December 8, 2023

Nicholas Bower, P.E.
Senior Environmental Engineer
Capital Area Regional Planning Commission
100 State Street, Suite 400
Madison, WI 53703

Dear Nick:

I am pleased to submit the attached application to add lands to the Northern Urban Service Area (NUSA), as authorized by the DeForest Village Board. The amendment area covers nearly 122 acres located at the northwestern edge of the Village of DeForest within its planned Northern Interstate Corridor.

DeForest's Northern Interstate Corridor extends for 3.4 square miles along both sides of Interstate 39-90-94, with excellent regional access from its Highway V interchange. Village plans identify this corridor for a mix of industrial, commercial, and neighborhood development. The amendment area includes small portions of the Corridor that are ripe for near-term development. These include portions west of the Interstate that are generally intended for industrial development and portions to the east for retail, commercial services, and mixed uses.

The proposed development of the amendment area requires municipal water and sewer services from the Village, and will be developed in a manner that fully meets regional and local water quality standards.

Please contact me if you have any questions regarding this application.

Sincerely,

Bill Chang
Village Administrator

Attachment: Northern Urban Service Area Amendment Application, Appendices

NORTHERN URBAN SERVICE AREA AMENDMENT APPLICATION

VILLAGE OF DEFOREST

This information supports the Village of DeForest's application to amend the Northern Urban Service Area (NUSA) to include all or part of six current tax parcels plus public rights-of-way within the Village's planned "Northern Interstate Corridor Area." The proposed NUSA amendment area totals 121.5 acres and includes all of parcels 0909-133-8503-1 and 0909-133-8003-1; plus parts of parcels 0909-231-0131-1, 0909-133-8321-1 (also 7259 Morrisonville Road), 0909-134-9191-1, and 0909-133-9084-1 not already in the NUSA.

Submitted: December 11, 2023

Prepared by: Village of DeForest

Table of Contents
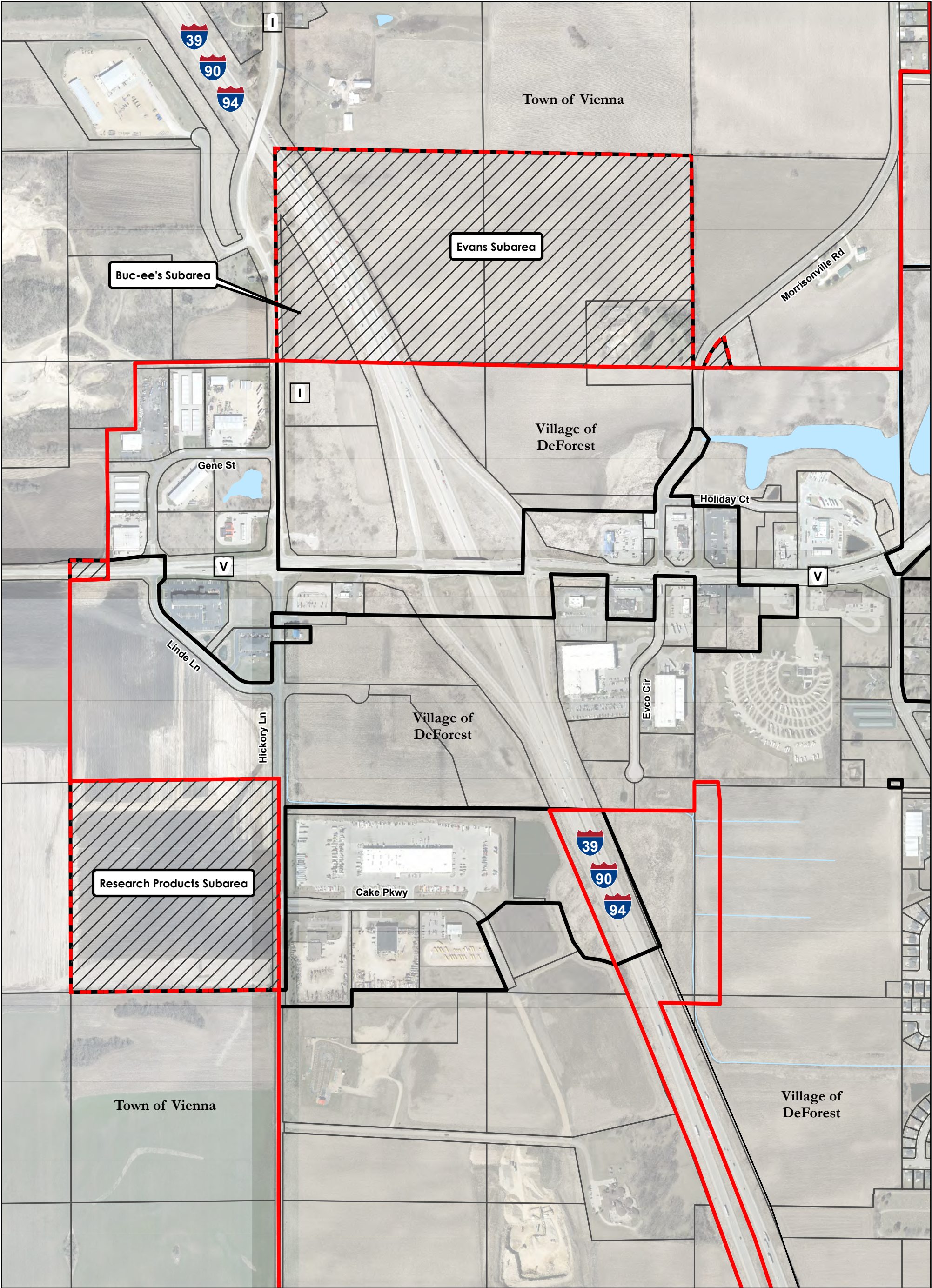
1   Introduction

Map 1 indicates the proposed Northern Urban Service Area (NUSA) expansion areas, including existing public rights-of-way. The proposed NUSA expansion areas encompass 121.5 total acres, including existing public rights-of-way, located at the northwestern edge of the Village of DeForest within its planned "Northern Interstate Corridor Area." The proposed NUSA expansion areas are divided into three main subareas, as outlined below, and labeled on Map 1:

- **Research Products Subarea**: Currently owned by Research Products Corporation and consisting of 40.0 acres west of Hickory Lane (southern portion of parcel 0909-231-0131-1).

- **Evans Subarea**: Currently owned by Gene and Karen Evans, and consisting of 65.0 acres east of Interstate 39-90-94 to Morrisonville Road (all of parcels 0909-133-8503-1 and 0909-133-8003-1, plus the northern parts of parcels 0909-133-8321-1 and 0909-134-9191-1 that are not already in NUSA).

- **Buc-ee's Subarea**: Currently owned by Buc-ee's DeForest LLC and consisting of 6 acres west of Interstate 39-90-94 to County Highway I (northern part of parcel 0909-133-9084-1 not already in the NUSA).

Remaining lands to be added to the NUSA, also shown on Map 1, are in existing public rights-of-way. These include sections of Interstate and Highway V rights-of-way for continuity.

These three subareas are ripe for inclusion in the NUSA. All are within the Village and the planning area of the Village's Northern Interstate Corridor Plan. In April 2023, the Village Board incorporated the Corridor Plan into the Village's updated *Comprehensive Plan*. Map 2 shows the adopted Corridor Plan map with the three subareas highlighted.

The remainder of this application in some places covers the proposed NUSA expansion areas as a whole, and in other places discussion is segmented by subarea based on different conditions, plans, and/or utility service opportunities among them.

Town of Vienna

I-39 I-90 I-94

Evans Subarea

Morrisonville Rd

Buc-ee's Subarea

I

Village of DeForest

Gene St

Holiday Ct

V

V

Linde Ln

Evco Cir

Hickory Ln

Village of DeForest

Research Products Subarea

Cake Pkwy

I-39 I-90 I-94

Town of Vienna

Village of DeForest

Proposed Northern Urban Service Area Amendment

DEFOREST 2020-2040

Map 1

Oct 31, 2023

0   375   750   1,125
Feet

N

vierbicher
planners | engineers | advisors

Sources: Dane County LIO, CARPC, MDRoffers, Vierbicher
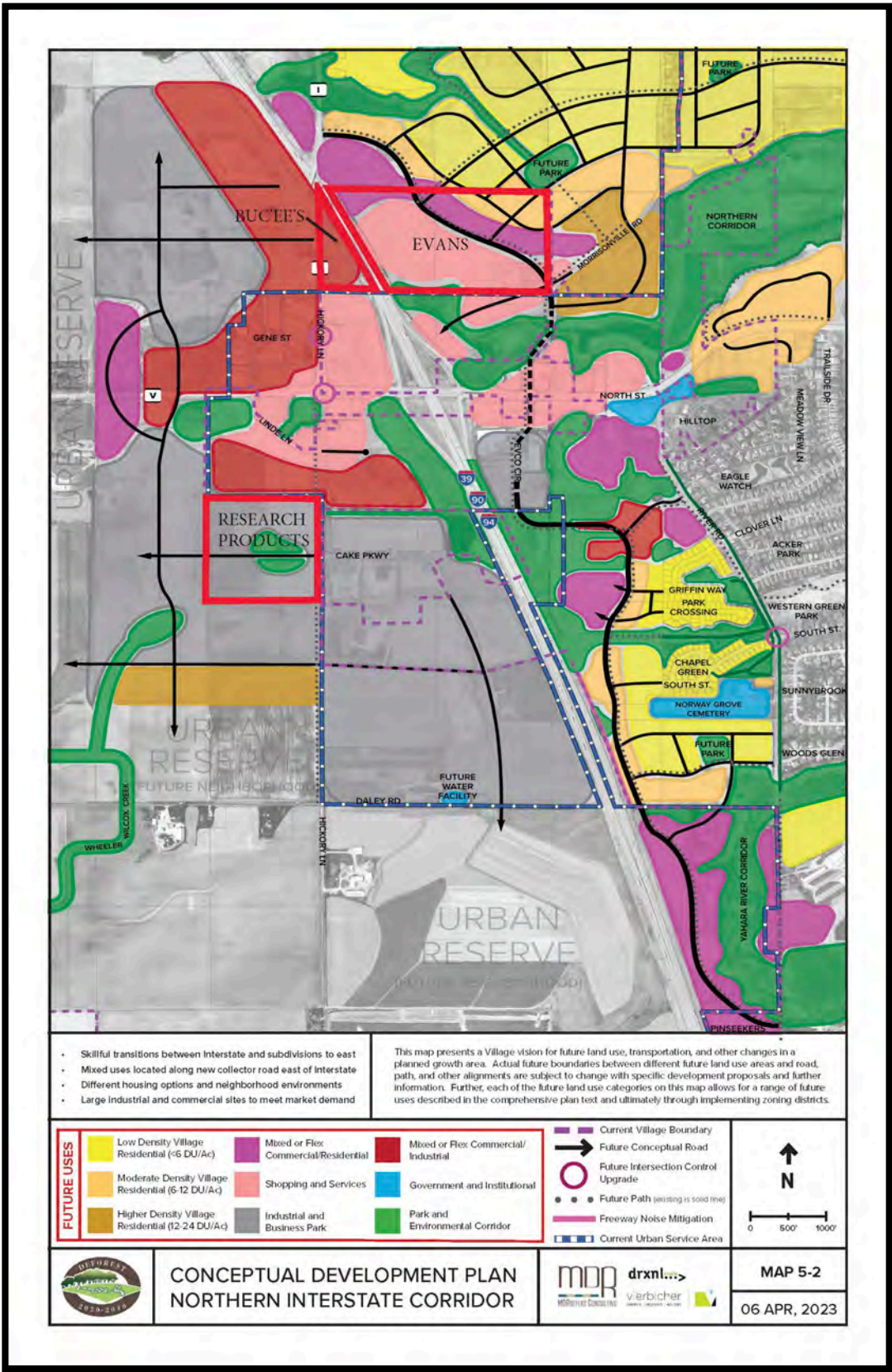
Proposed USA Expansion

Existing USA Boundary

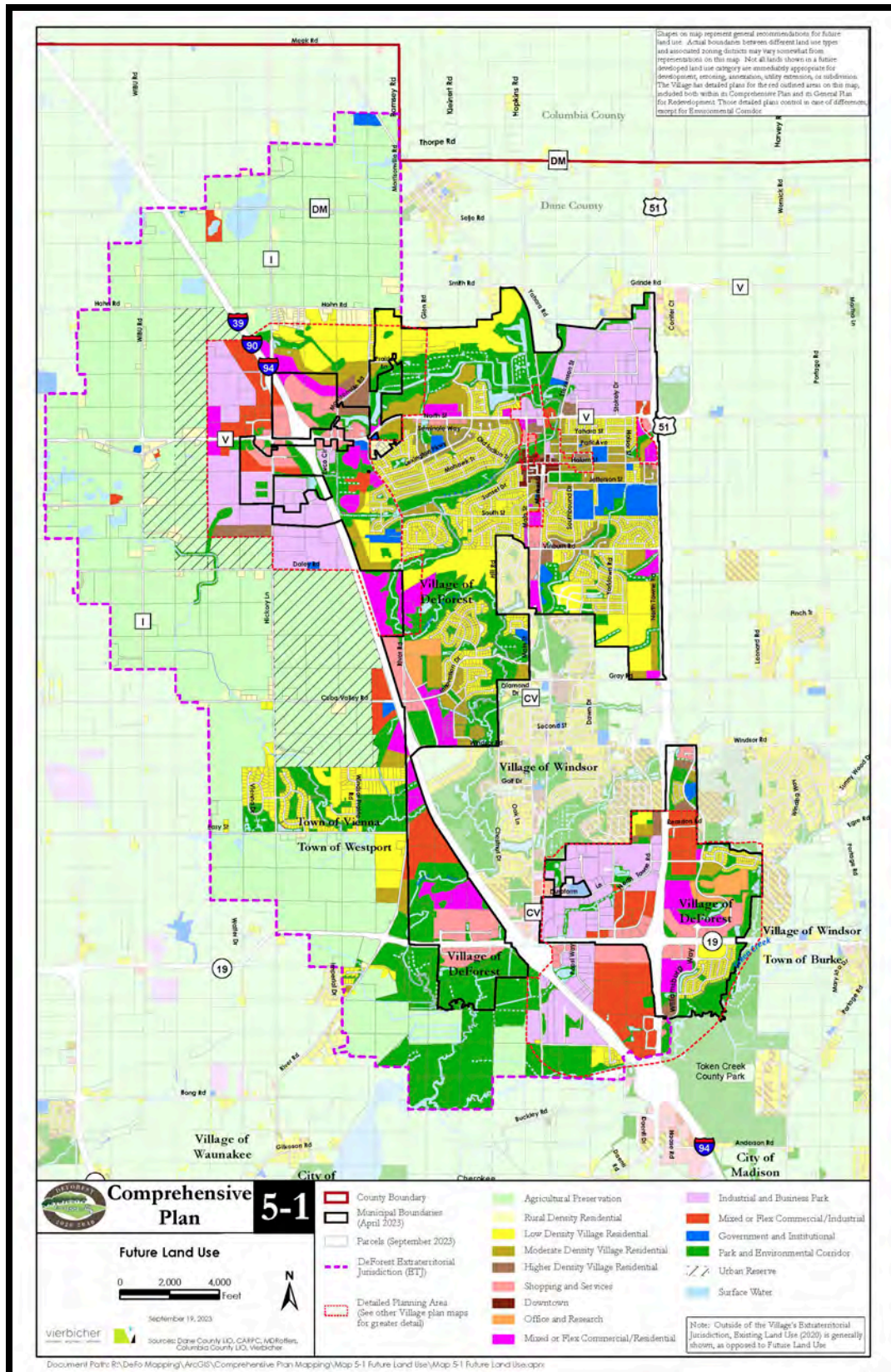Village of DeForest Municipal Boundary (July 2023)

Parcels (Sept 2023)

Map 2: Northern Interstate Corridor Plan, with NUSA Expansion Subareas Indicated

Map 3: Future Land Use Map, Village of DeForest Comprehensive Plan

2   Plan Consistency and Need

The *Village of DeForest Comprehensive Plan* identifies the Northern Interstate Corridor planning area for future urban development on municipal sanitary sewer and water services. This is represented on Map 2—which is the detailed Northern Interstate Corridor Plan map—and on Map 3, which is the *Comprehensive Plan's* Village-wide Future Land Use map. An expansion of the NUSA is warranted to ensure thoughtful plan implementation for those portions of the Village's Northern Interstate Corridor planning area now in DeForest. Intended urban land uses are industrial, commercial, mixed use, and residential uses described later in this application.

With the exception of 53 undeveloped acres along Daentl Road added to the NUSA in 2023, the Village has limited vacant improved land for industrial development, in which it specializes and for which we are in a time of significant demand. The North Towne Corporate Park arguably has only one 3.4 acre vacant lot available for industrial development, not including lands already committed to development or future business expansion, or currently zoned for commercial rather than industrial purposes. At the northeast end of the Village, the DeForest Business Park has three vacant lots totaling 17 acres, not including lands already committed to development or future business expansion. (At time of writing, two of these have highly interested potential users.) Most modern industrial development projects generally require between 15 and 40+ acres each, and given its superior transportation access DeForest is regionally well-positioned for such users.

The Village also has demand, but limited land supply, for commercial service and retail uses near the Interstate/Highway V interchange—again especially for larger footprint users. This Interchange has proven particularly popular for travel-oriented commercial uses—it is for example, roughly mid-way between Chicago and Wisconsin's north woods. As evidence, in 2023, national retailer Buc-ee's acquired 22.5 acres northwest of the Interstate/Highway V interchange for a 73,000 square foot travel center. Most of the Buc-ee's site—including all parts that requires utilities—is already in the NUSA. The northern 6 acres—intended mainly for stormwater management—is not yet in the NUSA.

Finally, DeForest—and Dane County as a whole—has a housing shortage for all types. Correspondingly, housing affordability has decreased. CARPC has been out-front in documenting the unmet need. The Villages of DeForest and Windsor have also cooperatively documented local need, both through their collaborative 2021 *DeForest-Windsor Housing Supply & Demand Analysis* (Appendix D) and annual *DeForest-Windsor Inventory of Approved, Available, and Sold Housing* (Appendix E). This shortage and affordability problems are due to housing development not keeping pace with the significant population and employment growth.

Inclusion of the proposed NUSA expansion areas is also consistent with the growth phasing policy within the *DeForest Comprehensive Plan*. That policy indicates that the Village will utilize the following factors in making decisions on the timing of new development, including whether and when to request urban service area expansions. The Village's phasing policy points are in italics below, with commentary related to this application in normal type.

1. *The desire to promote an orderly, sequential pattern of land use and community development in order to ensure that the provision of public services, roads, and utilities keep pace with development.* The proposed NUSA expansion areas are all in the Village and identified for urban development in its Northern Interstate Corridor Plan. Each of the three subareas is one part of a larger contiguous landholding under common

ownership, with the remainders already in the NUSA. The Evans family owns about 30 additional, largely undeveloped, contiguous acres to the south of the Evans Subarea on Map 1, with such additional acres already in the NUSA and directly north of commercial development along County Highway V. All of Evans' ownership is within the Village's Tax Incremental District (TID) #9, which is a mixed use TID aimed to help implement the Northern Interstate Corridor Plan. Addition of the Evans Subarea to the NUSA will allow unified utility system planning, marketing, and development of the entire Evans ownership. Similarly, Research Products Corporation owns about 27 additional, undeveloped, contiguous acres directly north of the Research Products Subarea on Map 1. All of this Research Products ownership is also in TID #9. Inclusion of all of Research Products' land in the NUSA will have similar benefits as inclusion of all of Evans' ownership. Finally, addition of the Buc-ee's Subarea will place all of that commercial development site in the NUSA mainly for map unification—no sanitary sewer or water services are expected to be required in the Buc-ee's Subarea.

2. *The projected impact on other Village goals of preserving agriculture or the natural environment in the same general area, if applicable.* All proposed development of the Northern Interstate Corridor Area will meet the Village's strict stormwater management ordinance and preserve environmental corridors. The planned land uses are consistent with all County and local comprehensive and farmland preservation plans. None of the subareas are planned or zoned for long-term farmland preservation.

3. *The projected impact on Village desires to redevelop or infill other parts of the Village (e.g., downtown).* The majority of land in the three subareas will facilitate larger scale industrial, commercial service, and retail uses that are not viable on smaller redevelopment and infill sites in the Village. The Village's downtown is about 1 ½ miles east of the Interstate/Highway V interchange and has no undeveloped tracts or redevelopment sites of this scale. Through its Community Development Authority, the Village is now funding implementation of its 2023 *General Plan for Redevelopment* for its downtown and other redevelopment areas. While both the Evans Subarea and downtown redevelopment area include prospective housing and mixed use developments, high housing market demand should allow both areas to flourish.

4. *Whether the proposed development provides a unique asset or special amenity desired by the Village, as specified in Village plans or as otherwise indicated by the Village Board.* The shortage of improved land in the DeForest area for larger-scale industrial and commercial development, and for housing development, is documented above and in Appendices D and E. Addition of the Evans Subarea will also jump-start development of the Village's next large neighborhood development area, as developing DeForest neighborhoods like Conservancy Place, Savannah Brooks, and Fox Hill Estates fill in over the next decade. Neighborhood development form and location is planned to meet "complete neighborhood" design principles articulated in the *Regional Development Framework*.

5. *The availability of public infrastructure such as road capacity, utility availability or capacity, and pedestrian and other public facilities to serve the proposed development.* Utility availability and capacity is documented later in this application. At time of writing, the Wisconsin Department of Transportation (WisDOT) and the Federal Highway Administration (FHWA) were conducting the *I-39/90/94 Corridor Study* between Highway 12/18 in Madison and Highway 12/16 in Wisconsin Dells. That study

will assess how best to address existing and future traffic demands, safety issues, and the aging and outdated infrastructure along this portion of I-39/90/94. Meanwhile, Buc-ee's has conducted and shared with WisDOT a Traffic Impact Analysis (TIA) and 30% plans for recommended Interstate ramp and highway improvements to address projected traffic from its store plus other existing and projected traffic in the Northern Interstate Corridor planning area. Further, the planned new collector road through the Evans Subarea will have adequate capacity to serve projected development there. These improvements—plus eventual urbanization projects for remaining rural highway and Hickory Lane stretches—will include bicycle and pedestrian facilities. The future neighborhood that will emerge from the Evans Subarea will be pedestrian-oriented.

6. *If such public infrastructure is unavailable, the projected timing of and funding for public infrastructure improvements to serve the proposed development.* Village water service is already available to serve the Research Products Subarea and the pending Buc-ee's development. The Village has a construction contract in place to install a sewer main across the interstate to Hickory Lane and north across CTH V to serve Buc-ee's. This sewer extension has been approved by MMSD and CARPC for construction. This project was under construction at time of writing and expected to be available before summer 2024. Village sewer and water services will be extended to the Evans Subarea (and to the Evans family ownership parcels already in the NUSA to its south) when development becomes imminent on these lands. The Village has the financial means to make these utility extensions and road and highway improvements identified above through its TID #9, property assessments, and direct developer contributions including commitments already made by Buc-ee's.

7. *The ability of the Village to cost-effectively provide community services to the proposed development or area, and the advice of other units of government such as the DeForest Area School District (DASD) to provide services under their control.* The Village has committed to providing utility and other public services to all of the Northern Interstate Corridor planning area that is currently in the Village. The planning consultant for DeForest Area School District (DASD) anticipates 11 new students emerging from the Evans Subarea by 2035, with that relatively small number owing to the expected tilt towards multiple-family housing in this area. The Evans Subarea is within the DASD's attendance area for Yahara Elementary School, which is projected to have adequate capacity through 2035. Similarly the DASD's single Intermediate, Middle, and High Schools were recently expanded and are also expected to have adequate capacity through 2035. There is no projected student enrollment from the Research Products or Buc-ee's subareas, but substantial projected tax revenue. Buc-ee's is not in a TID so its tax revenue will immediately benefit all taxing jurisdictions including the DASD.

8. *Whether the proposed development area has been or will be annexed or attached to the Village, where annexation or attachment is specified by adopted intergovernmental agreements/cooperative plans or otherwise anticipated prior to development.* All land in the proposed NUSA expansion areas have been annexed to the Village of DeForest.

9. *The degree of compatibility with other aspects of adopted intergovernmental agreements/cooperative plans to which the Village is a party.* There is no intergovernmental agreement/cooperative plan between the Village and the adjacent Town of Vienna.

10. *For proposed urban (publicly sewered) development, whether the proposed development area is within the Urban Service Area and MMSD boundary, or the Village reasonably expects the development area to be added to the Urban Service Area and MMSD boundary in the near term.* The proposed NUSA expansion areas are already in the regional and local FUDA (see Map 4). They will need to be annexed to the MMSD service area following addition to the NUSA, and the Village has been in contact with MMSD staff regarding that process.

The proposed addition of the NUSA expansion areas is also consistent with the recommended development scenario in the 2012 *North Yahara FUDA Study* (see Map 4) and the *Dane County Comprehensive Plan* and *Farmland Preservation Plan*.

Map 4: Recommended Scenario, North Yahara FUDA Study
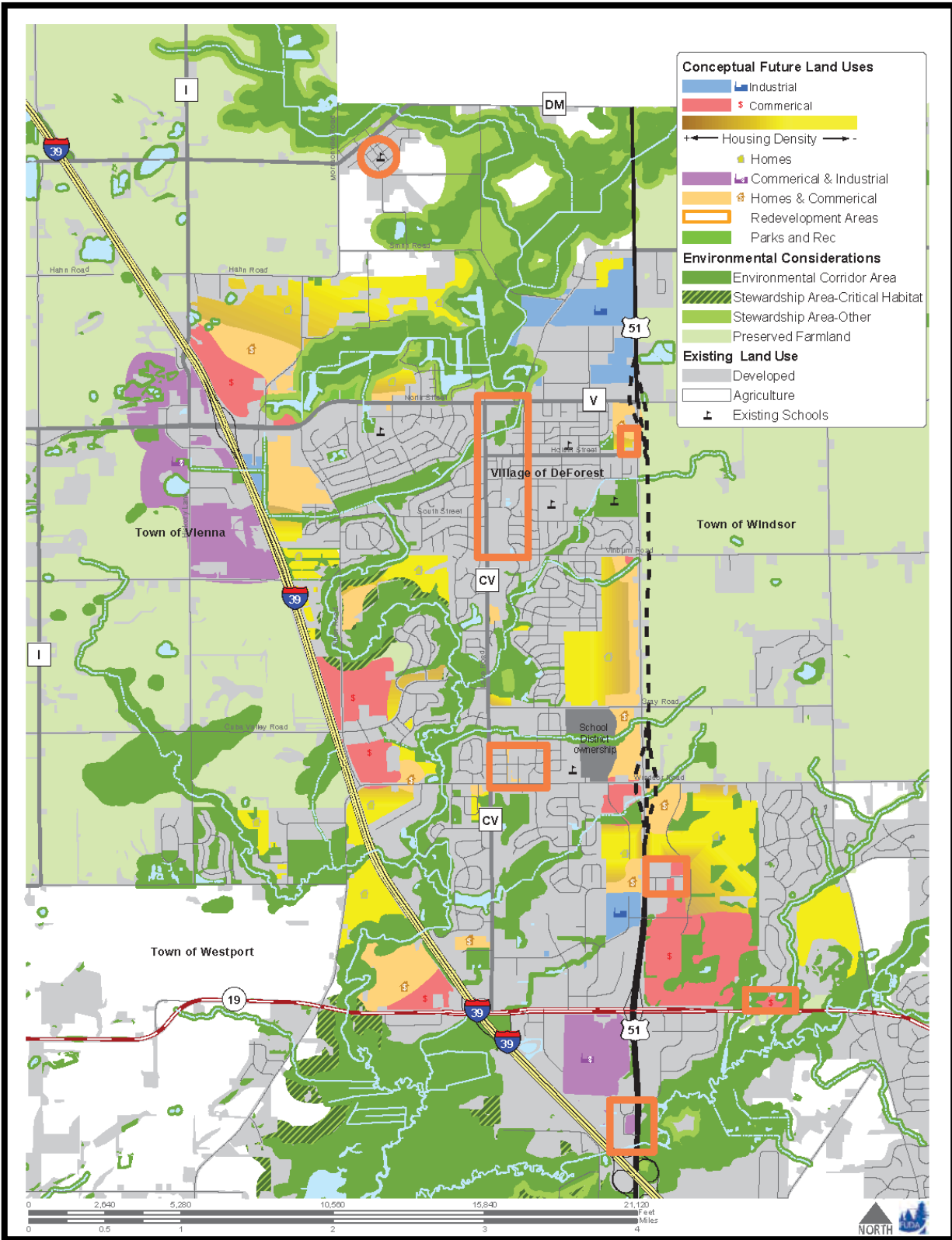
3   Intergovernmental Cooperation

While entirely in the Village, the proposed NUSA expansion areas about the Town of Vienna. The Village provided Town notice of this NUSA expansion application (see Appendix C), with response acknowledged. At time of writing, the Village had received no other comments from the Town.

4   Land Use

Map 5 shows the existing land use pattern within and around the North Interstate Corridor Area. The proposed amendment area encompasses 121.5 acres of land, including 11.8 acres of public rights-of-way and 109.7 acres of existing private parcels.

Map 6A shows the planned land use pattern in Research Products Subarea, and Map 6B shows the planned land use pattern in the Evans and Buc-ee's Subareas. In both cases, conceptual stormwater basins currently form the full basis for the mapped "Proposed Environmental Corridor (in proposed USA expansion)." Conceptual stormwater management areas are indicated on Maps 6A and 6B in appropriate general locations. Actual locations, sizes, and configurations of stormwater management areas will likely vary. Maps 6A and 6B also show existing and potential future road rights-of-way as reflected in the Village's Northern Interstate Corridor Plan.

Specific to Research Products Subarea

The Research Products Subarea is currently in agricultural use, is gently sloped, and ranges from 938 feet to 960 feet in elevation. The lowest elevations are in the center-right of this Subarea.

This Village has the Research Products Subarea planned for "Industrial and Business Park" use, continuing the pattern from the Vienna Business Park plat to its immediate east and recognizing strong transportation access and high demand. The proposed development concept, shown in Appendix F, suggests potential for future land division to accommodate larger-scale industrial development. A westerly extension of Cake Parkway from Hickory Lane is envisioned to serve such development. This anticipated road would be built to the Village's urban road standards for industrial areas, which it has used or required in other recent industrial parks. This includes sidewalk or multiuse path on at least one side. Planned stormwater management areas are currently envisioned to flank this Cake Parkway extension within the lower elevation areas.

The Research Products Subarea is anticipated to develop in a single phase.

Specific to Evans and Buc-ee's Subareas

Most of these two Subareas are in agricultural use, are gently sloped, and range from about 946 feet to 973 feet in elevation.

The Buc-ee's Subarea is expected to develop predominantly with a stormwater management basin intended to serve the proposed travel center to its south (on lands already in the NUSA). The southern edge of this Subarea may also provide parking for the travel center.

The Evans Subarea is envisioned to develop in concert with Evans-owned land to its south that is already in the NUSA. There is no specific development proposal at this time. The Village's plans suggest future "Shopping and Services" uses along the Interstate, transitioning to

"Mixed or Flex Commercial/Residential" uses to the east and north, then to "Moderate Density Village Residential" uses that are part of a larger planned Village neighborhood to the northeast. Village plans also suggest a new collector road between planned "Shopping and Services" and "Mixed or Flex Commercial/Residential" use areas. This road is envisioned to spur from existing Morrisonville Road and connect to County Highway I to the northwest.

Development staging in the Evans Subarea is anticipated from southeast to northwest, following the expected progress of utility extension.
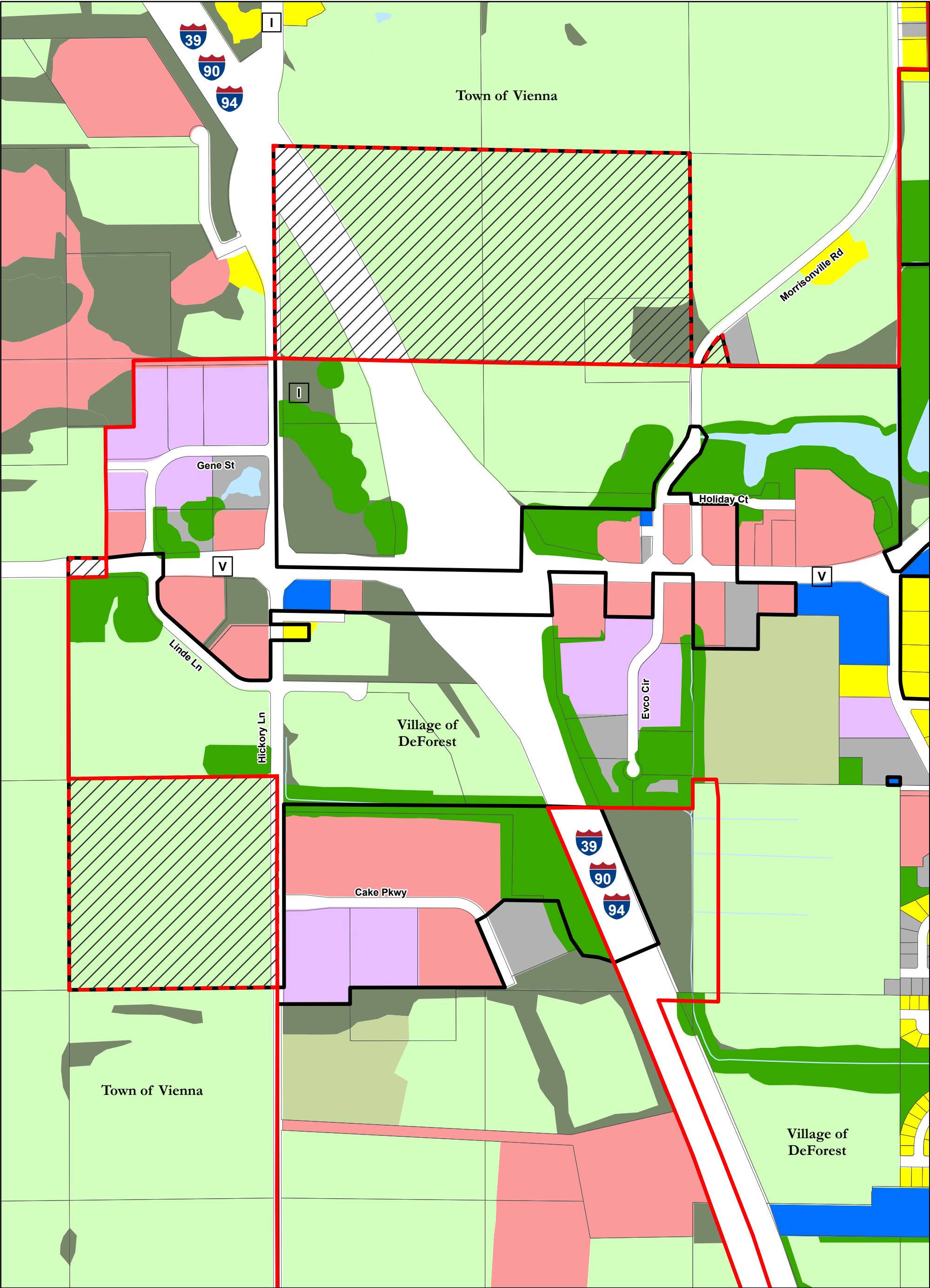
Table 1 quantifies the existing and proposed land use pattern within the proposed NUSA expansion areas combined.

Table 1: Existing and Proposed Land Use, Northern Interstate Corridor Expansion Areas

Proposed Land Use	Number of Acres			Number of Housing Units
	Total Area	Existing Development	Environmental Corridor [3]	
Single-Family Residential	8.0	0.0	0.0	36
Other Type Residential	14.4	0.0	0.0	216
Residential Total	22.4	0.0	0.0	252
Commercial	42.5	0.0	0.0	
Industrial	33.4	0.0	0.0	
Institutional	0.0	0.0	0.0	
Street R-O-W [1]	11.8	11.8	0.0	
Parks	0.0	0.0	0.0	
Stormwater Mgmt. [2]	11.4	0.0	11.4	
Other Open Space	0.0	109.7	0.0	
TOTAL	121.5	121.5	11.4	252

Notes:

1 "Street R-O-W" includes all existing rights-of-way that are in the proposed NUSA expansion areas. "Street R-O-W" does not include the "potential future road right-of-way" shown on Maps 6A and 6B, as none of these roads or any other is included in any approved or pending subdivision plat or CSM.

2 Based on conceptual stormwater management areas indicated on Map 6A and 6B. Actual locations, sizes, and configurations of stormwater management areas will likely vary.

3 Based on the proposed environmental corridors shown on Maps 6A and 6B, which coincide with conceptual stormwater management areas. Actual locations may vary with final stormwater management locations.

Town of Vienna

I-39 I-90 I-94

Morrisonville Rd

Gene St

Holiday Ct

V

V

Linde Ln

Village of
DeForest

Hickory Ln

Evco Cir

I-39 I-90 I-94

Cake Pkwy

Town of Vienna

Village of
DeForest

Existing Land Use

Map 5

Oct 31, 2023

0   375   750   1,125
Feet

N

Proposed USA Expansion	Government/Institutional
Existing USA Boundary	Environmental Corridor (in existing USA boundary)
Village of DeForest Municipal Boundary (July 2023)	Agricultural
Parcels (Sept 2023)	Woodlands/Other Open Land
Single Family Residential	Developing and Vacant Subdivided Land
Commercial	Surface Water
Industrial	Recreational

vierbicher

Linde Ln

Hickory Ln

Village of DeForest

Cake Pkwy

Town of Vienna

Document Path: R:\DeForest, Village of\230295 - Northern Interstate Corridor USA Application\GIS\ArcGIS Pro\Map 6 - Planned Development Pattern\Map 6 - Planned Development Pattern.aprx

Planned Development Pattern
Research Products Subarea

Map 6A

November 10, 2023

0   100   200   300   400
Feet

N

vierbicher
planners | engineers | economy

Sources: Dane County LIO, CARPC, MDRoffers,
Columbia County LIO, Vierbicher

Municipal Boundaries (July 2023)

Parcels (Sept 2023)

Environmental Corridor (in existing USA boundary)

Conceptual Stormwater Management/Proposed Environmental Corridor (in proposed USA expansion)

Shopping and Services

Industrial and Business Park

Mixed or Flex Commercial/Industrial

Existing USA Boundary

Proposed USA Expansion

Potential Future Road Right-of-way

Shapes on map represent general recommendations for future land use. Actual boundaries between different land use types and associated zoning districts may vary somewhat from representations on this map. Not all lands shown in a future developed land use category are immediately appropriate for development, rezoning, annexation, utility extension, or subdivision.

Town of Vienna

Zoi Ln

Town of Vienna

Village of DeForest

Town of Vienna

Morrisonville Rd

Village of DeForest

I

Planned Development Pattern: Evans and Buc-ee's Subareas

Map 6B

DEFOREST 2020-2040

vierbicher
planners | engineers | advisors

0   200   400   600
Feet

N

November 10, 2023

Sources: Dane County LIO, CARPC, MDRoffers, Columbia County LIO, Vierbicher

Municipal Boundaries (July 2023)

Parcels (Sept 2023)

Environmental Corridor (in existing USA boundary)

Other Protection/Stewardship Areas (outside USA boundary/expansion)

Conceptual Stormwater Management/Proposed Environmental Corridor (in proposed USA expansion)

Shopping and Services

Industrial and Business Park

Mixed or Flex Commercial/Residential

Mixed or Flex Commercial/Industrial

Low Density Village Residential

Moderate Density Village Residential

Higher Density Village Residential

Existing USA Boundary

Proposed USA Expansion

Potential Future Road

Right-of-way

Document Path: R:\DeForest, Village of\230295 - Northern Interstate Corridor USA Application GIS\ArcGIS Pro\Map 6 - Planned Development Pattern\Map 6 - Planned Development Pattern.aprx

5   Natural Resources

The proposed NUSA expansion areas are in the Upper Yahara River Watershed. The Yahara River is designated by the WisDNR as a warm water sport fishery. Per the *North Yahara FUDA Environmental Conditions Report*, this stretch of the River plays an important role in providing spawning habitat for a wide variety of sport fish.

All of the Evans and Buc-ee's Subareas and the northeastern portion of the Research Products Subarea are located within a thermally sensitive area, as designated by the WisDNR. These are areas within a watershed that drain to an existing or proposed Cold Water Community or Class I, II, or III Trout Stream. The Village's stormwater management ordinance generally requires provisions to reduce the temperature of runoff for development sites located within Thermally Sensitive Areas. The ordinance states that a stormwater plan does not have to meet thermal reduction requirements if the applicant can justify that practices are not necessary because there will be no post-development runoff temperature increase.

There are no floodplain or steep slopes (12%+) in the proposed NUSA expansion areas.

Specific to Research Products Subarea

At present, the Wisconsin Department of Natural Resources (WDNR) Surface Water Data Viewer includes a mapped wetland near the center of the Research Products Subarea. In August 2022, Heartland Ecological Group Inc. completed a wetland delineation for the Research Products Subarea (see Appendix G). That delineation revealed no wetlands in the 40-acre Research Products Subarea. The east central portion of the Subarea, overlapping with the WDNR-mapped wetland, does contain a closed watershed that internally drains and is tiled. This closed watershed is addressed in the Stormwater Management section below.

According to the NRCS Web Soil Survey, within the Research Products Subarea:

- Approximately 36% of the soils are Co (Colwood silt loam, 0 to 2 percent slopes), which the NRCS classifies as a hydric soil and is located near the Subarea's center.

- 22% are RnB (Ringwood silt loam, 2 to 6 percent slopes), which is non-hydric and is located on the northwest side of the Subarea.

- 18% are RaA (Radford silt loam, 0 to 3 percent slopes), which is non-hydric and is located in the southern portion of the Subarea.

- 15% are EfB (Elburn silt loam, 0 to 3 percent slopes), which is non-hydric and is located in the northeast corner of the Subarea.

- 6% are GwC (Griswold loam, 6 to 12 percent), which is non-hydric and confined to the southern edge of the Subarea.
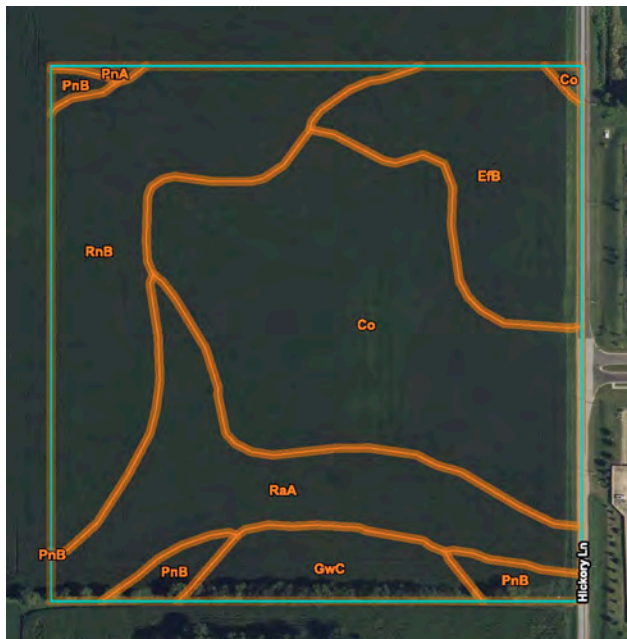
- The remaining 3% are other soil types.

Per the *North Yahara FUDA Environmental Conditions Report*, in the Research Products Subarea:

- Depth to bedrock is between 5 and 50 feet.

- Depth to water table is greater than 6 feet in northern and western portions of the Subarea, and between 0 and 3 feet elsewhere.

- Groundwater recharge is 10 to 11 inches per year, classified at the "medium" level.

- There was minimal to no potential for threatened or endangered terrestrial or aquatic species in the one-mile section that includes the Research Products Subarea based on general Natural Heritage Inventory maps.

There is a line of mature trees along the southern parcel boundary of the Subarea. Village ordinance will require this line to be examined prior to development, and if containing non-invasive mature trees, mature woodland preservation/mitigation requirements will apply.

Specific to Evans Subarea

According to the NRCS Web Soil Survey, within the Evans Subarea:

- Approximately 39% of the soils are PnB (Plano silt loam, till substratum, 2 to 6 percent slopes), which is non-hydric and spans the Subarea.

- 25% are RnA (Plano silt loam, 0 to 2 percent slopes), which is non-hydric and is common in the northern stretch of the Subarea.

- 7% are GwC (Griswold loam, 6 to 12 percent), which is non-hydric and confined to the higher knobs within the Subarea.

- 7% are PoB (Plano silt loam, gravelly substratum, 2 to 6 percent slopes), which is non-hydric and located near the north edge of the Subarea.

- 7% are EfB (Elburn silt loam, 0 to 3 percent slopes), which the NRCS classifies as non-hydric and is located in the southwest part of the Subarea.

- 6% are SaA (Sable silty clay loam, 0 to 2 percent slopes), which the NRCS classifies as a hydric soil and is located at the southern edge of the Subarea.

- 6% are RnC2 (Ringwood silt loam, 6 to 12 percent slopes, eroded), which is non-hydric and located near the north edge of the Subarea.

- The remaining 3% are other soil types.

WisDNR has no mapped wetland in the Evans Subarea. Due to this fact, hydric soils are limited to the southern edge, and limited development is suggested in this same area (see Map 6B), a wetland delineation has not been completed at this time. The Village will require a wetland delineation prior to development, and work with CARPC staff to adjust the environmental corridor as needed to correspond with any wetland that may be delineated.

Per the *North Yahara FUDA Environmental Conditions Report*, in the Evans Subarea:

- Depth to bedrock is generally between 5 and 50 feet, except depth to bedrock is greater than 50 feet near the Subarea's western edge.

- Depth to water table is greater than 6 feet in the northern portions of the Subarea, between 3 and 6 feet in central portions, and less than 3 feet in southern portions.

- Groundwater recharge is 10 to 11 inches per year, classified at the "medium" level.

- There was minimal to no potential for threatened or endangered terrestrial or aquatic species in the one-mile section that includes the Evans Subarea based on general Natural Heritage Inventory maps.

There is a cluster of mature trees northwest of where Morrisonville Road transitions from a northerly direction to a northeasterly direction. Village ordinance will require this cluster to be examined prior to development, and if containing non-invasive trees, mature tree preservation/ mitigation requirements will apply.

Specific to Buc-ee's Subarea

The Buc-ee's Subarea has minimal natural areas or environmental limitations. In December 2022, Wetland and Waterway Consulting, LLC completed a wetland delineation for lands

including the Buc-ee's Subarea (see Appendix H). There were no wetlands found in the 6-acre Buc-ee's Subarea. Wetlands found in the portions of the Buc-ee's development site to the south that are already in the NUSA are being addressed as part of that development proposal.

6   Utilities—Sanitary Sewer Service

The proposed sanitary sewer configuration is shown on Map 7: Overall Utility System Configuration.

The proposed Research Products Subarea and other parts of the Village west of the Interstate already in the NUSA will be provided with sanitary sewer service through westerly extension of Village of DeForest sanitary sewer system. This will begin with installation of an 18-inch east/west interceptor main connecting to the Village's existing main in River Road between Hilltop Drive and W. Lexington Parkway, with that new 18-inch main extending west to Hickory Lane. From there, a 15-inch sanitary sewer interceptor main will be extended along Hickory Lane, including along the entire east boundary of the Research Products Subarea. Also, that same 15-inch sewer main will be extended north along Hickory Lane across CTH V to serve the Buc-ee's development.

CARPC staff reviewed construction of these sanitary sewer mains in July 2023, and found their immediate service areas to be part of the NUSA thereby their construction consistent with the urban service area provisions of the *Dane County Water Quality Plan*. Approval of this NUSA expansion application will allow (and MMSD service area annexation) will allow connection into the Research Products Subarea. Map 7 also shows a future sewer main within the conceptual future extension of Cake Parkway to the west end of the Research Products Area. Actual future alignment may vary and size to be determined.

Map 7 also shows a future sanitary sewer extension to serve the Evans Subarea. This sewer will be extended north from the previously mentioned westerly extending 18-inch interceptor, starting near the east edge of the Interstate and extending north in existing and future road rights-of-way.

The estimated average daily flow that will be generated from the NUSA expansion areas is 64,080 gallons per day (gpd), with an estimated peak flow rate of 256,320 gpd (0.256 mgd cfs) as shown in Table 2.

Table 2: Estimated Wastewater Flows – NUSA Expansion Areas

Land Use	Acres	Number of Units	Population	Average Daily Flow Rate (gpd)	Peak Flow Rate (gpd)	(mgd)
Evans & Buc-ee's Subareas:						
Single Family Residential	8.0	36	97	8,245	32,980	0.033
Other Type Residential	14.4	216	389	33,065	132,260	0.132
Commercial	42.5	-	-	12,750	51,000	0.051
Industrial	0.0	-	-	0	0	0.000
Street/Rail R-O-W[6]	10.5	-	-	0	0	0.000
Stormwater Management/Environmental Corridor	6.1	-	-	0	0	0.000
Evans & Buc-ee's Subareas Totals =	**81.46**			**54,060**	**216,240**	**0.216**
Research Products Subarea:						
Single Family Residential	0.0	0	0	0	0	0.000
Other Type Residential	0.0	0	0	0	0	0.000
Commercial	0.0	-	-	0	0	0.000
Industrial	33.4	-	-	10,020	40,080	0.040
Street/Rail R-O-W	1.3	-	-	0	0	0.000
Stormwater Management/Environmental Corridor	5.3	-	-	0	0	0.000
Research Products Subarea Totals =	**40.00**			**10,020**	**40,080**	**0.040**
Total USAA =	**121.46**			**64,080**	**256,320**	**0.256**

Factors:

Single-Family Residential Capita per Unit [1] =	2.67
Other Type Residential Capita per Unit [2] =	1.8 persons per unit
Per Person Demand/Sewage Generation Rate [3] =	85.0 gals./day*person
Commercial/Industrial Generation Rate [4] =	300.0 gals./acre*day
Peaking Factor [5] =	4.0

Footnotes:

(1) Persons per household, 2017-2021, US Census Bureau.

(2) Typical multi-family residential capita per unit.

(3) 50 gpdc water demand per Village of DeForest 2021 water sales + 35 gpdc infiltration and inflow allowance.

(4) Per 2018 WW flow data from MMSD for existing USA (40,787.5 gpd/179.5 ac = 227 gpd/acre).

(5) NR 110.13(1)(c)2., Wisc. Admin. Code.

(6) Includes 0.7 acre of existing Highway V right-of-way to be added to NUSA.

The sizing calculations for the approved 15-inch interceptor sewer along Hickory Lane that will be south of the proposed 18-inch east/west interceptor sewer included projected flows from the Research Products Subarea. The sizing calculations for the 15-inch interceptor sewer on Hickory Lane north of this 18-inch interceptor included projected flows from the proposed Buc-ee's development. The sizing calculations for the primary east/west 18-inch interceptor sewer included flows from the Research Products, Buc-ee's, and Evans Subareas—plus other lands in the service areas for these interceptors. As such, these interceptor sewers will have capacity to serve the proposed NUSA expansion areas without compromising their ability to also serve lands already in the NUSA.

Map 8 shows the locations of the proposed NUSA expansion areas within the ultimate service areas of the approved 15-inch and 18-inch sanitary sewer interceptors. Further, the new 18-inch interceptor main will connect to an existing sewer main in River Road. This sewer main

eventually drains to the north end of May Apple Circle and into MH 14-196 of MMSD's DeForest Extension (MH14-196 to MH14-134) of the Northeast Interceptor, as shown in Map 9 below.

The 2018 *MMSD Collection System Evaluation* included the MMSD Northeast Interceptor. The future service area for this interceptor included the proposed NUSA expansion areas. This evaluation estimated the interceptor to have adequate capacity beyond the year 2040. The pertinent interceptor capacity evaluation table (Table 4-32) from the *MMSD Collection System Evaluation* appears as Table 3 in this application.

The sum of the estimated peak flow from the NUSA expansion areas (0.256 mgd) and the estimated year 2040 peak flow in the DeForest Extension of the Northeast Interceptor is less than the capacities of any of the segments in that interceptor extension. Therefore, the DeForest Extension of the Northeast Interceptor has adequate capacity to serve the proposed NUSA expansion areas.

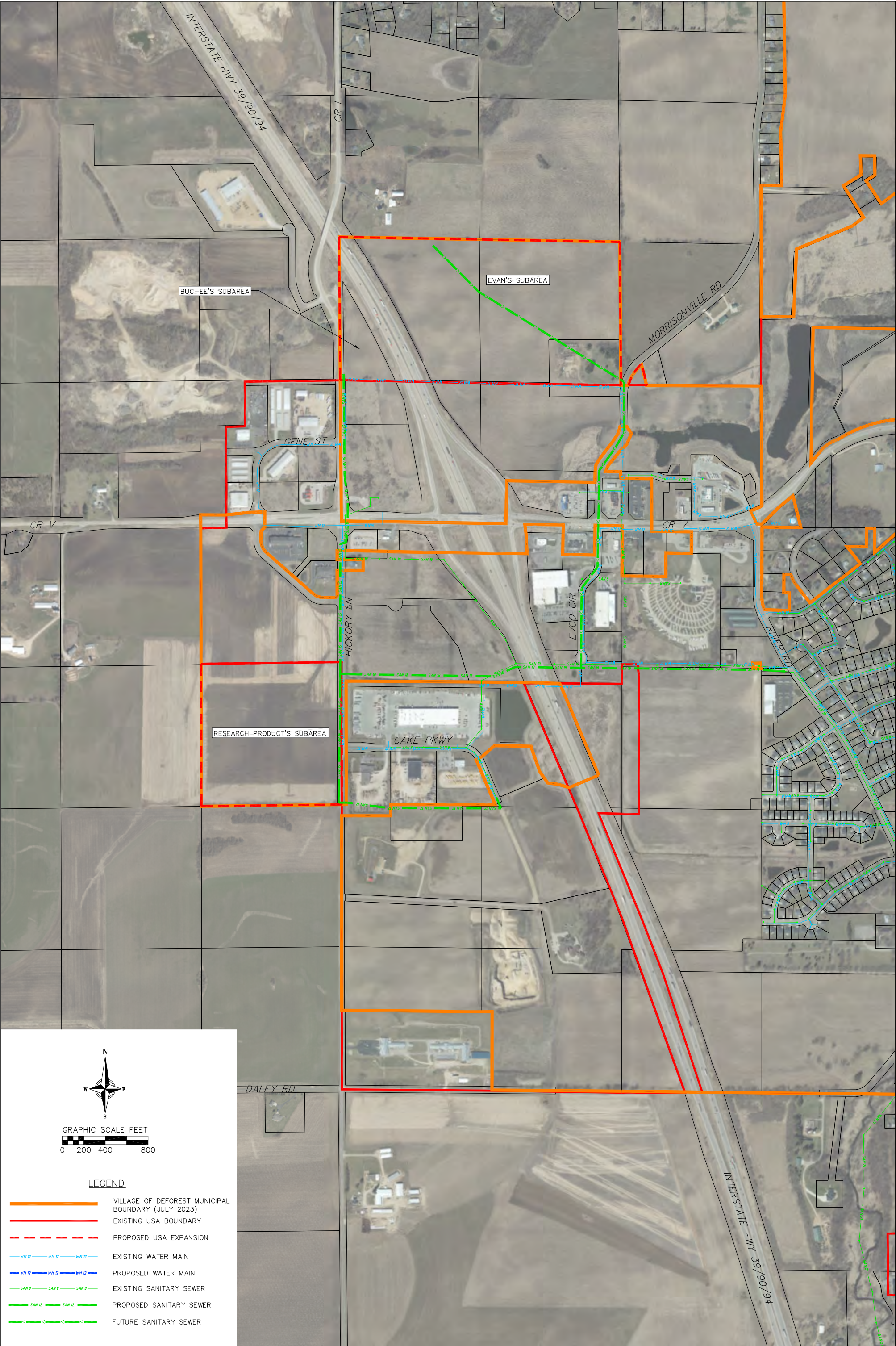### Table 3: Northeast Interceptor – DeForest and Extensions Capacity Evaluation

Table 4-32: Northeast Interceptor – DeForest Extension

From	To	Length (ft)	Pipe Dia. (in)	Nominal Capacity (mgd)	Peak Flows (mgd) / Percent Nominal Capacity													
					2010		2015		2020		2025		2030		2035		2040	
MH14-209	MH14-196	4,386	21	3.39	1.78	53%	1.53	45%	1.81	53%	1.83	54%	1.83	54%	1.87	55%	1.87	55%
MH14-196	MH14-193	1,203	21	3.39	2.67	79%	2.29	67%	2.68	79%	2.72	80%	2.76	81%	2.79	82%	2.87	85%
MH14-193	MH14-182	4,062	21	5.51	2.86	52%	2.43	44%	2.84	52%	2.88	52%	2.92	53%	3.00	54%	3.08	56%
MH14-182	MH14-171	5,724	21	5.51	2.86	52%	2.43	44%	2.84	52%	2.88	52%	2.92	53%	3.00	54%	3.08	56%
MH14-171	MH14-166	2,351	21	5.51	2.98	54%	2.57	47%	3.00	54%	3.04	55%	3.08	56%	3.16	57%	3.23	59%
MH14-166	MH14-165	488	21	5.51	3.99	72%	3.41	62%	4.00	73%	4.09	74%	4.16	76%	4.22	77%	4.29	78%
MH14-165	MH14-162	1,401	24	7.01	3.99	57%	3.41	49%	4.00	57%	4.09	58%	4.16	59%	4.22	60%	4.29	61%
MH14-162	MH14-156	2,687	24	7.01	4.32	62%	3.84	55%	4.42	63%	4.53	65%	4.63	66%	4.71	67%	4.78	68%
MH14-156	MH14-145	4,625	27	9.17	5.34	58%	4.46	49%	5.29	58%	5.41	59%	5.51	60%	5.59	61%	5.65	62%
MH14-145	MH14-143	964	30	9.18	5.46	59%	4.78	52%	5.56	61%	5.71	62%	5.82	63%	5.91	64%	5.97	65%
MH14-143	MH14-134	4,895	36	9.63	5.46	57%	4.78	50%	5.56	58%	5.71	59%	5.82	60%	5.91	61%	5.97	62%

From	To	Nominal Capacity [1] (mgd)	Estimated Peak Flows [1] (mgd) 2040	Estimated Peak Flows + NUSA Amend. [2] (mgd) 2040	Percent Nominal Capacity 2040
MH14-209	MH14-196	3.39	1.87	2.13	63%
MH14-196	MH14-193	3.39	2.87	3.13	92%
MH14-193	MH14-182	5.51	3.08	3.34	61%
MH14-182	MH14-171	5.51	3.08	3.34	61%
MH14-171	MH14-166	5.51	3.23	3.49	63%
MH14-166	MH14-165	5.51	4.29	4.55	83%
MH14-165	MH14-162	7.01	4.29	4.55	65%
MH14-162	MH14-156	7.01	4.78	5.04	72%
MH14-156	MH14-145	9.17	5.65	5.91	64%
MH14-145	MH14-143	9.18	5.97	6.23	68%
MH14-143	MH14-134	9.63	5.97	6.23	65%

Table Notes: (1) From Table 4-32: Northeast Interceptor - DeForest Extension, 2018 MMSD Collection System Evaluation.
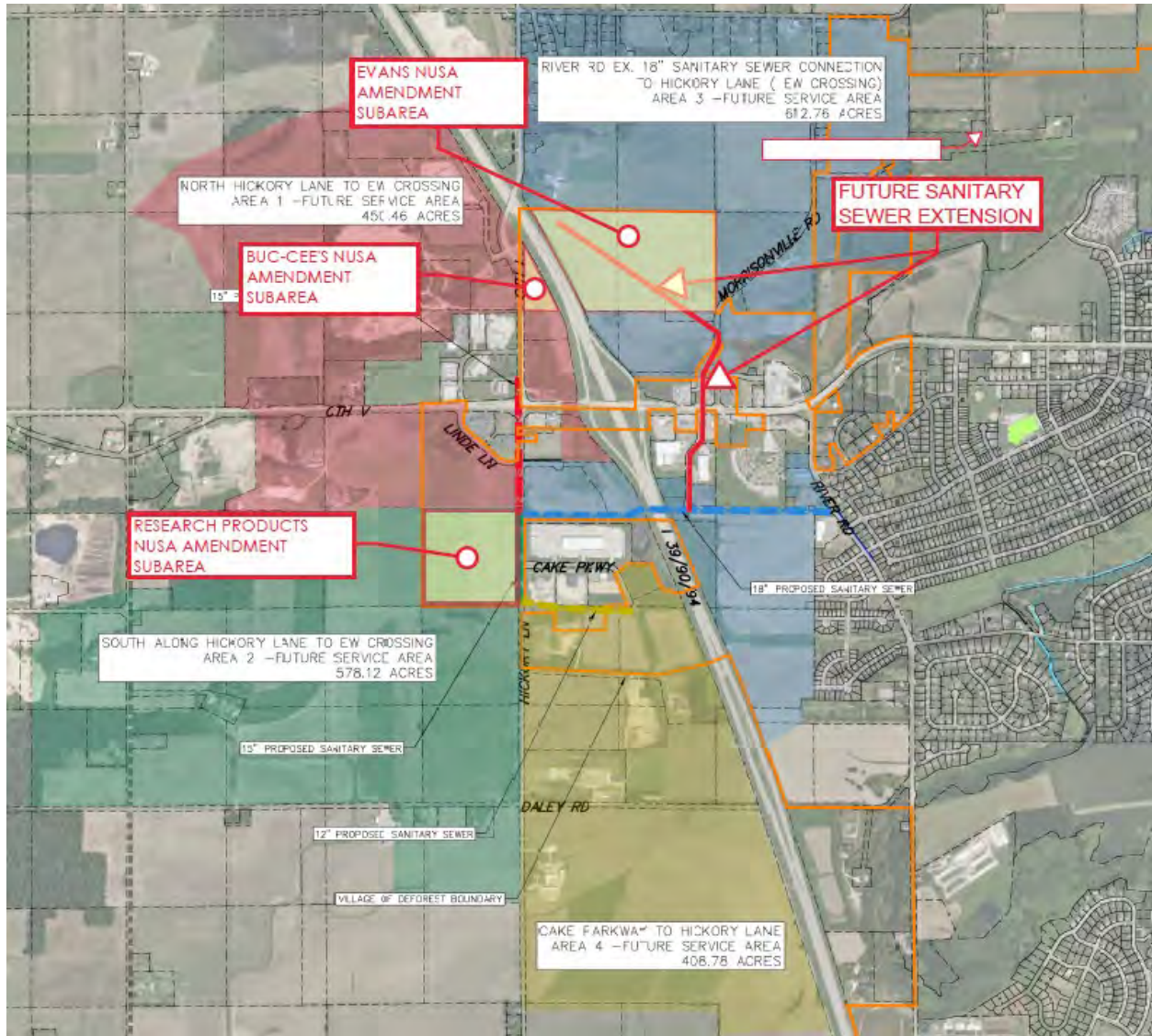
(2) NUSA Amend. Peak Flows from Table 2: Estimated Wastewater Flows - Northern Urban Service Area above.

BUC-EE'S SUBAREA

EVAN'S SUBAREA

RESEARCH PRODUCT'S SUBAREA

INTERSTATE HWY 39/90/94

CR I

MORRISONVILLE RD

GENE ST

CR V

CR V

HICKORY LN

EVCO CIR

RIVER RD

CAKE PKWY

DALEY RD

N
W E
S

GRAPHIC SCALE FEET
0 200 400   800

MAP 7: OVERALL UTILITY SYSTEM CONFIGURATION

VILLAGE OF DEFOREST, WISCONSIN
OCTOBER 31, 2023

vierbicher
planners | engineers | advisors

Map 8: Service Areas for Hickory Lane Sanitary Sewer Interceptors

EVANS NUSA
AMENDMENT
SUBAREA

RIVER RD EX. 18" SANITARY SEWER CONNECTION
TO HICKORY LANE (EW CROSSING)
AREA 3 –FUTURE SERVICE AREA
612.76 ACRES

NORTH HICKORY LANE TO EW CROSSING
AREA 1 –FUTURE SERVICE AREA
450.46 ACRES

FUTURE SANITARY
SEWER EXTENSION

BUC-CEE'S NUSA
AMENDMENT
SUBAREA

15"

CTH V

LINDE LN

RESEARCH PRODUCTS
NUSA AMENDMENT
SUBAREA

CAKE PKWY

I 39/90/94

18" PROPOSED SANITARY SEWER

SOUTH ALONG HICKORY LANE TO EW CROSSING
AREA 2 –FUTURE SERVICE AREA
578.12 ACRES

15" PROPOSED SANITARY SEWER

12" PROPOSED SANITARY SEWER

DALEY RD

VILLAGE OF DEFOREST BOUNDARY

CAKE PARKWAY TO HICKORY LANE
AREA 4 –FUTURE SERVICE AREA
408.78 ACRES

MORRISONVILLE RD

RIVER RD

Map 9: MMSD's Northeast Interceptor - DeForest Extension

NORTHEAST INTERCEPTOR
DEFOREST / HIGHWAY 19 EXTENSIONS
MADISON METROPOLITAN SEWERAGE DISTRICT
COLLECTION SYSTEM EVALUATION
2018

FIGURE 4-16
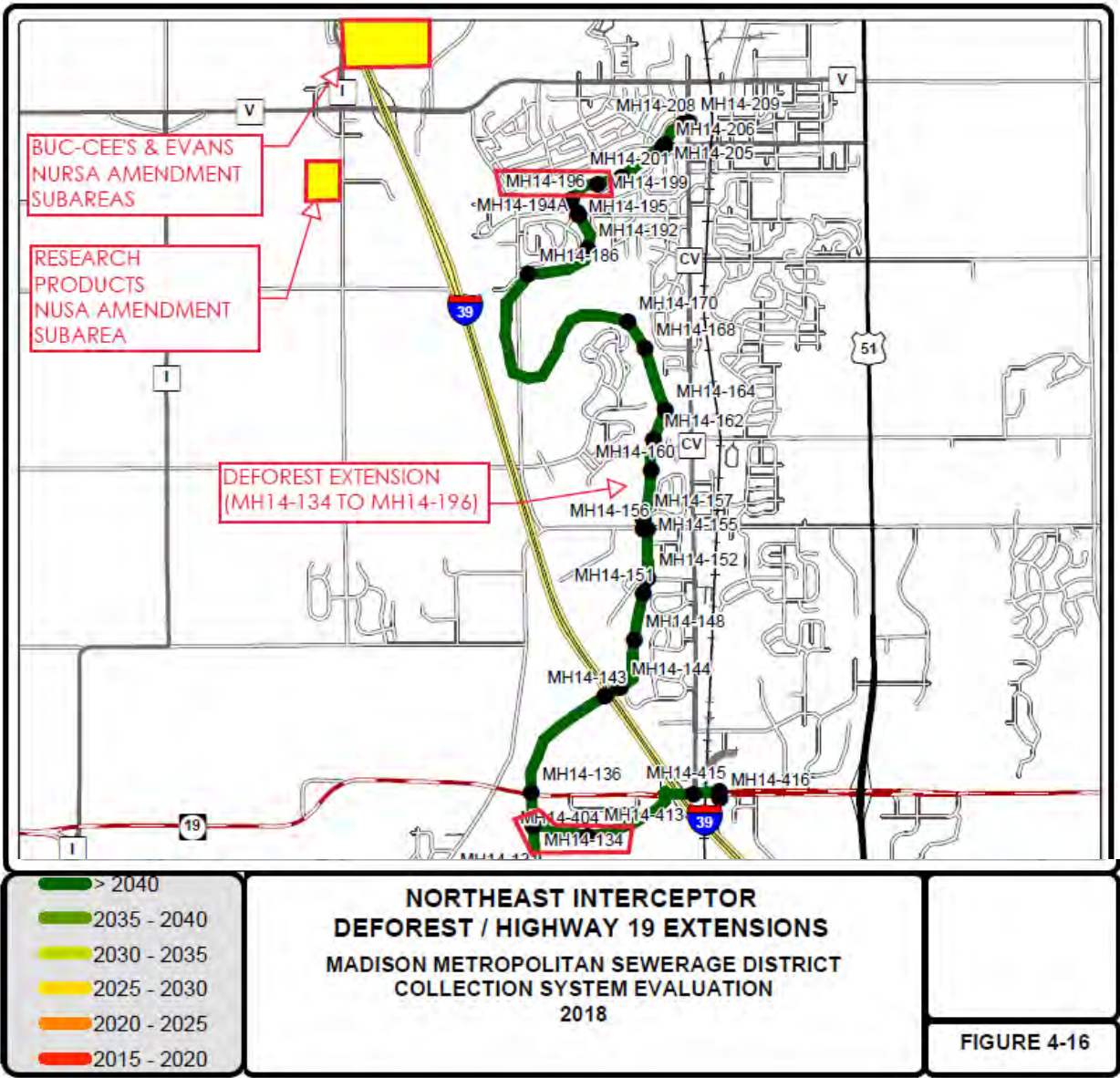
7   Utilities—Municipal Water Service

The Village of DeForest owns and operates the municipal water supply system that will serve the proposed NUSA expansion areas. The whole system includes the historic DeForest ("Deforest North") system plus the former Token Creek Sanitary District ("DeForest South") system, acquired in 2005. In 2021, the Village completed an interconnection between DeForest North and South systems within lands northwest of the interchange of Interstate 39-90-94 and Highway 19. The interconnection between the North and South systems includes a booster station with a pressure control valve. The station can pump water from the South to the North or allow flow from the North to the South.

In total, the system includes active Well Nos. 2, 3, 4, and 6 as well as three elevated tanks. Well Nos. 2, 3 and 4 are in DeForest North while Well No. 6 is in DeForest South. Two elevated tanks (300,000 gallon and 600,000 gallon) are in DeForest North and a 200,000 gallon elevated tank is in DeForest South.

Supply

The entire system (North and South) has a well capacity of 3,560 gpm. Based on the year 2021 pumping records, the average daily demand of the DeForest system was 893,277 gallons per day (gpd), and the maximum day demand was 1.757 mgd (1,220 gpm). Applying a peak hour to maximum day factor of 2.0 to the maximum day demand, the peak hourly demand is estimated to be 2,440 gpm.

Storage

Storage for the NUSA expansion areas is provided primarily by a 300,000 gallon elevated tank and a 600,000 gallon elevated tank in the DeForest North system. The overflow elevation is 1,091 feet, the high water level is 1,089.49 feet, and the low operating level is 1,079.49 feet (USGS Datum). Static pressure ranges for each subarea are presented in Table 4 below. These ranges of static pressures fall within the acceptable range of 35 psi to 100 psi per Chapter NR 811 of the Wisconsin Administrative Code.

Table 4: Static Pressure Ranges – NUSA Expansion Areas

Subarea	High Point Elevation (USGS)	Low Point Elevation (USGS)	Low Static Pressure (psi)	High Static Pressure (psi)
Evans	973.00	946.00	46	62
Buc-ee's	976.00	953.00	45	59
Research Products	960.00	938.00	52	66

Distribution

Map 7 depicts the proposed water distribution system to serve the NUSA expansion areas.

Currently, there is a 12-inch diameter water main loop within the Village of Deforest's water distribution system that borders the southern boundary of the Evans and Buc-ee's Subareas. This loop extends south along Hickory Lane and borders the east boundary of the Research Products Subarea. Water main looping internal to the NUSA expansion areas will be required,

with the actual routes for looping determined based on each subarea's specific development layout.

System Evaluation

Among the proposed land uses in the NUSA expansion areas, projected industrial uses have the highest recommended available fire flow. A typical Insurance Services Office (ISO) recommended available fire flow for industrial areas is 3,500 gpm for a duration of 3.0 hours to be provided under the maximum day demand condition. The current estimated maximum day demand of the DeForest system is 1,220 gpm. The NUSA expansion areas are projected to generate a maximum day demand of 79 gpm, as shown in Tables 5 and 6. Therefore, the total estimated maximum day demand of the current DeForest system plus the NUSA expansion areas is 1,299 gpm.

Table 5: Estimated Water Demands – Research Products Subarea

FF

Land Use	Acres	Number of Units	Average Daily Water Demand (gpd)	Maximum Day Water Demand (gpd)	Maximum Day Water Demand (gpm)	Peak Hour Water Demand (gpm)
Industrial	33.4	-	10,020	19,639	14	28
Street/Rail R-O-W	1.3	-	0	0	0	0
Stormwater Management/Environmental Corridor	5.3	-	0	0	0	0
Totals =	40.0		10,020	19,639	14	28

Factors:

Industrial Demand [1] =	300.0 gals./acre*day
Maximum Day/Average Day Factor [2] =	1.96
Peak Hour/Maximum Day Factor [3] =	2.0

Footnotes: (1) Per 2018 WW flow data from MMSD for existing USA (40,787.5 gpd/179.5 ac = 227 gpd/acre)

(2) Village of DeForest 2021 maximum day/average day water sales ratio.

(3) Typical peak hour/maximum day factor.

Table 6: Estimated Water Demands – Evans & Buc-ee's Subareas

Land Use	Acres	Number of Units	Average Daily Water Demand (gpd)	Maximum Day Water Demand (gpd)	Maximum Day Water Demand (gpm)	Peak Hour Water Demand (gpm)
Single Family Residential	8.0	36	4,896	9,596	7	14
Other Type Residential	14.4	216	29,376	57,577	40	80
Commercial	42.5		12,750	24,990	18	35
Street/Rail R-O-W	9.8		0	0	0	0
Stormwater Management/Environmental Corridor	6.1		0	0	0	0
Totals=	80.8		47,022	92,163	65	129

Factors:

Commercial Demand [1] =	300.0 gals./acre*day
Per Residential Customer Water Demand [2] =	136.0 gals/day*customer
Maximum Day/Average Day Factor [3] =	1.96
Peak Hour/Maximum Day Factor [4] =	2.0

Footnotes: (1) Per 2018 WW flow data from MMSD for existing USA (40,787.5 gpd/179.5 ac = 227 gpd/acre)

(2) Per Village of DeForest year 2021 residential water sales reported to PSCW.

(3) Village of DeForest 2021 maximum day/average day water sales ratio.

(4) Typical peak hour/maximum day factor.

An evaluation of the Water system capacity to provide the peak hourly demand plus fire flow follows:

Maximum Day Demand:	1,299 gpm
Fire Flow:	+ 3,500 gpm
Pumping Capacity:	- 3,560 gpm
Rate Required from Storage:	1,239 gpm
Volume Required from Storage:	

(1,239 gpm)(3.0Ava hrs)(60 min/hr) = 223,045 gallons

As such, with all well pumps in operation, 223,045 gallons of storage is required to provide the recommended fire flow for the recommended duration.

The Village presently has 900,000 gallons of total storage with the DeForest North System elevated tanks completely full. Since elevated tanks are usually not operating completely full, the "effective" storage is 80% of total storage. This leaves approximately 720,000 gallons of available "effective" storage. In addition, the North-South Systems interconnection allows the 200,000 gallon elevated tank in the South System to contribute additional storage volume to the North System in the event of a fire. Adding in 80% of the total storage from both the North and South Systems, the total available effective storage volume is 880,000 gallons. The effective elevated storage of 880,000 gallons is greater than the required 223,045 gallons. Therefore, the water system has adequate capacity to provide the recommended fire flow.

8   Stormwater Management

The proposed NUSA expansion areas are within the Upper Yahara River watershed. The Evans and Buc-ee's Subareas generally drain to the south and east, through a system of overland channels to the Yahara River in the Village's Western Green Park. The Research Products Subarea is partially internally drained and partially draining to the southwest to the Wheeler Wilcox Creek.

Stormwater management for the proposed NUSA expansion areas will be regulated by the Village of DeForest's Chapter 24 Erosion Control and Stormwater Management Ordinance and Section NR 151 of the Wisconsin Administrative Code. Stormwater management plans and practices will meet these local and State requirements for peak flow control, TSS removal, infiltration, and groundwater recharge. Village ordinance standards meet State and County requirements, and include:

- Groundwater recharge rates meeting or exceeding average annual recharge rates as estimated by the Wisconsin Geological and Natural History Survey in a report titled "Groundwater Recharge in Dane County, Wisconsin Estimated by a GIS-Based Water Balance Model."

- Maintain pre-development peak runoff rates for the 1-year, 2-year, 5-year, 10-year, 25-year, 100-year, and 200-year, 24-hour storm events.

- 80% TSS Controls

- 90% pre-development infiltration

- Best management practices (BMPs) to reduce the temperature of runoff for sites located in the thermally sensitive areas

In addition to the above requirements, the Research Products and Buc-ee's Subareas that are in separate closed watersheds will have to meet additional requirements below:

- Pre-development modeling must include closed watershed areas

- Sites within closed watershed must be designed to achieve 90% stay-on, without exemption

- Sites with areas subject to inundation (ground elevations below the watershed outlet elevation) must include:
  - o A stable outlay capable of handling overflow events
  - o an emergency drawdown or pumping plan
  - o storage capacity for back to back 100-year storm events

Plans for stormwater management and erosion control will include the installation of specific BMPs in strategic locations prior to any other ground disturbing activities. Erosion control practices will consist of BMPs necessary to limit sediment from leaving the site during ground disturbing activities. Ground disturbing activities will be limited to specific development phases as much as practical to reduce the area of exposed soil. Temporary sedimentation basins may be constructed to prevent soil from leaving the site. Infiltration practices will be implemented following substantial grading and restoration of the site.

Conceptual stormwater basins are shown on Map 6A and 6B, though precise configurations and locations are likely to change to comply with existing ordinances based on the existing

conditions of the sites. These basins may, in certain cases, serve a single large user and on other occasions may serve multiple development sites and users. Where serving multiple development sites and users, the basins will generally be Village owned and maintained. Where serving a single user, the basins will generally be owned and maintained by that user. The Village requires the recording of stormwater management maintenance agreements prior to the finalization of any stormwater management permit associated with stormwater facilities that are to be privately maintained.

9   List of Appendices

A.   Village Board Resolution Authorizing NUSA Expansion Application
B.   DeForest Plan Commission Resolution Verifying Comprehensive Plan Consistency
C.   Notice to Town of Vienna
D.   DeForest-Windsor Housing Supply & Demand Analysis
E.   DeForest-Windsor Inventory of Approved, Available, and Sold Housing
F.   Research Products Site Development Concept
G.   Research Products Site Wetland Delineation
H.   Buc-ee's Site Wetland Delineation

RESOLUTION 2023 - 054

A RESOLUTION AUTHORIZING THE SUBMISSION OF A REQUEST TO CARPC TO AMEND THE NORTHERN URBAN SERVICE AREA TO ENCOMPASS LANDS WITHIN THE VILLAGE'S NORTHERN INTERSTATE CORRIDOR PLAN AREA

WHEREAS, the Village updated its Comprehensive Plan in April 2023, within which the Northern Interstate Corridor Plan ("Corridor Plan") advises continued Village development and expansion around said corridor, including both economic and neighborhood development; and

WHEREAS, in accordance with said plans and at the request of the property owners, the Village has recently annexed territory within the Corridor Plan area, whereupon such property owners have requested that the Village extend sanitary sewer and water services to facilitate development of such territory; and

WHEREAS, certain portions of said territory ("Subject Properties", as represented in Exhibit A) are presently not within the Northern Urban Service Area ("NUSA"), and municipal sanitary sewer service may be connected to the Subject Properties only once they are within the NUSA; and

WHEREAS, based on the factors to be used for making growth phasing decisions included in the Comprehensive Plan, the Village Planning and Zoning Commission and Village Board have determined that it is timely to include the Subject Properties in the NUSA; and

WHEREAS, under State law and intergovernmental agreement, the process for including the Subject Properties in the NUSA requires application to the Capital Area Regional Planning Commission ("CARPC"), CARPC recommendation to the Wisconsin Department of Natural Resources ("WDNR"), and WDNR approval.

NOW, THEREFORE, BE IT RESOLVED that the Village of DeForest Board of Trustees hereby authorizes a Village application to CARPC no later than one year from the date of this resolution to amend the NUSA to include the Subject Properties as represented in Exhibit A, with the exact timing for submittal determined by the Village Administrator.

Adopted at a regular Village Board meeting this 6th day of July, 2023.

Jane Cahill Wolfgram, Village President

Attest: Callista Lundgren, Village Clerk

Vote: 7-0

EXHIBIT A: SUBJECT PROPERTIES

Add to NUSA northern 5 acres of parcel 0909-133-9083-0 (Buc-ees DeForest LLC), plus adjacent highway rights-of-way

Add to NUSA segment of CTH V right-of-way that is in the Village but not in NUSA currently

Add to NUSA southern 40 acres of parcel 0909-231-0131-1 (Research Products Corp)

Add to NUSA ~66 acres, including all of parcels 0909-133-8503-1 & 0909-133-8003-1, plus northern parts of parcels 0909-133-8321-1 & 0909-134-9191-1 that are not already in NUSA (Evans)

Current NUSA boundary in red

Current Village limits in blue

RECOMMENDED NORTHERN URBAN SERVICE AREA (NUSA) ADDITIONS 6/20/23

PLANNING AND ZONING COMMISSION RESOLUTION 2023-910

A RESOLUTION ADVISING THAT A PENDING NORTHERN INTERSTATE CORRIDOR URBAN SERVICE AREA APPLICATION IS CONSISTENT WITH THE VILLAGE OF DEFOREST COMPREHENSIVE PLAN

WHEREAS, the Village updated its Comprehensive Plan in April 2023, within which the Northern Interstate Corridor Plan ("Corridor Plan") advises continued Village development and expansion around said corridor, including both economic and neighborhood development; and

WHEREAS, in accordance with said plans and at the request of the property owners, the Village has recently annexed territory within the Corridor Plan area, whereupon such property owners have requested that the Village extend sanitary sewer and water services to facilitate development of such territory; and

WHEREAS, certain portions of said territory ("Subject Properties", as represented in Exhibit A) are presently not within the Northern Urban Service Area ("NUSA"), and municipal sanitary sewer service may be connected to the Subject Properties only once they are within the NUSA; and

WHEREAS, the Village intends to apply to the Capital Area Regional Planning Commission ("CARPC") for the Subject Properties to be included in the NUSA, pending authorization from the Village Board; and

WHEREAS, CARPC requests a determination of consistency with the associated municipal comprehensive plan to be submitted with any application to expand the NUSA; and

WHEREAS, the Village of DeForest Comprehensive Plan identifies the Subject Properties for future urban development, and, based on the factors to be used for making growth phasing decisions included in the Comprehensive Plan, the Planning and Zoning Commission ("Commission") has determined that it is timely to include the Subject Properties in the NUSA; and
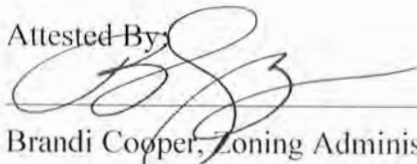
NOW THEREFORE BE IT RESOLVED that the Commission hereby finds that the proposed application to add the Subject Properties to the NUSA is consistent with the DeForest Comprehensive Plan.

Enacted this 27th day of June, 2023

_____
Jim Simpson, Planning and Zoning Commission Chair

Attested By:

_____
Brandi Cooper, Zoning Administrator

Vote: _____ 7-0 _____

EXHIBIT A: SUBJECT PROPERTIES

Add to NUSA northern 5 acres of parcel 0909-133-9083-0 (Bucees DeForest LLC), plus adjacent highway rights-of-way

Add to NUSA segment of CTH V right-of-way that is in the Village but not in NUSA currently

Add to NUSA ~66 acres, including all of parcels 0909-133-8503-1 & 0909-133-8003-1, plus northern parts of parcels 0909-133-8321-1 & 0909-134-9191-1 that are not already in NUSA (Evans)

Add to NUSA southern 40 acres of parcel 0909-231-0131-1 (Research Products Corp)

Current NUSA boundary in red

RECOMMENDED NORTHERN URBAN SERVICE AREA (NUSA) ADDITIONS 6/20/23

Current Village limits in blue

![MDR MDRoffers Consulting logo]

October 9, 2023

Kathleen Clark, Town Clerk
Town of Vienna
Sent via email to clerk@viennawi.gov

Dear Kathy—

This letter is intended to notify you of the Village of DeForest's pending request to expand the Northern Urban Service Area (NUSA) to include lands adjacent to the Town of Vienna. Inclusion in the NUSA is required before the Village may extend utilities to serve future development on such lands.

The Village of DeForest intends to apply to the Capital Area Regional Planning Commission to expand the NUSA to include roughly 120 acres of land near the Interstate/Highway V interchange, as indicated on the following map:
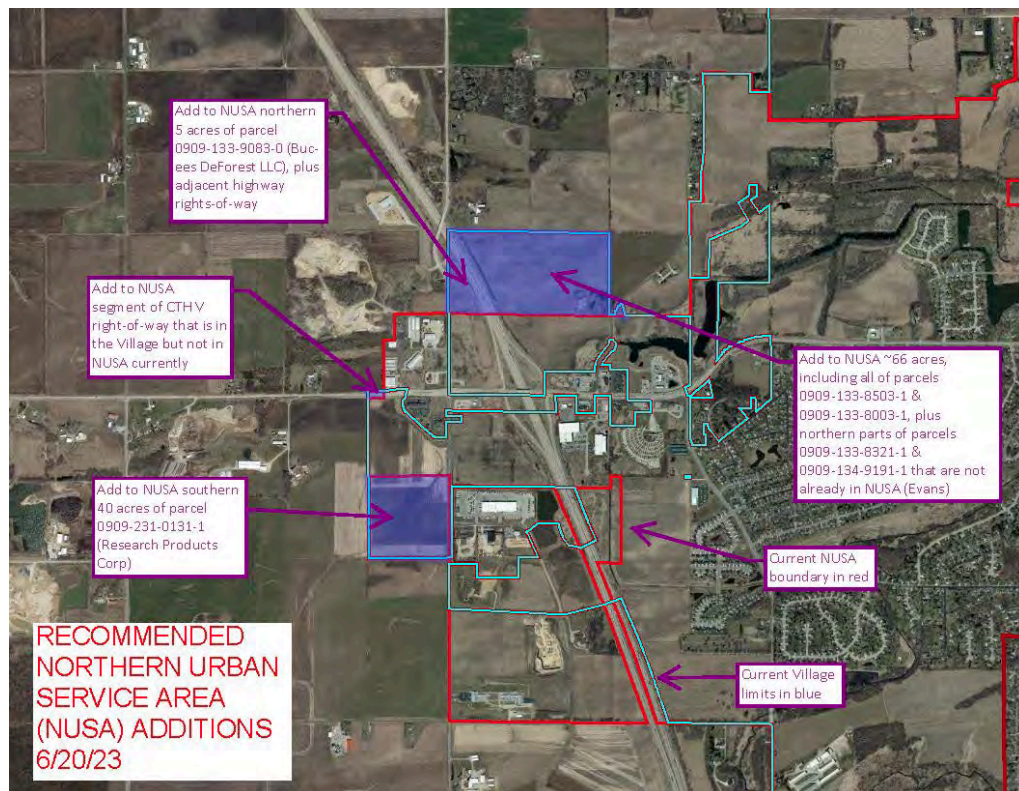
These parcels are within the Village and the planning area of the Village's Northern Interstate Corridor Plan. In April 2023, the Village Board incorporated the Corridor Plan into the Village's updated Comprehensive Plan. The map to the right is the adopted Corridor Plan map with the proposed NUSA expansion areas highlighted, and the Village's recommended future land uses within each area.

We intend to submit the NUSA expansion application by early November. Should you have any questions or comments on this application or proposal, please forward them to me no later than November 1, 2023 if possible.
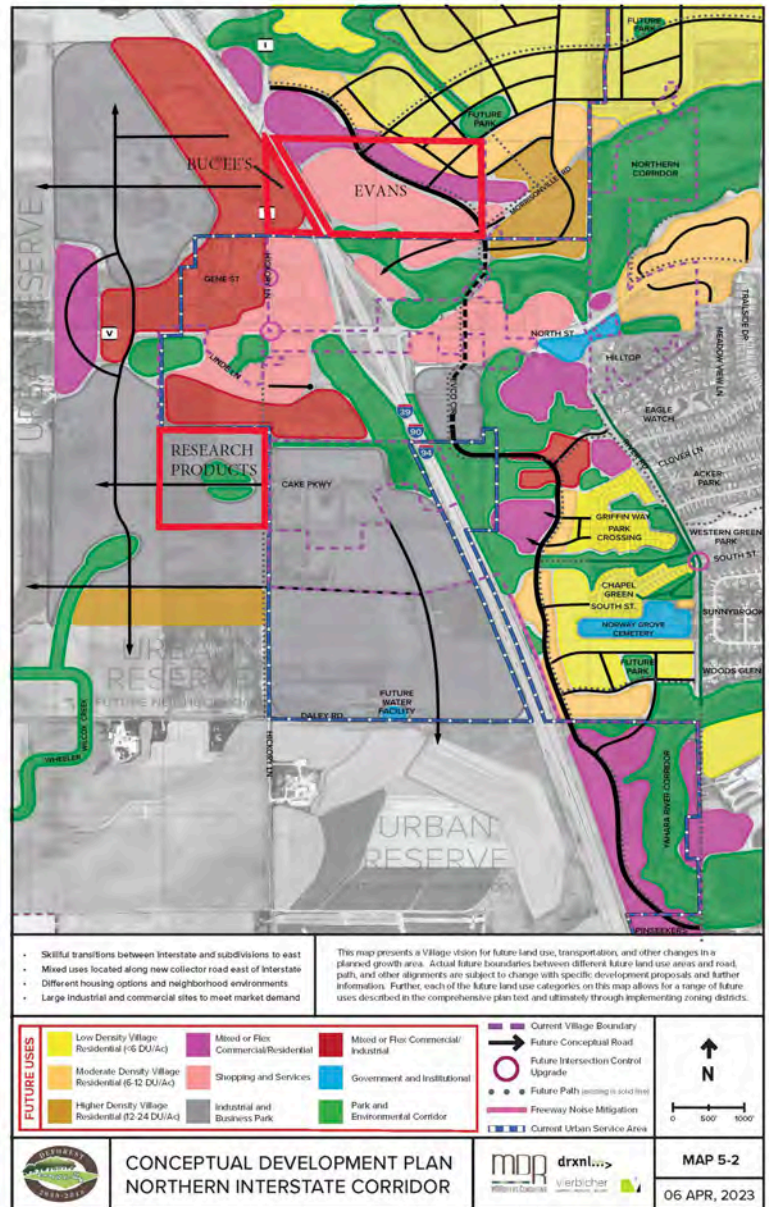
Sincerely,

Mark Roffers
Consulting Village Planner, Village of DeForest

The purpose of this report is to identify whether and to what extent the current and future local demand for multiple family, workforce, senior, and affordable housing in the Villages of Windsor and DeForest exceeds the current supply.

DeForest-Windsor Housing Supply & Demand Analysis

February 24, 2021

Acknowledgements

Village of DeForest	Village of Windsor
Village Board Jane Cahill Wolfgram, President Abigail Lowery Taysheedra Allen Jason Kramar William Landgraf Colleen Little	**Village Board** Bob Wipperfurth, President Don Madelung Bruce Stravinski Monica Smith Kristine Schmidt
Community Development Authority Jane Cahill Wolfgram, Chair Michael Welsh, Vice Chair Jason Kramar Renae Buchheim Doug Wierzba Keith Manke Nishant Upadhyay	**Community Development Authority** Steve Austin, Chair Bill Smith, Vice-Chair Dave Gaustad Tony Hedberg Peggy McCallen Kristine Schmidt Bob Wipperfurth
Village Staff Michelle Lawrie, Community Development Director	**Village Staff** Jamie Rybarczyk, Deputy Administrator and Director of Economic Development
Special thanks to the Capital Area Regional Planning Commission, the Dane County Housing Authority, and others for their time, expertise, and feedback.	

Table of Contents

Section 1—Findings

This section provides the key findings of this Housing Supply and Demand Analysis report, focusing on responses to the following questions asked by Village officials to aid in future policy making regarding affordable, workforce, senior, and multiple family housing in Windsor and DeForest. Key findings are marked in bold text below. Substantially greater detail lies within the remainder of this report.

1. ## What is the current supply of each of these different housing types in Windsor and DeForest?

    DeForest and Windsor have had robust residential development over the past decade, including significant single family and multiple family housing. (Two family/duplex housing construction has been less significant than in prior decades.)

    Between 76 (DeForest) and 80 (Windsor) percent of all housing units in the Villages are owner-occupied, and between 60 percent (DeForest) and 70 percent (Windsor) of all housing units are single family homes. The owner-occupied percentages are higher because more two family and multiple family units are owner-occupied than single family homes that are renter occupied.

    Over the past decade, the percentages of single family units relative to total housing units and the percentages of households owning their home has remained largely unchanged, but significant multiple family (3+ unit) construction has increased its percentage relative to two family units. This a common trend across suburban municipalities in Dane County and elsewhere.

    The supply of approved but unbuilt single family homes generally decreased over the past decade. The number of improved lots actually available for sale decreased in 2020 for the first time in several years. In other words, there have been more permits issued for single family homes in the DeForest-Windsor area than there have been lots created.

    Prices of single family homes and vacant lots have increased significantly in Windsor and DeForest over the past decade, such that the average pre-existing single family home sells for well over $300,000, and it is increasingly difficult to have a new home built for under $400,000 or buy a new vacant lot for much under $100,000. At the moment, the challenge with high lot prices and limited inventory appears particularly acute in DeForest, with an average asking price of about $115,000 per vacant lot.

    As of October 2020, the two Villages have provided land development approvals authorizing 1,185 multiple family units, including apartment units intended for rental occupancy, and condominium and senior housing units in 3+ unit buildings. These have not yet been constructed for a variety of reasons, but could address some of the needs identified in this report.

    DeForest has 98 income-restricted, independent senior rental units within four separate publicly- and privately-operated developments. There are presently no income-restricted housing units within the Village of Windsor, and no income-restricted housing units for non-senior low-income households (including any designated "workforce" housing) in DeForest. Windsor has a

comparably sized total population and senior population as DeForest, but a much smaller workforce. Both Villages have landlords who rent to lower income persons through the federal Section 8 program, and both Villages have senior living communities that *may* be more affordable, due to favorable taxation or otherwise.

DeForest and Windsor have some newer market-rate rental apartment and townhouse developments, requiring rents well over $1,000 per month in many cases and with very low vacancy rates. Economic uncertainty, high material costs (particularly lumber), local governmental policies, and some community resistance are current factors limiting more construction.

2. What local and regional factors are influencing demand for these housing types?
   a. Related to any shortage of affordable owner-occupied housing.
   b. Related to spill-over from individuals currently living in Madison or other cities interested in relocating to suburban areas like Windsor and DeForest. (Can we quantify?)

Several trends suggest growing demand for more smaller-scale, rental, and affordable housing options. Most new residents to DeForest and Windsor tend to be younger than the general population of DeForest and Windsor. Households are generally smaller than in the past, largely because they are having fewer children. Movement between jobs and regions is also occurring at a greater rate, suggesting less interest in being tied down to any one community. Household incomes are not increasing as fast as housing costs—and in some cases are decreasing when accounting for inflation—and many Millennials are burdened with student and other debt. This demand may grow in the coming years as the next generations–Millennials and Gen Z–put off or refrain altogether from family formation. At the same time, there are more senior households interested in downsizing their residences.

Recent surveys and interviews suggest that upwards of 75 percent of people moving to new homes and apartments in DeForest and Windsor move from someplace outside of the DeForest-Windsor area. The last place of residence for many households occupying owner-occupied, single family homes is somewhere else in Dane County. Many—if not most—new residents for rental housing appear to have last lived outside of the Dane County region, many drawn to the County by strong job growth.

Recent social unrest and pandemic concerns in Madison, and more so in larger cities, may be accelerating this type of movement, but at this point the full extent and lasting impact is difficult to quantify. The consultant believes that movement from Madison to places like Windsor and DeForest will continue at much the same pace as it has before, but movement to Dane County from larger metro areas and from rural areas will increase.

M**edian incomes of DeForest's and Windsor's households owning their home has increased between 31 and 42 percent over the past decade, while the median sales price of a single family home has increased by 71 percent, suggesting a growing affordability problem. Additionally, home ownership is generally out of range or a significant reach for single-earner households serving at many full-time**

jobs in DeForest and Windsor. As a result, these households typically must either rent, purchase a house in a location further from Madison, or seek a house in DeForest or Windsor that costs significantly under $300,000. This is a shrinking commodity, and non-existent in new single family construction locally. **Therefore, housing needs may be spilling over into the rental housing market to a greater extent than they would be with more affordable owner-occupied housing options in Windsor and DeForest.**

The shortage of affordably-priced single family homes in Windsor relative to demand is likely greater than in DeForest. Still, the recent discrepancy in average lot prices between the two Villages may begin to even this difference. DeForest lot prices are currently higher and its supply of vacant lots for new single family homes is lower.

3. Can workers in DeForest and Windsor afford to live here? If not, what are the gaps?

Windsor and particularly DeForest have a substantial workforce, with over 7,000 jobs, but only about 11 percent live locally.

Non-DeForest residents who work in DeForest generally have lower incomes than DeForest residents who work elsewhere, are less likely to have completed college, and are younger. This suggests a greater housing gap at the lower end to appeal to the local workforce, than at the upper end.

Much of the DeForest-Windsor workforce earns between about $45,000-$55,000 per year. Only about 11 percent of such workers can afford to buy a home in either of the two Villages. In general, the number of households that can afford a home with just one income is dwindling.

About 60 percent of Windsor's existing rental housing and about 65 percent of DeForest's rental housing is affordable to households making below 50 percent of the median family income.

The increasing rents for new apartments and other rental units render most of them increasingly unaffordable to much of the existing residential renting population and to the workforce of DeForest and Windsor.

Households renting in newly-built units tend to have salaries of $55,000 to $75,000 per year, as property managers are careful to ensure new tenants have the financial means to comfortably pay their rent. This is at or above the income range for most available jobs in DeForest and Windsor.

Area businesses have reported that finding affordable housing near work is an issue for their workers. Many of the occupations reporting affordability problems fall under 50 percent of the median family income for either Village, which would likely qualify these households for subsidized family housing if there were any in either Village.

4. What is the current and expected future (10-year) demand for each of these housing types?

Both DeForest's and Windsor's senior populations have grown by around 70 percent (or nearly 900 residents) over the past decade, but the supply of independent and assisted housing specifically targeted to seniors has barely changed. The median incomes of Windsor and DeForest households with at least one person aged 65 or greater was stagnant over the 2010s in real dollars, and declined when accounting for inflation.

Waiting lists for age-restricted (senior) housing in DeForest and Windsor ranges from one to more than three years.

Recent growth in the senior population seems more concentrated in Windsor, but the large proportion of DeForest's population that has now aged out of their childrearing years suggests a spreading of that wave.

The consultant projects between 2,216 and 2,476 additional households in DeForest and Windsor between 2020 and 2030, creating a roughly equivalent demand for new housing units. Between 1,018 to 1,112 of these additional households are projected to be senior households.

Some of this household growth will be driven by new employment growth in DeForest and Windsor. Staff from the Capital Area Regional Planning Commission project an increase of approximately 1,500 jobs in DeForest and Windsor between 2020 and 2030.

Several factors suggest that the two Villages may be short on market-rate rental housing. These include a widening income gap between homeowners and renters today, increasing employment with rental-supporting pay, very low reported rental housing vacancy rates, and a number of active proposals to increase the supply. In a prior study for the DeForest Area School District, the consultant projected construction (demand) for over 1,000 multiple family units (i.e., in 3+ unit buildings) between 2020 and 2030. This level of demand—**upwards of 100 units built per year—seems readily attainable and "absorbable", provided that the Villages accept that much of this demand will be from current non-residents.** The current interest in constructing new market-rate multiple family housing in DeForest and Windsor appears to be driven more by serving regional professional job growth and (to a lesser extent) empty nesters than the DeForest-Windsor workforce. This is not too different than the market for new single family homes that are being built.

5. Is current supply and cost of affordable housing sufficient to meet demand from:
    a. All current and projected resident households requiring affordable choices?
    b. Lower-income households (i.e., incomes between 30% and 80% of the County median)?
    c. Senior households, including but not limited to lower-income seniors?
    d. Non-resident workers in DeForest and Windsor businesses

If not, how many units are DeForest and Windsor short (i.e., housing gap)?

Median gross rent in DeForest is approaching an unaffordable level for a renting household making median income, while median gross rent in Windsor is unaffordable for a rental household there earning median income. Newer units being built are increasingly more expensive and are likely unaffordable to the existing renting population and the workforce of either community, due in large part to high construction costs.

Median incomes of Windsor and DeForest households renting their housing units has been stagnant-to-declining over the past decade (particularly with inflation), while the median rent has increased by 28 percent in DeForest and 34 percent in Windsor.

For DeForest, the consultant estimates that:
- **206 total affordable rental units are currently needed, not considering any added demand from the non-resident workforce.**
- **Additional affordable senior housing units make up 64 units of this estimated current need.**
- **By 2030, DeForest's projected need increases to between 286 and 291 affordable rental units in total, of which about 127 to 129 would be senior units.**
- **If just 5 to 10 percent of DeForest's non-resident workforce would move to DeForest if housing units were affordably priced, an additional 190 to 382 workforce housing units would be required in DeForest today. That number is projected to grow by 50 to 100 additional workforce housing units by 2030. These could be renter and affordable owner-occupied housing units.**

In Windsor, the consultant estimates that:
- **84 total affordable rental units are currently needed, not considering any added demand from the non-resident workforce.**
- **Affordable senior housing units make up 42 units of this estimated current need. Other statistics included in this report suggest that Windsor's affordable senior housing gap may be greater.**
- **By 2030, Windsor's projected total need increases to between 116 to 121 affordable rental units, of which about 63 to 66 would be senior units, or perhaps greater given other reported statistics.**

- **If just 5 to 10 percent of Windsor's workforce would move to Windsor if housing units were affordably priced, an additional 63 to 128 workforce housing units would be required in Windsor today. These could be a combination of renter and affordable owner-occupied housing units.**

6. Where in the two Villages could these gaps best be filled? What criteria define the most suitable locations?

In general, the best locations for future workforce housing in DeForest and Windsor will be close to Highway 51 and Interstate 39-90-94. These general locations that are both close to many local jobs and easy to get back to the places from where people may have relocated. Still, isolating workforce housing away from neighborhood settings and burdening such housing by noise and pollution has not always been a successful strategy in other areas.

Because DeForest has about three times as many jobs as Windsor, DeForest may wish to assign a greater priority to workforce housing. Because Windsor has a larger older population than DeForest and no current supply of income-restricted senior housing, Windsor may wish to assign a greater priority to affordable senior housing. However, it is unlikely that most workers or seniors will care which of the two Villages they call home, the best sites don't necessarily follow Village limits.

Section 2—Introduction

This section provides the background, purpose, key data sources and methods, and definitions for this Housing Supply and Demand Analysis report.

Background

Dane County has a housing shortage. County-wide, construction of new housing has not kept up with the pace of population and job growth.[1] The shortage spans different housing types (e.g., single family, multiple family), tenures (i.e., owner- and renter-occupancy), and forms (i.e., fee-simple land ownership and condominium). This shortage has translated to increased housing costs; in other words, less affordability. This affects all current and potential residents, but particularly those with more limited and fixed incomes including the elderly. Further, as job growth outpaces housing growth, workers often find themselves unable to afford a home within the community where they work, forcing them to live or relocate elsewhere with longer commutes.

The Villages of DeForest and Windsor, located in northcentral Dane County, had in the past been one of the more affordable places in Dane County to live. This has changed in recent years. As recently as 2009, the median home sales price in the DeForest-Windsor market was among the lowest within suburban Dane County markets and below the County median. By 2019, DeForest-Windsor's median price had increased 71 percent and was above the County median.[2] Further, new apartments in Windsor and DeForest are generally unavailable for under $1,000 per month, with rents $1,200 and up more common.[3] As presented in this report, vacancy rates for most housing in the two Villages are very low.

These changes have prompted concerns in the community that many current and prospective residents and workers in DeForest and Windsor are unable to find or keep suitable and affordable housing. The challenge appears to be mounting. The first members of the 20-year Baby Boom generation are now 75 years old. Further, household income growth is not keeping up with housing cost increases.

In response, there is interest in the community in promoting additional housing of various types, and in working towards greater affordability. Housing market conditions have also prompted growing interest from residential builders—particularly those interested in constructing market-rate multiple family housing and senior housing. This interest seems to have been tempered only by rising material costs (particularly lumber) and broader economic concerns among the development and building community.

Purpose

Village policy makers commissioned this report for objective information to help them address these concerns, forge new and revised housing policies, respond appropriately to pending housing construction proposals, and perhaps actively encourage housing to serve identified needs.

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[1] Dane County Housing Needs Assessment, 2019 Update
[2] South Central Wisconsin Multiple Listing Service
[3] Internet searches; interviews with rental apartment builders

The report does not include new or revised policies, or suggestions for them, except perhaps for siting, design, and other criteria in the final section. Instead, the Villages may use the information in this report to develop, refine, and incorporate policy documents like their respective comprehensive plans.

The purpose of this report is to identify whether and to what extent the current and future local demand for multiple family, workforce, senior, and affordable housing in the Villages of DeForest and Windsor exceeds the current supply. For purposes of this report, the "future" is defined as the next decade and other terms like "affordable" and "workforce" are defined below.

This report is further intended and organized to:
- Define and identify the current demand for the housing types listed above.
- Explore needs of vulnerable populations, such as low-income and senior households.
- Assess the current stock of housing options in each Village to serve these demands and needs.
- Forecast the future demand for these same housing types based on anticipated population growth and change.
- Identify where there are gaps in the current supply versus the current and future demand for these housing types, the extent of those gaps where they exist, and the extent to which these can be divided between the two Villages.
- Provide criteria—and potential locations that meet these criteria—for new housing to fill identified gaps. (At the request of both Villages, this is the only part of the report where policy suggestions are offered.)

The questions and answers in the preceding "Findings" section further define the purpose of this report.

Data Sources and Methodologies

Through this report, the consultant utilized and cited a number of local, county, regional, state, and federal data sources. Perhaps the most prominent is the U.S. Census Bureau's American Community Survey, which will be abbreviated to its common acronym, ACS, throughout the report. The ACS is a demographics survey program that the Bureau conducts annually utilizes the 2019 5-Year Estimate, which provides the most reliable and up-to-date demographic data available when analyzing populations with fewer than 20,000 people. Later in 2021, data from the 2020 decennial Census count will come available, which could be used to supplant some of this ACS data.

The consultant has researched a number of methods to answer the above questions, and has selected a handful based on their applicability and available data. These are documented in this report, particularly in Sections 4 and 5.

The quantitative data and methods were enhanced by interviews, including of local builders, housing staff and advocates, and social and community services personnel. The consultant also utilized housing data it has assembled, analyzed, and projected for the DeForest Area School District, which encompasses both Villages, and other information it has assembled and analyzed.

Definitions

The term "affordable housing" and other related terms can have different definitions. For purposes of this report, the following definitions are used:

- AFFORDABLE HOUSING – Any housing which has a cost (including utilities) that requires no more than 30 percent of a household's income. The U.S. Department of Housing and Urban Development (HUD) and others including lenders and rental property managers have calculated 30 percent as the maximum desired percentage a household with income constraints can afford to pay for housing while having enough remaining income to pay for other nondiscretionary costs. Therefore, whether housing is affordable is relative to household income, and the size of the local population in different income classes relative to housing costs determines the extent to which that locality's housing is affordable.

- AREA MEDIAN HOUSEHOLD INCOME – HUD calculates this statistic for each metropolitan area throughout the United States. This report uses the 2020 Madison, WI HUD Fair Market Rent Area for median household income, which includes all of Dane County. This income chart is used to determine Fair Market Rents (FMRs) and income limits for HUD programs. Households in existing subsidized units in the DeForest-Windsor area are subject to these limits.

- COMMUNITY-BASED RESIDENTIAL FACILITY (CBRF) – A place where 5 or more unrelated people live together in a community setting. Services provided include room and board, supervision, support services, and may include up to 3 hours of nursing care per week.

- COST-BURDENED – A condition affecting a household when its monthly housing costs (including utilities) exceed 30 percent of that household's monthly income.

- HOUSEHOLD – All people living in a single housing unit. Members of a household can be related or unrelated—a family is a common but not the only type of household. "Non-family households" include one-person households and households with people who share a housing unit but are not related.

- HOUSING TENURE – A term used to describe whether a particular housing unit is owned by its occupant, or rented to its occupant by another person or group that lives elsewhere.

- HOUSING UNIT – A place of dwelling for one household, separated by walls from other housing units. Also commonly known as a "dwelling unit" or a "home". Single family homes, two family/duplex units (2 per building), residential apartment units, and residential condominium units, and most senior housing units are all housing units. Group living facilities, like memory care facilities, are not housing units.

- LOW INCOME – A condition when a household's adjusted gross income is below their jurisdiction's median household income, which varies by household size. Adjustments to gross income include such items as educator expenses, student loan interest, alimony payments, and contributions to a retirement account.

- SENIOR HOUSING – Housing that is intended for persons that are 65 years of age or older. Specific assistance programs or housing options may have their own set age for "senior" eligibility that is different, such as 62 or even 55 years old. "Senior housing" is not a housing characteristic measured or tracked by the U.S. Census.

- WORKFORCE HOUSING – Housing priced to be affordable and otherwise intended to meet the needs of the workforce in an area. Typically, the "workforce" being considered are households whose incomes are too high to qualify for public assistance programs, but too low to afford many housing options available in their area. In Wisconsin, "workforce housing" is typically defined as[4]:
  - For renters, households earning up to 60 percent of the area median family income.
  - For homeowners: households earning up to 120 percent of the area's median income.

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[4] Dane County Workforce Housing Gap Fact Sheet, from the 2017 Dane County Housing Summit

Section 3—Population and Employment Profile

This section features current conditions, trends, and projections for the population and workforce in DeForest and Windsor. Current and future residents and workers form the demand for different housing types in the two Villages—both today and over the next decade.

General Population and Household Trends

Figure 1 shows the total population increase and the senior population increase for Dane County and both Villages between 2010 and 2019. Over this period, the total population of Dane County grew 12 percent and its senior population grew 54 percent. Increases in Windsor and DeForest's total population were similar to the County's and to each other, but the senior population grew less rapidly in DeForest than in Windsor. Windsor's senior population is estimated to have grown by 377 people, or by 50 percent, over the past decade. There are now nearly 550 more senior citizens in DeForest and Windsor than there were in 2010. The opening of The Legacy assisted senior living facility in DeForest in 2020 may have increased DeForest's senior population slightly.

Figure 1: Population Growth, 2010 to 2019

	Dane County			DeForest			Windsor		
	2010	**2019**	**Change**	**2010**	**2019**	**Change**	**2010**	**2019**	**Change**
Population	488,073	546,695	+12%	8,936	10,179	+14%	6,345	7,110	+12%
Seniors (Ages 65+)	50,144	77,385	+54%	888	1,059	+19%	760	1,137	+50%
Source: 2010 Census, Table P12; 2019 ACS, Table S0101									

Figure 2 tracks change by age group within the Villages. The population is sorted by pre-school children, school-age children, adults in their childrearing years, adults in their "empty-nester" years, and seniors—providing further insight as to how the population of the two Villages has changed over the past ten years.

In DeForest, the percentage of the population that was in their empty nester years grew, while the school-age and childrearing cohort decreased. Meanwhile, the median age of DeForest residents increased from 35.6 to 36.6 years old. This suggests that, between 2010 and 2019, many DeForest households aged out of their childrearing years, but still had older children at home. Many of these parents will be senior citizens in another decade, joining the increasing cohort already over 65.

In Windsor, the senior cohort increased as the empty-nester cohort decreased, and the percentages of school-age children and adults in their childrearing years largely did not change. Windsor's median age changed very little from 2010 to 2019.

Figure 2: Median Age and Age Cohorts as a Percent of Total Population, 2010 to 2019

	DeForest		Windsor	
	2010	**2019**	**2010**	**2019**
Median Age	35.6	36.6	39.8	40.4
Total Population	8,936	10,179	6,345	7,110
Under 5 Years Old	7%	8%	5%	6%
5 to 19 Years Old	23%	21%	14%	13%
20 to 44 Years	36%	33%	22%	22%
45 to 64 Years Old	24%	27%	21%	18%
Ages 65+	10%	10%	9%	11%
Source: 2010 Decennial Census, Tables P12 and P13; 2019 ACS, Table S0101				

Both Villages had a 1 percent increase in the percentage of the population under the age of 5. Many of the younger adults in the childrearing cohort may be starting to have children, but locally and nationally the birth rate has decreased over the past several years and particularly since the start of the pandemic. The number of births in Windsor has ranged from 56 to 81 per year since 2014, and does not appear to be on an upward trajectory. By contrast, Windsor's senior population is not nearly the same size as its school-aged population.

In 2018, the consultant conducted a survey for the DeForest Area School District of households who had built new single family homes within DeForest and Windsor between 2015 to 2017. Notably, almost half the responding households in newly-built homes within DeForest did not have any school-age or younger children and one-third of new Windsor households did not.

Figure 3 provides household characteristics for both Villages, including housing tenure and type of household.

Figure 3: Household Characteristics, 2019

	DeForest	Windsor
Total Households	3,833	2,710
Homeowner	76%	80%
Renter	24%	20%
Family Households	72%	74%
Non-Family Households	28%	26%
Source: ACS, Tables DP04 and S1903		

The percentages of homeowner households in DeForest and Windsor are greater than the percentage of single family homes in each Village. This is because few single family homes are renter-occupied but a number of duplexes and multiple family units (e.g., condominiums) are owner occupied.

When compared to homeownership levels in 2010, the ratio of homeowners to renters remains unchanged in both Villages. This maintenance of homeownership levels has occurred despite construction of multiple family units (3+ units per building) in both Villages over this period, which are usually to be occupied by renters. Not all "homeowners" own single family detached homes—some own condominium units.

Household Incomes

An assessment of incomes among the existing households in both Villages is central in evaluating housing affordability. Figure 4 provides the median incomes for all households within each Village, and for different types of households within the Villages, along with how incomes have changed since 2010.

Figure 4: Median Incomes for Different Household Types

	DeForest		Windsor	
	2019	**Change from 2010**	**2019**	**Change from 2010**
Median Income (All Households)	$88,151	+28%	$97,004	+34%
By Housing Tenure				
Owner Median Income	$103,575	+31%	$118,476	+42%
Renter Median Income	$42,105	-7%	$37,150	+12%
By Family Structure				
Median Family Income	$102,833	+30%	$123,480	+55%
Median Non-Family Income	$46,591	+14%	$48,342	+15%
Median Income for households with ≥ one person age 65+	$39,688	-2%	$52,574	+4%
Source: ACS, Tables B25119 and S1903				

In both Villages—not accounting for inflation—median incomes for all households, family, and homeowner households increased. Gains were more modest for non-family households, and probably mostly stagnant when accounting for inflation. Particularly when accounting for inflation, incomes for renter households and senior households were stagnant to declining. The presence of senior housing buildings dedicated to low income seniors in DeForest (but not Windsor) may be a reason for the lower median income for senior households in DeForest than in Windsor.

Homeowner household incomes are $60,000 to $80,000 greater than renter household incomes, and family incomes are $55,000 to $75,000 greater than non-family household incomes. This is at least partially attributable to homeowners and families being more likely to have two income earners. These facts also may suggest that DeForest and Windsor have a relatively narrow range of rental housing options, including limited choices with higher rents that are appealing and affordable to higher-income renters.

The comparatively low incomes for non-family households and for seniors are a factor when measuring housing affordability in Windsor and DeForest, as will be calculated in a subsequent section of this report.

Who's Moving to DeForest and Windsor

Among interest to Village officials are the following questions: To what extent are housing demands driven by current residents of DeForest and Windsor versus prospective residents? To what extent are Villages accommodating interests of potential future residents through their policies?

Clearly, the population of DeForest and Windsor is growing. Like most suburban communities, that increase is not coming from births to existing residents alone. Figure 5 provides the estimated number, origin, and median age of new residents over the past year. The data in Figure 5 suggests that for both communities, only about 10 percent of the population moves within a given year.

An estimated 8 percent of new residents moved to DeForest from within Dane County. On average, these new residents were about three to four years younger than DeForest residents who had not moved within the past year. New residents that moved to Windsor from within Dane County were five years younger than existing Windsor residents. Notably, about 2 percent of the population moved to Windsor from outside Dane County over the prior year, and these residents were on average 73.4 years old. The consultant suspects, and this report will later discuss, that Windsor's housing options for seniors may be drawing interest from outside the area.

Figure 5: Origin and Age of New Residents

	DeForest		Windsor	
	Median Age	**Population**	**Median Age**	**Population**
Lived in the same house 1 year ago	37.2	91%	40.7	89%
Moved within Dane County	33.7	8%	35.7	4%
Moved from a different county within Wisconsin	31.9	1%	73.4	2%
Moved from outside Wisconsin	n/a	0%	33.9	1%
Moved from outside United States	28.6	<1%	n/a	0%
Source: ACS, Tables B07002 and B07013. Population totals may not add up to 100% due to rounding.				

Figure 6 provides an estimate of housing tenure for the new residents reported in Figure 5. For both communities, about 70 percent of new residents buy their home, and about 30 percent rent their home. This is consistent with data presented in Figure 3.

Figure 6: Housing Tenure of New Residents

	DeForest	Windsor
Own	70%	72%
Rent	30%	28%
Source: ACS, Tables B07002		

Figure 7 includes the results from the 2018 survey of new homeowners in the two Villages as they related to prior place of residence. Significantly, about 3 of every 4 responding households living in a newly constructed home moved from somewhere outside of the DeForest Area School District. This is consistent with more anecdotal information of people moving to new rental apartments and condominiums in DeForest and Windsor, and common to growing suburban areas like Windsor and DeForest.

Figure 7: Survey of Households in Newly-Built Homes, 2015 to 2017

	Moved to…	
	DeForest	**Windsor**
Total Households Surveyed	101	53
Moved from…		
Elsewhere in Dane County	50%	47%
Within DASD	22%	26%
Outside of Dane County, but within Wisconsin	17%	13%
Outside of Wisconsin	11%	13%
Select Household Characteristics		
No children in household	46%	32%
Household has children under age of 5	12%	19%
Source: MDRoffers Consulting, 2018		

There has been significant discussion concerning whether concerns surrounding the recent social unrest and pandemic are accelerating movement from Madison to suburban areas like Windsor and DeForest, and from larger metropolitan areas to smaller ones like Dane County. It seems too soon to find reliable statistical information to support whether movement away from the City of Madison is or will be any greater, though local real estate activity in later 2020 suggested an uptick in interest for larger homes outside denser urban areas.[5] It does seem likely that Dane County as a whole will have more population and employment growth from larger metropolitan areas, driven by these types of concerns and others, including mobility and job creation. Dane County's employment is driven in large part by healthcare, insurance, and technology, which should continue to thrive. For example, the nation's biggest technology employment migration increase was in the Madison area. The area was gaining 1.02 technology workers for each one that left in 2019. In 2020, it gained 1.77 technology workers for each one lost—a 74 percent increase.[6]

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[5] "Freed from the office, Madison telecommuters are snapping up rural homes", The Capital Times, August 13, 2020.
[6] "Where Tech Workers Are Moving: New LinkedIn Data vs. the Narrative", Big Technology Magazine, December 17, 2020.

Projected Population and Households

Projected population and, in particular, projected households form the basis for future demand for housing. Figure 8 provides population and household projections, under "moderate growth" and "higher growth" scenarios. The consultant utilized population projections from CARPC for each Village, and from that and other State data formulated household projections for senior households to reach a "moderate growth" projection. The "higher growth" projections are from the consultant's 2018 housing projections for the DeForest Area School District.

Figure 8: Population and Household Projections, 2020 to 2030

		DeForest			Windsor			Both Villages		
		2020 [1]	**2030**	**Increase**	**2020** [1]	**2030**	**Increase**	**2020** [1]	**2030**	**Increase**
Total Population		10,344	12,455	+2,111	8,193	9,368	+1,175	18,537	21,823	+3,286
Senior Population		1,059	2,108	+1,049	1,137	1,499	+362	2,196	3,606	+1,410
Moderate Growth Projection[2]	Total Households	3,833	4,982	**+1,149**	2,710	3,777	**+1,067**	6,543	8,759	**+2,216**
	Senior Households	788	1,568	**+780**	746	983	**+237**	1,534	2,552	**+1,018**
Higher Growth Projection[3]	Total Households	4,113	5,412	**+1,300**	3,490	4,666	**+1,176**	7,603	10,079	**+2,476**
	Senior Households	845	1,704	**+858**	961	1,215	**+254**	1,806	2,919	**+1,112**

Sources: 2020 and 2030 Total Population Projections—Capital Area Regional Planning Commission; 2019 Total and Senior Households—ACS
[1] Senior population and total household and senior households for the Moderate Growth Projection in the 2020 column for each Village are 2019 estimates from the ACS, Table S1903.
[2] The results of the Moderate Growth Projection scenario were calculated based on population projections provided by CARPC, household size, and progression of existing age cohorts.
[3] The results of the Higher Growth Projection scenario were calculated based on 2020 and 2030 housing unit estimates made for the DeForest Area School District by MDRoffers Consulting in 2018.

In sum, DeForest and Windsor are projected to have somewhere between 2,216 to 2,476 more households over the next decade, of which between 1,018 to 1,112 are projected to be senior households.

Both Villages are projected to grow. Senior household growth is expected to be greater in DeForest than Windsor. This owes to the relatively greater population that is now in its 50s in DeForest. DeForest's senior population is projected to increase from between 99 and 102 percent in

the 2020s, while Windsor's is projected to increase from between 26 and 32 percent. In contrast, DeForest's non-senior population is projected to increase by between 12 and 14 percent in the 2020s, while Windsor's is projected to increase from between 36 and 42 percent.

The consultant's prior work for the DeForest Area School District allows a more detailed look at projected housing units and the households that may live in them. As part of its 2018 study, the consultant projected future housing units through 2030 based on municipal and developer plans and on market assessment. While not exactly household projections, each projected housing unit is occupied by a household, unless it is vacant. The consultant divided its projections by single family, two family, and multiple family units. Figure 9 includes the results.

Figure 9: Housing Unit Projections by Housing Type, 2020 to 2030

DeForest			
	2020	**2030**	**Increase**
Total Housing Units	4,329	5,697	+1,368
		Single Family	+749
		Duplex	+68
		Multiple Family	+551
Windsor			
	2020	**2030**	**Increase**
Total Housing Units	3,674	4,912	+1,238
		Single Family	+733
		Duplex	+38
		Multiple Family	+467

Between 2020 and 2030, the consultant projected 1,368 new housing units in the Village of DeForest, with about 55 percent projected to be single family units. For the Village of Windsor, the consultant projected 1,238 housing units in the same ten year period, with about 59 percent projected to be single family units—slightly higher than DeForest's projected percentage. Some of Windsor's planned housing areas lack public sewer and water, which leads to such areas developing almost exclusively with single family homes.

While a majority of projected housing units are single family homes, the consultant projections include over 1,000 multiple family units between the two Villages between 2020 and 2030. These were mainly expected to take the form of rental housing, including for seniors.

Type of unit becomes important when determining the needs of special populations, such as low-income households and senior households. While there are typically more housing units than households in any given municipality, household projections can help the Villages understand roughly how many units may be needed by certain demographics in the future.

Local Workforce Estimates

The geographic position of DeForest and Windsor along Interstates 39-90-94 and Highway 51 means that its residents have easy transportation access to the region's multiple job centers. It also means that workers living elsewhere, including in Madison and in more rural areas particularly to the north, can easily get to jobs in Windsor and particularly DeForest.

Figure 10 shows the most recent data (2018) that compares those who live in DeForest against those who work in DeForest, and those who live in Windsor against those who work in Windsor. The source is U.S. Census OnTheMap LODES data.

In DeForest, the number of people living in the Village and commuting elsewhere to work was almost exactly the same as those who drive to DeForest from elsewhere to work—about 5,000 people each way. Only 661 residents both lived and worked in DeForest. Most DeForest residents (79 percent) work elsewhere in Dane County. Only 55 percent of non-residents who come to DeForest for work live in Dane County. The geographic range for workers coming to DeForest spans southern Wisconsin and even northern Illinois. A quarter of workers commuting to DeForest travel more than 50 miles. Non-DeForest residents who work in DeForest generally earn less than DeForest residents who work elsewhere, have lower incomes, are less likely to have completed college, and are younger.

Nearly all working Windsor residents commute outside of Windsor for work. The population of those coming to Windsor for work is smaller than that of DeForest, because Windsor has about 30 percent of the jobs that DeForest has.

Workforce Projections

Staff from the Capital Area Regional Planning Commission (CARPC) estimate that employment in DeForest and Windsor had grown from the 6,504 reported in Figure 10 (5,027 in DeForest; 1,477 in Windsor) to 7,617 in 2020. CARPC staff further project employment in the two Villages to grow to about 9,154 jobs by 2030—or by 1,537 jobs or 20 percent between 2020 and 2030. Some of these new workers will undoubtedly look to Windsor and DeForest as a place to live as well.

The types of projected jobs cover a broad range. Reflecting the established industries in Windsor and DeForest, expansions are likely to include service-based, industrial, and construction positions. New local jobs may come from industry clusters such as medical and agriculture technology, which are being targeted for expansion in the Dane County region by local government officials and entrepreneurs. DeForest and Windsor are well-positioned for the production and distribution required by those industries, given the location of expansion areas along Interstate 39-90-94 and proximity to Dane County Regional Airport's freight terminal. Because DeForest and Windsor have modest levels of retail positions, expected national job losses in that industry will not be felt as much locally.

Figure 10: Select Characteristics of DeForest and Windsor Residents and Workers, 2018

	Live in DeForest, Work Elsewhere	Live Elsewhere, Work in DeForest
Number of Workers	4,604	5,027
	661 people live AND work in DeForest; 331 people live in DeForest and work in Windsor	
Top 5 Occupations	Healthcare (13.5%) Educational Services (10.9%) Manufacturing (8.5%) Retail Trade (9.7%) Public Administration (7.0%)	Transportation/Warehousing (28.0%) Educational Services (11.1%) Agriculture (9.5%) Manufacturing (7.7%) Wholesale Trade (7.6%)
Travel Distance to Work (One-Way)	83% work within 24 miles of home	67% live < 24 miles away; 23% live > 50 miles
Locations	4,409 (79%) of DeForest residents work in Dane County; 52% work in Madison	55% live elsewhere in Dane County and 11% live in Columbia County; otherwise, wide draw
Ages	20 to 29 years: 21%	20 to 29 years: 25%
	30 to 54 years: 57%	30 to 54 years: 52%
Bachelor's Degree or Higher	25%	17%
Earns more than $3,333 per month	53%	46%

	Live in Windsor, Work Elsewhere	Live Elsewhere, Work in Windsor
Number of Workers	3,997	1,477
	116 people live AND work in Windsor; 141 people live in Windsor and work in DeForest	
Top 5 Occupations	Healthcare (13.4%) Educational Services (10.9%) Manufacturing (9.4%) Retail Trade (9.3%) Finance/Insurance (6.6%)	Manufacturing (37.0%) Waste Management (10.5%) Wholesale Trade (9.1%) Construction (7.9%) Healthcare (7.0%)
Travel Distance to Work	84% work within 24 miles of home	72% live < 24 miles away; 18% live > 50 miles
Locations	3,298 (78%) work in Dane County; 53% work in Madison	58% live elsewhere in Dane County and 15% in Columbia County; otherwise, wide draw
Ages	20 to 29 years: 20%	20 to 29 years: 25%
	30 to 54 years: 58%	30 to 54 years: 50%
Bachelor's Degree or Higher	25%	16%
Makes more than $3,333 per month	57%	49%

Section 4—Existing Housing Characteristics

This section describes the current supply of housing in Windsor and DeForest, including its type, quantity, and affordability. This information provides a next step in identifying potential affordable, workforce, senior, and multiple family housing gaps in the Villages today and over the next decade.

General Housing Inventory and Mix

Figure 11 provides a breakdown of housing types by household tenure, as of 2019. In DeForest and Windsor, 76 and 80 percent of all housing units were owner-occupied, respectively. A large majority of single family homes are owner-occupied, and a lower majority of two family and multiple family housing units are renter-occupied.

Figure 11: Occupied Housing Units by Type and Tenure, 2019

DeForest				Windsor			
	Homeowner Occupied	Renter Occupied	Total Units		Homeowner Occupied	Renter Occupied	Total Units
Single Family	2,510	44	2,554	**Single Family**	1,887	115	2,002
Two Family	250	142	392	**Two Family**	152	114	266
Multiple Family (3+ Units)	141	746	887	**Multiple Family (3+ Units)**	125	317	442
Total Units	2,901	932	3,833	**Total Units**	2,164	546	2,710

Source: ACS, Table S2504

Figures 12 through 15 track how the mix of housing units has changed between 2010 and 2020 in DeForest and Windsor. Both Villages experienced growth in the number of each housing unit type between 2010 and 2020.

Single family homes currently make up about 60 percent of all housing units in DeForest and 70 percent in Windsor. Windsor's percentage is understandably higher because Windsor has some residential development areas that are not served by public utilities, which tend to be almost exclusively single family.

The proportion of multiple family units relative to the entire housing stock increased slightly over the past decade. This is mostly due to larger numbers of multiple family units constructed, particularly in 2017 and 2018, as opposed to lesser single family construction. This phenomenon has been common in suburban Dane County over the past decade. In fact, a substantial *majority* of new housing units in places like Middleton, Fitchburg, and Sun Prairie has been in the form of multiple family units over the past decade.

Figure 12: Village of DeForest Total Housing Units by Type, 2010-2020

Housing Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
Single Family	2,103	2,121	2,147	2,182	2,216	2,249	2,274	2,340	2,425	2,484	2,549
Two Family	671	677	677	677	683	685	687	707	731	759	777
Multiple Family	674	674	674	674	674	674	682	814	882	882	897
Total Housing Units	3,448	3,472	3,498	3,533	3,573	3,608	3,643	3,861	4,038	4,125	4,223

Figure 13: Village of DeForest Mix of All Housing Units, 2010-2020

Housing Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Single Family	61%	61%	61%	62%	62%	62%	62%	61%	60%	60%	60.4%
Two Family	19%	19%	19%	19%	19%	19%	19%	18%	18%	18%	18.4%
Multiple Family	20%	19%	19%	19%	19%	19%	19%	21%	22%	21%	21.2%

Figure 14: Village of Windsor Total Housing Units by Type, 2010-2020

Housing Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020*
Single Family	1,827	1,861	1,894	1,943	1,995	2,055	2,128	2,210	2,285	2,360	2,424
Two Family	327	327	327	327	337	347	347	349	351	375	385
Multiple Family	426	443	443	447	451	451	475	532	639	647	647
Total Units	2,580	2,631	2,664	2,717	2,783	2,853	2,950	3,091	3,275	3,382	3,456

Figure 15: Village of Windsor Mix of All Housing Units, 2010-2020

Housing Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Single Family	71%	71%	71%	72%	72%	72%	72%	71%	70%	70%	70.1%
Two Family	13%	12%	12%	12%	12%	12%	12%	11%	11%	11%	11.1%
Multiple Family	17%	17%	17%	16%	16%	16%	16%	17%	20%	19%	18.7%

Sources for Figures 12-15: Villages of DeForest and Windsor Building Permit Records (construction since 2010), US Census Bureau (2010 data)
*2020 data is only through September 30, 2020

Senior Housing Inventory

Both Villages include a number of housing options that are generally limited to seniors, through most are not income-restricted.

These include market-rate owner-occupied condominium and rental apartments with occupancy typically restricted to adults aged 55+ and no income restrictions. For the condominiums and some rental apartments, meals and transportation are not provided. For other such apartments, even where kitchens are typically provided, some meals, transportation, and community services are often also provided. These together are often called "independent living" options.

Other types of senior units are typically located within a community-based residential facility (CBRF). This is defined as a place where 5 or more unrelated people live together in a community setting, licensed by the State of Wisconsin. Services provided include room and board, supervision, support services, and some nursing care. "Assisted living" apartment units are for seniors who cannot live independently and need help with daily living activities, such as eating and sometimes bathing. Assisted living is also available in smaller group settings, such as a single family home. In either case, skilled care is on site to provide assistance.

Other options, such as nursing homes and memory care facilities, serve seniors with chronic conditions that require 24-hour care and monitoring.

All of the above options may be provided separately from one another, or as part of a larger senior campus or group of affiliated facilities.

Figure 16 shows the breakdown of housing units that are currently restricted to senior households in both Windsor and DeForest. DeForest has a greater quantity of both independent units and units and rooms within a CBRF setting.

Figure 16: Senior Housing Inventory

	Non-CBRF			Community-Based Residential Facility (CBRF)			Total Units/Beds
	Condominium unit	1-broooom apartment unit	2-bedroom apartment unit	Independent Living	Assisted Living	Memory Care/Disability	
DeForest	62	86	12	32	42	132	**366**
Windsor	62	-	48	-	46	-	**173**

Source: Village of DeForest Housing Authority, Wisconsin Department of Health Searches CBRF Registry, and internet search.

Within the totals in Figure 16, DeForest and Windsor each have "life lease" residential communities for adults over the age of 55, which are not income-restricted. Jefferson Square, in DeForest, has 62 two-bedroom condominium-style units and Parkside Village, in Windsor, has 62 condominium-style units and 48 2-bedroom apartment units. In a life lease arrangement, each occupant pays an entrance fee and monthly fees in exchange for exclusive use of a housing unit in perpetuity. Upon leaving, the tenant is refunded much of the entrance fee. The monthly fee

covers the development payment-in-lieu-of-(property) taxes (PILOT), landscaping, maintenance, and other incidental fees. For Jefferson Square, the entrance fee is between $164,000 to $170,000, and the monthly fee is $420. There are over 30 households on its waiting list, which equates to a likely wait of 3 to 4 years. For Parkside Village, the entrance fee is between $184,900 and $194,900 for a condominium-style unit and between $120,900 and $155,400 for an apartment unit, and the monthly fee is $485. There are currently about 25 households on its waiting list for an apartment unit and over 100 for a condominium-style unit, which equates to a likely wait of over a year to two years, respectively. The majority of residents in both communities previously resided elsewhere in DeForest or Windsor, followed by Sun Prairie and the east side of Madison.

Also within the above totals, DeForest has three publicly subsidized independent senior rental properties that are income-restricted with a total of 64 apartment units, and one Low-Income Housing Tax Credit independent senior housing development with 34 income-restricted apartment units (98 total units). The waiting list to get a unit in subsidized senior housing, currently available in DeForest only, is over two years.

The length of the waiting lists for the above facilities, combined with anticipation of an aging population, indicate unmet demand in the senior housing market.

Other Low Income Housing Inventory

There are presently no income-restricted housing units within the Village of Windsor—senior or otherwise—and no income-restricted housing units exclusively for non-senior low-income households in either Windsor or DeForest.

There are households in DeForest and Windsor utilizing federal Section 8 vouchers to help cover their monthly housing costs. The Section 8 voucher moves with the household instead of being tied to a specific rental development or unit. Willing landlords may rent their housing units to Section 8 voucher holders, or to the general population not participating in the Section 8 program. In either case, the rent is at market rate, but a portion of the rent for Section 8 households is covered by the program.

Units rented to Section 8 participants are not included in the inventory of low-income housing units. The consultant found no system that tracks and reports how many Section 8 vouchers are used in any municipality. Relatedly, landlords who accept the vouchers are not required to disclose what units are being subsidized through vouchers, and may decide at any time to discontinue participation in the program. While the Section 8 voucher program has been in existence for decades, it is possible that the funding could be eliminated at any time. There is also a lengthy waiting list for vouchers within Dane County, which is currently closed to new applicants except for those with a disability.

Inventory of Approved but Unbuilt Housing

Some of the current and future demand for housing could be accommodated within developments that have already received zoning and subdivision approvals, but where some or all of the approved housing units have yet to be built.

As of October 2020, there are 2,493 housing units that are approved but not yet built in the DeForest-Windsor area. Of this total, 1,077 are future single family units (43% of total), 231 are future duplex units potentially including senior-restricted duplex units (9%), and 1,185 are future multiple family units within 3+ unit condominium, apartment, and senior housing facilities (48%).

Figure 17: Inventory of Approved but Unbuilt Housing Units, DeForest-Windsor Area, October 2020

	Single Family Homes	Duplex Units (including Renter, Owner, Senior)	Multiple Family Units (including Renter, Owner, Senior)	Total Approved but Unbuilt Housing Units
Village of DeForest	494	181	641	1,316
Village of Windsor	583	50	544	1,177
DeForest-Windsor Area Totals	1,077	231	1,185	2,493
Percentage of D-W Total in Each Housing Type	43%	9%	48%	

Sources: Village Planning and Zoning Departments, MDRoffers Consulting (Note: Does not include any Windsor developments outside of the DeForest Area School District.)

The supply of approved but unbuilt single family homes has generally decreased over the past five years. In other words, there have been more permits issued for single family homes in the DeForest-Windsor area than there have been lots approved in new subdivisions. Over this same period, the inventory of lots available for sale had been increasing, but decreased to 323 lots by October 2020.

Apartment Rents

While more multiple family units have been added to the housing stock, rents have still increased. Figure 18 shows the progression of median gross rent for all rental units between 2010 to 2019, along with median gross rent by the number of bedrooms in a rental unit for 2019. Most of the recently built multiple family units in either Village have only 1 or 2 bedrooms, with most of these renting for at least $1,100 per month. The next section of this report has further analysis of local rents against incomes.

Figure 18: Median Gross Rent, 2010-2019
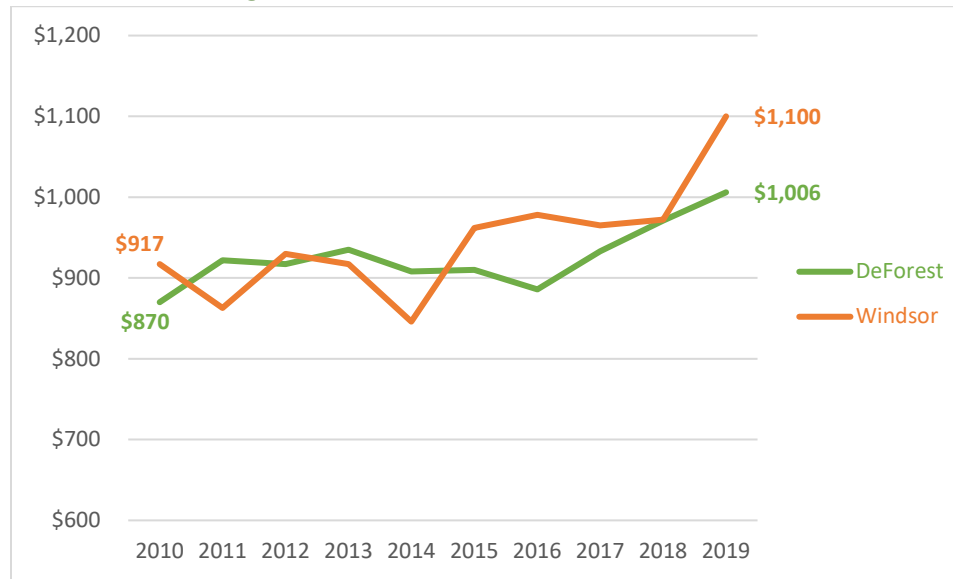
Source: ACS, Table B25064

Single Family Home and Lot Prices

As indicated in Figure 19, the median sale price of single family homes in the DeForest-Windsor area increased 71 percent between 2009 and 2019—the greatest percentage increase of larger municipalities in Dane County. In 2009, the median sale price of existing DeForest-Windsor homes was 15 percent below the Dane County median. As of 2019, DeForest-Windsor homes were priced 8 percent above the Dane County median. The 2019 median sale price in DeForest-Windsor was comparable to Cottage Grove, Fitchburg, and Verona; 12 percent greater than neighboring Sun Prairie; but still 30 percent less than neighboring Waunakee.

Figure 19: Median Sale Price of Existing Single Family Homes by Municipal Market

Municipality	2009	2013	2019	2009-2019 Change
Cottage Grove	$236,000	$234,900	$322,900	37%
DeForest-Windsor	**$185,950**	**$188,400**	**$318,450**	**71%**
Fitchburg	$245,000	$237,500	$324,102	32%
McFarland	$222,700	$226,500	$374,950	68%
Middleton	$250,000	$275,000	$361,500	45%
Monona	$183,000	$190,000	$300,000	64%
Oregon	$215,000	$206,500	$306,575	43%
Stoughton	$168,900	$170,000	$247,000	46%
Sun Prairie	$189,000	$192,500	$279,450	48%
Verona	$218,500	$268,950	$310,000	42%
Waunakee	$333,000	$307,900	$415,000	25%
Dane County	$202,000	$212,040	$295,950	47%

Source: South Central Wisconsin Multiple Listing Service. Data compiled September 14, 2020. Data reported by area realtors; data for unincorporated towns is often combined with the adjacent city or village.

Additionally, the price of "for sale" vacant single family lots in Windsor and DeForest is also increasing significantly, as is the price of new single family and other forms of housing. It is increasingly challenging to obtain a new house and lot for under $400,000, a new condominium unit for under $300,000, and an improved vacant lot for much under $100,000. The average asking price for lots in DeForest's Rivers Turn and Savannah Brooks developments—which contain most of DeForest's for-sale lots—is $115,000 to $117,000. The average lot asking price in Windsor's Bear Tree Farms and Pleasant Hill Estates developments—which contain most of urban Windsor's for-sale lots—is $90,000 to $98,000.

Estimating Housing Affordability Based on Income

The Department of Housing and Urban Development (HUD) uses median <u>family</u> income to determine eligibility for housing assistance. Typically, HUD income limits vary based on total family size. Figure 20 can be used to provide a basis for examining income-eligible family incomes in each

Village, assuming a family of four. For comparison, median family income for a family of four people in Dane County was $100,100. A estimate of monthly affordable housing costs can be made using the data in Figure 20.[7] For example, a Windsor family of four earning the median family income would have an affordable housing budget of $3,087, including utilities and taxes. This is 30 percent of such a family's monthly income.

Figure 20: Family Income Limits for DeForest and Windsor, 2019

	DeForest	Windsor
Area Median Family Income (AMFI)	$102,833	$123,480
Low Income (80% of AMFI)	$82,266	$98,784
"Workforce" Income (60% of AMFI)	$61,700	$74,088
Very Low Income (50% of AMFI)	$51,417	$61,740
Extremely Low Income (30% of AMFI)	$30,850	$37,044
Source: Area Median Family Income -- ACS 2019, Table S1903. When determining eligibility for housing assistance, HUD determines income limits utilizing the percentages associated with "Low", "Very Low", and "Extremely Low" incomes. In Wisconsin, the "workforce" is generally understood to be households earning 60% of AMFI and below.		

Single Family Housing Affordability Analysis—National Association of Realtors Method

Gauging the affordability of single family housing relative to family incomes helps uncover community affordability. A community with a single family housing—typically owner-occupied—affordable housing issue will have spillover of the potential market of homebuyers into the rental market. This could directly affect the demand and affordability for market-rate rental housing and indirectly for lower-income rental units.

The first method the consultant used to gauge affordability for single family homes is called the Affordability Index. The National Association of Realtors (NAR) uses this index to measure whether or not a typical family could qualify for a mortgage loan on a typical home. The two main components of the index are house price and family income. For the national index, the NAR uses the median family income and median price of existing single family homes to compare regions.

Figure 21 shows the affordability index calculation using median "workforce" incomes (60% of median family income) per Figure 20 and the median sale prices of single family homes sold between 2016 to 2020 for both Windsor and DeForest. Following the NAR's method, the calculation assumes a down payment of 20 percent of the home price and it assumes a qualifying ratio of 25 percent. That means the monthly principal and interest payment does not exceed 25 percent of the household's monthly income. For the interest rate, the consultant used the rate offered by the DeForest-Morrisonville Bank as of December 2020.

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[7] The calculation is simply [Median Family Income / 12] *.30

As Figure 21 shows, a <u>current local resident</u> family making 60% of the median family income in DeForest or Windsor is able to afford a house selling at the median sale price of each Village.

<div align="center">Figure 21: Affordability Index Calculation for Resident Workforce for Single Family Home Purchase</div>

		DeForest	Windsor
Annual "Workforce" Median Income (60% of 2019 Median Family Income)		$61,700	$74,088
Median Sale Price of Single Family Home, 2016-2020		$253,669	$301,290
Mortgage Details	**Interest Rate**	3.16%	3.16%
	Length	30 Years	30 Years
	20% Down	$50,734	$60,258
Estimated Monthly Mortgage Payment (Principal and Interest Only)		$873	$1,037
What Percentage of Monthly Income Goes to Monthly Payment? [1]		17%	17%
Minimum Qualifying Annual Income [2]		$41,904	$49,776
Affordability Index [3]		**147**	**149**

Sources: Median Family Income – ACS 2019, Table S1903 ; Median Sale Price – WI DOR Real Estate Transfer Data, 2016-2020.
[1] This percentage is calculated by dividing the estimated monthly mortgage payment by the monthly workforce income (annual workforce income divided by 12).
[2] Minimum Qualifying Annual Income is calculated by multiplying the estimated monthly mortgage payment by 4 (so that no more than 25% of the homeowner's income is spent on housing) and then multiplying by 12 for each month of the year.
[3] Affordability Index is calculated by dividing annual workforce income by the minimum qualifying annual income and multiplying by 100. To interpret the Affordability Index:
- A value below 100 means that the home price is not affordable to that household and that it would likely not qualify for a mortgage.
- A value of 100 means a household has the bare minimum amount of income to qualify for a mortgage on a single family home.
- A value between 100 and 120 means a household likely has enough income to qualify for a mortgage and afford the housing unit.
- A value above 120 means that a household has more than enough income to qualify for a mortgage.

The results in Figure 21 come with the following important caveats:

- The Affordability Index method does not include property taxes, homeowners insurance, utilities, and other monthly costs. For a home of median value in DeForest or Windsor, this could amount to $600+ more per month.

- The assumption of a 20 percent down payment extends the wherewithal of many workforce households. A family earning 60% of the median family income in Windsor or DeForest would need a down payment of almost an entire year of wages.

- Median incomes for _renting_ households and _non-family_ households are much lower than those of families, meaning that current local renters and single households and unmarried couples have a more difficult time achieving a "passing" Affordability Index. Therefore, many current renting households and non-family households living in DeForest and Windsor have a difficult time buying a home in DeForest and Windsor per the index.

- As indicated in Figure 32 later in this report, starting manufacturing and professional service jobs available in DeForest and Windsor typically pay between $40,000 and $55,000 per year. Without two wage earners, such households—most of whom do not live in DeForest or Windsor—would not receive a "passing" Affordability Index score to purchase a median-priced existing home.

- The data in Figure 21 accounts for the recent-past median price for existing single family homes, not newly-constructed homes.

Single Family Housing Affordability Analysis–Unit Value Method

Assessing the value of existing single family homes in Windsor and DeForest can provide a way of determining affordability for Village residents. Figures 22 and 23 provide the number of owner-occupied units valued in eight ranges, along with the median value for all owner-occupied homes (solid red line). Also included are the median sale price for _existing_ single family homes sold between 2016 and 2020 (solid blue line) and the estimated value of _new_ single family homes built between 2016 and 2020 (dashed blue line). As documented earlier in this report, about 19 of every 20 single family homes in the Villages are owner-occupied.

Figure 22 shows the values of owner-occupied homes in DeForest. Based on ACS data, about 48 percent of owner-occupied units in DeForest were valued between $200,000 to $299,999 and median value was $234,800. Between 2016 to 2020, existing single family homes sold in the Village had a median sale price of $253,669. Using this analysis, DeForest appears to have a reasonable supply of homes affordable to households making at least 80 percent of the median family income—or earning at least $82,266 per year—and a much smaller supply of housing for those earning 50 percent of median family income or less.

Figure 23 shows owner-occupied home values in Windsor. In Windsor, only 35 percent of owner-occupied homes were valued between $200,000 to $299,999, with 46 percent valued over $300,000. Median value of those units was $266,670. Between 2016 to 2020, single family homes sold in the Village had a median sale price of $301,290. Using this analysis, Windsor appears to have a smaller supply of homes affordable to households making at least 80 percent of Windsor's median family income—or earning at least $98,884 per year—and a much smaller supply of housing for those earning 50 percent of median family income or less.

Figure 22: Village of DeForest Owner-Occupied and Single Family Home Values

Value	Count
LESS THAN $50,000	26
$50,000 TO $99,999	0
$100,000 TO $149,999	278
$150,000 TO $199,999	596
$200,000 TO $299,999	1,382
$300,000 TO $499,999	604
$500,000 TO $999,999	0
$1,000,000 OR MORE	15
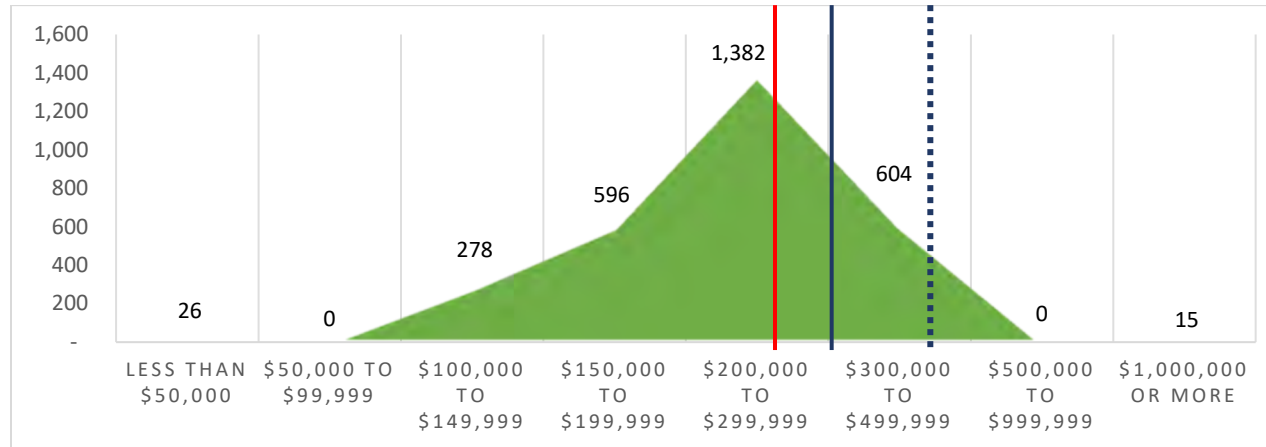
Figure 23: Village of Windsor Owner-Occupied and Single Family Home Values

Value	Count
LESS THAN $50,000	22
$50,000 TO $99,999	17
$100,000 TO $149,999	80
$150,000 TO $199,999	299
$200,000 TO $299,999	760
$300,000 TO $499,999	837
$500,000 TO $999,999	138
$1,000,000 OR MORE	11
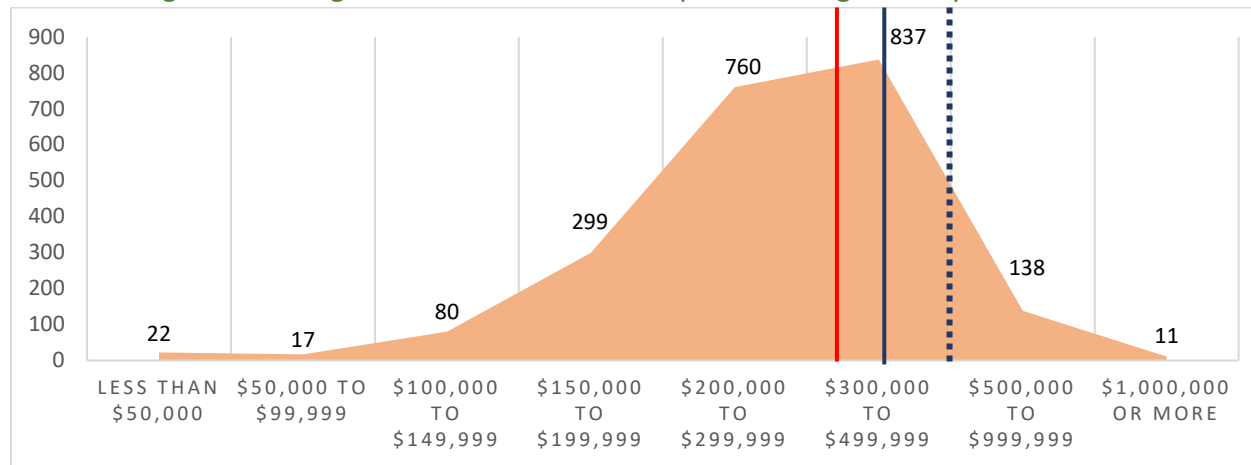
Sources and Notes for Figures 22 and 23:

Total owner-occupied units = DeForest 2,901; Windsor 2,164. Numbers within each section reflect the total number of single family homes valued within the home value range.

Source, including for home values: Table DP04 of the 2019 ACS.

Solid red line = Median value for all owner-occupied units in the Village. DeForest $234,800; Windsor $266,670. Source: ACS 2019, Table DP04.

Solid blue line = Median sale price for single family homes sold between 2016 to 2020. DeForest $253,669; Windsor $301,290. Source: WI Dept. of Revenue.

Dashed blue line = Median value of a new single family home built between 2016 to 2020. DeForest $346,348; Windsor $398,533. Source: Building permit records, which excludes lot value. For purposes of these figures, the consultant assumed a median lot value of $70,000.

Rental Housing Affordability Analysis

The consultant modified the NAR's Affordability Index Calculation in order to gauge local rental housing affordability, generally by comparing median rental household income against median gross rent in each Village. The qualifying ratio for renters is assumed to be 30 percent of monthly income, which is a standard consideration when a would-be tenant applies for a unit. Again, this model has its limitations (for example, no control for number of bedrooms versus household size, no inclusion of utility costs), but it does give a sense of how renter incomes compare to available rents.

The Affordability Index results for the two Villages is shown in Figure 24. Median gross rent in DeForest is approaching unaffordable for a resident renting household earning the median renter income, while median gross rent in Windsor is unaffordable for a resident rental household earning the median renter income.

Figure 24: Modified Affordability Index for Rental of Duplex or Multiple Family Units

	DeForest	Windsor
Annual Median Renter Household Income	$42,105	$37,150
Median Gross Rent (All Units)	$1,006	$1,100
What Percentage of Monthly Income Goes to Monthly Payment? [1]	29%	36%
Qualifying Income [2]	$ 40,240	$ 44,000
Affordability Index [3]	105	84

Sources: Median Renter Income – ACS 2019, Table S1903; Median Gross Rent – ACS 2019, Table B25031.
[1] This percentage is calculated by dividing the median gross rent by the monthly median renter household income (annual median renter household income divided by 12).
[2] Qualifying Income is calculated by dividing the median gross rent by 0.30 (so that no more than 30% of the renter's income is spent on rent), then multiplying by 12 for each month of the year.
[3] Affordability Index is calculated by dividing annual median renter household income by the qualifying income and multiplying by 100. To interpret the Affordability Index:
- A value below 100 means that the median rent is not affordable to a household earning the median renter household income.
- A value of 100 means a household has the bare minimum income to afford the median rent.
- A value between 100 and 120 means a household likely has enough income to afford the median rent.

Figure 25 shows rents by number of bedrooms for both municipalities. Gross rent is calculated using all rents in the area. Fair market rent is calculated is based on the 40th percentile of gross rents for typical, non-substandard rental units occupied by recent movers. Fair market rent should reflect the rents offered in newly built units and existing rental units that are leased to new tenants. Figure 25 also includes rents for available units in recently-built apartment complexes within both Villages.

Figure 25: Rents by Number of Bedrooms

		Efficiency	1-Bedroom	2-Bedroom	3-Bedroom
Median Gross Rent (all rental units)	DeForest	$874	$929	$1,011	$1,181
	Windsor	n/a	$867	$937	$1,404
Fair Market Rent (focused on vacant units being rented)	53532 (most DeForest, some Windsor)	$850	$1,000	$1,170	$1,610
	53598 (mostly Windsor)	$940	$1,100	$1,300	$1,790
Recently Built Units	Conservancy Place Townhomes	-	-	-	$1,750-1,850
	Park Apartments	$1,030	$1,295	$1,595	-
	Terraces of Windsor Crossing	-	$1,030	$1,509	-
	North Towne Apartments	-	$1,095	$1,595	-

Sources:
Median Gross Rent: ACS 2019, Table B25031
Fair Market Rent: **https://www.huduser.gov/portal/datasets/fmr/smallarea/index.html**
Recently Built Units: Available rents as advertised on property management website, December 2020

Comparing results from these three sources shows how rents are changing. Fair market rents are several hundred dollars more than the median rents and new complex rents for one-bedroom, two-bedroom, and 3+ bedroom units in both Villages, which suggests a rental housing market where rents are increasing fairly quickly. This finding is supported when analyzing only median gross rent over the past five years. In that time, the median gross rent in DeForest for an efficiency or studio unit rose by 39 percent and the median gross rent for a one-bedroom unit rose by 31 percent. In Windsor, the median gross rent for a one-bedroom unit increased by 27 percent.

The increasing rents for new apartments and other rental units render most new rental units being unaffordable to much of the existing residential renting population and to many in the workforce of DeForest and Windsor.

As part of this report, the consultant interviewed several builders and others active in the construction and management of multiple family rental units in the DeForest-Windsor market and elsewhere in Dane County. Notable findings include the following:

- Households renting newly-built apartment units tend to have salaries of $55,000 to $75,000 per year, as property managers are careful to ensure new tenants have the financial means to comfortably pay their rent. As suggested in Figure 27, this is at or above the income range for most available jobs in DeForest and Windsor.

- New tenants are predominately empty-nesters or young professionals. Young professionals are drawn to the region for work, with common employers including UW Health, SSM Health, or American Family Insurance (many close but not in DeForest or Windsor). Empty-nester households moving to apartment units are seeking the amenities that come with these units, namely the lack of upkeep in lawn maintenance, snow removal, and building maintenance and repairs that comes with homeownership.

- Depending on the type of unit built, apartment builders estimate that only between 15 to 30 percent of new tenants are moving from within the Dane County region. In other words, perhaps 70 to 85 percent of new renters are moving to these new units from outside of Dane County. This is emblematic of a rapidly growing region.

- Proposals for new market-rate multiple family development in DeForest and Windsor are driven to a significant extent by proprietary industry reports indicating very low vacancy rates, and success of renting similar projects in nearby municipalities (and tightening land supplies there).

- Builders appear careful not build too many units, too quickly given economic and cost concerns. Inflated lumber prices have tested the budgets of many builders, some of whom are choosing to defer new projects and further phases of existing projects until prices come down and greater economic certainty prevails.

Section 5--Housing Gap Analysis

This section provides estimates of the number of housing units needed now and over the next decade to meet the needs of low income households, seniors of different incomes, the DeForest-Windsor workforce, and others desiring or requiring rental housing of different incomes.

Measuring the Housing Gap

The difference between the number of resident households who are cost-burdened and the number of affordable units available in each Village for these households is generally known as the "housing gap."

To measure the housing gap, the consultant utilized the Consolidated Housing Affordability Strategy (CHAS). The CHAS is a dataset of ACS housing data that is tabulated by HUD. It provides estimates of households by income level, housing costs, age, and tenure. This allows for jurisdictions to make an assessment of affordability. Among other features, CHAS data aggregate the households of a municipality by income as a percentages of the area median family income and housing units to their level of affordability to a particular income level.

A very simple measure of a municipality's housing gap is the number of cost-burdened households less the number of available units affordable to that household's income. However, this measure likely underestimates the need. The housing market does not automatically pair affordable units with the households that need them. Cost-burdened households may not find affordable options because of competition with households with higher incomes, or chance. In short, even if the local housing market adds new units that are desirable and affordable to non-cost burdened households, there is no guarantee that a household in need will access the unit.

The next four figures contain the data from CHAS that can help segment and quantity of the housing stock in DeForest and Windsor that are unaffordable and what income levels are most affected. The most recent CHAS data is derived from the 2017 ACS, which is two years behind the 2019 ACS data reported in the rest of this report.

Owner-occupied Housing Gap

Figure 26 contains an affordability assessment of each Village's <u>owner</u>-occupied housing stock. In Windsor, roughly half of owner-occupied units were affordable to families earning 80 percent or below of its resident median family income. In DeForest, around 80 percent of owner-occupied units were affordable to families earning 80 percent or below of its resident median family income. What this indicates is that the supply of owner-occupied units—which are overwhelmingly single family detached units—are valued in an affordable range for most but certainly not all existing DeForest and Windsor <u>family</u> households.

Figure 26: Owner-occupied Housing Unit Affordability
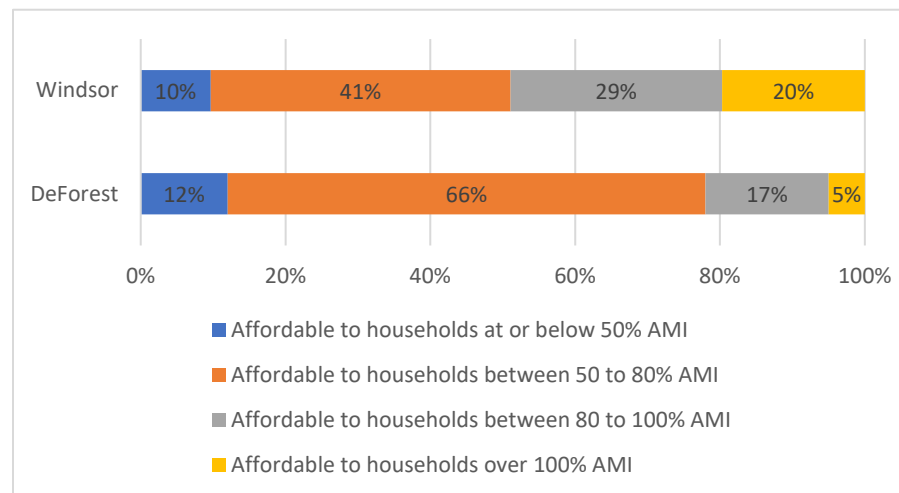
Source: CHAS 2017, Tables 15A and 15B

Much of the DeForest-Windsor workforce earns closer to 50 percent of the median family income. For such households that have only a single earner, homeownership in DeForest and particularly Windsor is much less attainable. Only 10 to 12 percent of such workers can afford to buy a home in either of the two Villages. There are an estimated 279 households currently living in DeForest and 255 households currently living in Windsor with a household income of 50 percent or less of the median family income. Most of both Village's workforce lives elsewhere.

Renter-occupied Housing Gap

Figure 27 contains an affordability assessment of each Village's <u>renter</u>-occupied housing stock. About 60 percent of Windsor's existing rental housing and about 65 percent of DeForest's rental housing is affordable to households making below 50 percent of the median family income.

Figure 27: Rental Unit Housing Affordability
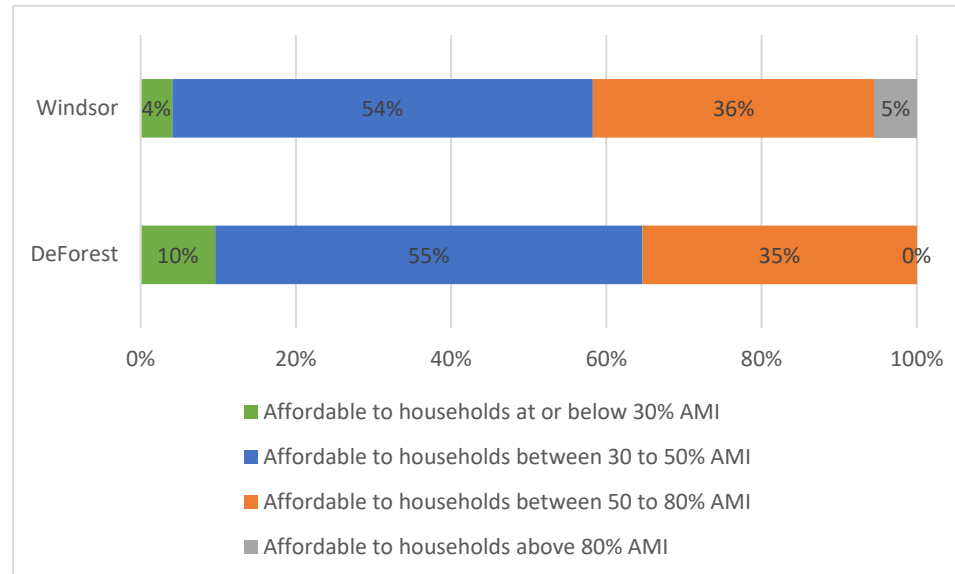
Source: HUD CHAS 2017, Table 15C

To reiterate some points made earlier in this report, HUD, which generates the data for CHAS, uses a jurisdiction's median family income to assess affordability. As is the case with Windsor and DeForest, median family income is higher than the median income of all households and is more than two times the median income for households that rent. Additionally, the most recent data from CHAS does not factor in units built within the past three years, which typically have rents above the median. Finally, the data in Figure 27 does not factor in appropriateness of the housing for the household in question. The housing market does not restrict a household from occupying a unit that is priced below their maximum budget–in fact, such a decision is generally regarded as financially savvy. The housing market also does not match low income households with units within their housing budget or household size, leading to overcrowding and cost-burdening.

Figure 28 provides the breakdown of how many rental households in DeForest were in housing that is appropriate to their income level as of 2017. This figure also shows households that were "crowded out" from available affordable housing in 2017, instead paying more than they can afford in rents. For example, because 115 households earning above 100% of median family income but renting a unit affordable to those earning less than 50% of median income means, the latter group cannot access those 115 housing units. The sum of the cells marked in green are resident low income renter households paying more than 30 percent of their income on housing, totaling 195 households in 2017. These include senior and non-senior households.

Figure 28: DeForest Rental Housing Cost Appropriateness, 2017

Household earning an income that is…	Household living in a rental unit with a cost affordable to a household with an income that is…			
	…less than 30% AMFI	…between 30% & 50% AMFI	…between 50% & 80% AMFI	…80% AMFI & over
…less than 30% AMFI	55	90	60	0
…between 30% & 50% AMFI	20	230	45	0
…between 50% & 80% AMFI	10	65	95	0
…between 80% & 100% AMFI	0	55	75	0
…above 100% AMFI	10	105	75	0
Total Units	95	545	350	0

Source: HUD CHAS, Tables 3 and 15C   AFMI = Adjusted Median Family Income

Figure 29 totals the number of cost-burdened households by income level in DeForest. By this measure, DeForest had a housing unit gap of 195 rental units in 2017. Ideally, these units would be priced for households making below 50% AMFI ($51,417 in DeForest). The consultant's assessment of what would be an affordable rent for these households according to unit size is also provided. Given that the estimates used are from 2017, if one assumes that the number of low income households grew by 1.8 percent per year (which is the percentage household growth in DeForest between 2010 to 2020), the affordable rental housing gap grew to 206 rental units by 2020.

<div align="center">Figure 29: DeForest Affordable Rental Housing Gap, 2017, 2020 and 2030</div>

Household earning an income that is…		# of Households Paying More Than They Can Afford (i.e., Cost-burdened)
…less than 30% AMFI		150
…between 30% and 50% AMFI		45
…between 50% and 80% AMFI		0
…over 80% AMFI		0
2017	Estimated Total Units Needed	**+195**
	Est. Senior Units Needed (subset)	**+49**
Affordable Rent Ranges: Efficiency/Studio: $500-$800 1-bedroom: $800-$1,100 2-bedroom: $1,000-$1,300		
Current and Projected Affordable Rental Unit Needs		
2020	Estimated Total Units Needed	**+206**
	Est. Senior Units Needed (subset)	**+64**
2030	Estimated Total Units Needed	**+286 to +291**
	Est. Senior Units Needed (subset)	**+127 to +129**

The 2017 CHAS (through its Table 5) provides the number of senior households that are cost-burdened. Approximately 25 percent of households making below 80% AMFI are senior households. This would mean roughly 49 of the 195 unit gap for the year 2017 estimated in Figure 29 should be restricted for low income _senior_ households. If one assumes that the number of low income senior households grew in proportion to total senior household growth in DeForest (9 percent per year), the senior housing gap increased to 64 units by 2020. While there are currently 98 affordable senior housing units in DeForest, these are presumably not occupied by households who are paying more than 30

percent of their income for housing. Therefore, this existing supply does not diminish or eliminate this current reported demand, which instead should be understood as additional, unmet demand.

By 2030, the consultant projects an affordable rental housing gap in DeForest of 286 to 291 total affordable units, 127 to 129 of which are estimated to be required for seniors (157 to 164 for non-seniors). These are based on the household projections in Figure 8, and an assumption that the 2030 income distribution of households will be the same as the 2020 distribution.

Figure 30 provides the breakdown of how many rental households in Windsor were in housing that is appropriate to their income level as of 2017. This figure also shows households that were "crowded out" from available affordable housing, and were therefore paying more than they can afford in rents. The sum of the cells marked in green are resident low income renter households paying more than 30 percent of their income on housing, totaling 84 households in 2017. These include senior and non-senior households.

Figure 30: Windsor Rental Housing Cost Appropriateness, 2017

Household earning an income that is…	Household living in a rental unit with a cost affordable to a household with an income that is…			
	…less than 30% AMFI	…between 30% & 50% AMFI	…between 50% & 80% AMFI	…80% AMFI & over
…less than 30% AMFI	15	60	4	0
…between 30% & 50% AMFI	0	15	0	0
…between 50% & 80% AMFI	0	55	60	20
…between 80% & 100% AMFI	0	30	0	0
…above 100% AMFI	0	40	70	0
Total Units	15	200	134	20

Source: HUD CHAS, Tables 3 and 15C AFMI = Adjusted Median Family Income

Figure 31 totals the number of cost-burdened households by income level in Windsor. By this measure, Windsor had a housing unit gap of 84 rental units in 2017. Ideally, these units would be priced for households making below 50% AMFI ($61,740 in Windsor). The consultant's assessment of what would be an affordable rent for these households according to unit size is also provided. Given that the estimates used are from 2017, if one assumes that the number of low income households grew by 1.7 percent per year (equal to household growth in Windsor between 2010 to 2020), then Windsor's affordable housing gap grew to 89 rental units by 2020.

Figure 31: Windsor Affordable Rental Housing Gap, 2017, 2020 and 2030

Household earning an income that is…		# of Households Paying More Than They Can Afford (i.e., Cost-burdened)
…less than 30% AMFI		64
…between 30% & 50% AMFI		0
…between 50% & 80% AMFI		20
…over 80% AMFI		0
2017	Estimated Total Units Needed	**+84**
	Est. Senior Units Needed (subset)	**+42**
Affordable Rent Ranges: Efficiency/Studio: $500-$800 1-bedroom: $800-$1,100 2-bedroom: $1,000-$1,300		
Current and Projected Affordable Rental Unit Needs		
2020	Estimated Total Units Needed	**+89**
	Est. Senior Units Needed (subset)	**+50**
2030	Estimated Total Units Needed	**+116 to +121**
	Est. Senior Units Needed (subset)	**+63 to +66**

The 2017 CHAS (through its Table 5) provides the number of senior households that are cost-burdened. Approximately 50 percent of households making below 80% AMFI are senior households. This would mean roughly 42 of the 84 units for the year 2017 estimated in Figure 30 should be restricted for low income senior households. If one assumes that the number of low income senior households grew in proportion to total senior household growth in Windsor (5.5 percent per year), Windsor's senior housing gap increased to 50 units by 2020.

By 2030, the consultant projects an affordable rental housing gap in Windsor of 116 to 121 total affordable units, 63 to 66 of which are estimated to be required for seniors (50 to 58 for non-seniors). These are based on the household projections in Figure 8, and an assumption that the 2030 income distribution of households will be the same as the 2020 distribution.

Further Insights on Senior Housing Gap

Gauging demand for senior housing market can be difficult, due to the variety of housing types, individual needs that evolve (sometimes quickly) over time, household preference, and data availability. For example, no one agency keeps track of age-restricted housing units, be they part of a condominium or an apartment complex. Further, an senior who can live fully independently in a single family home today, may want or need an independent living unit two years from now, and then an assisted living unit two years from then.

At present, there is a significant difference in the supply of housing units restricted to seniors between DeForest (366 units, 98 low income) and Windsor (173 units, 0 low income), despite the two Villages having a similarly-sized population of residents over the age of 65. The nearly $13,000 higher median income for senior households in Windsor than DeForest is partially driven by the difference in available senior housing stock between the two Villages. This suggests that Windsor may require even more affordable senior housing than suggested under the previous subsection.

Overall, in terms of being cost burdened, senior households are more likely to pay more than 30 percent of their monthly income on housing. Data from CHAS suggests that in DeForest, 34 percent of all cost burdened households in the Village are senior households. Within Windsor, 54 percent of cost burdened households are senior households. This accounts for both homeowners and renters. This also points to a higher need in Windsor than suggested under Figure 31.

The consultant interviewed local experts and stakeholders about the needs and issues affecting seniors, and from those interviews offers the following additional observations:

- Senior households currently residing in subsidized units are largely under the Very Low (50% AMFI) income limit, and a substantial portion of those fall even further to the Extremely Low (30% AMFI) income limit. Many of these households utilize other assistance programs, such as Food Share, Medicare, and the Homestead Credit. The waiting list to get a unit in subsidized senior housing, currently available in DeForest only, is over two years.

- Not all seniors wish to relocate from their current homes. Many senior households own their home outright, without a mortgage, and are understandably attached to their long-time residences. Given they may be living off a fixed income, many do not see a benefit to apartment living. The assumption that most senior households will move to age-restricted apartment units if given the chance, thus making their former, typically single family home available for new residents, is flawed. This is particularly true at a time when in-home care is becoming increasingly available.

- Even with the above phenomenon, senior advocates suggest that senior-only options for affordable housing are necessary. Senior households are often at a disadvantage when competing with younger households seeking affordable units. Younger households are more mobile and able to access more places. As many property management companies move their applications and payment options online, the younger, tech savvy crowd also has an advantage. Screening measures that favor income (over wealth) may also benefit prospective younger renters.

Workforce Housing Gap

Typically, the "workforce" being considered are households whose incomes are too high to qualify for public assistance programs, but too low to afford many housing options available in their area. In other affordable housing studies regarding conditions in Wisconsin, "workforce housing" is aimed at renting households earning 60 percent of the area median household income and homeowner households earning up to 120 percent of the area's median income. As discussed in previous sections, the housing stock for single family homes (which are predominately owner-occupied) is generally affordable for households earning the median area income in both Windsor and DeForest, let alone 120 percent.

While incomes for most resident households grew over the past nine years, most residents of Windsor and DeForest commute elsewhere for work. While some both live and are employed within either Village, a growing issue for both Villages is its supply of units affordable to its workforce. Beyond the affordable housing gap for existing residents, there exists a subset of those who work in DeForest and Windsor who desire to live in DeForest and Windsor, but cannot afford the housing available within.

The Village of DeForest conducted a survey of local businesses in late 2020. Many respondents reported difficulty in finding skilled labor; a handful of employers also reported that their workers were finding it hard to secure affordable housing in the area.

The salaries in Figure 32 are reflective of commonly-required occupations in DeForest and Windsor. The highest paying median salaries–construction and real estate sales agent–are somewhere between 50% to 60% AMFI for either Village. The other salaries fall in the Very Low to Extremely Low Income thresholds for each Village. Unless a worker is in a household with another wage earner, few of these workers could qualify on their own for a lease of a unit at the median gross rent in the two Villages—let alone much higher rents for the typical new unit.

Figure 32: Area Salaries for Commonly-Required Occupations in DeForest and Windsor

Occupation	Yearly Salary	Income Range
Elementary School Teacher	$57,310	Low
Construction Industry	$54,920	Low
Real Estate Sales Agent	$52,870	Low
Protective Services	$47,990	Low
Plastics Manufacturer	$41,460	Very Low
Packaging Operators/Machinists	$38,630	Very Low
Certified Nursing Assistant	$33,920	Very – Extremely Low
Financial Clerks/Tellers	$32,580	Very – Extremely Low
Preschool Teacher	$31,210	Extremely Low
Retail Salesperson	$27,690	Extremely Low
Child Care Assistant	$26,670	Extremely Low
Source: Bureau of Labor Statistics Occupational Employment Statistics, May 2019 **https://www.bls.gov/oes/current/oes_31540.htm**		

The salaries in Figure 32 are averages calculated throughout Dane County. Entry level jobs for positions within DeForest and Windsor are sometimes even lower than these medians. For instance, a first-year teacher with the DeForest Area School District has an beginning salary of $42,075, and an entry level position with DeForest Windsor Fire and EMS is about $45,000. Both of these fall between the low and very low income spectrum for both Villages, and neither can afford most available housing in the two Villages.

CARPC estimates that, in 2020, there were 7,617 people who worked in DeForest and Windsor. Only about 11 percent of these people also lived DeForest or Windsor. Given the comments from employers, there appears to be a population of workers who would like to live in DeForest or Windsor but cannot afford housing here, but limiting evidence of exactly how many. Assuming that 75 percent of those 7,617 jobs earn "workforce" wages of $64,000 or less, if only 5 to 10 percent of those workers not currently living in DeForest or Windsor desired a local home, there could be an need for 255 to 510 affordable units above those totals presented earlier in this section, between the two Villages. By 2030, CARPC estimates there will be 1,537 additional jobs within both DeForest and Windsor combined. That suggests the 10-year need for another

50 to 100 workforce units by 2030. Given the analysis presented in earlier sections, much of this workforce housing would either need to take the form of affordable renter housing, with rents in the ranges of those presented in Figures 29 or 31 and homes substantially under $300,000.

Further Insights on Low Income Housing Needs

Interviews with local stakeholders and experts in affordable housing issues resulted in the following additional observations about what the housing market is like for low income households in Windsor and DeForest:

- There are some affordable units in the area, but affordable units can be hard for low income households to access. Often the only indication that a rental unit is available is a sign in the yard indicating upcoming vacancy, which means households outside the Villages (such as those working in but not living in DeForest or Windsor) may be at a disadvantage when trying to secure affordable housing.

- Even if a more-affordable unit becomes available to a cost-burdened, non-residence workforce household, other factors may stop them from relocating. Moving costs can be prohibitively expensive for lower income households. Tenants also have a harder time getting out of their existing leases. While tenants can break their lease and sever responsibility of filling the vacant unit, they are still responsible for rent on the unit until it is filled. Many landlords no longer offer a flat fee for breaking one's lease, as there is no incentive for them to do so. For some renting households, the financial risk associated with potentially paying rent on two units outweighs the opportunity to pay less in rent over the long term.

- Some report that a single vacant unit can get dozens of tenant applications. Households are competing with one another. The situation seems particularly acute for families with children. Finding a unit with at least three bedrooms is difficult due to their popularity and the small supply of units with three or more bedrooms in each Village.

- Many low income households also have transportation issues. DeForest and Windsor's lack of public transportation may be a deterrent for households with no vehicle, or two-earner households with only one vehicle. The DeForest-Windsor area is one of the regional destinations for Bus Rapid Transportation (BRT) to and from Madison. While this would be a benefit for workers coming and going out of the community, the system is not yet operational.

- The DeForest-Windsor housing market also poses a challenge for younger households, such as those newly graduated from college. First-year teachers within the DeForest Area School District often live outside the District, as their salaries are not high enough to afford the rents of the available, newer units in Windsor or DeForest (see further discussion above). Similarly, this same demographic may not yet have a vehicle. Representatives from the DASD report that they have had qualified candidates turn down a position offered to them due to lack of reliable transportation.

Market-Rate Multiple Family Housing

The vacancy rate for rentals in Dane County has been at a historic low for years. ACS and other industry data indicates that the vacancy rate is equally low in both Villages. Developers rely on market reports from analysts, which to their knowledge have been accurate in recent years. They are careful not to flood the market with more market-rate housing than is needed. As a result, the consultant feels confident that the 2020-2030 housing unit projections for duplex and multiple family units provided in Figure 9 – 68 duplex and 551 multiple family units in DeForest, 38 duplex and 467 multiple family units in Windsor – are likely to be required between 2020 and 2030.   This equates to about 10 duplex units and about 100 multiple family units per year between the two Villages.

Section 6—Siting, Design, and Other Criteria

This section provides criteria that the Villages may use in evaluating the appropriateness of different sites, locations, configurations, and structures for multiple family, workforce, senior, and affordable housing.

Siting

In the past, the tendency has been to relegate affordable and senior housing projects to some of the less attractive, noisier, and or out-of-the-way lands—not necessarily in Windsor and DeForest but generally. This type of siting severely limits opportunities for upward mobility among residents and breeds a culture of endemic poverty, social isolation, hopelessness, and despair.[8] It also makes it more likely that such developments will fall into despair or otherwise create problems for a community decades later.

Affordable single family housing developments and low-density developments targeted to seniors (e.g., duplex condos) should, quite simply, be enabled everywhere where any other single and two family housing developed is allowed. Historically, many of the healthiest neighborhoods in DeForest, Windsor, and elsewhere include a mix of housing and incomes.

The following principles should be used when deciding where to site affordable, workforce, and senior housing developments of higher densities:

- *Close proximity to a range of other land uses.* These include grocery and drug stores; restaurants and retail (but not necessarily "big box"); community gathering places like libraries and parks; medical facilities (particularly for seniors); and schools, day care, and job centers (particularly for workforce/family affordable housing). Such proximities are important not only due to more likely mobility limitations of these populations, but also because of the broader community benefits such as more customers for businesses and more walkers (fewer busses) to schools.

- *High visibility and accessibility.* Location near more heavily traveled roadways, multiple road and driveway ways in and out, trail and walkway connections, and high visibility ensure easier access and safety to and for residents. This is important to get to the other land uses described above, ensure proper protective service delivery, and avoid negative impacts often attributed to developments that are more "tucked away in a corner" of a community. Proximity to public transportation is also valuable, where available.

- *Pleasant neighborhood environment, or vibrant mixed use district.* Affordable and senior housing projects should be integrated within or at least at the edges of, rather than segregated from, predominantly lower density residential neighborhoods. For developments that

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[8] Ten Principles for Developing Affordable Housing, Urban Land Institute, 2007

adhere to the principles in this report section, there is scant evidence of negative nearby property value impacts.[9] Alternatively, infill and redevelopment locations in dynamic downtown and other mixed use settings are desirable. Setting aside a site in an industrial park for a workforce housing project, or allowing affordable and senior apartment developments in only the noisiest locations, would not, for example, meet this principle.

With respect to this last principle, development on infill sites (or redevelopment) is inherently more sustainable than that on undeveloped sites. Infrastructure costs are lower, transportation alternatives are available, agricultural lands or natural areas are not used or compromised, and a positive contribution to local economic and social vitality results.[10]

The following general locations in DeForest and Windsor, today, provide the most appropriate locations for moderate to higher density affordable, workforce, and senior housing:

- Locations along and near Highway V/North Street, particularly near the North/Main intersection, the DeForest Business Park, and the Highway V/Interstate interchange. Locations within or surrounded by industries and highway-oriented businesses in the latter two locations should be avoided.

- The soon-to-be-former Holum Education Center, which the DeForest Area School District has available for sale as surplus property, and which is close to schools, downtown DeForest, and the DeForest Business Park.

- The "Karow property" near the intersection of Holum Street and North Towne Road, which is close to a number of schools, the DeForest Business Park, retail businesses including convenience shopping, and the Highway 51/V interchange.

- Windsor Crossing and the "Zingg property" near the intersection of Windsor and North Towne Roads, which is close to a number of schools, the North Towne Corporate Park and Hooper Business Park, retail businesses including convenience shopping, medical clinics, and the Highway 51/Windsor Road interchange.

- Downtown DeForest, generally understood as the Main Street corridor between North and Commerce Streets, and blocks to the east.

- Downtown Windsor, generally understood as the Windsor Road corridor between Highway CV/Lake Road and Windsor Ridge Lane/Sunset Meadows Drive.

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[9] Capital Area Regional Planning Commission; Multi-Family and Rental Housing Supply, Demand, and Planning in DeForest, Wisconsin—A review of the literature and preliminary data analysis; February 5, 2015
[10] Ten Principles for Developing Affordable Housing, Urban Land Institute, 2007

- The Bear Tree Farms area in Windsor and DeForest, east of the Highway 51/V interchange, though the immediate area currently lacks retail and restaurants (some are planned).

- Conservancy Place, in the River and Windsor Road corridors, though the immediate area currently lacks retail and restaurants (some are planned).

There are other emerging locations that meet some but not all of these principles. These include the Gray/Lake Road intersection area, the former Norsman property near the River Road overpass of the Interstate, and Savannah Brooks. Other smaller neighborhood infill locations may also be appropriate.

Design

Developing or suggesting design standards for affordable, workforce, and senior housing is beyond the scope of this report. However, the consultant suggests that the Villages ought not to waive or substantially reduce design standards for such projects. This would have the likely effect of lessening their quality over time, and would make them stand out rather than blend into the community. Attractive housing also fosters resident pride.

Based on recommendations from the Urban Land Institute and the consultant's own experience, the consultant offers the following basic design principles, which often extend into considerations of proper siting:

- Project design should think beyond the car, incorporating options for bicycling, walking, and multiple roadway and driveway connections to the surrounding community.

- Scale projects to respect the neighborhood. In some neighborhoods, the rehabbing of existing units may be an appropriate scale. Other areas may support large multiple family structures. The proper scale will promote a healthy connection between the development and its surrounding neighborhood.

- Use good landscaping to both enhance security and define the property. Decorative fencing can be used to define the character of a property as well as enhance security. However, well-designed affordable housing does not rely heavily on security or screen fencing, except where necessary for noise mitigation.

- Design and siting should serve to seamlessly integrate lower income and senior residents into the broader community, rather than isolate them.

- Encourage projects and buildings that blend housing units that are affordable to lower income persons with those that are not, which can help with community stability, provide move up housing for residents, and improve financial feasibility.

- Consider future conversion potential. This is particularly important for senior housing, as the DeForest-Windsor area is entering what may be a "bubble" period of many seniors for 2+ decades, to be followed by a generation (Generation X) that will have fewer seniors.

Maintaining similar design standards for affordable, workforce, and senior housing developments that apply to multiple family developments that require higher rents can be challenging financially for the developers of the former. The Villages can provide and support financial assistance. This may include conveyance of surplus public land, support for applicant's requests to the State for low-income housing tax credit eligibility, tax incremental financing incentives or infrastructure support, impact fee reductions, and/or higher development densities such as via planned unit development zoning.

Other Criteria for Success

Affordable, workforce, and senior housing developments of the past have often suffered from combinations of poor siting, poor design, and poor management. Proper siting and design are addressed above. Ensuring effective long-term management can be more challenging, but the following concepts help:

- Require a portfolio of past projects, and check references. For "first timers", ask for a more experienced partner.

- Insist on neighborhood meetings and other outreach before, during, and following development application and construction.

- Incorporate durable, sustainable, timeless, and energy efficient external and internal building materials, systems, and fixtures.

- Require, with rezoning, planned unit development, or conditional use permit, submittal of a maintenance plan and funding mechanism for carrying it out, and where possible utilize tools like deed restrictions and development agreements to carry these plans out.

- Provide for continuing education for residents regarding property maintenance.

- Work to ensure fair but thorough tenant screening.

- For larger projects, require on-site manager or maintenance person, and service by a management company within, say, 30 miles from the site.

- Work to avoid situations where there will be multiple owners of different units where such owners will not likely be occupants.

Inventory of Approved, Available, and Sold Housing
(as of January 1, 2023)

Purpose

This report is an annual update to housing development statistics for the DeForest-Windsor area. It includes an inventory of Village-approved but unbuilt housing units, available single-family lots for sale, residential building permit activity, and the median sale price of existing single-family homes. For purposes of this analysis, the DeForest-Windsor area is defined as the portions of the Villages of DeForest and Windsor that are in the DeForest Area School District (DASD). All of DeForest and most of Windsor are within the DASD.

Summary

- The DeForest-Windsor area had on January 1, 2023 about 1,967 approved but unbuilt housing units—~1,200 units fewer than in August 2017 and over 200 units fewer than in January 2022. This means that more previously-approved housing units have been built in recent years than additional housing units authorized by new development approvals.

- As of January 1, 2023, 43% of the approved but unbuilt housing units are single-family homes—a percentage that has decreased slightly from 46% in 2017.

- Also as of January 1, 2023, about 388 vacant single-family lots are improved with public infrastructure, with most of these currently available for sale. This is 25 more improved vacant lots than in January 2022, but the number has been generally steady since 2018. Just over 40% of the improved lots are in DeForest, with those in Fox Hill Estates not yet being marketed for sale as of January 1st.

- In 2022, the Villages of DeForest and Windsor permitted a combined 348 new housing units, which is about 100 housing units fewer than in 2021 but still among the highest years ever. The 2021-to-2022 decrease is mainly attributed to fewer single-family homes permitted in DeForest in 2022 compared to 2021, which may relate to a constrained supply of available lots and generally higher lot prices. Housing units permitted in Windsor in 2022 increased slightly from 2021.

- In 2022, the median sale price of existing single-family homes in the DeForest-Windsor area was $359,900. This was a 91% increase since 2012. However, from 2021 to 2022, the median sale price decreased by 1%, perhaps reflective of a cooling housing market associated with higher prices and interest rates.

Inventory of Approved but Unbuilt Housing

Municipal staff and MDRoffers Consulting updated inventories of approved but unbuilt housing units, which are defined as housing units that met <u>both</u> of the following criteria as of January 1, 2023:

1. Construction of the housing unit has been enabled by an approved plat expected to be recorded, or by another Village development approval that has entitled the housing unit to be constructed, which may include an approved site plan, planned unit development, or development agreement; AND,

2. The housing unit has yet to be provided a building permit.

Per Figure A, 1,967 housing units were approved but not yet built in the DeForest-Windsor area as of January 1, 2023, a 10% decrease from the 2,194 unit approved but unbuilt in January 2022. Of this January 1, 2023 total, 845 were future single-family units (43% of total), 219 were future duplex units including senior-restricted duplex units (11%), and 903 were future multi-family units including 3+ unit condominiums, apartments, and 3+ unit attached senior housing (46%). As of January 2022, 902 were future single-family units (41%), 187 were future duplex units (9%), and 1,105 were future multi-family units (50%).

The supply of approved but unbuilt housing units decreased over the past year across all housing types. Explaining the single-family decrease, in 2022 there were more single-family building permits issued in the DeForest-Windsor area (98) than lots platted in new subdivisions (only 45, within Diamond Village). This is a several year trend. Still, as indicated in Figure C below, there have generally been between 360 and 390 *improved* single-family lots since 2018, suggesting that developers to date have been able to continue to open new phases from previously platted subdivisions.

Figure A: Inventory of Approved but Unbuilt Housing Units, DeForest-Windsor Area, January 1, 2023

	Single-Family Homes	Duplex Units (including Renter, Owner, Senior)	Multi-Family Units (including Renter, Owner, Senior)	Total Approved but Unbuilt Housing Units
DeForest Developments				
Conservancy Place [1]	99	119	203	421
Hawthorn Point	1	0	24	25
Rivers Turn	59	0	0	59
South (i.e., BJS Condos south of Hawthorn Point)	0	24	24	48
Other Future Conservancy Place Neighborhoods	39	95	155	289
Diamond Village	41	0	0	41
Fox Hill Estates	52	72	0	124
Heritage Gardens	148	18	202	368
Savannah Brooks [2]	104	0	0	104
Village of DeForest Subtotals	**444**	**209**	**405**	**1,058**
Windsor Developments (in DASD area)				
Apple Valley (formerly Schroeder's Field)	3	0	0	3
Bear Tree Farms/Covered Bridges [3]	194	0	273	467
Gray Road Apartments	0	0	122	122
Mayr Estates	5	0	0	5
Pleasant Hill Estates	13	10	48	71
Revere Trails	8	0	0	8
Windsor Crossing [4]	39	0	55	94
Windsor Gardens [5]	137	0	0	137
Wolf Hollow at Pleasant Prairie Creek	2	0	0	2
Village of Windsor Subtotals	**401**	**10**	**498**	**909**
DeForest-Windsor Area Totals	**845**	**219**	**903**	**1,967**
Percentage of D-W Total in Each Housing Type	**43%**	**11%**	**46%**	

Sources: Village Planning and Zoning Departments, MDRoffers Consulting

Notes:

[1] Conservancy Place totals are based on total authorized 1,097 units of which no more than 726 units may be in duplexes and multi-family buildings (this total includes 15-home Hawthorn Hill development for purposes of this report). Conservancy Place is divided into different neighborhoods. Hawthorn Point totals include the former Bott property south of Conservancy Commons Park (Lot 76).

[2] Includes the Savannah Brooks I-III plats, plus the Homestead Addition plat approved in 2022 but not yet recorded.

[3] Bear Tree Farms totals do not consider the division of Lot 270 from a multi-family lot to 10 single-family lots anticipated in early 2023.

[4] Windsor Crossing totals include an approved but unbuilt 50-unit senior development and a nearby approved but unbuilt 5-unit townhome project.

[5] Includes the original Windsor Gardens plat, plus the Windsor Gardens Field of Dreams and Happy Valley Additions.

Inventory of Available Vacant Single-Family Lots

Figure B shows the estimated number of vacant single-family lots that were actually on the market as of January 1, 2023 in the DeForest-Windsor area. For this analysis, "on the market" means that the lot is served by existing streets and utility infrastructure and is actively being marketed for sale. Lots are not included (except in footnotes) where the developer was actively installing infrastructure as of January 1, 2023 but was not yet selling lots.

As indicated below, an estimated 388 single-family lots in the DeForest-Windsor area were on the market with most available for purchase as of January 1, 2023. This is more than the 363 available single-family lots as of January 2022. The increase is mainly due to the improvement of additional phases of existing subdivisions in 2022.

Before 2020, the Village of DeForest and Village of Windsor typically had similar numbers of vacant lots on the market. As of January 1, 2023, the Village of Windsor had approximately 60% of the total number of vacant lots, continuing the trend since 2020. This is mostly due to additional phases in Windsor's large Bear Tree Farms subdivision being improved at a greater rate than DeForest subdivisions.

Figure B: Vacant Single-Family Lots on the Market as of January 1, 2023

Subdivision	Vacant Lots On Market
Diamond Village	41
Fox Hill Estates [1]	52
Hawthorne Point	1
Heritage Gardens	11
Rivers Turn	13
Savannah Brooks [2]	44
Vacant single-family lots in Village of DeForest	**162**
Apple Valley (formerly Schroeder's Field)	3
Bear Tree Farms	104
Pleasant Hill Estates	13
Revere Trails	8
Windsor Crossing	39
Windsor Gardens [2]	57
Wolf Hollow at Pleasant Prairie Creek	2
Vacant single-family lots in Village of Windsor (DASD portion)	**226**
Vacant single-family lots in both Villages (DASD)	**388**

Notes:

[1] 49 vacant, improved lots in Fox Hill Estates included in this inventory were owned by a development group but were not being marketed for individual sale as of January 1, 2023.

[2] Includes original Windsor Gardens plat, plus Windsor Gardens Field of Dreams and Happy Valley Additions.

Changes in Recent Inventory of Approved But Unbuilt Housing Units and Available Vacant Single-Family Lots

Similar inventories were conducted from 2011 to 2022. The number of approved but unbuilt units increased in the DeForest-Windsor area through 2016, but has decreased thereafter, for all unit types. This decrease is due to increasing home construction, while relatively few new residential subdivisions have been proposed and approved.

The number of vacant "for sale" lots for single-family homes (and spec homes) increased during the early to mid-2010s, as confidence in the housing market grew. That total has remained basically steady over the past five years, meaning that new lots are being improved just about as fast as building permits for new single-family homes are being issued.

Figure C: Villages of DeForest and Windsor Residential Development Trends, 2014-2022

Note: No inventory was completed in 2015 or 2021.

Trends in Housing Starts in DeForest and Windsor

The number of housing units authorized by building permits is a key indicator of residential development activity. The two Villages experienced a significant increase in housing permits in 2016 and 2017, mainly due to large multi-family housing projects. The number of housing permits decreased in 2018, 2019, and 2020, mainly due to fewer multi-family housing projects. In 2021, the Villages granted a combined 445 permits, which was the highest total over the previous 14 years at least.

In 2022, the number of new housing units permitted remained high in the Village of Windsor, with 222 new housing units permitted there. The number of new housing units permitted in the Village of DeForest in 2022 (126) was almost half the number in 2021 (241). This is due to a significant decrease in the number of new single-family homes permitted in DeForest, with 19 new single-family homes permitted in 2022 compared to 84 in 2021. This decrease is likely attributed to rising interest rates, a smaller inventory of lots for sale in fewer subdivisions, and generally higher vacant lot prices than in Windsor subdivisions.

About 57% of housing units permitted in 2022 were multi-family housing units. These were mostly located in Covered Bridge Residences and The Terraces in Windsor, and in The Edge at Conservancy Commons in DeForest. In addition, the total number of duplex units remained high in 2022, mostly due to duplex condominium developments in Conservancy Place in DeForest.

Figure D: Villages of DeForest and Windsor Housing Starts 2010-2022

Village	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTALS
DeForest	24	26	35	40	35	35	218	177	87	107	64	241	126	1,215
Windsor	51	33	53	66	70	97	141	184	107	74	79	204	222	1,381
Totals	75	59	88	106	105	132	359	361	194	181	143	445	348	2,596

Sources: Villages of DeForest and Windsor Building Permit Records; includes limited permits in Windsor outside of the DeForest Area School District.

Figure E: Village of DeForest Housing Units Enabled by Building Permits 2010-2022

Unit Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTALS
Single-family	18	26	35	34	33	25	66	85	59	74	42	84	19	600
Duplex	6	0	0	6	2	2	20	24	28	18	22	32	48	208
Multi-family	0	0	0	0	0	8	132	68	0	15	0	125	59	407
Totals	24	26	35	40	35	35	218	177	87	107	64	241	126	1,215

Source: Village of DeForest Building Permit Records

Figure F: Village of Windsor Housing Units Enabled by Building Permits 2010-2022

Unit Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTALS
Single-family	34	33	49	52	60	73	82	75	75	64	71	86	79	833
Duplex	0	0	0	10	10	0	2	2	24	10	8	26	4	96
Multi-family	17	0	4	4	0	24	57	107	8	0	0	92	138	451
Totals	51	33	53	66	70	97	141	184	107	74	79	204	222	1,381

Source: Village of Windsor Building Permit Records; includes limited development outside of the DeForest Area School District

Median Sale Price of Existing Homes

Changes in the sale price of existing homes is another indicator of the strength of a housing market. The median sale price of single-family homes in the DeForest-Windsor area increased 91% between 2012 and 2022. The median sale price decreased by 1% in the DeForest-Windsor area from 2021 to 2022, perhaps signaling a market correction or an anomaly. The Cottage Grove area was the only other suburban Dane County market with a decrease in median home sale price from 2021 to 2022. Median sale price of single-family homes in Dane County as a whole increased by 10% from 2021 to 2022. The 2022 median sale price in DeForest-Windsor was comparable to the Cottage Grove, Monona, and Sun Prairie markets.

Figure G: Median Sale Price of Existing Single-Family Homes by Municipal Market

Municipal Market	2012	2017	2021	2022	% Change 2012-2022 (10 year)	% Change 2021-2022 (1 year)
Cottage Grove	$227,500	$270,500	$341,500	$338,750	+49%	-1%
DeForest-Windsor	**$188,500**	**$264,450**	**$363,634**	**$359,900**	**+91%**	**-1%**
Fitchburg	$242,250	$299,950	$379,950	$405,000	+67%	+7%
McFarland	$203,950	$294,433	$360,750	$412,500	+102%	+14%
Middleton	$250,000	$319,000	$395,000	$449,500	+80%	+14%
Monona	$203,375	$257,500	$333,500	$375,000	+84%	+12%
Oregon	$196,500	$262,900	$372,865	$381,000	+94%	+2%
Stoughton	$163,000	$220,000	$280,000	$328,000	+101%	+17%
Sun Prairie	$170,000	$251,700	$340,000	$369,000	+117%	+9%
Verona	$245,500	$300,000	$376,500	$425,750	+73%	+13%
Waunakee	$297,000	$384,950	$462,000	$475,000	+60%	+3%
Dane County	$202,000	$264,000	$350,000	$385,000	+91%	+10%

Source: South Central Wisconsin Multiple Listing Service. Data compiled February 2, 2023. Data reported by area realtors; data for unincorporated towns is often combined with the adjacent city or village.
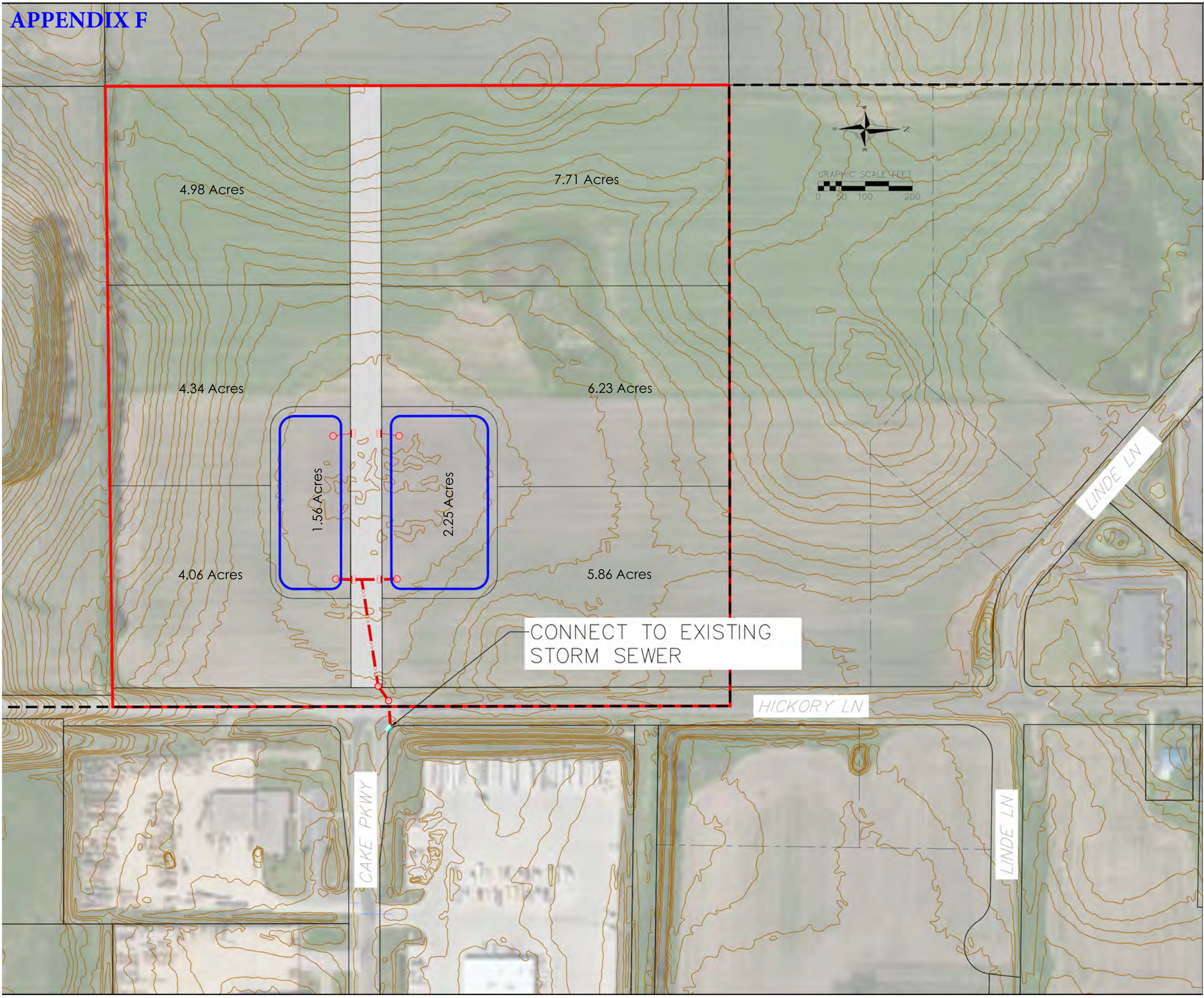
Assured Wetland Delineation Report

Hickory Lane Property

Town of Vienna, Dane County, Wisconsin

August 8, 2022

Project Number: 20220679

Hickory Lane Property

Town of Vienna, Dane County, Wisconsin

August 8, 2022

Prepared for:

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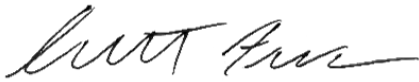
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Solutions for people, projects, and ecological resources.

Table of Contents

Solutions for people, projects, and ecological resources.

1.0 Introduction

Heartland Ecological Group, Inc. ("Heartland") completed an assured wetland determination and delineation on the Hickory Lane Parcel site on May 19, May 23, June 7, June 9, and July 26, 2022 at the request of Research Products Corporation. Fieldwork was completed by Scott Fuchs, Environmental Scientist, an assured delineator qualified via the Wisconsin Department of Natural Resources' (WDNR's) Wetland Delineation Assurance Program (Appendix E, Qualifications). The 65.57-acre site (the "Study Area") is southwest of the intersection of County Trunk Highway V (CTH V) and Hickory Lane, in the northeast ¼ of Section 23, T9N, R9E, Town of Vienna, Dane County, WI (Figure 1, Appendix A). The purpose of the wetland delineation was to determine the location and extent of wetlands within the Study Area.

One (1) wetland area totaling approximately 2.09 acres was delineated and mapped within the Study Area (Figure 6, Appendix A). Wetlands, waterways, and water bodies discussed in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the WDNR, and local zoning authorities. Heartland recommends this report be submitted to local authorities, the WDNR, and USACE for final jurisdictional review and concurrence.

2.0 Methods

2.1 Wetlands

Wetlands were determined and delineated using the criteria and methods described in the USACE Wetlands Delineation Manual, T.R. Y-87-1 ("1987 Corps Manual") and the applicable *Regional Supplement to the Corps of Engineers Wetland Delineation Manual.* In addition, the *Guidance for Submittal of Delineation Reports to the St. Paul District USACE and the WDNR* (WDNR, 2015) was followed in completing the wetland delineation and report.

Determinations and delineations utilized available resources including the U.S. Geological Survey's (USGS) *WI 7.5 Minute Series (Topographic) Map* (Figure 2, Appendix A), the Natural Resource Conservation Service's (NRCS) Soil Survey Geographic Database (SSURGO), U.S. Department of Agriculture's (USDA) *Web Soil Survey* (Figure 3, Appendix A), the WDNR's *Wetland Indicator* GIS data layer (Figure 4, Appendix A), the WDNR's *Wisconsin Wetland Inventory* GIS data layer (Figure 5, Appendix A), and aerial imagery available through the USDA Farm Service Agency's (FSA) National Agriculture Imagery Program (NAIP). The USGS *National Hydrography Dataset* is included on Figures 2 and 5, Appendix A.

Wetland determinations were completed on-site at sample points, often along transects, using the three (3) criteria (vegetation, soil, and hydrology) approach per the 1987 Corps Manual and the Regional Supplement. Procedures in these sources were followed to demonstrate that, under normal circumstances, wetlands were present or not present based on a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology.

In actively farmed areas within the Study Area where hydric soils may be present, methods described in Chapter 5 (Difficult Wetland Situations) of the Regional Supplement were followed. Available aerial imagery was analyzed using procedures described in the *Guidance for Offsite Hydrology/Wetland Determinations* (USACE and Minnesota Board of Water and Soil Resources, July 2016 – "July 2016 Guidance"). An off-site aerial imagery analysis (Off-Site Analysis) was completed to document the presence or absence of wetland signatures and assist in the wetland determination. A wetland signature is evidence, recorded by aerial imagery, of ponding, flooding, or impacts of saturation for sufficient duration to meet wetland hydrology and possibly wetland vegetation criteria. Wetland signatures often vary

based on the type and seasonal date of the aerial imagery. For example, there are seven (7) standardized signature types in actively farmed settings described in the July 2016 Guidance. To assist in interpretations of wetland signatures, a WETS analysis was used to compare antecedent precipitation in the three (3) months leading up to each aerial image to the long-term (30-year) precipitation averages and standard deviation to determine if antecedent precipitation conditions for each image was normal, wet, or dry. Areas within agricultural fields are typically determined to be wetland if hydric soils and wetland hydrology indicators are present and aerial images taken in the five (5) (or more) most recent normal antecedent precipitation images show at least one (1) of the wetland signatures per the July 2016 Guidance. Although the off-site analysis concentrates on imagery taken under normal antecedent precipitation conditions, the images determined to be taken under wet and dry antecedent precipitation conditions were also analyzed and considered. Determinations and delineation of wetlands in agricultural areas are typically based on an outline of the largest wetland signature on an image taken under "normal" antecedent conditions, and based on the consistency of the signatures (USDA, NRCS 1998).

Recent weather conditions influence the visibility or presence of certain wetland hydrology indicators. An assessment of recent precipitation patterns helps to determine if climatic/hydrologic conditions were typical when the field investigation was completed. Therefore, a review of antecedent precipitation in the 90 days leading up to the field investigation was completed. Using an Antecedent Precipitation Tool (APT) analysis developed by the USACE (Deters & Gutenson 2021), the amount of precipitation over these 90 days was compared to averages and standard deviation thresholds observed over the past 30 years to generally represent if conditions encountered during the investigation were normal, wet, or dry. Recent precipitation events in the weeks prior to the investigation were also considered while interpreting wetland hydrology indicators. Additionally, the Palmer Drought Severity Index was checked for long-term drought or moist conditions (NOAA, 2018).

The uppermost wetland boundary and sample points were identified and marked with wetland flagging and located with a Global Navigation Satellite System (GNSS) receiver capable of sub-meter accuracy. In some cases, wetland flagging was not utilized to mark the boundary and the location was only recorded with a GNSS receiver, particularly in active

agricultural areas. The GNSS data was then used to map the wetlands using ESRI ArcGIS Pro™ 2.9.3 software.

3.0   Results and Discussion

3.1   Desktop Review

Climatic Conditions

According to the APT analyses using the previous 90 days of precipitation data, conditions encountered during the May 19th, May 23rd, June 7th, and June 9th site visits were expected to be normal for the time of year, while conditions during the July 26th site visit were expected to be drier than normal (Appendix B). The Palmer Drought Severity Index was checked as part of the APT analysis, and the long-term conditions at the time of the fieldwork were in the moderate drought to mild drought range. Fieldwork was completed within the dry-season based on long-term regional hydrology data utilized in the WebWIMP Climatic Water Balance and computed as part of the APT analyses.

General Topography and Land Use

The topography within the Study Area was rolling, with various hills, depressions, and slopes present. Topographic highs of approximately 960 feet above mean sea level (msl) are present along the southern and southwestern boundaries of the Study Area, and a topographic low of approximately 937 feet above msl is present within a depression in the south-central portion (Figures 2 and 6, Appendix A). Land use within the Study Area consists of agricultural row cropping. Surrounding areas are primarily agricultural row cropping and industrial properties. General drainage is to the south and east.

Soil Mapping

Soils mapped by the NRCS Soil Survey within the Study Area and their hydric status are summarized in Table 1. Wetlands identified during the field investigation are located primarily within areas mapped as hydric or partially hydric soils including wetland indicator soils (Figures 3 and 4, Appendix A).

Table 1. Summary of NRCS Mapped Soils within the Study Area

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
Co: Colwood silt loam, 0 to 2 percent slopes	Colwood	80-90	Lakebeds (relict)	Yes
	Pella	5-10	Drainageways	Yes
	Palms	5-10	Depressions	Yes
EfB: Elburn silt loam, 0 to 3 percent slopes	Elburn	85-95	Stream terraces, outwash plains, drainageways	No
	Pella	2-5	Drainageways	Yes
	Mahalasville	1-4	Drainageways	Yes
	Sable	1-4	Drainageways	Yes
	Plano	1-2	Till plains	No
GwC: Griswold loam, 6 to 12 percent slopes	Griswold	87-97	Till plains	No
	Ringwood	3-13	Till plains	No
PnA: Plano silt loam, till substratum, 0 to 2 percent slopes	Plano-Till substratum	85-95	Till plains	No
	Elburn	5-15	Till plains	No
PnB: Plano silt loam, till substratum, 2 to 6 percent slopes	Plano-Till substratum	80-90	Till plains	No
	Griswold	5-11	Till plains	No
	Elburn	5-9	Till plains	No
RaA: Radford silt loam, 0 to 3 percent slopes	Radford	80-95	Drainageways, flood plains	No
	Otter	2-8	Drainageways, flood plains	Yes
	Sable	2-5	Depressions	Yes
	Sebewa	1-4	Depressions	Yes
	Drummer	0-3	Depressions	Yes
RnB: Ringwood silt loam, 2 to 6 percent slopes	Ringwood	85-95	Moraines	No
	Elburn	2-6	Drainageways	No
	Plano-Till substratum	1-4	Moraines	No
	Griswold	2-5	Moraines	No
Wa: Wacousta silty clay loam, 0 to 2 percent slopes	Wacousta	80-90	Interdrumlins	Yes

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
	Sable	5-10	Interdrumlins	Yes
	Sebewa	5-10	Interdrumlins	Yes

Wetland Mapping

The Wisconsin Wetlands Inventory (WWI) mapping (Figure 5, Appendix A) depicts three (3) wetland areas within the Study Area. One (1) complex of emergent wetlands (E1Ka/E1H) is depicted in the northwestern corner of the site, one (1) wetland point symbol is depicted in the northern portion of the Study Area adjacent to Linde Ln, and one (1) emergent farmed wetland (E1Kf) is depicted in the south-central portion of the Study Area. The NRCS wetland inventory maps identify an area of Farmed Wetland (FW) in the northwestern corner of the site consistent with field delineated wetlands. The remaining portions of the Study Area are identified as non-wetland (NW) (Appendix G).

Waterway Mapping

The National Hydrography Dataset 24k (NHD) mapping (Figure 5, Appendix A) depicts one (1) waterbody in the south-central portion of the Study Area.

Landowner Contacts

According to the landowner, drain tile was installed in the northern and southern portions of the Study Area in the fall/winter of 2021 (see Appendix G). The tenant farmer was also met on site and confirmed that new tile was installed at the end of the previous growing season and was providing significantly improved drainage.

Off-Site Analysis

Agricultural fields within the Study Area have significant mapped hydric or potentially hydric soils and were the focus of the off-site aerial imagery analysis (OSA) (Appendix F). From the aerial imagery, the primary wetland hydrology indicator of "Inundation Visible on Aerial Imagery" (B7) was noted in one (1) depression. In that same location and in two (2) additional areas, the secondary wetland hydrology indicators "Saturation Visible on Aerial Imagery" (C9) and "Stunted or Stressed Plants" (D1) were also noted.

A total of 21 aerial images were selected and reviewed based on availability and quality of the imagery. Of these images, eight (8) were taken under normal antecedent precipitation conditions. Signatures were noted in seven (7) areas within the Study Area within landscape positions described by the NRCS to support hydric soil components and were the focus of the OSA. At least one (1) of the seven (7) described wetland signatures per the July 2016 Guidance were consistently noted in three (3) of these areas on imagery taken under normal antecedent precipitation conditions.

Based on the off-site analysis, three (3) areas were likely to be wetland prior to the fieldwork. Two (2) of these areas are contiguous low-lying areas along the northern boundary of the Study Area and the remaining area is an isolated depression located in the south-central portion of the Study Area.

The offsite analysis documents conditions prior to the 2021 drain tile installation and is not indicative of current hydrologic conditions. During the field investigation, shards of old clay tile were observed in areas 1, 2, and 3, indicating that in addition to the 2021 tile installation, drain tile had been installed previously. Given the extent of broken tile observed, it appears that tile present prior to 2021 was poorly functioning or completely non-functional.

3.2   Field Review

One (1) wetland was identified and delineated within the Study Area. Wetland determination data sheets (Appendix C) were completed at 15 sample points that were representative of the wetland and upland conditions near the boundary and where potential wetlands may be present based on the desktop review and field reconnaissance. Appendix D provides photographs, typically at the sample point locations of the wetlands and adjacent uplands. Photos of old clay tile shards, new and old drain tile risers, and drain tile outlets are also included. The wetland boundary and sample point locations are shown on Figure 6 (Appendix A) and the wetland is summarized in Table 2 and detailed in the following sections.

Table 2. Summary of Wetlands Identified within the Study Area

Wetland ID	Wetland Description	*Surface Water Connections	*NR151 Protective Area	Acreage (on-site)
W-1	Farmed Wet Meadow	Isolated	Less susceptible, 10-30 feet	2.09
*Classification based on Heartland's professional opinion. Jurisdictional authority of wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities may have additional restrictions. USACE has authority for determining federal jurisdiction of wetlands and waterways.				**2.09**

Wetland 1 (W-1)

Wetland 1 (W-1) is a 2.09-acre farmed wet meadow located within low-lying portions of the agricultural fields along the northern boundary of the Study Area.

No live vegetation was observed within W-1 at the time of the initial site visits on 5/19 and 5/23 due to the agricultural fields being recently disked and planted; however, cattail (*Typha sp.*) detritus was present throughout the disked soils in the delineated wetland area. Additionally, reed canary grass (*Phalaris arundinacea*, FACW) dominated unfarmed areas adjacent to and at approximately the same elevation as the delineated wetland area. At the time of the additional site visit on 7/26, W-1 was dominated by lady's-thumb (*Persicaria maculsa*, FAC) and yellow nut sedge (*Cyperus esculentus*, FACW) in addition to low percent cover of narrow-leaf cattail (*Typha angustifolia*, OBL), reed canary grass (*Phalaris arundinacea*, FACW), and river bulrush (*Bolboschoenus fluviatilis*, OBL). Crop stress and drown out was evident throughout most of W-1. Therefore the wetland vegetation parameter was met.

The Thick Dark Surface (A12), Depleted Matrix (F3), Redox Dark Surface (F6), and Redox Depressions (F8) hydric soil indicators were observed in various combinations at the sample points completed within W-1. Thus, the hydric soil parameter was met.

No primary wetland hydrology indicators were observed within W-1 at the time of the initial site visit; however, the secondary indicators of Saturation Visible on Aerial Imagery (C9) and Stunted or Stressed Plants (D1) were noted during the off-site analysis and Geomorphic Position (D2) was noted during the field investigation. At the time of follow-up site visits immediately following moderate precipitation events in June, the water table was observed

at five to eight inches below the soil surface at the sample points within W-1. The recent tile installation does not appear to be sufficiently draining this area. Therefore, the wetland hydrology parameter was considered to be met.

The boundary of W-1 followed a poorly-defined topographic break and was determined primarily through signatures observed during the off-site analysis and the extent of crop stress and wetland vegetation observed on 7/26.

Waterways

No waterways or waterbodies were observed within the Study Area.

Additional Field Investigation Visits, Evaluation of Drain Tile Efficacy, and Summary of Non-Wetland Determination in Southern Depression (Sample Point P10)

Additional site visits were performed to evaluate the efficacy of the 2021 drain tile installation by measuring the depth to water table in existing soil sampling augur holes. Additional site visits were performed on June 7th and June 9th following moderate precipitation events of 0.38 inches on June 5th, 0.47 inches on June 6th, and 0.85 inches on June 8th.

Based on these additional site visits, drain tile appears to be effectively draining potential wetland areas in the southern portion of the Study Area as the water table was observed at a depth ≥ 12 inches below the soil surface at sample points P09, P10, and P12. Given the recency of this precipitation, A2/C2 was not considered to be met as the water table likely does not remain at this depth long enough to meet wetland hydrology due to tile drainage. Drain tile does not appear to be effectively draining the wetland area in the northern portion of the Study Area (W-1) due to observation of a water table at five to eight inches below the soil surface at sample points P01, P03, and P06.

Two drain tile outlets were located and observed at a ditch on the eastern side of Hickory Lane. Both tile outlets were observed to be flowing, one more readily than the other. The better-flowing outlet is believed to connect to the tile network in the southern portion of the Study Area.

An additional site visit on July 26th was made to observe vegetation in potential wetland areas. Crop stress, crop drown out, and hydrophytic vegetation was readily evident within the delineated wetland area W-1. Within the depression in the southern portion of the Study

Area (surrounding sample point P10), the corn crop was healthy and no crop stress was apparent. The corn crop in this location was 8-9 feet tall. Little volunteer vegetation, consisting of equal low-percent cover of velvet leaf (*Abutilon theophrasti,* UPL) and yellow nut sedge (*Scirpus cyperinus,* FACW), was present.

In summary: although hydric soils are present at sample point P10, these soils are relict and representative of conditions prior to the drain tile installation. Given the observations of a depth to water table of ≥ 12 inches immediately following moderate rain events, drain tile appears to be effectively draining this area and preventing wetland hydrology. Although the depression featured wetland signatures in 75% of the normal years reviewed, this imagery is not representative of conditions following the drain tile installation. Given the combination of these factors and the delineator's professional judgement, the depression in the southern portion of the Study Area was determined to be non-wetland.

3.3　Other Considerations

This report is limited to the identification and delineation of wetlands within the Study Area. Other regulated environmental resources that result in land use restrictions may be present within the Study Area that were not evaluated by Heartland (e.g. navigable waterways, floodplains, cultural resources, and threatened or endangered species).

Wisconsin Act 183 provides exemptions to permitting requirements for certain nonfederal wetlands. Nonfederal wetlands are wetlands that are not subject to federal jurisdiction. Exemptions apply to projects in urban areas with wetland impacts up to 1-acre per parcel. An urban area is defined as an incorporated area; an area within ½ mile of an incorporated area; or an area served by a sewerage system. Exemptions for nonfederal wetlands also apply to projects in rural areas with wetland impacts up to three (3) acres per parcel. Exemptions in rural areas only apply to structures with an agricultural purpose such as buildings, roads, and driveways. The determination of federal and nonfederal wetlands MUST be made by the USACE through an Approved Jurisdictional Determination (AJD). This report may be submitted to the USACE to assist with their determination.

Wis. Adm. Code NR 151 ("NR 151") requires that a "protective area" (buffer) be determined from the Ordinary High-Water Mark (OHWM) of lakes, streams and rivers, or at the delineated boundary of wetlands. Per NR 151.12, the protective area width for "less

susceptible" wetlands is determined by using 10% of the average wetland width, no less than 10 feet or more than 30 feet. "Moderately susceptible" wetlands, lakes, and perennial and intermittent streams identified on recent mapping require a protective area width of 50 feet; while "highly susceptible wetlands" are associated with outstanding or exceptional resource waters in areas of special natural resource interest and require protective area width of 75 feet. Table 2 above lists the potential wetland buffers per NR 151 for each wetland identified based on Heartland's professional opinion. Please note that jurisdictional authority on wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities and regional planning organizations may have additional land use restrictions within or adjacent to wetlands.

4.0   Conclusion

Heartland completed an assured wetland determination and delineation within the Hickory Lane Property on May 19 and 23, and July 26, 2022 at the request of Research Products Corporation. Fieldwork was completed by Scott Fuchs, Environmental Scientist, an assured delineator qualified via the WDNR Wetland Delineation Assurance Program (Appendix E). The Study Area lies in Section 23, T9N, R9E, Town of Vienna, Dane County, WI (Figure 1, Appendix A).

One (1) wetland area was delineated and mapped within the 65.57-acre Study Area (Figure 6, Appendix A). The wetland, which may be classified as a farmed wet meadow, totals approximately 2.09 acres within the Study Area. No waterways or waterbodies were observed within the Study Area.

Wetlands, waterways, and water bodies discussed in this report may be subject to federal regulation under the jurisdiction of the USACE, state regulation under the jurisdiction of the WDNR, and the local zoning authority. Heartland recommends this report be submitted to the USACE for final jurisdictional review and concurrence. Review by local authorities may be necessary for determination of any applicable zoning and setback restrictions.

Heartland recommends that all applicable regulatory agency reviews and permits are obtained prior to beginning work within the Study Area or within or adjacent to wetlands or waterways. Heartland can assist with evaluating the need for additional environmental

reviews, surveys, or regulatory agency coordination in consideration of the proposed activity and land use as requested but is outside of the scope of the wetland delineation.

Experienced and qualified professionals completed the wetland determination and delineation using standard practices and professional judgment. Wetland boundaries may be affected by conditions present within the Study Area at the time of the fieldwork. All final decisions on wetlands and their boundaries are made by the USACE, the WDNR, and/or sometimes a local unit of government. Wetland determination and boundary reviews by regulatory agencies may result in modifications to the findings presented to the Client. These modifications may result from varying conditions between the time the wetland delineation was completed and the time of the review. Factors that may influence the findings may include but not limited to precipitation patterns, drainage modifications, changes or modification to vegetation, and the time of year.

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Appendix A | Figures

Section 10   Section 11   Section 12

Hahn Road   Dakota Road

CTH I

Section 15   Section 14   Section 13

I 39 I 90 I 94

Zeal Lane

CTH I

County Highway

Grove Street

Town of Vienna

CTH V
CTH I

CTH V
CTH I

CTH I V

I 39 I 90 I 94

CTH V County Highway V

Norway Grove Road

Norway Grove

Elephant Trail

9N 9E

DeForest

Frost Circle

Cake Parkway

Section 22   Section 23   Section 24

DeForest

Norway Grove Cemetery

Daley Road   Daley Road   Daley Road

Section 27   Section 26   Section 25

DeForest

Legend

- Study Area (65.57 ac)
- Township
- Section

0   500   1,000   Ft

I 90 I 94

US 51

N

Waunakee

Heartland
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Figure 1. Project Location

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

OpenStreetMap
ESRI

Section 10
Section 11
Section 12
Section 15
Section 14
Section 13
Section 22
Section 23
Section 24
9N 9E
Section 27
Section 26
Section 25

HAHN RD
HAHN RD
GENE ST
GENE ST
LINDE LN
HICKORY LN
CAKE PKWY
DALEY RD
DALEY RD
HICKORY LN
DEKORRA RD
RED BIRD RD
MORRIGONVILLE RD
EVCO CIR
RIVER RD
HILLTOP CIR
HILLTOP RD
PRAIRIE
CO HWY I
WIRD RD
CO HWY I
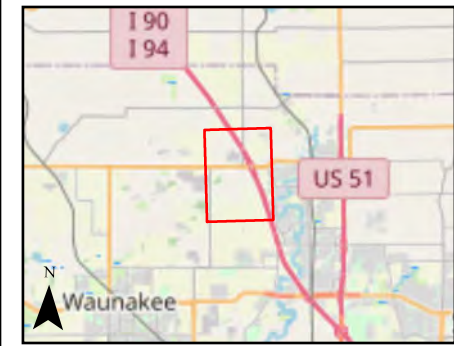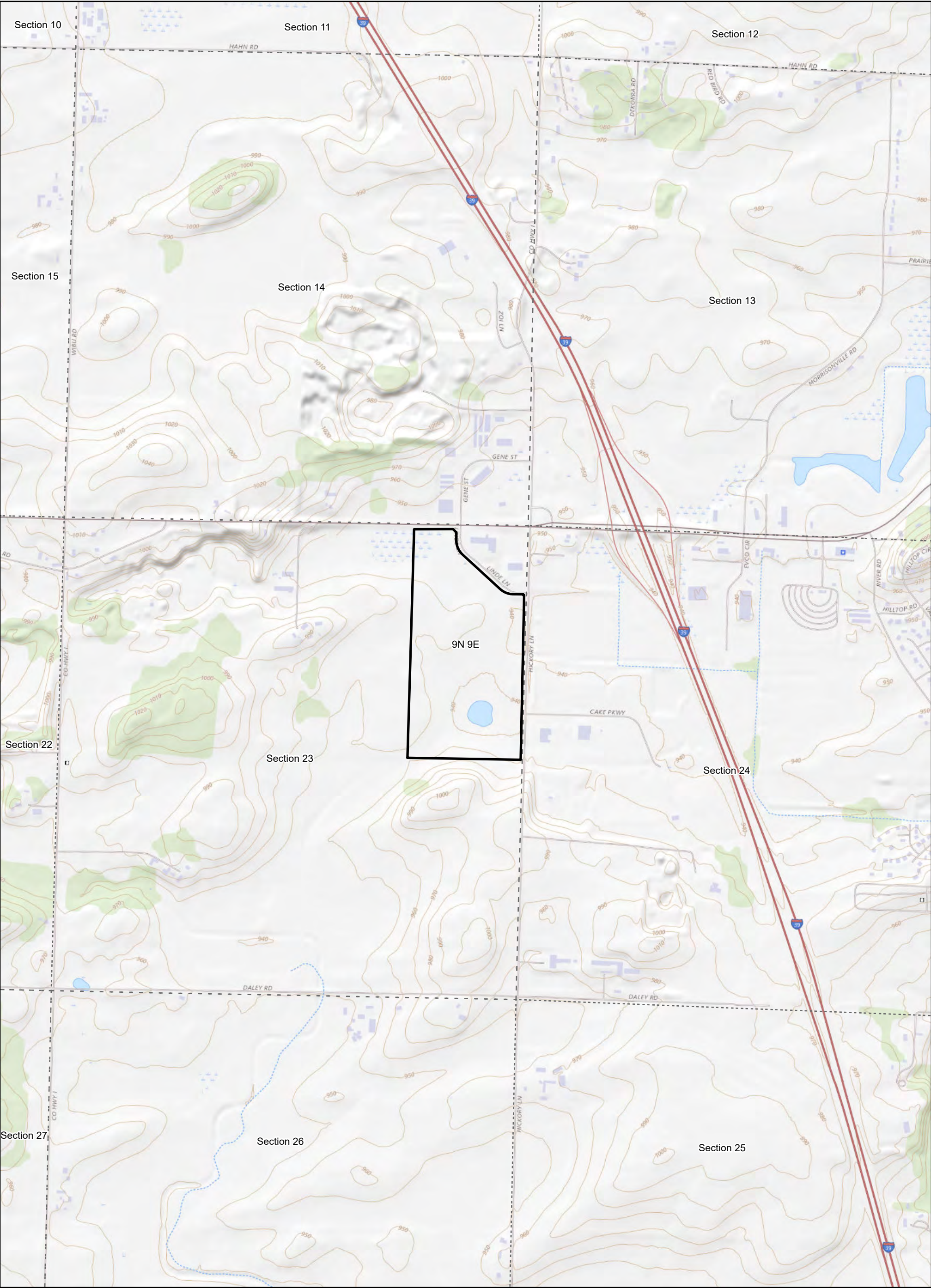
Study Area (65.57 ac)
Township
Section

0   500   1,000
Ft

Heartland
ECOLOGICAL GROUP INC

Figure 2. USGS
Topography

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

USGSTopo
USGS

I 90
I 94
US 51
Waunakee
N

Figure 3. NRCS Hydric Soils

Map Labels (soil units and roads):
RaA, Co Hwy I, Gene St, Co Rd V, Co Hwy V, Co Rd V, W North St, EfB, KeB, Elephant Trl, Wa, Co, Linde Ln, RnC2, PnB, VwA, PnA, EfB, RnB, Hickory Ln, EfB, PnB, Co, Cake Pkwy, RaA, PnB, GwC, PnB

Legend:
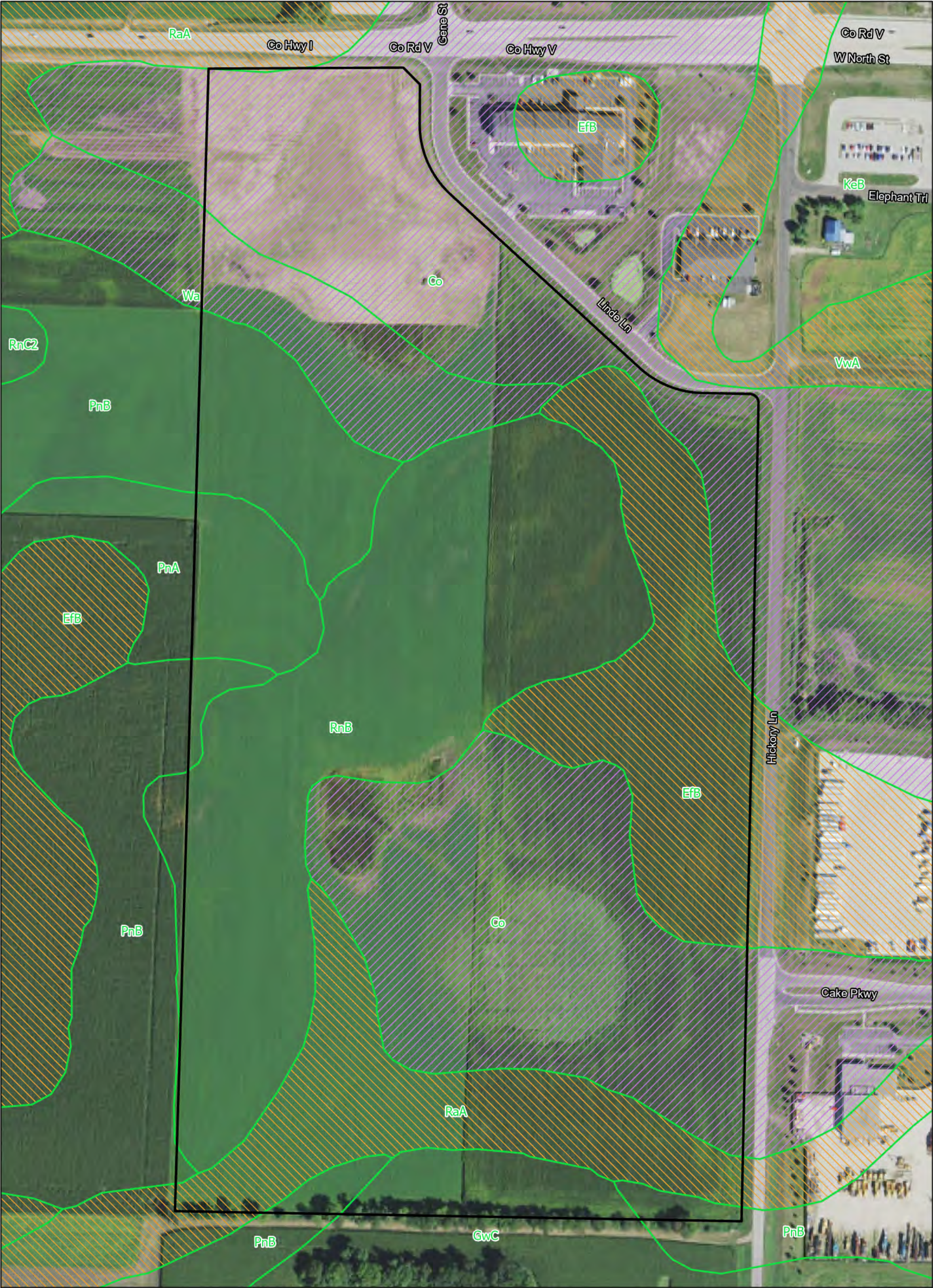
Study Area (65.57 ac)

NRCS Soil Survey Data

- Hydric (100%)
- Predominantly Hydric (85-99%)
- Partially Hydric (16-84%)
- Predominantly Non-Hydric (1-15%)
- Non-Hydric (0%)

0   200 Ft

Heartland ECOLOGICAL GROUP INC

Figure 3. NRCS Hydric Soils

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2020 NAIP
NRCS

Inset map labels: CTH V / CTH I, 126, 39

Co Hwy I — RaA — RaA — Gene St — Co Rd V — Co Hwy V — Co Rd V — W North St

RaA

RaA

Co

Wa

Elephant Trl

Linde Ln

VwA

VwA

Co

Co

EfB

EfB

Co

Hickory Ln

EfB

Cake Pkwy

RaA

RaA

Co

RaA

CTH V
CTH I

126

126

L 39
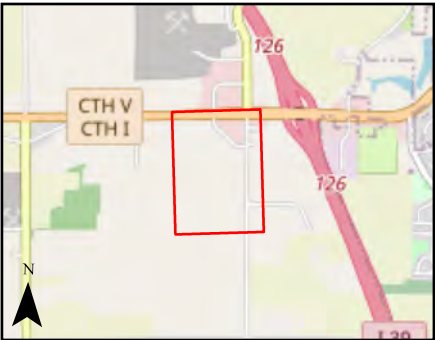
Study Area (65.57 ac)

SWDV Wetland Indicators

0 — 200 Ft

Heartland
ECOLOGICAL GROUP INC

Figure 4. SWDV
Wetland Indicators

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2020 NAIP
WDNR

Map labels:
- Co Hwy I
- Co Rd V
- Gene St
- Co Hwy V
- Co Rd V
- W North St
- Elephant Trl
- Linde Ln
- Hickory Ln
- Cake Pkwy
- E1Ka
- E1H
- E1Kf
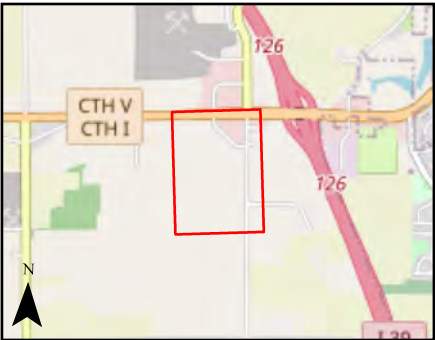
Legend:
- Study Area (65.57 ac)
- WWI Wetland Polygons
- WWI Wetland Points
- NHD Waterway (No Features in Map Extent)
- NHD Waterbody

Scale: 0 — 200 Ft

Inset map labels:
- CTH V
- CTH I
- I26
- I26
- I39

Heartland
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Figure 5. Wisconsin
Wetland Inventory

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2020 NAIP
WDNR, USGS

Figure 6. Field Delineated Wetlands

Legend

- Study Area (65.57 ac)
- Dane Co 1' Contours
- Drainage Features
- Field Delineated Wetlands (2.09 ac)

Sample Points

- Upland
- Wetland

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Figure 6. Field
Delineated Wetlands

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2020 NAIP
Dane Co, HEG

0   200
        Ft

Appendix B | APT Analyses

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network
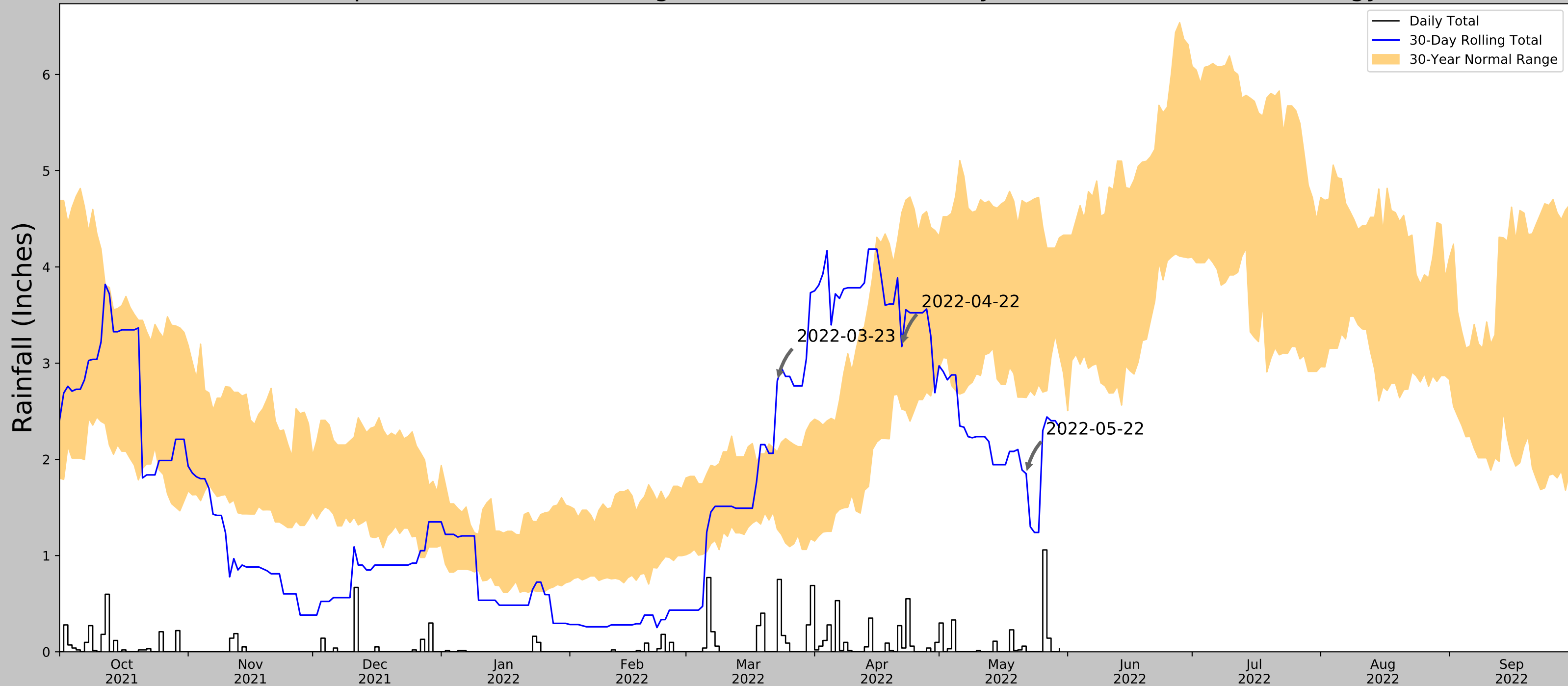
Coordinates	43.24656, -89.38403
Observation Date	2022-05-22
Elevation (ft)	940.08
Drought Index (PDSI)	Moderate drought (2022-04)
WebWIMP H₂O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-05-22	2.642913	4.66063	1.850394	Dry	1	3	3
2022-04-22	2.522835	4.562205	3.173228	Normal	2	2	4
2022-03-23	1.274803	2.076772	2.814961	Wet	3	1	3
Result							Normal Conditions - 10
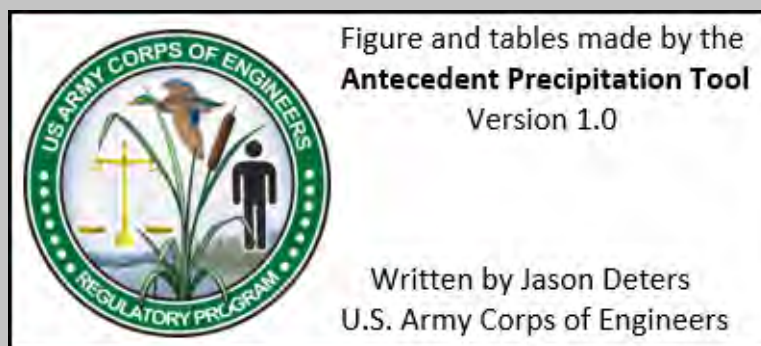
Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ARLINGTON	43.3042, -89.3453	1051.837	4.434	111.757	2.491	10901	89
MORRISONVILLE 0.1 ENE	43.2773, -89.3551	971.129	1.923	80.708	1.021	0	1
SUN PRAIRIE 3 W	43.1936, -89.2822	950.131	8.275	101.706	4.565	7	0
LODI	43.3217, -89.5311	824.147	9.419	227.69	6.383	127	0
MADISON DANE RGNL AP	43.1406, -89.3453	866.142	11.304	185.695	7.186	318	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network
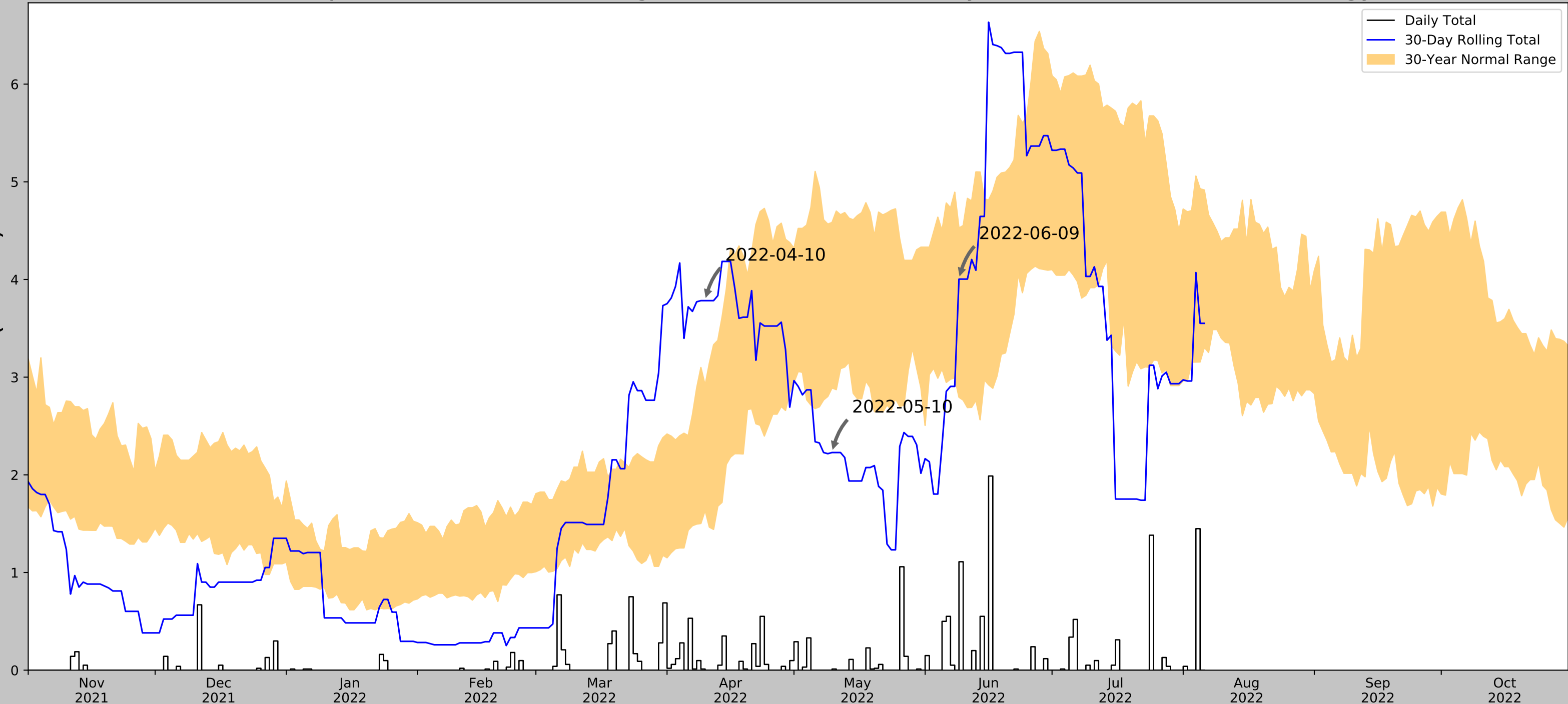
Coordinates	43.24656, -89.38403
Observation Date	2022-06-09
Elevation (ft)	940.08
Drought Index (PDSI)	Moderate drought
WebWIMP H$_2$O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-06-09	2.794488	4.527165	4.003937	Normal	2	3	6
2022-05-10	2.889764	4.584252	2.228347	Dry	1	2	2
2022-04-10	1.635433	2.917717	3.783465	Wet	3	1	3
Result							Normal Conditions - 11

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ARLINGTON	43.3042, -89.3453	1051.837	4.434	111.757	2.491	10901	90
SUN PRAIRIE 3 W	43.1936, -89.2822	950.131	8.275	101.706	4.565	7	0
LODI	43.3217, -89.5311	824.147	9.419	227.69	6.383	127	0
MADISON DANE RGNL AP	43.1406, -89.3453	866.142	11.304	185.695	7.186	318	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network
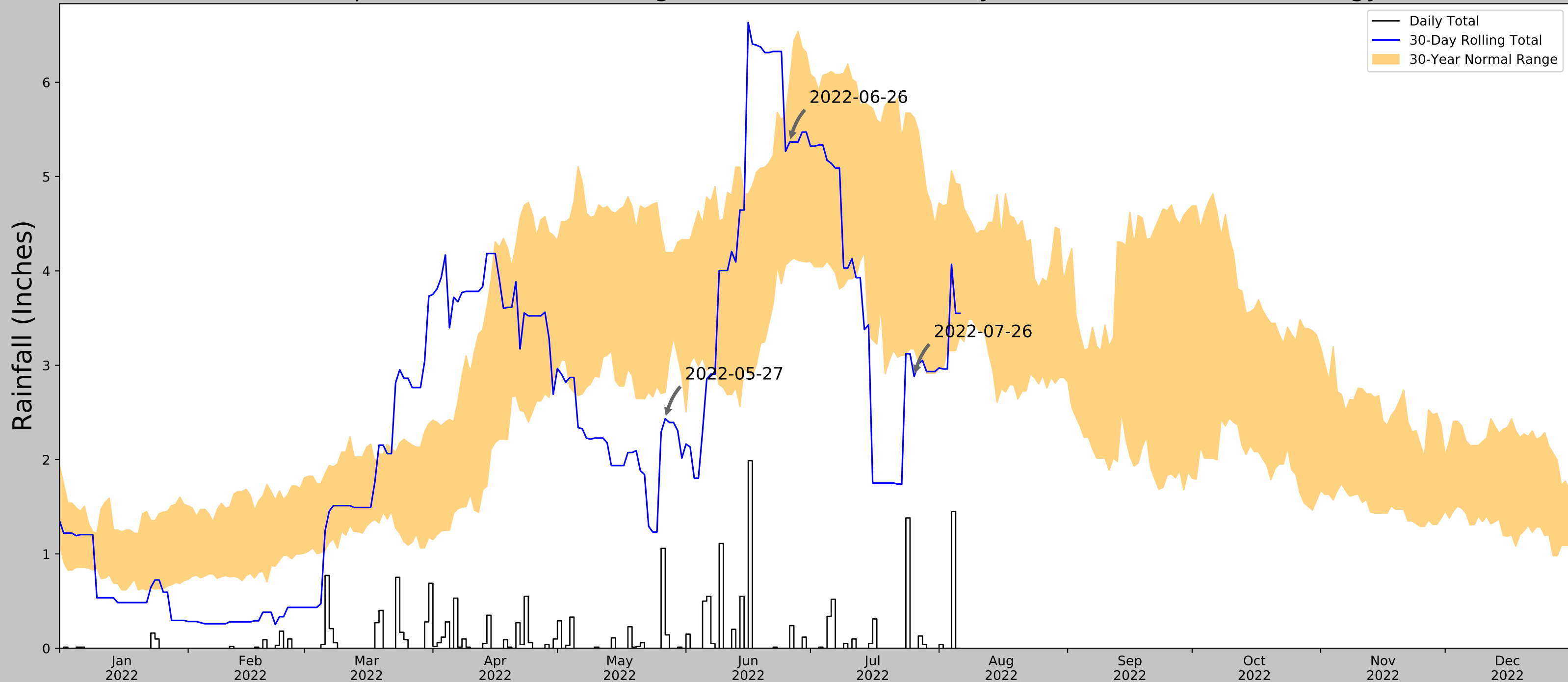
Coordinates	43.24656, -89.38403
Observation Date	2022-07-26
Elevation (ft)	940.08
Drought Index (PDSI)	Mild drought
WebWIMP H$_2$O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-07-26	3.172441	5.624803	2.88189	Dry	1	3	3
2022-06-26	4.103937	6.011418	5.366142	Normal	2	2	4
2022-05-27	2.713386	4.196063	2.433071	Dry	1	1	1
Result							Drier than Normal - 8
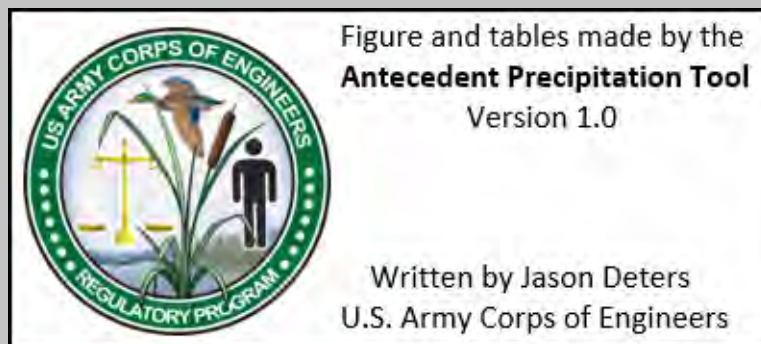
Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ARLINGTON	43.3042, -89.3453	1051.837	4.434	111.757	2.491	10901	88
WINDSOR 0.3 ENE	43.2183, -89.3355	924.869	5.956	126.968	3.436	0	1
SUN PRAIRIE 3 W	43.1936, -89.2822	950.131	8.275	101.706	4.565	7	0
WAUNAKEE 2.6 W	43.1894, -89.5027	1008.858	11.21	42.979	5.526	0	1
LODI	43.3217, -89.5311	824.147	9.419	227.69	6.383	127	0
MADISON DANE RGNL AP	43.1406, -89.3453	866.142	11.304	185.695	7.186	318	0

Appendix C | Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: <u>Hickory Lane Parcel</u> City/County: <u>Dane County</u> Sampling Date: <u>2022-05-19</u>

Applicant/Owner: <u>Research Products Corporation</u> State: <u>Wisconsin</u> Sampling Point: <u>P01</u>

Investigator(s): <u>Scott Fuchs</u> Section, Township, Range: <u>sec 23 T009N R009E</u>

Landform (hillslope, terrace, etc.): <u>Depression</u> Local relief (concave, convex, none): <u>None</u> Slope (%): <u>0-2</u>

Subregion (LRR or MLRA): <u>LRR K, MLRA 95B</u> Lat: <u>43.249660</u> Long: <u>-89.387170</u> Datum: <u>WGS84</u>

Soil Map Unit Name: <u>Colwood silt loam, 0 to 2 percent slopes</u> NWI classification: <u>E1H (WWI)</u>

Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>✓</u> No <u>____</u> (If no, explain in Remarks.)

Are Vegetation <u>✓</u>, Soil <u>____</u>, or Hydrology <u>____</u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>____</u> No <u>✓</u>

Are Vegetation <u>____</u>, Soil <u>____</u>, or Hydrology <u>____</u> naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>✓</u> No <u>____</u>	**Is the Sampled Area within a Wetland?**	Yes <u>✓</u> No <u>____</u>
Hydric Soil Present?	Yes <u>✓</u> No <u>____</u>		
Wetland Hydrology Present?	Yes <u>✓</u> No <u>____</u>	If yes, optional Wetland Site ID: <u>_____</u>	

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently plowed agricultural field - not normal circumstances (5/19). Vegetation data based on 7/26 site visit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	✓ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	✓ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	✓ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No <u>✓</u>	Depth (inches): ___	
Water Table Present?	Yes ___ No <u>✓</u>	Depth (inches): ___	
Saturation Present? (includes capillary fringe)	Yes ___ No <u>✓</u>	Depth (inches): ___	**Wetland Hydrology Present?** Yes <u>✓</u> No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
This area featured wetland signatures in 100% of the normal precipitation years reviewed during the offsite imagery analysis. C9 and D1 indicators observed during the offsite imagery analysis.

Remarks:
No primary wetland hydrology indicators observed during the initial field investigation on 5/23. Drain tile was installed in this area during the fall/winter of 2021. Additional site visits were made on 6/7 and 6/9 to evaluate the efficacy of drain tile following precipitation events of 0.38 inches on 6/5, 0.47 inches on 6/6, and 0.85 inches on 6/8. A water table was observed at 8 inches on 6/7 and 5 inches on 6/9. Drain tile does not appear to be effectively draining this area.

VEGETATION – Use scientific names of plants.   Sampling Point: P01

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1. *Persicaria maculosa*	20	Y	FAC
2. *Cyperus esculentus*	15	Y	FACW
3. *Abutilon theophrasti*	2	N	FACU
4. *Bolboschoenus fluviatilis*	2	N	OBL
5. *Phalaris arundinacea*	2	N	FACW
6. *Typha angustifolia*	2	N	OBL
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 2   (A)

Total Number of Dominant
Species Across All Strata: 2   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 100.00   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	4.00	x 1 = 4.00
FACW species	17.00	x 2 = 34.00
FAC species	20.00	x 3 = 60.00
FACU species	2.00	x 4 = 8.00
UPL species	0.00	x 5 = 0.00
Column Totals:	43.00 (A)	106.00 (B)

Prevalence Index = B/A = 2.465

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes ✓   No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation data based on 7/26 site visit.
5/23: Sample point recorded within a recently disked and planted agricultural field, no vegetation present. There is cattail detritus present within the disked soils.
7/26: Crop stress evident. Corn mostly drowned out, but improving slightly to the east. Corn cover is ~5%.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	98	10YR 4/6	2	C	M	SICL	
12-16	10YR 3/1	95	10YR 4/6	5	C	M	SICL	
16-27	10YR 4/1	80	10YR 4/6	20	C	M	SIC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes __✓__   No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: __Hickory Lane Parcel__   City/County: __Dane County__   Sampling Date: __2022-05-19__

Applicant/Owner: __Research Products Corporation__   State: __Wisconsin__ Sampling Point: __P02__

Investigator(s): __Scott Fuchs__   Section, Township, Range: __sec 23 T009N R009E__

Landform (hillslope, terrace, etc.): __Sideslope__   Local relief (concave, convex, none): __None__   Slope (%): __3-7__

Subregion (LRR or MLRA): __LRR K, MLRA 95B__ Lat: __43.249019__   Long: __-89.387069__   Datum: __WGS84__

Soil Map Unit Name: __Wacousta silty clay loam, 0 to 2 percent slopes__   NWI classification: __N/A (WWI)__

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)

Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No __✓__	**Is the Sampled Area**	
Hydric Soil Present?	Yes __✓__ No _____	**within a Wetland?** Yes _____ No __✓__	
Wetland Hydrology Present?	Yes _____ No __✓__	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances. Hydric soils we're observed; however, this is not representative of current conditions. Drain tile is present according to the farmer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No __✓__	Depth (inches): _____	
Water Table Present?	Yes _____ No __✓__	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No __✓__	Depth (inches): _____	**Wetland Hydrology Present? Yes _____ No __✓__**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

No wetland signatures observed in this location during the aerial imagery review. Wetland signatures did not extend this far south.

Remarks:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P02

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No ✓

Remarks: (Include photo numbers here or on a separate sheet.)
Recently disked and planted agricultural field, no vegetation present.

SOIL   Sampling Point: P02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					SIL	
12-24	10YR 4/2	80	10YR 4/6	20	C	M	SIC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ✓ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes __✓__   No _____

Remarks:
Hydric soils are present, but are believed to be relict and not representative of current conditions.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hickory Lane Parcel   City/County: Dane County   Sampling Date: 2022-05-19
Applicant/Owner: Research Products Corporation   State: Wisconsin   Sampling Point: P03
Investigator(s): Scott Fuchs   Section, Township, Range: sec 23 T009N R009E
Landform (hillslope, terrace, etc.): Toeslope   Local relief (concave, convex, none): None   Slope (%): 0-2
Subregion (LRR or MLRA): LRR K, MLRA 95B   Lat: 43.250170   Long: -89.385851   Datum: WGS84
Soil Map Unit Name: Colwood silt loam, 0 to 2 percent slopes   NWI classification: N/A (WWI)
Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)
Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes __✓__ No _____	**Is the Sampled Area**
Hydric Soil Present?	Yes __✓__ No _____	**within a Wetland?** Yes __✓__ No _____
Wetland Hydrology Present?	Yes __✓__ No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances (5/19). Vegetation data based on 7/26 site visit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
		___ Surface Soil Cracks (B6)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Drainage Patterns (B10)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Moss Trim Lines (B16)
___ Saturation (A3)	___ Marl Deposits (B15)	✓ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	✓ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	✓ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	✓ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Shallow Aquitard (D3)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Microtopographic Relief (D4)
___ Sparsely Vegetated Concave Surface (B8)		✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No __✓__ Depth (inches): _____	
Water Table Present?	Yes __✓__ No _____ Depth (inches): 24	
Saturation Present? (includes capillary fringe)	Yes __✓__ No _____ Depth (inches): 22	**Wetland Hydrology Present?** Yes __✓__ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
This area featured wetland signatures in 63% of the normal precipitation years reviewed during the offsite imagery analysis. C9 and D1 indicators observed during the offsite imagery analysis.

Remarks:
No primary wetland hydrology indicators observed during the field initial field investigation on 5/23. Drain tile was installed in this area during the fall/winter of 2021. Additional site visits were made on 6/7 and 6/9 to evaluate the efficacy of drain tile following precipitation events of 0.38 inches on 6/5, 0.47 inches on 6/6, and 0.85 inches on 6/8. A water table was observed at 19 inches on 6/7 and 8 inches on 6/9. Drain tile does not appear to be effectively draining this area.

VEGETATION – Use scientific names of plants.

Sampling Point: P03

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1. *Cyperus esculentus*	5	Y	FACW
2. *Persicaria maculosa*	5	Y	FAC
3. *Schoenoplectus tabernaemontani*	3	Y	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 3   (A)

Total Number of Dominant
Species Across All Strata: 3   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 100.00   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	3.00	x 1 = 3.00
FACW species	5.00	x 2 = 10.00
FAC species	5.00	x 3 = 15.00
FACU species	0.00	x 4 = 0.00
UPL species	0.00	x 5 = 0.00
Column Totals:	13.00 (A)	28.00 (B)

Prevalence Index = B/A = 2.154

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes ✓   No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation data based on 7/26 site visit.

5/19: Sample point recorded within a recently disked and planted agricultural field. No vegetation present. There is cattail detritus present within the disked soils in this area. Vegetation off-site to the east consists of: RCG 70, poa pra 30, tri pra 5. Hydrophytic vegetation noted to be present due to off-site vegetation at the same elevation/landscape position and cattail detritus.

7/26: Crop stress and drown out conspicuous. Corn crop has 60% cover and is only ~3 feet tall.

US Army Corps of Engineers

Northcentral and Northeast Region – Version 2.0

SOIL   Sampling Point: P03

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	95	10YR 3/6	5	C	PL	SICL	
6-14	10YR 3/1	95	10YR 3/6	5	C	M/PL	SICL	
14-24	10YR 4/1	80	10YR 4/6	20	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)	___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)	___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Histic Epipedon (A2)		___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ Black Histic (A3)	___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)	___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Hydrogen Sulfide (A4)	___ Loamy Mucky Mineral (F1) (**LRR K, L**)	___ Dark Surface (S7) (**LRR K, L**)
___ Stratified Layers (A5)	___ Loamy Gleyed Matrix (F2)	___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	___ Thin Dark Surface (S9) (**LRR K, L**)
___ Thick Dark Surface (A12)	✓ Redox Dark Surface (F6)	___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Sandy Gleyed Matrix (S4)	✓ Redox Depressions (F8)	___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Sandy Redox (S5)		___ Red Parent Material (F21)
___ Stripped Matrix (S6)		___ Very Shallow Dark Surface (TF12)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)		___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes __✓__   No _____

Remarks:

Soil does not meet A12 due to shallow (6-inch) 2/1 surface layer.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: __Hickory Lane Parcel__   City/County: __Dane County__   Sampling Date: __2022-05-19__

Applicant/Owner: __Research Products Corporation__   State: __Wisconsin__ Sampling Point: __P04__

Investigator(s): __Scott Fuchs__   Section, Township, Range: __sec 23 T009N R009E__

Landform (hillslope, terrace, etc.): __Subtle Saddle__   Local relief (concave, convex, none): __None__   Slope (%): __0-2__

Subregion (LRR or MLRA): __LRR K, MLRA 95B__ Lat: __43.249819__   Long: __-89.386138__   Datum: __WGS84__

Soil Map Unit Name: __Colwood silt loam, 0 to 2 percent slopes__   NWI classification: __N/A (WWI)__

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)

Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No __✓__	**Is the Sampled Area**	
Hydric Soil Present?	Yes _____	No __✓__	**within a Wetland?** Yes _____	No __✓__
Wetland Hydrology Present?	Yes _____	No __✓__	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Primary Indicators		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?   Yes _____ No __✓__ Depth (inches): _____

Water Table Present?   Yes _____ No __✓__ Depth (inches): _____

Saturation Present?   Yes _____ No __✓__ Depth (inches): _____   **Wetland Hydrology Present?   Yes _____ No __✓__**
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Wetland signatures observed during aerial imagery review did not extend into this area.

Remarks:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P04

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

Recently disked and planted agricultural field. No vegetation present (5/23). Corn crop healthy and 8-9 feet tall in this location on 7/26.

SOIL Sampling Point: P04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/1	100					SIL	
7-12	10YR 3/1	100					SICL	
12-16	10YR 3/1	95	10YR 4/6	5	C	M	C	
16-24	10YR 4/1	95	10YR 4/6	5	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____ **No** __✓__

Remarks:
No hydric soil indicators observed. Soil does not meet A12 due to shallow (7-inch) 2/1 surface layer.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: __Hickory Lane Parcel__ City/County: __Dane County__ Sampling Date: __2022-05-23__
Applicant/Owner: __Research Products Corporation__ State: __Wisconsin__ Sampling Point: __P05__
Investigator(s): __Scott Fuchs__ Section, Township, Range: __sec 23 T009N R009E__
Landform (hillslope, terrace, etc.): __Berm__ Local relief (concave, convex, none): __Convex__ Slope (%): __3-7__
Subregion (LRR or MLRA): __LRR K, MLRA 95B__ Lat: __43.249803__ Long: __-89.384712__ Datum: __WGS84__
Soil Map Unit Name: __Colwood silt loam, 0 to 2 percent slopes__ NWI classification: __N/A (WWI)__

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes __✓__ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No __✓__	**Is the Sampled Area within a Wetland?** Yes _____ No __✓__
Hydric Soil Present?	Yes _____ No __✓__	
Wetland Hydrology Present?	Yes _____ No __✓__	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)
An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded on a constructed berm at the edge of the agricultural field along the eastern edge of the study area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No __✓__ Depth (inches): _____	
Water Table Present?	Yes _____ No __✓__ Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No __✓__ Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No __✓__

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P05

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1. *Bromus inermis*	50	Y	UPL
2. *Phalaris arundinacea*	30	Y	FACW
3. *Taraxacum officinale*	10	N	FACU
4. *Lathyrus pratensis*	10	N	FACU
5. *Cirsium vulgare*	5	N	FACU
6. *Solidago canadensis*	5	N	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	110 = Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: _____1_____ (A)

Total Number of Dominant
Species Across All Strata: _____2_____ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: __50.00__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	30.00	x 2 =	60.00
FAC species	0.00	x 3 =	0.00
FACU species	30.00	x 4 =	120.00
UPL species	50.00	x 5 =	250.00
Column Totals:	110.00 (A)		430.00 (B)

Prevalence Index = B/A = __3.91__

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)
Weedy veg present at field edge/constructed berm.

Northcentral and Northeast Region – Version 2.0

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 2/2	100					SIL	
14-20	10YR 2/2	93	10YR 3/6	7	C	M	SIL	
20-24	10YR 3/1	95	10YR 4/6	5	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: __Hickory Lane Parcel__   City/County: __Dane County__   Sampling Date: __2022-05-23__

Applicant/Owner: __Research Products Corporation__   State: __Wisconsin__ Sampling Point: __P06__

Investigator(s): __Scott Fuchs__   Section, Township, Range: __sec 23 T009N R009E__

Landform (hillslope, terrace, etc.): __Depression__   Local relief (concave, convex, none): __Concave__   Slope (%): __0-2__

Subregion (LRR or MLRA): __LRR K, MLRA 95B__ Lat: __43.249445__   Long: __-89.385609__   Datum: __WGS84__

Soil Map Unit Name: __Colwood silt loam, 0 to 2 percent slopes__   NWI classification: __N/A (WWI)__

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)

Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes __✓__ No _____	**Is the Sampled Area within a Wetland?** Yes __✓__ No _____
Hydric Soil Present?	Yes __✓__ No _____	
Wetland Hydrology Present?	Yes __✓__ No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a subtle swale / low lying area adjacent to a constructed berm. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)
___ High Water Table (A2)	___ Aquatic Fauna (B13)
___ Saturation (A3)	___ Marl Deposits (B15)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
✓ Saturation Visible on Aerial Imagery (C9)
✓ Stunted or Stressed Plants (D1)
✓ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No __✓__ Depth (inches): _____

Water Table Present? Yes _____ No __✓__ Depth (inches): _____

Saturation Present? Yes _____ No __✓__ Depth (inches): _____   **Wetland Hydrology Present? Yes __✓__ No _____**
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
This area featured wetland signatures in 25% of the normal precipitation years reviewed during the offsite imagery analysis. C9 and D1 indicators observed during the offsite imagery analysis.

Remarks:
No primary hydrology indicators observed during field investigation on 5/23. Drain tile was installed in this area during the fall/winter of 2021. Additional site visits were made on 6/7 and 6/9 to evaluate the efficacy of drain tile following precipitation events of 0.38 inches on 6/5, 0.47 inches on 6/6, and 0.85 inches on 6/8. A water table was observed at 6 inches on 6/7 and 5 inches on 6/9. Drain tile does not appear to be effectively draining this area.

VEGETATION – Use scientific names of plants.

Sampling Point: P06

Tree Stratum (Plot size: ___30___)

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: ___15___)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Herb Stratum (Plot size: ___5___)

1. *Cyperus esculentus*	3	Y	FACW
2. *Persicaria maculosa*	3	Y	FAC
3. *Schoenoplectus tabernaemontani*	2	Y	OBL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	_____ = Total Cover		

Woody Vine Stratum (Plot size: ___30___)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: ___3___ (A)

Total Number of Dominant
Species Across All Strata: ___3___ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: ___100.00___ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	2.00	x 1 = 2.00
FACW species	3.00	x 2 = 6.00
FAC species	3.00	x 3 = 9.00
FACU species	0.00	x 4 = 0.00
UPL species	0.00	x 5 = 0.00
Column Totals:	8.00 (A)	17.00 (B)

Prevalence Index = B/A = _2.125_

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes ✓   No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Vegetation data based on 7/26 site visit.
5/23: Sample point recorded within a recently disked and planted agricultural field. No vegetation present. There is cattail detritus present within the disked soils.
7/26: Corn crop is stressed but not as significantly as further north and west. Corn crop has 70% cover and is ~4 feet tall.

SOIL   Sampling Point: P06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	97	10YR 3/6	3	C	M	SICL	
10-24	10YR 4/1	85	10YR 4/6	15	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)	___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)	___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Histic Epipedon (A2)		___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ Black Histic (A3)	___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)	___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Hydrogen Sulfide (A4)	___ Loamy Mucky Mineral (F1) (**LRR K, L**)	___ Dark Surface (S7) (**LRR K, L**)
___ Stratified Layers (A5)	___ Loamy Gleyed Matrix (F2)	___ Polyvalue Below Surface (S8) (**LRR K, L**)
✓ Depleted Below Dark Surface (A11)	✓ Depleted Matrix (F3)	___ Thin Dark Surface (S9) (**LRR K, L**)
___ Thick Dark Surface (A12)	✓ Redox Dark Surface (F6)	___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Sandy Redox (S5)		___ Red Parent Material (F21)
___ Stripped Matrix (S6)		___ Very Shallow Dark Surface (TF12)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)		___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes __✓__   No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: __Hickory Lane Parcel__   City/County: __Dane County__   Sampling Date: __2022-05-23__

Applicant/Owner: __Research Products Corporation__   State: __Wisconsin__ Sampling Point: __P07__

Investigator(s): __Scott Fuchs__   Section, Township, Range: __sec 23 T009N R009E__

Landform (hillslope, terrace, etc.): __Sideslope__   Local relief (concave, convex, none): __None__   Slope (%): __3-7__

Subregion (LRR or MLRA): __LRR K, MLRA 95B__ Lat: __43.249235__   Long: __-89.385923__   Datum: __WGS84__

Soil Map Unit Name: __Colwood silt loam, 0 to 2 percent slopes__   NWI classification: __N/A (WWI)__

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)

Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No __✓__	**Is the Sampled Area**	
Hydric Soil Present?	Yes _____ No __✓__	**within a Wetland?** Yes _____ No __✓__	
Wetland Hydrology Present?	Yes _____ No __✓__	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Primary Indicators		Secondary Indicators (minimum of two required)
__ Surface Water (A1)	__ Water-Stained Leaves (B9)	__ Surface Soil Cracks (B6)
__ High Water Table (A2)	__ Aquatic Fauna (B13)	__ Drainage Patterns (B10)
__ Saturation (A3)	__ Marl Deposits (B15)	__ Moss Trim Lines (B16)
__ Water Marks (B1)	__ Hydrogen Sulfide Odor (C1)	__ Dry-Season Water Table (C2)
__ Sediment Deposits (B2)	__ Oxidized Rhizospheres on Living Roots (C3)	__ Crayfish Burrows (C8)
__ Drift Deposits (B3)	__ Presence of Reduced Iron (C4)	__ Saturation Visible on Aerial Imagery (C9)
__ Algal Mat or Crust (B4)	__ Recent Iron Reduction in Tilled Soils (C6)	__ Stunted or Stressed Plants (D1)
__ Iron Deposits (B5)	__ Thin Muck Surface (C7)	__ Geomorphic Position (D2)
__ Inundation Visible on Aerial Imagery (B7)	__ Other (Explain in Remarks)	__ Shallow Aquitard (D3)
__ Sparsely Vegetated Concave Surface (B8)		__ Microtopographic Relief (D4)
		__ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?   Yes _____ No __✓__ Depth (inches): _____

Water Table Present?   Yes _____ No __✓__ Depth (inches): _____

Saturation Present?   Yes _____ No __✓__ Depth (inches): _____   **Wetland Hydrology Present? Yes _____ No __✓__**
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P07

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No ✓

Remarks: (Include photo numbers here or on a separate sheet.)

Sample point recorded within a recently disked and planted agricultural field. No vegetation present. No evidence of crop stress, corn 8-9 feet tall on 7/26.

SOIL   Sampling Point: P07

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					SIL	
8-16	10YR 3/1	100					SICL	
16-24	10YR 4/1	80	10YR 4/6	20	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

No hydric soil indicators observed. A12 not met due to shallow (8-inch) 2/1 layer.

US Army Corps of Engineers   Northcentral and Northeast Region – Version 2.0

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: <u>Hickory Lane Parcel</u>   City/County: <u>Dane County</u>   Sampling Date: <u>2022-05-23</u>

Applicant/Owner: <u>Research Products Corporation</u>   State: <u>Wisconsin</u>   Sampling Point: <u>P08</u>

Investigator(s): <u>Scott Fuchs</u>   Section, Township, Range: <u>sec 23 T009N R009E</u>

Landform (hillslope, terrace, etc.): <u>Subtle Swale</u>   Local relief (concave, convex, none): <u>Concave</u>   Slope (%): <u>0-2</u>

Subregion (LRR or MLRA): <u>LRR K, MLRA 95B</u> Lat: <u>43.247486</u>   Long: <u>-89.382773</u>   Datum: <u>WGS84</u>

Soil Map Unit Name: <u>Colwood silt loam, 0 to 2 percent slopes</u>   NWI classification: <u>N/A (WWI)</u>

Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>✓</u> No <u>   </u> (If no, explain in Remarks.)

Are Vegetation <u>✓</u>, Soil <u>   </u>, or Hydrology <u>   </u> significantly disturbed? Are "Normal Circumstances" present? Yes <u>   </u> No <u>✓</u>

Are Vegetation <u>   </u>, Soil <u>   </u>, or Hydrology <u>   </u> naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u> </u> No <u>✓</u>	**Is the Sampled Area**	
Hydric Soil Present? Yes <u> </u> No <u>✓</u>	**within a Wetland?** Yes <u> </u> No <u>✓</u>	
Wetland Hydrology Present? Yes <u> </u> No <u>✓</u>	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)
An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
__ Surface Water (A1)	__ Water-Stained Leaves (B9)	__ Surface Soil Cracks (B6)
__ High Water Table (A2)	__ Aquatic Fauna (B13)	__ Drainage Patterns (B10)
__ Saturation (A3)	__ Marl Deposits (B15)	__ Moss Trim Lines (B16)
__ Water Marks (B1)	__ Hydrogen Sulfide Odor (C1)	__ Dry-Season Water Table (C2)
__ Sediment Deposits (B2)	__ Oxidized Rhizospheres on Living Roots (C3)	__ Crayfish Burrows (C8)
__ Drift Deposits (B3)	__ Presence of Reduced Iron (C4)	__ Saturation Visible on Aerial Imagery (C9)
__ Algal Mat or Crust (B4)	__ Recent Iron Reduction in Tilled Soils (C6)	__ Stunted or Stressed Plants (D1)
__ Iron Deposits (B5)	__ Thin Muck Surface (C7)	__ Geomorphic Position (D2)
__ Inundation Visible on Aerial Imagery (B7)	__ Other (Explain in Remarks)	__ Shallow Aquitard (D3)
__ Sparsely Vegetated Concave Surface (B8)		__ Microtopographic Relief (D4)
		__ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes <u> </u> No <u>✓</u> Depth (inches): _____		
Water Table Present? Yes <u> </u> No <u>✓</u> Depth (inches): _____		
Saturation Present? Yes <u> </u> No <u>✓</u> Depth (inches): _____ (includes capillary fringe)	**Wetland Hydrology Present? Yes <u> </u> No <u>✓</u>**	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
This area featured wetland signatures in 0% of the normal precipitation years reviewed during the offsite imagery analysis.

Remarks:
No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
= Total Cover			

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
= Total Cover			

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
= Total Cover			

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: __0__ (A)

Total Number of Dominant
Species Across All Strata: __0__ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)

Sample point recorded within a recently disked and planted agricultural field. No vegetation present. No crop stress evident, corn crop healthy and 8-9 feet tall on 7/26.

SOIL

Sampling Point: P08

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					SIL	
6-10	10YR 2/1	100					SIL	
10-14	10YR 2/1	98	10YR 3/6	2	C	M	SICL	
14-24	10YR 4/1	90	10YR 4/6	10	C	M	SIC	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

No hydric soil indicators observed.

US Army Corps of Engineers

Northcentral and Northeast Region – Version 2.0

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hickory Lane Parcel   City/County: Dane County   Sampling Date: 2022-05-23
Applicant/Owner: Research Products Corporation   State: Wisconsin   Sampling Point: P09
Investigator(s): Scott Fuchs   Section, Township, Range: sec 23 T009N R009E
Landform (hillslope, terrace, etc.): Depression   Local relief (concave, convex, none): Concave   Slope (%): 0-2
Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.246946   Long: -89.382758   Datum: WGS84
Soil Map Unit Name: Colwood silt loam, 0 to 2 percent slopes   NWI classification: N/A (WWI)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓   No _____ (If no, explain in Remarks.)
Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No ✓	**Is the Sampled Area**	
Hydric Soil Present?	Yes ✓ No _____	**within a Wetland?** Yes _____ No ✓	
Wetland Hydrology Present?	Yes _____ No ✓	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)
An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	✓ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Shallow Aquitard (D3)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Microtopographic Relief (D4)
___ Sparsely Vegetated Concave Surface (B8)		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No ✓	Depth (inches): _____	
Water Table Present?	Yes _____ No ✓	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No ✓	Depth (inches): _____	**Wetland Hydrology Present? Yes _____ No ✓**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
This area featured wetland signatures in 13% of the normal precipitation years reviewed during the offsite imagery analysis. Crop stress signature observed during OSA not interpreted to be consistent enough to meet D1.

Remarks:
No primary wetland hydrology indicators observed during field investigation on 5/23. Additional site visits were made on 6/7 and 6/9 to evaluate the efficacy of drain tile following precipitation events of 0.38 inches on 6/5, 0.47 inches on 6/6, and 0.85 inches on 6/8. A water table was observed at 22 inches on 6/7 and 12 inches on 6/9. Although water table was observed at 12 inches on 6/9, precipitation was very recent - A2/C2 not checked due to this.

VEGETATION – Use scientific names of plants.   Sampling Point: P09

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	_____ = Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 0   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)

Sample point recorded within a recently disked and planted agricultural field. No vegetation present on 5/23 or 7/26. No evidence of crop stress, corn is 8-9 feet tall on 7/26.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					SICL	
16-24	10YR 4/1	95	10YR 4/6	5	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes __✓__   No _____

Remarks:

A12 indicator met but believed to be relict and not representative of current conditions.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hickory Lane Parcel   City/County: Dane County   Sampling Date: 2022-05-23
Applicant/Owner: Research Products Corporation   State: Wisconsin   Sampling Point: P10
Investigator(s): Scott Fuchs   Section, Township, Range: sec 23 T009N R009E
Landform (hillslope, terrace, etc.): Depression   Local relief (concave, convex, none): Concave   Slope (%): 0-2
Subregion (LRR or MLRA): LRR K, MLRA 95B   Lat: 43.244792   Long: -89.383953   Datum: WGS84
Soil Map Unit Name: Colwood silt loam, 0 to 2 percent slopes   NWI classification: E1Kf (WWI)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No __✓__	**Is the Sampled Area**	
Hydric Soil Present?	Yes __✓__ No _____	**within a Wetland?** Yes _____ No __✓__	
Wetland Hydrology Present?	Yes _____ No __✓__	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Moss Trim Lines (B16)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	__✓__ Saturation Visible on Aerial Imagery (C9)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	__✓__ Stunted or Stressed Plants (D1)
__✓__ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Geomorphic Position (D2)
___ Sparsely Vegetated Concave Surface (B8)		___ Shallow Aquitard (D3)
		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No __✓__	Depth (inches): _____	
Water Table Present?	Yes _____	No __✓__	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____	No __✓__	Depth (inches): _____	**Wetland Hydrology Present? Yes _____ No __✓__**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
This area featured wetland signatures in 75% of the normal precipitation years reviewed during the offsite imagery analysis. B7, C9, and D1 indicators observed during the offsite imagery analysis.

Remarks:

No primary wetland hydrology indicators observed during field investigation on 5/23. Drain tile was installed in this area during the fall/winter of 2021. Additional site visits were made on 6/7 and 6/9 to evaluate the efficacy of drain tile following precipitation events of 0.38 inches on 6/5, 0.47 inches on 6/6, and 0.85 inches on 6/8. A water table was observed at 16 inches on 6/7 and 12 inches on 6/9. Drain tile appears to be effectively draining this area. Although water table was observed at 12 inches on 6/9, precipitation was very recent - A2/C2 not checked due to this. The water table is not believed to persist long enough to meet wetland hydrology. Despite hydrology indicators noted during the OSA, wetland hydrology not present due to drain tile. Historic imagery does not represent the current condition following drain tile installation. D2 not applicable due to drain tile presence despite the sample point being in a depression.

VEGETATION – Use scientific names of plants.   Sampling Point: P10

Tree Stratum (Plot size: _____30_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____15_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Herb Stratum (Plot size: _____5_____)			
1. *Abutilon theophrasti*	3	Y	FACU
2. *Cyperus esculentus*	3	Y	FACW
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	_____ = Total Cover		

Woody Vine Stratum (Plot size: _____30_____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: _____1_____ (A)

Total Number of Dominant
Species Across All Strata: _____2_____ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____50.00_____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0.00	x 1 = 0.00
FACW species	3.00	x 2 = 6.00
FAC species	0.00	x 3 = 0.00
FACU species	3.00	x 4 = 12.00
UPL species	0.00	x 5 = 0.00
Column Totals:	6.00 (A)	18.00 (B)

Prevalence Index = B/A = 3.000

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation data based on 7/26 site visit.
5/23: Sample point recorded within a recently disked and planted agricultural field. No vegetation present.
7/26: Very little vegetation present, no evidence of crop stress. Corn crop is ~8ft tall and has 90% cover.

SOIL

Sampling Point: P10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	90	10YR 4/6	5	C	M/PL	SIL	
0-10			10YR 3/6	5				
10-18	10YR 2/1	90	10YR 4/6	5	C	M	SICL	
10-18			10YR 4/2	5	D	M		
18-24	10YR 2/1	100					MMI	Compacted Mucky SiL

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✓ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes __✓__   No _____

Remarks:

18 - 24 layer has high organic content, likely the original top soil that has been overburdened by runoff over the years.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: __Hickory Lane Parcel__ City/County: __Dane County__ Sampling Date: __2022-05-23__
Applicant/Owner: __Research Products Corporation__ State: __Wisconsin__ Sampling Point: __P11__
Investigator(s): __Scott Fuchs__ Section, Township, Range: __sec 23 T009N R009E__
Landform (hillslope, terrace, etc.): __Sideslope__ Local relief (concave, convex, none): __None__ Slope (%): __3-7__
Subregion (LRR or MLRA): __LRR K, MLRA 95B__ Lat: __43.243846__ Long: __-89.384017__ Datum: __WGS84__
Soil Map Unit Name: __Radford silt loam, 0 to 3 percent slopes__ NWI classification: __N/A (WWI)__
Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)
Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No __✓__
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No __✓__	**Is the Sampled Area**	
Hydric Soil Present?	Yes _____ No __✓__	**within a Wetland?** Yes _____ No __✓__	
Wetland Hydrology Present?	Yes _____ No __✓__	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)
An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No __✓__	Depth (inches): _____	
Water Table Present?	Yes _____ No __✓__	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No __✓__	Depth (inches): _____	**Wetland Hydrology Present? Yes _____ No __✓__**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P11

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point recorded within a recently disked and planted agricultural field. No vegetation present.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-22	10YR 3/2	100					SIL	
22-26	10YR 3/2	50	10YR 4/6	10	C	M	SIL	
22-26	10YR 4/1	40						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

No hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: <u>Hickory Lane Parcel</u> City/County: <u>Dane County</u> Sampling Date: <u>2022-05-23</u>

Applicant/Owner: <u>Research Products Corporation</u> State: <u>Wisconsin</u> Sampling Point: <u>P12</u>

Investigator(s): <u>Scott Fuchs</u> Section, Township, Range: <u>sec 23 T009N R009E</u>

Landform (hillslope, terrace, etc.): <u>Sideslope</u> Local relief (concave, convex, none): <u>None</u> Slope (%): <u>3-7</u>

Subregion (LRR or MLRA): <u>LRR K, MLRA 95B</u> Lat: <u>43.245974</u> Long: <u>-89.384007</u> Datum: <u>WGS84</u>

Soil Map Unit Name: <u>Colwood silt loam, 0 to 2 percent slopes</u> NWI classification: <u>N/A (WWI)</u>

Are climatic / hydrologic conditions on the site typical for this time of year? Yes <u>✓</u> No _____ (If no, explain in Remarks.)

Are Vegetation <u>✓</u>, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No <u>✓</u>

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>✓</u>	**Is the Sampled Area**	
Hydric Soil Present?	Yes _____ No <u>✓</u>	**within a Wetland?** Yes _____ No <u>✓</u>	
Wetland Hydrology Present?	Yes _____ No <u>✓</u>	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)
An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)
___ High Water Table (A2)	___ Aquatic Fauna (B13)
___ Saturation (A3)	___ Marl Deposits (B15)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No <u>✓</u>	Depth (inches): _____	
Water Table Present?	Yes _____ No <u>✓</u>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <u>✓</u>	Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No <u>✓</u>

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators observed during initial field investigation on 5/23. Drain tile was installed in this area during the fall/winter of 2021. Additional site visits were made on 6/7 and 6/9 to evaluate the efficacy of drain tile following precipitation events of 0.38 inches on 6/5, 0.47 inches on 6/6, and 0.85 inches on 6/8. No water table was observed at the sample point on either 6/7 or 6/9. Drain tile appears to be effectively draining this area.

VEGETATION – Use scientific names of plants.

Sampling Point: P12

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: ___0___ (A)

Total Number of Dominant
Species Across All Strata: ___0___ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)

Sample point recorded within a recently disked and planted agricultural field. No volunteer vegetation present on 5/23 or 7/26. No evidence of crop stress. Corn crop is 8-9 feet tall and 90% cover.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					SIL	
10-22	10YR 3/1	90	10YR 4/6	10	C	M	SICL	
22-26	10YR 4/1	80	10YR 4/6	20	C	M	C	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

2/1 layer too shallow (10 inches) to meet A12

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: __Hickory Lane Parcel__ City/County: __Dane County__ Sampling Date: __2022-05-23__

Applicant/Owner: __Research Products Corporation__ State: __Wisconsin__ Sampling Point: __P13__

Investigator(s): __Scott Fuchs__ Section, Township, Range: __sec 23 T009N R009E__

Landform (hillslope, terrace, etc.): __Sideslope__ Local relief (concave, convex, none): __None__ Slope (%): __3-7__

Subregion (LRR or MLRA): __LRR K, MLRA 95B__ Lat: __43.245748__ Long: __-89.385671__ Datum: __WGS84__

Soil Map Unit Name: __Colwood silt loam, 0 to 2 percent slopes__ NWI classification: __N/A (WWI)__

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)

Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No __✓__

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No __✓__	**Is the Sampled Area within a Wetland?** Yes _____ No __✓__
Hydric Soil Present?	Yes _____ No __✓__	
Wetland Hydrology Present?	Yes _____ No __✓__	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No __✓__	Depth (inches): _____	
Water Table Present?	Yes _____ No __✓__	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No __✓__	Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No __✓__

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

This area featured wetland signatures in 25% of the normal precipitation years reviewed during the offsite imagery analysis. Crop stress signatures not considered to be consistent enough to meet D1.

Remarks:

No wetland hydrology indicators observed. Although saturation was observed on some aerial imagery, C9 requires that saturated soil signatures correspond to field-verified hydric soils, depressions or drainage patterns, differential crop management, or other evidence of a seasonal high water table. None of these requirements were observed after the time of the drain tile installation in fall 2021, therefore C9 was not confirmed as a hydrology indicator.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____30_____)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: _____15_____)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: _____5_____)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: _____30_____)

	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____0_____ (A)

Total Number of Dominant Species Across All Strata: _____0_____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point recorded within a recently disked and planted agricultural field. No vegetation present.

SOIL   Sampling Point: P13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					SIL	
8-18	10YR 3/1	100					SICL	
18-24	10YR 3/1	97	10YR 4/6	3	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

No hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: __Hickory Lane Parcel__   City/County: __Dane County__   Sampling Date: __2022-05-23__
Applicant/Owner: __Research Products Corporation__   State: __Wisconsin__ Sampling Point: __P14__
Investigator(s): __Scott Fuchs__   Section, Township, Range: __sec 23 T009N R009E__
Landform (hillslope, terrace, etc.): __Sideslope__   Local relief (concave, convex, none): __None__   Slope (%): __3-7__
Subregion (LRR or MLRA): __LRR K, MLRA 95B__ Lat: __43.244809__   Long: __-89.385735__   Datum: __WGS84__
Soil Map Unit Name: __Colwood silt loam, 0 to 2 percent slopes__   NWI classification: __N/A (WWI)__

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)

Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No __✓__	**Is the Sampled Area**	
Hydric Soil Present?	Yes _____ No __✓__	**within a Wetland?** Yes _____ No __✓__	
Wetland Hydrology Present?	Yes _____ No __✓__	If yes, optional Wetland Site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)
An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?   Yes _____ No __✓__ Depth (inches): _____

Water Table Present?   Yes _____ No __✓__ Depth (inches): _____

Saturation Present?   Yes _____ No __✓__ Depth (inches): _____   **Wetland Hydrology Present? Yes _____ No __✓__**
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P14

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	0.00	x 2 =	0.00
FAC species	0.00	x 3 =	0.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	0.00 (A)		0.00 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No ✓

Remarks: (Include photo numbers here or on a separate sheet.)
Sample point recorded within a recently disked and planted agricultural field. No vegetation present.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 2/2	100					SIL	
13-24	10YR 4/2	90	10YR 4/6	10	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.　　　[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Dark Surface (S7) (**LRR K, L**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?　Yes _____　No ___✓___

Remarks:

No hydric soil indicators observed.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Hickory Lane Parcel   City/County: Dane County   Sampling Date: 2022-05-23

Applicant/Owner: Research Products Corporation   State: Wisconsin Sampling Point: P15

Investigator(s): Scott Fuchs   Section, Township, Range: sec 23 T009N R009E

Landform (hillslope, terrace, etc.): Sideslope   Local relief (concave, convex, none): None   Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.244668   Long: -89.382717   Datum: WGS84

Soil Map Unit Name: Colwood silt loam, 0 to 2 percent slopes   NWI classification: N/A (WWI)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __✓__ No _____ (If no, explain in Remarks.)

Are Vegetation __✓__, Soil _____, or Hydrology _____ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No __✓__

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No __✓__	**Is the Sampled Area**
Hydric Soil Present?	Yes _____ No __✓__	**within a Wetland?** Yes _____ No __✓__
Wetland Hydrology Present?	Yes _____ No __✓__	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

An analysis of antecedent precipitation was performed using the USACE APT tool, which indicates that conditions are normal for the time of year. Sample point recorded within a recently disked and planted agricultural field - not normal circumstances.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No __✓__ Depth (inches): _____	
Water Table Present?	Yes _____ No __✓__ Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No __✓__ Depth (inches): _____	**Wetland Hydrology Present? Yes _____ No __✓__**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Tree Stratum   (Plot size: _____30_____)

	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Sapling/Shrub Stratum   (Plot size: _____15_____)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Herb Stratum   (Plot size: _____5_____)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	_____ = Total Cover		

Woody Vine Stratum   (Plot size: _____30_____)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 0   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0.00	x 1 = 0.00
FACW species	0.00	x 2 = 0.00
FAC species	0.00	x 3 = 0.00
FACU species	0.00	x 4 = 0.00
UPL species	0.00	x 5 = 0.00
Column Totals:	0.00 (A)	0.00 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No ___✓___

Remarks: (Include photo numbers here or on a separate sheet.)

Sample point recorded within a recently disked and planted agricultural field. No vegetation present on 5/23. Corn crop is healthy and 8-9 feet tall on 7/26, no evidence of crop stress.

SOIL   Sampling Point: P15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/2	98	10YR 3/6	2	C	M	SIL	
10-24	10YR 2/2	90	10YR 3/6	10	C	M	SICL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

No hydric soil indicators observed.

Appendix D | Site Photographs

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #1 Sample point P1

Photo #2 Sample point P1

Photo #3 Sample point P1

Photo #4 Sample point P1

Photo #5 Sample point P2

Photo #6 Sample point P2

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #7 Sample point P2
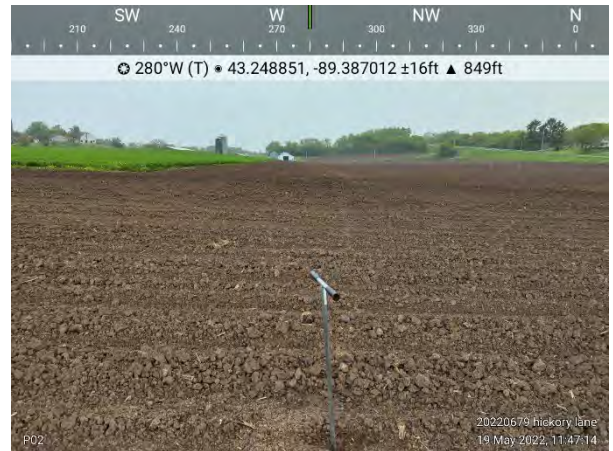
Photo #8 Sample point P2

Photo #9 Sample point P3

Photo #10 Sample point P3

Photo #11 Sample point P3

Photo #12 Sample point P3

![Hickory Lane Property logo - H]

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #13   Sample point P4

Photo #14   Sample point P4

Photo #15   Sample point P4

Photo #16   Sample point P4

Photo #17   Sample point P5

Photo #18   Sample point P5

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #19 Sample point P5

Photo #20 Sample point P5

Photo #21 Sample point P6

Photo #22 Sample point P6

Photo #23 Sample point P6

Photo #24 Sample point P6

Solutions for people, projects, and ecological resources.

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #25 Sample point P7

Photo #26 Sample point P7

Photo #27 Sample point P7
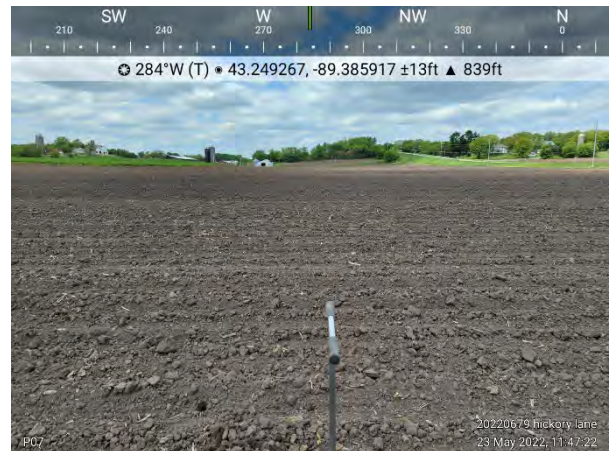
Photo #28 Sample point P7

Photo #29 Sample point P8

Photo #30 Sample point P8

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #31   Sample point P8

Photo #32   Sample point P8

Photo #33   Sample point P9

Photo #34   Sample point P9

Photo #35   Sample point P9

Photo #36   Sample point P9

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #37 Sample point P10

Photo #38 Sample point P10

Photo #39 Sample point P10

Photo #40 Sample point P10

Photo #41 Sample point P11

Photo #42 Sample point P11

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #43 Sample point P11

Photo #44 Sample point P11

Photo #45 Sample point P12

Photo #46 Sample point P12

Photo #47 Sample point P12

Photo #48 Sample point P12

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #49 Sample point P13

Photo #50 Sample point P13

Photo #51 Sample point P13

Photo #52 Sample point P13

Photo #53 Sample point P14

Photo #54 Sample point P14

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #55 Sample point P14

Photo #56 Sample point P14

Photo #57 Sample point P15
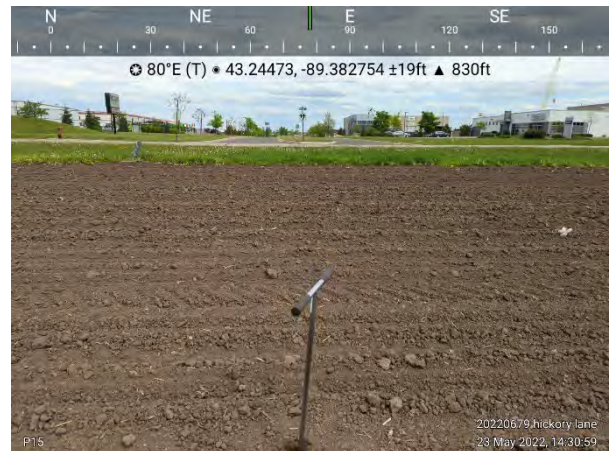
Photo #58 Sample point P15

Photo #59 Sample point P15

Photo #60 Sample point P15

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #61 Clay Tile Fragments

Photo #62 Clay Tile Fragments

Photo #63 Clay Tile Fragments

Photo #64 Drain Tile Outlet

Photo #65 Drain Tile Outlet

Drain Tile Outlet

![Hickory Lane logo] Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #66 New Drain Tile Riser

Photo #67 Old Drain Tile Riser
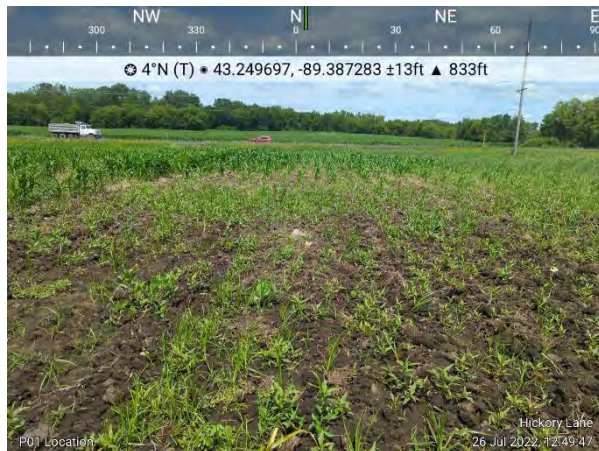
Photo #68 Approx. Sample Point P01 Location - July

Photo #69 Approx. Sample Point P01 Location - July

Photo #70 Approx. Sample Point P01 Location - July

Photo #71 Approx. Sample Point P01 Location - July

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #72 Approx. P03 Sample Point Location
- July

Photo #73 Approx. P03 Sample Point Location
- July

Photo #74 Approx. P03 Sample Point Location
- July

Photo #75 Approx. P03 Sample Point Location
- July

Photo #76 Approx. P06 Sample Point Location
- July

Photo #77 Approx. P06 Sample Point Location
- July

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #78 Approx. P06 Sample Point Location
- July

Photo #79 Approx. P06 Sample Point Location
- July

Photo #80 Approx. P10 Sample Point Location
/ Southern Depression - July

Photo #81 Approx. P10 Sample Point Location
/ Southern Depression - July
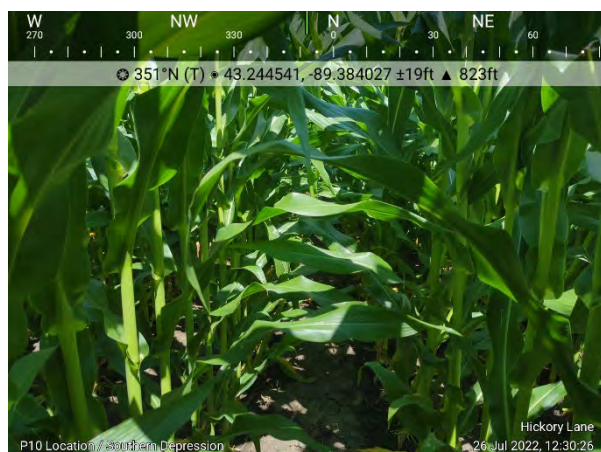
Photo #82 Approx. P10 Sample Point Location
/ Southern Depression - July

Photo #83 Approx. P10 Sample Point Location
/ Southern Depression - July

Hickory Lane Property
Research Products Corporation
Photos Taken 5/19, 5/23, & 7/26 2022

Assured Wetland Delineation
Dane County, Wisconsin
Heartland Project #: 20220679

Photo #84 Wetland W-1

Photo #85 Wetland W-1

Photo #86 Wetland W-1

Photo #87 Wetland W-1

Photo #88 Wetland W-1

Photo #89 Wetland W-1

Appendix E | Delineator Qualifications

Scott Fuchs
Environmental Scientist
506 Springdale Street
Mount Horeb, WI 53572
scott@heartlandecological.com
(608) 490-2450

Scott is a WDNR-assured wetland delineator and environmental scientist with expertise in botany, wetland assessment and delineation, natural plant communities of Wisconsin, geographic information systems (GIS), and state/federal wetland regulations and permitting. Scott has been involved in the field of ecological restoration and conservation for over seven years working as a field restoration ecologist and crew leader, ecology research assistant, wetland delineator, environmental consultant, and GIS administrator. Since joining Heartland, Scott has provided support for completion of hundreds of wetland delineations and determinations, served as lead delineator on numerous delineations that were subsequently confirmed by WDNR wetland regulatory staff, prepared wetland and waterway permit applications submitted to the DNR and USACE, and performed vegetation and hydrology monitoring and reporting for wetland mitigation projects. Scott also provides technical support by assisting with natural area restoration planning, monitoring and management, developing GIS-based project mapping, collecting and interpreting historic aerial imagery, and performing analysis of GIS data sets. Scott implemented Heartland's current GIS workflow, which utilizes ArcGIS Pro, ArcGIS Online, sub-foot EOS Arrow GNSS receivers, and tablet devices to accurately record and view environmental data in the field. Scott achieved his professionally assured wetland delineator certification from the DNR in February 2022.

His experience includes: wetland determination and delineation, long-term vegetation and wildlife monitoring and reporting, collecting and processing monitoring well hydrology data, wetland mitigation bank viability analysis and planning, preparing state artificial and non-federal wetland exemption requests, preparing wetland and waterway permit applications, writing wetland delineation reports, rare species surveys, invasive species control, conducting prescribed burns, and invasive herbaceous, shrub, and tree removal.

Education

BS, Biology (Emphasis in Ecology), University of Wisconsin – Whitewater, Whitewater, WI, 2015

Basic Wetland Delineation Training, Continuing Education and Extension, UW-La Crosse, La Crosse WI, 2019

Advanced Wetland Delineation Training, Continuing Education and Extension, UW-La Crosse, La Crosse WI, 2019

Critical Methods in Wetland Delineation, Continuing Education and Extension, UW-La Crosse, Madison WI, 2019, 2020, 2021

Certifications and Training

Professionally Assured Wetland Delineator, Wisconsin Department of Natural Resources (2022)

Wildland Fire Fighter Type 2, National Wildfire Coordinating Group, Incident Management Specialists, LLC, Madison WI, 2017

Level One Chainsaw Safety Training, Forest Industry Safety & Training Alliance, Eau Claire WI, 2016

Certified Pesticide Applicator (Category 6), Wisconsin Department of Trade and Consumer Protection, Madison WI, 2016

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Project Experience

Wetland Determinations and Delineations

Morey Solar Field Wetland Delineation and Restoration, Dane Co., WI
Assisted in the delineation of wetlands present on a 104-acre airport property, which was a proposed site for a solar field on the west side of Madison, WI. Following construction of the solar field, assisted in creating a native species planting and management plan.

Mallard Ridge and Glacier Ridge Landfill Pipelines: Walworth Co. and Dodge Co., WI
Performed wetland delineation along separate 1.5-mile and 3.6-mile corridors passing through savanna, upland prairie, wet prairie, hardwood swamps, agricultural fields, stream crossings, and highway right-of-way. Wetland delineation was necessary for construction of methane pipelines linking to nearby regional pipelines.

Nuemann Development: Port Washington Road Subdivision, Ozaukee Co., WI
Performed a wetland determination and delineation within a 50-acre agricultural field. Compiled historic information to support an approved WI Act 183 artificial wetland exemption for wetlands located on site.

1520 LLC: Port Washington Road Commercial Development, Ozaukee Co., WI
Performed a wetland determination and delineation within a highly disturbed 3-acre parcel containing clayey soils that was subsequently confirmed by WI DNR wetland regulatory staff. Compiled historic information to support an approved WI Act 183 artificial wetland exemption for wetlands located on site.

Private Landowner: Bear Creek Wetland Delineation and Driveway Crossing Permitting, Monroe Co., WI
Performed a wetland determination and delineation along a section of Bear Creek with several old oxbows to support culvert installation and minor wetland disturbance permitting for the purposes of installation of a rural driveway. This wetland delineation was subsequently confirmed by WI DNR wetland regulatory staff and was utilized in obtaining necessary state and federal permits. Prepared and obtained culvert installation and general wetland disturbance permits from the WI DNR and USACE.

Wetland and Waterway Permitting

KL Engineering/Dane County Parks: Phase 2 Lower Yahara River Trail, Dane County, WI
Assisted senior Heartland staff in performing a wetland delineation along an unimproved recreational trail on the northern shore of Lake Kegonsa. Supported KL Engineering in their design of a boardwalk built on the footprint of the unimproved trail by recommending efforts to reduce impacts to wetlands. Drafted an individual wetland disturbance permit application for temporary and minor permanent impacts involved with the project. Facilitated the purchase of mitigation credits required by the permit approval to offset wetland impacts.

D'Onofrio, Kottke & Associates: Creek Crossing Development, Dane County, WI
Assisted residential developer and engineering firm by writing an application for, and obtaining, an individual permit needed for road crossings, culvert placement, and pedestrian bridge associated with a 32-acre residential development.

Epic: Epic Campus Expansion, Dane County, WI
Assisted in writing application materials for, and obtaining and individual permit for impacts to wetlands associated with an expansion of the Epic campus. Developed practicable alternatives analysis to minimize wetland impacts to the greatest extent practicable.

Hydrology Monitoring Well Data Analysis

Wisconsin DNR: Soik ILF Mitigation Site, Portage County, WI
Performed collection and processing of data from 14 monitoring wells present on a 60-acre ILF mitigation site. Performed analysis of hydrology data to determine if the site's wetland hydrology standard was met.

Summarized results and created graphical representations of hydrology monitoring for end-of-year reporting to the WDNR and USACE.

Bear Development: Barnes Prairie Mitigation Bank Site, Kenosha Co., WI
Performed collection and processing of data from 46 hydrology monitoring wells located throughout a 230-acre agricultural field. Analyzed data to determine if wetland hydrology was present in the location of the sampling wells. Produced graphical representations of precipitation and ground water level data.

Wisconsin DNR: Evansville ILF Mitigation Bank Site, Rock Co., WI
Performed collection and processing of data from 9 hydrology monitoring wells within agricultural fields, disturbed wet meadow, and shrub-carr communities across a 40-acre site. Analyzed data to determine if wetland hydrology was present in the location of the sampling wells and to compile baseline information prior to wetland restoration work. Produced graphical representations of precipitation and ground water level data.

Vegetation, Wildlife, and Rare Species Monitoring

Wisconsin DNR: Soik ILF Mitigation Site, Portage County, WI
Established quantitative vegetation monitoring plots and performed vegetation monitoring of a 60-acre wetland mitigation bank in Wisconsin's central sands region. Vegetation monitoring was completed to assess progression of the site towards meeting regulatory performance standards. Vegetation monitoring including sample plot surveys and timed meander surveys. The results were summarized to assess the various performance metrics across a variety of wetland vegetative community and compensation types.

Kreyer Creek Compensatory Wetland Mitigation Bank Site, Monroe County, WI
Conducted quantitative vegetation monitoring of this 200+ acre compensatory wetland mitigation site. Vegetation monitoring was completed to assess progression of the site towards meeting regulatory performance standards. Vegetation monitoring including sample plot surveys and timed meander surveys. The results were summarized to assess the various performance metrics including florist quality assessments and diversity, invasive and noninvasive species relative cover, and prevalence indices of hydrophytic vegetation. The vegetation data and results were incorporate into the annual monitoring report required by the U.S. Army Corps of Engineers and Interagency Review Team.

Nantucket Conservation Foundation: Head of the Plains, Nantucket County, MA
Conducted vegetation monitoring, small mammal live-trapping, and insect pitfall trapping to collect data that is being used in a longitudinal study exploring the viability of different ecological management and restoration techniques in sandplain grassland habitat, a globally rare ecological community.

Nantucket Conservation Foundation: Head of the Plains, Nantucket County, MA
Installed acoustic bat monitoring devices and regularly downloaded the recorded data to determine the presence of different bat species. Assisted in mist-netting and radio telemetry tracking of federally threatened northern long-eared bats. Performed emergence counts of bat roosting locations discovered via radio telemetry tracking.

Nantucket Conservation Foundation: Coatue, Nantucket County, MA
Conducted vegetation monitoring for a graduate level study investigating the effects of cormorant nesting on plant communities in remote sand dune/shoal habitats.

Ecological Restoration and Invasive Species Management

Big Hollow Compensatory Wetland Mitigation Bank, Sauk County, WI
Assisted with the development of a Compensation Site Plan (CSP) for a nearly 200-acre compensatory wetland mitigation bank site as part of the Mitigation Banking Instrument (MBI). Completed various technical components of the CSP including assessment of the overall site characteristics and history, vegetation restoration plan, development of regulatory performance standards, and monitoring and management plan. Completed all site mapping and plans utilizing GIS.

Good Oak Ecological Services, Numerous Locations Throughout Dane County and Surrounding Areas, WI
Performed invasive species management and ecological restoration activities in prairie, oak savanna, and oak woodland habitats throughout Dane County and surrounding areas. Activities included chemical and mechanical control of invasive species, invasive brush and tree removal with chainsaws and brush cutters, prescribed burns on small to medium (1-15 acres) sized prairies and oak woodlands, native vegetation seeding, and erosion control installation.

UW-Madison, UW-Madison Lakeshore Preserve, Dane County, WI
Performed invasive species management on thistle, garlic mustard, dame's rocket, and porcelain berry via chemical spraying and cut-and-treat methods.

Nantucket Conservation Foundation: Head of the Plains, Sanford Farm / Ram Pasture, Madequecham Valley, Nantucket County, MA
Performed cut-and-treat management of invasive Phragmites in salt marsh habitats.

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
1300 W Clairemont Avenue
Eau Claire, WI 54701

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

WISCONSIN
DEPT. OF NATURAL RESOURCES

April 1, 2022

Scott Fuchs
Heartland Ecological Group, Inc.
506 Springdale Street
Mt. Horeb, WI 53572

Subject: 2022 Assured Wetland Delineator Confirmation

Dear Mr. Fuchs:

This letter provides Wisconsin Department of Natural Resources (WDNR) confirmation for the wetland delineations you conduct during the 2022 growing season. You and your clients will not need to wait for the WDNR to review your wetland delineations before moving forward with project planning. This will help expedite the review process for WDNR's wetland regulatory program. Your name and contact information will continue to be listed on our website at: http://dnr.wi.gov/topic/wetlands/assurance.html.

In the instance where a municipality may require a letter of confirmation for your work prior to moving forward in the local regulatory process, this letter shall serve as that confirmation. Although your wetland delineations do not require WDNR field review, inclusion of a Wetland Delineation Report is required for projects needing State authorized wetland, waterway and/or storm water permit approvals.

In order to comply with Chapter 23.321, State Statutes, please supply the department with a polygon shapefile of the wetland boundaries delineated within the project area. Please do not include data such as parcel boundaries, project limits, wetland graphic representation symbols, etc. If internal upland polygons are found within a wetland polygon, then please label as UPLAND. The shapefile should utilize a State Plane Projection and be overlain onto recent aerial photography. If a different projection system is used, please indicate in which system the data are projected. In the correspondence sent with the shapefile, please supply a brief description of each wetland's plant community (eg: wet meadow, floodplain forest, etc.). Please send these data to Calvin Lawrence (608-266-0756 or email at calvin.lawrence@wisconsin.gov).

If you or any client has a question regarding your status in the Wetland Delineation Professional Assurance Program, contact me by email at kara.brooks@wisconsin.gov or phone at 414-308-6780. Thank you for all your hard work and best wishes for the upcoming field season.

Sincerely,

Kara Brooks

dnr.wi.gov
wisconsin.gov

Naturally WISCONSIN

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Paper

Kara Brooks
Wetland Identification Coordinator
Bureau of Watershed Management

Appendix F | Off-Site Analysis

TABLE A1

Wetland Hydrology from Aerial Imagery - Recording Form*

Project Name: **Hickory Lane Property**	*Date:* **5/22/2022**	*County:* **Dane**
Investigator: **Scott Fuchs**	*Legal Description (T, R, S):* **T9N**	**R9E** **S23**

Summary Table

Date Image Taken (M-Y)	Image Source	Climate Condition (wet, dry, normal)	Image Interpretation(s)				
			See Offsite Analysis Reference Image figure for outlines of Areas 1-7				
			Area: 1	**Area: 2**	**Area 3**	**Area 4**	**Area 5**
Jul-93	FSA Slide	Wet	SS/DO	CS/DO	CS/DO/SS	NSS	CS
Jul-94	FSA Slide	Dry	SS	CS	CS	NV	NV
Sep-95	FSA Slide	Normal	**NC/AP**	**NC/AP**	**NC/AP**	NV	NV
Oct-96	FSA Slide	Dry	NC	NC	NC	NV	NV
Jul-97	FSA Slide	Dry	NV	NV	NV	NV	NV
Jul-98	FSA Slide	Wet	SS	NV	NV	NV	CS
Jul-99	FSA Slide	Normal	**WS/SS**	NV	NV	NV	NV
Jul-00	FSA Slide	Wet	WS/DO	NV	NV	NV	CS
Jul-01	FSA Slide	Normal	**WS/AP**	**SS**	NSS	NSS	NSS
Jul-03	FSA Slide	Dry	WS/AP	NSS	NSS	NSS	NSS
Jul-04	NAIP	Normal	**WS/DO**	**DO**	NV	NV	NV
Jun-05	NAIP	Normal	**NC/WS**	NV/NSS	NV/NSS	NV/NSS	NV/NSS
Jul-06	NAIP	Normal	**CS**	**CS**	NV/NSS	NV	NV
Jul-08	NAIP	Normal	**SW/WS/SS**	**DO**	DO/SS	NV	**DO**
Jul-10	NAIP	Wet	WS/SS	SS	SS	NV	NV
Jul-13	NAIP	Wet	WS/SS/DO	DO	DO	NV	CS
Oct-15	NAIP	Wet	NC	NV	NV	NV	NV
Sep-17	NAIP	Wet	WS/CS	CS	CS/DO	NV	CS/DO
Jul-18	Maxar	Normal	**NC/WS**	NV	NV	NV	NV
Oct-18	NAIP	Wet	NCS/WS	CS/DO	SS	SS	SS/DO
Aug-20	NAIP	Wet	NC	NC	NC	NV	CS
Normal Climate Condition			**Area: 1**	**Area: 2**	**Area 3**	**Area 4**	**Area 5**
Number			8	8	8	8	8
Number with wet signatures			8	5	2	0	1
Percent with wet signatures			100%	63%	25%	0%	13%

Key		
WS - Wetland Signature	SS - Soil Wetness Signature	CS - Crop Stress
NC - Not Cropped	AP - Altered Pattern	NV - Normal Vegetative Cover
DO - Drowned Out	SW - Standing Water	NSS - No Soil Wetness Signature
Other labels or comments:		

• Use above key to label image interpretations. It is imperative that the reviewer read and understand the guidance associated with the use of these labels. If alternate
  If alternate labels are used, indicate in box above.

• If less than five (5) images taken during normal climate conditions are available, use an equal number of images taken during wet and dry climate
  conditions and use as many images as you have available. Describe the results using this methodology in your report.

   * Source: http://www.bwsr.state.mn.us/wetlands/delineation/Guidance_for_Offsite_Hydrology_and_Wetland_Determinations.pdf

TABLE A1

Wetland Hydrology from Aerial Imagery - Recording Form*

Project Name: **Hickory Lane Property** | *Date:* **5/22/2022** | *County:* **Dane**
Investigator: **Scott Fuchs** | *Legal Description (T, R, S):* **T9N** **R9E** **S23**

Summary Table

Date Image Taken (M-Y)	Image Source	Climate Condition (wet, dry, normal)	Image Interpretation(s) — See Offsite Analysis Reference Image figure for outlines of Areas 1-6				
			Area: 6	**Area: 7**			
Jul-93	FSA Slide	Wet	CS/DO	SW/SS/CS			
Jul-94	FSA Slide	Dry	CS/DO	DO			
Sep-95	FSA Slide	Normal	NV	NV			
Oct-96	FSA Slide	Dry	NV	CS/DO			
Jul-97	FSA Slide	Dry	NV	NV			
Jul-98	FSA Slide	Wet	NV/SS	CS			
Jul-99	FSA Slide	Normal	**CS**	**CS**			
Jul-00	FSA Slide	Wet	NV	SS/DO			
Jul-01	FSA Slide	Normal	NSS	**SS**			
Jul-03	FSA Slide	Dry	NSS	NSS			
Jul-04	NAIP	Normal	NV	**SS/DO**			
Jun-05	NAIP	Normal	NV	**WS/SS/DO/CS**			
Jul-06	NAIP	Normal	NV	NV			
Jul-08	NAIP	Normal	**SS/DO**	**SW/SS/DO**			
Jul-10	NAIP	Wet	WS/NC	SS/CS/DO			
Jul-13	NAIP	Wet	NV	CS/DO/SS			
Oct-15	NAIP	Wet	NV	NV			
Sep-17	NAIP	Wet	CS	CS/DO			
Jul-18	Maxar	Normal	NV	**CS/DO**			
Oct-18	NAIP	Wet	SS	DO/AP			
Aug-20	NAIP	Wet	WS/CS/DO	CS/DO/WS			
Normal Climate Condition			**Area: 6**	**Area: 7**			
		Number	8	8			
		Number with wet signatures	2	6			
		Percent with wet signatures	25%	75%			

Key		
WS - Wetland Signature	SS - Soil Wetness Signature	CS - Crop Stress
NC - Not Cropped	AP - Altered Pattern	NV - Normal Vegetative Cover
DO - Drowned Out	SW - Standing Water	NSS - No Soil Wetness Signature
Other labels or comments:		

• Use above key to label image interpretations. It is imperative that the reviewer read and understand the guidance associated with the use of these labels. If alternate
   If alternate labels are used, indicate in box above.

• If less than five (5) images taken during normal climate conditions are available, use an equal number of images taken during wet and dry climate
   conditions and use as many images as you have available. Describe the results using this methodology in your report.

Heartland
ECOLOGICAL GROUP INC

Field data sheet reference (if applicable): _____

Wetland Determination from Aerial Imagery - Recording Form*

Project Name: **Hickory Lane Property**   *Date:* **5/22/2022**   *County:* **Dane**

Investigator: **Scott Fuchs**   *Legal Description (T, R, S):* **T9N**   **R9E**   **S23**

Use the decision matrix below to create Table A2

Hydric Soils Present?[1]	Identified on NWI or WWI?[2]	Percent with Wet Signatures from TABLE A1	Field Verification Required?[3]	Wetland?
Yes	Yes	>50%	No	**Yes**
Yes	Yes	30-50%	No	**Yes**
Yes	Yes	<30%	Yes	**Yes, if other hydrology indicators are present**
Yes	No	>50%	No	**Yes**
Yes	No	30-50%	Yes	**Yes, if other hydrology indicators are present**
Yes	No	<30%	No	**No**
No	Yes	>50%	No	**Yes**
No	Yes	30-50%	No	**Yes**
No	Yes	<30%	No	**No**
No	No	>50%	Yes	**Yes, if other hydrology indicators are present**
No	No	30-50%	Yes	**Yes, if other hydrology indicators are present**
No	No	<30%	No	**No**

[1] The presence of hydric soils can be determined from the "Hydric Rating by Map Unit Feature" under "Land Classifications" from the Web Soil Survey. "Not Hydric" is the only category considered to not have hydric soils. Field sampling for the presence/absence of hydric soil indicators can be used in lieu of the hydric rating if appropriately documented by providing completed field data sheets.

[2] At minimum, the most updated NWI data available for the area must be reviewed for this step. Any and all other local or regional wetland maps that are publically available should be reviewed.

[3] Area should be reviewed in the field for the presence/absence of wetland hydrology indicators per the applicable 87 Manual Regional Supplement, including the D2

TABLE A2

Area	Hydric Soils Present?[1]	Identified on NWI or WWI?	Percent with Wet Signatures from TABLE A1	Other Hydrology Indicators Present?[1]	Wetland?
1	Yes	Yes	100%	Yes	**Yes**
2	Yes	No	63%	Yes	**Yes**
3	Yes	Yes	25%	Yes	**Yes**
4	No	No	0%	Yes	**No**
5	Yes	No	13%	Yes	**No**
6	No	No	25%	No	**No**
7	Yes	Yes	75%	Yes	**Yes**
	Field verification of hydric soils was performed in all signature areas. In all signature areas, D2 was the only hydrology indicator observed at the time of the initial field investigation on 5/23,				

[1] Answer "N/A" if field verification is not required and was not conducted.

* Source: http://www.bwsr.state.mn.us/wetlands/delineation/Guidance_for_Offsite_Hydrology_and_Wetland_Determinations.pdf

(H)

June Aerial Imagery

Off-Site Aerial Imagery Analysis

Date	Monthly Rainfall in Inches [1]						Weighted Sum	Relative Wetness
	March	Weighted Precip	April	Weighted Precip	May	Weighted Precip		
June-05	1.56	2	1.68	2	3.96	6	10	Normal
30% chance less than**	1.31		2.84		2.71			
30 Year Average**	3.70		3.70		4.04			
30% chance more than**	2.71		4.30		4.83			

Dane County Regional Airport Weather Station

30-Year Precipitation Data (1992-2021) from NOAA Website

http://agacis.rcc-acis.org/

July Aerial Imagery

Off-Site Aerial Imagery Analysis

Date	Monthly Rainfall in Inches [1]						Weighted Sum	Relative Wetness
	April	Weighted Precip	May	Weighted Precip	June	Weighted Precip		
July-93	5.33	3	3.81	4	6.67	9	16	Wet
July-94	2.57	1	1.33	2	5.66	6	9	Dry
July-97	2.50	1	1.94	2	5.23	6	9	Dry
July-98	4.10	2	4.58	4	7.46	9	15	Wet
July-99	6.91	3	3.72	4	5.57	6	13	Normal
July-00	3.18	2	9.63	6	8.63	9	17	Wet
July-01	3.07	2	4.16	4	5.40	6	12	Normal
July-03	2.95	2	3.67	4	2.10	3	9	Dry
July-04	1.76	1	10.84	6	3.93	6	13	Normal
July-06	5.04	3	4.61	4	2.29	3	10	Normal
July-08	6.43	3	2.55	2	10.91	9	14	Normal
July-10	3.65	2	3.79	4	8.38	9	15	Wet
July-13	5.83	3	6.57	6	10.86	9	18	Wet
July-18	2.14	1	9.78	6	5.67	6	13	Normal
30% chance less than**	2.84		2.71		3.24			
30 Year Average**	3.70		4.04		5.25			
30% chance more than**	4.30		4.83		6.35			

Dane County Regional Airport Weather Station

30-Year Precipitation Data (1992-2021) from NOAA Website

http://agacis.rcc-acis.org/

August Aerial Imagery

Off-Site Aerial Imagery Analysis

Date	Monthly Rainfall in Inches [1]						Weighted Sum	Relative Wetness
	May	Weighted Precip	June	Weighted Precip	July	Weighted Precip		
August-20	5.42	3	5.07	4	7.59	9	16	Wet
30% chance less than**	2.71		3.24		3.18			
30 Year Average**	4.04		5.25		4.42			
30% chance more than**	4.83		6.35		5.21			

Dane County Regional Airport Weather Station

30-Year Precipitation Data (1992-2021) from NOAA Website

http://agacis.rcc-acis.org/

September Aerial Imagery

Off-Site Aerial Imagery Analysis

Date	Monthly Rainfall in Inches [1]						Weighted Sum	Relative Wetness
	June	Weighted Precip	July	Weighted Precip	August	Weighted Precip		
September-95	1.22	1	4.36	4	5.58	9	14	Normal
September-17	6.73	3	6.52	6	3.85	6	15	Wet
30% chance less than**	3.24		3.18		2.55			
30 Year Average**	5.25		4.42		4.13			
30% chance more than**	6.35		5.21		5.00			

Dane County Regional Airport Weather Station

30-Year Precipitation Data (1992-2021) from NOAA Website

http://agacis.rcc-acis.org/

October Aerial Imagery

Off-Site Aerial Imagery Analysis

Date	Monthly Rainfall in Inches [1]						Weighted Sum	Relative Wetness
	July	Weighted Precip	August	Weighted Precip	September	Weighted Precip		
October-96	4.08	2	1.84	2	1.07	3	7	**Dry**
October-15	5.02	2	4.10	4	5.99	9	15	**Wet**
October-18	3.12	1	10.40	6	5.46	9	16	**Wet**
30% chance less than**	3.18		2.55		2.16			
30 Year Average**	4.42		4.13		3.39			
30% chance more than**	5.21		5.00		4.09			

Dane County Regional Airport Weather Station

30-Year Precipitation Data (1992-2021) from NOAA Website

http://agacis.rcc-acis.org/

Area 1

Area 2

Area 3

Area 4

Area 5

Area 6

Area 7

126

126

N
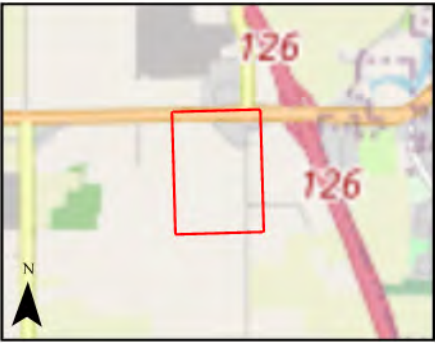
☐ Study Area (65.57 ac)
☐ Offsite Analysis Signature Areas

0   200
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Heartland
ECOLOGICAL GROUP INC

**Offsite Analysis
Signature Areas**

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2018 NAIP
USDA

July 1993- Wet

July 1994- Dry

September 1995- Normal

October 1996- Dry

July 1997- Dry

July 1998- Wet

July 1999- Normal

July 2000- Wet

July 2001- Normal
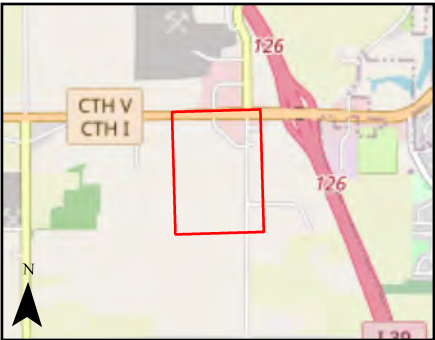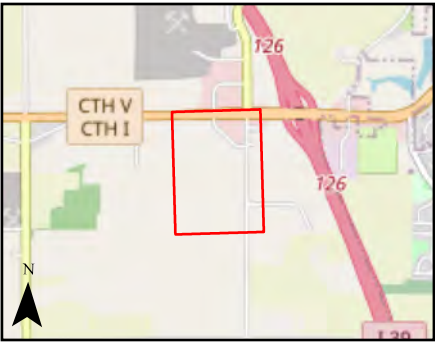
July 2003- Dry
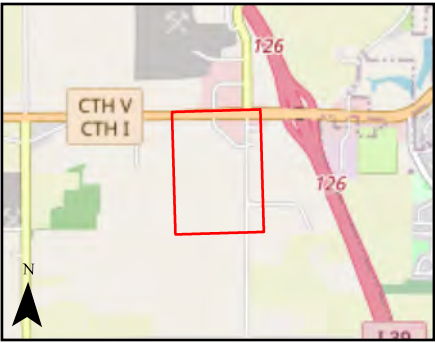
Study Area (65.57 ac)

0   200
Ft

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Appendix: 2004-07-28
NAIP Aerial Imagery

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2004 NAIP
USDA

CTH V
CTH I
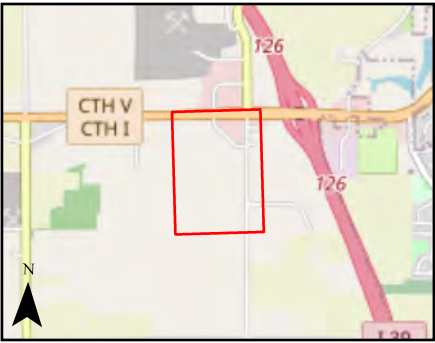
Study Area (65.57 ac)

0   200
                Ft

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Appendix: 2005-06-23
NAIP Aerial Imagery

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2005 NAIP
USDA

Study Area (65.57 ac)

0   200
Ft

CTH V
CTH I
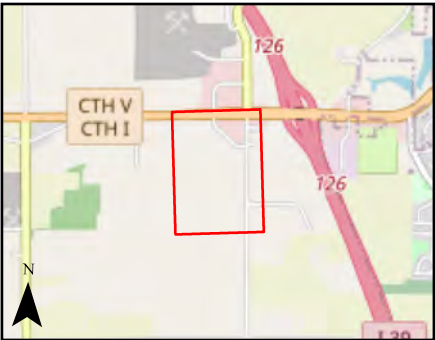
Heartland
ECOLOGICAL GROUP INC

Appendix: 2006-07-15
NAIP Aerial Imagery

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2006 NAIP
USDA

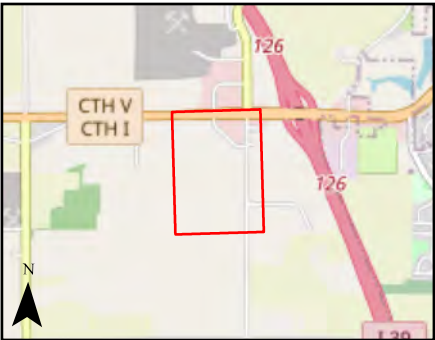Study Area (65.57 ac)

0   200
Ft

CTH V
CTH I

Study Area (65.57 ac)

0   200 Ft

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Appendix: 2010-07-02
NAIP Aerial Imagery

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2010 NAIP
USDA

Study Area (65.57 ac)

0 200 Ft

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Appendix: 2013-07-04
NAIP Aerial Imagery

Hickory Lane Property
Project #20220679
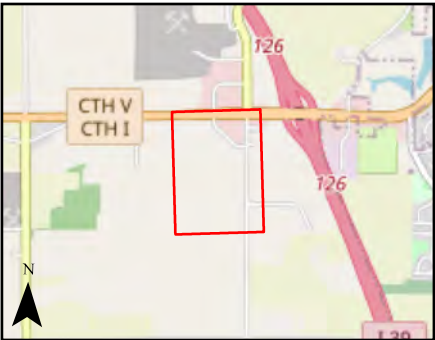T9N, R9E, S23
T Vienna, Dane Co

2013 NAIP
USDA

Study Area (65.57 ac)

0 200 Ft
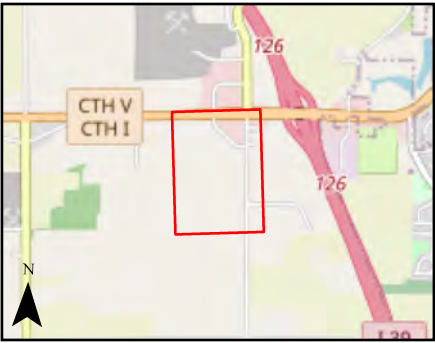
CTH V
CTH I

Study Area (65.57 ac)

0   200 Ft

Heartland
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Appendix: 2017-09-03
NAIP Aerial Imagery

Hickory Lane Property
Project #20220679
T9N, R9E, S23
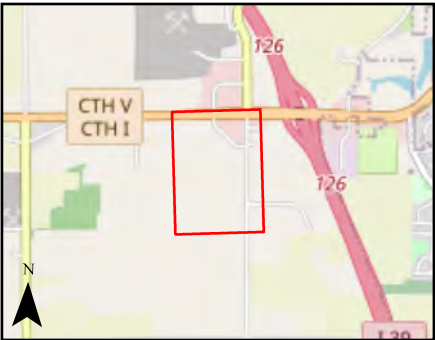T Vienna, Dane Co

2017 NAIP
USDA

Study Area (65.57 ac)

0   200
Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2018-07-03
MAXAR Sat. Imagery.

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2018 Satellite
MAXAR

CTH V
CTH I

Study Area (65.57 ac)

0   200
Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2018-10-04
NAIP Aerial Imagery

Hickory Lane Property
Project #20220679
T9N, R9E, S23
T Vienna, Dane Co

2018 NAIP
USDA

CTH V
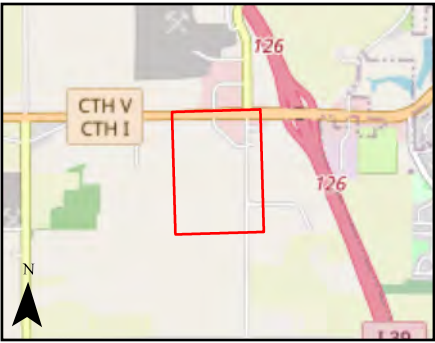CTH I

Study Area (65.57 ac)

0   200
Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2020-08-30
NAIP Aerial Imagery

Hickory Lane Property
Project #20220679
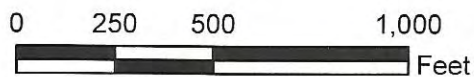T9N, R9E, S23
T Vienna, Dane Co

2020 NAIP
USDA

CTH V
CTH I

Appendix G | NRCS Wetland Determination Report/Map & Drain Tile Map

Date: December 8, 2020
Customer(s) Andy Kessenich
Location: T9N R9E S23

Certified Determination Map
Farm:
Tract 1134

Agency: NRCS
County: Dane
Mapped by: Kristen LaBlanc

0   250   500   1,000
Feet

N

USDA

Certified Mail--Return Receipt Requested

November 24, 2020

Harris Dairy LLC
4921 Hahn Rd
DeForest, WI 53532

Dear Harris Dairy LLC:

The Natural Resources Conservation Service (NRCS) completed a Preliminary Technical Determination on 10/19/2020, which resulted in a determination for farm 20980, tract 1129, field 6 located in Dane county, Wisconsin because of -NRCS-CPA-026. As a result of the Preliminary Technical Determination, you requested a field review/reconsideration of this decision in accordance with the regulations outlined in 7 CFR § 614.7. On 11/12/20 a meeting was held on site between you and Jeremy Ziegler to discuss the preliminary technical determination.

After reviewing the facts and findings of the Preliminary Technical Determination for tract 1129, shown on the enclosed map and *NRCS-CPA-026-WC*, field 6 was classsifed as Wetland (W). Based on the field visit, the Wetland area has drainage tile and is not depressional. The W label has been changed to Prior-Converted (PC). Areas indicated on the attached form and maps could be subject to WC provisions of the Food Security Act of 1985, as amended, and provisions in USDA regulations found in the Code of Federal Regulations 7 CFR § 12.5(b) as described below.

This Final Technical Determination has been conducted for the purpose of implementing the WC compliance provisions of the Food Security Act of 1985, as amended (7 CFR Part 12, Subpart C). The regulations for the WC compliance provisions of the 1985 Food Security Act, as amended, are found at Title 7 Code of Federal Regulations (7CFR Part 12). Wetland criteria is met if the area is identified as having soils that developed in wetland conditions, plants that grow in wetlands under natural conditions, and soil wetness. You may continue farming operations on Farmed Wetlands (FW) and Farmed Wetland Pasture (FWP), including maintenance of existing drainage systems. Wetlands (W) may be farmed under natural conditions without the removal of woody vegetation.

However, if you conduct any activity that alters or modifies the wetland characteristics of an FW, FWP, or W, such as adding new drainage systems, placing fill material into the wetland, or removing woody vegetation in the wetland, these acts may be considered a wetland conversion.

According to the Food Security Act of 1985, as amended, any person who converts a wetland after November 28, 1990 for the purpose of making production of an agricultural commodity possible, will be determined ineligible for all or a portion of USDA benefits (7 CFR Part 12).

Further, the 2014 Farm Bill connected producer eligibility for federal crop insurance premium subsidy to compliance with the wetland conservation provisions. Any wetland conversion that occurs after February 7, 2014, results in ineligibility for the federal crop insurance premium subsidy.

Prior Converted Cropland (PC), Non-Wetlands (NW), and Artificial Wetlands (AW) have no restrictions for modifying or reducing the wetness characteristics according to the Food Security Act of 1985, as amended, or the 2014 Farm Bill, if those modifications or reductions do not impact adjacent wetlands (i.e., FW, FWP, or W).

What Happens Next
You have two choices regarding your final technical determination: 1) Accept this determination (**no further action is required**) or 2) Appeal this determination using one of the methods listed below.

Final Appeal Rights:

Natural Resources Conservation Service   5201 Fen Oak Drive, Madison, Wisconsin 53718
www.wi.nrcs.usda.gov   (608) 224-3750   Fax (608) 224-3745
USDA is an equal opportunity provider, employer and lender

Since this is an adverse decision as set forth in 7 CFR § 11.1, you are offered the following appeal rights as provided by the NRCS Appeals Regulation 7 CFR § 614.8:

- Appeal to the Dane Farm Service Agency County Committee

  Dane Farm Service Agency County Committee
  5201 Fen Oak Drive, Madison, WI 53718
  608-224-3750

  OR

- Appeal to the National Appeals Division (NAD) at the following address:

  USDA National Appeals Division
  Eastern Regional Office
  PO Box 68806
  Indianapolis, IN 46268
  Phone: (800) 541-0457
  Fax: (317) 875-9674
  https://www.nad.usda.gov/

If you choose to appeal this Final Technical Determination, you must do so in a written request no later than 30 days from the date you received this notification.

This certified wetland determination has been conducted for the purpose of implementing the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. **This determination may not be valid for identifying the extent of Clean Water Act jurisdiction for this site.** If you intend to conduct any activity that constitutes a discharge of dredged or fill material into wetlands or other waters, you should contact the U.S. Army Corps of Engineers district office prior to starting work. You may also need to contact state, county, or local offices which regulate storm water management and wetlands.

If you have any questions about this determination or would like to discuss your options in greater detail, please contact me at the email or phone number below.

Sincerely,

Digitally signed by JEREMY ZIEGLER
Date: 2020.11.20 10:13:55 -06'00'

Jeremy Ziegler
Area Resource Soil Scientist

Enclosure: Map and NRCS-CPA-026-WC
Cc:
Adam Dowling, DC, NRCS, CED, FSA, Dane

Natural Resources Conservation Service   520 Fen Oak Drive, Madison, Wisconsin 53718
www.wi.nrcs.usda.gov (608) 224-3750 Fax (608) 224-3745
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CERTIFIED WETLAND DETERMINATION

Clear Form

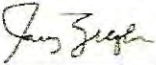|			
1. Name:	Harris Dairy LLC	2. Location County: Dane	
3. Address:	4921 Hahn Rd DeForest, WI 53532	4. Admin. County: Dane	
5. Request Form:	AD-1026	6. Farm Number: 20980	
7. Request Date:	11/03/2020	8. Tract Number: 1129	

This certified wetland determination identifies areas subject to the wetland conservation provisions of the 1985 Food Security Act, as amended. See the attached <u>Definitions of Wetland Labels and Uses</u> for additional information and currently authorized activities under the Act.

Field	Label	Occurrence Year (CW+YEAR)	Acreage
6	PC		0.7

9. Remarks:

This is a whole tract certified determination on FSN 20980, T1129.   After reconsideration "W" has been changed to "PC".

I certify that the above determinations are sufficient for the purpose of making a determination of eligibility for program benefits and were conducted in accordance with policies and procedures contained in the National Food Security Act Manual.

10. Signature Designated Conservationist	Date:
[signature] Digitally signed by JEREMY ZIEGLER Date 2020 11 20 10 18 25 -06'00'	

7019 2970 0000 2799 3669

CERTIFIED WETLAND DETERMINATION
SUPPLEMENT WORKSHEET

Field	Label	Occurrence Year (CW+YEAR)	Acreage

11. Remarks:

Areas identified as Potential Jurisdictional Waters (PJW) are not subject to the Food Security Act but are potentially subject to the Clean Water Act. You should contact the U.S. Army Corps of Engineers local district office prior to performing work in areas which may be subject to the Clean Water Act. Areas identified as PJW are for informational purposes only and are not appealable to USDA. Additional areas, not identified by NRCS as PJW, might also be subject to the Clean Water Act.

Definitions of Wetland Labels and Uses

Label/Name	Criteria for Determination	Authorized Uses	Authorized Maintenance
AW (Artificial Wetland)	An area that was formerly a non-wetland area under natural conditions but now exhibits wetland characteristics because of the influence of human activities. These areas are exempt from the Food Security Act of 1985, as amended. This label includes irrigation induced wetlands.	No restrictions.	No restrictions.
CPD (Corps of Engineers (USACE) Permit with Mitigation)	A converted wetland authorized by a permit issued under Section 404 of the Clean Water Act by USACE.	Per USACE permit conditions.	Per USACE permit conditions
CW (Converted Wetland)	A wetland converted between December 23, 1985, and November 28, 1990.	Planting of agricultural commodities or additional manipulation will cause ineligibility.	Maintenance allowed to scope and effect of original manipulation.
CW (Wetland converted by county, drainage district, or similar entity)	Wetlands converted after December 23, 1985, by a county, drainage district, or similar entity and beyond a person's direct control, but not considered third party (TP).	Production of an agricultural commodity or forage for mechanical harvest or additional manipulation will cause ineligibility for USDA program benefits.	Maintenance allowed to original scope and effect of system before conversion.
CW+Year (Converted Wetland)	A wetland converted after November 28, 1990. "Year" indicates the year the wetland was converted, and ineligibility begins.	USDA program participant and their affiliated persons are ineligible for benefits (regardless of whether ag commodity planting occurred) until the wetland is restored or mitigated. Planting of agricultural commodities is also prohibited.	Not applicable
CWTE (Converted Wetland Technical Error)	An area converted after December 23, 1985, where the conversion or production of an agricultural commodity was a consequence of an incorrect NRCS determination.	May be used for production of agricultural commodities or forage provided no manipulation is done beyond what existed on the date of the CWTE determination.	May be maintained to the extent that existed on date of the CWTE determination
FWP (Farmed Wetland Pasture and Hayland)	Manipulated and used for pasture or hay before December 23, 1985 and in most years, is inundated for at least 7 consecutive days or saturated for 14 days during the growing season.	Area may be farmed and maintained as existed before December 23, 1985, as long as area is not abandoned (cessation for five consecutive years of management or maintenance operations related to the use of a farmed wetland).	May be maintained to the extent that existed before December 23, 1985.

Definitions of Wetland Labels and Uses

Label/Name	Criteria for Determination	Authorized Uses	Authorized Maintenance
FW (Farmed Wetland)	A wetland that was manipulated and planted before December 23, 1985, but still meets inundation or saturation criteria, noted below. If the area is not a pothole, playa, or pocosin, it is inundated for at least 15 consecutive days during the growing season or 10 percent of the growing season, whichever is less, in most years. If the area is a pothole, playa, or pocosin: it is inundated for at least 7 consecutive days or saturated for at least 14 consecutive days during the growing season in most years.	Area may be farmed and maintained as existed before December 23, 1985, as long as area is not abandoned (cessation for five consecutive years of management or maintenance operations related to the use of a farmed wetland).	May be maintained to the extent that existed before December 23, 1985.
MIW (Mitigation Exemption)	A converted wetland, farmed wetland or farmed wetland pasture of which the acreage, functions and values lost have been compensated for through an NRCS-approved mitigation plan.	As stipulated in the mitigation plan/agreement.	As stipulated in the mitigation plan agreement.
MW (Minimal Effect Exemption)	A converted wetland that is exempt from the wetland conservation provisions of the Food Security Act of 1985, as amended, based on an NRCS determination that the conversion has or will have a minimal effect on the wetlands in the area.	As stipulated in the minimal effect agreement, if applicable.	Only those activities stipulated in the minimal effect agreement, if applicable.
MWM (Mitigation Site)	The site of wetland restoration, enhancement, or creation serving as mitigation for a converted wetland receiving a mitigation exemption.	As stipulated in the mitigation plan/agreement.	As stipulated in the mitigation plan/agreement.
NW (Nonwetland)	An area that does not contain a wetland.	No restrictions.	No restrictions unless manipulation would convert adjacent wetlands.
PC (Prior Converted Cropland)	A wetland converted to cropland before December 23, 1985, and as of December 23, 1985, was capable of being cropped and did not meet farmed wetland inundation or saturation criteria.	No restrictions.	No restrictions unless manipulation would convert adjacent wetlands.
TP (Third Party Exemption)	A wetland converted after December 23, 1985, by a third party who is not associated with the participant, and the conversion is not a result of a scheme or device.	May be used for production of agricultural commodities or forage.	Further drainage improvement will cause ineligibility.
W (Wetland)	An area that meets the criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Site typically has not been manipulated by altering hydrology and/or removing woody vegetation, including stumps. These areas include FW and FWP that have been abandoned.	May be farmed under natural conditions without drainage or removal of woody vegetation.	Not applicable, as typically wetlands (W) are not manipulated. See NRCS for information if a W is used as a drainage outlet for another wetland.
WX (Wetlands that have been manipulated)	A wetland manipulated after December 23, 1985, but the manipulation was not for the purpose of making production possible and agricultural commodity crop production was not made possible.	Would cause ineligibility if production was later made possible.	No restrictions as long as production not made possible including on an adjacent wetland.

CERTIFIED WETLAND DETERMINATION

Non-Discrimination Statement

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

TILE PLAN
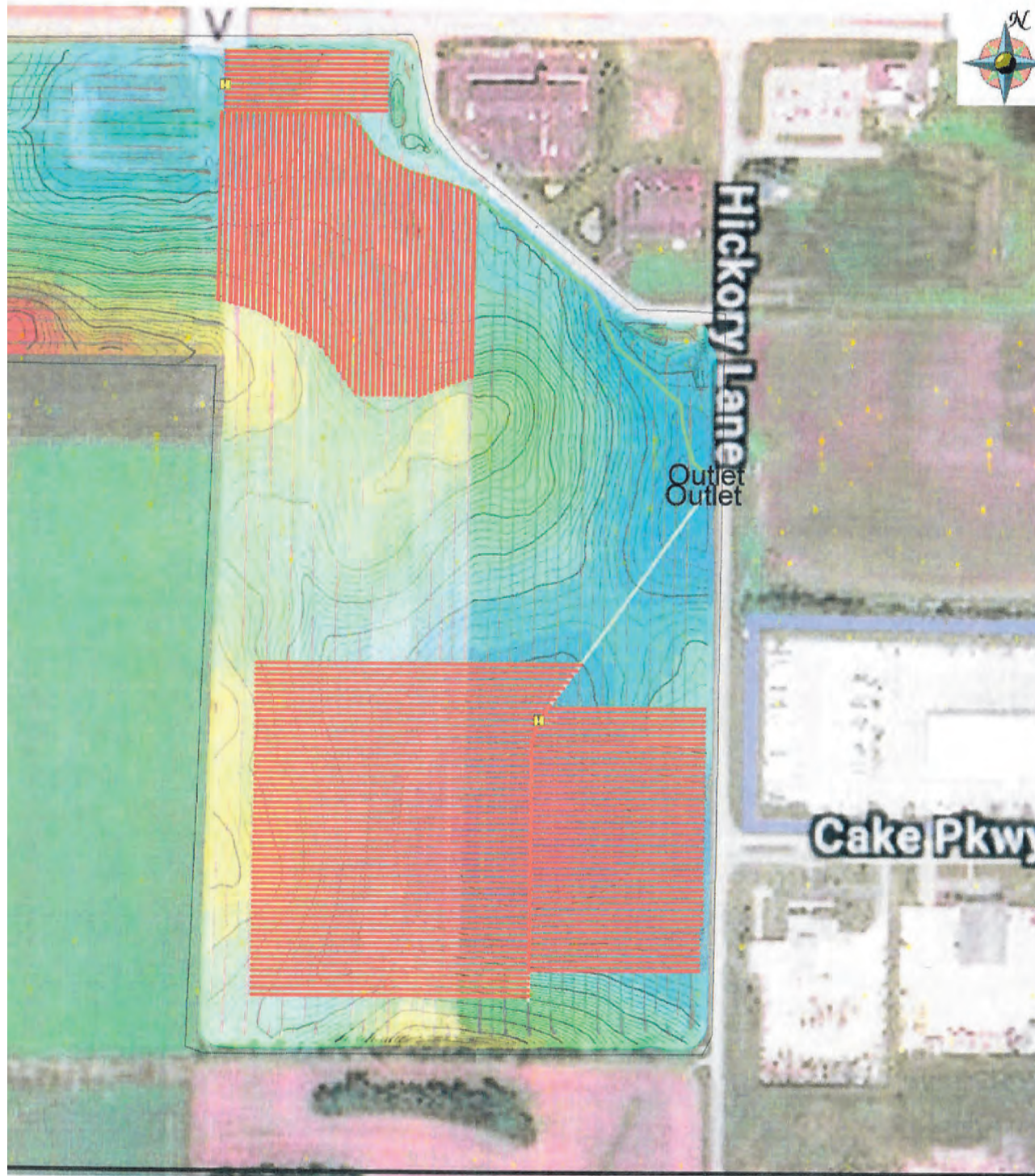
Wetland & Waterway Consulting, LLC

Dave Meyer
S83 W23915 Artesian Avenue • Big Bend, WI 53103
262-719-4286 • Fax 262-364-2197
E-Mail • dave@wetlandwi.com

12-20-22

Buc-ee's, LTD.
c/o: Scott Ray
327 Hwy 2004
Lake Jackson, Texas 77566

Dear Mr. Ray:

Wetland & Waterway Consulting (WWC) has conducted a wetland delineation on property located in Sec.13, T9N, R9E, Town of Vienna, Dane County. The delineation was conducted on 10-24-22 at your request. This site is under consideration for future development; therefore, location of the wetlands prior to construction is necessary. The purpose of the delineation was to identify and flag all wetlands within the boundaries identified on the attached maps.

Investigator

Dave Meyer, lead delineator, is an independent environmental consultant providing wetland delineations, environmental permitting services, PEC/SEC/INRA delineations, site assessments, and planning advice. He obtained a master's degree in Natural Resources Management from Southern Illinois University-Carbondale in 1977. Mr. Meyer has held technical and administrative positions in wetland and water resources specialties with the Wisconsin Department of Natural Resources and the U.S. Army Corps of Engineers. He has satisfactorily completed the Reg IV Wetland Delineation training offered by the U.S. Army Corps of Engineers, the Advanced Wetland Delineation training conducted by the University of Wisconsin-LaCrosse in 2002 and 2007, the USACOE/WIDNR 1987 Wetland Delineation Manual Midwest Region Supplement Training in 2009, the USACOE/WIDNR 1987 Wetland Delineation Manual Northcentral/Northeast Region Supplement Training in 2010, the Basic Hydric Soil ID training conducted by the University of Wisconsin-LaCrosse in 2011, SEWRPC's Environmental Corridor Delineation Workshops in 2004 and 2015, and the Wetland Training Institute's Advanced Hydrology for Jurisdictional Determinations in 2016 and the Federal Wetland/Waters Regulatory Policy in 2019. Mr. Meyer is recognized by the Wisconsin Department of Natural Resources as an Assured Delineator.

Methods

The site visit was conducted according to the guidelines identified in the U.S. Army Corps of Engineers' 1987 manual and the Northcentral/Northeast Regional Supplement. The plot size used was a 30 foot radius circle for trees, shrub/saplings, and woody vines, and a 15 foot radius circle for herbaceous vegetation.

Sampling points were located in the areas that exhibited wetland characteristics as well as upland characteristics. Data was collected on the vegetation, soils, and hydrology at each sampling point. The wetlands were identified using the technical approach described in the USACOE 1987 Manual. The wetland boundary was flagged using breaks in topography, transitions between hydric and upland vegetation, identification of wetland hydrology, and the presence of hydric soils. Roadside ditches and

other drainage ditches internal to the site were identified if they displayed hydric vegetation. Wetland delineators are given latitude to use best professional judgement in applying wetland indicators between adjacent regions. On page 4 of the Midwest Manual and page 5 of the Northcentral/Northeast Manual it states, "Region boundaries are depicted in Figure 1 as sharp lines. However, climatic conditions and the physical and biological characteristics of landscapes do not change abruptly at the boundaries. In reality, regions and subregions often grade into one another in broad transition zones that may be tens or hundreds of miles wide. The lists of wetland indicators presented in these Regional Supplements may differ between adjoining regions or subregions. In transitional areas, the investigator must use experience and good judgment to select the supplement and indicators that are appropriate to the site based on its physical and biological characteristics." Utilizing this guidance and best professional judgement in the Midwest Region, Kentucky bluegrass (Poa pratensis) is treated as a FACU species in roadside ditches and other stormwater conveyance ditches and detention basins internal to a site in order to maintain consistency with the manner in which these features are flagged in the Northcentral/Northeast Region. For those ditches meeting hydric vegetation indicators, flags were placed in the middle of the ditches at their beginning and ending points for the surveyor to locate. If the ditch was very long or had unusual bends or turns in it, additional flags were placed within the central parts of the ditch to assist in its location. The flags were located in the field and a wetland map was produced which identifies all flagged wetland complexes and ditches within the subject boundaries. Refer to the wetland map attached to the end of this report for locations.

In addition, an FSA crop history slide review was undertaken prior to the delineation because the county soil survey shows somewhat poorly drained or poorly drained soils present in farmed areas on the parcel. In preparation for the slide review, the NRCS wetland map, if available, was used to locate mapped areas of Prior Converted "PC", Wetland "W", Farmed Wetland "FW", Non-Wetland "NW", etc. Ten years of imagery were examined and used in the calculation for the number of hits. The review was started by examining a wet year aerial photograph, if present, to show the maximum extent of possible wetlands. Using that potential maximum extent of wetlands as the starting point, the normal years, if present, were then used to determine the more likely location and extent of the wetlands. Wet year signatures, particularly if they showed up on multiple years, were utilized in the field to determine the location of data points to demonstrate potential adjacent upland conditions. All wet signatures, whether they showed up on wet, normal, or dry years, were used to calculate the number of hits. Eight categories of wet signatures have been identified as follows [USDA, NRCS 1998. Wisconsin Wetland Mapping Conventions—WI513.30 (c) Off-site wetland identification tools. (WI-180-V-NFSAM). (3rd ed.) (Amendment WI21)]: 1) Hydrophytic vegetation which is typically seen as a different shade of green, 2) Surface water which usually shows as black or white areas, 3) Drowned-out crops identified as bare soil or mud flats, 4) Color differences that are the result of different planting dates or specific areas of the field that were not farmed in a given year, 5) Inclusionary wet areas that are part of a set-aside program, 6) Areas of greener color that are present in dry years, 7) Crop stress seen as yellow colors or sparse canopy typically seen as light green, and 8) Saturated soil that is visible on infrared (IR) slides or photographs.

Resources utilized in the investigation included the NRCS county soil survey, Wisconsin Wetland Inventory mapping, topo mapping, aerial photos, and county plat mapping. Significant literature consulted includes:

Curtis, John. 1971. The Vegetation of Wisconsin. University of Wisconsin Press, Madison, Wisconsin. 173 pp.

Eggers, Steve and Donald Reed. 2011. Wetland Plants and Plant Communities of Minnesota and Wisconsin – 3rd Edition. St. Paul District, U.S. Army Corps of Engineers, St. Paul, MN 478 pp.

Peterson, Roger and Margaret McKenny. 1968. A Field Guide to Wildflowers of Northeastern
and Northcentral North America. Houghton Mifflin Company, Boston, Mass. 420 pp.

Swink, Floyd and Gerould Wilhelm. 1994. Plants of the Chicago Region. The Morton
Arboretum, Lisle, Illinois. 921 pp.

Results and Discussion

* The subject site is an approximately 22.56 acre vacant site situated on the northeast corner of the intersection of CTH I and CTH V in the Town of Vienna. The site consists of upland meadow, upland shrubby areas, actively cropped fields, and wetlands. The site has been subject to grading and filling activities associated with the construction of the adjacent county highway system, I--39/94, and previous development of the site. An old building pad is present on the south end of the parcel, but all structures have been removed. See Photos C and D for typical examples of fill material found throughout the site. Four of the upland soil pits revealed the presence of fill soil. The site generally slopes from north to south at grades of between 3% and 5%. A small earthen berm with a rock weir has been constructed toward the south end of Wetland B to restrict water flows going south through the wetland. This has caused the narrow channel to form on the south side of the complex (DP #5). Site conditions, however, do not indicate that the berm and weir have much impact on the hydrology of the complex. Evidence of standing water on the north side of the berm or scouring in the channel are not present.

* The growing season remained intact. Continued vegetative growth was exhibited by turgid green leaves present on several species of vegetation on the site. These species included reed canary grass, Kentucky bluegrass, and smooth brome grass.

* No records of previous delineations on this site were discovered.

* The soil types mapped within the project boundaries, as well as their detailed descriptions, are included with the soil maps in the Attachments. As noted above, portions of the original soil profiles in this area have been significantly altered.

* A segment of roadside ditch on the east side of CTH I is dominated by hydric vegetation (reed canary grass). The ditch is an average of 6 feet wide and did not have any water in it at the time of the delineation. The soil profile is 10YR 2/2 silt loam from 0—5" overlying 10YR 2/2 silt loam with 5% 10YR 3/6 redox concentrations from 5—15". From 15—24" the soils are 10YR 4/2 clay loam with 10YR 4/4 redox concentrations. The adjacent upland point is located in the side slope of the ROW. Tall fescue is dominant. Soils are 10YR 2/2 silt loam from 0—4" overlying 10YR 2/2 silt loam with 20% gravel from 4—9". Refusal was met in the pit at 9". No hydrology indicators are present.

* Ten years of slides were analyzed for the FSA slide review. No wet signatures are present. Two data points (DP #'s 11 and 15) were placed in the cropped field in mapped upland soil units with hydric inclusions. These will be discussed below.

* The Wisconsin Wetland Inventory map (WWI) shows three wetland symbols in the southern portion of the property. Wetlands A and B were found and flagged in this general vicinity.

* The following wetland complexes were flagged and are present on the parcel:

Wetland A is a ruderal wet meadow (DP #'s 2 and 3) occupying a shallow depressional basin in the southeast corner of the parcel. It is dominated by reed canary grass. Soils meet the A12 indicator and

hydrology indicators of Dry Season Water Table, Geomorphic Position, and the FAC-Neutral Test are present. Flags were placed around the topo break along the upper edge of this depressional basin which extends offsite into the ROW of I--39/94 for undetermined distances. This complex is considered "less susceptible" with a protective area of 10% of the average wetland width ranging between not less than 10 feet and not more than 30 feet for impervious surfaces.

The associated upland data points (DP #'s 1 and 4) are both located on the adjacent hillslopes bordering the wetland. Dominant vegetation is reed canary grass. Neither soil nor the required hydrology indicators are present. The soil pit at DP #4 displayed fill material.

Wetland B is a combination of ruderal wet meadow (DP #5) and ruderal shrub-carr (DP #'s 7 and 13) occupying a shallow depressional basin in the south-central portion of the property. The wet meadow is dominated by reed canary grass and Kentucky bluegrass. Soils meet the F3 and A11 indicators and hydrology indicators of Geomorphic Position and the FAC-Neutral Test are present. The shrub-carr is dominated by cottonwood, sandbar willow, and reed canary grass. Soils meet the F3, F6, and A11 indicators. Hydrology indicators present are Geomorphic Position and the FAC-Neutral Test. Flags were placed around the topo break along the upper edge of this depressional basin which directly connects to the short segment of roadside ditch on the east side of CTH I. This complex is considered "less susceptible" with a protective area of 10% of the average wetland width ranging between not less than 10 feet and not more than 30 feet for impervious surfaces.

The associated upland data points include upland meadow (DP #'s 6 and 8), upland shrubby area (DP #12), and active crop fields (DP #15). The upland meadow areas are dominated by reed canary grass, Canada thistle, Kentucky bluegrass, riverbank grape, and gray dogwood. Neither soil nor the required hydrology indicators are present. The soil pit at DP #8 displayed fill material. The upland shrubby area is dominated by sandbar willow, Canada goldenrod, Kentucky bluegrass, smooth brome grass, and riverbank grape. Neither soil nor the required hydrology indicators are present. The soil pit at DP #12 displayed fill material. DP #15 is located in the adjacent cropped field in a mapped Virgil silt loam soil unit. Winter wheat has been planted with 30% aerial coverage. Neither soil nor hydrology indicators are present.

Wetland C is a ruderal shrub-carr (DP #10) occupying a shallow depressional basin immediately adjacent to the cropped field. It is dominated by sandbar willow and reed canary grass. Soils meet the F3 and A11 indicators and hydrology indicators of Geomorphic Position and the FAC-Neutral Test are present. Flags were placed around the topo break along the upper edge of this depressional basin. This complex is considered "less susceptible" with a protective area of 10% of the average wetland width ranging between not less than 10 feet and not more than 30 feet for impervious surfaces.

The associated upland data point (DP #9) is located in the adjacent meadow dominated by reed canary grass. Neither soil nor the required hydrology indicators are present.

Additional Data Points

Two additional data points were located across the site in mapped hydric soil units to demonstrate the absence of wetland characteristics at these locations.

DP #11 is located in the actively cropped field in a mapped Plano silt loam soil unit. Winter wheat has been planted with 30% aerial coverage. Neither soil nor hydrology indicators are present.

DP #14 is located in a shrubby area immediately north of the old building pad in a mapped Virgil silt loam soil unit. Dominant vegetation is mulberry, red osier dogwood, reed canary grass, Canada goldenrod, and riverbank grape. Neither soil nor hydrology indicators are present.

Precipitation Data

Precipitation data from the websites of the USDA Natural Resource Conservation Service, the National Oceanic and Atmospheric Administration (NOAA), and Dane County Regional Airport WETS station WI837 was examined. This antecedent data was reviewed and considered while making determinations concerning the presence and/or absence of wetlands during the field investigation.

Because the antecedent precipitation was drier than normal, direct observation of saturated soils and/or water standing on the surface was not expected. Other primary indicators as well as the secondary indicators were searched for in order to provide evidence of hydrology.

Note that when a site is delineated in the second half of the month, the current month and the previous 2 months are taken into consideration.

Condition Value Dry = 1 Normal = 2 Wet = 3

	Month	Normal	3 yrs. In 10 less than	3 yrs. In 10 more than	Observed precip.	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
current month	October	2.40	1.26	3.40	0.85	dry	1	3	3
1st prior month	September	3.13	1.76	4.35	4.03	normal	2	2	4
2nd prior month	August	4.26	2.19	6.08	5.76	normal	2	1	2
								sum	9

If sum is

6 - 9   drier than normal

10 - 14   normal

15 - 18   wetter than normal
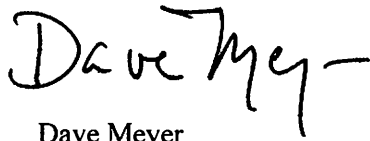
Conclusion
Antecedent precipitation was drier than normal.

Conclusion

The wetland lines staked in the field and referred to in this report are the best estimate of the wetland boundaries based on the conditions present at the time of delineation. The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers, state regulation under the jurisdiction of Wisconsin DNR, and local jurisdiction under your local county,

town, city, or village. In addition, because a wetland delineation is a point in time determination, wetland delineations are considered to be valid for a period of only five years for federal wetlands and fifteen years for nonfederal wetlands. Permit applications may be submitted at the federal and state levels after a delineation is completed, with the request to review the delineation report and make a determination as to which, if any, wetlands on the site are nonfederal wetlands. Because this delineation was conducted by Mr. Meyer, an Assured Delineator, obtaining a concurrence letter from the Wisconsin Department of Natural Resources is not necessary. Concurrence with these wetland lines by the U.S. Army Corps of Engineers is not necessary. If a USACOE permit is being sought for this project, this wetland delineation report will be reviewed during the permit application process. If the USACOE has questions about, or issues with this report, they will not issue their permit(s) until those issues are resolved. Activities affecting wetlands or surface waters may require permits from the U.S. Army Corps of Engineers, the Wisconsin Department of Natural Resources, and local municipal authorities. The client must obtain authorization from all proper regulatory authorities before altering, modifying, or using the property. If the required authorizations are not obtained, Wetland & Waterway Consulting, LLC shall not be liable or responsible for any resulting damages.

Sincerely,

Dave Meyer

Attachments
1. Data points
2. Soil Survey maps
3. Wisconsin Wetland Inventory map
4. USGS topo map
5. Location map
6. Site photographs
7. FSA slide review
8. Wetland boundary map

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I39 CTH V_ City/County: _Dane_ Sampling Date: _10-24-22_

Applicant/Owner: _____ State: _WI_ Sampling Point: _#14P_

Investigator(s): _Meyer_ Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _hillslope_ Local relief (concave, convex, none): _convex_ Slope (%): _<5_

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_ NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland? Yes _____ No _✓_
Hydric Soil Present?	Yes _____ No _✓_	
Wetland Hydrology Present?	Yes _____ No _✓_	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Marl Deposits (B15)	___ Moss Trim Lines (B16)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface (B8)		___ Microtopographic Relief (D4)
		_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No _✓_ Depth (inches): _____	
Water Table Present?	Yes _____ No _✓_ Depth (inches): _____	
Saturation Present? (Includes capillary fringe)	Yes _____ No _✓_ Depth (inches): _____	Wetland Hydrology Present? Yes _____ No _✓_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1.			
2. Phalaris arundinacea	100	✓	FACW
3.			
4. Cirsium arvense	2		FACU
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
8. _____	____	____	____
9. _____	____	____	____
10. _____	____	____	____
11. _____	____	____	____
12. _____	____	____	____
	102 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: ___1___ (A)

Total Number of Dominant
Species Across All Strata: ___1___ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: __100__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic
Vegetation
Present?   Yes _✓_   No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-22	10YR2/1	100					Silt loam	
22-31	10YR2/1	95	10YR3/6	S	C	M	Silt loam	
31-34	10YR2/2	95	10YR3/6	S	C	M	Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (LRR R, MLRA 149B)

__ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
__ Thin Dark Surface (S9) (LRR R, MLRA 149B)
__ Loamy Mucky Mineral (F1) (LRR K, L)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
__ Coast Prairie Redox (A16) (LRR K, L, R)
__ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
__ Dark Surface (S7) (LRR K, L)
__ Polyvalue Below Surface (S8) (LRR K, L)
__ Thin Dark Surface (S9) (LRR K, L)
__ Iron-Manganese Masses (F12) (LRR K, L, R)
__ Piedmont Floodplain Soils (F19) (MLRA 149B)
__ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____ State: _WI_   Sampling Point: _#2 wet_

Investigator(s): _Meyer_   Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _depressional basin_   Local relief (concave, convex, none): _concave_   Slope (%): _~3_

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_   NWI classification: _V symbol_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland?	Yes _✓_ No _____
Hydric Soil Present?	Yes _✓_ No _____		
Wetland Hydrology Present?	Yes _✓_ No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland A

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Column 1	Column 2	Secondary Indicators (minimum of two required)
__ Surface Water (A1)	__ Water-Stained Leaves (B9)	__ Surface Soil Cracks (B6)
__ High Water Table (A2)	__ Aquatic Fauna (B13)	__ Drainage Patterns (B10)
__ Saturation (A3)	__ Marl Deposits (B15)	__ Moss Trim Lines (B16)
__ Water Marks (B1)	__ Hydrogen Sulfide Odor (C1)	__ Dry-Season Water Table (C2)
__ Sediment Deposits (B2)	__ Oxidized Rhizospheres on Living Roots (C3)	__ Crayfish Burrows (C8)
__ Drift Deposits (B3)	__ Presence of Reduced Iron (C4)	__ Saturation Visible on Aerial Imagery (C9)
__ Algal Mat or Crust (B4)	__ Recent Iron Reduction in Tilled Soils (C6)	__ Stunted or Stressed Plants (D1)
__ Iron Deposits (B5)	__ Thin Muck Surface (C7)	_✓_ Geomorphic Position (D2)
__ Inundation Visible on Aerial Imagery (B7)	__ Other (Explain in Remarks)	__ Shallow Aquitard (D3)
__ Sparsely Vegetated Concave Surface (B8)		__ Microtopographic Relief (D4)
		_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _✓_ Depth (inches): _____

Water Table Present? Yes _____ No _✓_ Depth (inches): _____

Saturation Present? Yes _____ No _✓_ Depth (inches): _____   Wetland Hydrology Present? Yes _✓_ No _____
(Includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1.			
2. Phalaris arundinacea	100	✓	FACW
3.			
4. Persicaria lapathifolia	10		FACW
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
8. _____	___	___	___
9. _____	___	___	___
10. _____	___	___	___
11. _____	___	___	___
12. _____	___	___	___
	110 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant
Species Across All Strata: 1 (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
_✓_ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic
Vegetation
Present? Yes _✓_ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR2/1	100					silt loam	
16-22	10YR2/1	95	10YR4/6	5	C	M	silt loam	
22-29	10YR4/2	95	10YR4/6	5	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
_✓_ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (LRR R, MLRA 149B)

___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _✓_   No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#3 Wet_

Investigator(s): _Meyer_   Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _depressional basin_   Local relief (concave, convex, none): _concave_   Slope (%): _~10_

Subregion (LRR or MLRA): _____   Lat: _____   Long: _____   Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_   NWI classification: _V symbol_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland? Yes _✓_ No _____
Hydric Soil Present?	Yes _✓_ No _____	
Wetland Hydrology Present?	Yes _✓_ No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)

- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- _✓_ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- _✓_ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- _✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _✓_ Depth (inches): _____

Water Table Present? Yes _✓_ No _____ Depth (inches): _24_

Saturation Present? Yes _✓_ No _____ Depth (inches): _21_
(includes capillary fringe)

Wetland Hydrology Present? Yes _✓_ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. *Phalaris arundinacea*	100	✓	FACW
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	100 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: ____1____ (A)

Total Number of Dominant
Species Across All Strata: ____1____ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: ____100____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__✓__ 1 - Rapid Test for Hydrophytic Vegetation

__✓__ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic
Vegetation
Present? Yes __✓__ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR2/1	100					silt loam	
14-22	10YR2/1	95	10YR 3/6	5	C	M	silt loam	
22-26	10YR4/1	95	10YR 3/6	5	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- ✓ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (LRR R, MLRA 149B)

- __ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- __ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- __ Loamy Mucky Mineral (F1) (LRR K, L)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- __ Coast Prairie Redox (A16) (LRR K, L, R)
- __ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- __ Dark Surface (S7) (LRR K, L)
- __ Polyvalue Below Surface (S8) (LRR K, L)
- __ Thin Dark Surface (S9) (LRR K, L)
- __ Iron-Manganese Masses (F12) (LRR K, L, R)
- __ Piedmont Floodplain Soils (F19) (MLRA 149B)
- __ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes __✓__   No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#4uf_

Investigator(s): _Meyer_   Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _Hillslope_   Local relief (concave, convex, none): _convex_   Slope (%): _≤10_

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_   NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland? Yes _____ No _✓_
Hydric Soil Present?	Yes _____ No _✓_	
Wetland Hydrology Present?	Yes _____ No _✓_	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)
___ High Water Table (A2)	___ Aquatic Fauna (B13)
___ Saturation (A3)	___ Marl Deposits (B15)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- _✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No _✓_ Depth (inches): _____	
Water Table Present?	Yes _____ No _✓_ Depth (inches): _____	
Saturation Present? (Includes capillary fringe)	Yes _____ No _✓_ Depth (inches): _____	Wetland Hydrology Present? Yes _____ No _✓_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1.			
2. Phalaris arundinacea	100	✓	FACW
3.			
4. Cirsium arvense	10		FACU
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
8. _____	___	___	___
9. _____	___	___	___
10. _____	___	___	___
11. _____	___	___	___
12. _____	___	___	___
	110 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: **1** (A)

Total Number of Dominant
Species Across All Strata: **1** (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: **100** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _✓_ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					Silt loam	
12-14	10YR 2/2	100					Silt loam w/ 10% gravel	
14-24	10YR 3/2	100					Silt loam w/ 10% gravel	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (LRR R, MLRA 149B)

- __ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- __ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- __ Loamy Mucky Mineral (F1) (LRR K, L)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- __ Coast Prairie Redox (A16) (LRR K, L, R)
- __ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- __ Dark Surface (S7) (LRR K, L)
- __ Polyvalue Below Surface (S8) (LRR K, L)
- __ Thin Dark Surface (S9) (LRR K, L)
- __ Iron-Manganese Masses (F12) (LRR K, L, R)
- __ Piedmont Floodplain Soils (F19) (MLRA 149B)
- __ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No __✓__

Remarks:

Fill soil

US Army Corps of Engineers

Northcentral and Northeast Region – Version 2.0

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#5 net_

Investigator(s): _Meyer_   Section, Township, Range: _Sec, 13 T9N R9E_

Landform (hillslope, terrace, etc.): _Depressional channel_   Local relief (concave, convex, none): _Concave_   Slope (%): _<3_

Subregion (LRR or MLRA): _____   Lat: _____   Long: _____   Datum: _____

Soil Map Unit Name: _Virgil silt/loam VrA_   NWI classification: _K symbol_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland? Yes _✓_ No _____
Hydric Soil Present?	Yes _✓_ No _____	
Wetland Hydrology Present?	Yes _✓_ No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland B

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

__ Surface Water (A1)	__ Water-Stained Leaves (B9)
__ High Water Table (A2)	__ Aquatic Fauna (B13)
__ Saturation (A3)	__ Marl Deposits (B15)
__ Water Marks (B1)	__ Hydrogen Sulfide Odor (C1)
__ Sediment Deposits (B2)	__ Oxidized Rhizospheres on Living Roots (C3)
__ Drift Deposits (B3)	__ Presence of Reduced Iron (C4)
__ Algal Mat or Crust (B4)	__ Recent Iron Reduction in Tilled Soils (C6)
__ Iron Deposits (B5)	__ Thin Muck Surface (C7)
__ Inundation Visible on Aerial Imagery (B7)	__ Other (Explain in Remarks)
__ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

__ Surface Soil Cracks (B6)
__ Drainage Patterns (B10)
__ Moss Trim Lines (B16)
__ Dry-Season Water Table (C2)
__ Crayfish Burrows (C8)
__ Saturation Visible on Aerial Imagery (C9)
__ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
__ Shallow Aquitard (D3)
__ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No _✓_	Depth (inches): _____
Water Table Present?	Yes _____ No _✓_	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____ No _✓_	Depth (inches): _____

Wetland Hydrology Present? Yes _✓_ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
	____ = Total Cover		

Herb Stratum (Plot size: _____)			
1.			
2. Phalaris arundinacea	95	✓	FACW
3.			
4. Poa pratensis	30	✓	FACU
5.			
6. Symphyotrichum lateriflorum	2		FAC
7.			
8. Persicaria lapathifolia	2		FACW
9. _____	____	____	____
10. _____	____	____	____
11. _____	____	____	____
12. _____	____	____	____
	129 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
	____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: __1__ (A)

Total Number of Dominant
Species Across All Strata: __2__ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: __50__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	____	x 1 = ____
FACW species	97	x 2 = 194
FAC species	2	x 3 = 6
FACU species	30	x 4 = 120
UPL species	____	x 5 = ____
Column Totals:	129 (A)	320 (B)

Prevalence Index = B/A = 2.48

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

_✓_ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _✓_   No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR2/2	100					Silt loam	
9-24	10YR4/2	95	10YR3/6	3	C	M	Clay loam	
			10YR4/4	2	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
✓ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (LRR R, MLRA 149B)

___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Loamy Gleyed Matrix (F2)
✓ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes ✓   No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_ City/County: _Dane_ Sampling Date: _10-24-22_

Applicant/Owner: _____ State: _WI_ Sampling Point: _#6 up_

Investigator(s): _Meyer_ Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _level_ Local relief (concave, convex, none): _none_ Slope (%): _____

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_ NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _✓_	Is the Sampled Area within a Wetland?	Yes _____ No _✓_
Hydric Soil Present?	Yes _____ No _✓_		
Wetland Hydrology Present?	Yes _____ No _✓_	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

__ Surface Water (A1)
__ High Water Table (A2)
__ Saturation (A3)
__ Water Marks (B1)
__ Sediment Deposits (B2)
__ Drift Deposits (B3)
__ Algal Mat or Crust (B4)
__ Iron Deposits (B5)
__ Inundation Visible on Aerial Imagery (B7)
__ Sparsely Vegetated Concave Surface (B8)

__ Water-Stained Leaves (B9)
__ Aquatic Fauna (B13)
__ Marl Deposits (B15)
__ Hydrogen Sulfide Odor (C1)
__ Oxidized Rhizospheres on Living Roots (C3)
__ Presence of Reduced Iron (C4)
__ Recent Iron Reduction in Tilled Soils (C6)
__ Thin Muck Surface (C7)
__ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

__ Surface Soil Cracks (B6)
__ Drainage Patterns (B10)
__ Moss Trim Lines (B16)
__ Dry-Season Water Table (C2)
__ Crayfish Burrows (C8)
__ Saturation Visible on Aerial Imagery (C9)
__ Stunted or Stressed Plants (D1)
__ Geomorphic Position (D2)
__ Shallow Aquitard (D3)
__ Microtopographic Relief (D4)
__ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _✓_ Depth (inches): _____

Water Table Present? Yes _____ No _✓_ Depth (inches): _____

Saturation Present? Yes _____ No _✓_ Depth (inches): _____ Wetland Hydrology Present? Yes _____ No _✓_
(Includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2. _Cornus racemosa_	20	✓	FAC
3.			
4.			
5.			
6.			
7.			
	20 = Total Cover		

Herb Stratum (Plot size: _____)			
1. _Cirsium arvense_	25	✓	FACU
2.			
3. _Poa pratensis_	65	✓	FACU
4.			
5. _Bromus inermis_	15		UPL
6.			
7. _Elymus repens_	15		FACU
8.			
9. _Pastinaca sativa_	20		UPL
10.			
11.			
12.			
	140 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1.			
2. _Vitis riparia_	5	✓	FAC
3.			
4.			
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: __2__ (A)

Total Number of Dominant Species Across All Strata: __4__ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: __50__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	25	x 3 =	75
FACU species	105	x 4 =	420
UPL species	35	x 5 =	175
Column Totals:	165 (A)		670 (B)

Prevalence Index = B/A = __4.06__

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100					Silt loam	
16-24	10YR 4/3	98	10YR 3/6	2	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (LRR R, MLRA 149B)

- __ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- __ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- __ Loamy Mucky Mineral (F1) (LRR K, L)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- __ Coast Prairie Redox (A16) (LRR K, L, R)
- __ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- __ Dark Surface (S7) (LRR K, L)
- __ Polyvalue Below Surface (S8) (LRR K, L)
- __ Thin Dark Surface (S9) (LRR K, L)
- __ Iron-Manganese Masses (F12) (LRR K, L, R)
- __ Piedmont Floodplain Soils (F19) (MLRA 149B)
- __ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No __✓__

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I39 CTH V_ City/County: _Dane_ Sampling Date: _10-24-22_

Applicant/Owner: _____ State: _WI_ Sampling Point: _#7 wet_

Investigator(s): _Meyer_ Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _depressional Basin_ Local relief (concave, convex, none): _Concave_ Slope (%): _≤5_

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_ NWI classification: _V symbol_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland? Yes _✓_ No _____
Hydric Soil Present?	Yes _✓_ No _____	
Wetland Hydrology Present?	Yes _✓_ No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland B

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)

___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ Marl Deposits (B15)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _✓_ Depth (inches): _____

Water Table Present? Yes _____ No _✓_ Depth (inches): _____

Saturation Present? Yes _____ No _✓_ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _✓_ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	70	✓	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	70 = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. Salix interior	100	✓	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	100 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Phalaris arundinacea	95	✓	FACW
2. Poa pratensis	20		FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	115 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant
Species Across All Strata: **3** (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: **100** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes ✓   No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					Silt loam	
8-24	10YR 4/2	80	10YR 4/6	20	C	M	Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.　　[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- ✓ Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- ✓ Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?　Yes ✓　No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____ State: _WI_ Sampling Point: _#84P_

Investigator(s): _Meyer_   Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _hillslope_   Local relief (concave, convex, none): _Convex_   Slope (%): _<10_

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_   NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland?	Yes _____ No _✓_
Hydric Soil Present?	Yes _____ No _✓_		
Wetland Hydrology Present?	Yes _____ No _✓_	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)

___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ Marl Deposits (B15)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _✓_ Depth (inches): _____

Water Table Present? Yes _____ No _✓_ Depth (inches): _____

Saturation Present? Yes _____ No _✓_ Depth (inches): _____   Wetland Hydrology Present? Yes _____ No _✓_
(Includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1.			
2. Phalaris arundinacea	100	✓	FACW
3.			
4. Solidago canadensis	2		FACU
5.			
6. Cirsium arvense	2		FACU
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	104 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: ____1____ (A)

Total Number of Dominant
Species Across All Strata: ____1____ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: ___100___ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
_✓_ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _✓_   No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	100					Silt loam	
14-21	10YR 3/2	80					Silt loam	w/ 10% gravel
	10YR 4/3	20					Clay loam	
21-24	10YR 4/3	100					Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (LRR R, MLRA 149B)

___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

Fill soil

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#9up_

Investigator(s): _Meyer_   Section, Township, Range: _Sec, 13 T9N R9E_

Landform (hillslope, terrace, etc.): _level_   Local relief (concave, convex, none): _none_   Slope (%): _____

Subregion (LRR or MLRA): _____   Lat: _____   Long: _____   Datum: _____

Soil Map Unit Name: _Elburn silt loam EFB_   NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_	No _____
Hydric Soil Present?	Yes _____	No _✓_
Wetland Hydrology Present?	Yes _____	No _____

Is the Sampled Area within a Wetland?   Yes _____ No _✓_

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)
___ High Water Table (A2)	___ Aquatic Fauna (B13)
___ Saturation (A3)	___ Marl Deposits (B15)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No _✓_	Depth (inches): _____
Water Table Present?	Yes _____ No _✓_	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____ No _✓_	Depth (inches): _____

Wetland Hydrology Present?   Yes _____ No _✓_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	_____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. Phalaris arundinacea	100	✓	FACW
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	100 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: _____1_____ (A)

Total Number of Dominant
Species Across All Strata: _____1_____ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: __100__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_✓_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _✓_ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 2/1	100					Silt loam	
16-24	10YR 3/3	100					Clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#10w_

Investigator(s): _Meyer_   Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _depressional basin_   Local relief (concave, convex, none): _Concave_   Slope (%): _≤3_

Subregion (LRR or MLRA): _____   Lat: _____   Long: _____   Datum: _____

Soil Map Unit Name: _Elburn Silt loam Er B_   NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _see Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland?	Yes _✓_, No _____
Hydric Soil Present?	Yes _✓_ No _____		
Wetland Hydrology Present?	Yes _✓_ No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland C

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

__ Surface Water (A1)	__ Water-Stained Leaves (B9)	
__ High Water Table (A2)	__ Aquatic Fauna (B13)	
__ Saturation (A3)	__ Marl Deposits (B15)	
__ Water Marks (B1)	__ Hydrogen Sulfide Odor (C1)	
__ Sediment Deposits (B2)	__ Oxidized Rhizospheres on Living Roots (C3)	
__ Drift Deposits (B3)	__ Presence of Reduced Iron (C4)	
__ Algal Mat or Crust (B4)	__ Recent Iron Reduction in Tilled Soils (C6)	
__ Iron Deposits (B5)	__ Thin Muck Surface (C7)	
__ Inundation Visible on Aerial Imagery (B7)	__ Other (Explain in Remarks)	
__ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- _✓_ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- _✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No _✓_	Depth (inches): _____	
Water Table Present?	Yes _____ No _✓_	Depth (inches): _____	
Saturation Present? (Includes capillary fringe)	Yes _____ No _✓_	Depth (inches): _____	Wetland Hydrology Present? Yes _✓_ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2. Salix interior	100	✓	FACW
3.			
4.			
5.			
6.			
7.			
	100 = Total Cover		

Herb Stratum (Plot size: _____)			
1.			
2. Phalaris arundinacea	30	✓	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: __2__ (A)

Total Number of Dominant
Species Across All Strata: __2__ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: __100__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
_✓_ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes __✓__   No _____

Remarks: (Include photo numbers here or on a separate sheet.)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/2	100					silt loam	
9-24	10YR 5/1	95	10YR 3/6	5	C	M	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)	___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Histic Epipedon (A2)	
___ Black Histic (A3)	___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Hydrogen Sulfide (A4)	___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Stratified Layers (A5)	___ Loamy Gleyed Matrix (F2)
✓ Depleted Below Dark Surface (A11)	✓ Depleted Matrix (F3)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)
___ Sandy Redox (S5)	
___ Stripped Matrix (S6)	
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes __✓__   No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#11up_

Investigator(s): _Meyer_   Section, Township, Range: _Sec, 13 T9N R9E_

Landform (hillslope, terrace, etc.): _hillslope_   Local relief (concave, convex, none): _convex_   Slope (%): _~3_

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Plano Silt/oam PhB_   NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _Y_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No _✓_

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _✓_	Is the Sampled Area
Hydric Soil Present?	Yes _____ No _✓_	within a Wetland? Yes _____ No _✓_
Wetland Hydrology Present?	Yes _____ No _✓_	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

DP is in Cropped field

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

__ Surface Water (A1)
__ High Water Table (A2)
__ Saturation (A3)
__ Water Marks (B1)
__ Sediment Deposits (B2)
__ Drift Deposits (B3)
__ Algal Mat or Crust (B4)
__ Iron Deposits (B5)
__ Inundation Visible on Aerial Imagery (B7)
__ Sparsely Vegetated Concave Surface (B8)

__ Water-Stained Leaves (B9)
__ Aquatic Fauna (B13)
__ Marl Deposits (B15)
__ Hydrogen Sulfide Odor (C1)
__ Oxidized Rhizospheres on Living Roots (C3)
__ Presence of Reduced Iron (C4)
__ Recent Iron Reduction in Tilled Soils (C6)
__ Thin Muck Surface (C7)
__ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

__ Surface Soil Cracks (B6)
__ Drainage Patterns (B10)
__ Moss Trim Lines (B16)
__ Dry-Season Water Table (C2)
__ Crayfish Burrows (C8)
__ Saturation Visible on Aerial Imagery (C9)
__ Stunted or Stressed Plants (D1)
__ Geomorphic Position (D2)
__ Shallow Aquitard (D3)
__ Microtopographic Relief (D4)
__ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?   Yes _____ No _✓_ Depth (inches): _____

Water Table Present?   Yes _____ No _✓_ Depth (inches): _____

Saturation Present?   Yes _____ No _✓_ Depth (inches): _____   Wetland Hydrology Present? Yes _____ No _✓_
(Includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
	____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
8. _____	____	____	____
9. _____	____	____	____
10. _____	____	____	____
11. _____	____	____	____
12. _____	____	____	____
	____ = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
	____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant
Species Across All Strata: _____ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?   Yes _____   No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)

Winter wheat planted 30% acrial cover
No volunteer vegetation

SOIL

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 2/2	100					Silt loam	
13-24	10YR 3/2	100					Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

		Indicators for Problematic Hydric Soils[3]:
__ Histosol (A1)	__ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	__ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
__ Histic Epipedon (A2)		__ Coast Prairie Redox (A16) (LRR K, L, R)
__ Black Histic (A3)	__ Thin Dark Surface (S9) (LRR R, MLRA 149B)	__ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
__ Hydrogen Sulfide (A4)	__ Loamy Mucky Mineral (F1) (LRR K, L)	__ Dark Surface (S7) (LRR K, L)
__ Stratified Layers (A5)	__ Loamy Gleyed Matrix (F2)	__ Polyvalue Below Surface (S8) (LRR K, L)
__ Depleted Below Dark Surface (A11)	__ Depleted Matrix (F3)	__ Thin Dark Surface (S9) (LRR K, L)
__ Thick Dark Surface (A12)	__ Redox Dark Surface (F6)	__ Iron-Manganese Masses (F12) (LRR K, L, R)
__ Sandy Mucky Mineral (S1)	__ Depleted Dark Surface (F7)	__ Piedmont Floodplain Soils (F19) (MLRA 149B)
__ Sandy Gleyed Matrix (S4)	__ Redox Depressions (F8)	__ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
__ Sandy Redox (S5)		__ Red Parent Material (F21)
__ Stripped Matrix (S6)		__ Very Shallow Dark Surface (TF12)
__ Dark Surface (S7) (LRR R, MLRA 149B)		__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#124P_

Investigator(s): _Meyer_   Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _hillslope_   Local relief (concave, convex, none): _convex_   Slope (%): _<3_

Subregion (LRR or MLRA): _____   Lat: _____   Long: _____   Datum: _____

Soil Map Unit Name: _Colwood silt/loam Co_   NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _✓_	Is the Sampled Area within a Wetland? Yes _____ No _✓_
Hydric Soil Present?	Yes _____ No _✓_	
Wetland Hydrology Present?	Yes _____ No _✓_	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

__ Surface Water (A1)	__ Water-Stained Leaves (B9)	
__ High Water Table (A2)	__ Aquatic Fauna (B13)	
__ Saturation (A3)	__ Marl Deposits (B15)	
__ Water Marks (B1)	__ Hydrogen Sulfide Odor (C1)	
__ Sediment Deposits (B2)	__ Oxidized Rhizospheres on Living Roots (C3)	
__ Drift Deposits (B3)	__ Presence of Reduced Iron (C4)	
__ Algal Mat or Crust (B4)	__ Recent Iron Reduction in Tilled Soils (C6)	
__ Iron Deposits (B5)	__ Thin Muck Surface (C7)	
__ Inundation Visible on Aerial Imagery (B7)	__ Other (Explain in Remarks)	
__ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)
- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____ No _✓_ Depth (inches): _____	
Water Table Present?	Yes _____ No _✓_ Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No _✓_ Depth (inches): _____	Wetland Hydrology Present? Yes _____ No _✓_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
	___ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	___	___	___
2. _Salix interior_	70	✓	FACW
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
	70 = Total Cover		

Herb Stratum (Plot size: _____)			
1. _____	___	___	___
2. _Solidago canadensis_	40	✓	FACU
3. _____	___	___	___
4. _Poa pratensis_	55	✓	FACU
5. _____	___	___	___
6. _Bromis inermis_	25	✓	UPL
7. _____	___	___	___
8. _Daucus carota_	5		UPL
9. _____	___	___	___
10. _____	___	___	___
11. _____	___	___	___
12. _____	___	___	___
	125 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	___	___	___
2. _Vitis riparia_	5	✓	FAC
3. _____	___	___	___
4. _____	___	___	___
	5 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: __2__ (A)

Total Number of Dominant Species Across All Strata: __5__ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: __40__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	___	x 1 =	___
FACW species	___	x 2 =	___
FAC species	___	x 3 =	___
FACU species	___	x 4 =	___
UPL species	___	x 5 =	___
Column Totals:	___ (A)		___ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No _✓_

Remarks: (Include photo numbers here or on a separate sheet.)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-6	10YR 2/2	100					Silt loam	
6-13	10YR 5/1	20					Clay loam	
	10YR 2/2	50					Silt loam	
	10YR 5/3	30					Sandy loam	
13-24	10YR 2/2	25					Silt loam	
	10YR 5/1	15					Clay loam	
	10YR 4/3	60					Sandy loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.　　²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (LRR R, MLRA 149B)

___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?　Yes _____　No __✓__

Remarks:

Mixed/Fill soil

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_ City/County: _Dane_ Sampling Date: _10-24-22_

Applicant/Owner: _____ State: _WI_ Sampling Point: _#13 wet_

Investigator(s): _Meyer_ Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _depressional basin_ Local relief (concave, convex, none): _concave_ Slope (%): _≤ 3_

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Colwood silt loam Co_ NWI classification: _V symbol_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _see Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed? Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland? Yes _✓_ No _____
Hydric Soil Present?	Yes _✓_ No _____	
Wetland Hydrology Present?	Yes _✓_ No _____	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Wetland B

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

__ Surface Water (A1)
__ High Water Table (A2)
__ Saturation (A3)
__ Water Marks (B1)
__ Sediment Deposits (B2)
__ Drift Deposits (B3)
__ Algal Mat or Crust (B4)
__ Iron Deposits (B5)
__ Inundation Visible on Aerial Imagery (B7)
__ Sparsely Vegetated Concave Surface (B8)

__ Water-Stained Leaves (B9)
__ Aquatic Fauna (B13)
__ Marl Deposits (B15)
__ Hydrogen Sulfide Odor (C1)
__ Oxidized Rhizospheres on Living Roots (C3)
__ Presence of Reduced Iron (C4)
__ Recent Iron Reduction in Tilled Soils (C6)
__ Thin Muck Surface (C7)
__ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

__ Surface Soil Cracks (B6)
__ Drainage Patterns (B10)
__ Moss Trim Lines (B16)
__ Dry-Season Water Table (C2)
__ Crayfish Burrows (C8)
__ Saturation Visible on Aerial Imagery (C9)
__ Stunted or Stressed Plants (D1)
_✓_ Geomorphic Position (D2)
__ Shallow Aquitard (D3)
__ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___ No _✓_ Depth (inches): _____	
Water Table Present?	Yes ___ No _✓_ Depth (inches): _____	
Saturation Present? (Includes capillary fringe)	Yes ___ No _✓_ Depth (inches): _____	Wetland Hydrology Present? Yes _✓_ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
	___ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____			
2. Salix interior	100	✓	FACW
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
	100 = Total Cover		

Herb Stratum (Plot size: _____)			
1. _____			
2. Phalaris arundinacea	100	✓	FACW
3. _____	___	___	___
4. _____	___	___	___
5. _____	___	___	___
6. _____	___	___	___
7. _____	___	___	___
8. _____	___	___	___
9. _____	___	___	___
10. _____	___	___	___
11. _____	___	___	___
12. _____	___	___	___
	100 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	___	___	___
2. _____	___	___	___
3. _____	___	___	___
4. _____	___	___	___
	___ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: __2__ (A)

Total Number of Dominant Species Across All Strata: __2__ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: __100__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR2/2	100					Silt loam	
3-10	10YR2/2	90	10YR4/4	10	C	M	Silt loam	
10-24	10YR4/2	80	10YR4/6	20	C	M	Sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- ✓ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (LRR R, MLRA 149B)

- __ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- __ Thin Dark Surface (S9) (LRR R, MLRA 149B)
- __ Loamy Mucky Mineral (F1) (LRR K, L)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- __ Coast Prairie Redox (A16) (LRR K, L, R)
- __ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- __ Dark Surface (S7) (LRR K, L)
- __ Polyvalue Below Surface (S8) (LRR K, L)
- __ Thin Dark Surface (S9) (LRR K, L)
- __ Iron-Manganese Masses (F12) (LRR K, L, R)
- __ Piedmont Floodplain Soils (F19) (MLRA 149B)
- __ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes ✓   No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#14up_

Investigator(s): _Meyer_   Section, Township, Range: _Sec. 13 T9N R9E_

Landform (hillslope, terrace, etc.): _hillslope_   Local relief (concave, convex, none): _Convex_   Slope (%): _<3_

Subregion (LRR or MLRA): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_   NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _N_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _✓_ No _____

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _✓_ No _____	Is the Sampled Area within a Wetland?	Yes _____ No _✓_
Hydric Soil Present?	Yes _____ No _✓_		
Wetland Hydrology Present?	Yes _____ No _✓_	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

__ Surface Water (A1)
__ High Water Table (A2)
__ Saturation (A3)
__ Water Marks (B1)
__ Sediment Deposits (B2)
__ Drift Deposits (B3)
__ Algal Mat or Crust (B4)
__ Iron Deposits (B5)
__ Inundation Visible on Aerial Imagery (B7)
__ Sparsely Vegetated Concave Surface (B8)

__ Water-Stained Leaves (B9)
__ Aquatic Fauna (B13)
__ Marl Deposits (B15)
__ Hydrogen Sulfide Odor (C1)
__ Oxidized Rhizospheres on Living Roots (C3)
__ Presence of Reduced Iron (C4)
__ Recent Iron Reduction in Tilled Soils (C6)
__ Thin Muck Surface (C7)
__ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
__ Surface Soil Cracks (B6)
__ Drainage Patterns (B10)
__ Moss Trim Lines (B16)
__ Dry-Season Water Table (C2)
__ Crayfish Burrows (C8)
__ Saturation Visible on Aerial Imagery (C9)
__ Stunted or Stressed Plants (D1)
__ Geomorphic Position (D2)
__ Shallow Aquitard (D3)
__ Microtopographic Relief (D4)
_✓_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _✓_ Depth (inches): _____

Water Table Present? Yes _____ No _✓_ Depth (inches): _____

Saturation Present? Yes _____ No _✓_ Depth (inches): _____   Wetland Hydrology Present? Yes _____ No _✓_
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. Morus rubra	10	✓	FACU
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
	10 = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____			
2. Cornus stolonifera	25	✓	FACW
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
	25 = Total Cover		

Herb Stratum (Plot size: _____)			
1. _____			
2. Phalaris arundinacea	35	✓	FACW
3. _____			
4. Solidago canadensis	25	✓	FACU
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
	60 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____			
2. Vitis riparia	10	✓	FAC
3. _____			
4. _____			
	10 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant
Species Across All Strata: 5 (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x 1 = _____
FACW species	_____	x 2 = _____
FAC species	_____	x 3 = _____
FACU species	_____	x 4 = _____
UPL species	_____	x 5 = _____
Column Totals:	_____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic
Vegetation
Present?   Yes ✓ No _____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR2/2	100					Silt loam	
16-24	10YR3/2	100					Silt loam w/ 20% gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (LRR R, MLRA 149B)

___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _____   No __✓__

Remarks:

Fill soil

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: _I 39 CTH V_   City/County: _Dane_   Sampling Date: _10-24-22_

Applicant/Owner: _____   State: _WI_   Sampling Point: _#15up_

Investigator(s): _Meyer_   Section, Township, Range: _Sec, 13 T9N R9E_

Landform (hillslope, terrace, etc.): _level_   Local relief (concave, convex, none): _none_   Slope (%): ___

Subregion (LRR or MLRA): _____   Lat: _____   Long: _____   Datum: _____

Soil Map Unit Name: _Virgil silt loam VwA_   NWI classification: _None_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _See Report_ (If no, explain in Remarks.)

Are Vegetation _Y_, Soil _N_, or Hydrology _N_ significantly disturbed?   Are "Normal Circumstances" present? Yes _____ No _✓_

Are Vegetation _N_, Soil _N_, or Hydrology _N_ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No _✓_	Is the Sampled Area within a Wetland? Yes _____ No _✓_
Hydric Soil Present?	Yes _____ No _✓_	
Wetland Hydrology Present?	Yes _____ No _✓_	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

DP located in cropped field

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)

___ Water-Stained Leaves (B9)
___ Aquatic Fauna (B13)
___ Marl Deposits (B15)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Thin Muck Surface (C7)
___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
___ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?   Yes _____ No _✓_ Depth (inches): _____

Water Table Present?   Yes _____ No _✓_ Depth (inches): _____

Saturation Present?   Yes _____ No _____ Depth (inches): _____   Wetland Hydrology Present? Yes _____ No _✓_
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
	____ = Total Cover		

Herb Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
8. _____	____	____	____
9. _____	____	____	____
10. _____	____	____	____
11. _____	____	____	____
12. _____	____	____	____
	____ = Total Cover		

Woody Vine Stratum (Plot size: _____)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
	____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant
Species Across All Strata: _____ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No __✓__

Remarks: (Include photo numbers here or on a separate sheet.)

Winter wheat planted with 30% aerial cover
No volunteer vegetation present.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 2/1	100					Silt loam	
13-19	10YR 3/2	100					Silt loam	
19-24	10YR 4/3	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (LRR R, MLRA 149B)

___ Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
___ Thin Dark Surface (S9) (LRR R, MLRA 149B)
___ Loamy Mucky Mineral (F1) (LRR K, L)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (LRR K, L, MLRA 149B)
___ Coast Prairie Redox (A16) (LRR K, L, R)
___ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
___ Dark Surface (S7) (LRR K, L)
___ Polyvalue Below Surface (S8) (LRR K, L)
___ Thin Dark Surface (S9) (LRR K, L)
___ Iron-Manganese Masses (F12) (LRR K, L, R)
___ Piedmont Floodplain Soils (F19) (MLRA 149B)
___ Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Surface Water Data Viewer Map

NAD_1983_HARN_Wisconsin_TM

1: 7,920

0.3   0   0.13   0.3 Miles

Legend

NRCS Wisconsin Soils
- Soil Mapping Unit
- Water

Municipality

State Boundaries

County Boundaries

Major Roads
- Interstate Highway
- State Highway
- US Highway

County and Local Roads
- County HWY
- Local Road

Railroads

Tribal Lands

Rivers and Streams

Intermittent Streams

Lakes and Open water

Index to EN_Image_Basemap_Leaf_Off

Notes

Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

10/17/2022
Page 1 of 3

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Co	Colwood silt loam, 0 to 2 percent slopes	2.7	11.3%
Cu	Cut and fill land	0.2	1.0%
EfB	Elburn silt loam, 0 to 3 percent slopes	1.6	6.6%
KeB	Kegonsa silt loam, 2 to 6 percent slopes	2.1	8.9%
PnB	Plano silt loam, till substratum, 2 to 6 percent slopes	3.5	14.6%
RnB	Ringwood silt loam, 2 to 6 percent slopes	3.6	14.9%
RnC2	Ringwood silt loam, 6 to 12 percent slopes, eroded	2.0	8.4%
VwA	Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	8.2	34.3%
Totals for Area of Interest		**24.0**	**100.0%**

USDA Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

10/17/2022
Page 3 of 3

Report—Hydric Soil List - All Components

Hydric Soil List - All Components–WI025-Dane County, Wisconsin					
Map symbol and map unit name	Component/Local Phase	Comp. pct.	Landform	Hydric status	Hydric criteria met (code)
Co: Colwood silt loam, 0 to 2 percent slopes	Colwood	80-90	Lakebeds (relict)	Yes	2,3
	Pella	5-10	Drainageways	Yes	2,3
	Palms	5-10	Depressions	Yes	1,3
Cu: Cut and fill land	Cut and fill land	100	—	No	—
EfB: Elburn silt loam, 0 to 3 percent slopes	Elburn	85-95	Stream terraces,outwash plains,drainageways	No	—
	Pella	2-5	Drainageways	Yes	2,3
	Mahalasville	1-4	Drainageways	Yes	2,3
	Sable	1-4	Drainageways	Yes	2,3
	Plano	1-2	Till plains	No	—
KeB: Kegonsa silt loam, 2 to 6 percent slopes	Kegonsa	100	Outwash plains	No	—
PnB: Plano silt loam, till substratum, 2 to 6 percent slopes	Plano-Till substratum	80-90	Till plains	No	—
	Griswold	5-11	Till plains	No	—
	Elburn	5-9	Till plains	No	—
RnB: Ringwood silt loam, 2 to 6 percent slopes	Ringwood	85-95	Moraines	No	—
	Elburn	2-6	Drainageways	No	—
	Plano-Till substratum	1-4	Moraines	No	—
	Griswold	2-5	Moraines	No	—
RnC2: Ringwood silt loam, 6 to 12 percent slopes, eroded	Ringwood-Eroded	85-95	Moraines	No	—
	Griswold-Eroded	3-9	Till plains	No	—
	Plano-Till substratum	2-6	Moraines	No	—
VwA: Virgil silt loam, gravelly substratum, 0 to 3 percent slopes	Virgil-Gravelly substratum	85-95	Drainageways on outwash plains	No	—
	Sebewa	2-5	Depressions on outwash plains	Yes	2,3
	Drummer-Drained	2-6	Depressions on outwash plains	Yes	2
	Sable	1-4	Depressions on outwash plains	Yes	2

Surface Water Data Viewer Map

Legend

Wetland Class Areas

Wetland Class Points
- ⬡ Dammed pond
- ⬛ Excavated pond
- Filled/drained wetland
- Wetland too small to delineate
- ⬛ Filled excavated pond

/// Filled Points

Wetland Class Areas

/ Filled Areas

Wetland Class Areas

Wetland Class Points
- ⬡ Dammed pond
- ⬛ Excavated pond
- Filled/drained wetland
- Wetland too small to delineate
- ⬛ Filled excavated pond

/// Filled Points

Wetland Class Areas

/ Filled Areas

◆ Wetland Identifications and Confirmations

Municipality

State Boundaries

County Boundaries

Major Roads
- Interstate Highway
- State Highway
- US Highway

County and Local Roads
- County HWY
- Local Road

Railroads

Tribal Lands

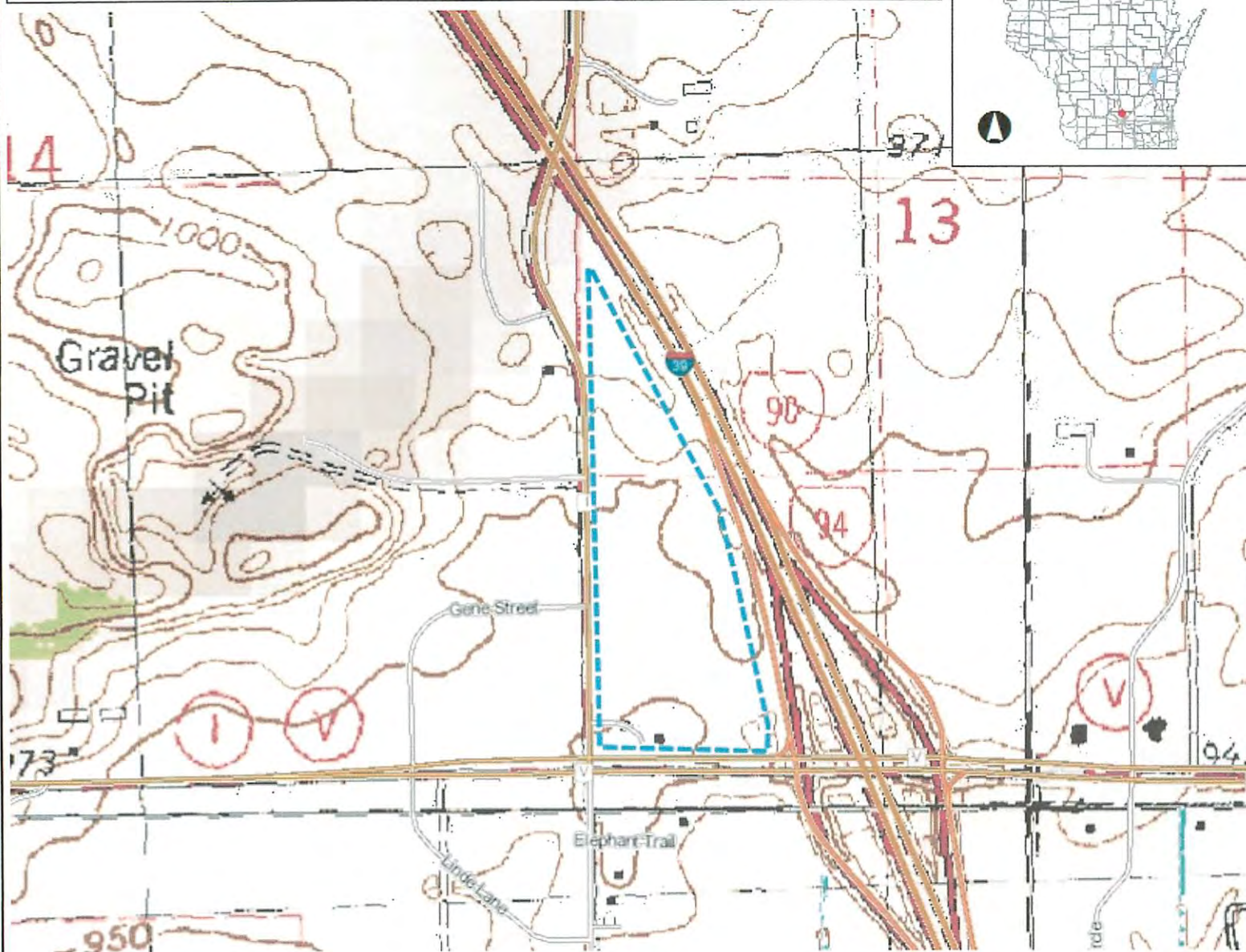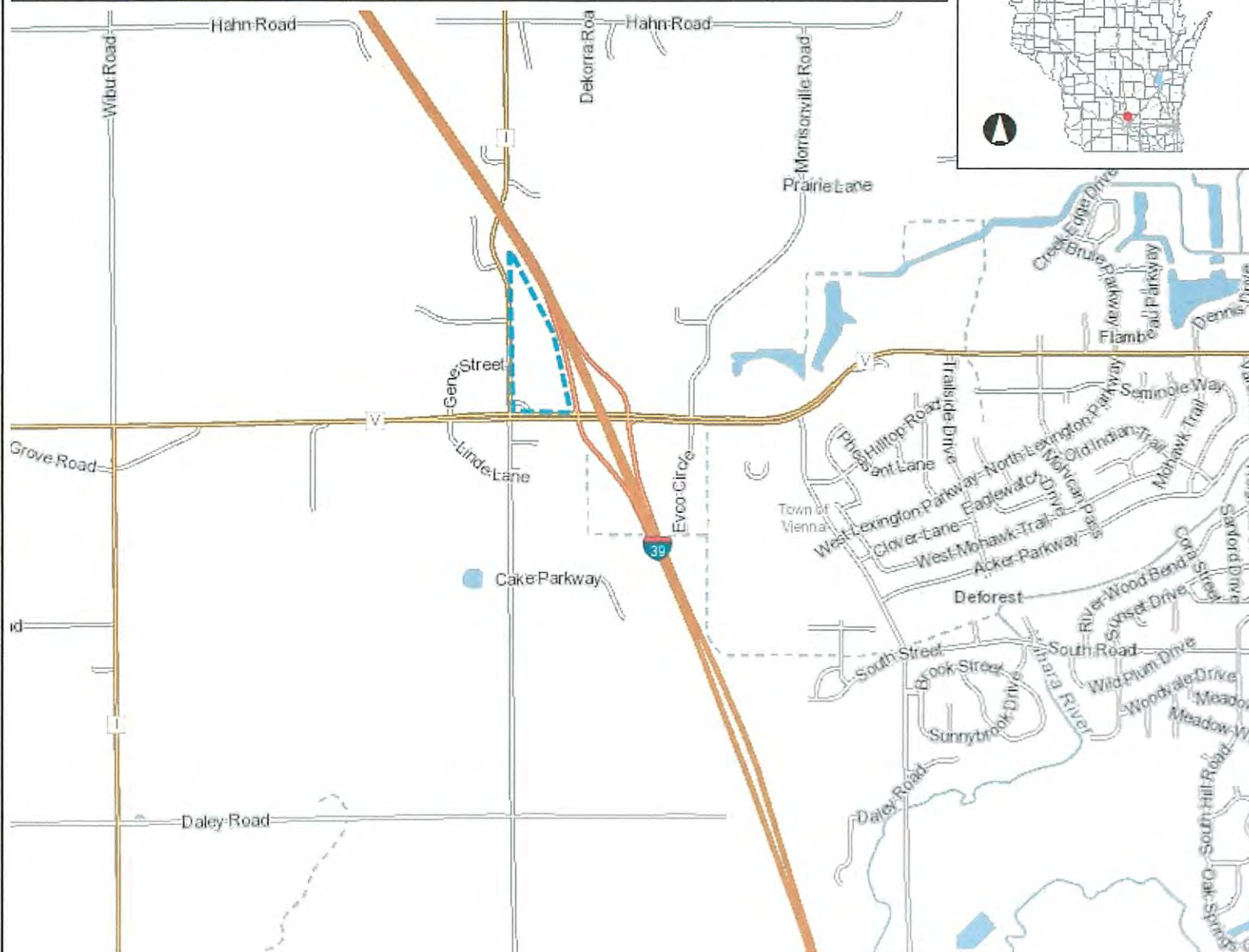Rivers and Streams

Notes

0.3   0   0.13   0.3 Miles

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NAD_1983_HARN_Wisconsin_TM   1: 7,920

Surface Water Data Viewer Map

Legend

- Municipality
- State Boundaries
- County Boundaries

Major Roads
- Interstate Highway
- State Highway
- US Highway

County and Local Roads
- County HWY
- Local Road

- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water
- 24K USGS Quad Index - Level 7 - 16
- Index to EN_Image_Basemap_Leaf_Off

Notes

0.3   0   0.13   0.3 Miles

NAD_1983_HARN_Wisconsin_TM   1: 7,920

Surface Water Data Viewer Map

1: 23,760

0.8   0   0.38   0.8 Miles

Legend

- Municipality
- State Boundaries
- County Boundaries

Major Roads
- Interstate Highway
- State Highway
- US Highway

County and Local Roads
- County HWY
- Local Road

- Railroads
- Tribal Lands
- Rivers and Streams
- Intermittent Streams
- Lakes and Open water

Notes

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/legal/

PHOTOGRAPHS

Photo A...................Viewing east across Wetland A.

Photo B...................Typical view of shrub-carr on the site (DP #'s 7, 10, 13).

Photos C and D..........Typical views of fill material on the site.

A

WETLAND DOCUMENTATION RECORD
Remotely Sensed Data Summary

Owner/Operator: _Kimley-Horn_ County: _Dane_ State _WI_

Slide Reviewer: _Meyer_ Date: _10-18-22_

Site Identification No. _Dane Co. Airport WI 837_ (Tract No. + Site No.)

Farm Service Agency (or Other) Aerial Slide Data

Date (Mo./Yr)	Rainfall (in) +D/N/W (Apr-June ave. = 9.85)	Interpretation- (codes listed in box below)
6/2022	10.06 N	N CR
9/2021	8.24 N	N CR
6/2020	12.51 N	N CR
10/2018	18.94 W	N CR
9/2017	14.86 W	N CR
8/2012	6.35 D	N CR
9/2010	15.82 W	N CR
9/2008	19.41 W	N NC
9/2006	11.97 N	N NC
12/2005	7.29 N	N NC

Air Photo

Y = Yes, signal indicates wetness (+ = strong, - = weak)	N = No wetness signature
CR = cropped (row crop or tilled)	NC = not cropped (hay, pasture, idle, etc.)

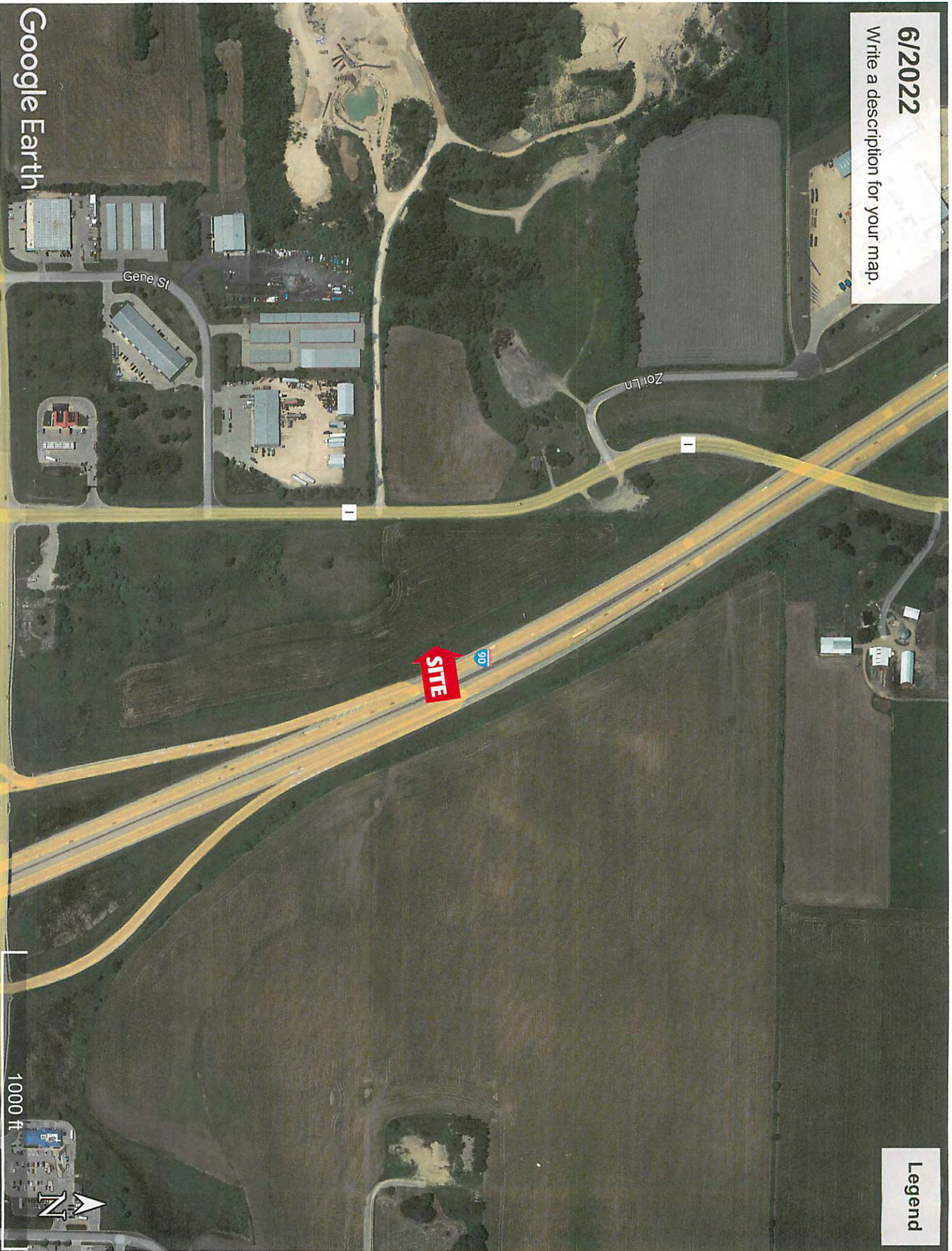| Feature	Color	Manipulation (year of installation)	Other
1 = water	6a = dark green	7a = ditched	write explanation
2 = mud flat	6b = light green	7b = tiled	
3 = bare spot	6c = yellow	7c = filled	
4 = drowned crop	6d = brown	7d = tree/brush removal	
5 = planted late	6e = black	8 = plowed/tilled	

Does slide/air photo data indicate the site is a wetland?   OYes   ONo

#_0_ years out of #_10_ years observed have wet (Y) signatures.

Legend

Google Earth

Gene St

Zoi Ln

90

SITE

1000 ft

N

Google Earth

Gene St

Zoi Ln

90

1000 ft

N

Legend

Gene St

Zol Ln

90

Google Earth

1000 ft

N

Legend

Google Earth

Gene St

Zoi Ln

90

1000 ft

N

Google Earth

Gene St

Zoi Ln

90

1000 ft

N

Gene St

Zoll Ln

90

N

1000 ft

Google Earth

Gene St

Zoll Ln

90

1000 ft

9/2008

Write a description for your map.

Legend
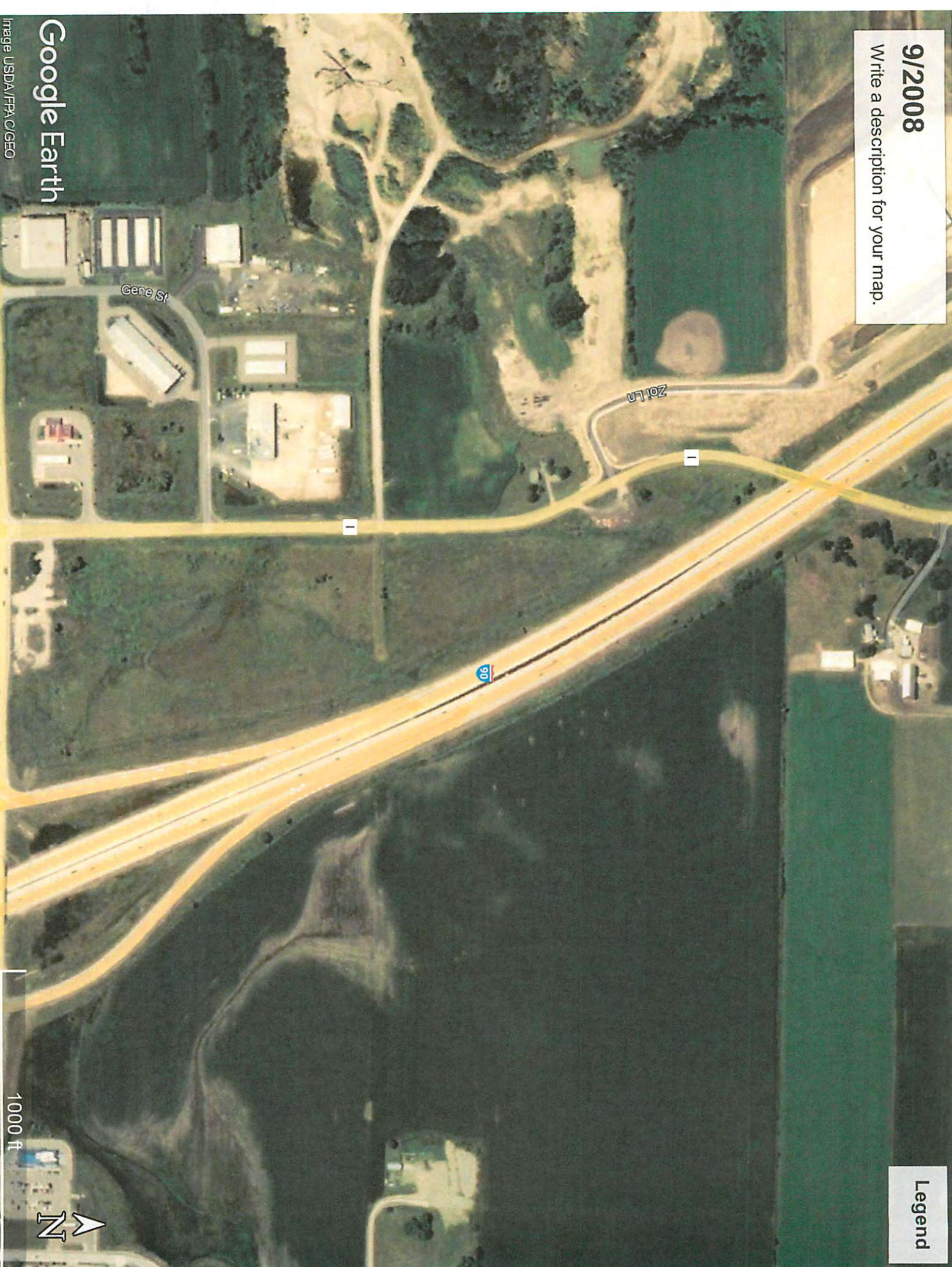
Google Earth

Image USDA/FPAC/GEO

Gene St

Zoi Ln

90

N

1000 ft

Legend

Gene St

Zoi Ln

90

1000 ft

N

Legend

Google Earth

Co Rd V

Gene St

Zoil Ln

90

Co Rd V

1000 ft

N

EXHIBIT

CLIENT
Kimley Horn

LEGAL DESCRIPTION
PARCEL 1:
Lot 1 of Certified Survey Map No. 9961, recorded in the office of the Register of Deeds for Dane County, Wisconsin, on February 21, 2001, in Vol. 58 of Certified Survey Maps, Pages 86-88, as Document No. 3290006, being Lot 1, Certified Survey Map No. 438 and Lot 1, Certified Survey Map No. 5823, located in the West 1/2 of the SW 1/4 of Section 13, T9N, R9E, situated in the Town of Vienna, Dane County, Wisconsin. Except that part of the land conveyed to the State of Wisconsin, Department of Transportation recorded as Document No. 3325583.

PARCEL 2:
Lot 2 of Certified Survey Map No. 9961, recorded in the office of the Register of Deeds for Dane County, Wisconsin, on February 21, 2001, in Vol. 58 of Certified Survey Maps, Pages 86-88, as Document No. 3290006, being Lot 1, Certified Survey Map No. 438 and Lot 1, Certified Survey Map No. 5823, located in the West 1/2 of the SW 1/4 of Section 13, T9N, R9E, situated in the Town of Vienna, Dane County, Wisconsin. Except that part of the land conveyed to the State of Wisconsin, Department of Transportation recorded as Document No. 3325583.

SITE ADDRESS
Vacant land at CTH "V" and CTH "I" Town of Vienna, Dane County, Wisconsin

WETLAND NOTE
Wetlands were delineated by Dave Meyer, WIDNR Assured Delineator From Wetland & Waterway Consulting, LLC on October 24, 2022

The Land Area of Area A is 585 square feet or 0.0134 acres.
The Land Area of Area B is 58600 square feet or 1.3452 acres.
The Land Area of Area C is 15518 square feet or 0.3562 acres.
Total Land Area of Parcel 1 & 2 is 982,833 square feet or 22.5627 acres.

Graphic Scale
0   250   500

1" = 250'

CHAPUT
LAND SURVEYS
234 W. Florida Street
Milwaukee, WI 53204
414-224-8068
www.chaputlandsurveys.com

Date: December 20, 2022
Drawing No. 4300-TMA