

## **PURPOSE AND INTENT**

### *Natural Resource Information Guidelines*

#### **SPECIAL DISTRICTS**

##### **(70 ILCS 405/) Soil and Water Conservation Districts Act.**

*(70 ILCS 405/22.02a) (from Ch. 5, par. 127.2a)*

Sec. 22.02a. The Soil and Water Conservation District shall make all-natural resource information available to the appropriate county agency or municipality in the promulgation of zoning ordinances or variances. Any person who petitions any municipality or county agency in the district for variation, amendment, or other relief from that municipality's or county's zoning ordinance or who proposes to subdivide vacant or agricultural lands therein shall furnish a copy of such petition or proposal to the Soil and Water Conservation District. The Soil and Water Conservation District shall be given not more than 30 days from the time of receipt of the petition or proposal to issue its written opinion concerning the petition or proposal and submit the same to the appropriate county agency or municipality for further action. (Source: P.A. 77-1757.)

The intent of this report is to present the most current natural resource information available in a readily understandable manner. It contains a description of the present site conditions, the present resources, and the potential impacts that the proposed change may have on the site and its resources. The natural resource information was gathered from standardized data, on-site investigations and information furnished by the petitioner. This report must be read in its entirety so that the relationship between the natural resource factors and the proposed land use change can be fully understood.

Due to the limitations of scale encountered with the various resource maps, the property boundaries depicted in the various exhibits in this report provide a generalized representation of the property location and may not precisely reflect the legal description of the proposed project.

This report, when used properly, will provide the basis for proper land use change decisions and development while protecting the natural resource base of the county. It should not be used in place of detailed environmental and/or engineering studies that are warranted under most circumstances, but in conjunction with those studies.

The conclusions of this report in no way indicate that a certain land use is not possible, but it should alert the reader to possible problems that may occur if the capabilities of the land are ignored. Any questions on the technical data supplied in this report or if additional specific information is requested, please contact:

**Stark County Soil & Water Conservation District**

**7419B State Route 17,**

**Toulon, IL 61483**

**(309) 286-2261, Ext. 3**

**[starkcountyswcd@gmail.com](mailto:starkcountyswcd@gmail.com)**

## EXECUTIVE SUMMARY OF NRI REPORT

It is the opinion of the Stark County SWCD Board of Directors that this report, as summarized on this page, is pertinent to the zoning request.

<b>Stark County Land Use Parcel Information</b>	Site is located southeast of Castleton in Penn Township, accounting for 100 acres.
<b>Baseline Site Visit</b>	No erosion was observed. Our office is available for seeding recommendations based on project needs. A USDA review had no further information available.
<b>Cultural Resources</b>	Sites as viewed on historical arial photographs appear agricultural. Contact NRCS for a certified CR determination.
<b>Geologic Information</b>	Bedrock in this area is expected to be 150ft thick at most.
<b>Topography</b>	The proposed site is 800ft-750ft in elevation with runoff flowing to the east and northeast of the parcel.
<b>Soils Information</b>	Parcel contains highly productive soils.
<b>Prime Farmland Soils</b>	All soils in the parcel are rated as prime farmland.
<b>Watershed Information</b>	Site's runoff flows ultimately to the Spoon River, which is documented as impaired due to mercury and fecal coliform.
<b>Wetland Information</b>	The parcel does not contain recognized wetlands by the USFWS. Contact NRCS for a certified wetlands determination.
<b>Ground Water</b>	Conserve water usage and follow all recommendations from the IEPA on water testing and disposal or storage of sensitive materials and fluids.
<b>Woodlands</b>	The parcel is Cropland. Preserve native woody vegetation when possible.
<b>Ecologically Sensitive Areas</b>	Office Maps indicate there are no biological preserves within 500 feet of the parcel in question.
<b>Habitat Fragmentation</b>	Consider adding native grass/forbs and trees to further diversify the parcel. Contact our office for specified conservation recommendations.
<b>Threatened &amp; Endangered Species</b>	Submit the project to IDNR Eco CAT and US Fish and Wildlife Service, if not already submitted for State of Illinois review.
<b>L.E.S.A.</b>	Parcel scored a high rating for protection from non-agricultural land use conversion.



## Stark County Soil & Water Conservation District

7419B State Route 17,

Toulon IL 61483

Phone (309)286-2261, Ext. 3 - Fax (855) 289-5179

<<Date>>

<Name>

<Title>

<Address>

<City, State, ZIP>

Dear <<Name>>,

The Stark County Soil and Water Conservation District has been asked to review the Natural Resource Information concerns for a parcel owned by **Landowner** (Co-trustees **Share Share**). The parcel is located in the **XXX** Quarter of Section **X**, in Township **X**, Range **X**, in Stark County Illinois. The parcel in question (PIN 023 1 100003) is **X** acres with **these additions**. The existing zoning and land use is **A- I Agricultural**. The Petitioner is requesting a variation in the county's 40-acre minimum rule to build a single-family house (<1800 sq/ft) and barn (size not specified) near the center of the parcel.

An office and site review were conducted which included soils information, wetlands, floodplain, watershed, and topography data. There are **X** natural drainage patterns that flow from south to north across the site. The largest being the grassed and treed waterway/open ditch that has a drainage area of approximately **X** acres. The second natural drainage path is west of the waterway/ditch area and has a drainage area of **X** acres. A review of aerial images shows a slight formation of a gully in this area. The district would like to bring these areas to attention because the proposed **X** site, access road, and well site may be affected if not sited properly on the landscape to avoid these areas. Similarly, the placement of the septic field should be sited to avoid areas of surface flow to not affect the performance of the system or lead to issues in the future. Situating any structure on the western third of the parcel would avoid these natural drainage ways. Moreover, the proposed area of the new construction is in a soil type that is considered **XXX** drained.

As always, there should be a concerted effort by the developer to ensure soil sediment does not leave the site through proper best management practices (BMP's). New construction will require protection from soil erosion and sedimentation. Stabilization of the site should occur as soon as practical after construction is completed.

Based on our review and the consideration of the above comments, the Stark County Soil and Water Conservation District has no objections to the proposed project if the petitioner was to be granted a rezoning by the county.

Sincerely,

Kaite McCauley  
Resource Conservationist  
Stark County Soil & Water Conservation District

**Chairman**  
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**Vice-Chairman**  
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**Resource Conservationist**  
Katie McCauley



Stark County Soil & Water Conservation District  
7419B State Route 17, Toulon, IL 61483 – Phone (309) 286-2261, Ext. 3 – starkcountyswcd@gmail.com

# Natural Resource Information Report

YEAR - APPLICATION #

DATE

This report has been prepared for:

SAMPLE

SAMPLE

SAMPLE



Prepared By:

*Katie McCauley, Resource Conservationist*  
Stark County Soil & Water Conservation District  
7419 B State Route 17,  
Toulon, IL 61491  
Phone: (309) 286 - 2261 ext. 3  
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**Stark County Soil & Water Conservation District (SWCD)  
Natural Resource Information Report (NRI)**

<b>NRI Report Number</b>	<b>YEAR – REPORT #</b>
Date Submitted for SWCD	DATE
Date Report Submitted by SWCD	DATE
Applicant's Name	NAME
Property Index Number	XX-XX-XXX-XXX
Size of Parcels	ACRE
Size of Project Area	FT X FT
Applicant Request	

**Contents**

PURPOSE AND INTENT ..... 2

EXECUTIVE SUMMARY OF NRI REPORT ..... 3

NRI REVIEW BY THE STARK SWCD BOARD OF DIRECTORS ..... 4

PARCEL INFORMATION ..... 5

BASELINE SITE VISIT ..... 6

CULTURAL RESOURCE INFORMATION ..... 7

GEOLOGIC INFORMATION ..... 8

TOPOGRAPHY ..... 8

SOILS INFORMATION ..... 9

    Soil Interpretations ..... 11

    Soil Erosion & Sediment Control ..... 12

PRIME FARMLAND SOILS ..... 12

WATERSHED INFORMATION ..... 14

WETLAND INFORMATION ..... 16

GROUND WATER INFORMATION ..... 17

WOODLANDS ..... 19

ECOLOGICALLY SENSITIVE AREAS ..... 20

HABITAT FRAGMENTATION ..... 21

THREATENED AND ENDANGERED SPECIES ..... 22

LAND EVALUATION AND SITE ASSESSMENT (L.E.S.A.) ..... 23

GLOSSARY ..... 24

WORKS CITED ..... 26

## NRI REVIEW BY THE STARK SWCD BOARD OF DIRECTORS

DATE

Stark County Illinois - Zoning Committee  
130 W Main St,  
Toulon, IL 61483

Dear: Zoning Committee,

The Stark County SWCD Board of Directors has reviewed the Natural Resource Inventory (NRI) request submitted by the **PETITIONER IN STARK COUNTY:**

- **Case XX-XX-YEAR**, a request for a **"ZONING CHANGE"**.
- Property commonly known as: **ADDRESS OR ZONING PARCEL #.**

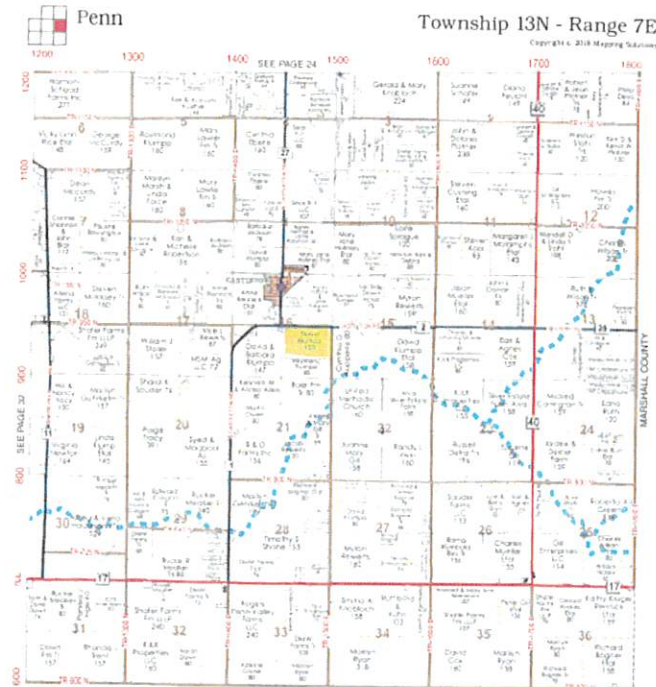
Upon review, it is their opinion that this request does not pose an immediate conservation issue. Please also reference this Natural Resource Information report for further details.

Our office is available for conservation management recommendations.

Katie McCauley, Resource Conservationist  
Stark County Soil & Water Conservation District

## PARCEL INFORMATION

In the Northeast Quarter of Section 28, Township 13 North, Range 7 East on 103 acres. This parcel is located on the south side of Castleton Road and southeast of the intersection of Castleton Road and N Castleton Road, Stark County, IL.



### BASELINE SITE VISIT

Parcel was visited \_\_\_\_\_. It is currently cropped with \_\_\_\_\_ showing signs of tillage with crop residues \_\_\_\_\_ and \_\_\_\_\_ present in ground cover. Soil biology screening showed \_\_\_\_\_ with some compaction present in soil profile. Additional items of note are \_\_\_\_\_. See photos below for supporting documentation.



Baseline documentation reports form the foundation of an effective land conservation program. By recording the condition of the land at the time of a proposed land use conversion and supporting the terms of the easement, documentation is critical in identifying conservation values as well as changes to the land over time, whether human or natural. Baselines also serve as a great educational tool for successor owners of properties and are a critical component to defending your land in court.

## CULTURAL RESOURCE INFORMATION

Historical aerial photography (USDA AAA 8/19/1938) does not indicate there are known historical features on the parcel in question.

*This is not an official Cultural Resource Determination. The Illinois Historic Preservation Agency has not been notified of the proposed land use change by the Stark SWCD. The applicant may need to contact the IHPA in accordance with current Illinois State Laws.*



Cultural resources are all the past activities and accomplishments of people. They include buildings, objects, locations, and structures that have scientific, historic, and cultural value. Stories, dance, folk ways, and many other less tangible resources are also considered functional cultural resources.

The cultural resource SWCDs most often encounter are known as historic properties. These may be prehistoric or historic sites, buildings, structures, features, or objects. The most common type of historic property that a SWCD encounters is generally non-structural archaeological sites. These sites often extend below the soil surface and must be protected against disruption if possible. Historically, settlements thrived near riparian zones and water. Cultural resources are non-renewable.

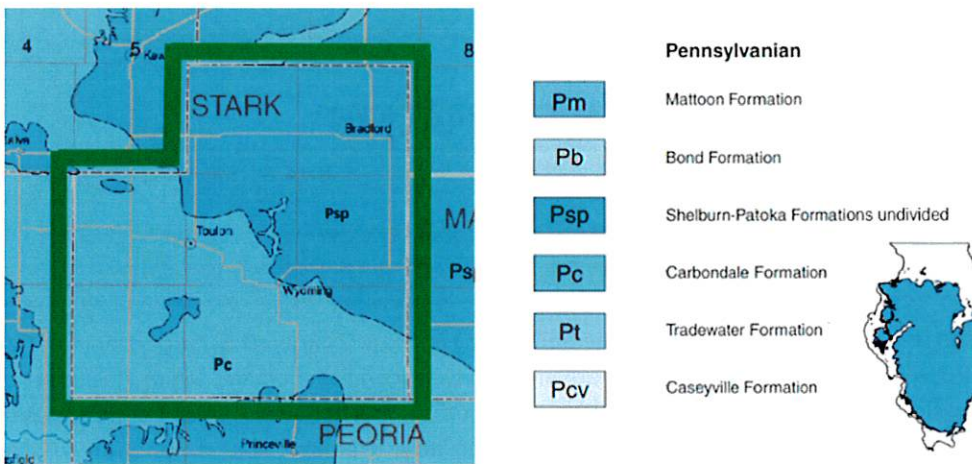
Landowners with historic properties on their land have ownership of that historic property, however, the State of Illinois owns all human remains, grave markers, burial mounds, and artifacts associated with graves and human remains.

Non-grave artifacts from archaeological sites and historic buildings are the property of the landowner. The landowner may choose to disturb a historic property but may not receive federal or state assistance to do so. If an earthmoving activity disturbs human remains, the landowner is required to contact the county coroner within 48 hours.

## GEOLOGIC INFORMATION

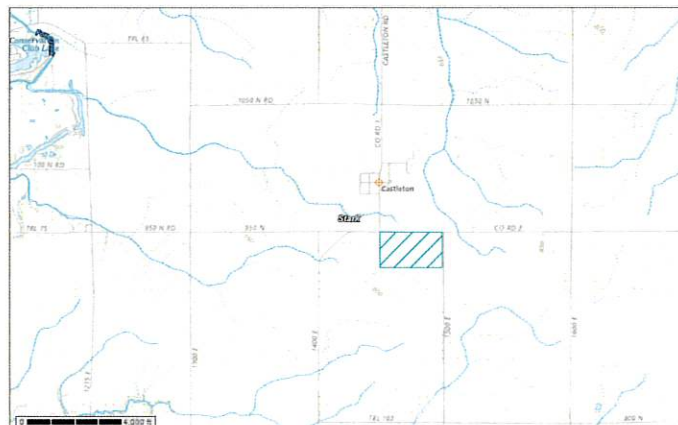
Bedrock material of the proposed site is of the Shelburn-Patoka Formations. This formation consists of limestone, sandstone, and shale. The formation contains widespread beds of slate and coal. Thickness in this area is expected to be around 150ft at most.

Geologic information is an important component of land use change and planning. Even maps and reports of statewide scale information can provide important information about a specific area's suitability for a given land use. Generalization about the potential for groundwater contamination, mineral resources, development potential, and groundwater recharge can be made. Local geology is an important element of the natural resource base. Most of the parent material in Stark County is a direct result of glaciers and sediments of the Wisconsin and Illinoian Stages. Area soils and topography are a result of these glacial events and climatic factors that have happened since this last glacial event.



## TOPOGRAPHY

The proposed site is 800ft-750ft in elevation with runoff flowing to the east and northeast of the parcel.



## (NRI Report # HERE - Applicant Name HERE)

The study of the shape of the surface of the land, with all its ups and downs, is known as topography. The word topography derives from the greek “topo,” meaning place, and “graphia,” meaning to write or to record. Maps that represent topography are known as topographic maps.

Topographic maps are good at showing elevation. Elevation can be measured in a variety of ways, including using surveying methods from above the Earth’s surface that illuminate a target on the landscape using a pulsed laser light. This light is measured and recorded as it’s reflected onto a sensor. Elevation in topographic maps is shown through 3D relief mapping, showing the difference in height from the surrounding terrain. Elevation lines on a topographic map joining points of similar height above or below sea level are known as contour lines.

Topographic maps are useful to conserving nature because they help us understand where steep slopes could lead to landslides, affecting water quality, or where low-lying areas may lead to flooding in nearby communities or where forest restoration should occur with consideration to elevation, slope and aspect (the direction a slope faces) of a forest stand.

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## SOILS INFORMATION

Parcel contains highly productive soils in the Osco and Muscatune soil series.  
*See attached Custom Soil Resource Report for Stark County, Illinois for additional information on soil limitations and characteristics.*

The information in this section is derived from the Soil Survey of Stark County (U.S. Department of Agriculture - Natural Resources Conservation Service, formerly the Soil Conservation Service, 1995). It is important to remember that soils do not function independently of each other. The behavior of a soil depends upon the physical properties of adjacent soil types, the presence of artificial drainage, soil compaction, and its position in the local landscape.

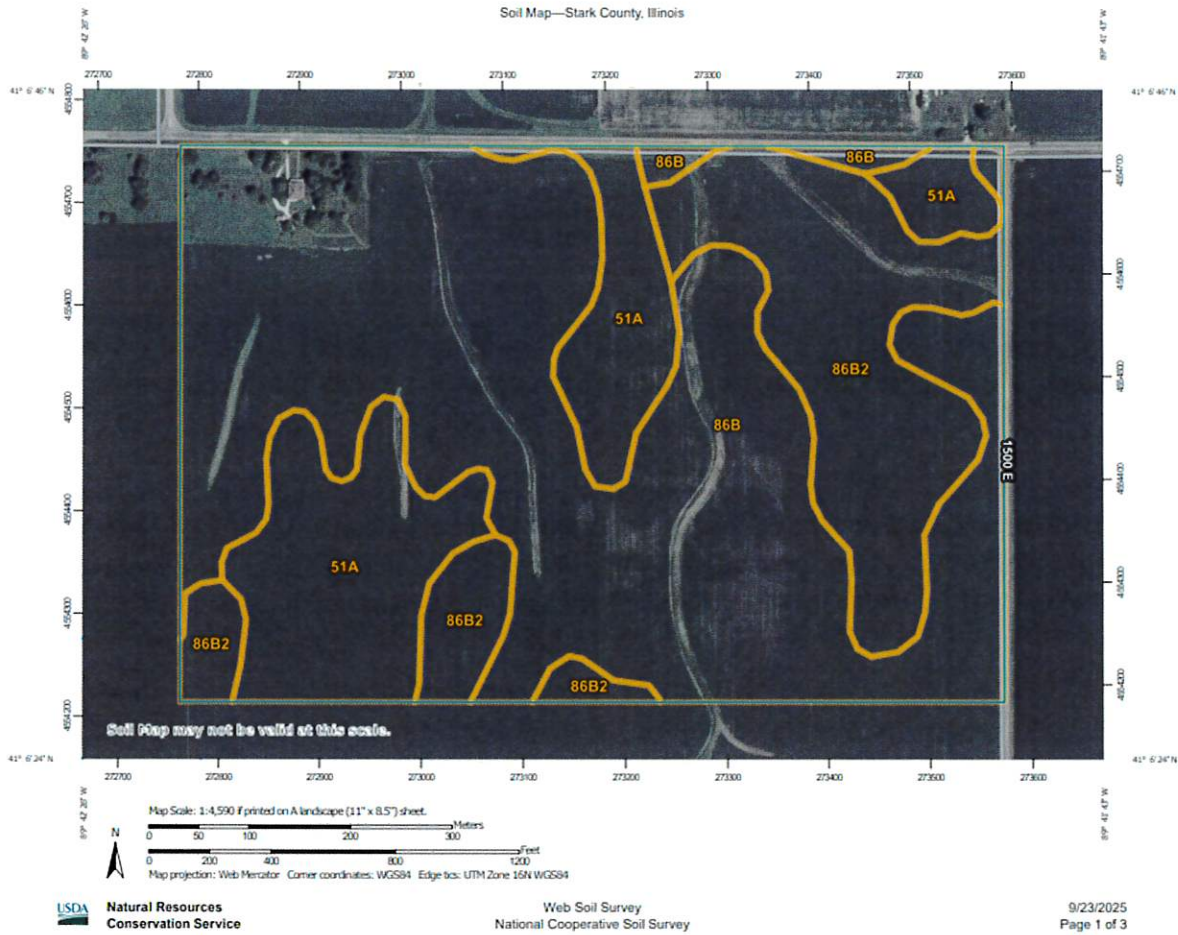
The limitation categories (not limited, somewhat limited, and very limited) indicate the potential for difficulty in using that soil unit for the proposed activity and, thus, the degree of need for thorough soil borings and engineering studies. A limitation does not necessarily mean that the proposed activity cannot be done on that soil type. It does mean that the reasons for the limitation need to be thoroughly understood and dealt with in order to complete the proposed activity successfully. A very limited indication shows that the proposed activity will be more difficult and costly to do on that soil type than on a soil type with a somewhat or not limited rating.

Soil survey interpretations are predictions of soil behavior for specified land uses and specified management practices. They are based on the soil properties that directly influence the specified use of the soil. Soil survey interpretations allow users of soil surveys to plan reasonable alternatives for the use and management of soils.

Soil interpretations do not eliminate the need for on-site study and testing of specific sites for the design and construction for specific uses. They can be used as a guide for planning more detailed investigations and for avoiding undesirable sites for an intended use. The scale of the maps and the range of error limit the use of soil delineations.

(NRI Report # HERE - Applicant Name HERE)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
51A	Muscataine silt loam, 0 to 2 percent slopes	20.3	18.7%
86B	Osco silt loam, 2 to 5 percent slopes	64.3	59.1%
86B2	Osco silt loam, 2 to 5 percent slopes, eroded	24.2	22.2%
<b>Totals for Area of Interest</b>		<b>108.8</b>	<b>100.0%</b>



## (NRI Report # HERE - Applicant Name HERE)

MAP LEGEND		MAP INFORMATION
<p><b>Area of Interest (AOI)</b></p> <ul style="list-style-type: none"> <li> Area of Interest (AOI)</li> </ul> <p><b>Soils</b></p> <ul style="list-style-type: none"> <li> Soil Map Unit Polygons</li> <li> Soil Map Unit Lines</li> <li> Soil Map Unit Points</li> </ul> <p><b>Special Point Features</b></p> <ul style="list-style-type: none"> <li> Blowout</li> <li> Borrow Pit</li> <li> Clay Spot</li> <li> Closed Depression</li> <li> Gravel Pit</li> <li> Gravelly Spot</li> <li> Landfill</li> <li> Lava Flow</li> <li> Marsh or swamp</li> <li> Mine or Quarry</li> <li> Miscellaneous Water</li> <li> Perennial Water</li> <li> Rock Outcrop</li> <li> Saline Spot</li> <li> Sandy Spot</li> <li> Severely Eroded Spot</li> <li> Sinkhole</li> <li> Slide or Slip</li> <li> Sodic Spot</li> </ul>	<ul style="list-style-type: none"> <li> Spoil Area</li> <li> Stony Spot</li> <li> Very Stony Spot</li> <li> Wet Spot</li> <li> Other</li> <li> Special Line Features</li> </ul> <p><b>Water Features</b></p> <ul style="list-style-type: none"> <li> Streams and Canals</li> </ul> <p><b>Transportation</b></p> <ul style="list-style-type: none"> <li> Rails</li> <li> Interstate Highways</li> <li> US Routes</li> <li> Major Roads</li> <li> Local Roads</li> </ul> <p><b>Background</b></p> <ul style="list-style-type: none"> <li> Aerial Photography</li> </ul>	<p>The soil surveys that comprise your AOI were mapped at 1:15,800.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Warning: Soil Map may not be valid at this scale.</p> <p>Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.</p> </div> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service          Web Soil Survey URL:          Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Stark County, Illinois          Survey Area Data: Version 17, Aug 21, 2024</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Jun 30, 2023—Sep 2, 2023</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>

### Soil Interpretations

#### Nonagricultural

##### General

These interpretative ratings help engineers, planners, and others to understand how soil properties influence behavior when used for nonagricultural uses such as building site development or construction materials. This report gives ratings for proposed uses in terms of limitations and restrictive features. The tables list only the most restrictive features. Other features may need treatment to overcome soil limitations for a specific purpose.

Ratings come from the soil's "natural" state, that is, no unusual modification occurs other than that which is considered normal practice for the rated use. Even though soils may have limitations, an engineer may alter soil features or adjust building plans for a structure to compensate for most degrees of limitations. Most of these practices, however, are costly. The final decision in selecting a site for a particular use generally involves weighing the costs for site preparation and maintenance.

Soil properties influence development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Soil limitation ratings of slight, moderate, and severe are given for the types of proposed improvements that are listed or inferred by the petitioner as entered on the report application and/or zoning petition. The most common types of building limitation that this report gives limitations ratings for is: septic systems. It is understood that engineering practices can overcome most limitations for buildings with and without basements, and small commercial buildings. Limitation ratings for these types of buildings are not commonly provided. Organic soils, when present on the parcel, are referenced in the hydric soils section of the report. This type of soil is considered to be unsuitable for all types of construction.

##### Limitations Ratings

1. *Slight* - This soil has favorable properties for the use. The degree of limitation is minor. The people involved can expect good performance and low maintenance.

## (NRI Report # HERE - Applicant Name HERE)

2. *Moderate* - This soil has moderately favorable properties for the use. Special planning, design, or maintenance can overcome this degree of limitation. During some part of the year, the expected performance is less desirable than for soils rated slight.
3. *Severe or Very Severe*- This soil has one or more properties that are unfavorable for the rated use. These may include the following: steep slopes, bedrock near the surface, flooding, high shrink-swell potential, a seasonal high-water table, or low strength. This degree of limitation generally requires major soil reclamation, special design, or intensive maintenance, which in most situations is difficult and costly.

More general information on soil ratings and limitations can be found at <http://websoilsurvey.nrcs.usda.gov>.

### Soil Erosion & Sediment Control

Erosion is the wearing away of the soil by water, wind, and other forces. Soil erosion threatens the Nation's soil productivity and contributes the most pollutants in our waterways. Water causes about two thirds of erosion on agricultural land. Four properties, mainly, determine a soil's erodibility:

1. Texture
2. Slope
3. Structure
4. Organic matter content

**Slope** has the most influence on soil erosion potential when the site is under construction. Erosivity and runoff increase as slope grade increases. The runoff then exerts more force on the particles, breaking their bonds more readily and carrying them farther before deposition. The longer water flows along a slope before reaching a major waterway, the greater the potential for erosion. Soil erosion during and after this proposed construction can be a primary non-point source of water pollution. Eroded soil during the construction phase can create unsafe conditions on roadways, decrease the storage capacity of lakes, clog streams and drainage channels, cause deterioration of aquatic habitats, and increase water treatment costs. Soil erosion also increases the risk of flooding by choking culverts, ditches and storm sewers, and by reducing the capacity of natural and man-made detention facilities. The general principles of erosion and sedimentation control measures include:

- reducing or diverting flow from exposed areas, storing flows or limiting runoff from exposed areas,
- staging construction in order to keep disturbed areas to a minimum,
- establishing or maintaining or temporary or permanent groundcover,
- retaining sediment on site and 20
- properly installing, inspecting and maintaining control measures.

Erosion control practices are useful controls only if they are properly located, installed, inspected and maintained. The SWCD recommends an erosion control plan for all building sites, especially if there is a wetland or stream nearby.

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## PRIME FARMLAND SOILS

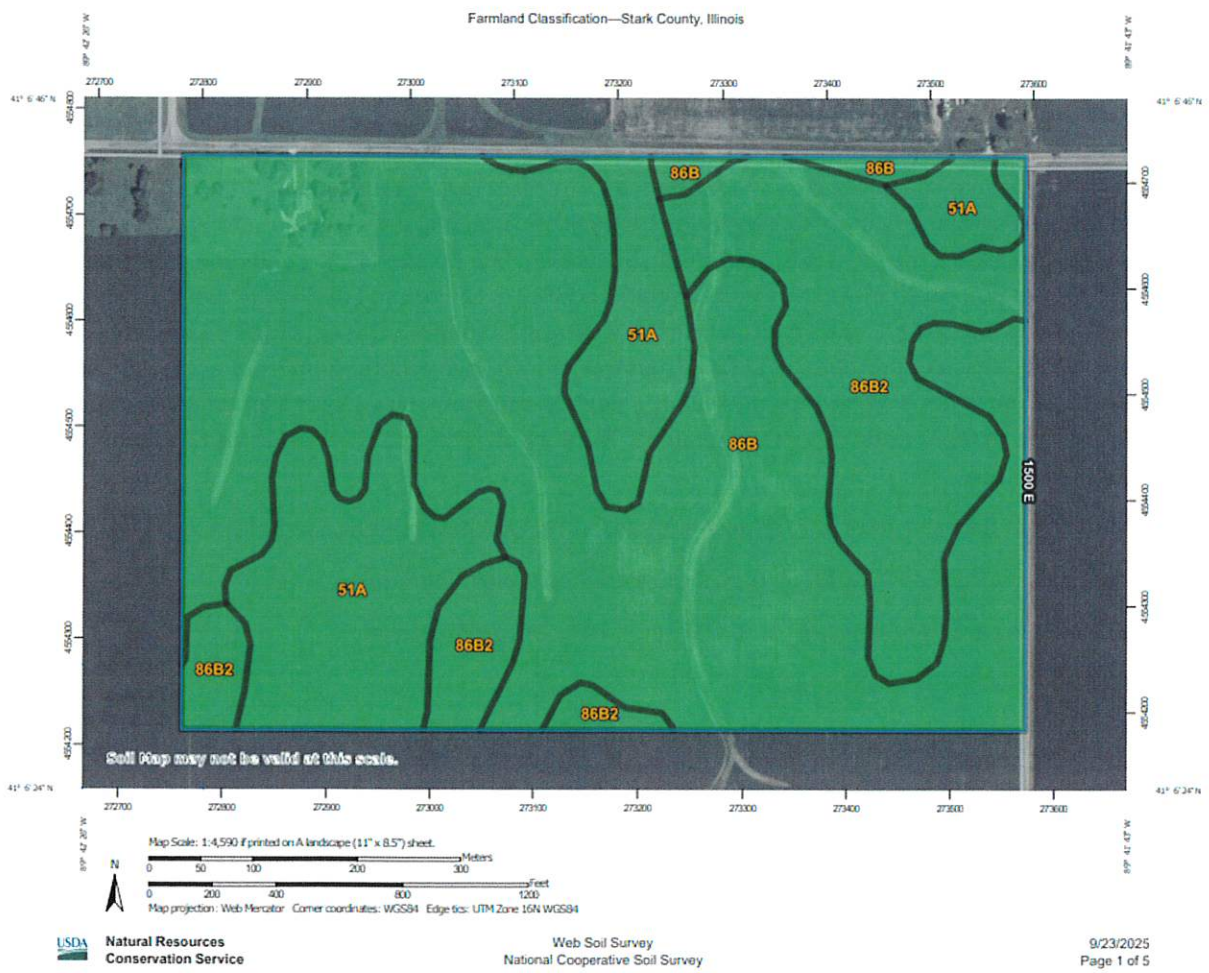
Office maps show all soils in the parcel are rated as prime farmland.

Prime farmland soils are an important resource to Stark County. Some of the most productive soils in the United States occur locally. Each soil map of America is assigned a prime or non-prime rating. Prime agricultural land does not need to be in the production of food and fiber. Section 310 of the NRCS general

**(NRI Report # HERE - Applicant Name HERE)**

manual states that under urban or built-up land on prime farmland soils is not prime farmland. The percentages of soils map units on the parcel reflect the determination that urban or built-up land on prime farmland soils is not prime farmland. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
51A	Muscature silt loam, 0 to 2 percent slopes	All areas are prime farmland	20.3	18.7%
86B	Osco silt loam, 2 to 5 percent slopes	All areas are prime farmland	64.3	59.1%
86B2	Osco silt loam, 2 to 5 percent slopes, eroded	All areas are prime farmland	24.2	22.2%
<b>Totals for Area of Interest</b>			<b>108.8</b>	<b>100.0%</b>



## WATERSHED INFORMATION

The proposed site is in the Fox Creek-Spoon River watershed and sub watershed Jug Run-Spoon River. (HUC12-071300050108) Waters ultimately drain to the Spoon River, which is listed as impaired due to mercury and fecal coliform.

A watershed is an area of land that drains into a specific point including a stream, lake, or other body of water. High points on the Earth's surface, such as hills and ridges define watersheds. When rain falls in the watershed, it flows across the ground towards a stream or lake. Rainwater carries any pollutants it encounters such as oils, pesticides, and soil. Everyone lives in a watershed. Their actions can impact natural resources and people living downstream. Residents can minimize this impact by being aware of their environment and implications of their activities, implementing practices recommended in watershed plans, and educating others about their watershed.

Stark County is in Hydrologic Unit Code Region 07 (HUC2-07), the Upper Mississippi Region; the drainage of the Mississippi River basin above the confluence with the Ohio River, excluding the Missouri river basin, includes parts of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, South Dakota, and Wisconsin. Stark County is located within the Subregion (HUC4-0713) Lower Illinois, the Illinois River Basin below the confluence of the Fox River basin. The subregion includes the basin (HUC6-071300) Lower Illinois which forms subbasins draining into the 4 major water bodies in and around the county: Walnut Creek, Indian Creek, Spoon River, and Crow Creek. Upon EPA assessment in 2024, the Spoon River is listed as medium priority for corrective action due to bacterial/microbes, mercury, PCBs, and pesticides.

**Overview** Show Text

Your Waters: What We Know

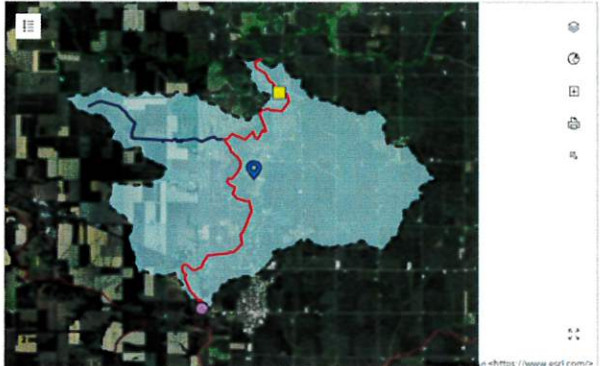
Waters in your community are connected within a local watershed. The dashed outline on the map shows your watershed.

Water quality is monitored for physical, chemical and biological factors. The monitoring results are assessed against EPA approved water quality standards or thresholds. Water can be impaired, meaning it is not able to be used for certain purposes... [Show more](#)

DISCLAIMER

Let's get started!

WATERSHED: Jug Run- Spoon River (071300050108)   OR



4	5	1
Waterbodies	Water Monitoring Locations	Permitted Dischargers

**Waterbody Conditions:**

● Good      ● Impaired      ▲ Condition Unknown

[Download All Waterbody Data](#)

Overall condition of 4 waterbodies in the Jug Run-Spoon River watershed.

Expand All

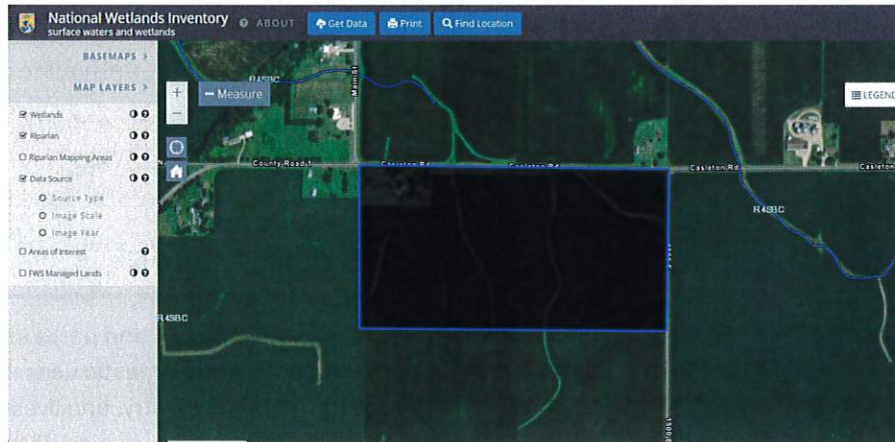
- **East Fork Spoon River**  
State Waterbody ID: IL\_DJN 02
- **Jack Creek**  
State Waterbody ID: IL\_DJZ5
- ▲ **Jug Run**  
State Waterbody ID: IL\_DJZR
- **Spoon River**  
State Waterbody ID: IL\_DJ 06



## WETLAND INFORMATION

The National Wetlands Inventory hosted by the U.S. Fish & Wildlife Service does not indicate there are known wetlands on the parcel in question.

*This is not an official Wetlands Determination. The Natural Resource Conservation Service (NRCS) has not been notified of the proposed land use change by the Stark SWCD. The applicant may need to contact their local NRCS in accordance with current Illinois State Laws.*



Wetlands function in many ways to provide numerous benefits to society. They control flooding by offering a slow release of excess water downstream or through the soil. They cleanse water by filtering out sediment and some pollutants and can function as rechargers of our valuable groundwater. They also are essential breeding, rearing, and feeding grounds for many species of wildlife.

These benefits are particularly valuable in urbanizing areas as development activity typically adversely affects water quality, increases the volume of stormwater runoff, and increases the demand for groundwater. In an area where many individual homes rely on shallow groundwater wells for domestic water supplies, activities that threaten potential groundwater recharge areas are contrary to the public good. The conversion of wetlands, with their sediment trapping and nutrient absorbing vegetation, to biologically barren stormwater detention ponds can cause additional degradation of water quality in downstream or adjacent areas.

It has been estimated that over 95% of the wetlands that were historically present in Illinois have been destroyed, while only recently has the true environmental significance of wetlands been fully recognized. America is losing 100,000 acres of wetland a year and has saved 5 million acres total (since 1934). One acre of wetland can filter 7.3 million gallons of water a year.

Wetlands are identified by the U.S. Department of Fish and Wildlife Service on aerial photographs. These photograph interpretations are based on vegetation, visible hydrology, soil maps and existing wetland maps. These maps are the official inventory recognized and used by the USDA Natural Resources Conservation Service (NRCS), Army Corps of Engineers, U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency. Wetland maps were developed using criteria established in the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" by the above agencies.

Facts stated in this document should stimulate awareness for on-site wetlands, as well as the downstream wetlands that may be affected by upstream development.

## (NRI Report # HERE - Applicant Name HERE)

The NRCS Wetlands Inventory in no way gives an exact delineation of the wetlands, but merely an outline, or the determination that there is a wetland within the outline. **For the final, most accurate wetland determination of a specific wetland, a wetland delineation must be certified by NRCS staff using the National Food Security Act Manual (on agricultural land.)** On urban land, a certified wetland delineator must perform the delineation using the ACOE 1987 Manual. *See the glossary section for the definitions of “delineation” and “determination.”*

### GROUND WATER INFORMATION

Conserve water usage and follow all recommendations from the IEPA on water testing and sensitive materials/fluid storage and disposal to prevent contamination.

*This is not an official Water Quality Determination. The Illinois Environmental Protection Agency has not been notified of the proposed land use change by the Stark SWCD. The applicant may need to contact the IEPA and/or Henry-Stark County Health Department in accordance with current Illinois State Laws.*

A large portion of the world's fresh water resides underground, stored within cracks and pores in the rock that make up the Earth's crust. Half of the U.S. population relies on ground water for domestic uses. In many parts of the United States, people rely on ground water for drinking, irrigation, industry, and livestock. This is particularly true in areas with limited precipitation, limited surface water resources, or high demand from agriculture and growing populations. Some ecological systems, such as wetlands or surface waters fed by springs and seeps, also rely on ground water.

The *extent* of ground water refers to the amount available, typically measured in terms of volume or saturated thickness of an aquifer (body of ground water). Concerns related to extent include aquifer depletion and excessive ground water in aquifers.

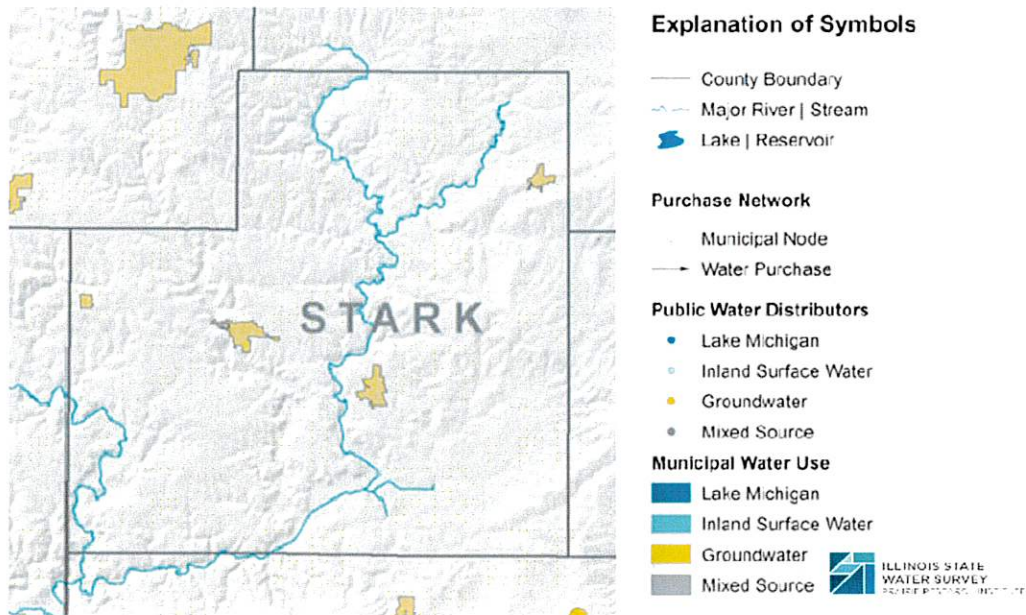
- **Aquifer depletion.** Stressors that can deplete aquifers include changes in precipitation and snowmelt patterns; withdrawal of ground water for drinking, irrigation, and other human uses; and impervious paved surfaces that prevent precipitation from recharging ground water. Some deep aquifers may take thousands of years to replenish. Some consequences of aquifer depletion include:
- **Lower lake levels or—in extreme cases—intermittent or totally dry perennial streams.** These effects can harm aquatic and riparian plants and animals that depend on regular surface flows.
- **Land subsidence and sinkhole formation in areas of heavy withdrawal.** These changes can damage buildings, roads, and other structures and can permanently reduce aquifer recharge capacity by compacting the aquifer medium (soil or rock).
- **Saltwater intrusion.** Changes in ground water flow can lead to saline ground water migrating into aquifers previously occupied by fresh ground water.
- **Too much ground water.** Some human activities, such as pumping water into the ground for oil and gas extraction, can cause an aquifer to hold too much ground water. Too much ground water discharge to streams can lead to erosion and alter the balance of aquatic plant and animal species.<sup>1</sup>

#### Ground Water Condition

The *condition* of ground water reflects a combination of physical, biological, and chemical attributes, which are influenced by both natural sources and human activities. Physical properties reflect patterns of flow—the volume, speed, and direction of ground water flow in a given location. Biological contaminants can include bacteria, viruses, protozoans, and other pathogens. Ground water can contain chemicals that occur naturally or that result from human activities.

- **Stressors that affect ground water condition** include application of pesticides and fertilizers to the land, waste from livestock and other animals, landfills, mining operations, and unintentional releases such as chemical spills or leaks from storage tanks. Some ground water has high levels of naturally occurring dissolved solids (salinity), or metals such as arsenic found in natural rock formations. These stressors can ultimately affect:
  - **The quality of water available for drinking, irrigation, or other human needs.** Treatment may be needed to ensure that finished drinking water does not pose risks to human health.
  - **Ecological systems.** Many fish species depend on spring-fed waters for habitat or spawning grounds. Aquifers themselves can constitute an ecosystem, such as caves and sinkholes that support invertebrates and fish adapted to life underground.<sup>4</sup>
- **The extent and condition of ground water are often intertwined.** Stressors that affect the extent of ground water—such as withdrawal or injection—can change ground water velocity and flow. These physical changes can affect patterns of discharge to surface waters and the movement of water and contaminants within the ground.

## The Distribution of Water Use in Illinois



## WOODLANDS

The proposed site is located on cropland and does not contain woodland resources. If woodland enhancement is desired, Illinois native species are recommended.

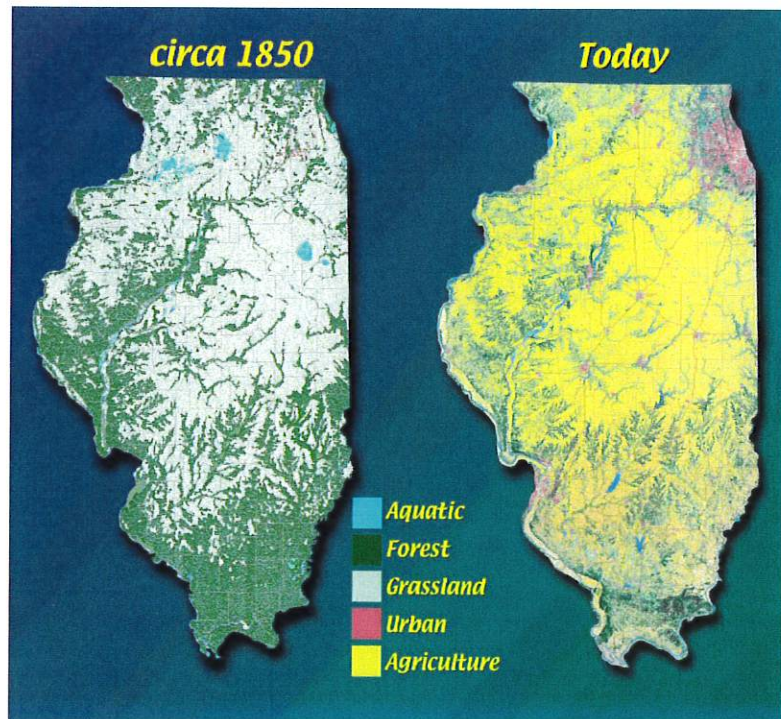
*This is not an official Illinois Department of Natural Resources Tree Inventory Report. The IDNR Forestry Division has not been notified of the proposed land use change by the Stark SWCD. The applicant may need to contact the IDNR in accordance with current Illinois State Laws.*

Native woodlands are no longer a common occurrence throughout much of Stark County. Although forests originally covered nearly 40% of Illinois, today only about 12% of the state is forested, with most of this being secondary growth (Ill. Natural History Survey Reports, Nov/Dec 1993, No. 324). The composition of Illinois forests has changed markedly over the past three decades. 97% of the timberland is classified as hardwood forest. The forest acreage continues to increase from 4.2 million acres in 1985 to 4.3 million acres in 1998. (IL Forest Development Council News, IL DNR, Winter 2001/Volume 2, No. 1). Oak-hickory forests, which had made up half of the acreage, have declined by 14%, and make up 2.1 million acres. This decline is largely a result of wildfire suppression that allows maples to take over. Thus, the acres of maple-beech forest have risen more than 40-fold from 1962 to 1985, to one quarter of the total forest area, 696 thousand acres. Dutch elm disease and the conversion of forested bottomlands to agriculture have resulted in huge declines in the elm-ash-cottonwood forests, 906 thousand acres, falling from one third - one sixth of the Illinois forest area. Elm accounts for the greatest number of individual trees – 412 million. Other species groups with more than 100 million trees include hickory, red oak, sugar/black maple, ash, hackberry, and black cherry.

Woodlands provide many benefits such as wildlife habitat, erosion control, air and water quality improvements, and aesthetic values. Forests are responsible for much of the biological diversity in the state. Many species are dependent upon forests for food & shelter, including threatened/endangered species.

One of the most serious problems facing Illinois forests is the invasion of exotic plants and animals. Some of the most damaging plants include European buckthorn, multiflora rose, honeysuckle, purple loosestrife, and garlic mustard.

Many trees, particularly hardwoods (especially oaks) are extremely sensitive to construction-induced disturbances. The area most susceptible to damage is within the "drip radius," the ground surface directly beneath the leafy canopy of the tree. Many trees have an extensive system of feeder roots, located within one foot of the surface, and supply the tree with the majority of its moisture and nutrient needs.



Construction activities can negatively impact trees in several different ways. Earth-moving activities that stockpile soil near trees can suffocate tree roots that, although buried, require oxygen. Vehicle traffic can compact the soil to a point where the roots no longer function effectively. Grading activities for road cuts and foundations can cause a localized drop in the water table, placing the trees under stress. The placement of pavement or stormwater management facilities near established trees can also radically change soil moisture. The removal of the accumulated organic materials normally present on a woodland floor, and the subsequent establishment of turf lawns, can drastically affect the soil temperature and nutrient balance. Injury to the bark of a tree can increase the chance of the tree being subjected to disease.

If existing trees are to be maintained in a healthy state, appropriate planning is necessary. Someone with a working knowledge of forestry should assess existing trees to determine which trees should be protected. Some tree species are not considered desirable due to their aggressive growth, behavior, and limited value to local wildlife. Proper management of woodlands and open space includes the selective elimination of such trees and replacement by more desirable species. **Trees that are to be saved should be marked and protected with snow fencing or similar material, installed around the drip radius, to prevent root damage, and vehicle traffic should be minimized around the drip line.** Contractors should be informed of the intention to preserve trees and be expected to conduct their work accordingly.

Tree damage resulting from construction activities may not be apparent for a number of years. While it is recognized that some tree loss is unavoidable, this should be minimized to the extent possible. It is highly recommended that trees lost to development activity be replaced by younger specimens of the native trees now found on the proposed development.

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## ECOLOGICALLY SENSITIVE AREAS

Office Maps indicate there are no biologic preserves within 500 feet of the parcel in question.

**What is Biological Diversity and Why Should it be Conserved?** Biological diversity, or biodiversity, is the range of life on our planet. A more thorough definition is presented by botanist Peter H. Raven: “At the simplest level, biodiversity is the sum total of all the plants, animals, fungi and microorganisms in the world, or in a particular area; all of their individual variation; and all of the interactions between them. It is the set of living organisms that make up the fabric of the planet Earth and allow it to function as it does, by capturing energy from the sun and using it to drive all of life’s processes; by forming communities of organisms that have, through the several billion years of life’s history on Earth, altered the nature of the atmosphere, the soil and the water of our Planet; and by making possible the sustainability of our planet through their life activities now.” (Raven 1994)

It is not known how many species occur on our planet. Presently, about 1.4 million species have been named. It has been estimated that there are perhaps 9 million more that have not been identified. What is known is that they are vanishing at an unprecedented rate. Reliable estimates show extinction occurring at a rate several orders of magnitude above “background” in some ecological systems. (Wilson 1992, Hoose 1981)

The reasons for protecting biological diversity are complex, but they fall into four major categories. First, loss of diversity generally weakens entire natural systems. Healthy ecosystems tend to have many natural checks and balances. Every species plays a role in maintaining this system. When simplified by the loss of diversity, the system becomes more susceptible to natural and artificial perturbations. The chances of a systemwide

## (NRI Report # HERE - Applicant Name HERE)

collapse increase. In parts of the midwestern United States, for example, it was only the remnant areas of natural prairies that kept soil intact during the dust bowl years of the 1930s. (Roush 1982)

Simplified ecosystems are almost always expensive to maintain. For example, when synthetic chemicals are relied upon to control pests, the target species are not the only ones affected. Their predators are almost always killed or driven away, exasperating the pest problem. In the meantime, people are unintentionally breeding pesticide-resistant pests. A process has begun where people become perpetual guardians of the affected area, which requires the expenditure of financial resources and human ingenuity to keep the system going.

A second reason for protecting biological diversity is that it represents one of our greatest untapped resources. Great benefits can be reaped from a single species. About 20 species provide 90% of the world's food. Of these 20, just three, wheat, maize and rice-supply over one half of that food. American wheat farmers need new varieties every five to 15 years to compete with pests and diseases. Wild strains of wheat are critical genetic reservoirs for these new varieties.

Further, every species is a potential source of human medicine. In 1980, a published report identified the market value of prescription drugs from higher plants at over \$3 billion. Organic alkaloids, a class of chemical compounds used in medicines, are found in an estimated 20% of plant species. Yet only 2% of plant species have been screened for these compounds. (Hoose 1981)

The third reason for protecting diversity is that humans benefit from natural areas and depend on healthy ecosystems. The natural world supplies our air, our water, our food and supports human economic activity. Further, humans are creatures that evolved in a diverse natural environment between forest and grasslands. People need to be reassured that such places remain. When people speak of "going to the country," they generally mean more than getting out of town. For reasons of their own sanity and well-being, they need holistic, organic experience. Prolonged exposure to urban monotony produces neuroses, for which cultural and natural diversity cure.

Historically, the lack of attention to biological diversity, and the ecological processes it supports, has resulted in economic hardships for segments of the basin's human population.

The final reason for protecting biological diversity is that species and natural systems are intrinsically valuable. The above reasons have focused on the benefits of the natural world to humans. All things possess intrinsic value simply because they exist.

As part of the Natural Resources Information Report, staff check office maps to determine if any nature preserves are within 500 feet of the parcel in question. If there is a nature preserve in the area, then that resource will be identified as part of the report. The SWCD recommends that every effort be made to protect that resource. Such efforts should include, but are not limited to erosion control, sediment control, stormwater management, and groundwater monitoring.

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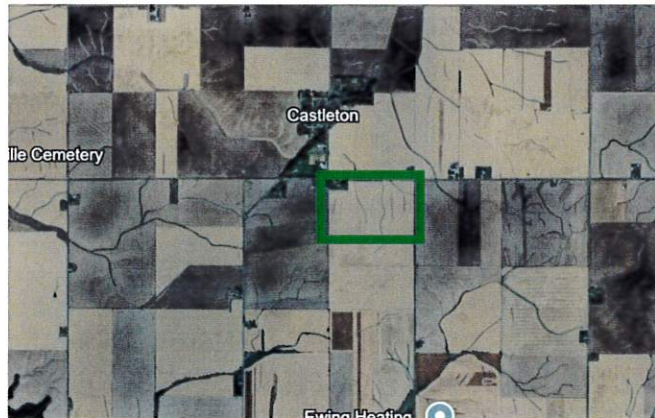
## HABITAT FRAGMENTATION

Office Maps indicate the parcel is surrounded by cropland with a municipal area to the northwest. Wildlife tree cover is over 1,600ft from proposed project. To increase habitat diversity, consider the addition of native grasses, native trees and wildflowers/forbs in any planned green space. Contact our office for further recommendations.

## (NRI Report # HERE - Applicant Name HERE)

Habitat fragmentation is a very serious issue threatening our natural resource base. Habitat Fragmentation can be described as any decline in size, shape, and/or alteration of use in an area of contiguous land-use. Some issues associated with changing and altering contiguous land-uses include:

- Reduced quantity of the original habitat (habitat loss)
- Increased “edge” habitat (transitional ground between land use types)
- Increased rate of predators
- Brood parasitism
- Increased competition
- Increased vulnerability
- Increased insularity (separated from other populations)
- Decreased dispersal rate



## THREATENED AND ENDANGERED SPECIES

There is a possibility of threatened and/or endangered species on the proposed site.






*This is not an official Threatened and Endangered Species Determination. The Illinois Department of Natural Resources and U.S. Fish and Wildlife Service have not been notified of the proposed land use change by the Stark SWCD. The applicant may need to contact the IDNR and/or FWS in accordance with current Illinois State*

Federal law considers endangered species to be a plant or animal species that is in danger of becoming extinct as a breeding species within all or a portion of its range. The species is in danger of becoming extinct within the entire country, possibly the entire world. The Illinois state endangered species list includes federal species occurring in Illinois plus other species that are in danger of extinction as a breeding species in Illinois. Threatened species are defined as those species likely to become endangered within the foreseeable future. There are over 500 plants and animals listed as endangered or threatened in the state of Illinois.

On December 3, 1990, the Illinois Department of Natural Resources IDNR enacted regulations requiring that most land development activities be preceded by an IDNR review. The intent of this review is to determine the potential presence of endangered or threatened species or their essential habitat on or near the developing land.

## (NRI Report # HERE - Applicant Name HERE)

There are 5 known endangered and threatened species occurring in Stark County: Upland Sandpiper, Cluster Fescue, Loggerheaded Shrike, Blacknose Shiner, and Monkeyface Mollusk.

				
Upland Sandpiper <a href="http://www.audubon.org">www.audubon.org</a>	Cluster Fescue <a href="http://wildflowersearch.org">wildflowersearch.org</a>	Loggerheaded Shrike <a href="http://wildbirdgallery.com">wildbirdgallery.com</a>	Blacknose Shiner <a href="http://www.inaturalist.org">www.inaturalist.org</a>	Monkeyface Mollusk <a href="http://animalia.bio">animalia.bio</a>

**United States Fish and Wildlife Service:** 4469 48th Avenue Court Rock Island, Illinois 61201

(309)793-5800

**Illinois Department of Natural Resources:** One Natural Resources Way Springfield, Illinois 62702

(217)785-8687

### LAND EVALUATION AND SITE ASSESSMENT (L.E.S.A.)

The parcel received a LESA score of 241.26 points making the land of high value for protection from conversion to non-agricultural uses.

The Land Evaluation and Site Assessment (LESA) system is a tool designed to evaluate the viability of agricultural lands where changes in land-use are proposed. LESA was developed as a state-wide decision-making tool used by the Zoning Board of Appeals, City Councils or County Boards to help make unbiased decisions of proper land-use. The LESA system was developed by the USDA-NRCS and takes into consideration local conditions such as physical characteristics of the land, compatibility of surrounding land uses, urban growth factors, and land-use policies determined by local government. LESA was designed to be used in conjunction with the county's land-use plan, zoning ordinances, and other policies being used to decide on land-use changes.

Decision-makers use the LESA System to determine the suitability of a land-use change and/or a zoning request as it relates to agricultural land. The LESA System is a two-step procedure that includes: Land Evaluation (LE) soils value, and Site Assessment (SA) land use.

LE encompasses information regarding soils found on the site and their suitability for agricultural purposes. SA identifies and weighs 11 criteria, other than soils information, that contributes to the quality of a site for agricultural uses.

In summary, the LESA evaluation addresses all factors, including soils information, together to provide a rational, consistent, and unbiased determination of the impact to agriculture from the proposed land use and zoning changes. Stark County SWCD works with the Stark County Zoning Office to complete the LESA score.

Stark County LESA scoring scale:

225 – 300 Points - High Rating for Protection

176 – 224 Points - Moderate Rating for Protection

0 – 175 Points - Low Rating for Protection

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## GLOSSARY

**AGRICULTURAL PROTECTION AREAS (AG AREAS)** - Allowed by P.A. 81-1173. An AG AREA consists of a minimum of 350 acres of farmland, as contiguous and compact as possible. Petitioned by landowners, AG AREAS protect for a period of ten years initially, then reviewed every eight years thereafter. AG AREA establishment exempts landowners from local nuisance ordinances directed at farming operations, and designated land cannot receive special tax assessments on public improvements that do not benefit the land, e.g. water and sewer lines.

**AGRICULTURE** - The growing, harvesting and storing of crops including legumes, hay, grain, fruit and truck or vegetable including dairying, poultry, swine, sheep, beef cattle, pony and horse production, fur farms, and fish and wildlife farms; farm buildings used for growing, harvesting and preparing crop products for market, or for use on the farm; roadside stands, farm buildings for storing and protecting farm machinery and equipment from the elements, for housing livestock or poultry and for preparing livestock or poultry products for market; farm dwellings occupied by farm owners, operators, tenants or seasonal or year around hired farm workers. B.G. - Below Grade. Under the surface of the Earth.

**BEDROCK** - Indicates depth at which bedrock occurs. Also lists hardness as rippable or hard.

**DETENTION BASIN/POND** - A structure created as a temporary storage area for surface and/or subsurface drainage water.

**DETERMINATION** - A polygon drawn on a map using map information that gives an outline of a wetland.

**DELINEATION** - For Wetlands: A series of orange flags placed on the ground by a certified professional that outlines the wetland boundary on a parcel.

**FLOODING** - Indicates frequency, duration, and period during year when floods are likely to occur.

**HIGH LEVEL MANAGEMENT** - The application of effective practices adapted to different crops, soils, and climatic conditions. Such practices include providing for adequate soil drainage, protection from flooding, erosion and runoff control, near optimum tillage, and planting the correct kind and amount of high quality seed. Weeds, diseases, and harmful insects are controlled. Favorable soil reaction and near optimum levels of available nitrogen, phosphorus, and potassium for individual crops are maintained. Efficient use is made of available crop residues, barnyard manure, and/or green manure crops. All operations, when combined efficiently and timely, can create favorable growing conditions and reduce harvesting losses -- within limits imposed by weather.

**HIGH WATER TABLE** - A seasonal high-water table is a zone of saturation at the highest average depth during the wettest part of the year. May be apparent, perched, or artesian kinds of water tables. Water Table, Apparent - A thick zone of free water in the soil. An apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. Water Table, Artesian - A water table under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole. Water Table, Perched - A water table standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

## (NRI Report # HERE - Applicant Name HERE)

**HYDRIC SOIL** - This type of soil is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA Natural Resources Conservation Service 1987)

**HYDROLOGIC GROUP** - The soil is placed in one of four (A,B,C,D) hydrologic groups based on runoff characteristics due to rainfall. Soils in group A have lowest runoff potential and soils in group D have the highest.

**INTENSIVE SOIL MAPPING** - Mapping done on a smaller more intensive scale than a modern soil survey to determine soil properties of a specific site, e.g. mapping for septic suitability.

**LAND EVALUATION AND SITE ASSESSMENT (L.E.S.A.)** - LESA is a systematic approach for evaluating a parcel of land and to determine a numerical value for the parcel for farmland preservation purposes.

**MODERN SOIL SURVEY** - A soil survey is a field investigation of the soils of a specific area, supported by information from other sources. The kinds of soil in the survey area are identified and their extent shown on a map, and an accompanying report describes, defines, classifies, and interprets the soils. Interpretations predict the behavior of the soils under different used and the soils' response to management. Predictions are made for areas of soil at specific places. Soils information collected in a soil survey is useful in developing land-use plans and alternatives involving soil management systems and in evaluating and predicting the effects of land use.

**PALUSTRINE** - Name given to inland freshwater wetlands

**PERMEABILITY** - Values listed estimate the range (in rate and time) it takes for downward movement of water in the major soil layers when saturated but allowed to drain freely. The estimates are based on soil texture, soil structure, available data on permeability and infiltration tests, and observation of water movement through soils or other geologic materials.

**PIQ** - Parcel in question

**POTENTIAL FROST ACTION** - Damage that may occur to structures and roads due to ice lens formation causing upward and lateral soil movement. Based primarily on soil texture and wetness.

**PRIME FARMLAND** - Prime farmland soils are lands that are best suited to food, feed, forage, fiber and oilseed crops. It may be cropland, pasture, woodland, or other land, but it is not urban and built-up land or water areas. It is either used for food or fiber or is available for those uses. The soil qualities, growing season, and moisture supply are those needed for a well-managed soil economically to produce a sustained high yield of crops. Prime farmland produces in highest yields with minimum inputs of energy and economic resources and farming the land results in the least damage to the environment. Prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable. The level of acidity or alkalinity is acceptable. Prime farmland has few or no rocks and is permeable to water and air. It is not excessively erodible or saturated with water for long periods and is not frequently flooded during the growing season. The slope ranges mainly from 0 to 5 percent. (Source USDA Natural Resources Conservation Service)

**PRODUCTIVITY INDEXES** - Productivity indexes for grain crops express the estimated yields of the major grain crops grown in Illinois as a single percentage of the average yields obtained under basic management from several of the more productive soils in the state. This group of soils is composed of the Muscatine, Ipava, Sable, Lisbon, Drummer, Flanagan, Littleton, Elburn and Joy soils. Each of the 425 soils found in Illinois are found in Circular 1156 from the Illinois Cooperative Extension Service.

**SEASONAL** - When used in reference to wetlands indicates that the area is flooded only for a portion of the year.

## (NRI Report # HERE - Applicant Name HERE)

**SHRINK-SWELL POTENTIAL** - Indicates volume changes to be expected for the specific soil material with changes in moisture content.

**SOIL INTERPRETATION** - Predict soil behavior for specified soil uses and under specified soil management practices. They can be used for establishing criteria for laws, programs, and regulations at local, State, and national levels

**SOIL MAPPING UNIT** - A map unit is a collection of soil areas of miscellaneous areas delineated in mapping. A map unit is generally an aggregate of the delineations of many different bodies of a kind of soil or miscellaneous area but may consist of only one delineated body. Taxonomic class names and accompanying phase terms are used to name soil map units. They are described in terms of ranges of soil properties within the limits defined for taxa and in terms of ranges of tax adjuncts and inclusions.

**SOIL SERIES** - A group of soils, formed from a particular type of parent material, having horizons that, except for texture of the A or surface horizon, are similar in all profile characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineralogical and chemical composition.

**SUBSIDENCE** - Applies mainly to organic soils after drainage. Soil material subsides due to shrinkage and oxidation.

**TERRAIN** - The area or surface over which a particular rock or group of rocks is prevalent.

**TOPSOIL** - That portion of the soil profile where higher concentrations of organic material, fertility, bacterial activity and plant growth take place. Depths of topsoil vary between soil types.

**WATERSHED** - An area of land that drains to an associated water resource such as a wetland, river or lake. Depending on the size and topography, watersheds can contain numerous tributaries, such as streams and ditches, and ponding areas such as detention structures, natural ponds and wetlands.

**WETLAND** - An area that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances does support, a prevalence of 47 hydrophytic vegetation typically adapted for life in saturated soil conditions.

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Case: - \_\_\_\_\_  
 Reviewer: Katie McCauley

**Stark County LESA System**  
**Land Evaluation Score Sheet**

The Land Evaluation Score Sheet identifies the weighted average of the soils present in the area proposed for land use conversion. The Land Evaluation score is based on the relative value of each soil type and the amount of each soil type present. LE accounts for 100 points. The Land Evaluation and Site Assessment subtotals are added together to determine the total LESA score for the parcel.

Soil Map Unit	Relative AG Soils Group	Ag Soils Group Value		Acres	Percent of Acres	Weighed Avg
51A	▼ 3w	75	x	20.3	18.7%	14.025
86B	▼ 2w	98	x	64.3	59.1%	57.918
86B2	▼ 2e	87	x	3.2	22.2%	19.314
	▼ 0	0	x	0.0	0%	0
	▼ 0	0	x	0.0	0%	0
	▼ 0	0	x	0.0	0%	0
	▼ 0	0	x	0.0	0%	0
				87.8	1	<b>91.257</b>

Land Evaluation Score = Total divided by Total Acres

**Land Evaluation Score = 91.26**

**Site Assessment Score = 150**



## **Stark County LESA System Site Assessment Score Sheet**

The Site Assessment Score Sheet evaluates the suitability of a tract of land or a corridor alternative for retention in agricultural use based upon factors other than soil quality. The factors used in the Site Assessment evaluation emphasize problems commonly associated with farmland conversion. SA accounts for 200 points. The Land Evaluation and Site Assessment subtotals are added together to determine the total LESA score for the parcel.

Factor	Rating	Value	Rating	Comments
<b>1 LAND USE ON SITE</b>				
Agricultural use		20		
Land retired from ag use		10		
Unmanaged woodland		10	<b>10</b>	
Non-agricultural use		0		
<b>2 ADJACENT LAND USE</b>				
All side in ag use		20		
3 sides in ag use		16	<b>16</b>	
2 sides in ag use		12		
1 side in ag use		8		
all sides in non ag use		0		
<b>GENERAL CHARACTER OF AREA</b>				
<b>3 WITHIN 1 1/2 MILES OF SITE</b>				
Agricultural		20	<b>20</b>	
Ag/Non-ag use 50/50		10		
Non-agricultural use		0		
<b>4 DISTANCE TO CITY</b>				
More than 1 1/2 mi		20	<b>20</b>	
1 1/2 mi or less		16		
3/4 mi or less		12		
1/2 mi or less		8		
1/4 mile or less		4		
Adjacent to municipality		0		
<b>5 ZONED USE OF LAND ADJACENT TO PROPOSED SITE</b>				
No zoning regulation		20		
Zoned for ag use		20	<b>20</b>	
Zoned for non ag use		0		
<b>6 ZONED USE OF LAND ADJACENT TO PROPOSED SITE</b>				
No zoning regulations		20		
All sides zoned for ag use		20		
3 sides zoned for ag use		16	<b>16</b>	
2 sides zoned for ag use		12		
1 side zoned for ag use		8		
All sides zoned non-ag		0		



<b>7 ZONED USE OF LAND ADJACENT TO PROPOSED SITE</b>		
No comprehensive plan	20	<b>20</b>
Planned for agriculture use	20	
Planned for non-agriculture use	0	

<b>8 COMPATIBILITY OF PROPOSED USE WITH SURROUNDING LAND USES</b>		
Not compatible	20	
Somewhat Compatible	10	<b>10</b>
Compatible	0	

<b>9 ALTERNATIVE SITES PROPOSED ON LESS PRODUCTIVE LAND</b>		
Most productive alternative site	10	
Only site proposed	10	<b>10</b>
Least productive alternative site	0	

<b>10 AVAILABILITY OF CENTRAL WATER SYSTEM</b>		
More than 1 1/2 mi	10	
1 1/2 mi or less	8	
3/4 mi or less	6	
1/2 mi or less	4	
1/4 mile or less	2	
Adjacent to site	1	
On-site	0	<b>0</b>

<b>11 AVAILABILITY OF CENTRAL WASTE DISPOSAL SYSTEM (SEWER)</b>		
More than 1 1/2 mi	10	
1 1/2 mi or less	8	
3/4 mi or less	6	
1/2 mi or less	4	
1/4 mile or less	2	
Adjacent to site	1	
On-site	0	<b>0</b>

<b>12 TRANSPORTATION</b>		
Earthen	10	
Aggregate (gravel)	8	<b>8</b>
Oil and chip	6	
2-lane hard surface	4	
4-lane hard surface	0	

**Land Evaluation Score** 91.26  
**Site Assessment Score** 150

**LESA SCORE** 241.26

