MEMO

Date:
September 20, 2022

To:
Dan Colton, Green Light Wisconsin, LLC

From:
Chris Firkus, Merjent, Inc.

Subject:
Bend Exploration – Wetland Determination

1.0 Objectives and Qualifications

Merjent, Inc. (Merjent) has been contracted by Green Light Wisconsin LLC (GLW) to identify potential wetlands and waterways within the survey area for the Bend Exploration project (Project). The Project is located in Taylor County, Wisconsin. The survey area is of the SW ¼ of the NW ¼ of the SW ¼ of T33N, R02W, S35 east of Yellow River Road; an area of approximately 26 acres.

The purpose of the Project is to perform exploratory drilling to determine the economic feasibility for metal mining of subsurface minerals.

This Project does not occur on tribal lands; it is located within Ceded Territory. The project is a not PSC regulated project. The purpose of this memorandum is to provide the methodology and results of Merjent's review to the WDNR for the Notice of Intent application for Exploratory Drilling.

This review was completed by the following staff:

- **Chris Firkus – Senior Environmental Analyst; Surveyor, Report Author, GIS**
  Mr. Christopher Firkus is a senior environmental analyst specializing in environmental field surveys, permitting, and project management in the Upper Midwest. Mr. Firkus has over ten years of experience serving Oil & Gas, Transmission, Transportation, and Development sectors. On behalf of his clients, Mr. Firkus works with environmental permitting agencies to streamline the permitting process and ensure an appropriate timeline is maintained. Mr. Firkus coordinates and conducts field surveys and desktop reviews of threatened and endangered species surveys, habitat assessments, wetland delineations, cultural resources, and contaminated land investigations.

2.0 Methodology

Desktop Review

Merjent conducted a desktop review of available datasets for the survey area. Land cover within the survey area includes wooded cover and existing gravel road.

Resources reviewed are listed below:

- Wisconsin Wetlands Inventory (WWI)
- Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) Soils Maps
- Wisconsin Department of Natural Resources (WDNR) Wetland Indicators from the Surface Water Data Viewer
- Google Earth® Aerial Imagery (multiple years)

Waterways and waterbodies were investigated within the desktop review area by reviewing available desktop data resources. Resources reviewed are listed below:

- WDNR 24k Hydro Layer
- WDNR Surface Water Data Viewer

Field Review

A conservative wetland field determination of the survey area was conducted on September 16, 2022. The purpose of the field review was to refine the desktop review determinations. This method documents visual evidence of wetland hydrology (e.g. surface water, surface saturation, landscape position) and the dominance of hydrophytic vegetation (i.e. FAC, FACW, or OBL species) when determining a wetland boundary. Soils were not investigated using this method. Site photographs were taken at this time to document determined wetlands, adjacent uplands, and representative views of the entire survey area. These photographs are provided as Photo Log attachment to this memorandum and their locations are depicted on the Wetland Determination map (Figures).

Wetland Community Types

Vegetative community boundaries were identified using the *Wetland Plants and Plant Communities of Minnesota and Wisconsin* (Eggers and Reed, 2014). These boundaries were determined by aerial signatures and further refined during the field review.

3.0 Results

Two WWI point features are marked within the survey area. SSURGO hydric soils units are absent; however, WDNR Wetland Soils & Indicators (WSI) are prevalent across nearly the entire site.

The site is predominantly northern mesic forest a pitched slope draining north toward the North Branch of the Yellow River, found shortly outside the survey area to the north. The canopy is dominated by sugar maple (*Acer saccharum*), red maple (*A. rubrum*), eastern hemlock (*Tsuga canadensis*), yellow birch (*Betula allegheniensis*), burr oak (*Quercus macrocarpa*), and basswood (*Tilia americana*). The understory is fairly open, becoming shrubby toward the northern limit of the survey area. Representative species in the shrub layer include beaked hazelnut (*Corylus cornuta*), Tatarian honeysuckle (*Lonicera tatarica*), blue beech (*Carpinus carolinianus*), young ironwood (*Ostrya virginiana*), and green ash (*Fraxinus pennsylvanica*) seedlings. The herbaceous layer generally continuous and includes Jack-in-the-pulpit (*Arisaema triphyllum*), bristly greenbrier (*Smilax tamnoides*), bottlebrush grass (*Elymus hystrix*), long-awned wood grass (*Brachyelectrum erectum*), Pennsylvania sedge (*Carex pensylvanica*), drooping wood sedge (*C. arctata*), round-loped hepatica (*Anemone americana*), dwarf raspberry (*Rubus pubescens*), Virginia waterleaf (*Hydrophyllum virginianum*), ostrich fern (*Matteuccia struthiopteris*), sarsaparilla (*Aralia nudicaulus*), rough-leaved rice grass (*oryzopsis asperifolia*), woodbine (*Parthenocissus inserta*), meadow rue (*Thalictrum dasycarpum*), yellow avens (*Geum aleppicum*), starflower (*Trientalis borealis*), and Canada mayflower (*Maianthemum canadensis*).

Two wetlands were observed on-site. The first is a roadside ditch that drains north to the North Branch of the Yellow River. Approximately 7,320 square feet of the feature is intersected by the survey ara. The feature is dominated by fringed sedge (*Carex crinita*), lady fern (*Athyrium filix-femina*), common rush (*Juncus effusus*), reed canary grass (*Phalaris arundinacea*), tearthumb (*Persicaria sagittata*), northern bugleweed (*Lycopus*

uniflorus), grass-leaved goldenrod (*Euthamia graminifolia*), lance-leaf aster (*Symphyotrichum lanceolatum*), and sensitive fern (*Onoclea sensibilis*).

A second, small, depressional wetland was identified in the southcentral portion of the survey area and is approximately 2,063 square feet in size. There is a distinct transition of vegetation at the toe slope of this feature. It is dominated by reed canary grass, stinging nettle (*Urtica dioica*), greater water dock (*Rumex orbiculatus*), fringed sedge, lady fern, rough bedstraw (*Galium asprellum*), lance-leaf aster, Virginia waterleaf, tearthumb, and ostrich fern. The feature is a seasonally flooded, small depression over a perched water table.

No wetlands were identified with the marked WWI points. There is no topographical depression or change in vegetation at or near these two points.

4.0 Discussion

In our professional opinion, two wetlands and no waterways are present within the survey area. Despite a majority of the survey area containing WSI, the site is distinctly sloped north. The vegetation is typical of northern mesic forest, in distinct contrast with the small wetlands found on-site. The two WWI points on-site do not correspond to actual wetland features; however one pocket wetland was found elsewhere. Much of the bordering road ditch is wetland, and continues north, draining into the North Branch of the Yellow River.

The results of this wetland assessment will be used to coordinate Project activities. Should there be any questions related to the findings discussed in this technical memorandum, please feel free to call or email me at my contact information below.

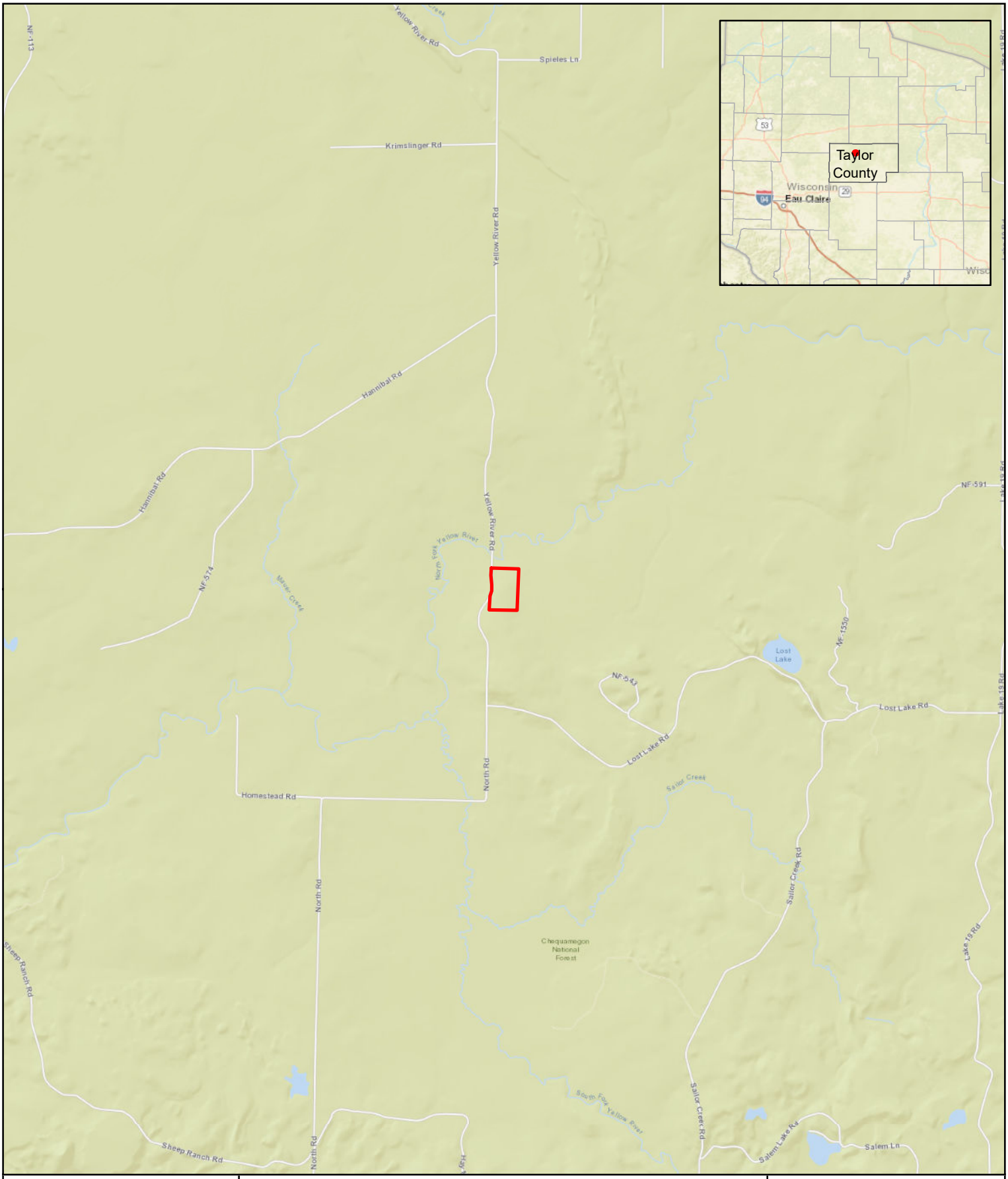
Respectfully submitted,

Chris Firkus
Senior Environmental Analyst
chris.firkus@merjent.com
(920) 460-8206

Attached:

- Figures – Wetland Maps
- Photo Log

Figures - Wetland Maps


Taylor County
Wisconsin
Eau Claire
Yellow River Rd
Spieles Ln
Krimslinger Rd
Yellow River Rd
Hannibal Rd
Hannibal Rd
NF-574
NF-591
NF-1550
NF-543
Lost Lake
Lost Lake Rd
Lost Lake Rd
North Rd
Homestead Rd
Sailor Creek
Sailor Creek Rd
Lake 18 Rd
Chequamegon National Forest
Sheep Ranch Rd
North Rd
Sheep Ranch Rd
South Fork Yellow River
Sailor Creek Rd
Salem Lake Rd
Salem Ln
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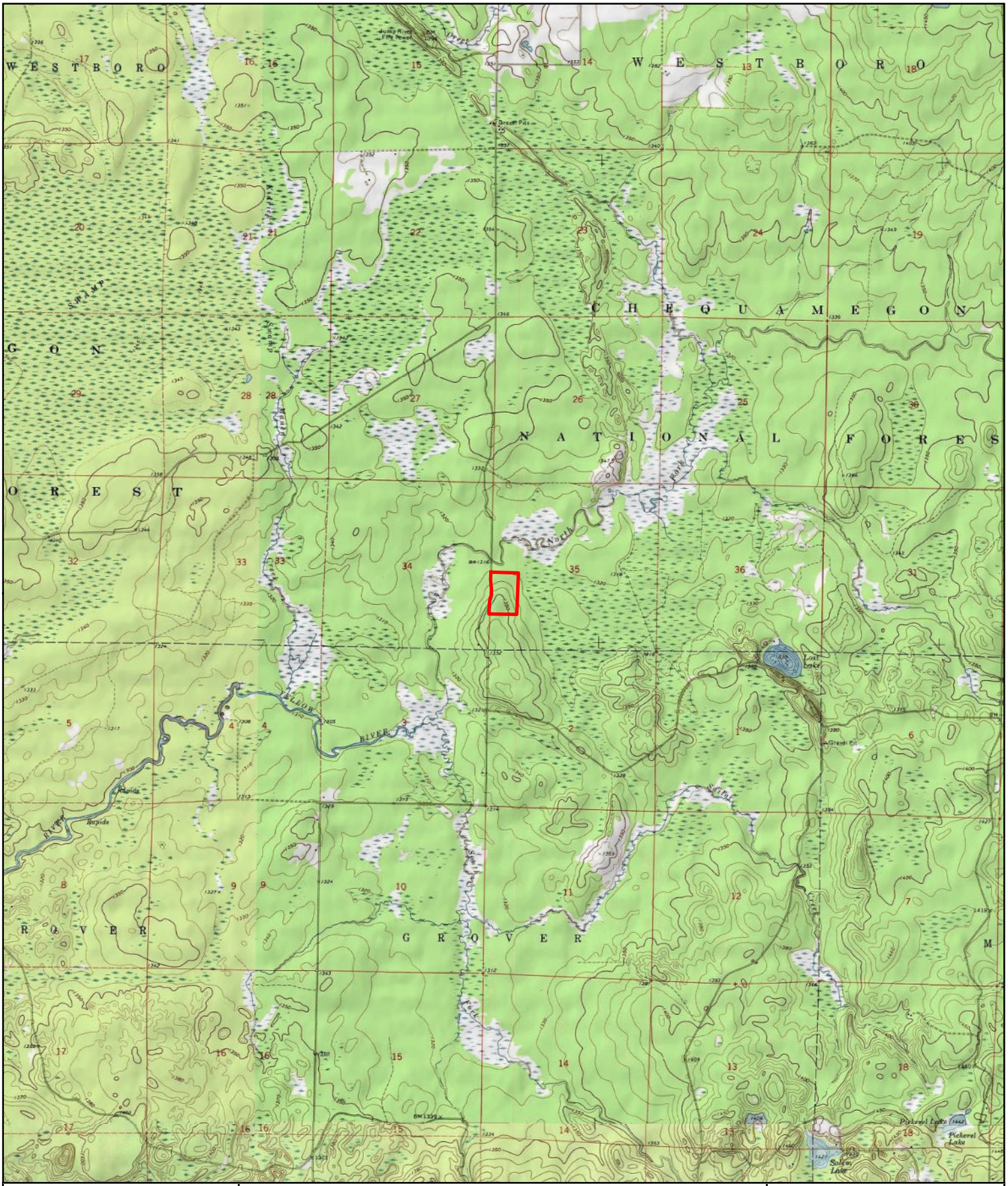
Feet
For Environmental Review Purposes Only
Project Location
Bend Exploration
Taylor County, Wisconsin
Survey Area
Source: C:\Users\chris.firkus\OneDrive - Merjent, Inc\Documents\GIS\Projects\Development\GreenLight\Bend\ArcGIS\Location.mxd
Date: (9/19/2022)



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Topography
Bend Exploration
Taylor County, Wisconsin

Survey Area

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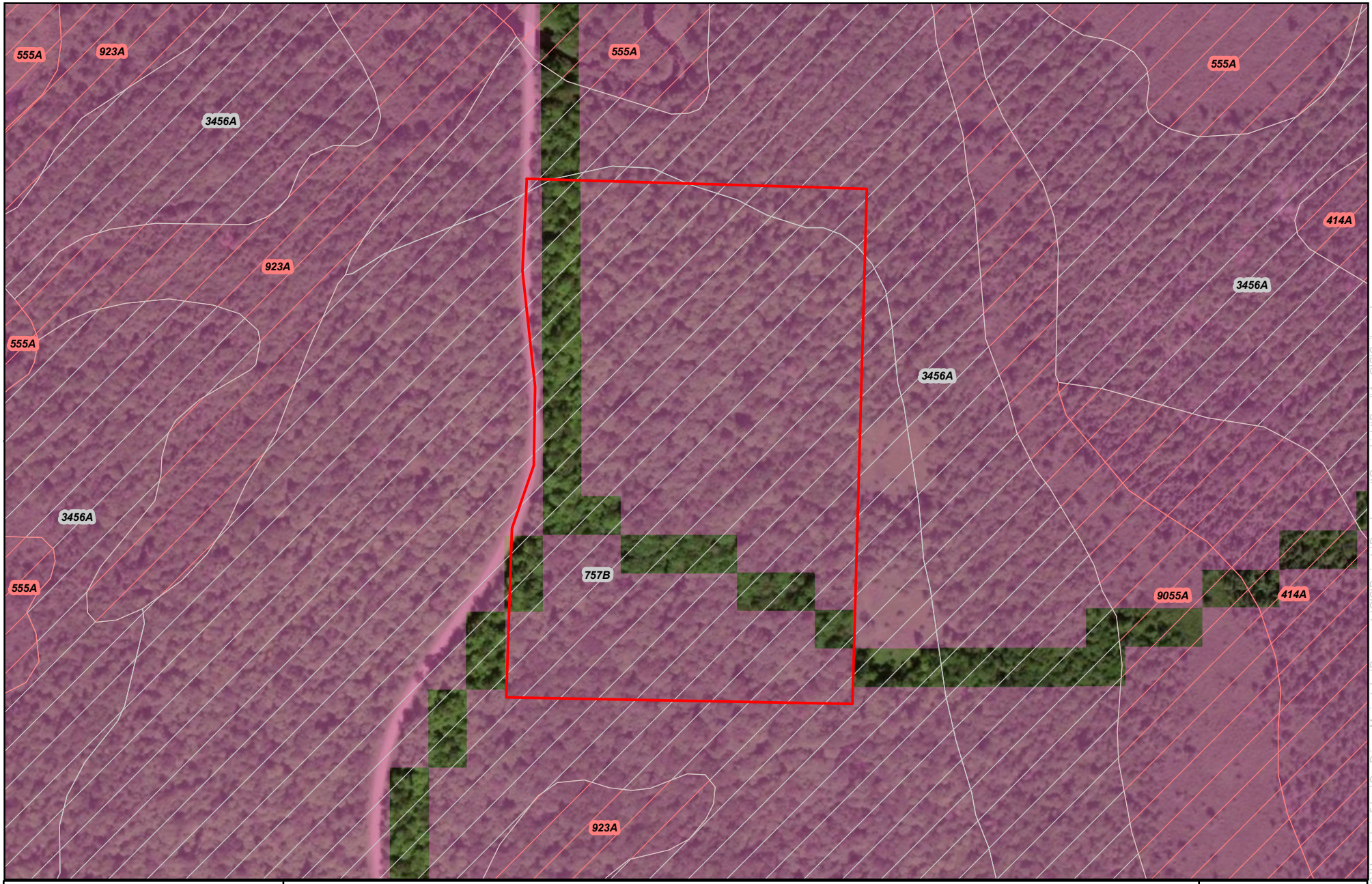
Date: (9/19/2022)



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Soils
Bend Exploration
Taylor County, Wisconsin

Wetland Indicators and Soils
Non-hydric Soil
Hydric Soil
Survey

Source: C:\Users\chris.firkus\OneDrive - Merjent, Inc\Documents\GIS\Projects\Development\GreenLight\Bend\ArcGIS\Soils.mxd
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Hydrology
Bend Exploration
Taylor County, Wisconsin

- WDNR Stream
- WWI Point
- WWI Polygon
- Survey Area

Source: C:\Users\chris.firkus\OneDrive - Merjent, Inc\Documents\GIS\Projects\Development\GreenLight\Bend\ArcGIS\Hydro.mxd
Date: (9/19/2022)

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Wetland Determination
Bend Exploration
Taylor County, Wisconsin

Photo Point
Mapped Wetland - Wet Meadow
Survey

Source: C:\Users\chris.firkus\OneDrive - Merjent, Inc\Documents\GIS\Projects\Development\GreenLight\Bend\ArcGIS\Determination.mxd
Date: (9/19/2022)

Photo Log

Photograph pp01 view South

Photograph pp01 view West

Photograph pp02 view East

Photograph pp02 view South

Photograph pp02 view West

Photograph pp03 view East

Photograph pp03 view South

Photograph pp04 view North

Photograph pp04 view South

Photograph pp05 view North

Photograph pp05 view South

Photograph pp06 view East

Photograph pp06 view North

Photograph pp06 view South

Photograph pp06 view West

Photograph pp07 view East

Photograph pp07 view North

Photograph pp07 view South

Photograph pp07 view West

Photograph pp08 view North

Photograph pp08 view South

Photograph pp08 view West

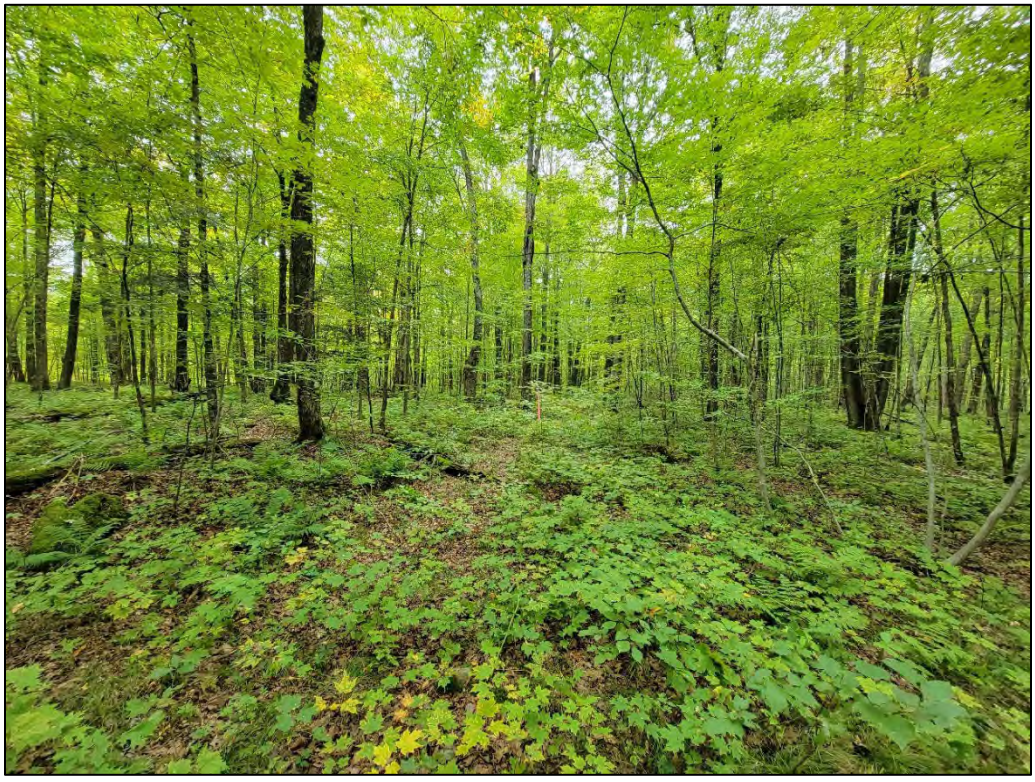
Photograph pp09 view Northwest

Photograph pp09 view Southwest

Photograph pp10 view East

Photograph pp10 view Northwest

Photograph pp10 view Southwest



Photograph pp11 view Northwest

Photograph pp11 view Southwest

Photograph pp12 view Northwest

Photograph pp12 view Southwest

Photograph pp13 view North

Photograph pp14 view South

Photograph pp15 view North

Photograph pp16 view East

Photograph pp16 view North

Photograph pp17 view East

Photograph pp17 view North

Photograph pp17 view West

Photograph pp18 view North

Photograph pp18 view West

Photograph pp19 view North

Photograph pp19 view South

Photograph pp19 view West