

**Soil Limitations (This evaluates the parcel from the surface down to approximately 5 feet.):**

**Ground Based Solar Array Anchoring System:** Soils in this project area have approximately 3,290.8 acres or 81.3% very limited rating and 743.4 acres or 18.4% somewhat limited rating for Ballast Anchor Systems. The Soil-penetrating Anchor system has 3,290.8 acres or 81.3% very limited rating and 743.4 acres or 18.4% somewhat limited rating.

**Corrosion to Concrete and Steel:** "Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens concrete and uncoated steel. The risk of corrosion is expressed as low, moderate or high. The project site has a moderate risk of corrosion to concrete on approximately 1,577 acres or 38.8%. The risk of corrosion to steel has a high rate at 71.8%, or 2,903 acres.

**Shallow Excavations:** These are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches and other purposes. The ratings for this project are 51.5%, or 2,069.7 acres somewhat limited and 48.5% or 1,964.5 acres very limited.

**Erosion Ratings:** The K factor is the erosion factor that indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to erosion by water. This site, as a whole, has an average K factor of 0.28; with 11.6% of the area more highly eroded. The values for the petition site range from 0.15 to 0.43.

**Prime Farmland Soils:** The Natural Resources Conservation Service (NRCS) Soil Survey indicates approximately 88% of the project area is comprised of prime farmland soils. Prime farmland soils include "prime soils" and Prime when drained soils" minus wetland areas identified on inventories.

**Hydric Soils:** The NRCS Soil Survey identifies 25% of the project as containing hydric soils. It also identifies 25% of the soils are poorly drained and 23% are somewhat poorly drained.

**Floodplain Information:**

**The FEMA Map:** Indicated the area is primarily Zone X, area of minimal flood hazard.

**Wetland Information:****USDA-NRCS Wetland Inventory**

The NRCS Wetlands Inventory indicates there are no wetlands on the parcel.

**Cultural Resources:** None identified from office maps.

**Preserved or Recognized Ecological Sites:** Office maps indicate no protected sites in the vicinity of the project.

**Woodlands:** None identified

**Agricultural Areas:** Office Maps indicate there are no State designated agricultural areas on the parcel in question.

**Land Evaluation Site Assessment (LESA):** Prime soils have a rating of 75-100. The Land Evaluation Score for the entire parcel is 81. A complete LESA has been done for each parcel in the project. The weighted average productivity index for this area is 137.

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## ADDITIONAL CONCERNS

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Although office maps indicate there are no wetlands on the parcel, due to the hydric soils on the site, there is a potential for additional farmed wetlands on this parcel. It appears that a wetland delineation could have been performed, due to the configuration of the solar panels on the site plan provided. If one has not been completed, it is recommended that a wetland delineation be performed on this parcel. If farmed wetlands are identified on the site, plans should be adjusted to avoid these areas and adequate buffers should be installed. If impacts to wetlands are planned, the wetlands could be subject to mitigation.

Additionally, subsurface agriculture drainage tile occurs in almost all poorly drained and somewhat poorly drained soils. Drainage tile expedites drainage and facilitates farming. It is imperative that these drainage tiles remain undisturbed. A damaged subsurface drainage tile may return original hydrologic conditions to all the areas that drained through the tile (ranging from less than one acre to many square miles). It is recommended that a drain tile survey be completed on the parcels to locate any existing tiles.

The Board recommends that areas between panels and within the buffers, be planted to a native prairie mix to help increase water infiltration and reduce runoff from the site. It is recommended that a planting and maintenance plan be developed with the landowner to ensure that noxious weeds are controlled, and native plantings are properly installed and managed. The petitioner is encouraged to add pollinator species to this planting plan. Pheasants Forever has developed a low growth pollinator mix specifically for seeding within solar facilities.

An Agriculture Mitigation Agreement with the Illinois Department of Agriculture must be completed. The agreement should address decommissioning of the site after the lifespan of the facility has been reached. It is recommended that all panels, piles, transformers, underground lines, and fencing be completely removed from the site. If underground lines are to remain, they should have at least 5 feet of cover to adequately allow farming operations to commence after the facility's removal. A template can be found on the Illinois Department of Agriculture's website.