



# Illinois Department of Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271  
<http://dnr.state.il.us>

Pat Quinn, Governor  
Marc Miller, Director

June 6, 2012

Ms. Julie Yuswak  
Carroll County Zoning Department  
P.O. Box 227  
Mt. Carroll, IL 61053

Mr. Michael Shamsie  
Landmark Engineering Group  
455 Avenue of the Cities  
East Moline, IL 61244

**Re: Solar Panel Farm – Savanna  
Endangered Species Consultation Program  
Project Number(s): 1206254  
County: Carroll**

Dear Ms. Yuswak and Mr. Shamsie:

The Department received a submission from Landmark Engineering Group, via the Department's Ecological Compliance Assessment Tool (EcoCAT) website, on behalf of Carroll County, regarding this project in Section 2, Township 25 North, Range 2 East for consultation in accordance with the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 1075.

The project involves the construction of a 23-acre solar panel farm, on behalf of SolrWind Corporation, using panels mounted onto steel frames and pre-cast concrete bases. The site will host 3,564 Sun Tech 280 watt volt utility panels on a portion of the project site (11 panels per array/2 arrays in a parallel per string). Panel outlay will be surrounded by an 8' chain link fence.

The project is located within a portion of the **Savanna Army Depot Illinois Natural Area Inventory Site** (INAI). It is also within the vicinity of two 2009 records for the State-listed threatened **Plains (Western) Hognose Snake**, *Heterodon nasicus nasicus* and records for the State-listed threatened **Lined Snake**, *Tropidoclonion lineatum*.

The Department has completed its review of the project and determined that the action may have an adverse impact on the Plains Hognose Snake, since two recent records for this species were found in close proximity to the project footprint. To minimize potential impacts, the Department recommends that the following measures be implemented by the developer and incorporated in the County's project authorization.

### **Plains (Western) Hognose Snake**

According to a herpetological study done at Lost Mound Unit of the Upper Mississippi River National Wildlife Refuge ~ Savanna Army Depot, in 2008 and 2009, both Lined Snakes and Plains Hognose Snakes were encountered. Both of these listed species have been adversely affected by habitat conversion to agriculture and development and road-kills. One of the records of the Plains Hognose was located immediately west of the project site; likely a result of a road kill.

This subspecies of the Western Hognose is a thick-bodied snake typically found in sand prairies, savannas, and nearby woodlands. An ambush predator, this snake sometimes buries itself in the soil with only its eyes exposed and waits for prey, primarily toads, frogs, and rodents, to move within striking distance, or moves about slowly while searching for prey which has burrowed just beneath the surface. Although not usually classified as a venomous reptile dangerous to humans, it is sometimes described as rear-fanged, having enlarged rear teeth which serve to deflate toads and frogs (which swell themselves as a defense against being swallowed). Its saliva (venom) is toxic, but it cannot deliver large amounts. Even so, bites from this animal, though rare, may require medical attention.

With its close cousin the Eastern Hognose Snake (*Heterodon platirhinos*), whose range overlaps that of the Plains Hognose and which also occurs in Carroll County, it shares two characteristics. First is an upturned snout, which produces a vaguely pig-like appearance, and which enable this snake to actually burrow through loose soils, an ability most snakes lack. Second, is the habit of rolling over and “playing dead” when harassed; if righted, the snake will roll over again. This behavior only occurs after puffing up the neck and head, loud hissing, and mock strikes (with mouth closed) have failed to discourage an attacker. These two species can be distinguished by the colors of the undersides of their tails – that of the Plains Hognose is black, while that of the Eastern Hognose is a lighter color than the belly.

Plains Hognose snakes may use abandoned rodent burrows for thermo-regulation or during its hibernation period (September through March). They are most active in the early morning and late evening, spending much of the rest of the time seeking shade or warmth to regulate their temperature. In Illinois, mating begins soon after spring emergence, with females depositing eggs in the soil beginning in June or July: eggs usually require six to eight weeks to hatch (in August or September), and neonates are fully capable of independent existence. Adults neither guard the nest nor provide care to young.

Construction activities pose the threat of road-kill or injury to basking or traversing snakes. Noise generated by work and excavation or trenching activities could interfere with animal communication and may hinder reproductive success, depending on the length and intensity. Vibrations from construction activities may pose another risk factor since reptiles are very sensitive to vibrations transmitted through the ground. Further, compaction of sandy soils can make it difficult, or impossible, for this species to retreat to rodent burrows it uses for thermo-regulation or during its hibernation period (September through March).

*Recommendation #1.* All on-site personnel involved in the project, *including anyone that will be mowing the property*, should be educated on how to recognize this species. Color photos (of adults and juveniles) and educational materials regarding this species should be distributed, discussed at pre-construction meetings, and displayed at work zones. This species is usually only

seen above ground from around mid- April to late-September, outside of its hibernation season.

*Recommendation #2.* The Department would like to stress that if Western Hognose Snakes are encountered during the construction phase, or during maintenance activities, there is the potential for incidental take to occur. ‘Take’ is defined, in reference to animals, as to harm, hunt, shoot, pursue, lure, wound, kill, destroy, harass, gig, spear, ensnare, trap, capture, collect or to attempt to engage in such conduct. If a population of this species is confirmed within or near the project, work must immediately stop, and the County should consider obtaining Incidental Take Authorization from the Department’s Office of Resource Conservation, pursuant to 520 ILCS 10/5.5.

*Recommendation #3.* If any Western Hognoses are encountered on or near the project’s footprint, immediately contact Michelle Simone, IDNR District Heritage Biologist, (309/446-9181) and Jeff Horn, Jo Daviess Conservation Foundation, (815) 858-9100, *keeping in mind it is a criminal act for anyone to handle, or move, a listed species unless Incidental Take Authorization has been permitted.* Personnel on site should watch the species until the proper authority arrives to handle the situation.

*Recommendation #4.* Exclusionary silt fencing should be in place around the workzone by early March and maintained through October. Daily inspections (for the first two weeks, and weekly inspections thereafter) should be conducted during the construction period to ensure the fencing is properly installed and to check if snakes are present on either side.

*Recommendation #5.* Trenches and excavations dug as a result of this project should be covered at the end of each work day. Before starting work each day, trenches and excavations should be routinely inspected to ensure no snakes (or other herpetofauna) have fallen into, and become trapped, in them.

*Recommendation #6.* Vehicles and machinery should attempt to stay off any soils that are defined as sandy and use matting as additional compaction avoidance.

Consultation on the part of the Department is completed. In accordance with 17 Ill. Adm. Code 1075.40(h), Carroll County must notify the Department of its decision regarding these recommendations, whether they will:

- Allow the action to proceed as originally planned;
- Require the action to be modified per Department recommendations (please specify which measures if not all will be required); or
- Forgo the action.

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resources review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected species are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this consultation review.

Cordially,

A handwritten signature in cursive script that reads "Kathi Davis".

Kathi Davis  
Division of Ecosystems and Environment  
Impact Assessment Section  
Office of Realty & Environmental Planning  
217-785-5500

enclosure

cc: Michelle Simone, IDNR/Region I/Natural Heritage  
Scott Schaeffer, IDNR/Region I/Wildlife  
Jeff Horn, Jo Daviess Conservation Foundation