the turtle includes prairies and open fields in former prairies to open woodlands (INHS; NatureServe). The ornate box turtle is considered threatened in the state of Illinois (IDNR). The record for this species is north of IL Route 185 and situated to the east/northeast of the proposed IBR within the IDNR Coffeen Lake State Fish and Wildlife Area. Due to the distance to known occurrences the ornate box turtle could potentially occur in the project area, and therefore a protection and enhancement plan has been provided.

## **2.0 SITE SPECIFIC RESOURCE INFORMATION**

The proposed surface operation includes 2.82 acres as shown in the permit maps. One (1) Fish and Wildlife land use type (as defined in 62 Ill. Adm. Code Section 1701 Appendix A) was identified as occurring within the permit limits: cropland; and one (1) industrial/commercial land use which is a gravel road for existing grain bin usage (Figures, Drawing No. 2). The permit area consists mostly of active cropland.

### **Cropland (CL)**

The permit area contains 2.45 acres (87%) of cropland, and 0.37 acres (13%) of industrial/commercial, indicating it is dominated by cultivated crops and is subject to regular management (Figures, Drawing No. 3). Annual cultivation practices in these areas have replaced native species with monocultures that display little diversity.

## **Stream and Wetland Delineation**

A stream and wetland delineation of the project area was not completed in the project area. The project area is largely comprised of cropland, and a small portion is considered industrial/commercial.

The fish & wildlife - cropland land use type on the site provides potential foraging and nesting areas for the ornate box turtle. Adjacent areas contain similar habitats. By utilizing the existing already disturbed cropland for the majority of the project area, the likelihood that potential habitat will be impacted by the IBR is minimal.

### **3.0 PROTECTION AND ENHANCEMENT PLAN**

According to 62 Ill. Adm. Code Section 1780.16b(3)A) and B) a “Protection and Enhancement Plan” should include “protective measures” and “enhancement measures”. The “protective measures” are to be used during the active phase of the operation and will help the operator to minimize disturbances and adverse impacts to the species or resource. The “enhancement measures” are to be used during reclamation and the post-operation phase to develop appropriate habitat for the species.

#### **3.1 Objective 1- Protection Measures**

The first objective of the protection and enhancement plan is to provide protective measures during the operation that will help the operator minimize disturbances to the ornate box turtle and its habitat.

##### **3.1.1 Avoid habitat impacts**

The proposed permit area was designed to avoid stream and wetland habitats that are associated with the immediate property boundary. To avoid potential impacts to stream habitat, the entire permit area was located within already disturbed cropland, thus minimizing impacts.

#### **3.2 Objective 2-Enhancement Measures**

The second objective of the PEP is to provide appropriate habitat for the ornate box turtle in the post-operation phase; however, the project is not removing any potential habitat, so therefore no new habitat will be provided.

##### **3.2.1 Post construction land use**

Where applicable, the post construction reclamation plan includes seeding the disturbed areas with a temporary cover crop. Upon completion of the work, herbaceous areas will be seeded with a permanent cool season seed mix and mixed with warm season species. Other areas, such as farm fields, will be returned to their previous land use.

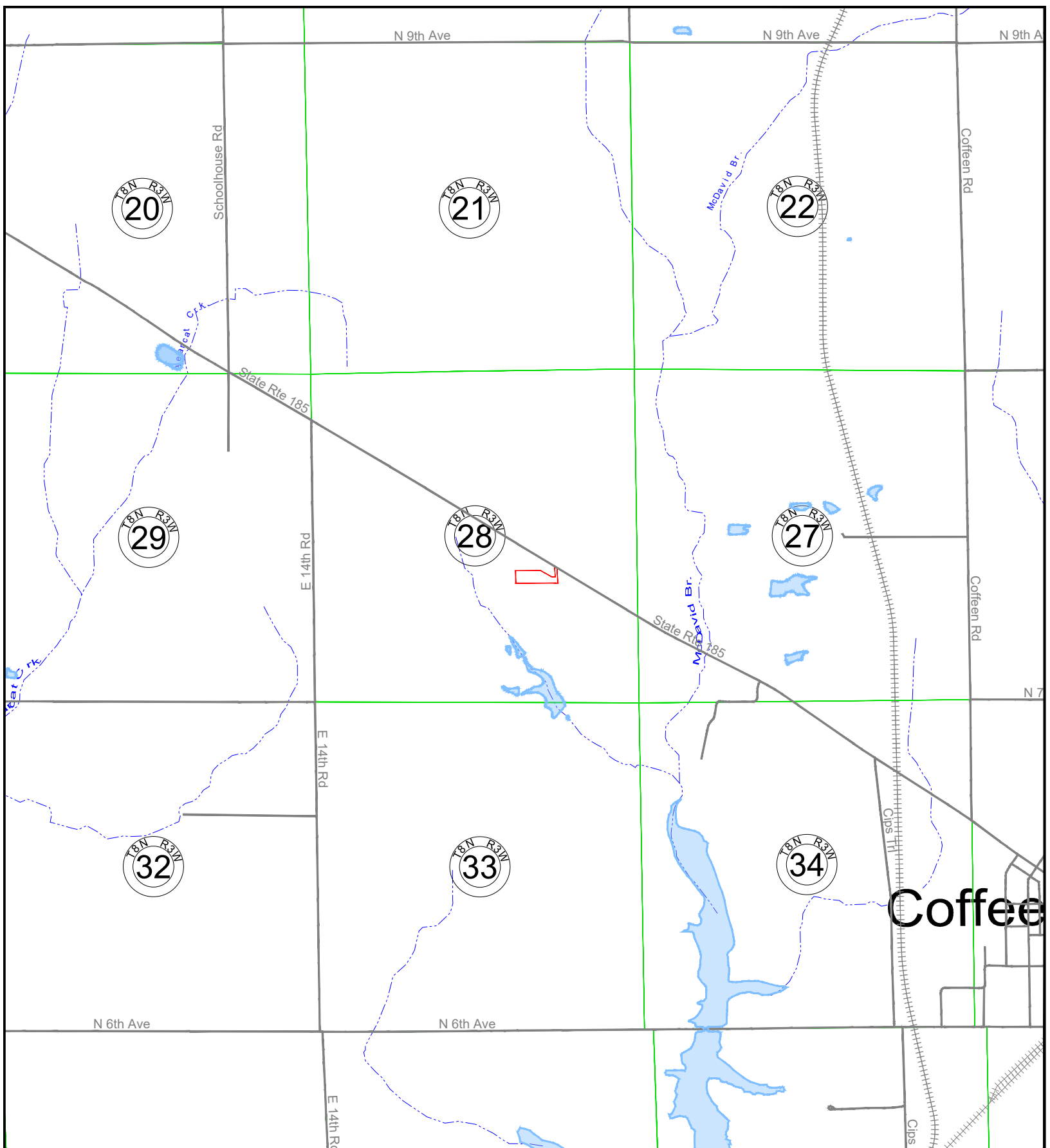
#### **4.0 LITERATURE CITED**

Illinois Department of Natural Resources. 2018. Illinois Threatened and Endangered Species by County.

<https://www.dnr.illinois.gov/conservation/NaturalHeritage/Documents/Database/ETCountyList.pdf>. Accessed 19 March 2018.

Illinois Natural History Survey (INHS). 2014. Ornate Box Turtle Species Bio available at [www.inhs.illinois.edu/animals\\_plants/herps/species/te\\_ornata.html](http://www.inhs.illinois.edu/animals_plants/herps/species/te_ornata.html). Accessed 3/16/18.

NatureServe. 2017. NatureServe Explorer: An Online Encyclopedia of Life [web application] Version 7.1, NatureServe, Arlington, Virginia. Available: <http://explorer.natureserve.org>. Accessed March 20, 2018.

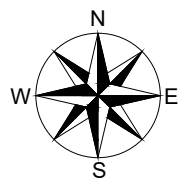


### Legend

 PROJECT AREA



## Project Location Map



MAP 1



**HILLSBORO  
ENERGY LLC**  
DEER RUN MINE  
12051 9TH AVENUE, HILLSBORO IL 62049

### Revisions

No.	Date	By	No.	Date	By
1		6			
2		7			
3		8			
4		9			
5		10			

### IBR - HG 6 Borehole

Drawn By: CAC  
 Checked By: CAC  
 Approved By: CAC  
 Date: 04/27/2023  
 Scale: 1"=2000'

File Location:  
PROJECT LOCATION MAP





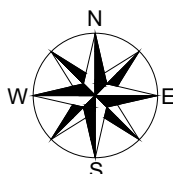
#### Legend



PROJECT AREA

0 100' 200'

## Aerial Map



MAP 2



**HILLSBORO  
ENERGY LLC**  
DEER RUN MINE

12051 9TH AVENUE, HILLSBORO IL 62049

#### Revisions

No.	Date	By	No.	Date	By
1			6		
2			7		
3			8		
4			9		
5			10		

#### IBR - HG 6 Borehole

Drawn By: CAC  
Checked By: CAC  
Approved By: CAC  
Date: 04/27/2023  
Scale: 1"=100'

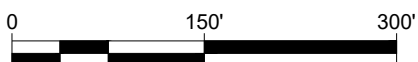
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AERIAL MAP



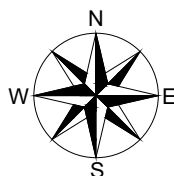


Legend

-  PROJECT AREA
-  CROPLAND
-  INDUSTRIAL/COMMERCIAL



# Land Use Map



MAP 3



**HILLSBORO  
ENERGY LLC**  
DEER RUN MINE

12051 9TH AVENUE, HILLSBORO IL 62049

Revisions

No.	Date	By	No.	Date	By
1			6		
2			7		
3			8		
4			9		
5			10		

IBR - HG 6 Borehole

Drawn By: CAC  
Checked By: CAC  
Approved By: CAC  
Date: 04/27/2023  
Scale: 1"=150'

File Location:  
LAND USE MAP