



**SITE-SPECIFIC MANAGEMENT SHEET
TIER-3 RESOURCE MANAGEMENT PROPERTY**

Property Name: Limery Ridge Savanna

Property Designation or Type: State Natural Area

SNA Designation Number: 341

Property Location: Crawford County

Real Estate:

Project boundary acreage: 380

Fee acres owned: 219

Easement acres: 1

Dedicated acres: None

Federal aid interest: None

Land use agreements: None

Dedication(s): None

Maps

- A. Project Boundary
- B. Existing Cover Types
- C. Existing Roads and Infrastructure
- D. Management Focal Areas

Property Manager: **Armund Bartz, Driftless Area Ecologist**
3550 Mormon Coulee Rd
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608-785-9019

Prepared By (District Ecologist):

Name: Armund Bartz

Title: Conservation Biologist

Date: 4/28/2016

Reviewed/Approved By: (Bureau)

Name: Erin Crain-Sullivan

Title: Deputy Division Administrator Fish, Wildlife, & Parks

Date: 4/28/2016

Approved by Natural Resources Board: Date: May 25, 2016

A. Regional and Property Assessment

- 1. General Property Description (topography, soils, vegetation, water resources):** Limery Ridge Savanna features one of the few remaining undeveloped bluffs overlooking the Mississippi River and consists of the steep slopes and rocky outcrops characteristic of Wisconsin's Driftless Area. Other natural community types include southern mesic forest, open oak woodland, oak savanna, dry-mesic prairie, and moist cliff community. Located in the sheltered ravines and valley bottoms is a mesic forest dominated by large red oaks with basswood, elm, and walnut. Understory species are typical of this community type and include the Adam and Eve orchid. The open oak woodland consists of an overstory dominated by white oak with hickory, black oak, red oak, and walnut present in lower numbers. Bur oak dominates the savanna. The area harbors numerous light-loving savanna and open oak woodland species including yellow false foxglove, Robin's plantain, Short's aster, and bottlebrush grass. Scattered throughout the site is high quality dry-mesic prairie dominated by typical southwest Wisconsin goat prairie species including prairie drop-seed, compass-plant, and white and purple prairie-clover. Also present is a 2,000-foot long sandstone cliff that harbors numerous ferns such as cliff brake and walking fern. Located along a main migratory bird route, the large forested nature of the site makes this important habitat for interior nesting songbirds.
- 2. Ecological Landscape:** [Western Coulee and Ridges EL](#) is characterized by its highly eroded, unglaciated topography with steep-sided valleys and ridges, high gradient headwaters streams, and large rivers with extensive, complex floodplains and terraces. It offers the best opportunities in the state to maintain many of southern Wisconsin's natural communities. Many rare species have been documented here due to the diversity, scale, types, condition and context of the natural communities present.
- 3. Ownership and Adjacent Land Uses:** State highway, secondary road, forest, woodland, prairie, residential, and cropland
- 4. Property Management Issues, Trends and Needs:**

Invasives: Common buckthorn, garlic mustard

Invasives control history: red cedar, buckthorn and other shrubs were cut off the prairie in 2003-2004. This effort was incomplete and needs follow-up.

Forestry/Silviculture: Opportunities exist to conduct commercial timber harvests to help reach ecological goals of the property. Access to accomplish this would need to be acquired/obtained in order to bring this to fruition.

Prescribed Burning: A frequent prescribed fire regime will be needed to help reach ecological goals of the property for the savanna and to a lesser degree the dry prairie remnants.

Prescribed burn history: The prairies and some savanna was burned once in approximately 2006. The extreme western prairie was never burned and refugia was kept on the downhill portions of each prairie burned.

Public access: Currently there is no public access. There are many confounding issues - one being that the lots were originally platted following traditional French boundaries of running east-west from the Mississippi River. If it's not platted correctly, poorly defined boundaries result, which is the case here. The county is currently undergoing re-monumentation, so this issue could potentially be rectified in the near future.

5. **Facility/Amenity development:**
 - a. Existing: None
 - b. Future: At least 1 parking lot if an appropriate location is purchased.
6. **Endangered, Threatened, Special Concern Species or Habitats, and wildlife Species of Greatest Conservation Need:** One state endangered, 3 state threatened, and 2 state species of special concern are known from the general area. For detailed data, see Appendix A.
7. **Conservation Opportunity Area:** Rush Creek (11.12)
8. **Easements:** A one-acre easement for DNR management purposes only is located on the west side of Ahrens Court.
9. **Land use Agreements:** None
10. **Significant Cultural and Archaeological Features:** State Natural Areas may contain historic Native American or Euro-American sites. Activities with potential to disturb archaeological sites will only be undertaken after consultation with the DNR Archaeologist. Any sites with

cultural or historical value will be managed in accordance with guidance and statutory requirements (see ss. 44.40 and DNR Manual Code 1810.10). More details can be found in Appendix B.

- 11. Refuges and other Closed Areas:** None
- 12. Primary Public Use:** At present, there is no public access to this site. Recreational uses such as hiking, fishing, skiing, hunting, trapping, scientific research, wild edibles collection, and wildlife viewing are allowed. Reference the State Natural Areas [Visitation Guidelines](#) and the [property's specific webpage](#) for more information.
- 13. Biotic Inventory Needs:** Currently no plant or vertebrate inventory needs have been identified beyond normal monitoring through established SNA Site Inspection protocol. There is however a lack of knowledge regarding prairie dependent invertebrate diversity and potential impacts to these species through management techniques such as prescribed fire, mowing, and grazing. Research is needed to help determine both the diversity of invertebrates at these remnant sites and especially the impacts of management techniques. The Department acknowledges this and is moving forward with research to address this to help improve management outcomes for these species.

B. Property Purpose and Goals/ Management Objectives and Prescriptions

1. Property Purpose and Goals

- a. Purpose:** The purpose of the State Natural Areas (SNA) Program is to protect outstanding examples of Wisconsin's native landscape of natural communities, significant geological formations and archeological sites. Natural areas are valuable for research and educational use, the preservation of genetic and biological diversity, and for providing ecological benchmarks for determining the impact of use on managed lands. They also provide habitat for numerous rare plants and animals.
- b. Goal:** Manage the site as a reserve for dry prairie and oak savanna (oak opening and open oak woodland), as a significant archaeological site and as an ecological reference area.

2. Management Objectives by Natural Community Type

- a.** Restore approximately 85 acres of open oak woodland, 19 acres of oak opening, and 15 acres of dry prairie remnant. Allow the development of old forest conditions on approximately 100 acres.
- b.** Maintain a continuum of fire-dependent native communities from dry prairie and oak opening to oak woodland.
- c.** Create overstory conditions that allow enough light to penetrate the canopy and reach the forest floor to stimulate light-dependent understory oak savanna species that are currently suppressed from inadequate light.
- d.** Manage savannas in areas adjacent to existing prairie remnants, on south, southwest, or southeast-facing slopes that are not identified on the accompanying Native Community Management Focus Area maps.
- e.** Expand the size of remnant dry prairie openings to maintain conditions favorable to native prairie vegetation.
- f.** Develop and maintain natural transitions between different plant communities. Reduce hard edges between different cover types.
- g.** Increase the diversity and abundance of remnant dry prairie and oak savanna vegetation and associated animal species with emphasis on rare species.
- h.** Maintain or increase existing populations of Species of Greatest Conservation Need.
- i.** Restore and maintain oak savanna to provide long-term hard mast food sources and habitat for wildlife and game species such as white-tailed deer and wild turkeys.

- j. Expand the size of remnant dry prairie openings to provide thermal cover and an important late winter food source for white-tailed deer, wild turkeys, and other wildlife.
- k. Prevent introduction of new invasive species, and ensure long-term limitation of the spread, reproduction and impact of existing invasive species.
- l. Restore and maintain open areas around appropriate rock structures as an important habitat component for herptiles.
- m. Allow old forest characteristics, including biologically mature trees, large diameter trees, structural diversity, standing and down course woody debris, and an uneven canopy to develop on the steep slopes and valley bottoms that are currently converting to southern mesic forest.

3. Management Prescriptions by Natural Community Type:

- a. The ecological characteristics of the oak savanna will be primarily shaped by a frequent, low intensity fire management regime. Prescribed fire will be used to restore and maintain a continuum of fire-dependent upland communities from dry prairie and oak opening to oak woodland.
- b. In the oak savanna the native dominant tree species (primarily oaks) are managed passively. However, some thinning of the canopy via timber harvest, as well as understory manipulation and shrub control via cutting, brushing, and herbicide application may be needed to mimic natural disturbance patterns.
- c. Timber harvests will focus on removal of central and northern hardwood species and walnut (primarily non-oak and hickory species), some thinning of suppressed oak where dense patches occur (leaving largest diameter/crowned individuals), or where small-crowned individuals are shading open-grown, larger-crowned trees.
- d. Retain red cedar in appropriate locations (cliffs) where protected from fire as habitat for the juniper hairstreak butterfly and other wildlife.
- e. Retain snags as important habitat features, unless they conflict with other objectives (such as hazard trees near roads, or prescribed fire hazards).
- f. In the dry prairies, the native species are managed primarily through tree/shrub control using cutting and brushing combined with herbicide application, and prescribed fire to mimic natural disturbance patterns. Occasional fire-tolerant native shrubs such as hazelnut may be retained at low densities.

- g. Allow natural processes and passive canopy management to determine the structure of the steep slopes and valley bottoms (southern mesic forest). Retain snags and coarse woody debris to promote old growth characteristics.
- h. Contain or eradicate invasive species through the use of department approved manual, chemical, biological, and mechanical practices and prescribed fire.
- i. Leave unburned refugia for prairie remnant-dependent invertebrates within prescribed burn units.
- j. Follow Incidental Take Protocols for listed species: <http://dnr.wi.gov/topic/erreview/itgrasslands.html>
- k. Consider impacts to both reptiles and prairie invertebrates regarding both timing and ignition techniques of prescribed burns.
- l. For additional guidance, see the Xeric Prairie, and Oak Savanna, State Natural Areas Management Guides (WDNR, 2010).

4. Special Management Issues and/or constraints

Other allowable activities across the entire site include:

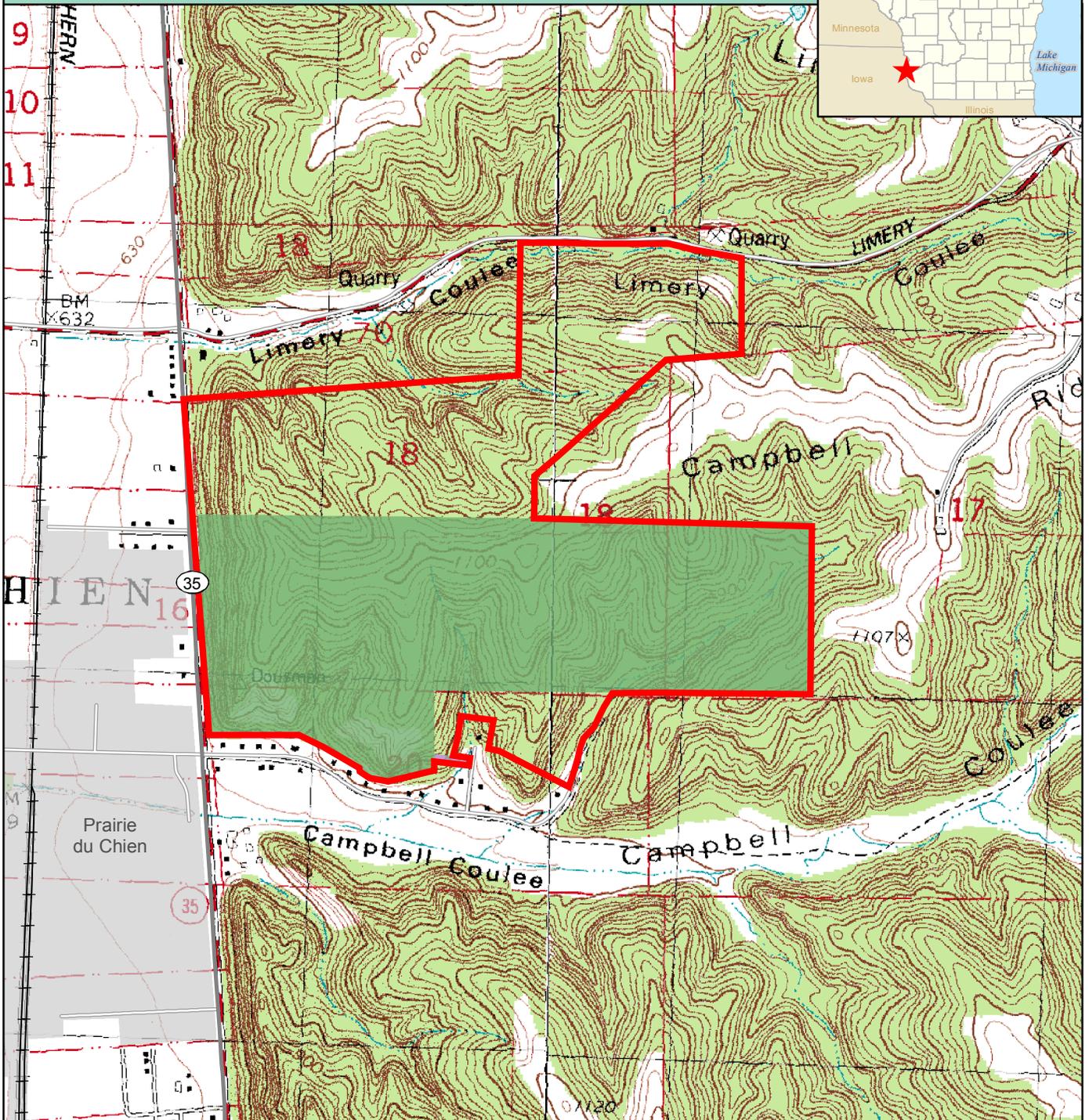
- a. Salvage of trees after a major wind event can occur if the volume of woody material inhibits fire prescriptions.
- b. Access is allowed to suppress wildfires
- c. Maintenance of existing facilities
- d. Augmentation of the ground layer after careful review and documentation would only add species that historically would have been found on the site, using seeds or plugs from local genetic material. Follow the steps below based on seed availability:
 1. Collect seed on-site, distribute to depauperate areas.
 2. Collect seed from remnant sites within 50 miles east/west and 25 miles north/ south.
 3. Purchase seed from local nurseries who can identify source location that meets the about criteria. Consult with NHC Botanist to ensure appropriateness of any nursery introductions.
- e. A Wisconsin DOT scenic easement is in place along Highway 35; the area may be managed sporadically by state.
- f. Roadside easement areas may be managed sporadically by state, county, and township.

Table 1: Current Facilities or Infrastructure

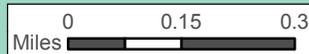
Type of Facility	Total (number/length)	Management Activities	Management Issues and Constraints
Roads – public	None		
Roads – maintenance/service	None		
Parking lots	None		
Boat landings	None		
Designated trails	None		
Dikes, ditches	None		
Dams	None		
Other			

C. Additional Comments: None.

Limery Ridge Savanna State Natural Area PROJECT BOUNDARY



-  Current Project Boundary
-  DNR Owned
-  DNR Easement (Closed to public access)



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Jun 08, 2016

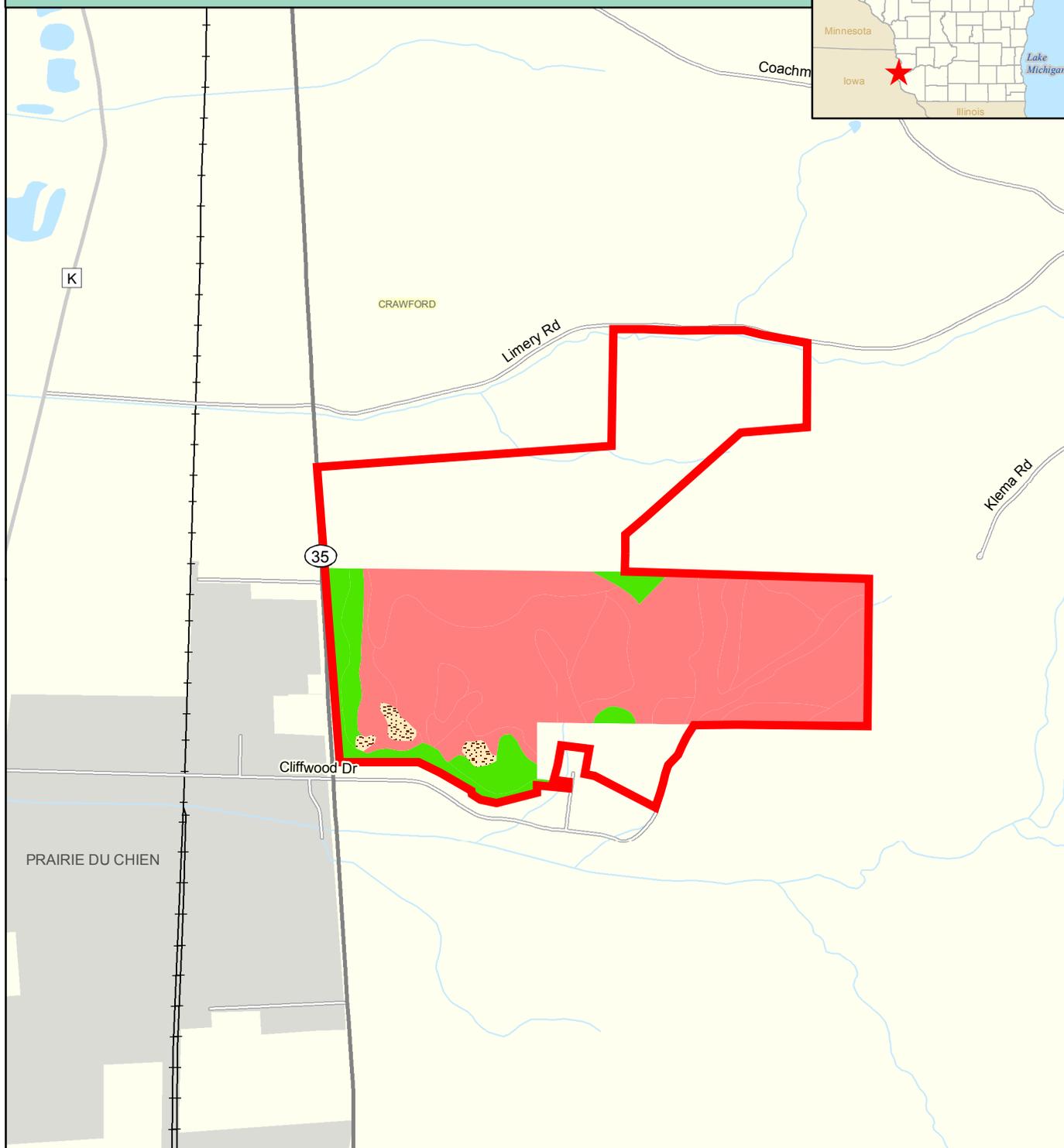
SNA Tier 3 dmh

MAP A

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Limery Ridge Savanna State Natural Area

EXISTING COVER TYPES



-  Project Boundary
-  Dry Prairie
-  Oak
-  Upland Hardwood



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May 26, 2016

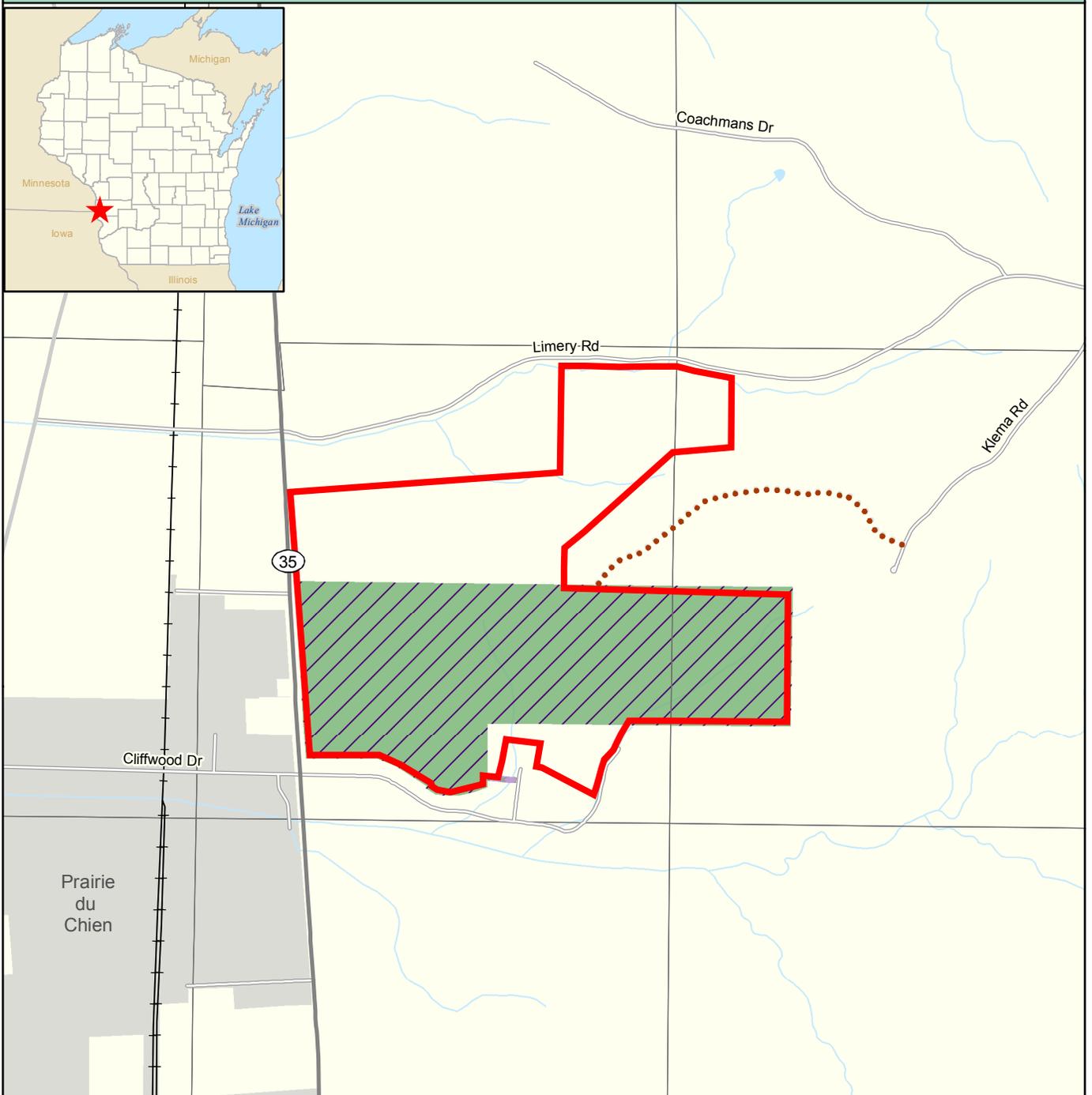
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MAP B

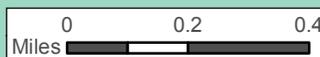
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Limery Ridge Savanna State Natural Area

EXISTING ROADS AND INFRASTRUCTURE



-  Project Boundary
-  State Natural Area
-  DNR Owned
-  DNR Easement (Closed to public access)
-  Primitive (private) Road - closed to public use



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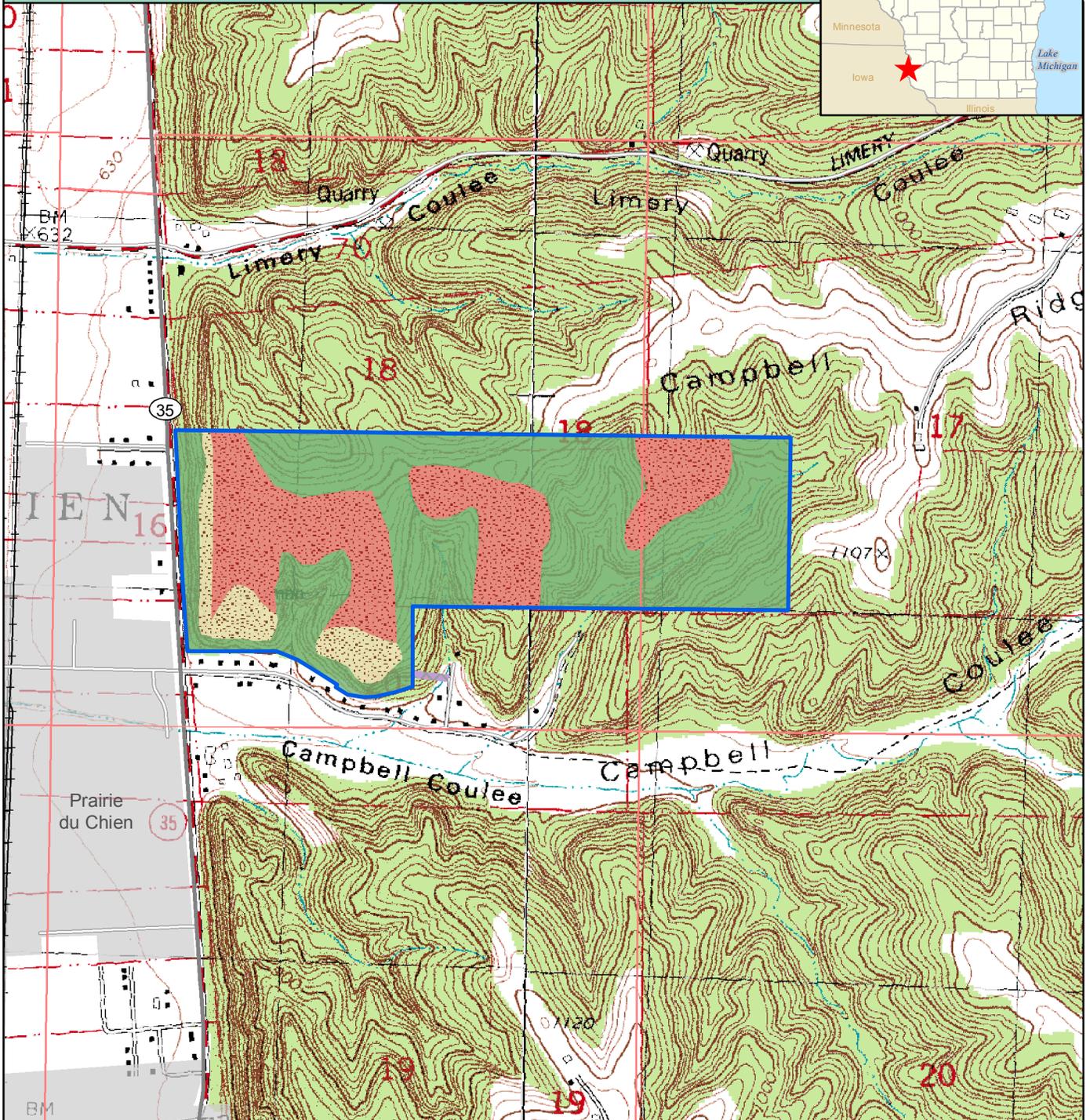
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MAP C

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Limery Ridge Savanna State Natural Area MANAGEMENT FOCAL AREAS



-  Oak Woodland/Oak Opening
-  Prairie remnant
-  State Natural Area
-  DNR Owned



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MAP D

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