MEETING:	**REGULAR MEETING OF THE PLAN COMMISSION**
DATE & TIME:	**Monday, October 13, 2025 at 6:30 PM**
LOCATION:	**Germantown Village Hall Board Room** **N112 W17001 Mequon Road**

Any member of the body and/or citizen also attend the meeting virtually through the WebEx platform, Meeting #: **2553 216 2843** Password: **qRNiKJrY345** which can be accessed by phone at **408-418-9388** or by logging on at **https://villageofgermantown.my.webex.com/villageofgermantown.my/j.php?MTID=m3e60c9657945a5ad89155bdbfd3c356f**

Citizens not wishing to attend the meeting personally or virtually may submit any public comments by sending an email to comments@germantownwi.gov by 4 p.m. on the day of the meeting so that it can be provided to the members of the body for their consideration.
Previously recorded Village Board Meeting Videos can be viewed at **https://www.youtube.com/channel/UCOYp0EgELzTCa9X_iCohyhQ.**

AGENDA

I. CALL TO ORDER: *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*

II. ROLL CALL:

III. CITIZEN INPUT/PUBLIC APPEARANCE: *(Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be limited to a four (4) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.) Comments that may be injurious to village personnel or other individuals will not be allowed.*

IV. APPROVAL OF MINUTES:

A. PC Minutes 9/8/25 (ACTION)

V. NEW BUSINESS:

A. OneEnergy Development, LLC, Agent for Robert Overmier, Property Owner. Conditional Use Permit (CUP) and Site Plan applications for an approximate 35-acre Solar Energy Facility located at N144 W12531 Pioneer Road in the Rural Preservation District. (PUBLIC HEARING & ACTION)

B. Jim Sedgwick/Heimat Capital LLC, Agent for Blackstone Creek LLC, Property Owner N112W17300 Mequon Road. Application to amend the Blackstone Creek Planned Development District (PDD) General Development Plan and Conditions & Restrictions and a 2-Lot Certified Survey Map (CSM) to allow the development of two 1-2 acre commercial retail sites and 205 multi-family residential units. (PUBLIC HEARING & ACTION)

C. Dan Braatz, Agent for Burgers & Braatz Properties, LLC, and Blackstone Creek, LLC, Property Owner. Site Plan application for a new 4,403 sqft drive-through restaurant (Culver's) on property located at N112 W17300 Mequon Road in the Village Center District. (ACTION)

D. Matt Seban/TLC Acres, Property Owner W210 N10738 Appleton Avenue - Site Plan Approval Review-Grading/Filling Status Report & Possible Deadline Extension (ACTION)

E. Sign Effectz, Inc., Agent for Germantown Marketplace AG, LLC, Property Owner. Sign Review Application for Sun Island Spa at N112 W16274 Mequon Road. (ACTION)

F. Micaela Knapp, Agent for Nona Nutrition, and Devo Management Company, LLC, Property Owner. Sign Review Application for Nona Nutrition at N112 W15800 Mequon Road (Suite 4). (ACTION)

G. Community Development Department - Holy Hill Gateway District Master Plan Project: Review Consulting Services Request for Proposals (ACTION)

H. Community Development Department - Pending State Legislation Regarding Local Land Use, Zoning & Development Regulation (DISCUSSION)

VI. ANNOUNCEMENTS:

VII. ADJOURNMENT:

UPON REASONABLE NOTICE, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, please contact the Village Clerk at (262)250-4745 at least 2 days prior to the meeting.

Notice is hereby given that a possible quorum of other boards, committees, and/or commissions may attend this meeting to gather information about an item over which they have decision-making responsibility. This may constitute a meeting of these bodies per State ex rel. Badke v Greendale Village Board, even though these bodies will not take formal action at this meeting.

MEETING:	**REGULAR MEETING OF THE PLAN COMMISSION**
DATE AND TIME:	**Monday, September 8, 2025 6:30 PM**
LOCATION:	**Germantown Village Hall Board Room** **N112 W17001 Mequon Road**

MINUTES

I. CALL TO ORDER: *This meeting has been given public notice in accordance with Section 19.83 and 19.84, Wis. Stats, in such form that will apprise the general public and news media of subject matter that is intended for consideration and action.*

Chairman Soderberg called the meeting to order at 6:30pm.

II. ROLL CALL:

Chairman Soderberg and Committee Members Warren, Shadid, Tarantino, Henk and Ewert were all present. Also present were Community Development Director Retzlaff, Associate Planner Yanke and Administrative Coordinator Remich (via Webex). Committee Member Williams was absent excused.

III. CITIZEN INPUT/PUBLIC APPEARANCE: *(Please be advised per 19.84(2) that information and comment will be received from the public. It is the policy of this municipality that public input be limited to a four (4) minute period per person with a time extension granted at the discretion of the Chairperson. Be advised that there may be limited discussion of the information received but no action will be taken under public comments.) Comments that may be injurious to village personnel or other individuals will not be allowed.*

Citizens that spoke included:
Lynn Bednarz who lives on Pawnee Court.
Tanner Hahn who is a Trustee with Faith Lutheran Church.
David Baum who lives on Highland Road.
Judy Rogers who lives on Wagon Trail.

IV. APPROVAL OF MINUTES:

A. PC Minutes 7/14/25 (ACTION)

Motion: Approve as presented
Motioned By: Robert Warren
Seconded By: Bridget Henk
Yes: Bob Soderberg, Robert Warren, William Shadid, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

B. Joint Village Board and PC Minutes - 7/28/25 (ACTION)

Motion: Approve as presented
Motioned By: Robert Warren
Seconded By: Bridget Henk
Yes: Bob Soderberg, Robert Warren, William Shadid, Bridget Henk, Josh Tarantino,

Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

V. PUBLIC HEARINGS:

A. The public hearing scheduled for September 8, 2025, regarding proposed amendments to the Blackstone Creek Planned Development District (PDD) General Development Plan that would allow the development of two commercial retail sites and approximately 205 multi-family residential dwelling units has been POSTPONED. The future date and time for this public hearing is to be determined. Consequently, public comments regarding this proposal will not be received and the Plan Commission will not discuss this proposal at the September 8 meeting (including the development of a Culver's restaurant intended for one of the two proposed retail sites).

VI. NEW BUSINESS:

A. Keller, Inc., Agent for Prescription Analytics, Inc., Property Owner. Site Plan application for exterior and interior remodeling of the existing 54,000 sqft industrial/office building located at N114 W18770 Clinton Drive. (ACTION)

Associate Planner Yanke went over the background of the business and gave a summary of the proposed changes, including interior remodeling to existing office space and updating the exterior facade to give the structure an updated, modern look. Staff recommends the approval of the Site Plan application for Prescription Analytics, Inc. for exterior and interior remodeling of the existing 54,000 square foot industrial/office building located at N114W18770 Clinton Drive, subject to the following conditions:

1. This approval is for the various plan sheets that comprise the site development and building plan set submitted and revised dated June 2, 2025, and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the site and architectural plan sheets per index listed on the Title Sheet of the development and building plan set noted under this condition.
2. State agency (DSPS) approved plans and a $20,000 occupancy bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS and may be used as an alternative to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.
3. If required by the Village’s Water Superintendent, the applicant/owner shall split the water metering between building tenants at the meter room prior to the issuance of an occupancy permit.
4. All temporary and permanent exterior signs require a permit and shall comply with all current Village sign regulations.
5. Applicant/owner shall submit a Zoning Permit application to the Community Development Department for review and approval prior to issuance of an

occupancy permit. The Zoning Permit shall describe/detail the company's hours of operation, number of employees, and other uses/activities if not already described in this application.

6. If proposed as part of the building remodel and/or future roof repair work, new rooftop equipment (RTU) shall be screened from view by line of sight at 5' above grade from all property lines around the building and the centerline of the adjacent roadways.

Motion: Approve as presented
Motioned By: Robert Warren
Seconded By: Bridget Henk
Yes: Bob Soderberg, Robert Warren, William Shadid, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

B. Blades Golf, Agent for Ozaukee Development Corporation, Property Owner. Sign Review Application for Blades Golf located at W188N11770 Maple Road in the Germantown Industrial Park. (ACTION)

Associate Planner Yanke went over the new illuminated wall signage that is being proposed and clarified the location, which was revised from what was included in the packet. The sign is not proposed on the awning, rather just to the south on the building wall facade as shown per revised rendering.
Staff recommends approval of the proposed sign for Blades Golf for property located at W188N11770 Maple Road, subject to the following condition:

1. Applicant/owner shall obtain an electrical permit from Building Inspection Services prior to sign installation.

Motion: Approve as presented
Motioned By: William Shadid
Seconded By: Robert Warren
Yes: Bob Soderberg, Robert Warren, William Shadid, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

C. JSD Professional Services, Inc., Agent for Heather Lake, LLC and Ellsworth Corporation, Property Owner - N109W13300 Ellsworth Drive. Site Plan Approval Extension Request. (ACTION)

Associate Planner Yanke stated that on August 12, 2024, the Ellsworth Corporation was granted Site Plan approval to allow for a parking lot expansion including fifty-two (52) additional parking spaces to the east of the existing parking lot and manufacturing/warehouse facility.
At this time, JSD Professional Services, Inc., agent for Heather Lake, LLC and Ellsworth Corporation, property owner, is requesting an extension of the Site Plan approval as provided for under Section 17.43 (Site Plan) of the Zoning Code for reasons stated in the application.

Staff recommends approval of the request to extend Site Plan approval for an additional twelve (12) months with a new deadline for commencement of construction extended to September 8, 2026, with the same conditions of approval in the original August 12, 2024, Plan Commission approval.
Motion: Approve as presented
Motioned By: William Shadid
Seconded By: Russell Ewert
Yes: Bob Soderberg, Robert Warren, William Shadid, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

D. Impact General, Agent for Grant Dr Germantown WI LLC, Property Owner, and TCI Allient Power. Certified Survey Map (CSM) and Site Plan application for a 39,000 sqft addition to the existing corporate office and manufacturing facility located at W132 N10611 Grant Drive in the Germantown Business Park. (ACTION)

Associate Planner Yanke went over the background of the business and gave a summary of the proposed CSM which will combine 2 parcels (GTNV_253975 & 253976) totaling 12.45 acres into 1 lot for development purposes as well as details of the proposed building addition which will include new loading dock areas, overhead dock doors, asphalt replacement and new areas of both asphalt and concrete leading to the proposed overhead doors. The referenced Engineering memo in the packet was distributed on the dais for Plan Commission review.

Staff recommends approval of the proposed 1-lot Certified Survey Map (CSM) for the TCI Allient Power property located at W132N10611 Grant Drive, subject to the following condition:

1. All technical issues and corrections identified by the Village Surveyor (see July 11, 2025, memo from Bob Beilfuss, PLC) shall be addressed and reflected in a revised CSM reviewed and approved by Village staff prior to recording.

Staff recommends approval of the Site Plan application for TCI Allient Power for a 39,000 square foot building addition to an existing corporate office and manufacturing facility located at W132N10611 Grant Drive, subject to the following conditions:

1. This approval is for the various plan sheets that comprise the site development plan set as noted below and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the following unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission: a. *Civil engineering and grading plans dated July 7, 2025 (3 pages). b. Landscaping plan dated July 1, 2025 (1 page). c. Photometric lighting plan dated June 30, 2025 (1 page). d. Architectural site/building plans dated July 1, 2025 (6 pages).*

If revised plan sheets are necessary, each revised sheet shall contain the date of said revision clearly stamped in the lower right corner.

2. State agency (DSPS) approved plans and a $20,000 occupancy bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS and may be used as an alternative to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.
3. The landscape plan shall be subject to final approval/acceptance from the Village Forester prior to commencing construction activities.
4. All temporary and permanent exterior signs require a permit and shall comply with all current Village sign regulations.
5. If proposed as part of the building addition, new rooftop equipment (RTU) shall be screened from view by line of sight at 5’ above grade from all property lines around the building and the centerline of the adjacent roadways.

Motion: Approve CSM and Site Plan as presented
Motioned By: Robert Warren
Seconded By: Josh Tarantino
Yes: Bob Soderberg, Robert Warren, William Shadid, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

E. Cirrus Property Group, LLC, Agent for Faith Lutheran Church, Property Owner. Site Plan Consultation for a Proposed 5.40-acre, 35-unit Multi-Family Residential Development located at W172 N11187 Division Road in the Lannon-Mequon Road Corridor. (DISCUSSION ONLY)

Associate Planner Yanke stated that the project site is on the south side of Faith Lutheran Church. The property is 10.4 acres in size and includes the existing church, parking lot/driveways, and a parsonage to the south of the church. In February 2025, the applicant brought this development proposal forward as a Site Plan Consultation and presented it to the Plan Commission. At this time, Cirrus Property Group, agent for Faith Lutheran Church, property owner, is seeking further feedback on a revised conceptual plan for a 35-unit (for lease) residential development on 5.40 acres of the existing 10.4 acres, which the developer would acquire from the church through a division of land.

There will be two access points off Division Road, one full access and one right-in/out only, and they will have onsite stormwater retention basins.
Yanke introduced Daniel Hasbani who spoke on behalf of Cirrus Property Group and gave a full presentation. And stated that their primary renter segments will be retirees and young families.
Discussion Followed.
Committee members' comments included:
Parking was insufficient for visitors.
Access from Division Road concerns including the northern access point, causing backups at busy times of day. Possible traffic study needed. If Division Road renovations include sidewalks, possibly connect walkways to the same.

Mowing and maintenance would be challenging between the backyard fences. And water will not be allowed to flow through the fences in times of flood, causing drainage issues. Applicant to work on these points with engineer prior to formal submittal.
Drawing shows the buildings as too packed and dense.
Thanks were given to the developer for using the school study to provide data that the committee likes to see, including the student ratio, which is acceptable.
There is a need for this type of product. The Village has a lot of small islands of land that we could fill with this type of development.
Curb and gutter for streets? They will adhere to the Village standards and work with staff.
Project will not be phased, it will be developed all at once.

F. Potential Policy on the Amount of Multi-Family Housing Development in the Village of Germantown (ACTION)

Director Retzlaff stated that the purpose of this item is to continue (and hopefully wrap-up) discussion on the topic of multifamily housing in the Village and whether a policy is needed to limit the amount of multifamily housing in the Village.
At the joint Village Board-Plan Commission meeting on July 28, Staff gave a lengthy presentation on the topic, including a summary of previous Plan Commission discussion from the April 28 (PC) and May 5 (VB) meetings.
Retzlaff gave a summary of everything that was discussed at those previous meetings and what was determined.
Staff does NOT recommend that the Village adopt a policy that would limit the amount of multifamily housing in the Village (or maintain a specific ratio of single-family to multifamily housing).
Retzlaff stated that the Village would need to reevaluate every so many years to see where we are at and determine whether more multifamily will need to be approved or not.

Staff does recommend that the Plan Commission make a formal recommendation to the Village Board to either adopt or not adopt an appropriate policy. Further, if the recommendation is to adopt a policy, that policy should be incorporated into the Housing implementation section of the 2050 Comprehensive Plan.
Motion: Adopt a residential housing proposal that includes the effects on single-family vs. multifamily housing ratio mix, impact on school district capacities, impact on property tax revenue and fee revenue and other public service, facilities and capacity to be considered by the full Village Board.
Motioned By: Bob Soderberg
Seconded By: Robert Warren
Yes: Bob Soderberg, Robert Warren, William Shadid, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

G. Review of the 2050 Comprehensive Plan Implementation Objectives & Action Steps: Priority List & Schedule for the Neighborhoods, Districts, & Corridors (NDC) Master Plans. (DISCUSSION & ACTION)

Director Retzlaff stated that the purpose for this agenda item is to re-visit the process, timing and priorities for implementation of the various objectives and action steps

identified in Chapter 8 of the 2050 Plan. Specifically, with respect to Objective #5 in the Land Use section and Objective #1 and #2 in the Economic Development section pertaining to the development of a “master plan” for the Holy Hill Gateway District, the Village Center District, and the other remaining “neighborhoods, districts, and corridors” that comprise the rest of the Village.

It's accurate to say that the NDC master plans that are called for in the 2050 Plan are the missing pieces to the 2050 Plan and the same “neighborhood meetings” that are regularly brought up by concerned citizens and trustees.

By design, the individual master plans are intended to be completed for each Neighborhood, District and Corridor after the 2050 Plan was adopted with each master plan “filling in” between the land use policies and parameters set forth in the 2050 Plan. The master plans are not intended to be a comprehensive “redo” of the 2050 Plan, but rather a more detailed process to fill in any missing pieces and, if deemed necessary and appropriate, amend the future land use table(s) and/or development policies for that particular NDC.

Staff recommends revising the priority list to 1. Holy Hill Gateway District, 2. Village Center District, 3. Freistadt District. And to revise/release an RFP for Holy Hill Gateway District Master Plan this Fall, with Village Center District and then Freistadt District after that.
Discussion Followed.
Motion: Approve recommendations as presented and have a special PC meeting on 9/22/25 to discuss further
Motioned By: William Shadid
Seconded By: Robert Warren
Yes: Bob Soderberg, Robert Warren, William Shadid, Bridget Henk, Josh Tarantino, Russell Ewert
No: None
Abstain: None
Motion Passed (Yes 6, No 0, Abstained 0)

VII. ANNOUNCEMENTS:

Chairman Soderberg made an announcement regarding property maintenance and the difficulties we are having with property owners not following the Village standards. Retzlaff stated that many properties in the Village need work, and it's been a challenge for Staff. There may be changes being made moving forward.

VIII. ADJOURNMENT:

Chairman Soderberg adjourned the meeting at 8:47pm.

CONDITIONAL USE PERMIT (CUP) & SITE PLAN APPLICATIONS

10/13/25 Plan Commission Meeting

OneEnergy Development, LLC / Robert Overmier

Village Staff Report & Recommendation ***Germantown, Wisconsin***

SUMMARY

OneEnergy Development, LLC, Agent for Robert Overmier, Property Owner. Conditional Use Permit (CUP) and Site Plan applications for an approximate 35-acre Solar Energy Facility located at N144 W12531 Pioneer Road in the Rural Preservation District.

Location: N144 W12531 Pioneer Road

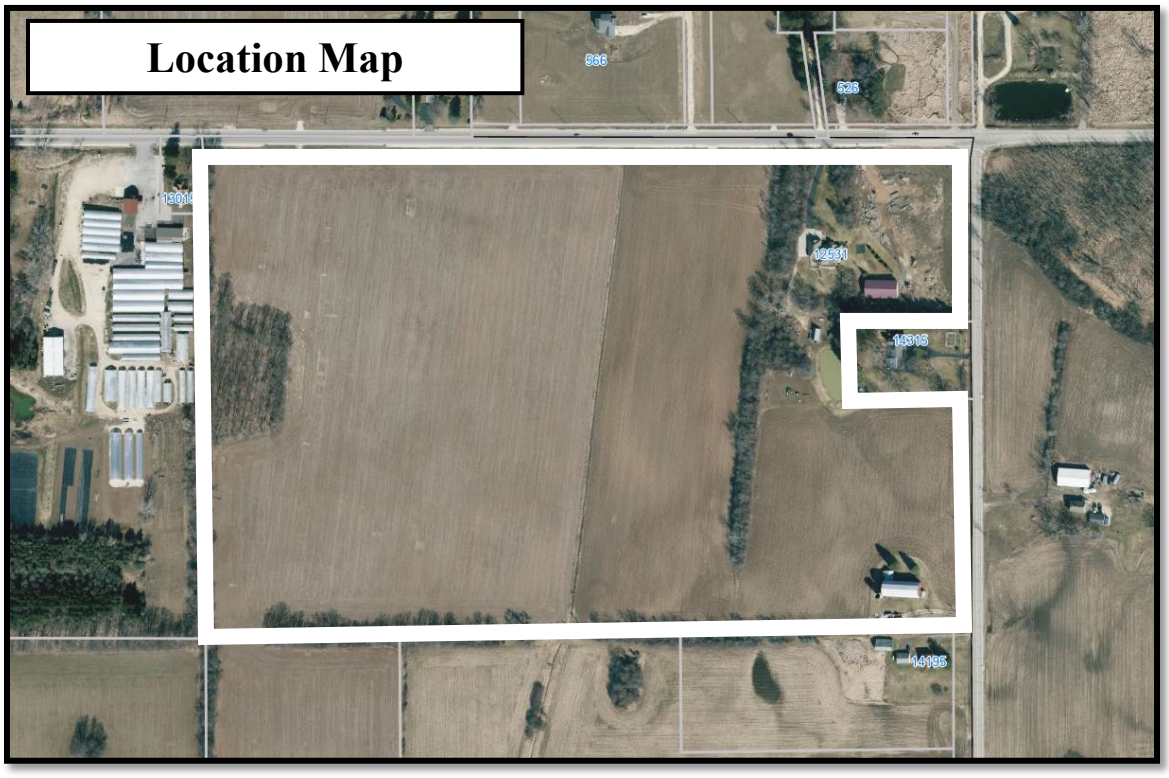
Applicant/ Owner:

OneEnergy Development, LLC
10 N Livingston Street, Suite 201
Madison, WI 53703

Robert Overmier
N144 W12531 Pioneer Road
Germantown, WI 53022

Zoning: A-1: Agricultural

Adjacent Land Uses		Zoning
North	Agricultural/Residential (Town of Jackson)	N/A
South	Agricultural/Residential	A-1/A-2/Rs-1
East	Agricultural (City of Mequon)	N/A
West	Agricultural (Garden Center)/Residential	A-2/Rs-4



Background/Proposal

OneEnergy Development, LLC, agent for Robert Overmier, property owner, is seeking approval of a Conditional Use Permit (CUP) and site development plan to allow for an approximate 35-acre solar energy project. The site is zoned Agricultural (A-1) and is located at N144 W12531 Pioneer Road in the Rural Preservation District. As designated in the Comprehensive Plan institutional type uses are allowable in the Rural Preservation District, and the proposed use is a conditional use within the A-1 District requiring site plan review and approval.

As presented in the application, the proposed solar energy facility will consist of solar modules and associated collection equipment that delivers power to the electric grid serving local We Energies customers. The solar facility will have a capacity of six (6) megawatts (MW) capable of serving 1,400 average Wisconsin households. The on-site equipment will consist primarily of solar modules mounted on single-axis tracking racking. These panels generate direct current (DC) electricity. Approximately 24 inverters, situated throughout the array area, convert the DC electricity to alternating current (AC) electricity to allow it to be delivered to the existing electric distribution system. Two (2) transformers increase the AC voltage produced by the inverters to the grid voltage of the existing 3-phase distribution line to which the project connects.

The facility will be an unmanned plant that will operate through local and remote control and monitoring. The solar photovoltaic (PV) system will be monitored remotely through the Utility Energy Management System and the integrated Data Acquisition System (DAS), which signals alerts for any irregular operating condition. Scheduled maintenance will occur occasionally to inspect all elements of the project to ensure optimal performance. After construction is complete (typically 4-6 months from start date and targeted for late 2026), there will be limited access to the site for periodic inspections, maintenance, and vegetation management. Per submittal documents, the following are additional details associated with the proposal:

- Hours of Operation: The solar facility will operate during daylight hours. This facility will not be continuously staffed and will not be open to the public. It is anticipated that once construction is complete, operations and maintenance personnel will access the site monthly for inspection or minor maintenance.
- Number of Employees: There will be no employees stationed at the facility. As noted in the previous bullet point, personnel will visit the site monthly for inspection and minor maintenance, as needed.
- Anticipated Customers: No customers will be served at the facility, and there will be no traffic associated with such customers. The renewable electricity generated from the facility will be used to serve the needs of local utility customers.
- Outside Storage: None proposed.
- Outdoor Activities: Inspection of the solar electric system and periodic maintenance as described above.
- Outdoor Lighting: No permanent outdoor lighting is proposed.
- Outside Loudspeakers: None.
- Proposed Signs: The site will only include necessary safety signage with contact information for the Project Operations team and an entrance sign.

- Trash Removal: There will not be trash generated at this site.

As it pertains to this proposal, the expected useful lifespan of the project is 30-50 years, meaning the project will be decommissioned and the site restored after there is no longer an economical reason for the solar facility to keep operating. Note that a Solar Generating Facility Decommissioning Plan was provided by the applicant and is attached. During the project's existence the property owner intends to continue farming the portion of land unaffiliated with the solar facility.

According to their website (link), *"OneEnergy is a Public Benefit Corporation with a mission to fight climate change by making clean energy the number one source of electricity for consumers and utilities."* The company has five (5) listed office locations with a regional office in Madison, WI. OneEnergy has a portfolio that includes implementation of solar energy projects across the country, including 55 projects in the Midwest and 39 of those being in Wisconsin. More information on the company and their profile statistics are included in the attachments section.

Conditional Use Permit (CUP)

This project includes a Conditional Use Permit (CUP) application. While the application details are described in greater detail on the following pages, please refer to the below that lists the specific CUP requested.

- Conditional Use in A-1 District
  - "Solar energy conversion system" consistent with and only to the extent allowed under Wis. Stat. § 66.0401

Site Plan

As indicated in the application and site plan, the proposed solar energy facility is approximately 35 acres in size and will contain the primary components of bifacial solar panels, inverters and transformers, access drive (16' width), perimeter 8' fencing, and vegetative screening. These components and additional details are spelled out further in this section.

Site & Land Use Summary

Total property acreage:	54.41
Solar facility acreage:	~35 (28.50 Fenced)
Access road acreage:	0.35
Module count:	13,200
Inverter count:	24
Solar Array Height:	~8' (Maximum Tilt Angle)

Landscape and Buffering

The applicant submitted a landscape plan that includes vegetative screening along the northern side of the solar facility. The screening is intended to provide a visual buffer from the public road (Pioneer Road) and nearby homes to the north. The vegetative screening will be comprised of a variety of native shrub species that will be installed and monitored to effectively grow/buffer the solar facility when looking from the north.
The properties to the west and south of the project, which contain a mixture of land uses

including a garden center, existing homestead, and agricultural activities, are mostly buffered by natural tree lines running between the properties. Finally, an 8' tall agricultural (i.e. deer-exclusion style) fence will enclose the site where the solar array panels are located.

Vegetation Installation and Stormwater Management

The project proposal includes the installation of native prairie plants on site. A vegetation plan was submitted specifying that the site will be managed for native pollinator habitat after the construction of the solar arrays. According to the submitted vegetation plan, there are several benefits of pollinator habitats with native plantings on solar sites, including but not limited to the following:

- Restores soil by preventing erosion.
- Improves soil structure and fertility.
- Increases carbon storage.
- Diversifies microbial communities.
- Increase value of soil for future agricultural production.

To implement the pollinator habitat, the plan lays out site preparation tasks, temporary/permanent seeding timing, management and monitoring guidelines, which includes invasive species management. While native prairie plants are known to prevent stormwater runoff and improve surrounding water quality, the applicant is required to supplement the submitted vegetation plan with a stormwater management plan. The applicant will be required to submit a stormwater management plan subject to review and approval by the Village Engineer prior to any construction activity or issuance of an Erosion Control Permit.

Access and Traffic Circulation

Access to the site will be provided through a private driveway entrance from Pioneer Road. The drive will extend several hundred feet straight south from Pioneer Road until its terminus in the center of the solar panel area. The drive is proposed at 16' in width and made of aggregate material. It will serve no use other than the solar facility.

Minimal traffic is anticipated in relation to the solar energy facility, as the applicant states the facility will not be continuously staffed and will not be open to the public. It is anticipated that once construction is complete, operations and maintenance personnel will access the site typically once per month for inspection or minor maintenance. There will be no employees stationed at the facility and no customers will be served at the facility. During construction, which is a 6-month period, there will be between 5-30 construction workers on site with 3-4 delivery trucks per day for materials. Parking for the construction staff has been included in the design of the laydown area within the site perimeter.

Utilities

As the purpose of this project is for the solar facility to produce and deliver power to the electric grid, there is a proposed point of connection with the electric grid at the site's entrance at Pioneer Road. Sanitary and water utilities are not needed/required to serve the proposed solar energy facility.

Signage

Signage proposed is limited to safety/wayfinding signage that includes contact information for the Project Operations team and an entrance sign.

Site Lighting & Glare Analysis

According to the application, no permanent outdoor lighting is proposed, and no lighting will be used on site during the construction process. The applicant submitted a Glare Analysis done by ForgeSolar with the application and is included per attachments.

Staff Comments

Community Development: Planning and Zoning

The project site is in the "Rural Preservation District" under the Village's 2050 Comprehensive Plan and is zoned A-1 Agricultural. The Comprehensive Plan designation lists institutional type uses as allowable and the A-1 District is intended to provide for the continuation of general farming and related uses in those areas of the Village that are not committed to urban development. It is further the intent of the district to protect rural lands in the Village from urban development until their orderly transition into urban-oriented districts is required. The proposed use of a "solar energy conversion system" consistent with and only to the extent allowed under Wis. Stat. § 66.0401 is a conditional use within the A-1 District.

Wisconsin has enacted statutes that protect solar development and limit municipal oversight. Wisconsin Statute § 66.0401 explicitly limits the authority of municipalities to regulate solar energy systems. Under Wis. Stat. § 66.0401(1m), municipalities may not place any restriction on the installation or use of solar energy systems unless the restriction satisfies one of the following conditions:

- Serves to preserve or protect the public health or safety;
- Does not significantly increase system cost or decrease efficiency; or
- Allows for an alternative system of comparable costs and efficiency.

The above-mentioned statute is not superseded by municipal zoning powers. As proposed, however, the project complies with the A-1 District zoning standards. The solar array structures comply with setbacks and structure height, and the proposed agricultural fence complies with code where applicable. While there is no applicable lot coverage standard in the A-1 District, there is little change to the amount of impervious surface quantity through implementation of the project.

OneEnergy has committed through its lease agreement with the landowner to remove the system at the end of the project life, including provisions to ensure that there is adequate financial security set aside to perform such decommissioning. When the project is decommissioned, all infrastructure will be removed, and the site will be restored to predevelopment conditions for continued agricultural use with rested and restored soils. Please see attached Decommissioning Plan.

Additionally, the applicant submitted a Glare Analysis performed by ForgeSolar. According to the analysis there was no glare found for the photovoltaic (PV) solar arrays. The applicant has advised previously the solar panels track the sun, and any reflection would therefore be angled back at the sun and not at neighboring properties.

Community Development: Inspection Services

State agency (DSPS) approved plans and a $20,000 bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS to provide all commercial plan review and inspection services through SAFEBuilt of Wisconsin and the Village of Germantown.

Public Works/Village Engineer

The Village Engineer has identified technical issues and plan revisions that need to be resolved or otherwise addressed by the applicant prior to commencing construction activities. The applicant will be required to submit a stormwater management plan subject to review and approval by the Village Engineer prior to any construction activity or issuance of an Erosion Control Permit. Staff is recommending a condition requiring all outstanding items and issues identified in the following review memo be resolved and reflected in additional information and/or revised plans submitted to staff for further review, comment, and approval prior to commencing any site construction:

- October 7, 2025 – Review Memo from Village Engineer

Village Forester

After review of the landscape screening and vegetation plan, the Village Forester had one comment for the applicant to address as follows: “Specify quantities and shrub species selection for the visual buffer with shrub planting/installation specifications.” The final landscape screening and vegetation plan is subject to acceptance/approval by the Village Forester prior to commencement of construction activities, which is reflected in the conditions.

Fire and Police Departments

The Fire Department is requiring a Knox Box at the main entrance gate to the solar facility. No comments were made by the Police Department.

VILLAGE STAFF RECOMMENDATIONS

APPROVE a Conditional Use Permit for an approximate 35-acre "solar energy conversion system" consistent with and only to the extent allowed under Wis. Stat. § 66.0401 located at N144 W12531 Pioneer Road, subject to the following conditions:

1. The uses and activities allowed on the property shall be limited to those uses and activities specified in the Conditional Use Permit (CUP) application and supporting documents date stamped received July 17, 2025. Operations shall be limited to those specified in the CUP supporting documents submitted to the Village.
2. The owner/operator is responsible for reporting any significant changes in the type, intensity, amount, or location of the land uses and activities, days and hours of operation, size or location or other operational characteristics of said uses and activities authorized under this CUP to the Village Zoning Administrator.
3. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities or uses which causes problems or harmful effects that were not anticipated at the time of approval of this CUP, the Conditional Use Permit (CUP) may be modified or terminated by the Village Board by the amendment to or addition of conditions after public hearing thereon.
4. All temporary and permanent exterior signs require a permit and shall comply with all current sign regulations. Off-premises advertising and directional signage is regulated by the Village and requires a permit if/when allowed.
5. All future site improvements, including all building, parking area, landscaping, storm water management facilities, signage, exterior lighting, and any other improvements made to or on the property that are necessary for the land uses and activities authorized under this CUP shall be submitted for review and approval by the Village through the Zoning Permit or Site Plan application process as determined by the Village Zoning Administrator. If required, Site Plan review and approval will include Plan Commission review and approval.
6. Pursuant to Section 17.47 of the Zoning Code, if the Village observes and/or receives complaints regarding negative impacts associated with and/or created by business-related activities conducted on the property, including but not limited to noise, dust or other airborne materials, the Property Owner/Operator shall work with the Village to identify the source of such impact(s), evaluate alternative mitigation measures, and implement a mutually-agreeable solution to mitigating the impact(s).

APPROVE the Site Plan application submitted by OneEnergy Development, LLC for an approximate 35-acre "solar energy conversion system" consistent with and only to the extent allowed under Wis. Stat. § 66.0401 for property located at N144 W12531 Pioneer Road, subject to the following conditions:

1. This approval is for the plan sheets that comprise the site plan set as noted below and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the following unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission:
    a. *Site Development Layout* (Sheet D-100) revised dated October 10, 2025.
    b. *Vegetative Screening and Management Plan* dated August 6, 2025.

    If revised plan sheets are necessary, each revised sheet shall contain the date of said revision clearly stamped in the lower right corner.
2. The Vegetative Screening and Management Plan shall be subject to final acceptance by the Village Forester and Community Development staff prior to commencement of construction.
3. Approval of the Site Plan application is subject to approval/acceptance of the proposed private driveway access point to Pioneer Road by the Washington County Highway Department.
4. Per Fire Department, applicant shall install a Knox Box at the main entrance gate to the solar facility.
5. The technical issues and plan revisions identified in the October 7, 2025, memo from the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities or issuance of an Erosion Control Permit.
6. Site operations are limited to the proposed activity by the applicant per the submitted/attached "Solar Generating Facility Operations Plan".
7. State agency (DSPS) approved plans and a $20,000 bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS and may be used as an alternative to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.
8. Applicant shall install the 8' agricultural/wildlife perimeter fence with openings at the bottom (i.e. at-grade) to allow greater wildlife movement.
9. The maximum tilt angle height of the solar array panels (i.e. structures) shall be approximately 8' from established grade.
10. All temporary and permanent exterior signs require a permit and shall comply with all current Village sign regulations and requires a permit if/when allowed.
11. Applicant shall provide a commitment to the Village including provisions to ensure that there is adequate financial security set aside to perform the specified decommissioning of the project and any restoration needed to be performed to the shared access drive after construction of the project or its decommissioning. Said commitment shall be reviewed and approved/accepted by the Village Attorney.

SCANNED

Village of Germantown ...Willkommen

Fee must accompany application

X $1460 Paid [signature] Date 7/16/25

Chk# 6616

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 **APPLICANT OR AGENT**

OneEnergy Development, LLC

Phone (262) 395 - 7172

Fax ( )

E-Mail peter@oneenergyrenewables.com

PROPERTY OWNER

Robert Overmier

Phone (414) 531 - 2598

2 **TO WHOM SHOULD THE PERMIT BE ISSUED?**

OneEnergy Development, LLC

3 **PROPERTY ADDRESS**

To be assigned. Approximately 43.277345, -88.068404

CURRENT Address: N144W12531 Pioneer Rd

TAX KEY NUMBER

~~011991 and 011992,~~ which are now combined GTN-011987

4 **DESCRIPTION OF EXISTING OPERATION**

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e.g. "vacant." Use additional pages as necessary.

Undeveloped/vacant property used for agricultural row cropping.

5 **DESCRIPTION OF PROPOSED OPERATION**

Write the name of the proposed conditional use exactly as it appears in the Municipal Code

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations

Proposed 6 MW ground-mounted solar facility that would occupy about 35 acres of the larger 57 acre parcel owned by Robert Overmeir. Solar panels will be mounted on racking and driven steel I-beams, enclosed with an 8' tall woven wire/deer exclusion fence. A 16' gravel access drive will allow for access to the site from Pioneer Rd. Electrical equipment would consist of inverters, transformers, and a remote monitoring system. The project will connect to the existing We Energies 3-phase distribution lines.

RECEIVED
JUL 17 2025
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

6 METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY – REQUIRED

Attach pages as necessary

The East 60 acres of the North 1/2 of the Northeast 1/4 of Section 1, Township 9 North, Range 20 East, EXCEPTING THEREFROM the following described property: That part of the East 60 acres of the North 1/2 of the Northeast 1/4 of Section 1, in Township 9 North, of Range 20 East, in the Town of Germantown, Washington County, Wisconsin, bounded and described as follows: Commencing at a point in the East line of said quarter section 475 feet south of the northeast corner thereof; thence West on a line at right angles to the east line of said quarter section, 326.7 feet to a point; thence south on a line parallel to the east line of said quarter section, 200 feet to a point; thence east on a line at right angles to the east line of said quarter section 326.7 feet to a point in the east line of said quarter Section; thence North along the east line of said quarter section, 200 feet to the place of beginning. Please see attached Survey Map in Exhibit F

7 SUPPORTING DOCUMENTATION:

- X Site Plan and elevations for new construction (can be conceptual)
- X Photos of existing use and/or proposed use operating elsewhere
- X Conditional Use Permit / Project Narrative
- X Operations plan, decommissioning plan, vegetation management plan

8 READ AND INITIAL THE FOLLOWING:

PM I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.

PM I will notify the Village if any aspects of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.

PM I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

PM I understand that Village Staff is required to post one or more signs along the street frontage of and/or on the property subject of this application that indicate to nearby property owners and the general public that a public hearing of my application will be held before the Village Plan Commission and/or Village Board prior to action being taken on this application; I hereby grant Village Staff permission to enter onto the property for the expressed purpose of installing said sign(s) provided Village Staff is responsible for installing, maintaining and removing said signs in a reasonable manner and timeframe.

9 SIGNATURES – ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant — 7/14/2025 Date

Owner — 07/14/2025 Date

SCANNED

Village of Germantown ...Willkommen

Fee must accompany application
- ☐ $700 Minor Addition
- ☐ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☒ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☐ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID XR DATE 8/7/25 w/C.C

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 **APPLICANT OR AGENT**

OneEnergy Development, LLC

Phone (262) 395 7172

E-Mail peter@oneenergyrenewables.com

PROPERTY OWNER

Robert Overmier

Phone (414) 531 2598

E-Mail

2 **PROPERTY ADDRESS**

To be assigned. Approximately 43.277345, -88.068404 GTN_011987

Current address: N144W12531 Pioneer Rd.

3 **NEIGHBORING USES** – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North TO Jackson Residential (Kloehn Ohm, Guidinger, Shumway, Bourbonais)	South A-1 Overmier, A-2 Gallun, RS-1 Gallun	East RS-3 Sprangers, Ozaukee Agricultural	West RS-4 Sadowski, A-2 Groth

4 **READ AND INITIAL THE FOLLOWING:**

PM I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

PM I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

PM I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 **SIGNATURES** – ALL APPLICATION MUST BE SIGNED BY OWNER!

Applicant 8/6/2025 Date

Owner (Aug 7, 2025 12:49:22 CDT) 08/07/2025 Date

RECEIVED AUG – 7 2025 OFFICE OF THE VILLAGE PLANNER VILLAGE OF GERMANTOWN

LIME KILN SOLAR
Project Overview



OneEnergy Renewables is in the process of developing a 6-Megawatt solar project in the Village of Germantown, Wisconsin. The project is located south of Pioneer Road and will lease about 35 acres of the 57-acre property (please see site plan on reverse).

Lime Kiln Solar has a useful life of 30-50 years and will provide clean, locally produced energy for nearby We Energies customers years to come. At the height of construction, roughly 30 local union workers will be employed on this project.

OneEnergy will develop, design, engineer, and construct Lime Kiln Solar. Based in Madison, our Midwest office has developed 55 solar projects over the last 6 years, including 39 in Wisconsin.

SYSTEM STATISTICS

6 Megawatts
~35 acres
~12,000,000 kWh per year

MAIN SYSTEM COMPONENTS

- Single-axis tracker (tracks the sun from east to west throughout the day)
- Bifacial solar panels
- Inverters
- Transformers

12,000,000 kWh of electricity per year, equivalent to…

1,400
AVERAGE WISCONSIN HOUSEHOLDS

9,241
TONS OF CO_2 AVOIDED, LIKE TAKING 1,600+ CARS OFF THE ROAD*

9,787
ACRES OF U.S. FOREST CARBON SEQUESTRATION*

*Source: EPA Greenhouse Gas Equivalencies Calculator

Sustainable Design and Construction

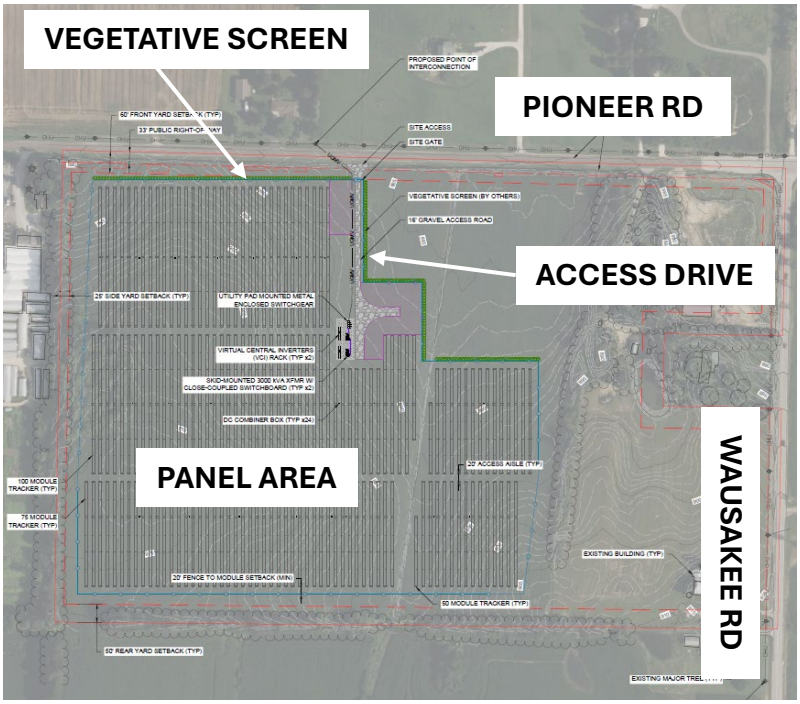
Our approach to solar development, engineering, and construction is low-impact and dual-use.

The area beneath and around the panels will be planted to a low-growing perennial pollinator mix. This increases water infiltration, improves runoff and erosion control, and enhances soil fertility over the lifetime of the project.

The project area will be fenced within an 8’ tall deer-exclusion style fence, similar to what one might find around an orchard. The area surrounding the project will continue to be farmed.

When the project is decommissioned, all infrastructure will be removed, and the site restored to pre-development conditions for continued agricultural use with rested and restored soils.

PROPOSED LIME KILN SOLAR PROJECT SITE PLAN



Contact

PETER MURPHY
PROJECT MANAGER

(262) 395-7172 |C

peter@oneenergyrenewables.com

10 N. Livingston St, Suite 201
Madison, WI 53703



Conditional Use Permit Application Addendum – Village of Germantown, WI

Lime Kiln Solar Project

Applicant:
OneEnergy Development, LLC
10 N. Livingston St., Suite 201
Madison, WI 53703

Contents

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B. Description of Equipment 3
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D. Landscaping 7
E. Wetland and Drainage Facilities 7
F. Construction Schedule 8
G. Operations & Vehicular Traffic Description 8
H. Decommissioning and Removal 9
I. About OneEnergy 9

Exhibits

Exhibit A – Site Plan

Exhibit B – Operations Plan

Exhibit C – Vegetation Management Plan

Exhibit D – Project Profile

Exhibit E – Decommissioning Plan

Exhibit F – Survey Map

Exhibit G – Glare Analysis

Exhibit H – Conditional Use Standards, A-1 Zoning District

Exhibit I – List of Properties within 300 feet

Exhibit J – Property Legal Description

Background

The Lime Kiln Solar Project (the "Project") is a proposed 6 Megawatt solar generation facility. OneEnergy Development, LLC ("OneEnergy" or "the Applicant") will develop, engineer, and construct the Project.

The Applicant will complete all environmental studies and surveys required to construct the Project, including the following: wetland delineation, Phase I Environmental Site Assessment, soil analysis, Wisconsin State Historical Preservation Office, and endangered resources review. The Project is not expected to impact natural resources.

The Applicant intends to start construction on the Project in the spring of 2026, pending receipt of all required permits and approvals and availability of key equipment for the project. Construction of the project is expected to take approximately 4-6 months. If construction starts in spring of 2026, the Project is expected to be completed by the end of 2026. If construction is delayed due to key equipment availability or other issues until spring of 2027, the project is expected to be constructed and operational by the end of 2027. Once complete, the Project will generate local power for local customers within We Energies' service territory.



Strobus Solar Project in Black River Falls, WI

A. General Land Use Description

Location

The Project is located on approximately 35 acres of vacant land in the Village of Germantown known as parcels GTNV_011987 to the south of Pioneer Road and west of Wasaukee Road. The land is part of a larger 57-acre parcel owned by Robert Overmier.

Zoning

The proposed Project is situated on land that is zoned A-1 Agricultural Preservation District. Adjacent parcels are farmsteads and residential homes zoned A-1, A-2, RS-4, RS-3 and RS-1.

Setbacks

OneEnergy commits to following all applicable Setbacks (please see Village of Germantown Ordinance 17.12(5) and 24.04)

(a) Front Setback. 60 feet, minimum.
(b) Side Yards. 25 feet, minimum, except that bee hives and buildings used for keeping livestock and poultry, and all new buildings constructed after the effective date of this Code shall have yards of not less than 50 feet.
(c) Rear Yard. 50 feet, minimum.
Setback from navigable waterway located to the north: 75'

Description of Equipment

Racking and Panels

The racking for the proposed project consists of driven steel I-Beams that are embedded approximately 10’ into the ground, and extend approximately 5’ above ground. A torque tube connects to the top of the I-Beams, and the panels are mounted to the top of the torque tube. All components of the racking system are made of steel.

Below is a depiction of the horizontal profile view of the panels and racking, which will run in rows from north to south throughout the site and will track the sun from east to west throughout the day. At their maximum angle in morning and evening, the panels are 50 degrees from horizontal facing either east (morning) or west (evening). At mid-day, the panels are flat. At their maximum tilt angle in morning and evening, the tallest part of the panel is ~8’ above ground level.

Figure 1 – Example of Horizontal Profile View panels and racking

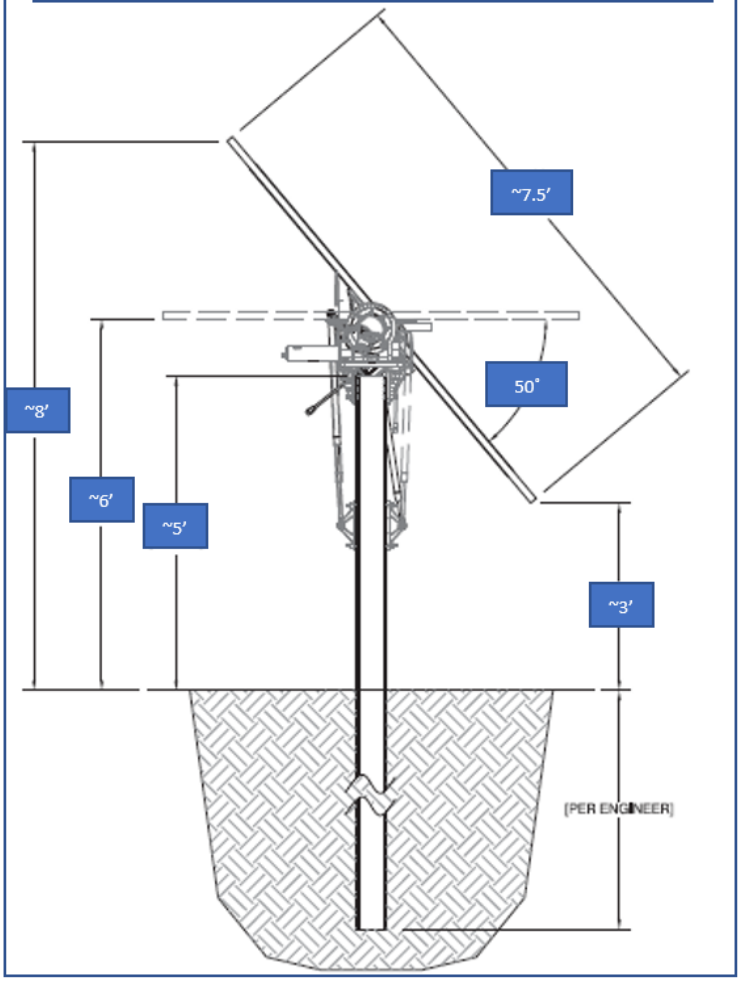




Image 2 - Strobus Solar Project in Merrillan, WI

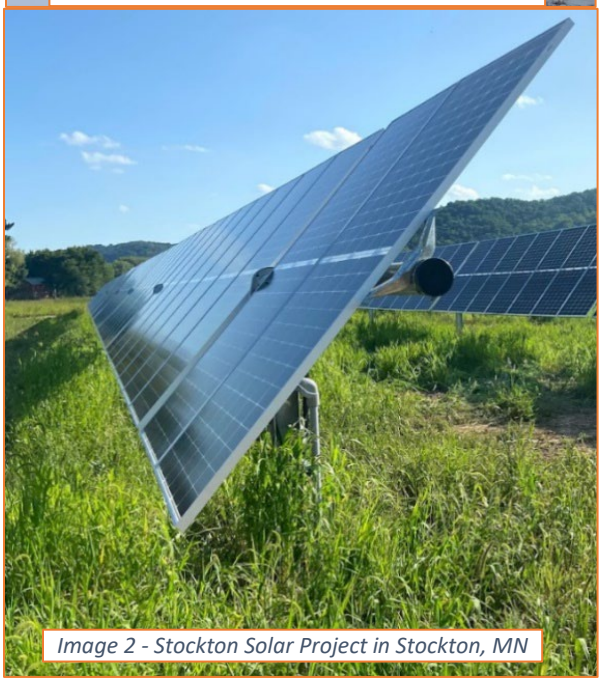


Image 2 - Stockton Solar Project in Stockton, MN

Solar Panels

Crystalline silicon solar PV panels, which represent ~95% of the installed solar panels in the US, consist primarily of tempered glass, silicon wafers, anodized aluminum, and wiring, all of which can recovered and recycled at the end of their useful life. PV panels are extremely durable and built for long service life, as indicated by their 30-year warranty.

Inverters, Transformer, Electrical Rack

The inverters, electrical panels and transformers will be located in the middle of the project as depicted in the site plan. Most equipment (inverters, electrical panel, etc.) will be mounted on driven pilings similar to the pilings that support the solar panels and racking with a maximum height of 8 feet. The transformers and disconnects will be mounted on a steel skid. These pieces of electrical equipment look similar to what you would see at a large load service like a grocery store.

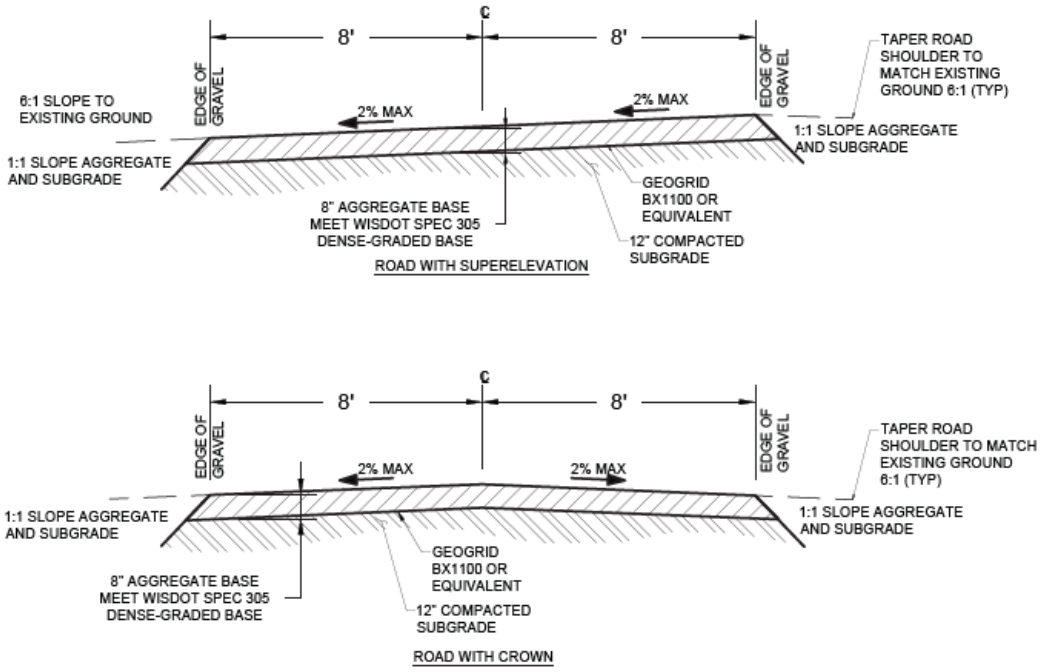


Image 3 – Inverter at Hodag Solar Project in Rhinelander, WI

Access Drive

The access drive is proposed to be 16’ wide and will come off of Pioneer Road. The access drive will be installed below depending on the slope. The access drive is installed at-grade to minimize changes to existing drainage patterns.

Figure 2 – Example of Access Drive Design Detail



Fence

A fence will surround the solar project and will be an 8’ tall agricultural-style fixed knot wildlife exclusion fence similar to what you might see around an orchard. The fence will have either wood or steel posts.



Image 4 – Fence at Rushford Village Solar Project in Rushford Village, MN



Image 5 – Fence at Blue Prairie Solar Project in Black River Falls, WI

B. Scale Map of the Project Site

Please see **Exhibit A - Proposed Site Plan** for dimensions and location of proposed facilities. OneEnergy designs our projects using highly efficient bifacial solar panels and single-axis tracking racking. Using this equipment, a 6 Megawatt solar system can be located on approximately 40 acres of relatively flat topography and, most importantly, consistent elevations in the north-south direction.

The proposed project is expected to produce enough electricity for approximately 1,400 average Wisconsin residences, or almost 17% of the electricity needs of the Village of Germantown's approximately 8,280 households.

C. Landscaping



Image 6 - Stockton Solar Project in Stockton, MN

The Project will be developed in a manner that complements the agricultural setting by using an agricultural-style fence, either a pasture for grazing sheep or a pollinator seed mix to attract bees and birds. Topsoil integrity will be preserved throughout construction by pre-seeding a cover crop prior to construction to minimize erosion and compaction, as well as by minimizing grading within the site. The permanent seeding will take place after construction is complete, and will conform with Wisconsin DNR recommendations for solar projects. The final landscape plan will be developed in partnership with the Wisconsin DNR and in compliance with all applicable stormwater requirements. By planting dense perennial vegetation beneath and around the solar panels, the project provides ecosystem services associated with pollinator benefits, soil building, increased water infiltration and reduced stormwater runoff compared to regularly tilled farmland. Please see **Exhibit C –Vegetation Management Plan**.

D. Wetland and Drainage Facilities

The project is designed to minimize soil disturbance and drainage alterations as much as possible. OneEnergy anticipates limited ground disturbance for the installation of the solar array and will ensure all grading is done in compliance with recommended best practices for stormwater and sediment erosion control. Because the project will occupy more than one acre, OneEnergy will be required to comply with the Wisconsin Department of Natural Resources NPDES Construction General Permit, which has the following requirements:

- Implement Best Management Practices to control sedimentation during construction, i.e. silt fencing, fiber logs, temporary stabilization, etc.
- Submittal of a Water Resource Application for Project Permits (WRAPP)
- Develop a Stormwater Management Plan approved by the Wisconsin DNR prior to commencement of construction

Sedimentation will be controlled from leaving the project area after construction by changing the land use of the project area from cultivated agricultural land to nearly 100% vegetated ground cover. The pollinator meadow growing beneath and around the solar panels acts as a vegetative buffer that covers ~95% of the site. Runoff from the access roads and gravel pads will travel through the vegetative cover prior to leaving the project area. Water that runs off panels into the proposed dense pollinator planting below will act as a natural vegetative buffer which will increase infiltration and act as erosion control to help the site meet required standards.

OneEnergy solicited records from the landowner on any known drain tile on the property, reviewed aerial photographs available on Google Earth, and studied the Project Area for evidence of drain tile. Based on all available information, there is not expected to be drain tile within the project area

E. Construction Schedule

OneEnergy's goal is to finalize engineering in the winter of 2025-2026, to enable purchasing of long-lead equipment in early 2025 and construction during the months of May to November 2026. If construction is delayed due to key equipment availability or other issues until spring of 2026, the project is expected to be constructed and operational by the end of 2026.

A project of this size typically takes 4-6 months to construct. The Project is intended to start construction in the summer of 2026 and be complete by the end of 2026. A tentative construction schedule is as follows:

Civil Work and Fencing Install	5/1/2026	5/31/2026
Pile Installation	6/1/2026	7/1/2026
Racking and Module Installation	7/1/2026	9/1/2026
Wiring and Transformer Installation	9/1/2026	10/15/2026
Pollinator Seeding and Revegetation	10/15/2026	11/1/2026
Target In-service Date	11/1/2026	

F. Operations & Vehicular Traffic Description

During operation, the Facility will be an unmanned plant that will operate through local and remote control/monitoring. Please see **Exhibit B –Operations Plan**. During construction, we anticipate that there will be between 5 and 30 construction workers on-site for the 6-month period (May-November) during which the bulk of construction will take place. No lighting will be used on site during construction or operations of the project. Adequate provision for parking of such construction staff has been included in the design of the laydown area within the site perimeter. Additionally, deliveries will be expected during business hours. It is not expected that more than 3-4 delivery trucks will arrive at the site per day during construction. Following construction, traffic will be very limited. We typically expect approximately one pickup truck to visit the site per month during the operational period for routine site maintenance and mowing.

G. Decommissioning and Removal

OneEnergy has committed through its lease agreement with the landowner to remove the system at the end of the project life, including provisions to ensure that there is adequate financial security set aside to perform such decommissioning. When the Project is decommissioned, all infrastructure will be removed, and the site will be restored to predevelopment conditions for continued agricultural use with rested and restored soils. Please see **Exhibit E – Decommissioning Plan.**

H. About OneEnergy

OneEnergy is a developer of community-scale solar projects in Wisconsin, focusing on projects that interconnect with the distribution grid and serve local loads. Our team, based in Madison, consists of developers, engineers, construction managers, legal, finance, and accounting professionals. Over the last 6 years, we have completed 55 projects in the Midwest, 39 of which are in Wisconsin, including:

- A series of four 7.5 Megawatt projects for WE Energies located in Kenosha, Washington, Walworth and Shawano Counties in 2023.
- A portfolio of 10 projects for rural electric cooperatives in Western Wisconsin in 2023.
- A series of 5-6 Megawatt projects for WE Energies and Wisconsin Public Service located in Langlade, Fond du Lac, Racine, and Walworth Counties in 2024.

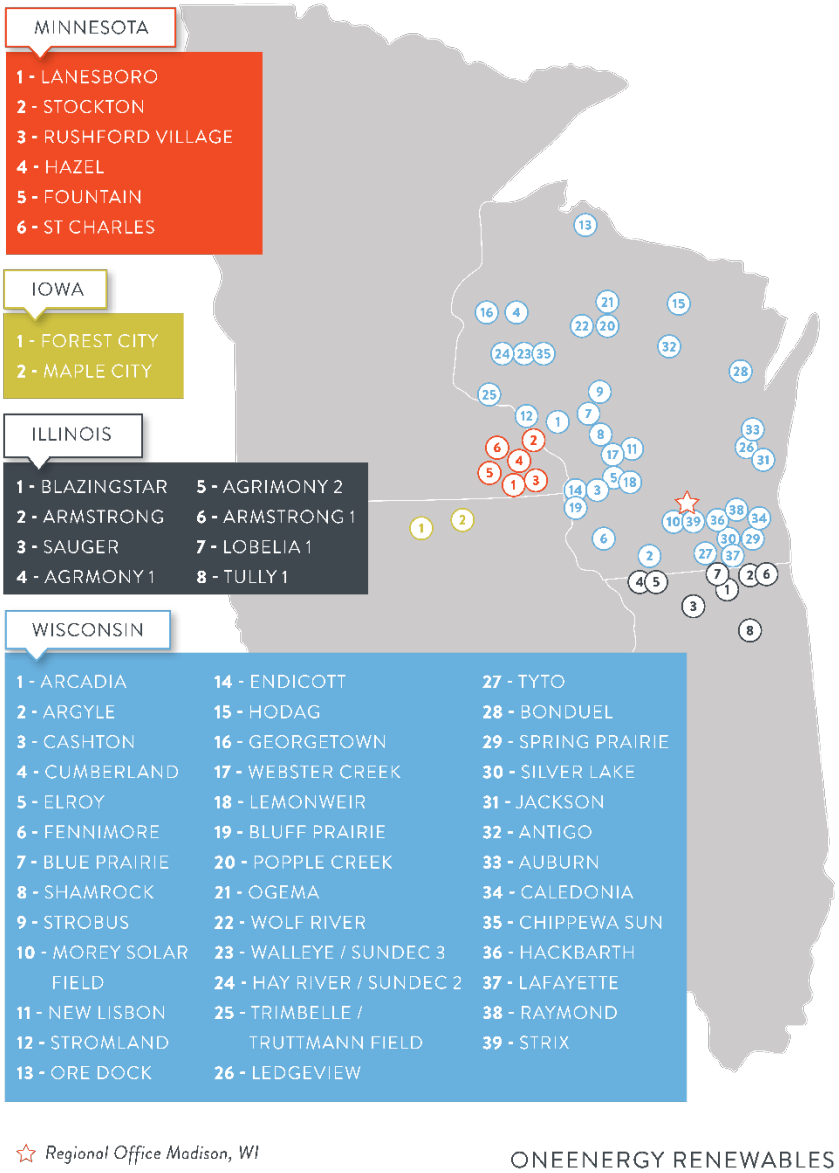


Figure 3 – OneEnergy Midwest Solar Projects

Exhibit H – Conditional Use Standards
A-1 Farmland Preservation Zoning District
Village of Germantown, Wisconsin

Lime Kiln Solar Project

Applicant:
OneEnergy Development, LLC
10 N. Livingston St. Suite 201
Madison, WI 53703

Lime Kiln Solar Project Conditional Use Standards
Zoning District A-1, Farmland Preservation

The use of the property for the project is consistent with uses allowed by the Farmland Preservation Statute, Wis. Stat. §91.46(1)(f). The term "Utility Use" has been further defined by the Department of Agriculture, Trade and Consumer Protection (DATCP), with respect to farmland preservation, and "includes facilities for the generation of electricity from sunlight,…" See Wis. Admin. Code Department of Agriculture, Trade and Consumer Protection §ATCP 49.01(19).

In addition, the Village of Germantown Zoning Ordinance lists "wind energy conversion systems and solar energy conversion systems consistent with and only to the extent allowed under Wis. Stat. §66.0401" as approved conditional uses in the A-1, Farmland Preservation Zoning Districts (Sec. 17.12(2)(jj)).

Thus, the proposed solar project meets the definition of allowed "Utility Use" in farmland preservation districts per DATCP statute §91.46(1)(f) and is consistent with the Village of Germantown Zoning Ordinance Sec. 17.12(2)(jj) as a conditional use in the A-1 Farmland Preservation District, as further supported below and by the Department of Agriculture, Trade and Consumer Protection's promulgated rules.

A. **The use and its locations in the farmland preservation zoning district are consistent with the purposes of the farmland preservation zoning district.**

In addition to the Department of Agriculture, Trade and Consumer Protection rules described above that allow solar generation as a conditional use, the Project is consistent with the purpose of the farmland preservation zoning district for the following reasons:

- The areas outside the fence will continue to be farmed.
- Either a pollinator pasture mix for grazing sheep or a pollinator prairie mix will be planted to establish habitat for bees and other pollinators, consistent with the intended use of agricultural land around the project.
- The Project does not involve any buildings or structures, will operate quietly and with no permanent on-site staff, and will not change the traffic patterns, development, or uses of adjacent properties.
- The Project area can be returned to agricultural production upon decommissioning of the project once it has reached the end of its useful life – the solar project is a temporary and reversible land use. The Project preserves the agricultural potential of the land, maintains rural character and open space of the area, and minimizes conflicts with other nearby agricultural uses.

B. **The use and its location in the farmland preservation zoning district are reasonable and appropriate, considering alternative locations, or are specifically approved under state or federal law.**

Solar, or Utility Use, is an approved Conditional Use in the Farmland Preservation District. The site's proximity to existing electrical distribution makes this "utility use" of the property economically feasible, as well as minimizes the environmental impact associated with interconnection of the project.

C. **The use is reasonably designed to minimize the conversion of land, at and around the site of the use, from agricultural use or open space use.**

Solar projects generally do not trigger additional growth and will not contribute to the conversation of land around them. Instead, the Project will enable preservation of the area and its continued and future use for agriculture. The Project preserves the agricultural potential of the land, maintains rural character and open space of the area, and minimizes conflicts with other nearby agricultural uses.

D. **The use does not substantially impair or limit the current or future agricultural use of surrounding parcels of land that are zoned for or legally restricted to agricultural use.**

The Project will not limit or impact adjacent uses, including agricultural uses. In fact, the remaining property is planned to be farmed right up to the fence line. The Project area can be returned to agricultural production upon decommissioning of the project once it has reached the end of its useful life – the solar project is a temporary and reversible land use.

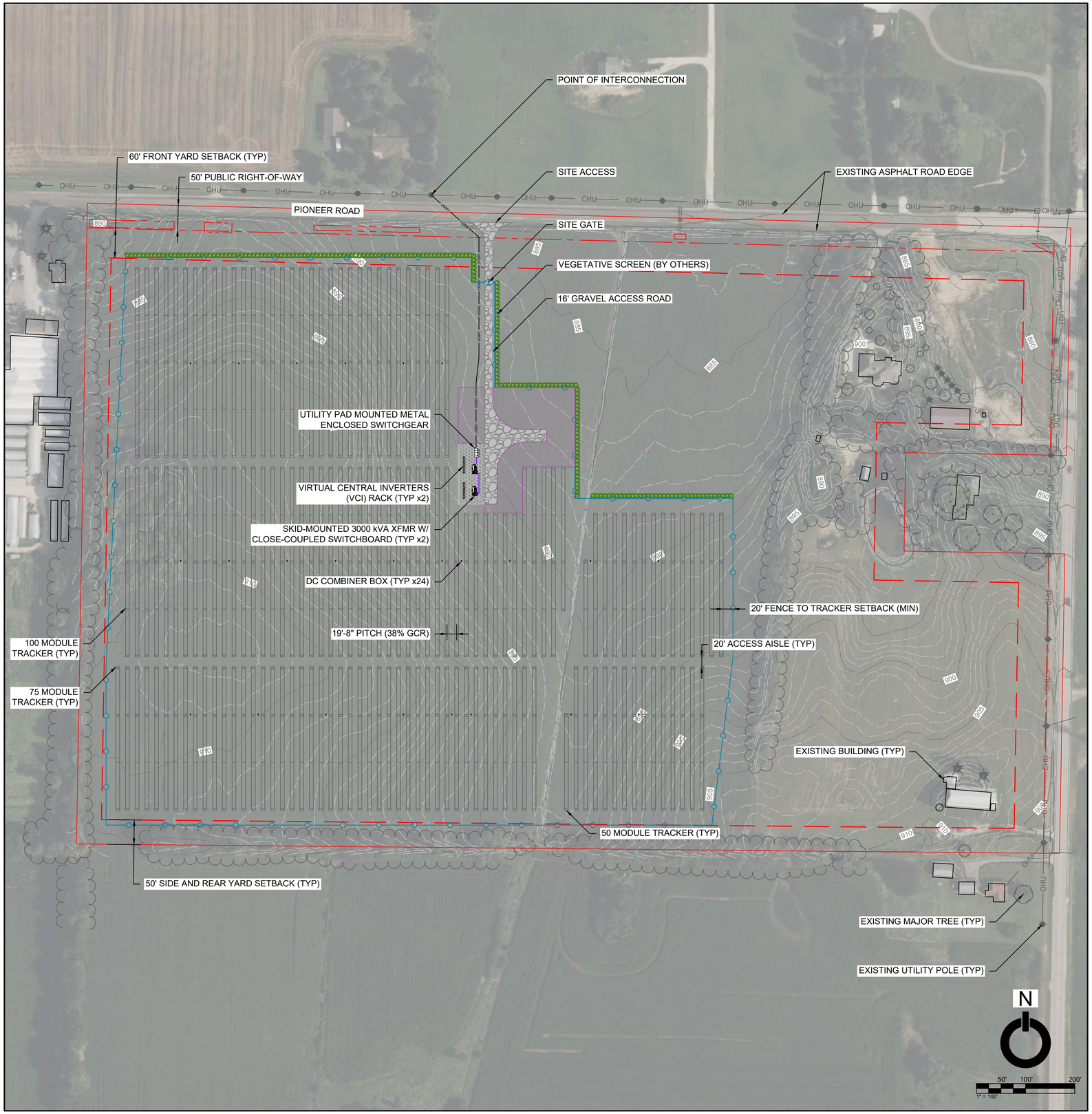
E. **Construction damage to land remaining in agricultural use is minimized and repaired, to the extent feasible.**

The Project is designed to minimize any disturbance to agricultural land. The Project will be submitted, reviewed, and approved by the Wisconsin Department of Natural Resources for a Construction Site Storm Water Runoff Permit prior to commencement of construction, meaning the post-construction hydrology of the site must be the same or improved from the current condition. The Project uses a driven piling racking system which, when decommissioned, is easily removed from the site. In addition, all topsoil will remain on-site and the site plan is designed to minimize grading required. At the end of the Project's useful life, all components are removed and the land returned to substantially the same condition as it was previously.

LIME KILN SOLAR

WASHINGTON COUNTY, WISCONSIN

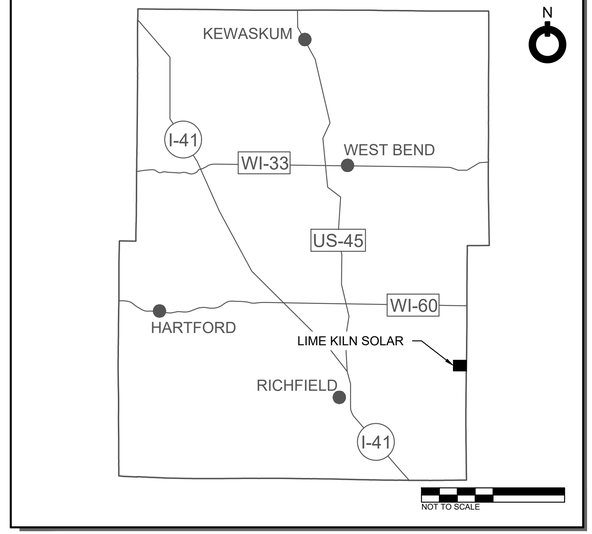
SOLAR PV PROJECT
6.000 MVA



LEGEND

- PARCEL BOUNDARY
- ZONING SETBACK
- EASEMENT
- RIGHT-OF-WAY
- NEIGHBORING PARCEL
- TREE LINE (E)
- FENCE (E)
- PERIMETER FENCE (P)
- GRAVEL ACCESS ROAD
- LAYDOWN AREA
- UGMV — UG MV (P)
- UGMV — UG MV (P, UTIL)
- OHU — OH ELECTRICAL (E)
- UGT — UG TELEPHONE (E)

WASHINGTON COUNTY MAP



PROJECT DETAILS

THIS PROJECT CONSISTS OF THE DESIGN AND INSTALLATION OF 6.000 MVA SOLAR PHOTOVOLTAIC SYSTEM. MODULES ARE TO BE MOUNTED IN A SINGLE AXIS TRACKERS, WHICH FOLLOW THE SUN FROM EAST TO WEST THROUGHOUT THE DAY.

SITE DETAILS:

PARCEL ID	GTNV_011987
OWNER:	ROBERT AND TERRI OVERMIER
ACREAGE:	57.00
EXISTING ZONE:	A-1 AGRICULTURAL

LAND USE SUMMARY:

TOTAL PARCEL AREA (ACRES):	57.00
TOTAL LEASED AREA (ACRES):	TBD
TOTAL FENCED AREA (ACRES):	28.50
GRAVEL ACCESS ROAD (ACRES):	0.35
LAYDOWN AREA (ACRES):	0.77

DESIGN SUMMARY:

MODULE POWER:	590 W
MODULE COUNT:	13200
ARRAY DC VOLTAGE:	1500 VDC
INVERTER SIZE:	250 kVA
INVERTER COUNT:	24
DC SIZE:	7.788 MWDC
AC SIZE:	6.000 MVA
DC/AC RATIO:	1.298
GROUND COVERAGE RATIO:	38.0%
ASCE 7-16 GSL:	30 PSF
ASCE 7-16 WIND SPEED:	100 MPH

ADDITIONAL NOTES:

- BASEMAP DEVELOPED FROM ALTA DATA
- PARCEL DATA TAKEN FROM ALTA DATA
- WETLAND BOUNDARIES SOURCED FROM FIELD DELINEATION
- FEMA FLOOD HAZARD ZONE FROM GIS DATA

OneEnergy RENEWABLES
10 N Livingston St, Suite 201
Madison, WI 53703
oneenergyrenewables.com
206 922 7072

WRITTEN DIMENSIONS ON THIS PLAN SHALL SUPERCEDE SCALED DIMENSIONS. CONTRACTORS ARE RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS. THIS DRAWING, DESIGN, CONCEPT AND ARRANGEMENT REMAIN THE PROPERTY OF ONEENERGY RENEWABLES AND SHALL NOT BE COPIED, DISCLOSED OR REPRODUCED WITHOUT CONSENT.

PRELIMINARY

NOT FOR CONSTRUCTION

REVISION LOG

REV	DESCRIPTION	DATE	BY	CK'D	SME
A	5% SUBMITTAL	10.10.2025	JAL	AC	

LIME KILN SOLAR
LIME KILN SOLAR WI, LLC
43.277345°, -88.068404°
WASHINGTON COUNTY, WISCONSIN

SHEET TITLE:
DEVELOPMENT LAYOUT

SHEET NO:
D-100

Exhibit B – Operations Plan

Lime Kiln Solar Project

Applicant:
OneEnergy Development, LLC
10 N. Livingston St. Suite 201
Madison, WI 53703

Lime Kiln Solar Project

Solar Generating Facility Operations Plan

Type of Activity Proposed: OneEnergy Development, LLC is proposing to build a solar generation project (the "Facility" or "Project") located on approximately 35 acres, consisting of solar modules and associated collection equipment that delivers power to the electric grid. The Facility will have a maximum capacity of 6 MW AC. The on-site equipment at the Facility will consist primarily of solar modules mounted on single-axis tracking racking. These panels generate direct current (DC) electricity. Approximately 24 inverters, situated throughout the array area, convert the DC electricity to alternating current (AC) electricity to allow it to be delivered to the existing electric distribution system. Two transformers increase the AC voltage produced by the inverters to the grid voltage of the existing three-phase distribution line to which the Project connects.

The Facility will be an unmanned plant that will operate through local and remote control and monitoring. The PV system will be monitored remotely through the Utility Energy Management System and the integrated Data Acquisition System (DAS), which signals alerts for any irregular operating condition. Scheduled maintenance will occur once annually to inspect all elements of the project to ensure optimal performance. After construction is complete, there will be limited access to the site for periodic inspections (monthly), maintenance and vegetation management.

The Facility will provide solar electricity to serve the needs of local utility customers.

1. **Hours of Operation**: The solar facility will operate during daylight hours. This Facility will not be continuously staffed and will not be open to the public. It is anticipated that once construction is complete, operations and maintenance personnel (one or two people) will access the site once or twice per month for inspection or minor maintenance.
2. **Number of Employees**: There will be no employees stationed at the Facility. As noted in Item No. 1 above, one or two people will visit the site a once or twice each month for inspection and minor maintenance, as needed.
3. **Anticipated Customers**: No customers will be served at the Facility, and there will be no traffic associated with such customers. The renewable electricity generated from the Facility will be used to serve the needs of local utility customers.
4. **Outside Storage**: None proposed.
5. **Outdoor Activities**: Inspection of the solar electric system and periodic maintenance as described above.
6. **Outdoor Lighting**: No permanent outdoor lighting is proposed.
7. **Outside Loudspeakers**: None.
8. **Proposed Signs**: The site will only include necessary safety signage with contact information for the Project Operations team and an entrance sign.
9. **Trash Removal:** There will not be trash generated at this site.

Lime Kiln Solar

Exhibit C

Vegetation Installation and Management Plan



Date: 8/6/2025
Site Location: 43.277345, -88.068404

ONEENERGY RENEWABLES • 2003 WESTERN AVE • STE 225 • SEATTLE, WA 98121
WWW.ONEENERGYRENEWABLES.COM

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2 Benefits of Pollinator-Friendly Solar 3

3 Site Preparation and Temporary Seeding 3

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11 Appendix B – Pollinator Seed Mixes 13

1 Site Overview

Lime Kiln Solar is a 6 MWac solar generation facility that will be developed, engineered, and constructed by OneEnergy Development, LLC. The Project is located directly south of Pioneer Road and just to the southwest of the intersection of Pioneer and Wausakee in the Village of Germantown in Washington County, Wisconsin.

The 35-acre project site is currently used for agricultural production and was most recently planted in corn and soybeans. The predominant soils on site are well drained Ritchey silt loam, and Theresa silt loam. Max Extent Wetland indicator Soils, mapped wetlands or mapped FEMA Floodplains were not identified within the Project area.

Following the construction of the solar facility, the site will be planted with a mix of native prairie species that will provide habitat for pollinators and other wildlife.

2 Benefits of Pollinator-Friendly Solar

There are many benefits to installing native prairie plant communities on solar sites. Pollinator friendly solar sequesters carbon into the soil through plants, while carbon emissions are simultaneously reduced by using renewable solar energy. Planting native prairie species restores soil by reducing erosion, improving soil structure, increasing carbon storage, diversifying microbial communities, and increasing soil fertility. In addition to supporting native wildlife, these improvements to the soil will increase the value of the soil for future agricultural production once the solar panels are removed. Agricultural benefits are not limited to future land use. Supporting native pollinator populations can increase yields of nearby pollinator-dependent crops such as soybeans, apples, and many vegetables.

The aesthetic benefits of pollinator habitat provide additional services to the local community for those who appreciate observing the wildflowers, birds, butterflies, and other species that are drawn to the solar site. Native prairie plants reduce stormwater runoff and improve surrounding water quality, which is an important consideration following the construction of solar projects. While the initial costs and amount of planning needed for installing and managing native pollinator habitat may be greater than turfgrass, the benefits outweigh the costs. Following the first five years of management, as the hardier native plant communities become established, reduced maintenance needs are anticipated for the remainder of the time the solar array is in operation.

3 Site Preparation and Temporary Seeding

The Project site will be in agricultural crop production until the fall prior to construction. After row crops are harvested, a cover crop of winter wheat will be seeded at a rate of 131 lbs per acre as recommended by the WDNR Technical Standard (1059) and the WisDOT seeding specification (630).

There will be some areas of disturbance in the Project area due to grading. Soil will not be removed from the site and will be stockpiled until it is replaced following disturbance. During construction, a cover crop of oats will be seeded at a rate of 131 lbs/acre where grading has occurred. At a minimum, erosion control measures will include 2803 lf of silt fence, 1677 lf of sediment control logs, and 1500 sy of erosion control blanket. Oats will also be seeded in any areas disturbed by construction activities. The site will be mowed regularly during construction to control noxious and invasive species.

After construction, discing and deep ripping may be used to decompact the soil depending on the level of compaction. The soil surface will be smoothed using a spike tooth harrow or similar implement. Soil compaction will be tested across the site using a soil penetrometer, and any soil with a penetration resistance above 250 psi at a minimum of 12 inches below the soil surface will be decompacted until the penetration resistance is 250 psi or less.

Any invasive species observed on site will be treated with herbicide prior to seeding. The herbicide will be selected and applied by an Environmental Specialist. Herbicides may be used to treat additional noxious or invasive species identified on site prior to seeding. Following herbicide treatment, a waiting period may be necessary before disturbing the soil or seeding.

The Environmental Specialist overseeing site preparation activities and selecting and applying herbicide treatments for noxious and invasive species suppression will have comprehensive knowledge and experience selecting and applying herbicides for restricting invasive species and managing vegetation to encourage native plant communities. Additionally, the Environmental Specialist will have a degree in biology, botany, natural areas management, or a related field, detailed knowledge of Wisconsin flora, excellent vegetation identification skills, and experience in ecological restoration that includes overseeing and conducting native prairie restoration and vegetation assessments.

4 Permanent Seeding

Permanent seeding with a native prairie mix will occur in the fall after construction has been completed. Seeding will take place from October 15th until the soil freezes. If seeding is delayed due to construction or weather conditions, permanent seeding will take place the following spring from April to May.

A nurse crop of winter wheat will be added to the native seed mix to reduce weed growth and erosion until the native species are established. If seeding is delayed until the following spring, a nurse crop of oats will be used instead of winter wheat. Drill seeding is the preferred method of seeding the native prairie mix. Seed may be broadcast spread if drill seeding equipment is unavailable at the time of planting. A cultipacker would be used to improve seed to soil contact following broadcast seeding.

The permanent/upland seed mix used will be a diverse mix of around thirty native plant species designed by the Environmental Specialist to suit site-specific soil and microclimate conditions and to provide forage and habitat for pollinators. All species reach maximum heights of approximately thirty inches to prevent vegetation from shading panels at maximum tilt. The seed mix includes flowering species with a wide range of bloom times to cover each season pollinators are active. Additionally, a lowland seed mix for hydric soils will be used where any intermittent streams or wetlands are located. The upland and lowland seed mixes can be found in Appendix B.

Changes to plant species and their proportions in the mix may be necessary depending on seed availability at the time of planting, but the diversity of species and quality of the mix will be maintained. Seed will be sourced within 175 miles of the project location if available. The project owner will review and approve all final seed mixes. Seeding records that include spatial locations of seeding, seed mixes, seed tags or packing slips, seeding rate, seeding method, and date installed will be kept.

5 Vegetative Screening

A vegetative screen comprised of native shrubs will be planted along the northern sides of the project panel (see Appendix A). Shrubs will be planted at approximately 2 ft tall or in a 2-gallon container size.

Native shrub species may include Allegheny serviceberry (*Amelanchier laevis*), pagoda dogwood (*Cornus alternifolia*), red osier dogwood (*Cornus sericea*), highbush cranberry (*Viburnum trilobum*), and ninebark (*Physocarpus opulifolius*). Final shrub species and their quantities will depend on local nursery availability.

Shrubs will be mulched and watered immediately following installation. Vegetation around the shrubs will be mowed at least three times during the first year of vegetation establishment and vegetation growing through mulch will be removed at the time of mowing. Shrubs will be watered a minimum of two times during the first growing season or as needed based on weather conditions.

6 Vegetation Monitoring

The following objectives will be achieved through vegetation monitoring:

1. Document the presence of targeted native species.
2. Document the presence of noxious and invasive species.
3. Provide recommendations for appropriate corrective actions to promote and maintain the planned vegetative cover and limit noxious and invasive species.

Vegetation monitoring data will be collected through a timed meander survey or equivalent surveying method. Observations will be recorded and visually depicted on a site map using a GIS field application during the vegetation monitoring site visit. Observations will include the presence of any noxious or invasive species, native species, and estimated percentage of vegetation cover of each. Erosion or other issues observed on site will be recorded. Reference maps will be produced from this collected data and will be used to make management recommendations and evaluate progress toward establishing the target plant community.

Records in the GIS field application will be shared between vegetation management crews and project managers. Recommended vegetation management actions based on these observations will be communicated with the project owner within one week of a vegetation monitoring visit, and an estimated date for corrective management actions will be provided.

7 Vegetation Management

The Environmental Specialist overseeing vegetation management will have comprehensive knowledge and experience restricting invasive species and managing vegetation to encourage native plant communities. Additionally, the Environmental Specialist will have a degree in biology, botany, natural areas management, or a related field, detailed knowledge of Wisconsin flora, excellent vegetation identification skills, and experience in ecological restoration that includes overseeing and conducting native prairie restoration. The Environmental Specialist may direct employees or subcontractors that do not meet the qualifications of the Environmental Specialist to complete vegetation management activities selected and supervised by the Environmental Specialist.

Vegetation will be managed to achieve the following objectives:

1. Establish native vegetation cover as prescribed in the selected pollinator seed mixes.
2. Maintain complete vegetation cover while limiting weed and invasive species to less than 5% cover.
3. Encourage the growth of flowering species to provide continuous forage and habitat for pollinators.

Vegetation management objectives will be measured using the following performance standards:

1. Stabilized soils will have no significant erosion, and, if any erosion does occur, corrective action will be taken and include reseeding of repaired areas with the planned vegetation.
2. Noxious and invasive weed species will have a maximum coverage of 5% of the project area.

3. The following milestones for minimum coverage of planted perennial species will be achieved:
    a. A minimum of 20% cover of planted perennial species by the end of the first growing season following seeding.
    b. A minimum of 40% cover of planted perennial species by the end of the second growing season.
    c. A minimum of 70% cover of planted perennial species by the end of the third growing season.

During the first year of establishment, vegetation will be mowed 2 to 3 times to a height of 8 inches. After the first year of establishment, vegetation will be mowed to a height of 10 to 12 inches. During the second year of establishment, vegetation will be mowed twice. During the third year of management, vegetation will be mowed once or twice. There will be a dormant mow during the fourth year of establishment. Following this establishment period, if there is a minimum of 70% cover of planted perennial species and less than 5% cover of noxious and invasive species, the site will be mowed as needed for noxious and invasive species control and to intermittently remove excess biomass. In addition to mowing the entire Project area, spot-treatment of invasive species with targeted mowing and herbicide treatment will be completed as needed, depending on observations made during vegetation monitoring visits.

A comprehensive Vegetation Management Report (VMR) will be prepared at the end of each calendar year and will summarize vegetation observations and management actions. The VMR will also contain recommendations for the following year's vegetation management actions and a plan for carrying out those recommendations.

7.1 Noxious and Invasive Species Management

Plant species will be suppressed if they are likely to either outcompete the native species planted or grow to a height that would potentially shade the solar panels. Noting noxious and invasive species through well-timed site inspections and proactively controlling these species during the establishment phase is critical for the long-term success of native vegetation establishment. Plant species will be considered invasive if they are listed in Wis. Admin. Code NR 40, which prohibits the possession, transportation, or introduction of certain invasive species in Wisconsin without a permit.

Control of noxious and invasive species may include spot-spraying, spot-mowing, hand weeding, wicking, or other methods selected by the environmental specialist and depending on the target species and time of year. Vegetation monitoring data will be used to schedule mowing before the predominant noxious or invasive species develop seeds.

If necessary, the following herbicides may be used for spot-treatment: glyphosate, triclopyr, clopyralid, or aminopyralid. Glyphosate is a non-selective systemic herbicide used to treat

broadleaf weeds, grasses, and woody plants, and triclopyr is a selective systemic herbicide used to control woody and herbaceous broadleaf species. Clopyralid and aminopyralid are selective herbicides used to target broadleaf weeds, especially clover and thistle. Herbicide contact with native species will be limited and herbicides will not be used when wind speeds exceed 10 mph to prevent drift.

Other herbicides may be utilized based on the target species observed and identified for management. Environmental specialists will identify actual herbicide prescriptions based on observations during site inspections. The site will be inspected before each vegetation management visit to plan appropriate management actions.

8 Vegetation Monitoring and Management Timeline

Year 0		
Seedbed Preparation	Deep ripping and discing will be used to decompact soils following construction. Herbicide will be applied as needed to remove invasive species prior to seeding.	Aug-Oct
Seeding	The pollinator seed mix will be seeded along with a cover crop of winter wheat. *Seeding may be delayed until the following spring from Apr to May.*	Oct 15th until the ground freezes
Year 1		
1st Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Late Apr to early May
1st Herbicide treatment	Spot treatment of noxious and invasive species as needed. Herbicide treatment may be concurrent with mowing visit.	Variable
1st Mow	Complete site mow to control noxious and invasive species and encourage growth of native plant community.	Late May to early Jun
2nd Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Mid-Jun
2nd Herbicide treatment	Spot treatment of noxious and invasive species as needed. Herbicide treatment may be concurrent with mowing visit.	Variable
2nd Mow	Complete site mow to control noxious and invasive species and encourage growth of native plant community.	Jul
3rd Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Late July
3rd Mow	Complete site mow to control noxious and invasive species and encourage growth of native plant community.	Aug-Sep
3rd Herbicide Treatment	Spot treatment of noxious and invasive species as needed. Herbicide treatment may be concurrent with mowing visit.	Variable

Year 2		
1st Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Late Apr to early May
1st Mow	Complete site mow to control noxious and invasive species and encourage growth of native plant community.	Jun
1st Herbicide Treatment	Spot treatment of noxious and invasive species as needed. Herbicide treatment may be concurrent with mowing visit.	Variable
2nd Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Mid-Jun
2nd Mow	Complete site mow to control noxious and invasive species and encourage growth of native plant community.	Jul-Aug
2nd Herbicide Treatment	Spot treatment of noxious and invasive species as needed. Herbicide treatment may be concurrent with mowing visit.	Variable
Year 3		
1st Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Late Apr to early May
1st Herbicide Treatment	Spot treatment of noxious and invasive species as needed. Herbicide treatment may be concurrent with mowing visit.	Variable
1st Mow	Complete site mow to control noxious and invasive species and encourage growth of native plant community.	May
2nd Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Mid-Jun
2nd Herbicide Treatment	Spot treatment of noxious and invasive species as needed.	Variable
2nd Mow	Complete or targeted site mow, as needed, to control noxious and invasive species and encourage growth of native plant community.	Jul-Aug
Year 4		
1st Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Late Apr to early May
Herbicide treatment	Spot treatment of noxious and invasive species as needed.	Variable
2nd Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation, and observations will be recorded in the GIS field application.	Mid-Jun

Mow	Complete or targeted site mow, as needed, to control noxious and invasive species and encourage growth of native plant community.	Variable
Years 5-25		
1st Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation; observations will be recorded in the GIS field application.	Late Apr to early May
Herbicide treatment	Spot treatment of noxious and invasive species as needed.	Variable
2nd Vegetation Inspection	Timed meander survey or equivalent surveying method to monitor vegetation; observations will be recorded in the GIS field application.	Mid-Jun
Optional Dormant Mow	Mow every two to three years to remove thatch.	Oct-Nov

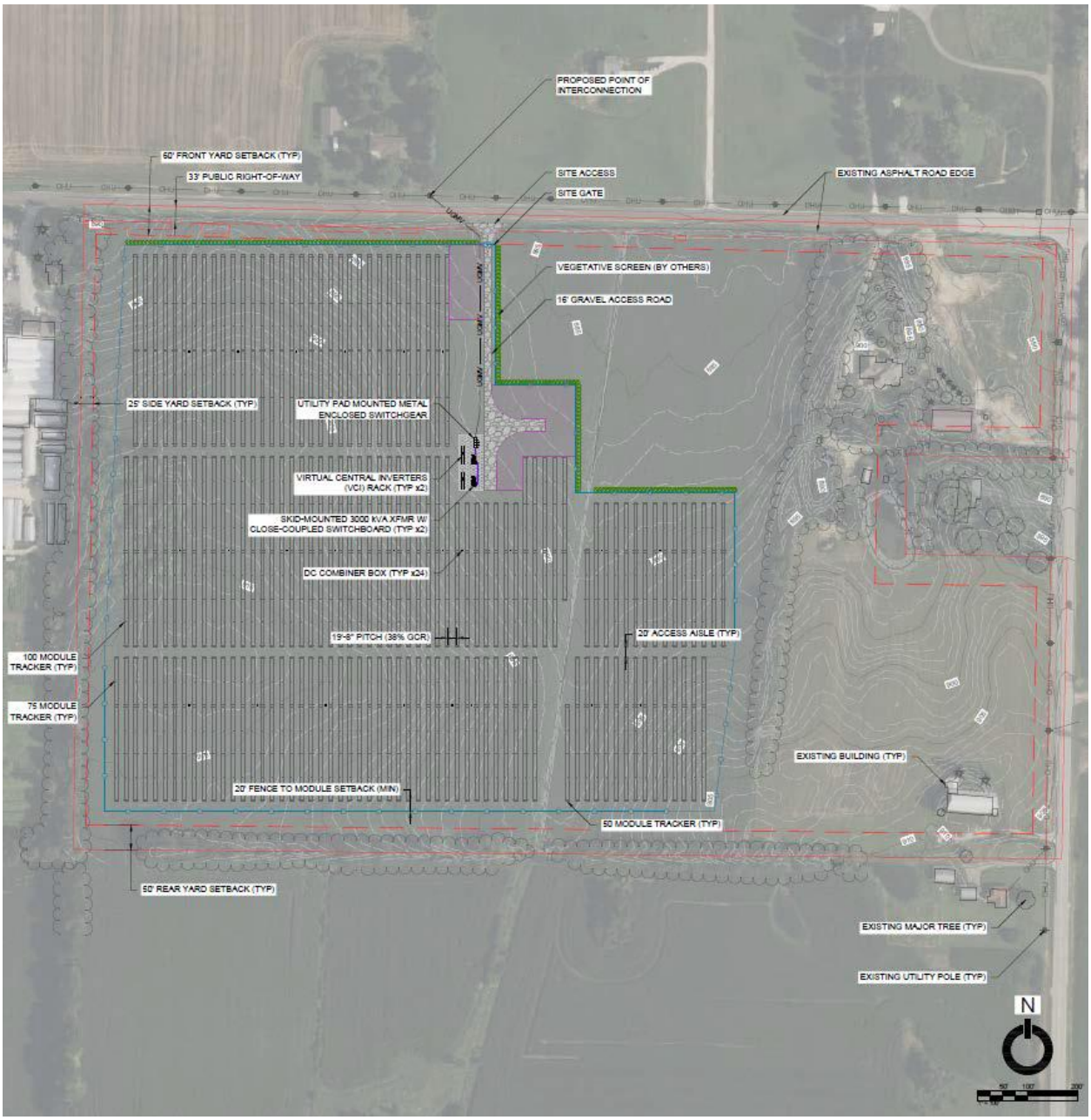
9 References

Siegner, K., Wentzell, S., Urrutia, M., Mann, W., & Kennan, H. (2019) Maximizing land use benefits from utility scale solar: A cost benefit analysis of pollinator-friendly solar in Minnesota. *Yale Center for Business and the Environment*. https://cbey.yale.edu/research/maximizing-land-use-benefits-from-utility-scale-solar.

Walston, L. et al. (2018) Examining the potential for agricultural benefits from pollinator habitat at solar facilities in the United States. *Environmental Science & Technology 52* (13), 7566-7576. https://doi.org/10.1021/acs.est.8b00020.

Walston, L. et al. (2020) Modeling the ecosystem services of native vegetation management practices at solar energy facilities in Midwestern United States. *Ecosystem Services* (47), 101227. https://doi.org/10.1016/j.ecoser.2020.101227

10 Appendix A – Project Layout



11 Appendix B – Pollinator Seed Mixes

Percentage of mix is the based on seed weight.

Upland Mix

Common Name	Scientific Name	% of Mix	Seeds/ft^2
Grasses			
Sideoats Grama	*Bouteloua curtipendula*	27.27%	6.61
Blue Grama	*Bouteloua gracilis*	7.27%	11.75
Plains Oval Sedge	*Carex brevior*	2.55%	2.98
June Grass	*Koeleria macrantha*	1.82%	14.69
Little Bluestem	*Schizachyrium scoparium*	33.45%	20.28
Prairie Dropseed	*Sporobolus heterolepis*	0.36%	0.24
Forbs			
Common Yarrow	*Achillea millefolium*	0.36%	2.62
Anise Hyssop	*Agastache foeniculum*	0.09%	0.33
Prairie Onion	*Allium stellatum*	0.73%	0.32
Lead Plant	*Amorpha canescens*	1.36%	0.88
Wild Columbine	*Aquilegia canadensis*	0.18%	0.28
Common Milkweed	*Asclepias syriaca*	0.36%	0.06
Butterfly Milkweed	*Asclepias tuberosa*	0.91%	0.16
Whorled Milkweed	*Asclepias verticillata*	0.10%	0.20
Sky Blue Aster	*Symphyotrichum oolentangiense*	0.18%	0.59
Upland White Goldenrod	*Solidago ptarmicoides*	0.73%	1.88
Partridge Pea	*Chamaecrista fasciculata*	2.73%	0.30
Lanceleaf Coreopsis	*Coreopsis lanceolata*	1.09%	0.88
White Prairie Clover	*Dalea candida*	4.55%	3.49
Purple Prairie Clover	*Dalea purpurea*	5.82%	4.23
Rough Blazing Star	*Liatris aspera*	0.27%	0.18
Spotted Bee Balm	*Monarda punctata*	0.18%	0.66
Large-flowered Beardtongue	*Penstemon grandiflorus*	0.73%	0.41
Prairie Wild Rose	*Rosa arkansana*	0.09%	0.01
Black-eyed Susan	*Rudbeckia hirta*	2.09%	7.77
Gray Goldenrod	*Solidago nemoralis*	0.09%	1.10
Ohio Spiderwort	*Tradescantia ohiensis*	0.45%	0.15
Hoary Vervain	*Verbena stricta*	1.73%	1.95
Heartleaf Alexanders	*Zizia aptera*	0.36%	0.18
Golden Alexanders	*Zizia aurea*	2.18%	0.97

Seeding Rate: 85.9 seeds/ ft^2

Exhibit G – Glare Analysis

Lime Kiln Solar Project

Applicant:
OneEnergy Development, LLC
10 N. Livingston St. Suite 201
Madison, WI 53703

FORGESOLAR GLARE ANALYSIS

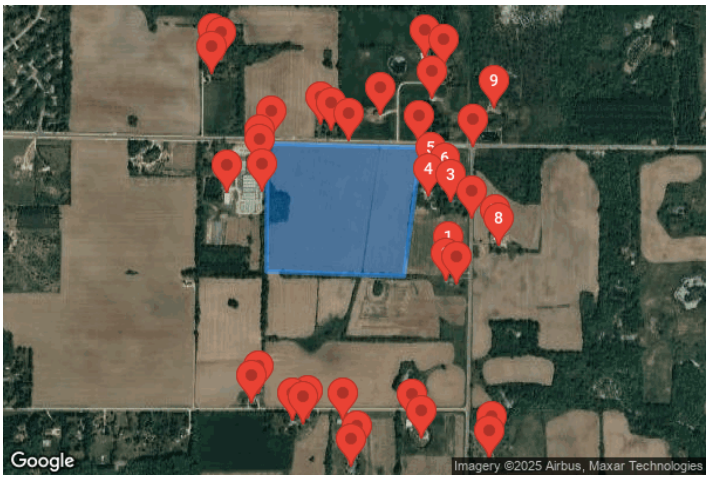
Project: **Lime Kiln Solar**

Lime Kiln Solar will include approximately 40 acres of agricultural land in the city of Germantown, WI. Some light grading and clearing may take place but there will be little change to the quantity of impervious surface. It is expected that the project will generate 6MW of power.

Site configuration: **Untitled**

Created 03 Mar, 2025
Updated 03 Mar, 2025
Time-step 1 minute
Timezone offset UTC-6
Minimum sun altitude 0.0 deg
DNI peaks at 1,000.0 W/m^2
Category 1 MW to 5 MW
Site ID 142900.24171

Ocular transmission coefficient 0.5
Pupil diameter 0.002 m
Eye focal length 0.017 m
Sun subtended angle 9.3 mrad
PV analysis methodology V2



Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
PV array 1	SA tracking	SA tracking	0	0.0	0	0.0	17,700,000.0

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0
OP 25	0	0.0	0	0.0
OP 26	0	0.0	0	0.0
OP 27	0	0.0	0	0.0
OP 28	0	0.0	0	0.0
OP 29	0	0.0	0	0.0
OP 30	0	0.0	0	0.0
OP 31	0	0.0	0	0.0
OP 32	0	0.0	0	0.0
OP 33	0	0.0	0	0.0
OP 34	0	0.0	0	0.0
OP 35	0	0.0	0	0.0
OP 36	0	0.0	0	0.0
OP 37	0	0.0	0	0.0
OP 38	0	0.0	0	0.0
OP 39	0	0.0	0	0.0
OP 40	0	0.0	0	0.0

Component Data

PV Arrays

Name: PV array 1
Description: 6MW
Axis tracking: Single-axis rotation
Backtracking: Shade-slope
Tracking axis orientation: 180.0°
Max tracking angle: 52.0°
Resting angle: 52.0°
Ground Coverage Ratio: 0.5
Rated power: 6000.0 kW
Panel material: Light textured glass with AR coating
Reflectivity: Vary with sun
Slope error: correlate with material



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	43.278976	-88.070858	889.36	7.00	896.36
2	43.275571	-88.070901	912.10	7.00	919.10
3	43.275446	-88.065858	907.50	7.00	914.50
4	43.278867	-88.065236	884.19	7.00	891.19

Discrete Observation Point Receptors

Name	ID	Latitude (°)	Longitude (°)	Elevation (ft)	Height (ft)
OP 1	1	43.275743	-88.064206	912.15	5.50
OP 2	2	43.275297	-88.064303	909.87	5.50
OP 3	3	43.277391	-88.064153	900.22	17.50
OP 4	4	43.277539	-88.064936	895.98	5.50
OP 5	5	43.278117	-88.064861	900.08	17.50
OP 6	6	43.277828	-88.064335	892.92	5.50
OP 7	7	43.276453	-88.062511	899.38	5.50
OP 8	8	43.276227	-88.062382	901.36	17.50
OP 9	9	43.279882	-88.062543	878.63	5.50
OP 10	10	43.280148	-88.064818	887.17	5.50
OP 11	11	43.280999	-88.064378	893.00	17.50
OP 12	12	43.281232	-88.065086	884.58	5.50
OP 13	13	43.279716	-88.066717	878.73	17.50
OP 14	14	43.279304	-88.068521	892.34	17.50
OP 15	15	43.279452	-88.068907	890.25	5.50
OP 16	16	43.281281	-88.072823	879.36	5.50
OP 17	17	43.280805	-88.072888	885.17	17.50
OP 18	18	43.278586	-88.071107	894.46	5.50
OP 19	19	43.278321	-88.071139	900.22	5.50
OP 20	20	43.277665	-88.071045	905.63	5.50
OP 21	21	43.277643	-88.072311	899.12	5.50
OP 22	22	43.272289	-88.071150	913.13	5.50
OP 23	23	43.271476	-88.069550	914.74	17.50
OP 24	24	43.271589	-88.069915	915.93	17.50
OP 25	25	43.271585	-88.068091	919.03	5.50
OP 26	26	43.270355	-88.067759	905.93	17.50
OP 27	27	43.270703	-88.067565	906.65	5.50
OP 28	28	43.271557	-88.065559	923.59	5.50
OP 29	29	43.271127	-88.065189	920.84	17.50
OP 30	30	43.270950	-88.062649	917.12	5.50
OP 31	31	43.270582	-88.062724	920.78	17.50
OP 32	32	43.276958	-88.063380	895.93	10.00
OP 33	33	43.278864	-88.063337	875.92	10.00
OP 34	34	43.278958	-88.065289	883.53	10.00
OP 35	35	43.279020	-88.067864	884.32	10.00
OP 36	36	43.279067	-88.070697	888.14	10.00
OP 37	37	43.271633	-88.069376	916.26	5.50
OP 38	38	43.272063	-88.071419	914.38	17.50
OP 39	39	43.281171	-88.072551	875.38	17.50
OP 40	40	43.275198	-88.063906	909.26	17.50

Glare Analysis Results

Summary of Results No glare predicted

PV Array	Tilt	Orient	Annual Green Glare		Annual Yellow Glare		Energy
	°	°	min	hr	min	hr	kWh
PV array 1	SA tracking	SA tracking	0	0.0	0	0.0	17,700,000.0

Total glare received by each receptor; may include duplicate times of glare from multiple reflective surfaces.

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0
OP 25	0	0.0	0	0.0
OP 26	0	0.0	0	0.0
OP 27	0	0.0	0	0.0
OP 28	0	0.0	0	0.0
OP 29	0	0.0	0	0.0
OP 30	0	0.0	0	0.0
OP 31	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 32	0	0.0	0	0.0
OP 33	0	0.0	0	0.0
OP 34	0	0.0	0	0.0
OP 35	0	0.0	0	0.0
OP 36	0	0.0	0	0.0
OP 37	0	0.0	0	0.0
OP 38	0	0.0	0	0.0
OP 39	0	0.0	0	0.0
OP 40	0	0.0	0	0.0

PV: PV array 1 no glare found

Receptor results ordered by category of glare

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 1	0	0.0	0	0.0
OP 2	0	0.0	0	0.0
OP 3	0	0.0	0	0.0
OP 4	0	0.0	0	0.0
OP 5	0	0.0	0	0.0
OP 6	0	0.0	0	0.0
OP 7	0	0.0	0	0.0
OP 8	0	0.0	0	0.0
OP 9	0	0.0	0	0.0
OP 10	0	0.0	0	0.0
OP 11	0	0.0	0	0.0
OP 12	0	0.0	0	0.0
OP 13	0	0.0	0	0.0
OP 14	0	0.0	0	0.0
OP 15	0	0.0	0	0.0
OP 16	0	0.0	0	0.0
OP 17	0	0.0	0	0.0
OP 18	0	0.0	0	0.0
OP 19	0	0.0	0	0.0
OP 20	0	0.0	0	0.0
OP 21	0	0.0	0	0.0
OP 22	0	0.0	0	0.0
OP 23	0	0.0	0	0.0
OP 24	0	0.0	0	0.0
OP 25	0	0.0	0	0.0
OP 26	0	0.0	0	0.0
OP 27	0	0.0	0	0.0
OP 28	0	0.0	0	0.0
OP 29	0	0.0	0	0.0
OP 30	0	0.0	0	0.0
OP 31	0	0.0	0	0.0
OP 32	0	0.0	0	0.0
OP 33	0	0.0	0	0.0
OP 34	0	0.0	0	0.0
OP 35	0	0.0	0	0.0
OP 36	0	0.0	0	0.0
OP 37	0	0.0	0	0.0

Receptor	Annual Green Glare		Annual Yellow Glare	
	min	hr	min	hr
OP 38	0	0.0	0	0.0
OP 39	0	0.0	0	0.0
OP 40	0	0.0	0	0.0

PV array 1 and OP 1

No glare found

PV array 1 and OP 2

No glare found

PV array 1 and OP 3

No glare found

PV array 1 and OP 4

No glare found

PV array 1 and OP 5

No glare found

PV array 1 and OP 6

No glare found

PV array 1 and OP 7

No glare found

PV array 1 and OP 8

No glare found

PV array 1 and OP 9

No glare found

PV array 1 and OP 10

No glare found

PV array 1 and OP 11

No glare found

PV array 1 and OP 12

No glare found

PV array 1 and OP 13

No glare found

PV array 1 and OP 14

No glare found

PV array 1 and OP 15

No glare found

PV array 1 and OP 16

No glare found

PV array 1 and OP 17

No glare found

PV array 1 and OP 18

No glare found

PV array 1 and OP 19

No glare found

PV array 1 and OP 20

No glare found

PV array 1 and OP 21

No glare found

PV array 1 and OP 22

No glare found

PV array 1 and OP 23

No glare found

PV array 1 and OP 24

No glare found

PV array 1 and OP 25

No glare found

PV array 1 and OP 26

No glare found

PV array 1 and OP 27

No glare found

PV array 1 and OP 28

No glare found

PV array 1 and OP 29

No glare found

PV array 1 and OP 30

No glare found

PV array 1 and OP 31

No glare found

PV array 1 and OP 32

No glare found

PV array 1 and OP 33

No glare found

PV array 1 and OP 34

No glare found

PV array 1 and OP 35

No glare found

PV array 1 and OP 36

No glare found

PV array 1 and OP 37

No glare found

PV array 1 and OP 38

No glare found

PV array 1 and OP 39

No glare found

PV array 1 and OP 40

No glare found

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
The algorithm does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the PV array, and support structures may impact actual glare results. However, we have validated our models against several systems, including a PV array causing glare to the air-traffic control tower at Manchester-Boston Regional Airport and several sites in Albuquerque, and the tool accurately predicted the occurrence and intensity of glare at different times and days of the year.
Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare. This primarily affects V1 analyses of path receptors.
Random number computations are utilized by various steps of the annual hazard analysis algorithm. Predicted minutes of glare can vary between runs as a result. This limitation primarily affects analyses of Observation Point receptors, including ATCTs. Note that the SGHAT/ ForgeSolar methodology has always relied on an analytical, qualitative approach to accurately determine the overall hazard (i.e. green vs. yellow) of expected glare on an annual basis.
The analysis does not automatically consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, hills, buildings, etc.
The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
The variable direct normal irradiance (DNI) feature (if selected) scales the user-prescribed peak DNI using a typical clear-day irradiance profile. This profile has a lower DNI in the mornings and evenings and a maximum at solar noon. The scaling uses a clear-day irradiance profile based on a normalized time relative to sunrise, solar noon, and sunset, which are prescribed by a sun-position algorithm and the latitude and longitude obtained from Google maps. The actual DNI on any given day can be affected by cloud cover, atmospheric attenuation, and other environmental factors.
The ocular hazard predicted by the tool depends on a number of environmental, optical, and human factors, which can be uncertain. We provide input fields and typical ranges of values for these factors so that the user can vary these parameters to see if they have an impact on the results. The speed of SGHAT allows expedited sensitivity and parametric analyses.
The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
Refer to the Help page at **www.forgesolar.com/help/** for assumptions and limitations not listed here.

Default glare analysis parameters and observer eye characteristics (for reference only):

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

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Exhibit E – Decommissioning Plan

Lime Kiln Solar Project

Applicant:
OneEnergy Development, LLC
10 N. Livingston St. Suite 201
Madison, WI 53703

OneEnergy Renewables

Lime Kiln Solar Project

Solar Generating Facility Decommissioning Plan

1. Introduction

The Decommissioning Plan provides an overview of activities that will occur during the decommissioning phase of the Germantown Solar Project, the "Project," including activities related to the restoration of land and management of materials and waste.

The Project has an estimated useful lifetime of 40 years. This Decommissioning Plan assumes at the point it is no longer economical or prudent to continue operating, the Project will be dismantled, and the site restored to a state similar to its pre-construction condition.

Decommissioning activities include but are not limited to, disconnecting the Solar Facility from the electrical grid and removal of all components, including:

- Photovoltaic (PV) modules, panel racking, and supports
- Inverter units, transformers, and other electrical equipment
- Wiring cables, communications, and perimeter fence

The Decommissioning Plan is based on current best management practices and procedures. This Plan may be subject to revision based on new standards and best management practices at the time of decommissioning. Permits will be obtained as required and notification will be given to stakeholders prior to decommissioning.

Project Information

Address: To be assigned

County: Washington, Wisconsin

AHJ: Village of Germantown

Project Size: 6 MWac

2. Decommissioning Process

At the time of decommissioning, the installed components will be removed, reused, disposed, and recycled where possible. The site will be restored to a state similar to its pre-construction condition. All removal of equipment will be done in accordance with any applicable regulations and manufacturer recommendations. All applicable permits will be acquired before decommissioning activities begin.

Equipment Dismantling and Removal

Generally, the decommissioning of a Solar Project proceeds in the reverse order of the installation.

1. The Project will be disconnected from the utility power grid.
2. PV modules will be disconnected, collected, and disposed at an approved solar module recycler or reused/resold on the market. Although the PV modules will not be cutting edge technology at the time of decommissioning, they are expected to produce approximately 80% of the original electricity output at year 40 and offer value for many years.
3. All aboveground and underground electrical interconnection and distribution cables will be removed and disposed off-site at an approved facility.
4. Steel PV module support and racking system support posts will be removed and disposed off-site at an approved facility.
5. Electrical and electronic devices, including transformers and inverters will be removed and disposed off-site at an approved facility.
6. Fencing will be removed and disposed off-site at an approved facility.

Environmental Effects

Decommissioning activities, particularly the removal of project components, could result in environmental effects similar to construction such as ground disturbance (erosion/sedimentation). Mitigation measures employed during the construction phase of the Project will be implemented. These will remain in place to mitigate erosion and silt/sediment runoff and prevent any impact to the natural features located adjacent to the site.

Road traffic will temporarily increase due to the movement of decommissioning crews and equipment. Work will be undertaken during daylight hours to conform to any applicable restrictions.

Site Restoration

Upon completion of the decommissioning phase, the site will be restored to a state similar to its pre-construction condition. Rehabilitated lands may be seeded with native seed mixes to help stabilize soil conditions, enhance soil structure, and increase soil fertility.

Managing Materials and Waste

During the decommissioning phase, a variety of excess materials and wastes (listed in the table below) will be generated. Most of the materials used in a Solar Project are reusable or recyclable and some equipment may have manufacturer take-back and recycling requirements. Any remaining materials will be removed and disposed of off site at an appropriate facility. Policies and procedures will be established to maximize recycling and reuse and project owners will work with manufacturers, local subcontractors, and waste firms to segregate material to be disposed of, recycled, or reused.

Solar module manufacturers are looking for ways to recycle and/or reuse solar modules when they have reached the end of their lifespan. OneEnergy works with The Retrofit Companies, Inc. (TRC) in Minnesota to recycle panels that are damaged during shipping or installation and intends to partner with TRC or another similar panel recycler to recycle any panels that require disposal in the future. Modules will be disposed in the best way possible using best management practices at the time of decommissioning.

Material / Waste	Means of Managing Excess Materials and Waste
PV Panels	If there is no possibility for reuse, the panels will either be returned to the manufacturer for appropriate disposal or will be transported to a recycling facility where the glass, metal, and semiconductor materials will be separated and recycled.
Mounting racks and supports	These steel and other metal materials will be disposed off-site at an approved facility
Transformer	The small amount of oil from the transformer will be removed on-site to reduce the potential for spills and will be transported to an approved facility for disposal. The transformers will be sent back to the manufacturer, recycled, reused, or safely disposed off-site in accordance with current standards of the day.
Inverters	The metal components of the inverters will be disposed of or recycled, where possible. Remaining components will be disposed of in accordance with the standards of the day.

Cables and Wiring	All electrical wiring will be disconnected and disposed of at an approved facility, associated electronic equipment (isolation switches, fuses, metering) will either be returned to the manufacturer for recycling or disposed off-site in accordance with current standards and best practices.
Fencing	Fencing will be removed and recycled at a metal recycling facility.
Debris	Any remaining debris on the site will be separated into recyclables/residual wastes and will be transported from the site and managed as appropriate.

Decommissioning Notification

Decommissioning activities will require the notification of stakeholders given the nature of the works at the site. Twelve months prior to the start of decommissioning activities the list of stakeholders will be updated and notified. Federal, county, and local authorities will be notified as needed to discuss the potential approvals required to engage in decommissioning activities.

Approvals

Well-planned and well-managed renewable energy facilities are not expected to pose environmental risks at the time of decommissioning. Decommissioning of the Project will follow all standards of the day. Any required permits will be obtained prior to the start of any decommissioning activities.

This Decommissioning Report will be updated as necessary in the future to ensure that changes in technology and site restoration methods are taken into consideration.

ALTA/NSPS LAND TITLE SURVEY

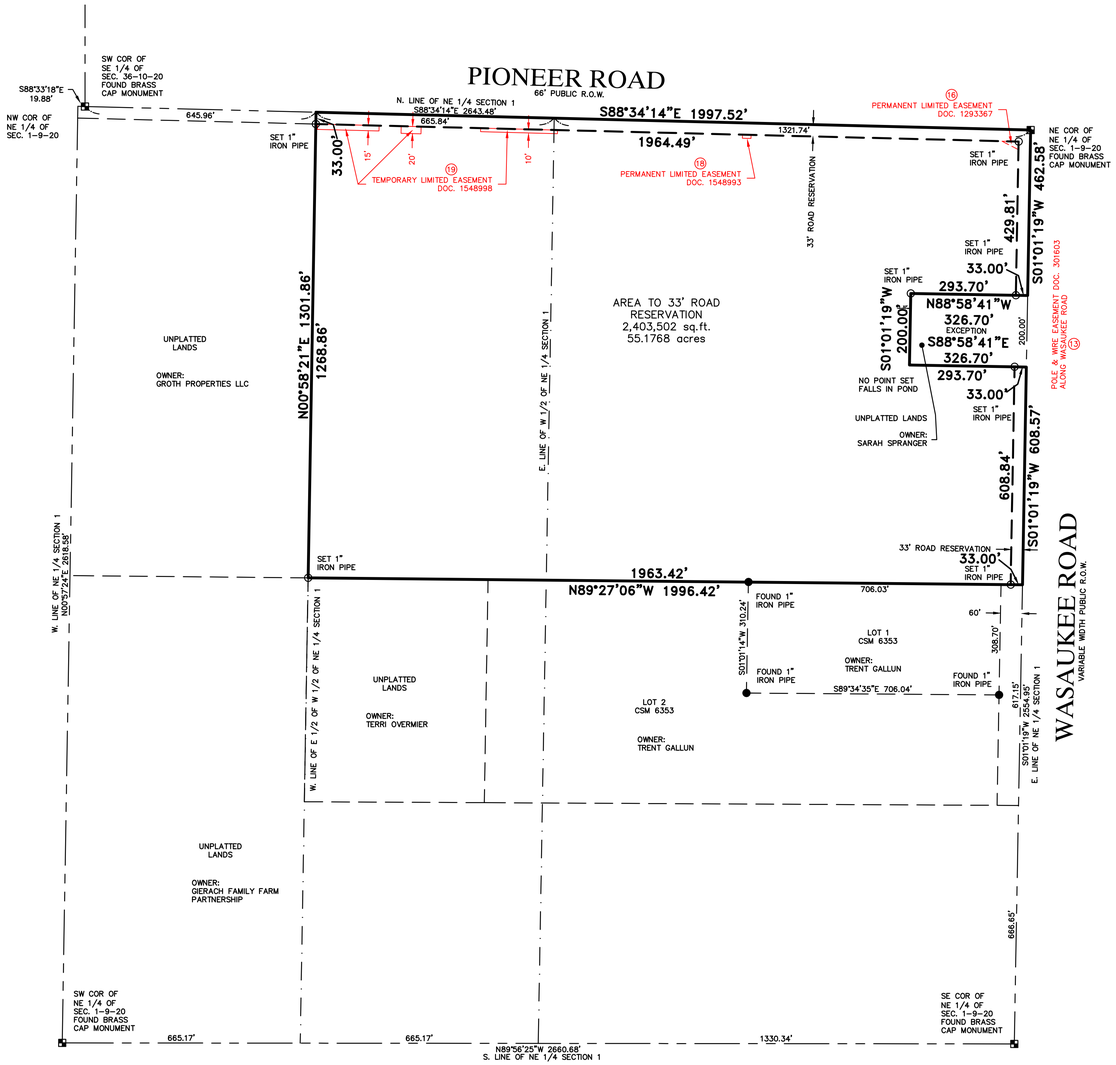
The East 60 acres of the North 1/2 of the Northeast 1/4 of Section 1, Township 9 North, Range 20 East, EXCEPTING THEREFROM the following described property: That part of the East 60 acres of the North 1/2 of the Northeast 1/4 of Section 1, in Township 9 North, of Range 20 East, in the Town of Germantown, Washington County, Wisconsin, bounded and described as follows: Commencing at a point in the East line of said quarter section 475 feet south of the northeast corner thereof; thence West on a line at right angles to the east line of said quarter section, 326.7 feet to a point; thence south on a line parallel to the east line of said quarter section, 200 feet to a point; thence east on a line at right angles to the east line of said quarter section 326.7 feet to a point in the east line of said quarter Section;; thence North along the east line of said quarter section, 200 feet to the place of beginning.

For informational purposes only:
Property Address: N144W12531 Pioneer Rd, Germantown, WI 53022 Tax Key Number: GTNV-011-991 and GTNV-011-992

Prepared for: Lime Kiln Solar WI, LLC.
Survey No. 169550-RMK



VICINITY MAP – NOT TO SCALE



GRAPHIC SCALE
100 0 100 200 400
(IN FEET)

LEGEND

- BOLLARD
- SOIL BORING/MONITORING WELL
- FLAGPOLE
- MAILBOX
- SIGN
- AIR CONDITIONER
- CONTROL BOX
- TRAFFIC SIGNAL
- CABLE PEDESTAL
- POWER POLE
- GUY POLE
- GUY WIRE
- LIGHT POLE
- SPOT/YARD/PEDESTAL LIGHT
- HANDICAPPED PARKING
- PULL BOX
- ELECTRIC MANHOLE
- ELECTRIC PEDESTAL
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- UTILITY VAULT
- GAS VALVE
- GAS METER
- GAS WARNING SIGN
- STORM MANHOLE
- ROUND INLET
- SQUARE INLET
- STORM SEWER END SECTION
- SANITARY MANHOLE
- SANITARY CLEANOUT OR SEPTIC VENT
- SANITARY INTERCEPTOR MANHOLE
- MISCELLANEOUS MANHOLE
- IRRIGATION CONTROL BOX
- WATER VALVE
- HYDRANT
- WATER SERVICE CURB STOP
- WATER MANHOLE
- WELL
- WATER SURFACE
- WETLANDS FLAG
- MARSH
- CONIFEROUS TREE
- DECIDUOUS TREE
- SHRUB
- ~~~~~~ –EDGE OF TREES
- ——S—— –SANITARY SEWER
- ——STO—— –STORM SEWER
- ——W—— –WATERMAIN
- ——G—— –MARKED GAS MAIN
- ——E—— –MARKED ELECTRIC
- ——OHW—— –OVERHEAD WIRES
- ——B—— –BUREAU ELEC. SERV.
- ——T—— –MARKED TELEPHONE
- ——TV—— –MARKED CABLE TV LINE
- ——FO—— –MARKED FIBER OPTIC
- ——(P)—— –UTILITY PER PLAN
- 780 INDICATES EXISTING CONTOUR ELEVATION
- × 780.55 INDICATES EXISTING SPOT ELEVATION

DIGGERS HOTLINE TICKET NO. 20244314326

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A. Basis of Bearings
Bearings are based on the East line of the Northeast 1/4 of Section 1-9-20, which bears South 01°01'19" West. Wisconsin County Coordinate System, Washington County.

B. Title Commitment
This survey was prepared based on Knight Barry Title Advantage LLC title commitment number 2298568, commitment date October 7, 2024, which lists the following easements and/or restrictions from schedule B-II:

14-15, 17. Not survey related.

12. Pole Line Rights and other matters contained in the instrument recorded October 6, 1927 as Document No. 139742. Lies within or crosses the surveyed property - it is a blanket easement - its location is not shown.

13. Easement to Wisconsin Electric Power Company and Wisconsin Telephone Company and other matters contained in the instrument recorded July 23, 1968 in Volume 452, Page 81 as Document No. 301603. Lies within or crosses the surveyed property - it is a blanket easement - its location is not shown.

16. Permanent Limited Easement and other matters contained in the instrument recorded December 19, 2011 as Document No. 1293367. Lies within or crosses the surveyed property - its location is shown.

18. Permanent Limited Easement and other matters contained in the instrument recorded November 15, 2021 as Document No. 1548993. Lies within or crosses the surveyed property - its location is shown.

19. Temporary Limited Easement and other matters contained in the instrument recorded November 15, 2021 as Document No. 1548998. Lies within or crosses the surveyed property - its location is shown.

C. Flood Note
According to flood insurance rate map of the Village of Germantown, community panel number 55131C0289E, effective date of 2/25/2022, this site falls in zone X (areas determined to be outside the 0.2% annual chance floodplain).

D. Elevations
Elevations refer to NAVD88 Datum.

E. Municipal Zoning
The zoning information listed is taken from the Village of Germantown website - site is zoned A-1 - Agricultural District.

Front setback - 60'
Side yard setback - 25 feet, minimum, except 50 feet for bee hives and buildings used for keeping livestock and poultry, and all new buildings constructed after the effective date of the zoning code.
Rear yard setback - 50'
Maximum height - 45 feet, except barns, elevators, grain dryers and silos.

F. Notes
As to table A item 11
Surveyor's responsibility to coordinate markings shall be limited to one marking request to 811 (national "call before you dig" number) based on the property address, as provided by the client.
Note to the client, insurer, and lender - With regard to Table A, item 11, information from the sources checked within will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response.
As of the field date indicated below in certificate (most recent site visit/inspection), it appears some underground utilities were not marked. This affected the surveyor's assessment of the location of the utilities resulting in partial illustration and/or mapping per plan. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

There is no visible evidence of recent earth moving work, building construction or building additions observed in the process of conducting the fieldwork.

There are no proposed changes in street right of way lines, if such information is made available to the surveyor by the controlling jurisdiction or observed in the process of conducting the fieldwork.

There is no visible evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.

To: Lime Kiln Solar WI, LLC; OneEnergy Development, LLC; Knight Barry Title Advantage LLC

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS and includes items 1, 2, 3, 4, 5, 6(a), 6(b), 7(a), 7(b)(2), 8, 11(a), 11(b), 13, 14, 16, 17, 18, 19 and 20 of Table A thereof. The fieldwork was completed on November 6, 2024.

Date of Plat or Map: November 13, 2024

I CERTIFY, that this survey was prepared under my supervision and is correct to the best of my professional knowledge and belief and complies with Chapter A-E 7 of the Wisconsin Administrative Code.

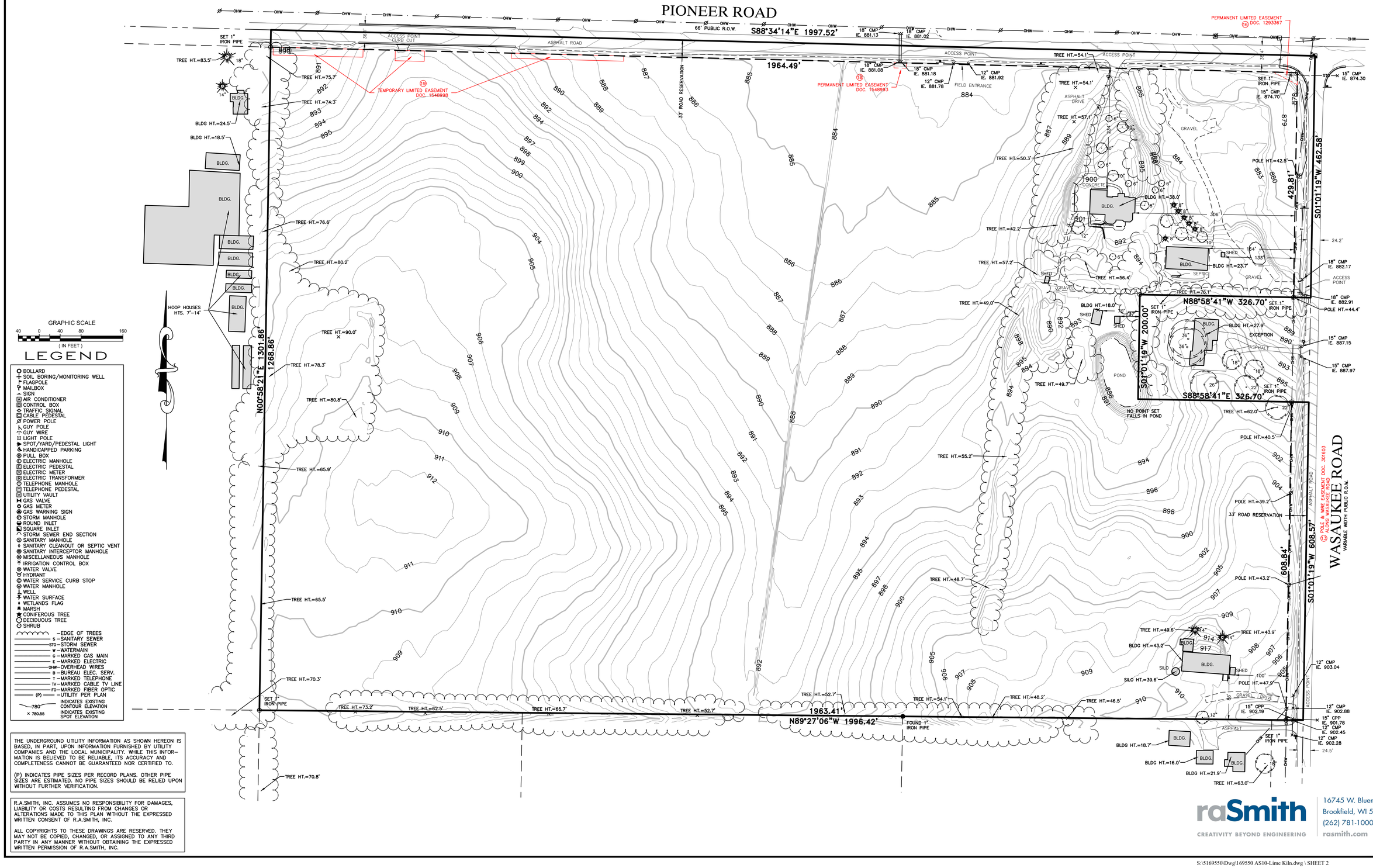
Michael J. Ratzburg
Professional Land Surveyor
Registration Number S-2236
michael.ratzburg@rasmith.com

WISCONSIN MICHAEL J. RATZBURG S-2236 WAUKESHA WI LAND SURVEYOR

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

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ALTA/NSPS LAND TITLE SURVEY



GRAPHIC SCALE
40 0 40 80 160
(IN FEET)

LEGEND

- BOLLARD
- SOIL BORING/MONITORING WELL
- FLAGPOLE
- MAILBOX
- SIGN
- AIR CONDITIONER
- CONTROL BOX
- TRAFFIC SIGNAL
- CABLE PEDESTAL
- POWER POLE
- GUY POLE
- GUY WIRE
- LIGHT POLE
- SPOT/YARD/PEDESTAL LIGHT
- HANDICAPPED PARKING
- PULL BOX
- ELECTRIC MANHOLE
- ELECTRIC PEDESTAL
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL
- UTILITY VAULT
- GAS VALVE
- GAS METER
- GAS WARNING SIGN
- STORM MANHOLE
- ROUND INLET
- SQUARE INLET
- STORM SEWER END SECTION
- SANITARY MANHOLE
- SANITARY CLEANOUT OR SEPTIC VENT
- SANITARY INTERCEPTOR MANHOLE
- MISCELLANEOUS MANHOLE
- IRRIGATION CONTROL BOX
- WATER VALVE
- HYDRANT
- WATER SERVICE CURB STOP
- WATER MANHOLE
- WELL
- WATER SURFACE
- WETLANDS FLAG
- MARSH
- CONIFEROUS TREE
- DECIDUOUS TREE
- SHRUB

- —EDGE OF TREES
- S —SANITARY SEWER
- STO—STORM SEWER
- W —WATERMAIN
- G —MARKED GAS MAIN
- E —MARKED ELECTRIC
- OHW—OVERHEAD WIRES
- B —BUREAU ELEC. SERV.
- T —MARKED TELEPHONE
- TV—MARKED CABLE TV LINE
- FO—MARKED FIBER OPTIC
- (P) —UTILITY PER PLAN
- 780 — INDICATES EXISTING CONTOUR ELEVATION
- × 780.55 — INDICATES EXISTING SPOT ELEVATION

THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.

(P) INDICATES PIPE SIZES PER RECORD PLANS. OTHER PIPE SIZES ARE ESTIMATED. NO PIPE SIZES SHOULD BE RELIED UPON WITHOUT FURTHER VERIFICATION.

R.A.SMITH, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THIS PLAN WITHOUT THE EXPRESSED WRITTEN CONSENT OF R.A.SMITH, INC.

ALL COPYRIGHTS TO THESE DRAWINGS ARE RESERVED. THEY MAY NOT BE COPIED, CHANGED, OR ASSIGNED TO ANY THIRD PARTY IN ANY MANNER WITHOUT OBTAINING THE EXPRESSED WRITTEN PERMISSION OF R.A.SMITH, INC.

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rasmith.com

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S:\5169550\Dwg\169550 AS10-Lime Kiln.dwg \ SHEET 2

CERTIFIED SURVEY MAP NO. _____

Part of the Northwest 1/4 and Northeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

ALL DIMENSIONS SHOWN ARE MEASURED TO THE NEAREST HUNDREDTH OF A FOOT.
ALL BEARINGS ARE REFERENCED TO THE E. LINE OF THE NE 1/4 OF SECTION 1, T9N, R20E, WHICH BEARS S01°18'22"E. WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83/2011).

Ⓓ INDICATES DEDICATED TO THE FOR PUBLIC ROAD PURPOSES.

● INDICATES FOUND 1" IRON PIPE

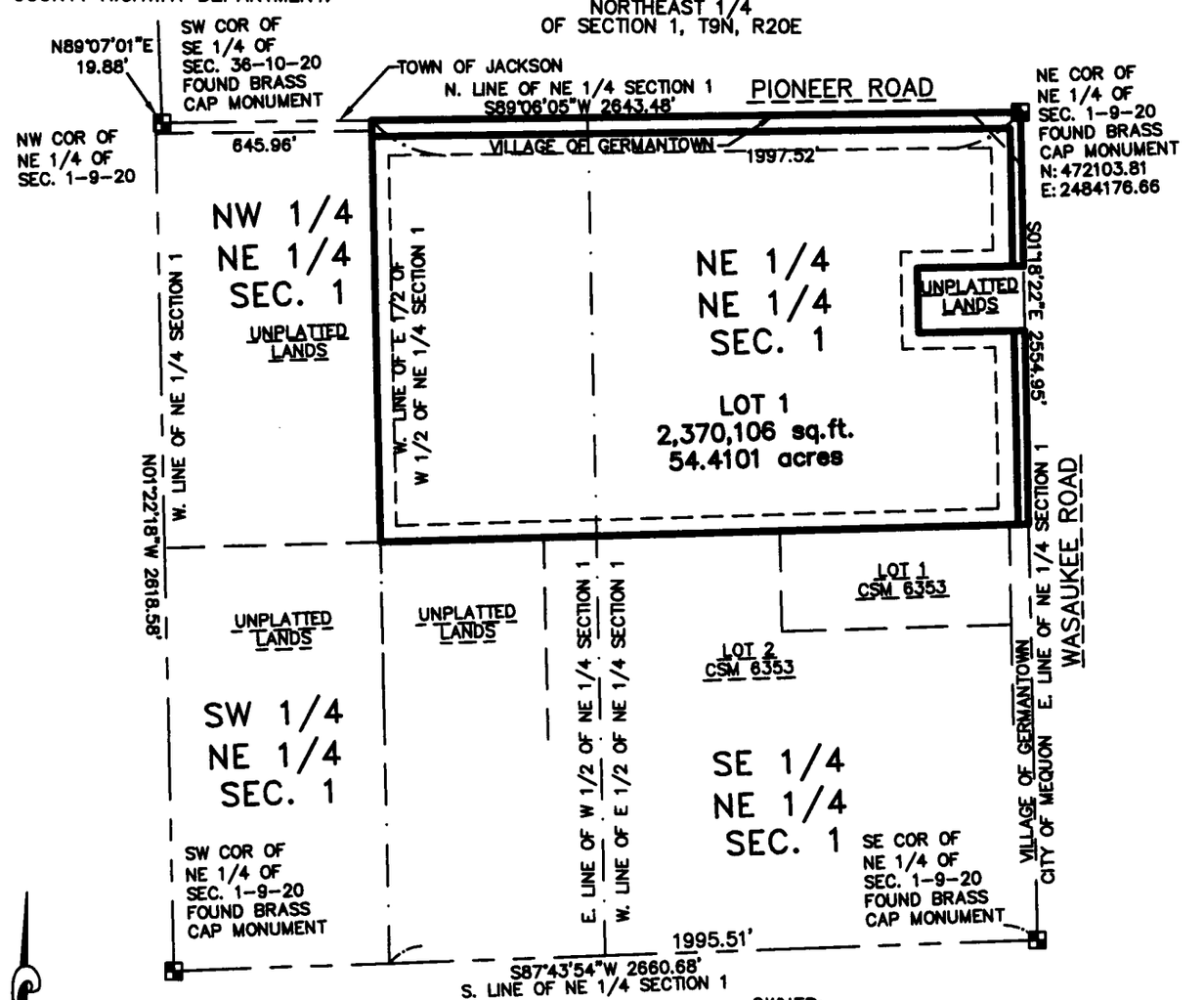
O INDICATES SET 1.315" O.D. IRON PIPE AT LEAST 18" IN LENGTH, 1.68 LBS. PER LINEAL FOOT.

NO NEW ACCESS POINTS OR NO SUBSTANTIAL CHANGE IN USE OF EXISTING ACCESS ON PIONEER RD. WITHOUT AN APPROVED ACCESS PERMIT FROM THE WASHINGTON COUNTY HIGHWAY DEPARTMENT.

Document # **1617683**
MAP # **7417**
VOLUME: **58** PAGE: **41**
WASHINGTON COUNTY WISCONSIN
2025-07-28 2:04:00 PM

LISA BUDISH
WASHINGTON COUNTY
REGISTER OF DEEDS
Fee: **$30.00**
Fee Exempt: **2R**
Pages: **7**

LOCATION MAP
NORTHEAST 1/4
OF SECTION 1, T9N, R20E



OWNER:
ROBERT B. OVERMIER & TERRI L. OVERMIER
N144W12531 PIONEER ROAD
GERMANTOWN, WI., 53022

GRAPHIC SCALE
0 250 500
1" = 200'

WISCONSIN
MICHAEL J. RATZBURG
S-2236
WAUKESHA
WI
LAND SURVEYOR

3/11/2025
REV. 5/7/2025
Rev. 6/17/2025

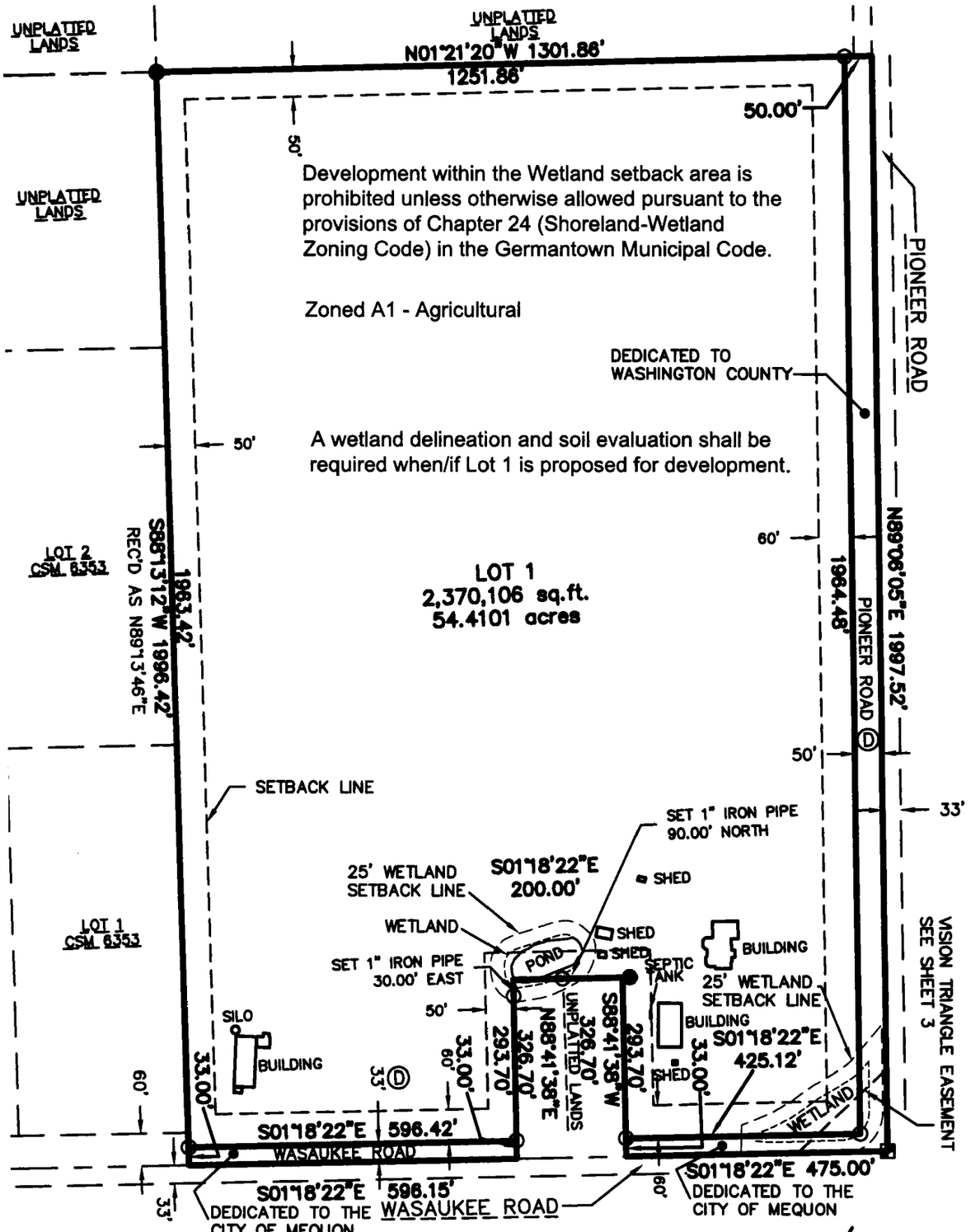
Prepared by:
raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

S:\5169550\Dwg\169550 CS10.dwg \ SHEET 1

Sheet 1 of 7 Sheets

CERTIFIED SURVEY MAP NO. _____

Part of the Northwest 1/4 and Northeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.



Area of road dedication:
133,581 square feet or 3.0666 acres

GRAPHIC SCALE
0 125 250
1" = 250'

3/11/2025
REV. 5/7/2025
REV. 6/17/2025

WISCONSIN
MICHAEL J. RATZBURG
S-2236
WAUKESHA
WI
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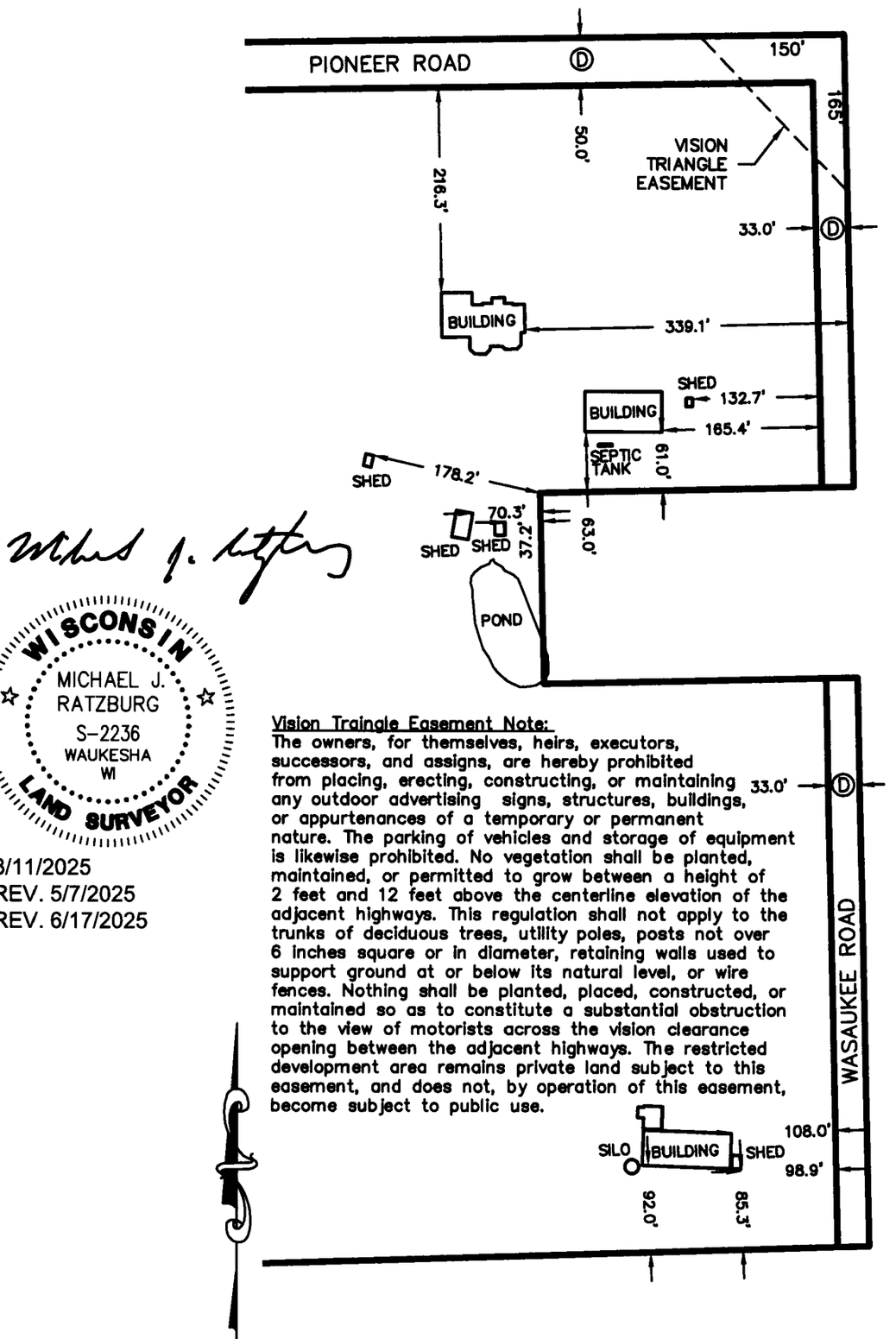
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S:\5169550\Dwg\169550 CS10.dwg \ SHEET 2

MAP #7417 VOLUME: 58 PAGE: 42

CERTIFIED SURVEY MAP NO. _____

Part of the Northwest 1/4 and Northeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.



Vision Traingle Easement Note:
The owners, for themselves, heirs, executors, successors, and assigns, are hereby prohibited from placing, erecting, constructing, or maintaining any outdoor advertising signs, structures, buildings, or appurtenances of a temporary or permanent nature. The parking of vehicles and storage of equipment is likewise prohibited. No vegetation shall be planted, maintained, or permitted to grow between a height of 2 feet and 12 feet above the centerline elevation of the adjacent highways. This regulation shall not apply to the trunks of deciduous trees, utility poles, posts not over 6 inches square or in diameter, retaining walls used to support ground at or below its natural level, or wire fences. Nothing shall be planted, placed, constructed, or maintained so as to constitute a substantial obstruction to the view of motorists across the vision clearance opening between the adjacent highways. The restricted development area remains private land subject to this easement, and does not, by operation of this easement, become subject to public use.

WISCONSIN
MICHAEL J. RATZBURG
S-2236
WAUKESHA
WI
LAND SURVEYOR

3/11/2025
REV. 5/7/2025
REV. 6/17/2025

GRAPHIC SCALE
0 75 150
(IN FEET)

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S:\5169550\Dwg\169550 CS10.dwg \ SHEET 3

Sheet 3 of 7 Sheets

MAP #7417 VOLUME: 58 PAGE: 43

CERTIFIED SURVEY MAP NO. _____

Part of the Northwest 1/4 and Northeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

SURVEYOR'S CERTIFICATE

STATE OF WISCONSIN }
:SS
WAUKESHA COUNTY }

I, MICHAEL J. RATZBURG, Professional Land Surveyor, do hereby certify:

THAT I have surveyed, divided and mapped a division of a part of the Northwest 1/4, Northeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin, which is bounded and described as follows:

Beginning at the Northeast corner of said Northeast 1/4 of said Section;
thence South 01° 18' 22" East along the East line of said 1/4 Section 475.00 feet to a point;
thence South 88° 41' 38" West 326.70 feet to a point;
thence South 01° 18' 22" East 200.00 feet to a point;
thence North 88° 41' 38" East 326.70 feet to a point in the East line of said 1/4 Section;
thence South 01° 18' 22" East along said East line 596.15 feet to a point;
thence South 88° 13' 12" West along the North line of Certified Survey Map No. 6353 and its extension a distance of 1996.42 feet to a point in the West line of the East 1/2 of the Northeast 1/4 of said 1/4 Section;
thence North 01° 21' 20" West along said West line 1301.86 feet to a point to a point in the North line of said 1/4 Section;
thence North 89° 06' 05" East along said North line 1997.52 feet to the point of beginning.

Said land contains 2,503,687 square feet or 57.4767 acres.

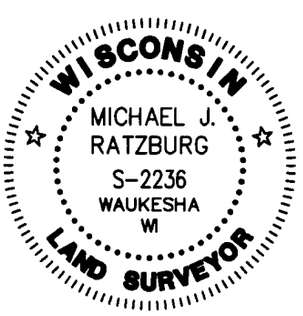
THAT I have made the survey, land division and map by the direction of ROBERT B. OVERMIER & TERRI L. OVERMIER, owners.

THAT the map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

THAT I have fully complied with provisions of Chapter 236.34 of the Wisconsin Statutes and Chapter 18 of the Village of Germantown Subdivision Control Ordinances in surveying, dividing and mapping the same.

3/11/2025
Field date

REV. 5/7/2025
REV. 6/17/2025



MICHAEL J. RATZBURG
PROFESSIONAL LAND SURVEYOR S-2236

raSmith
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Brookfield, WI 53005-5938
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CERTIFIED SURVEY MAP NO. _____

Part of the Northwest 1/4 and Northeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

OWNER CERTIFICATE

ROBERT B. OVERMIER & TERRI L. OVERMIER, as owners, certify that we have caused the land described on this map, to be surveyed, divided, mapped and dedicated as represented on this Certified Survey Map in accordance with the requirements of the Village of Germantown Municipal Code.

ROBERT B. OVERMIER & TERRI L. OVERMIER, do further certify that this map is required by S.236.10 or 236.12 to be submitted to the following for approval or objection: Village of Germantown

ROBERT B. OVERMIER & TERRI L. OVERMIER, as owners, we hereby dedicate that part of Pioneer Road and Wasaukee Road to the Village of Germantown for public road purposes as represented on Sheet 2 of 7 sheets of this Certified Survey Map.

IN Witness Whereof, ROBERT B. OVERMIER & TERRI L. OVERMIER, have caused these presents to be signed on this 30 day of June, 2025.

ROBERT B. OVERMIER

TERRI L. OVERMIER

STATE OF Wisconsin }
:SS
Washington COUNTY }

PERSONALLY came before me this 30th day of June, 2025,

ROBERT B. OVERMIER & TERRI L. OVERMIER, to me known as the persons who executed the foregoing instrument and acknowledged the same.

Haylee Christon
Haylee Christon
(print name)
Notary Public, State of Wisconsin
My commission expires 7/11/2028

HAYLEE CHRISTON NOTARY PUBLIC STATE OF WISCONSIN

(Notary Seal)

WISCONSIN MICHAEL J. RATZBURG S-2236 WAUKESHA WI LAND SURVEYOR

3/11/2025
REV. 5/7/2025
REV. 6/17/2025

CERTIFIED SURVEY MAP NO. _____

Part of the Northwest 1/4 and Northeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

CONSENT OF CORPORATE MORTGAGEE

_____, a national banking association, duly organized and existing under and by virtue of the laws of the State of _____, as mortgagee of the above described land, consents to the surveying, dividing, mapping and restricting of the land described on this map and in the surveyor's certificate, and to the certificate of the owner of said land.

Date: _____

Entity Name: _____

Signature: _____

Print Name: _____

Title: _____

STATE OF _____}
}SS
_____ COUNTY }

PERSONALLY came before me this_____day of_____, 20_____,

_____, the _____ of the above named organization, to me known to be the person who executed the foregoing instrument and acknowledged that he/she executed the foregoing instrument as such officer on behalf of the entity, by its authority.

(Notary Seal)

_____

_____
(print name)
Notary Public, State of Wisconsin

My commission expires_____

WISCONSIN
MICHAEL J. RATZBURG
S-2236
WAUKESHA
WI
LAND SURVEYOR

3/11/2025
REV. 5/7/2025
REV. 6/17/2025

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CERTIFIED SURVEY MAP NO. _____

Part of the Northwest 1/4 and Northeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

VILLAGE OF GERMANTOWN PLANNING COMMISSION APPROVAL

This Certified Survey Map is hereby APPROVED by the Planning Commission of the of the Village of Germantown on

this 12th day of MAY, 2025.

Date: 7/21/25 Robert A. Soderberg

Robert A. Soderberg, Chairman

Date: 6/30/25 Deborah J. Remich

Deborah J. Remich, Secretary

VILLAGE OF GERMANTOWN BOARD APPROVAL

This Certified Survey Map, being a division of a part of the Northwest 1/4, Northeast 1/4, Southwest 1/4 and Southeast 1/4 of the Northeast 1/4 of Section 1, in Township 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin, having been approved by the Planning Commission being the same, is hereby approved and the dedication of that part of Pioneer Road and Wasaukee Road for public road purposes as shown on this Certified Survey Map is hereby accepted by the Village Board of Trustees of the Village of Germantown

on this 2nd day of JUNE, 2025.

Date: 7/7/25 Robert A. Soderberg

Robert A. Soderberg, Village President

Date: 7/7/25 Donna Ott

Donna Ott, Village Clerk

WISCONSIN
MICHAEL J. RATZBURG
S-2236
WAUKESHA
WI
LAND SURVEYOR

Michael J. Ratzburg

3/11/2025
REV. 5/7/2025
REV. 6/17/2025

THIS INSTRUMENT DRAFTED BY MICHAEL J. RATZBURG, S-2236
S:\5169550\Dwg\169550 CS10.dwg \ SHEET 7

Sheet 7 of 7 Sheets

MAP #7417 VOLUME: 58 PAGE: 47

Engineering Department Memorandum

To: **Jeff W. Retzlaff, AICP, Community Development Director**

From: **Kevin R. Driscoll, PE, Village Engineer**

Date: **10/7/2025**

Re: **Site Plan Review – Solar GTNV_011987, N144 W12531 Pioneer Road**

Items Reviewed:

1. Site Plan Review Application Dated: 8/7/2025

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines identified in the Village Code of Ordinances, Section 17.43. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project is anticipated to require a WRAPP/NOI from the DNR. Please contact WDNR and submit a copy of an approved WDNR permit prior to construction.
4. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
5. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
6. Permits for work within the ROW are required. Contact the Village Engineering Department to obtain a driveway permit and permit for excavation in the right of way.
7. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

Storm Water Management

1. Sheet D-100 – Identify area of disturbance. Identify area of new impervious surface.
2. Identify wetlands on parcel. Identify distance from wetlands to proposed area of disturbance.
3. Provide erosion control plan including area near drainage swale. Identify proposed setbacks from centerline and channel embankments, per Erosion Control requirements listed in the Development Handbook Section 1.4.

Road Plan

1. Complete a driveway permit and permit for excavation in the right of way. Include depth of proposed point of interconnection.
3. Label Street names.
4. Add site address and/or parcel ID to drawing, Sheet D-100.

5. Sheet D-100 shows 33-ft public right of way and 60-ft front yard set back. Update to current County ROW (100-ft) and establish setback behind ROW, not from roadway centerline.

September 8, 2025

DEAR [NEIGHBOR NAME],

We are writing to introduce ourselves and our company, OneEnergy Renewables. OneEnergy develops, constructs, and operates solar projects. We are proposing to construct a ground-mounted solar project called Lime Kiln Solar in the Village of Germantown, WI located southwest of the corner of Pioneer Road and Wasaukee Road.

Lime Kiln Solar Project Details:

Size	6 Megawatts
Location	Village of Germantown Southwest of the intersection of Pioneer Road and Wasaukee Road
Acreage	~ 35 acres of ~ 57 acre parcel
Number of homes the project can provide power for	Approximately 1,400 average WI homes (around 17% of the electricity needs of the Village of Germantown's 8,280 households)

The project would interconnect to the existing electric distribution lines along Pioneer Road and serve local We Energies customers. Our projects are planted with a perennial pollinator mix, which improves water infiltration and soil health, as the deep-rooted native prairie plants get established and rebuild the soil over the life of the project. Pictured on the next page is an overview of the proposed site layout. More information about the Lime Kiln solar project is available at limekilnsolar.com

There are two upcoming meetings regarding the proposed solar project that we invite you to attend to learn more:

- Open House: **Monday, September 29th from 4:00 p.m. – 6:00 p.m. at Germantown Community Library – N112W16957 Mequon Rd, Germantown, WI 53022**
- Village of Germantown Plan Commission Meeting: **Monday, October 13th at 6:30 p.m. at Germantown Village Hall – N112 W17001 Mequon Rd, Germantown, WI 53022**

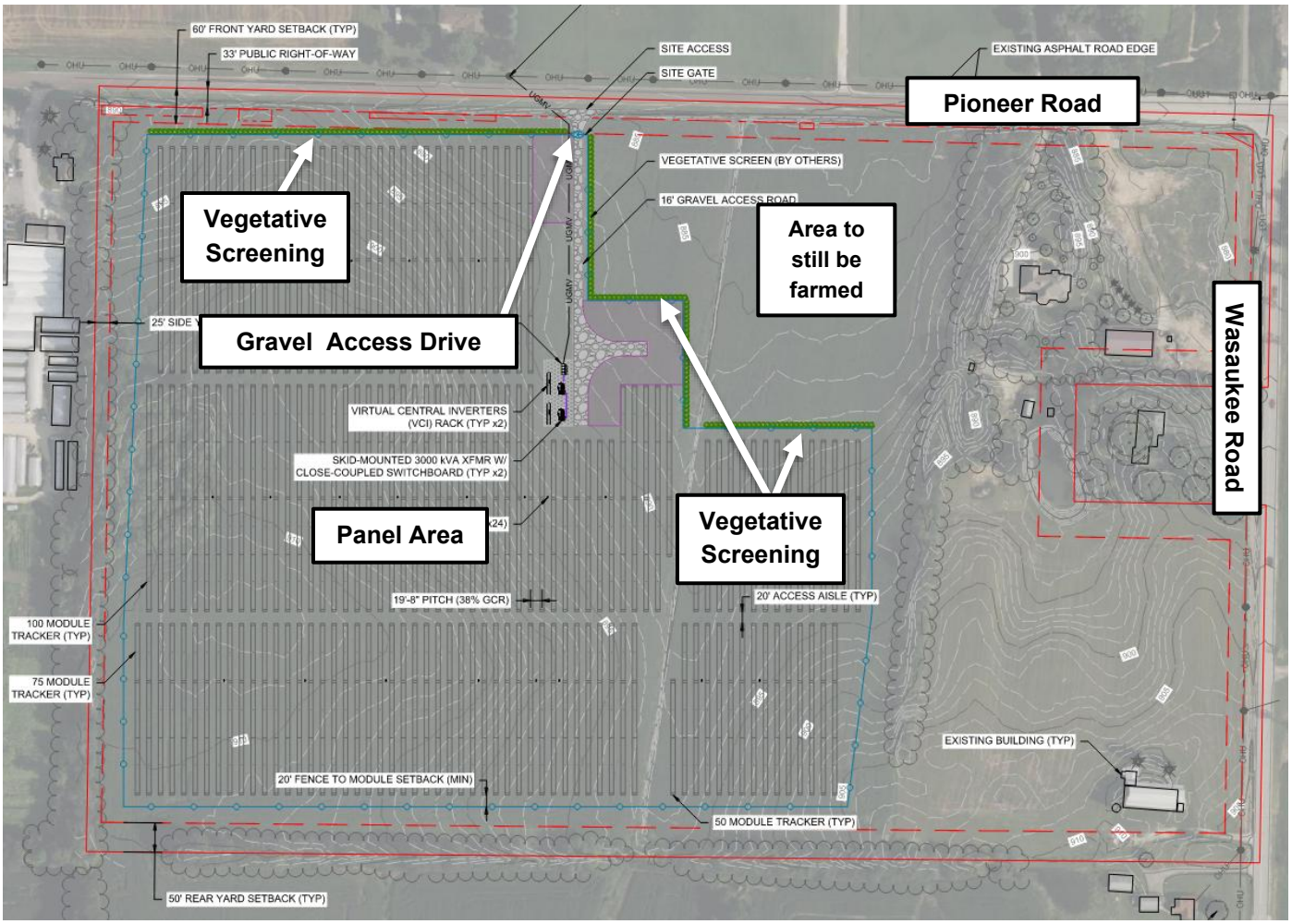
In addition, we are available to discuss the proposed project and respond to any questions you may have. We work out of our Madison office and would be happy to schedule a time to meet with you in person at a convenient location or over the phone. Please reach out via our contact information below.

Sincerely,

Peter Murphy
Project Manager
OneEnergy Renewables
(262) 395-7172
peter@oneenergyrenewables.com

Seamus Fitzgerald
Project Manager
OneEnergy Renewables
(414) 403-3930
seamus@oneenergyrenewables.com

Proposed Site Layout





Native prairie in bloom at another of our projects



Example Perimeter Fence – 8' tall deer-exclusion style

OneEnergy
RENEWABLES


LIME KILN SOLAR
OneEnergy

PNAS RESEARCH ARTICLE | ECONOMIC SCIENCES

Impact of large-scale solar on property values in the United States: Diverse effects and causal mechanisms

Chenyang Hu[a], Zhenshan Chen[a,1], Pengfei Liu[b], Wei Zhang[a], Xi He[a], and Darrell Bosch[a]

Affiliations are included on p. 9.

Edited by Catherine Kling, Cornell University, Ithaca, NY; received September 10, 2024; accepted April 24, 2025

As the renewable energy transition continues into less receptive communities, local opposition is expected to intensify, potentially slowing the process. Since the local impacts are neither well quantified nor widely recognized, we lack policies and common practices to mitigate the potential associated welfare loss in affected communities. Based on a nationwide dataset combining property transactions and large-scale solar photovoltaic (LSSPV) sites, we analyze the heterogeneous effects of LSSPV on property prices and the associated causal pathways. Difference-in-differences estimates show that LSSPV significantly increases agricultural or vacant land value by about 19.4% within a 2-mile radius, while simultaneously reducing residential property values within 3 miles by about 4.8%. The estimated average negative impact on home values is primarily driven by site proximity and diminishes with both distance and time. Effect estimates are more robust to alternative specifications when proximity pairs with visibility rather than invisibility, but no evidence suggests visibility significantly amplifies the proximity effect. Heterogeneous effect estimates indicate that high solar lease potential, being in heavily Democratic-leaning counties, and brownfield redevelopment largely mitigate the negative residential value impact. The analysis reveals no significant heterogeneity across a few factors, including varying site visibility, directional orientation of properties relative to the LSSPV site, and different tracking systems. Evidence indicates that the negative impact on residential values might mainly stem from negative perceptions, but channels through physical conditions cannot be entirely dismissed. Our assessment provides benchmark information for local externality mitigation plans, potentially reducing community opposition and expediting the renewable energy transition.

solar energy | economic valuation | econometric analysis | renewable energy transition

Significance

Large-scale solar projects are crucial for decarbonizing the US economy, but growing local resistance may impede the renewable energy transition. We estimate the impact of large-scale solar on property prices and the underlying pathways using 8.8 million sales and 3,699 solar sites in the United States. Exposure to solar sites decreases nearby residential home values but increases land values. For large-lot homes, the increase in land value largely mitigates the negative residential impact. Varying county political leaning and land use histories result in significantly different residential value impacts. Empirical evidence indicates that the current negative residential impact might represent a stigma effect attached to solar sites. Our findings provide important insights for addressing local resistance against large-scale solar projects.

As the cost of solar energy continues to decline (1), solar is likely to remain the leading source of renewable energy in the United States (2). Although the climate benefits of large-scale solar photovoltaic (LSSPV) are widely recognized, the siting of LSSPV projects has encountered increasing local resistance (3–5). As the renewable energy transition deepens into less receptive communities, local opposition is expected to intensify and slow down the transition process. Anecdotal and qualitative evidence suggests that the local concerns are primarily driven by negative aesthetic impacts, decreased property values, environmental injustice, and adverse impacts on local agriculture (3, 6, 7). However, these negative impacts are not well quantified, and we lack policies or common practices to mitigate the potential welfare loss in affected communities.

LSSPV facilities can significantly alter local amenities in residential areas. Recent studies suggest that proximity to a solar site may reduce home values (8, 9) due to diminished amenities such as adverse visual impact (10). The geometric and highly reflective surfaces of LSSPV facilities can be seen as unattractive and disruptive, particularly in natural or agrarian settings (11). There are other potential disamenities associated with LSSPV that may not be revealed immediately after site installation, including disrupted ecosystems and wildlife habitats (12, 13), increased soil erosion and water runoff, and degraded air quality (14). Moreover, negative perceptions of disamenities could lead to property value losses that are unrelated to actual levels of physical disamenities, a phenomenon known as the stigma effect in the housing market (15, 16).

Solar development can affect land prices considerably. An LSSPV facility typically requires between 5 and 10 acres per MWac of generating capacity. Agricultural land has been the most common land type for LSSPV development, due to its suitability, such as being flat, dry, cleared of natural vegetation, and close to electric infrastructure (17, 18). A recent projection from the American Farmland Trust shows that solar projects could occupy over 7 million acres by 2040, with 83% of new installations on farmlands and ranchlands, half of which are on highly productive land (19). If we consider the potential future surge in

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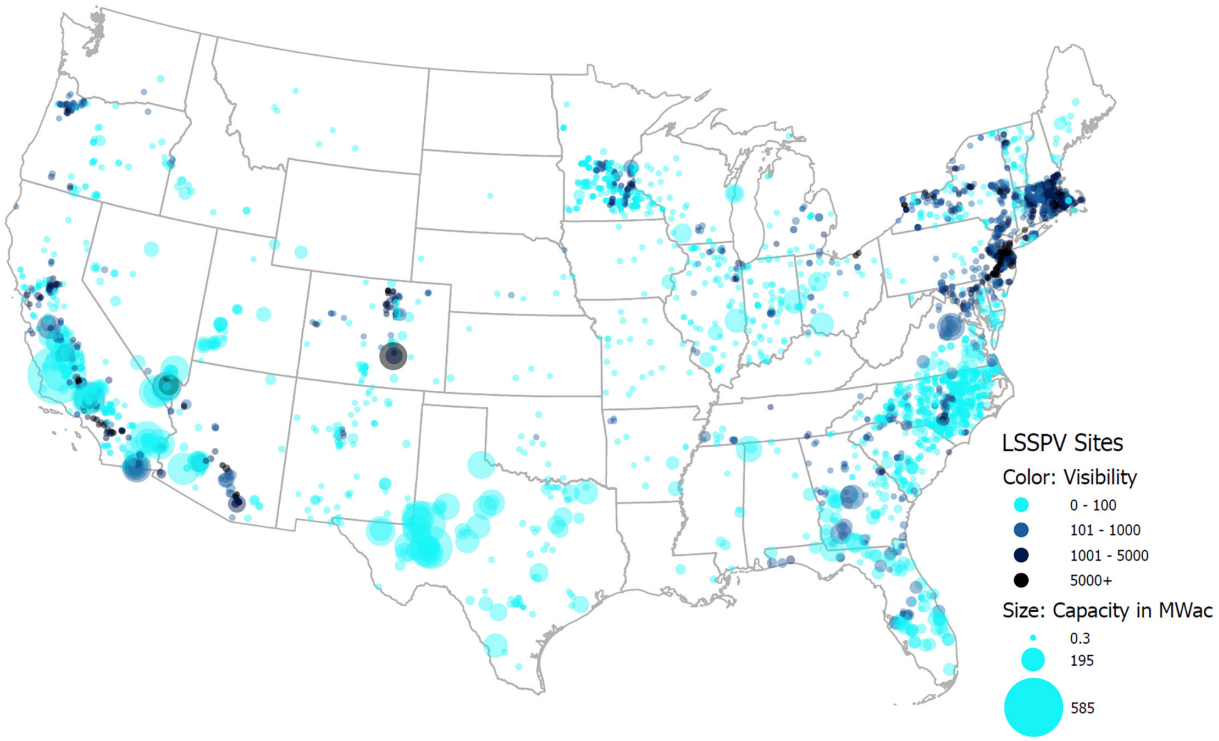


Fig. 1. Map of LSSPV locations, capacity, and visibility. The size of circles indicates the capacity of each LSSPV site. The colors represent the visibility of each site. Visibility is measured in the number of local (<6 miles) residential homes with a view of that LSSPV site.

energy demand, e.g., electrifying the transportation sector and establishing AI data centers, the required farmland for solar energy production could be much higher than the projected 5.8 million acres. In the long run, the land use competition between solar development and agricultural production is likely to increase the scarcity of farmlands, especially at the urban fringe. In the short run, leasing the land for solar energy production provides higher financial returns than traditional agricultural operations, which may drive up farmland prices and elevate farming costs.

Existing studies provide suggestive evidence that visual impacts and loss of property values are the two leading concerns for local oppositions (3, 10).* These local impacts of LSSPV represent classically defined externalities, as no widely established mechanism exists for solar site owners to compensate neighboring communities for potential negative effects. Quantifying these externalities is important to establishing solar siting procedures that adequately compensate the community and allow socially optimal allocations of resources. More importantly, as solar sites are initially developed in receptive communities, siting efforts are expected to become more challenging when the renewable energy transition continues. Studies have suggested that a major proportion of proposed LSSPV projects were denied or withdrawn due to local resistance (5, 10).† Clarifying and addressing the externalities of LSSPV development will help alleviate local opposition to solar development and accelerate the energy transition.

Utilizing property-level transaction data and detailed LSSPV site information, we present a comprehensive nationwide analysis to estimate and quantify the externalities of LSSPV facilities facing nonresidential and residential properties. We employ a Difference-in-Differences (DID) identification framework to investigate the effects of solar projects on nearby property values. Previous studies have employed similar methods to investigate the property value effects of solar site exposure in a few selected states (8, 9, 20). While viewshed analyses and visual impact investigations are prevalent for wind site studies (e.g., refs. 21–25), previous solar studies have not measured site visibility or quantified the associated visual impact, despite some indicating its relevance (e.g., ref. 26). In contrast to previous solar studies focusing on site proximity, we additionally assess the impact of site visibility and its interaction with proximity. Specifically, we create a geospatial database showing the visibility from every residential home to nearby LSSPV facility in the contiguous United States (Fig. 1, see *Data and Methods* for details). With the average effects showing the general size of welfare changes in the neighborhood, we further differentiate the impact mechanisms and provide information for a compensation plan for the local externalities generated by LSSPV sites.

Our analysis demonstrates that LSSPV sites affect local residential property values and land values differently. We separately analyze transactions on three types of properties. The first type is residential properties (hereafter "residential homes" or "residential") with a lot size under five acres (i.e., the typical minimum acreage requirement for a solar lease), where LSSPV effects primarily stem from impacts related to residential amenities. The second type involves agricultural or vacant land above five acres (hereafter "agricultural land" or "ag-land"), where LSSPV effects mainly result from potential solar lease-induced land use value changes. The third

*Crawford et al. (3), based on 33 interviews with residents, found that the top three of residents' most common concerns of large-scale solar are "negative aesthetic impact", "decreased property values", and "misuse of agricultural land". Moreover, a survey conducted in 2023 by Nilson et al. (10) shows that 123 developers report visual concerns to be the most common concern for utility-scale solar, followed by property value loss and agricultural land loss.

†An earlier study from Mulvaney (5) showed that nearly half of the LSSPV projects proposed from 2005 to 2016 in the Southwest US were denied or withdrawn, largely due to local resistance. A survey conducted in 2023 by Nilson et al. (10) suggests that among solar industry respondents across the US, 95% agree that community opposition will get in the way of decarbonization goals. The same survey shows that about 40% of planned solar projects were canceled while the remaining 60% were delayed by at least 6 months in the last 5 y, and local ordinances and community opposition are among the leading causes of cancellation.

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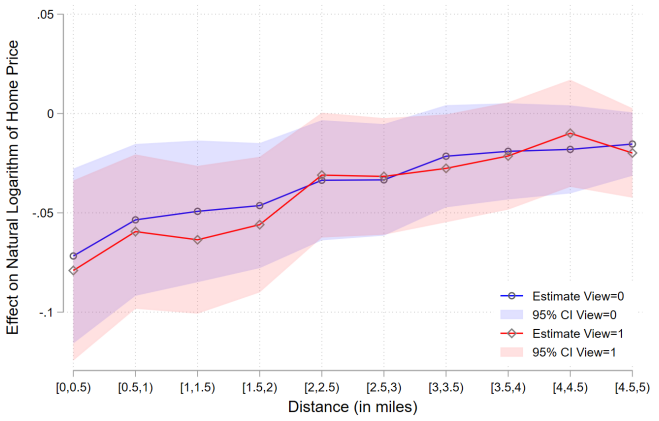


Fig. 2. Effects of proximity and view on residential home value. The blue line connects the coefficient estimates of proximity bins without view, obtained by interacting the proximity bins, the binary posttreatment indicator, and the no-visibility indicator (i.e., equals 1 if no site view). The red line connects coefficient estimates of proximity bins with view, obtained by interacting the proximity bins, the binary posttreatment indicator, and the visibility indicator (i.e., equals 1 if with site view). The number of observations (N) in this analysis is 8,303,074, excluding singleton observations on the census-tract by year level. The 95% CIs are constructed with two-way clustered SEs at the census tract and year level. The control group is properties in the 5-to-6-mile proximity bin.

type includes properties over five acres with residential structures (hereafter "large-lot homes"), where LSSPV effects may include both residential amenity and land use value impacts. Within the analysis of each property type, we further investigate the impact heterogeneity across a range of dimensions, including rural–urban status, census region, lot size, county political leaning, median household income, solar site scale, site historical land use, state siting regulation, among others. To make sure our estimates are not specific to the five-acre segregation criterion, we conducted robustness checks in *SI Appendix*.[‡]

1. Results

1.1. LSSPV Impact on Residential Home Value. We first present the results for residential properties under five acres, which include approximately 8.3 million property transactions within a 6-mile radius of LSSPV sites from 15 y before the installation of each site through 2020. Further analytical details are provided in *Data and Methods*.

1.1.1. Residential proximity and visibility. We first use distance decay specifications within the DID framework (see Section 3.5 for model details) to decide the proper treatment variable, assuming solar site exposure is determined by proximity and visibility. The view-specific distance decay results (Fig. 2) show that proximity is the major driver of the negative residential value impact. We find that, without LSSPV view, LSSPV proximity reduces residential sales price by up to 7.2% within a 0.5-mile radius, and the bin-specific estimates gradually decrease with distance and remain statistically significant up to 3 miles from the LSSPV site. Having LSSPV in the viewshed of a home incurs slightly more negative effects (i.e., up to 7.9% within 0.5 miles) compared to the pure proximity effects,[§] and the bin-specific effects also diminish with distance. Beyond 3 miles, both the proximity effect and the visibility effect become indistinguishable from zero, suggesting that visibility does not independently generate negative impacts in the absence of proximity.

1.1.2. Residential treatment—site within 3 miles. As shown in Table 1 column (1), when examining the average treatment effect of proximity within 3 miles (regardless of visibility), the estimate is 4.8% and statistically significant at the 5% level. We further investigate the interaction between proximity and visibility in column (2). When the solar site is visible and within 3 miles, property values, on average, decrease by about 5.2%. The corresponding effect of an invisible site is estimated at 4.6%. While both estimates are statistically significant at the 5% level, a statistical test shows that the difference between them is not significant at all (test P-value = 0.746), indicating that site visibility may not impose a significant additional average effect beyond proximity and supporting the validity of proximity-based specifications in prior studies (e.g., refs. 8 and 9). We also checked an alternative specification that excludes no-view properties within the 3-mile radius in column (3) of Table 1, which provides a similar interaction effect of visibility and proximity. These average effect analyses, combined with the distance decay results, suggest that site proximity alone largely drives the residential home effect. Consequently, site proximity within a 3-mile radius [as presented in Table 1 column (1)] serves as the principal treatment variable, representing LSSPV exposure, in subsequent event study and heterogeneity analyses. Examining the sensitivity of estimates to alternative control group specifications in *SI Appendix*, Table S6, we find that the interaction effect of visibility and proximity remains robust across the board, while the pure proximity effect becomes insignificant in some of the alternative

Table 1. DID Estimates for Residential Homes

	(1)	(2)	(3)
	ProxT	ProxT × ViewT	ProxT × ViewT
ProxT	−0.076**		
	(0.022)		
β_3: ProxT × Post	−0.048*		
	(0.020)		
ProxT × 0.ViewT		−0.078**	
		(0.022)	
ProxT × 1.ViewT		−0.070**	−0.044
		(0.023)	(0.029)
$\beta_3^{no_view}$: ProxT × 0.ViewT × Post		−0.046*(0.020)	
β_3^{view}: ProxT × 1.ViewT × Post		−0.052*	−0.046+
		(0.020)	(0.023)
N	4975808	4975808	2444983
Covariates	Yes	Yes	Yes
Census Tract × Year	Yes	Yes	Yes
Test (H_0: $\beta_3^{no_view} = \beta_3^{view}$): z-Statistic = 0.324 P-value = 0.746			

Note: In Column (1), ProxT, standing for site proximity below 3 miles, is used as the treatment. In Column (2), proximity without view (ProxT×0.ViewT) and proximity with view (ProxT×1.ViewT) are used as treatment. In Column (3), properties that satisfy ProxT = 1 and ViewT = 0 are excluded. β_3 s represent the treatment effects specified in Section 3.5.1. SE, two-way clustered at census tract and year level, are reported in parentheses: $^{+}P < 0.1$, $^{*}P < 0.05$, $^{**}P < 0.01$, $^{***}P < 0.001$. Census tract by year fixed effects and property-level covariates are included in all specifications but not displayed. The control group is properties in the 5-to-6-mile proximity bins of the LSSPV sites, and properties located within 3 to 5 miles from the LSSPV sites are excluded. The number of observations, N, is calculated excluding singleton observations on the census-tract by year level. The coefficient for Post is omitted due to collinearity with fixed effects.

[‡]The results are presented in *SI Appendix*, Table S8, which suggest that the main estimates are robust to alternative acreage thresholds for segregating the small-lot properties and large-lot properties (e.g., 5 miles to 0.3 miles for small-lot properties and 5 miles to 9 miles for large-lot properties). Therefore, the main conclusions of this study are not sensitive to changes in the five-acre threshold.

[§]As pointed out in the *Data and Methods* section below, our visibility measure potentially overrepresents the true visibility especially when the viewpoint and the target are close, limited by structural elevation data availability (36). This measurement bias introduces attenuation in the treatment variable, potentially leading to an underestimation of the visibility impact (and hence the difference between visibility and proximity impact in Fig. 2).

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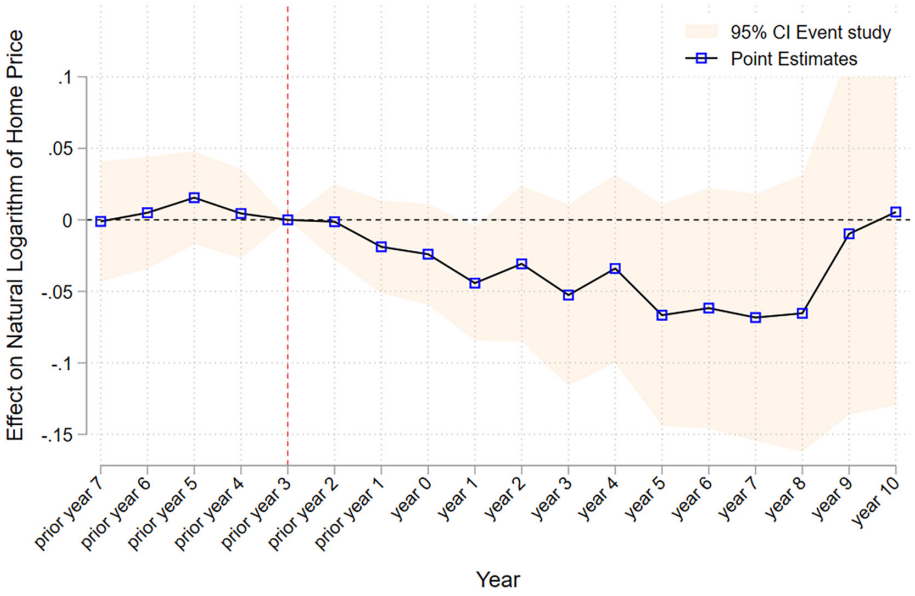


Fig. 3. Event study on residential home value. The treatment (LSSPV site within 3 miles) effect on residential home values is illustrated across different years relative to the year of LSSPV installation. The blue squares on the black line indicate the coefficient estimates, obtained by interacting the treatment variable with year indicators. The reference year is defined as 3 y before the LSSPV installation, and the control group is properties in the 5-to-6-mile proximity bin. The shaded areas represent the 95% CIs, constructed using two-way clustered SEs at the census tract and year level.

specifications. This implies that site visibility appears to reinforce the proximity effect in the sense that it improves the robustness of the home value effect estimate across various alternative control group specifications. To provide a comprehensive view of the proximity effect, we present both the specifications from column (1) and column (2) in the pretrend tests and robustness checks in the *SI Appendix*. Pretrend tests with placebo treatments in *SI Appendix*, Table S5 show that the parallel trend assumptions are satisfied for all specifications in Table 1. More robustness checks in *SI Appendix*, Tables S8 and *S9* confirm that all estimates in Table 1 remain consistent when applying alternative sample selection criteria based on acreage and the number of observations per tract-year cluster.

1.1.3. Residential event-study results. We explore the timing of the LSSPV exposure effect (i.e., site visible within 3 miles) based on an event study where the base year is specified as 3 y prior to the LSSPV installation[¶] (Fig. 3). The average negative price impact on residential homes is minor after the base year but becomes pronounced following the installation. The effect generally maintains its magnitude over time and fades after the ninth year postinstallation. There are potential explanations for the observed effect dynamics. Right after the base year, the gradual dissemination of the LSSPV site information may not have reached many home buyers or led them to fully realize the potential negative price impact of the site, but the installation event makes the impacts clear and manifested in the market. The diminishing effect after 9 y might come from the shrinking sample size as most of the LSSPV sites were developed after 2010. However, if the diminished effect is true, it does not necessarily imply that the negative amenity impacts disappear after 9 y since many of the negative impacts, such as soil erosion and dust pollution, may take a long time to manifest (14, 27, 28). A more plausible explanation of the faded price impact may be linked to residential sorting and demographic shifts (29–31), as individuals less concerned about LSSPV facilities move into the affected neighborhoods. This indirectly suggests that the negative price impact might be more closely related to psychological factors than to the amenities themselves, which will be explored further in subsequent analyses and discussions.

1.1.4. Residential Effect Heterogeneity. We explore the heterogeneity of LSSPV exposure effect on residential homes across various dimensions, as shown in *SI Appendix* and Fig. 4.[#] We observe noticeable heterogeneity across census regions, county political leaning, county median household income, and historical land use of the LSSPV sites. Statistical tests results are available in *SI Appendix*, Table S10. LSSPV sites in the Northeast region impose significantly more negative impacts than those in other regions. Heavily Democratic-leaning counties (over 65% Democratic votes in 2016) experience a positive LSSPV effect (+0.0374, insignificant), which is significantly different from more politically conservative counties (−0.0538, significant at the 5% level). Greenfield LSSPV development leads to a negative effect (−0.0466, significant at the 10% level), while brownfield redevelopments lead to a positive residential value effect (+0.225, significant at the 10% level), significantly different from the effect of Greenfield LSSPV.[‖] Observed differences along other dimensions are not statistically significant. Moreover, we observe almost zero heterogeneity across different rural status, different lot sizes, different site capacities, and different levels of site visibility. A higher level of visual exposure ("High View" in Fig. 4) or directly facing the solar panels (i.e., in the south of the solar panels,

[¶]This approximately represents the time when some residents may become aware of the upcoming LSSPV site through permitting, contracting, community engagement, or other site preparation activities.

[#]We also investigate the heterogeneous pure proximity and visible proximity effects in *SI Appendix* Fig. S7. The results show that both effects have very similar heterogeneities as the main results in Fig. 4: the negative property value impact is significantly higher in more politically conservative counties, and brownfield sites may have a positive property value impact.

[‖]Brownfields include sites such as hazardous waste facilities, abandoned contaminated areas, and inactive mines (53). Solar projects on brownfields often require site cleanup, which can reduce negative externalities and undesirability of these sites and positively affect property values. This aligns with Gaur et al. (54), who found that residents are willing to pay more for solar projects on brownfields, as these sites are otherwise undesirable. Meanwhile, respondents in Gaur et al. request compensation for solar project developed on greenfields, suggesting that they perceive brownfields as the more appropriate land type for LSSPV development than greenfields.

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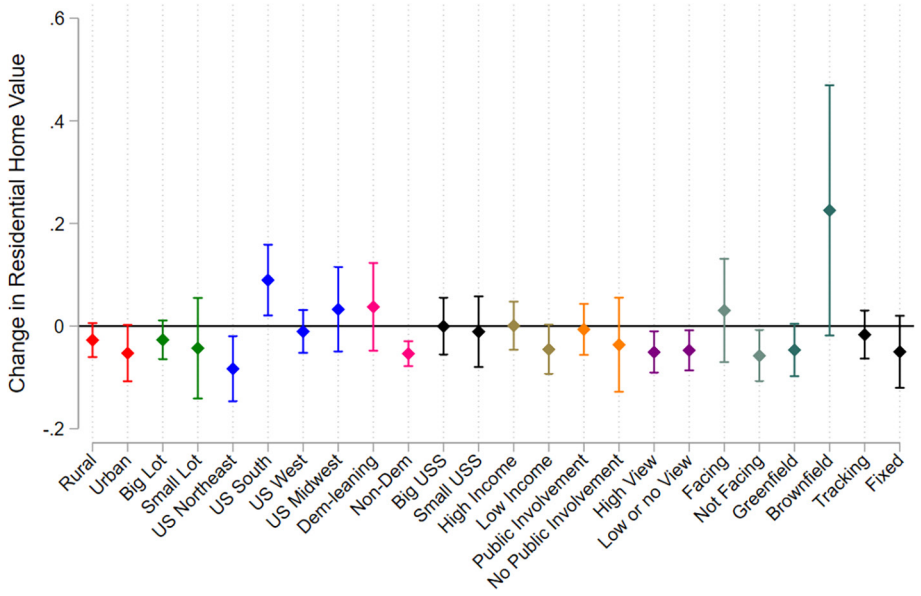


Fig. 4. Heterogeneous effects of LSSPV exposure by different dimensions. Diamonds are the point estimate of the effect of LSSPV on nearby residential home values based on DID models. The treatment is LSSPV within 3 miles, and the control group is properties in the 5-to-6-mile proximity bin of the LSSPV site. The 95% CIs of the estimates are shown as bars, having clustered SEs at the census tract and year level. Check *SI Appendix* for the details of all factors investigated here. More heterogeneity checks differentiating visible and invisible sites are available in *SI Appendix,* Fig. S7.

"Facing" in Fig. 4) does not lead to a more negative residential value effect, providing further evidence that more view exposure may not lead to significantly more negative impacts. While we lack direct data on glint and glare effects, indirect evidence suggests they may not be a primary mechanism, as we find no evidence to support that being exposed to a site with tracking systems (i.e., potentially more susceptible to glare impacts, "Tracking" in Fig. 4) or facing the solar panels lead to more negative impacts. Instead of visual levels or details, impacts appear to stem from psychological factors, such as negative perceptions of industrialization and altered scenic views. These negative perceptions are expected to be amplified by conservative ideology or mitigated by progressive ideology, aligning with the empirical finding that more politically conservative counties are associated with more negative impacts.



Fig. 5. Distance decay results for agricultural/vacant land and large-lot homes. The top subfigure shows estimates for agricultural and vacant land above five acres. The bottom subfigure shows estimates for large-lot homes, defined as properties over five acres with residential structures. The results show the value effects of LSSPV for a range of proximity bins, defined with 2-mile intervals. The blue line connects the coefficient estimates of proximity bins, obtained by interacting the proximity-bin indicators with the binary posttreatment indicator. The treatment groups are properties within these proximity bins, while the control group is properties within the 18-to-20-mile proximity bin. The 95% CIs are constructed with two-way clustered SEs at the county-site and year level.

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1.2. LSSPV Impact on Agricultural Land Value. Our Ag-land analyses show that having LSSPV sites within 2 miles of agricultural or vacant land increases the sales price per acre by an average of 19.4%,[**] which is statistically significant at the 5% level (Fig. 5). The positive effect rapidly declines and becomes insignificant beyond 2 miles, similar to estimates in ref. 32. This positive effect is likely due to the demand increase from potential solar leases, as further expansion of existing LSSPV sites is less costly than constructing new sites and likely involve nearby agricultural or vacant land. Pretrend tests in *SI Appendix,* Table S5 show that the parallel trend assumptions are satisfied. Robustness checks in *SI Appendix,* Table S7 suggest that our main ag-land estimate is robust against different control group selection criteria. Event-study results in *SI Appendix,* Fig. S5 show that the positive land value effect manifests 3 y after the site installation and fades away 6 y later. *SI Appendix,* Fig. S6 presents our analysis of heterogeneous ag-land effects. We find that LSSPV sites of larger than-median scale have virtually zero effect on land value, while sites of smaller scale display a positive effect on land value (significant at the 10% level). Considering that smaller sites have a larger potential for expansion, this observation seems to confirm our speculation that the nearby land value increase is mainly driven by the potential of future solar lease. We also find that agricultural or vacant lots of large acreage bear virtually zero effect while smaller lots show a significantly (at the 5% level) positive effect. However, these differences are not statistically significant. More robustness checks in *SI Appendix,* Table S8 suggest that our land value estimates remain consistent when applying alternative sample selection criteria based on acreage. Finally, robustness checks in *SI Appendix,* Table S9 reveal that when focusing solely on county-site-year clusters containing more than a few sales, the land price effect of LSSPV rises dramatically, reaching 86.1% when excluding less-than-20-land-sales clusters (corresponding to a coefficient of 0.621). Given that we have excluded sales of land hosting LSSPV sites, the mechanism behind this substantial effect on land prices remains unclear but warrants further investigation.

1.3. LSSPV Impact on Large-Lot Home Value. Our empirical results show that LSSPV sites have a dual effect: they decrease residential property values via reduced residential amenity, while simultaneously increasing nearby land prices due to enhanced land use potential. For large-lot residential homes with over five acres of land, we expect the LSSPV to impact property values through both channels. Our distance decay analysis (Fig. 5, *Bottom*) suggests that the overall LSSPV impact on large-lot home price is close to zero and statistically insignificant for all nearby proximity bins. Robustness checks in *SI Appendix*, Tables S8 and S9 confirm that these large-lot-home estimates remain small and insignificant when applying alternative sample selection criteria based on acreage and the number of observations per tract-year cluster. Therefore, the LSSPV property value impacts via amenity reduction and increased land use potential seem to offset each other in residential homes with over five acres of land.

2. Discussion

This study provides a comprehensive nationwide assessment of the externalities associated with LSSPV installations in the United States focusing on their impacts on property values. We leverage a rich property transaction dataset with detailed geospatial information of LSSPV sites to estimate the effects on both residential properties and agricultural/vacant land. We apply advanced geospatial methods to overcome computational challenges and develop a comprehensive nationwide database on LSSPV visibility. Our findings reveal that LSSPV installations negatively affect the value of residential properties located within 3 miles, while increasing prices for agricultural and vacant land within 2 miles. Moreover, when the impacts through reduced residential amenity and increased land use potential coexist, the LSSPV effect on large-lot homes is indistinguishable from zero. We also explore the dynamics and heterogeneities of the local property value effects of LSSPV.

Our analyses and heterogeneity checks indicate that a nearby solar site may act as a stigmatizing nuisance (i.e. a psychological disamenity, see refs. 15, 16, 33) and 34). Evidence supporting this claim includes the minimal variation in effects across different levels of site visibility, in effects across properties to the south and to the north of the site, and in effects across sites with different tracking systems, as they suggest that the view details of solar sites (including view extent, the exact view composition, and potential difference in glare effects) do not significantly impact residential values. The negative impact on nearby residences appears to operate primarily through psychological channels rather than through the degree of visibility or specific visual details. Considering disamenities other than visual impact, the scale of the site likely results in different disamenity levels and impacts, but this is also not observed (i.e., "Big USS" vs. "Small USS" in Fig. 4). One explanation can be linked to negative perceptions that solar sites are industrial/commercial uses that alter rural land use and scenic views (15). The disparities in effects between brownfield and greenfield sites align with this mechanism. Another piece of evidence is the significantly higher property value loss in more conservative counties compared to Democratic-leaning counties. This disparity is likely due to solar sites being more aligned with progressive values prevalent in Democratic-leaning counties and less frequently associated with negative perceptions. However, we cannot entirely rule out causal channels related to actual disamenity variations. First, our nationwide analysis may obscure heterogeneities under certain conditions – for example, sites with a larger scale may have a stronger negative effect in the Northeast but a weaker one in the West, potentially canceling out in a pooled sample. Second, unexplored physical channels, such as vegetation and soil management practices (e.g., refs. 9 and 27), might also contribute to the negative LSSPV impact on residential values.

Our findings highlight the complex interplay between the benefits and costs of LSSPV development. In *SI Appendix,* Table S11, we performed a back-of-the-envelope calculation to estimate the benefits and costs of LSSPV solar sites included in our analysis, including the mitigation value (i.e., avoided social cost of carbon emission), the appreciation of nearby agricultural or vacant land value, the value loss of nearby residential properties, and the agricultural production loss on land utilized for hosting LSSPV. The results suggest that the assessed benefits of existing LSSPV significantly outweigh the assessed total costs. The carbon mitigation benefit is the major benefit (about $22.2 billion annually), while the loss in residential home value is the dominant cost (about -$4.1 billion annually). Therefore, property value losses constitute a major proportion of negative externalities of LSSPV. While the expansion of solar energy is crucial for the renewable energy transition, it is imperative to address the localized externalities to ensure equitable outcomes for affected communities. Quantitative evidence, such as that generated by this study, can inform policymakers and stakeholders in designing compensation mechanisms and siting strategies that mitigate negative impacts while promoting the broader adoption of solar energy.

[**]The coefficient estimate is 0.177, which reflects the effect on the logarithm of price. When this is converted to the actual proportional price effect, the result is $e^{0.177} - 1 = 19.4\%$.

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To illustrate how our results or similar studies could be used to develop a community compensation plan, we design a prototype evidence-based community compensation plan for a site proposal in (*SI Appendix,* Fig. S12). First, property value impact studies should be carefully conducted with empirical data from comparable solar sites (e.g., similar size, similar demographics, in counties or states of similar regulations, etc.), where the effect of distance decay, dynamics, and heterogeneities across a wide range of dimensions should be analyzed. The sample choice of LSSPV sites needs to balance site similarity and statistical power of analysis. Second, based on the property value study, compensation specifics should be decided for different properties in the neighborhood. Taking our main results as an example, compensation rates could be set at 5.2% of the annualized property value for 10 y for residential homes within 3 miles of the LSSPV site with a site view, 4.8% for those without a view, and 19.4% of annual agricultural land rental costs[††] for 4 y for leasing farmers within 2 miles. Third, the community compensation plan can involve communication with stakeholders ahead of the permitting process, and stakeholders' input should be involved in the revision process before reaching a final plan. A comprehensive compensation plan should also consider local externalities that might not visibly manifest in property prices. We would like to stress that the specific community compensation plan developed based on our nationwide study here should be merely taken as an example, and we recommend conducting targeted studies to determine appropriate community compensation plans for a specific LSSPV site.

3. Data and Methods

The analysis primarily utilizes data of three categories: The US LSSPV data, the real estate transaction and assessment records, and geospatial data.

3.1. LSSPV Data. The LSSPV data acquired from the US Large Scale Solar Photovoltaic Database (USPVDB) (35) contain 3,699 LSSPV facilities investigated in the study. This dataset provides detailed information on LSSPV site footprint, area, capacity, and installation year, spanning from 1986 to 2021 (*SI Appendix,* Fig. S1 shows the total acreage developed per year, and *SI Appendix,* Table S1 shows the summary statistics of LSSPV projects). The facility polygons are digitized along the boundaries of the solar arrays, within an accuracy of 10 m.

3.2. Property Transaction. The property data are purchased from CoreLogic through a data agreement. CoreLogic data contain comprehensive information on property and transactions from the whole United States and enables researchers to work on property-level research questions. We developed a process to exclude non-arm's-length transactions (i.e., purging price outliers, foreclosure sales, multiple sales, sales between relatives, sales involving institutional buyers or sellers, and others as detailed in *SI Appendix*) so that our analyses only include transactions reflecting fair market values. The transaction prices are adjusted for inflation to reflect their values in 2017 dollars using the Consumer Price Index data from the US Bureau of Labor Statistics. We also exclude potential home flipping events by removing transactions of the same property that occur within 120 d of each other. As the majority of LSSPV sites have been developed within the past decade, we keep transactions up to 15 y before the installation of nearest LSSPV to make the time frame generally centered around the LSSPV development. The final dataset for analysis comprises both single-family residential properties and agricultural or vacant land, spanning 40 states[‡‡] from 1993 to 2020. To avoid the potential impact from market disequilibrium, we drop observations during the Great Recession (i.e., 2008 to 2010). *SI Appendix,* Tables S2–S4 show the summary statistics of residential homes, agricultural and vacant land, and large-lot homes, respectively. *SI Appendix,* Figs. S2–S4 illustrate the distribution of post-LSSPV-installation transactions of residential homes, agricultural or vacant land, and large-lot homes, respectively, across different proximity bins.

3.3. Geospatial Data. The geospatial data consist of a collection of geographic layers obtained from the US Census Bureau TIGER/line geodatabase (USCB TIGER) and US Energy Information Administration (EIA), which includes shapefiles of primary roads, transmission lines, and metropolitan areas. To support heterogeneity analyses, we also collected data on median household income, median land values, political leanings, and state-level siting policies, among other factors (see *SI Appendix* for details).

To acquire solar site proximity and other (dis)amenities, we generated geographic variables that represent the Euclidian distance between a property and the boundary of the nearest five solar sites, transmission line, primary road, and metropolitan area. The geographic variables were then matched with the property data. To alleviate identification concerns that attributes of control observations (i.e., properties far away from sites) might considerably deviate from treated observations (i.e., properties with solar site exposure), we only kept residential homes that are less than or equal to 6 miles away from the nearest solar sites. For properties above five acres (i.e., agricultural land or large-lot homes), we use a 20-mile radius inclusion criterion due to the general low density and low transaction volumes of such properties. The final sample includes 8.3 million transactions for residential homes, 68 thousand transactions for agricultural or vacant land, and 416 thousand transactions for large-lot homes.

3.4. Visibility Analysis. We establish a visibility database for LSSPV across the continental United States and investigate the property value effect of LSSPV visibility. We calculate the visibility from residential properties to large-scale solar sites within 6 miles. This visibility analysis proceeds in three steps. First, we acquire Digital elevation models (DEMs) of the continental United States from the Shuttle Radar Topographic Mission (SRTM) produced by NASA.[§§] Our analysis uses the 2018 version of SRTM DEMs at a resolution of 90 m by 90 m. The DEMs employed reflect terrain elevation but may not capture structures (e.g., houses or trees), and hence could overstate visibility especially when the viewpoint and the target are close (36). Nonetheless, the employed DEMs are the best available public data for our analysis, as structural elevation data (e.g., Light Detection and Ranging, or LiDAR, data) are not available for most solar sites and their neighborhoods.

Second, we calculate the viewsheds from solar sites to decide the areas from which the sites are visible, utilizing the duality of vision following ref. 21 (i.e., if and only if viewpoint A has a view on target B, a viewpoint on B has a view on target A). This approach greatly reduces computational effort since the number

[††]Note that this compensation assumes that the land price increase will induce a similar change in land rent costs. If land rent data is available, it could be used as the outcome in a similar DID study to decide the land rental cost impact of LSSPV site, which could serve as the baseline of the compensation to leasing farmers.

[‡‡]The other ten states (i.e., Alaska, Hawaii, Idaho, Kansas, Louisiana, Maine, Mississippi, Montana, Utah, and Wyoming) are excluded from the final analysis due to the absence of LSSPV sites, a lack of available transactions near LSSPV sites, or their non-continental status.

[§§]DEMs provide crucial information on the ground topography of the study area. The Shuttle Radar Topographic Mission by NASA employs remote sensing technology to gather laser light measurements of the earth's surface. The mission started in 2000, with a goal to create the first near-global topographical map of Earth and collect data on nearly 80 percent of the planet's land surfaces. Data are available at https://srtm.csi.cgiar.org/.

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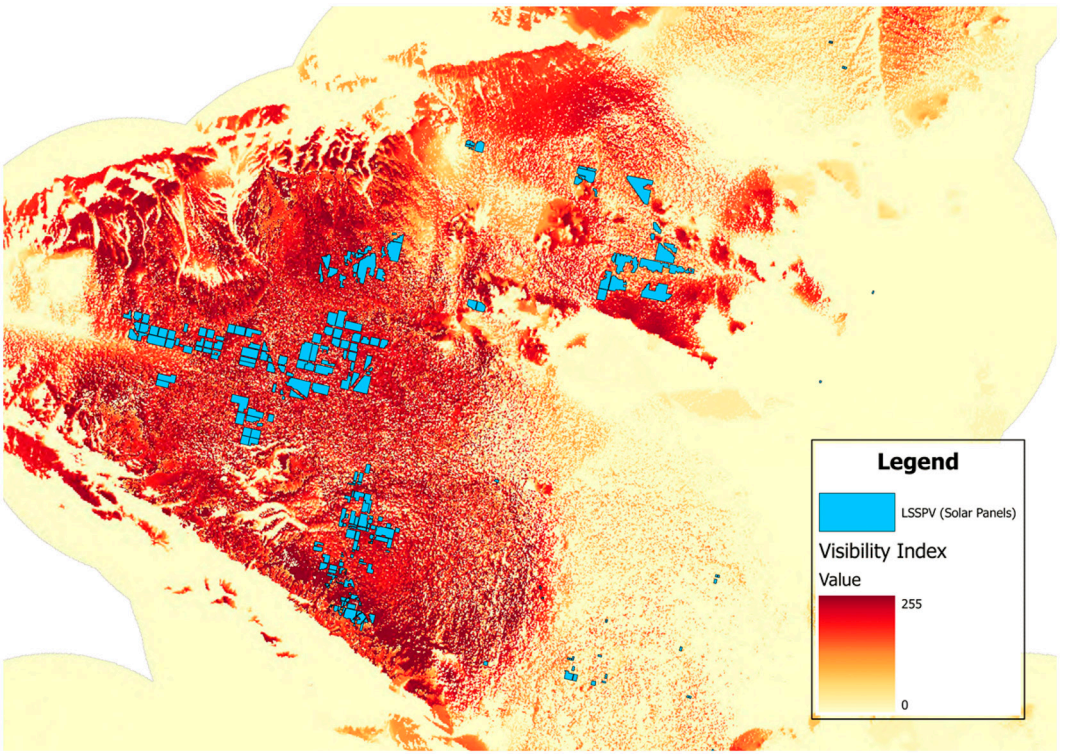


Fig. 6. Surface of Visibility Index. The visibility index measures the number of visible perimeter points of nearby solar sites. Intuitively, the red color denotes regions with solar view, and regions in darker red can see a larger area of solar panels.

of solar sites (3,699) is much smaller than the number of properties (about 5.9 million). Unlike the wind turbines that require height specifications for accurate viewshed analyses, LSSPV sites span broad areas, necessitating a proper way to account for partial views of a large solar site. Specifically, we set viewpoints along the perimeter of each site, where the viewpoints are defined with a random start point, an interval distance D, and a height of two meters. In practice, D is set at 500 m to balance the computation workload and the accuracy of partial view accounting.

Third, we aggregate the viewsheds from all site perimeter viewpoints and overlay the aggregated viewshed layer with properties to calculate the visibility variables. The aggregation of viewsheds will generate the visibility index (Fig. 6) for each geographic unit defined by the raster resolution (90 m by 90 m). Overlaying with the property layer, the visibility index will represent the number of perimeter viewpoints that can see a property, or the number of solar site perimeter points that the property has view on based on the duality of vision. This property-specific visibility index quantifies the extent of solar site visibility for each property and can be converted into a binary visibility variable that serves as the treatment variable in a DID model. For more details of the visibility analysis, refer to *Visibility Analysis* Details section in *SI Appendix*.

3.5. Econometrics: Property Value Effect Models. Previous studies have used econometric models to analyze and identify a variety of characteristics that could consistently influence property values, such as the productivity of the farmland (e.g., ref. 37), the influences of urbanization (e.g., ref. 38), and environmental factors (e.g., refs. 39–41). To estimate the impact of solar projects on nearby property values, it is crucial to control for potential confounders. We employ a DID approach to investigate the effects of LSSPV installation on nearby property values. Intuitively, this approach compares the change in property values before and after installation for properties close to the LSSPV site against the value change for properties farther away but still within the defined vicinity.

3.5.1. Analyses for residential homes. The general DID framework of our residential home study is as follows:

$$\ln\left(P_{it}\right)=\beta_0+\beta_1 Post_{it}+\beta_2 T_i+\beta_3 Post_{it}\times T_i+\delta_k\sum_{k=1}^{K}X_{it}^{k}+\gamma_k\sum_{k=1}^{K}\left(Post_{it}\times X_{it}^{k}\right)+\tau_{ct}+\varepsilon_{it}. \quad [1]$$

In Eq. **1**, each observation corresponds to a transaction of residential home i that occurred in year t, with the dependent variable being the natural logarithm of transaction price $\ln\left(P_{it}\right)$. $Post_{it}$ is a binary indicator that denotes whether the transaction of residential home happened after the LSSPV installation. T_i is the binary indicator that denotes whether a residential home was assigned to a treatment group, and the exact definition of treatment is explained below. The coefficient β_3 associated with the interaction term between $Post_{it}$ and T_i captures the impact of LSSPV installation on the outcome variable, which resembles a proportional change in the residential home prices. Previous studies show that the proximity to transmission lines could have an impact on the value of nearby property (42), and this impact could change after an LSSPV installation in the vicinity (20). To account for housing and lot characteristics that could affect home values and the estimation of β_3, we include property-level control variables X_{it}^{k} and $Post_{it}\times X_{it}^{k}$ (43, 44), where X_{it}^{k} include total bedroom number, total bathroom number, building age, and natural logarithms of distances to the nearest transmission line, the nearest primary road, and the nearest metropolitan area. To absorb the time-varying external location-specific shocks in the housing market, we incorporate fixed effects on the census tract by year level, denoted as τ_{ct}. All SE are two-way clustered at the census tract and year level.

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To detect the proper site-proximity treatment in the average effect models (i.e., Eq. **1**), we employed a distance decay version of the DID approach, as shown in Eq. **2**. The distance decay study uses proximity intervals ($T_i^m, \forall m \leq M-1$) as the treatment variables instead of a single binary treatment (as T_i in Eq. **1**). The distance-decay model shown in Fig. 2 uses 0.5-mile intervals from 0 to 6 miles, with properties in the 5 to 6 mile ring (i.e., T_i^M) serving as the control group. To investigate the role of visibility, we further interact the proximity intervals with a binary visibility variable to produce the results in Fig. 1 (i.e., the treatment variables become $T_i^m \times 1(View = 1)$ and $T_i^m \times 1(View = 0)$). The model specifications in Eq. **2** are identical to Eq. **1** except for differences in the treatment variables,

$$\ln(P_{it}) = \beta_0 + \beta_1 Post_{it} + \sum_{m=1}^{M-1} \beta_2^m T_i^m + \sum_{m=1}^{M-1} \beta_3^m Post_{it} \times T_i^m + \delta_k \sum_{k=1}^{K} X_{it}^k + \gamma_k \sum_{k=1}^{K} (Post_{it} \times X_{it}^k) + \tau_{ct} + \varepsilon_{it}. \quad [2]$$

Based on the proximity cut-off point suggested in the distance decay results, we specify a proximity treatment (i.e., results suggest properties within 3 miles) for the average treatment model in Eq. **1**. Moreover, we can test the average treatment effect of the interaction between visibility and proximity, by slightly modifying Eq. **1** to allow for two treatment groups [i.e., effects shown as β_3^{view} and $\beta_3^{no_view}$ in Table 1 column (2)]. The empirical results of these specifications decide the appropriate treatment to use for subsequent studies, where the control group specification will also be consistent with the exploratory specifications.[¶¶] Details of subsequent event study and heterogeneity analyses are presented in *SI Appendix*.

Our DID model relies on the assumption that the LSSPV siting process is independent of the price trends over time conditional on the covariates (i.e., the parallel trends assumption). We conduct pretrend tests with placebo treatments by setting a pseudo-post variable mimicking a fake installation event 6 y before the actual installation and dropping observations that are actually treated after the actual site installation. Null effect estimates from the placebo tests support the plausibility of the parallel trends assumption. Moreover, the event study model could also display pretreatment effects where pretreatment trend differences would show up and suggest a violation of the parallel trends assumption.

3.5.2. Analyses for agricultural land and large-lot homes. We use a distance-decay model to detect the cut-off proximity for the treatment variable in the DID analysis for agricultural or vacant land and large-lot homes as the potential impact mechanism is related to site proximity. The ag-land distance-decay model is built on Eq. **2** with three key differences. First, the outcome variable is the natural logarithm of land price per acre. Second, the control variables X_{it}^k do not include house characteristics. Finally, based on the volume of ag-land transactions, the proximity intervals are selected every two miles from 0 to 20 miles, the fixed effects used are on the county-site (i.e., an interaction between county and the LSSPV site identifier)[##] by year level, and the SE are two-way clustered at the county-site and year level. We also conduct the event study and heterogeneity analyses using the treatment variable suggested by the ag-land distance-decay model. Furthermore, we conduct pretrend tests for the ag-land analysis to check the plausibility of parallel trends assumption. The large-lot-home analysis retains the outcome and control variables from the residential analysis while adopting the same proximity bins and fixed effects used in the ag-land analysis. More details of ag-land and large-lot-home analyses are provided in *SI Appendix*.

Data, Materials, and Software Availability. Our replication package (https://github.com/Starfallchen/SolarViewHedonic) provides all code used in this study, including Stata and Python code for raw data processing, geospatial variable processing, viewshed analysis, data aggregation, and estimation analysis (45). All analyses are conducted in Stata 18MP (https://www.stata.com/order/) (46) and Python 3.9.18 https://www.python.org/downloads/release/python-3918/) (47). The replication package also shares datasets that are from unrestricted data sources. The property transaction data are acquired from CoreLogic Solutions, LLC (https://www.corelogic.com/360-property-data) (48). Restricted by contract with CoreLogic, all variables derived from raw CoreLogic data will not be shared. To replicate our study, we recommend acquiring CoreLogic national-level property data with transactions from 1993 to 2020 and applying the data processing code in the replication package. Other raw data are from publicly available sources. The large-scale solar site data are available at the US Large Scale Solar Photovoltaic Database webpage: https://eerscmap.usgs.gov/uspvdb (49). Digital Elevation Models in the viewshed analysis are produced by NASA's Shuttle Radar Topographic Mission and available at https://srtm.csi.cgiar.org (50). Geospatial data on states, counties, census tracts, primary roads, and metropolitan areas are from US Census Bureau TIGER/line geodatabase, available at https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-geodatabase-file.html (51). Geospatial data on transmission lines are obtained from US Energy Atlas hosted by Energy Information Administration, available at https://atlas.eia.gov/search (52). Data for heterogeneity analysis are drawn from multiple public sources, with details described in the *SI Appendix*.

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[¶¶]This is to say, if pure proximity with a 3-mile cut-off point is decided as the most meaningful treatment to use, the control group in the main average effect model will be properties within the 5-to-6-mile proximity bin. This would involve the exclusion of properties within the 3-to-5-mile bin from the analyses. The subsequent event study and heterogeneity analysis models will follow the same sample and covariate specifications as the main model.

[##]The site identifier is based on the nearest LSSPV site. If a group of properties are within a 20-mile radius of the same site and the site is the nearest site to all of them, they share the same identifier. They span a relatively large region, potentially covering more than one county. To control for both site-level and county-level shocks, we use the county-site by year fixed effects here.

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Updated Impact of Proximity to Solar Farms on Property Values

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Context

In response to stakeholder questions, this report summarizes the academic and non-academic literature about the impact of Wisconsin solar farms on nearby property values (both farmland and homes). We found several studies that examined impacts on home values and three that analyzed the impacts of solar farms on agricultural land values. Published results were generally mixed – studies found positive, negative or no statistical effect of solar farms on nearby property values or sales prices. However, a new comprehensive study (Hu et al. 2025) likely settles the academic debate for the time being, so we have updated our April report to reflect these new findings. We summarize the results from these studies and then discuss implications for Wisconsin and the importance of public perception for these effects.

Highlights

- Based on a new comprehensive study, agricultural land values jump 19.4% for properties within 2 miles of large-scale solar farms, but this effect is temporary, peaking 3 years after installation and dissipating within 6 years.
- Based on this same study, residential properties within 3 miles of a large-scale solar farm experience price declines of 4.8%, but this effect fades within 9 years of installation.
- We found no comprehensive study that specifically covered Wisconsin.
- Larger effects seem possible for agricultural land in Wisconsin because more areas have specialized agricultural needs with more limited availability of land to replace losses.
- Public perception of large-scale solar farms and proximity play a key role in these effects, while perceptions of community-scale solar farms remain unclear.

Primary Findings

Early peer-reviewed research produced mixed findings – some found positive effects, while others found negative effects or no statistically significant effects. The new comprehensive analysis of Hu et al. (2025) reveals a consistent pattern: farmland prices jump near large-scale solar installations while nearby home prices dip, and both effects diminish with distance and time. This is the average effect – home and farmland values are highly variable because the specific context for each property matters.

Hu et al.'s (2025) study covers 40 states with a comprehensive database for both agricultural and residential parcels and a thorough analysis that supersedes previous studies for the time being. For agricultural land, Hu et al. (2025) finds an average price increase of 19.4% for parcels within 2 miles of large-scale solar installations, but this effect disappears beyond 2 miles. This price effect is also temporary, peaking 3 years after installation and dissipating within 6 years. They interpret these price patterns as the option value – agricultural and non-vacant lands can be added to the existing solar farm, but as one moves further away and as the installation matures, this option value declines.

If a similar study were conducted for Wisconsin, we expect effects similar to the Hu et al. (2025) pattern, but to vary in magnitude and by location. Wisconsin has many areas devoted to specialized agricultural uses. Intensive dairy regions need land for manure, and crops like potatoes, vegetables, cranberries, and ginseng require special types of land. Loss of land to solar farms in these areas would likely have a larger impact on surrounding farmland values because alternative land to replace these losses is limited. However, the effect would likely be smaller in areas with more traditional agricultural land use for which substitute land is available nearby. Hu et al. (2025) also show that price increases are most evident for smaller parcels, because they can host incremental expansions of large-scale solar installations. By contrast, almost no price effect is observed for larger parcels.

For residential land, Hu et al. (2025) find drops of 7.2% in value for parcels within half a mile of a large-scale solar farm and 4.8% for those within 3 miles, and no statistically significant effect beyond that distance. Prices for residential properties return to their baseline about 9 years after solar construction. We anticipate similar effects in Wisconsin, a 4%-7% decline in residential property values within half a mile of large-scale solar farms that disappears after about 9 years.

Public perception plays an important role. Whether real or perceived, farmers and homeowners near solar farms are concerned about actual or potential effects on the value of their land and perceptions of potential buyers. In rural areas, opposition to solar farms is often explained by the perception that solar farms use rural resources for the benefit of urban areas – a phenomenon known as the "rural burden". However, not all solar farms are the same. Smaller community-scale solar farms are built to serve a community or a set subscriber base, while larger utility-scale solar farms are designed to provide electricity for cities or regions often further away. Since most research focuses on large-scale solar farms, it is unclear how results and perceptions would differ for community-scale solar farms. In the context of the "rural burden", community-scale solar farms could plausibly be seen favorably in rural and agricultural areas, as a source of pride for energy independence. Hu et al. (2025) finds some evidence supporting this effect, but the topic remains largely unexplored empirically. Understanding these effects on property values in Wisconsin would require survey or focus group work that is outside the scope of this assessment.

Updated Impact of Proximity to Solar Farms on Property Values

Context

Renewable energy technologies, such as solar panels, wind turbines, and biofuel technologies have gained increased attention in recent years, but not all renewable energy technologies are the same. Solar is more controversial because installing a solar farm requires a fundamental land-use change compared to producing wind energy or biofuels (Geiger 2025; Maguire et al. 2024). Attention commonly focuses on potential impacts on nearby home and agricultural land values. For this brief report, we searched both the academic and non-academic research to summarize what others have found. We found several studies that examined impacts on home values and a few that analyzed the impacts of solar farms on agricultural land values. The comprehensive study of Hu et al. (2025) was just published and likely settles much of the academic debate for the time being, and so we have updated our April report to reflect this new research. This report summarizes the research and briefly discusses possible implications for Wisconsin. Finally, we discuss the importance of public perception for these effects on property values.

Impacts on agricultural land prices

Abashidze and Taylor (2023) examined agricultural land sales in North Carolina and found no direct effect of the distance from a solar farm on the sale price of agricultural land. They find some weak statistical evidence that agricultural land parcels nearer to transmission power lines may increase in value after a solar farm is built nearby. They propose that solar farm installation potentially creates a signal to solar farm developers of the suitability of adjacent agricultural land for future development as a solar farm.

An unpublished master's thesis (Kunwar 2024) analyzed the effect that the distance to a solar farm had on prices for farmland sales in Indiana. The study found that being one mile nearer to a solar farm increased the price of farmland by 1.4%. For higher value farmland (in the top 20%), the effect was larger, a 1.6% increase, and only 0.9% for lower value land (in the bottom 20%). The thesis did not discuss how far this effect extended before it dissipated. Also, the regression analysis explained only about 18% of the variation in land prices, indicating that farmland values are highly variable and many other factors besides those included in their analysis affect prices.

Hu et al. (2025) find that the price of land within 2 miles of a solar farm increases 19.4% on average, with the effect becoming statistically insignificant beyond 2 miles. The increase appears three years after installation and fades roughly six years later, consistent with the hypothesis that these land value changes are driven by option value for possible future solar leases rather than a permanent change. Analysis shows that the price increases are concentrated on smaller parcels as they cost less to add to existing solar arrays. Large land parcels show no price response as they are more costly to add to an array, while parcels near mega-arrays also show no price response because the already large array is less likely to expand.

Discussion of impacts on agricultural land prices

Surprisingly little research exists on the effects of solar farms on farmland values. Abashidze and Taylor (2023) found no solid evidence of an impact in North Carolina. Kunwar's (2024) preliminary results are consistent with expectations (solar farms increase nearby farmland values), but the impact seems small: an average change of 1.4% per mile, with a range of 0.9% to 1.6%. The newly published Hu et al. (2025) study used an extensive multi-state database and comprehensive analytical methods, and so the research results summarized above supersede the

other analyses, which is why this report needed updating. In short, the value of farmland within 2 miles of a large-scale solar farm increases 19.4% on average – but the effect disappears beyond 2 miles, peaks about 3 years after solar farm installation, and fades roughly after 6 years. This pattern is consistent with an option value – land prices increase because the solar array may expand onto these nearby lands in the near future. This option value has a limited reach from the solar farm and eventually it fades as it becomes clear the solar farm will not expand further. Nonetheless, large scale installations have a sizable effect on farmland prices within a certain distance. The option value is highest for small parcels near smaller solar farms, because these parcels are lower cost to add to the array and smaller solar farms still have room to expand.

To give some idea of what this effect could mean in the state, we apply Hu et al.' (2025) estimates to 2024 land values in Wisconsin. The average value for agricultural land in Wisconsin in 2024 was $6,600/ac (USDA NASS 2025). Schlesser (2025) summarizes actual farmland sales data in Wisconsin in 2024. Her discussion and Figure 2 suggest that the lowest 20% had prices below about $3,000/ac and the top 20% had prices above about $9,500. Applying the 19.4% average effect to these land values gives $6,600 x 0.194 = $1280/acre price increase for average farmland, with a range of $3,000 x 0.194 = $582/acre to $9,500 x 0.194 = $1,843/acre. These gains are substantial compared to historical estimates but are spatially limited and temporary.

These are average effects based on this new national evidence. We expect larger effects in parts of Wisconsin with high-value and unique agricultural land uses, particularly in areas with lots of dairy or specialty crop production. Areas with intensive dairy production need farmland for manure application, the Central Sands and Lower Wisconsin River Valley are used for intensive potato and vegetable production, and several areas of the state are used for important specialty crops like seed potatoes, cranberry and ginseng. Loss of land in these areas to solar farms would likely have a larger impact on surrounding farmland values than in the Hu et al. (2025) study because they are high-value uses and have limited availability of alternative land for replacement if lost. However, we note that this hypothesis has not been examined empirically.

Impacts on home prices

Hu et al. (2025) analyzed prices for 8.3 million individual home sales in forty US states and found that, on average, homes within a half-mile of a large-scale solar farm experienced a 7.2% reduction in value, homes within 3 miles experienced a 4.8% reduction in value, and homes beyond that distance had no statistically significant reduction in value. Elmallah et al. (2023) used data from six states (not including Wisconsin) and found smaller home price decreases (2.3% within a quarter-mile, 1.5% within a half-mile), but the pattern was the same. In Hu et al. (2025), home price decreases were larger in the Northeastern U.S., in politically conservative counties (based on 2016 party voting shares), and for residential parcels on land that was previously agricultural, but negligible for solar farms that are brownfield redevelopments or located in left-leaning counties (based on 2016 party voting shares).

Smaller, single-state studies show mixed or null effects. Specific to the Midwest, a real estate impact study in Illinois by McGarr and Lines (2018) compared sales of single-family homes adjacent to solar farms to sales of comparable homes not adjacent to solar farms. They found no consistent negative impact on home sales prices or other influential market indicators attributable to adjacency to solar farms. Hao and Michaud (2024) used aggregate data to examine the impact of 70 Midwest solar farms on average home values in the same zip code, finding a 0.5% to 2.0% increase in average home values in zip codes with a solar farm. They propose that solar farms

increase tax revenues that are used to build amenities such as better schools and public services, which then increase nearby home values. Specific to Wisconsin, the market analysis of MaRous and Company (2021) examined the potential impacts of a proposed solar farm in Dane County and found that the market data indicated that there would be no negative impact on rural residential property values. This study also found that data did not substantiate local landowners' concerns about noise and visual impacts from an existing solar farm on land values.

Taken together, the Hu et al. (2025) study confirms the expected disamenity effect on values for homes close to large-scale solar farms, while the findings of Elmallah et al. (2023) and single-state studies show how local contexts might abate the penalty. The results are highly variable, suggesting that the specific context for each home matters. The fact that the smaller studies did not find an effect is not surprising. Home values are highly variable and identifying effects with highly variable data is statistically difficult with small samples. Hao and Michard (2024) admit their results are counter to what most research finds; we have developed an academic critique beyond the scope of this report that would explain their unusual results as a statistical issue.

The role of public perception

The evidence put forth in these studies is often mixed, with the high variability in land values and home prices indicating that the specific context of each sale matters. The implication is that public perception plays an important role in how the proximity to solar farms impacts residential home prices and farmland values. Whether real or perceived, land and homeowners adjacent to solar farms are concerned about potential buyers passing on their home and land because of its proximity to a solar farm (Breese, 2025a; Breese, 2025b). In rural areas specifically, there is opposition to solar farm development that is best explained by the perception of the development being extractive of rural natural resources (i.e., land) for the benefit of urban areas – a phenomenon known as the "rural burden" (Nilson and Stedman, 2023). Hu et al. (2025) show that visibility itself adds no extra penalty once distance is controlled, lending credibility to the notion that the price discount might not be driven by glare, noise, or other physical health concerns, but perception. Public perception can and will influence the acceptability of solar projects so that citing ordinances may want to take it into consideration.

Not all solar farm projects are the same – notable differences exist between utility-scale and community-scale solar. Community-scale solar projects are usually smaller and established for a particular community or subscriber base, while utility-scale solar projects are larger and designed to provide a significant amount of electricity for cities or regions (Geiger, 2025). Most of the studies reviewed in this report were for utility-scale solar farms and it is not entirely clear how their results would differ for a community-scale solar farm. However, considering the root of the rural burden and the main concerns associated with solar farms such as change in land-use and visible disamenities, community-scale solar projects could plausibly be perceived more favorably in rural and agricultural areas. As a result, we believe that the distinction between community-scale and utility-scale solar projects is likely quite important in many contexts.

Caveats

We emphasize that extrapolation of some of these findings to Wisconsin is predicting out of sample, which can lead to serious errors. We found very few studies specific to Wisconsin and suggest that additional research to examine these effects in the unique Wisconsin context may be warranted to address this issue. Such work could include econometric analysis of home and land sales data, as well as surveys or focus groups to better understand public perceptions.

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NOTICE OF PUBLIC HEARING
VILLAGE OF GERMANTOWN

NOTICE is hereby given that a Public Hearing will be held before the Village of Germantown Plan Commission at the Germantown Village Hall located at N112W17001 Mequon Road, Germantown, Wisconsin and virtually through the WebEx platform on the following date and at the time noted below (or soon thereafter):

DATE: Monday, October 13th, 2025
TIME: 6:30 pm or later

The purpose of said hearing is to hear all parties, their attorneys or agents, for or against a Conditional Use Permit application for a "Solar energy conversion system" consistent with and only to the extent allowed under Wis. Stat. § 66.0401 from the property described below pursuant to Section 17.12(2)(jj) of the Village Zoning Code.

Applicant: One Energy Development, LLC, Agent for Robert Overmier, Property Owner
Property Address: N144W12531 Pioneer Road (GTNV_011987)

Property Description:
A PART OF THE NORTHWEST 1/4, NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 1, IN TOWNSHIP 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN, WHICH IS BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID NORTHEAST 1/4 OF SAID SECTION; THENCE SOUTH 01°18' 22" EAST ALONG THE EAST LINE OF SAID 1/4 SECTION 475.00 FEET TO A POINT; THENCE SOUTH 88°41' 38" WEST 326.70 FEET TO A POINT; THENCE SOUTH 01°18'22" EAST 200.00 FEET TO A POINT; THENCE NORTH 88°41'38" EAST 326.70 FEET TO A POINT IN THE EAST LINE OF SAID 1/4 SECTION; THENCE SOUTH 01°18'22" EAST ALONG SAID EAST LINE 596.15 FEET TO A POINT; THENCE SOUTH 88°13'12" WEST ALONG THE NORTH LINE OF CERTIFIED SURVEY MAP NO. 6353 AND ITS EXTENSION A DISTANCE OF 1,996.42 FEET TO A POINT IN THE WEST LINE OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF SAID ¼ SECTION; THENCE NORTH 01°21'20" WEST ALONG SAID WEST LINE 1,301.86 FEET TO A POINT TO A POINT IN THE NORTH LINE OF SAID 1/4 SECTION; THENCE NORTH 89°06'05" EAST ALONG SAID NORTH LINE 1,997.52 FEET TO THE POINT OF BEGINNING. SAID LAND CONTAINS 2,370,106 SQUARE FEET OR 54.4101 ACRES.

A copy of the application and a map showing the property described above are on file at the Community Development Department-Planning & Zoning Services office in the Germantown Village Hall and can be viewed on our website by following this link:

Website: https://www.germantownwi.gov/589/Proposed-Development-Projects

Citizens wishing to submit any public comments should do so by sending them by email to: comments@germantownwi.gov no later than 4:00pm on the meeting date listed above.

Donna Ott, Village Clerk
Dated this 17th day of September 2025
To Be Published On: September 24th and October 1st, 2025

Community Development Department
Jeffrey W. Retzlaff, AICP, Community Development Director
N112W17001 Mequon Road, PO Box 337
Germantown, WI 53022-0337
(262) 250-4735
www.germantownwi.gov

September 2025

NOTICE OF PUBLIC HEARING

You are receiving this notice because our records indicate that you are the owner and/or occupant of property located in the vicinity of N144W12531 Pioneer Road. As stated in the attached notice, One Energy Development, LLC Agent for Robert Overmier, Property Owner, are requesting approval of a Conditional Use Permit (CUP) for a proposed 35AC Solar Project called Lime Kiln on the property.

A public hearing of the CUP permit application required as a prerequisite to make this change will be held before the Village Plan Commission on October 13th, 2025, at 6:30pm in the Village Hall Board Room. A copy of the official public hearing notice is on the back of this letter.

At that time, the Plan Commission will review and discuss the application and supporting information about the proposal. Village staff will report their evaluation of the proposal, discuss Village plans, policies, code requirements and make a recommendation to the Plan Commission to approve or deny the application. During the public hearing, members of the public will be asked to share their comments and any other information about the proposal that they feel the Plan Commission and Village Board should consider before deciding to approve or deny the applications. Once the public hearing is closed the Plan Commission will consider the public comments and other information received about the proposal before making a formal recommendation to the Village Board.

At a future meeting, the Village Board will consider the application, the Village staff report, public hearing comments, and the Plan Commission recommendation before making a final decision to approve or deny the CUP.

You are invited to attend both the Plan Commission Public Hearing and Village Board meeting regarding the proposal and application. If you are unable to attend, you can provide written feedback sent by letter or email addressed to the Community Development Department or to your Village Trustee. Please visit the Village's website for Trustee contact information: www.germantownwi.gov

Finally, as listed on the bottom of the enclosed notice, you can inspect the application, and all supporting information submitted for this proposal by visiting the "Proposed Development Projects" webpage on the Community Development Department Page on the Village's website.

BLACKSTONE CREEK PLANNED DEVELOPMENT DISTRICT (PDD) AMENDMENT & CERTIFIED SURVEY MAP (CSM)

10/13/25 Plan Commission Meeting

Blackstone Creek LLC / Heimat Capital LLC

Village Staff Report & Recommendation ***Germantown, Wisconsin***

Summary

Jim Sedgwick, Heimat Capital LLC, agent for Blackstone Creek LLC, property owner, is requesting approval of proposed amendments to the Blackstone Creek PDD and a 2-lot Certified Survey Map (CSM) that would allow the development of a 205-unit multi-family residential community and a Culver's restaurant on a 1.27-ac parcel.

Property Location: Mequon Road @ Division Road

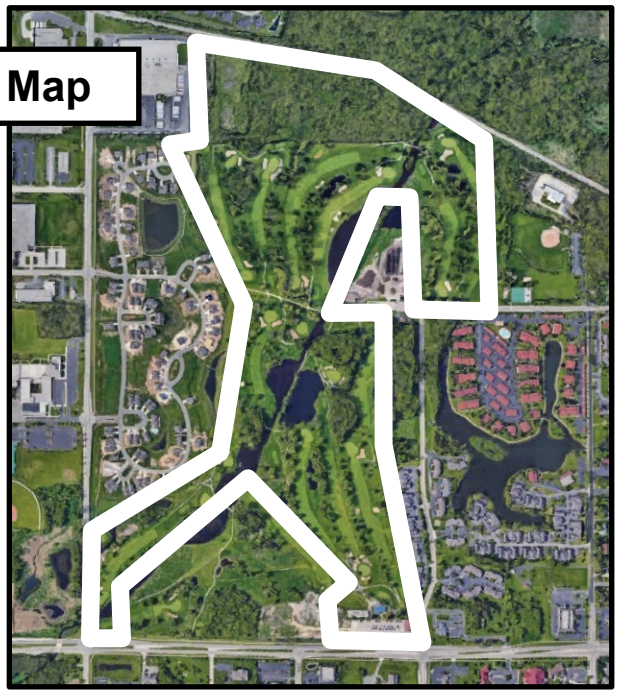
Property Owners/ Agent:

Blackstone Creek LLC Mequon, WI	Jim Sedgwick Heimat Capital LLC Mequon, WI

Current Zoning: B-1: Neighborhood Business & Rd-2: Two-Family w/PDD Overlay

Adjacent Land Use		Adjacent Zoning
North	Wetland/Conservancy	A-1
South	Commercial/Institutional	B-1 / I
East	Commercial/Residential	B-1/Rm-2
West	Residential	Rd-2

Location Map



Background

The Blackstone Creek Planned Development District (PDD) is a special zoning district that was created in 2006 with land uses and development governed by a specific list of conditions & restrictions originally established under Resolution No. 24-06. The Blackstone Creek PDD is comprised of approximately 251 acres of land including the former Lake Park Golf Course straddling the Menomonee River north of Mequon Road and west of Division Road and Main Street. Blackstone Creek was originally planned and approved as a mixed-use development comprised of three components: a 61-acre, 136-unit single-family & duplex residential condominium community (a.k.a. “The Glen at Blackstone Creek”); a 180-acre, 18-hole golf course with an expanded, year round clubhouse and banquet facility; and a 10-acre, multi-building retail commercial campus near the Mequon Road @ Division Road intersection (a.k.a. “The Shops at Blackstone Creek”).

Since 2006, the specific zoning provisions that govern development within the Blackstone Creek PDD, including the overall General Development Plan (GDP) and the list of conditions & restrictions, have been amended ten (10) times with various changes made to both the residential and retail commercial components. Notably, amendments include converting a portion of the Glen at Blackstone Creek residential area from a condominium form of ownership into a single-family platted subdivision, and, changing the number, size and orientation of buildings and uses allowed in the retail commercial area along Mequon Road. In 2013, both the list of conditions & restrictions and the General Development Plan (GDP) for the retail commercial area were revised to allow the development of a funeral home use that was never completed. Also in 2013, the PDD was amended to expand the retail commercial area from 10 to 35.4 acres and allow multi-family residential uses, including but not limited to independent senior, assisted living, and memory care components consistent with the Village’s EH: Elderly Housing Zoning District. These and other minor PDD amendments in 2016 allowed the eventual development of the 190-unit Fairway Knoll senior residential community that exists today.

Proposal

PDD Amendments

As stated above, the Blackstone Creek Planned Development District (PDD) is a special, flexible zoning district created to guide land use and development for the 251-acre area. There are two “underlying” zoning districts that were adopted when the PDD was first created, including the B-1: Neighborhood Business District that currently applies to approximately 40.5 acres of land (with 35.5 acres that comprise the Fairway Knoll senior community and the remaining 5 acres in a portion of the golf course property); and the Rd-2: One & Two-Family Residential District that applies to the remaining 140+ acres of the golf course property.

As discussed in the July 7, 2025, description and explanation submitted with the PDD amendment and CSM applications, (see attached copy with an October 2 revision date), the following amendments are proposed to the General Development Plan and list of conditions & restrictions and the for the Blackstone Creek PDD:

Amendment #1

- Affects Section 1 (General Development Plan) *[see Res. No. 19-12 & 20-16]*
- Revise/replace the current GDP dated July 5, 2016 as necessary to incorporate the plan dated October 2, 2025 (copy attached) relative to that portion of the golf course and retail commercial area;
- Add the following land uses to the list of uses allowed in the Blackstone Creek PDD as conceptually shown in the GDP dated October 2, 2025
    - Restaurant with drive-through service (on the 1.27-ac commercial site only)
    - Other retail commercial uses allowed in the B-1: Neighborhood Business District (on the 1.75-ac commercial site only)
    - Multi-Family residential uses developed consistent with the Rm-3: Multi-Family District regulations with the following features, limitations and exceptions:
        - a maximum of 205 dwelling units at a density not to exceed ten (10) dwelling units per gross acre (a 20.55-acre development area is proposed)
        - Eight (8) two-story walk up/garden-style, multi-family buildings with a maximum 135 dwelling units
        - Seven (7) detached garage parking structures
        - One (1) multi-family building with a maximum 70 dwelling units (retail commercial uses allowed in the B-1 District on 1st floor only)
        - Club house or shared-use building for residents
        - An amenity-type structure intended to provide or keep mail & package delivery, maintenance equipment and other accessory uses
        - Internal walking paths to provide connectivity to and between Mequon Road, Main Street, and the retail commercial sites (the actual location and timing of construction TBD subject to the potential continued operation of the golf course)

Amendment #2

- Affects Section 10 (Building Regulations) *[see Res. No. 19-12 & 20-16]*
- Reduce the minimum parking lot setback/greenbelt requirement under Section 17.45(1)(c) in the Zoning Code from 15 feet to 6 feet along the north and west property lines of the proposed 1.27-ac retail commercial site (proposed Culver's restaurant site only)

Amendment #3

- Affects Section 5 (Architectural Design, Exterior Materials, and Building Height) *[see Res. No. 19-12 & 20-16]*
- The architectural design and materials for the restaurant proposed for the 1.27-ac retail commercial site (Culver's) shall be as submitted subject to review and approval of the Plan Commission
- The architectural design and materials for the multi-family buildings and related amenity features and structures shall be generally consistent in quality and materials as presented in the imagery submitted with the PDD amendment application (copy attached).

Certified Survey Map (CSM)

As shown in the proposed General development Plan (GDP), the PDD amendments include the creation of one (1) multi-family residential area north of the existing golf course clubhouse and two (2) retail commercial parcels along Mequon Road. The 1.27-ac site closest to the Mequon @ Division Road intersection is intended for immediate development of a restaurant with drive-through service (Culver's). The other 1.75-ac retail commercial parcel and the 20.5-ac multi-family residential area are not proposed for development at this time (unlike the Culver's proposal for which detailed site development & building plans have been submitted for review by the Plan Commission, detailed plans have not yet been submitted for development of the multi-family and other retail commercial parcels).

Consequently, the certified survey map (CSM) that has been submitted at this time proposes to divide the 143-ac golf course property into the following parcels:

- Lot 1: 1.27 acres (proposed Culver's restaurant)
- Lot 2: 133.63 acres (existing golf course)
- Outlot 1: 5.28 acres

Additional CSM land divisions will be required in the future when specific development plans for the multi-family and the other retail commercial site are developed consistent with the proposed GDP for these areas.

The 5.28-ac "outlot" is a relatively narrow area that lies between the Glen at Blackstone Creek residential condominium/subdivision area to the west and the Fairway Knoll senior residential community to the east. This area is unbuildable given that the Menomonee River, wetlands, and floodplain traverse the entire proposed outlot. It is being created as an unbuildable outlot and "placeholder" at this time in anticipation of possibly being acquired by Presbyterian Homes to add to their adjoining 35-ac Fairway Knoll parcel.

Proposed Development Phasing

As discussed in the Applicant's July 7, 2025, PDD amendment narrative, subject to obtaining all necessary Village approvals, development of the multi-family and retail commercial sites will occur in phases over a period of years. Preliminary phasing is anticipated as follows:

- Phase I (2025-26)
  - Culver's land acquisition Fall 2025
  - Culver's construction commencing late 2025
  - Culver's opening expected in Spring 2026
  - Golf Course operations to continue through the 2026 golf season

- Phase II (2026-27)
  - Multi-Family residential construction commencing Fall 2026
  - Multi-Family housing available for occupancy in 2027

- Phase III (timeline TBD)
  - Potential development on other golf course land pending Village agreement on a previously proposed Land Exchange Agreement:
    - Additional mixed-use and/or multi-family development
    - Expansion of public park land w/ varied public amenities
    - Activation of riverfront & Main Street

Staff Comments (Community Development)

Reminder Concerning Changes or Amendments to an Existing PDD
Section 17.27 of the Zoning Code establishes the basic regulations for the creation and amendment of all Planned Development Districts (PDD's). With respect to changes or revisions, 17.27(9) provides that all changes need to be submitted to the Plan Commission, in part to determine if a proposed change or amendment is "… minor or if it materially affects the intended design of the project and impact of the project on neighboring uses". If the proposed amendment is determined to be "minor", then the Plan Commission simply reviews the proposed amendment and makes a recommendation to the Village Board for final action. If the proposed amendment is determined to be a "major" change or "…substantial because of its effect on the intended design of the project or on neighboring uses", then the Plan Commission is required to hold a public hearing of the proposed amendments before they make a recommendation to the Village Board for final action.

With respect to the proposed amendments to the Blackstone Creek PDD, Staff has assumed that the Plan Commission will determine the changes to be "major" given that they significantly alter the development plan for the golf course property. Consequently, Staff has scheduled a public hearing of the proposed amendments at the Oct 13 Plan Commission meeting.

Land Exchange Proposal
It's also important to point out that these proposed PDD amendments and the multi-family and retail development that may result are independent from the golf course land exchange proposal made by the Heimat Group and property owner, Blackstone Creek LLC, to the Village. While the specific amount and boundary of the golf course land subject of that land exchange proposal has not yet been finalized, it is safe to say that it is not the same land that would be developed as a result of the proposed PDD amendments. While the land exchange proposal is still being considered by the Village, no decisions have been made as of this date. Consideration and action on the proposed PDD amendments can and should move forward without regard to whatever decisions are eventually made regarding the land exchange proposal.

Conditions & Restrictions Resolution
The current list of conditions & restrictions governing development within the PDD is contained in a series of resolutions as a result of the various amendments, including Res. No. 19-12 that was subsequently amended by Res. Nos. 29-12, 22-13, 23-13, and 20-16. As a much needed "house-cleaning" measure, if the proposed PDD amendments are approved, Staff will create a new conditions & restrictions resolution document that compiles all the conditions & restrictions into one, easy-to-read and updated document.

Multi-Family Residential Development
The proposed multi-family residential area is approximately 20.55 gross acres as shown on the proposed GDP. The area contains a small amount of wetlands and floodplain associated with the Menomonee River (approximately 3.75 acres). The applicant proposes to develop up to 205 total units (rental) comprised of 135 units in eight "walk-up style" buildings with both attached and surface parking and 70 units in one larger building. With one exception (see PDD Amendment #1 above), construction of all 205 units is proposed to be consistent with the Rm-3: Multi-Family District regulations (i.e. 10 units per acre density,

maximum 3-story, maximum 45 feet height, 2 parking spaces per unit, etc). The exception is that the applicant proposes a maximum 10 unit per gross acre density (205 units on 20.55 gross acres) vs. what would be a 12.2 units per net acre density (205 units on 16.8 net acres (3.75 acres of wetland & floodplain excluded). The primary purpose of the Village's PDD regulations is to provide the flexibility necessary cluster dwelling units away from and thereby preserving environmentally sensitive areas. Staff supports the proposed PDD Amendment #1 and the gross vs. net acre density proposal.

It should also be noted that given the wording of proposed PDD Amendment #1 that incorporates the Rm-3: Multi-Family District regulations be reference and then requires future residential development to be consistent with the Rm-3 District regulations, there is no need to formally rezone the golf course property, in whole or in part, from the current Rd-2 District to the Rm-3 District.

Culver's Restaurant with Drive-Through Service

Proposed PDD Amendment #1 includes adding "Restaurant with Drive-through Service" to the list of permitted land uses allowed in the Blackstone Creek PDD. Adding this use as a permitted use in the PDD goes hand-in-hand with the Culver's proposal because drive-through service is an important component to the Culver's business model. It was reported to Staff by the Culver's business owner that since the time of COVID, the percentage of total customer traffic and/or sales related to drive-through service at the Menomonee Falls location has increased from approximately 35 to over 50 percent of the total. Adding the "restaurant with drive-through service" land use to the Blackstone Creek PDD is an important pre-requisite to enabling the Culver's proposal at this location because the underlying B-1: Neighborhood Zoning District that applies to the 1.27-ac retail site (and the 1.75-ac site, too) does NOT allow restaurants with drive-through service. The general B-1: Neighborhood Business District specifically provides for "Restaurants with Indoor Service Only", presumably because the B-1 District is intended for smaller, neighborhood-scale retail establishments vs. the larger. More regional-scale retail allowed in the B-2: Community Business District or the highway-oriented retail allowed in the B-5: Highway Business District. Given that the size/scale of the retail commercial area within Blackstone Creek has been significantly reduced I area and amount of potential commercial building area, and, the possible conversion of golf course to park land in the north part of the Blackstone Creek PDD area as a result of the pending land exchange proposal, it may be suitable to only allow more traditional neighborhood vs. highway-oriented uses that are more dependent on drive-by and drive-through customers (although the trend for almost all retail commercial businesses today is to provide some form of drive-through or curbside pick-up service given the recent COVID experience and overall convenience factor).

Consequently, unless "Restaurants with drive-through service" is specifically added to the list of a permitted uses in the Blackstone Creek PDD, no restaurant with drive-through service could locate on this property or anywhere in the Blackstone Creek PDD area. If the Plan Commission and Village Board decide to not allow "restaurants with drive-through service" in the Blackstone Creek PPD by not approving this component of Amendment #1, Staff recommends that the current provision allowing "banks with drive through lanes" also be removed from the current list of conditions & restrictions for the Blackstone Creek PDD.

Traffic Study & Roadway Improvements

Existing and future (Year 2030) traffic conditions with and without traffic generated by the proposed multi-family residential and retail commercial sites at the existing access driveways at Mequon Road, Division Road, and other intersections in the area were analyzed as part of a separate Traffic Impact Analysis (TIA) conducted by Traffic Analysis & Design Inc. (see revised TIA report dated October 9, 2025).

As detailed in the TIA report, the following findings and conclusions are identified:

1. Existing traffic conditions (2025) at all driveway and intersection movements are operating at an acceptable Level of Service (LOS) "D" or better with no improvements required;
2. the 205 multi-family units and two retail commercial sites are expected to generate additional traffic in an amount equal to 3,360 daily trips, 275 A.M. peak-hour trips, and 290 P.M. peak-hour trips;
3. traffic traveling to/from the new multi-family residential and retail commercial development was distributed to the adjacent road system with 43% traveling to/from the west on Mequon Road, 42% to/from the east on Mequon Road, 3% to/from the north on Division Road, and 12% to/from the south on Division Road;
4. Post-development traffic conditions (2030 background traffic plus full development build-out traffic) at all intersection movements are projected to operate at an acceptable Level of Service (LOS) "D" or better with the intersection and turn lane configurations analyzed);
5. Driveway & intersection improvements recommended as a result of the TIA are limited to access-related improvements at the following driveways and intersections:
   - Mequon Road intersection with Blackstone Creek Driveway
     - Provide a dedicated right-turn lane and a dedicated left-turn lane on the north approach at the proposed driveway
   - Mequon Road intersection with Division Road
     - Using pavement marking, restripe the northbound left-turn lane to a length of 125 feet (this requires an extension of 50 feet)
   - Division Road intersection with Bank Driveway/North Driveway
     - Provide a full access driveway on the west approach
     - Provide stop control on the west approach
   - North Driveway Intersection with Residential Driveway
     - Construct internal roadways as shown on the site plan
     - Provide stop control on the north and south approaches

   NOTE: A full list and explanation of the improvements required is found in Chapter VI of the TIA (beginning on page 16).

6. The conclusion of the TIA is that "all movements at the study area intersections are expected to operate safely and efficiently [LOS "D" or better] with the development assumptions outlined in this TIA and with the identified recommended modifications if properly designed and implemented through the full built out of the development expected in Year 2030).

Certified Survey Map

Although the future multi-family residential development is shown within a prescribed 20.55-ac area on the proposed GDP, that are area is not included or proposed to be created as a separate parcel at this time. Prior to or concurrent with the submittal of any detailed site development & building plan for the multi-family area, in whole or in part, a CSM land division will likely be needed to formally create that area (particularly if some or all of the remaining area of the golf course is subject of a land exchange with the Village).

Internal Pedestrian & Bicycle Pathway

With respect to the proposed pathway shown on the proposed GDP, the applicant has indicated that this pathway is intended to be accessible to the general public and not just the multi-family residents. If the land exchange agreement with the Village is accepted in the future and all or some of the remaining golf course property is converted for public access and park purposes, this pathway could become an important pedestrian connection both within and through the Blackstone Creek PDD area.

In addition to detailed specifications, an access easement and/or maintenance agreement with the Village will need to be created and mutually accepted.

Also, the relative location and connectivity of the internal pathways both through the Blackstone Creek area and to Mequon Road and Division Road will become critical if the remaining area of the golf course becomes a future active or passive park as a result of the proposed land exchange. With that possibility in mind, more specific attention should be paid to and plans made to provide pathway connections from the Blackstone Creek area to Mequon Road and Division Road. While the detailed site development plan for the Culver's retail site has been developed with new sidewalk along Division Road connecting to Mequon Road and into the Culver's site, there is no planned pathway or sidewalk connection shown from the Culver's site to Mequon Road along the main driveway to Mequon Road or to/from the residential area or to/from the other retail site to the west. Some sort of overall pedestrian pathway or sidewalk plan connecting these areas should be prepared (or ideally incorporated into the GDP) and eventually constructed either all at once or incrementally as the residential area and commercial sites are developed. At a minimum, the Culver's site development plans need to be revised to incorporate pathway or sidewalk connections to/from Mequon Road, the commercial site to the west, and to the residential area to the north (in addition to the sidewalk proposed along Division Road).

Germantown Gateway Element & Other Proposed Amenities

The proposed GDP includes a number of features that are shown conceptually with little or no detail, such as the "Germantown Gateway Element" shown at the northeast corner of the Mequon @ Division Road intersection, the pathway that meanders through the residential area from north-to-south, and the monument signs at the driveways on Mequon Road and Division Road. Depending on the intended location of these features, they may need to be included in the detailed site development & building plans submitted for the two retail commercial sites and residential area. At a minimum, the Culver's site development plan should incorporate whatever the proposed "gateway element" is going to be or at least include the necessary provisions such as an easement so the gateway element can be added later once the design has been approved.

Internal Streets

Similar to the proposed amenities and the lack of detail discussed above, the internal streets and pathways shown on the proposed GDP are conceptual in presentation with no specifications provided. The PDD should be revised to also include a requirement that all internal streets be constructed to Village standards if intended to be public or to a mutually-acceptable set of standards and specifications if intended to be privately constructed, owned, and maintained.

Further, the proposed GDP shows the internal streets serving the commercial sites as being located outside or beyond the perimeter property lines for the two commercial sites. This is clearer when looking at the detailed site development & building plans for the Culver's proposal. In those plans, the driveways onto both Mequon Road and Division Road are proposed to constructed with curb & gutter and a boulevard (Mequon Road only) that are not within the Culver's parcel. Because those driveways are critical to site accessibility and traffic circulation as reflected in the traffic impact analysis (TIA), detailed specifications for those driveways need to be reviewed and approved by the Village and, more importantly, both driveways need to be constructed prior to or concurrent with development of the Culver's site.

Perimeter Landscape Buffer Required

As shown in the proposed GDP, development within the residential area includes two multi-family buildings positioned parallel to and setback from the east property line approximately 25 feet (the minimum rear yard setback in the Rm-3 District is 35 feet). The existing residential condominium buildings to the east are similarly positioned on the east side of the common property line. Because the pre-existing condominiums were developed many years ago and, as a result, the residents have become accustomed to a view of the golf course, staff believes it is reasonable to require the new residential development to include a landscaped buffer of some significance to be installed between the buildings and along the common property line to buffer the view from each building toward the other. Said landscaped buffer should be designed and presented as part of a larger landscaping plan for the common areas of the entire residential area and submitted for Village review and approval as part of the detailed site development and building plans.

Architecture & Material Consistency

The architectural renderings submitted and eventually approved for the original campus of retail buildings known as the "Shops at Blackstone Creek" back in 2006 when the Blackstone Creek PDD was originally created presented a unified design consisting of compatible colors and exterior wall, window, and roof materials. Staff believes the same approach should be utilized with the two remaining retail sites shown in the proposed GDP. To the extent possible, the Applicant should develop a more detailed plan for review and approval by the Plan Commission that presents details on landscaping, lighting, signage (building, monument, and directional), architecture & general design parameters, exterior materials, etc. that will guide the development of the two retail commercial sites, residential areas, and any/all common areas within the remaining areas to be developed in the Blackstone Creek PDD area.

Obviously, doing so is complicated by the timing of the Culver's restaurant site & building design proposal that has already been submitted for Plan Commission review at the Oct 13 meeting. However, if the Applicant is content with what Culver's has proposed (assuming it is approved by the Plan Commission as proposed), subsequent development should be designed consistent with the same/similar design principals used for the Culver's site and building.

One issue that has been raised by Staff with respect to the Culver's architecture and site design concerns the "Germanic Theme" concept that has been required by the Village to varying degrees for new buildings along Mequon Road. As will be discussed when the Culver's proposal is reviewed by the Plan Commission, Staff has recommended that the architecture and materials be similar to other buildings along Mequon Road. The Culver's business owner and applicant for that application, that is different than the Applicant for the PDD amendments, has responded positively with a building that they feel incorporates similar architecture, features, and materials as other buildings along Mequon Road.

Utilities

Public water main and sanitary sewer are available within a 20' easement along the north side of Mequon Road from the existing main in the Division Road intersection. Detailed plans for the extension of water and sewer to serve development on the two retail sites and in the multi-family residential area will be evaluated as part of the site development & building plan approval process in the future (detailed plans for the proposed Culver's restaurant are subject to approval on the Oct 13 Plan Commission meeting).

Given the down slope in the topography across the property from north to south, the multi-family residential area might be able to be served by gravity sewer extended to the south side of the residential area from Division Road to the east (south of the existing residential condominiums along Division Road). The owner should explore that possibility as part of future site development & building plans for the residential area.

Staff Comments (Other Departments)

Public Works Department/Village Engineer

The Village Engineer has reviewed the detailed utility and storm water management plans for the proposed Culver's site development and identified a list of items that need to be addressed in an August 27, 2025, review memo (copy attached). To the extent applicable, the items listed should be addressed as part of future development of the multi-family residential and retail commercial areas, such as the recommendation to extend and connect sidewalk from the Culver's site to Mequon Road and extend sidewalk along Division Road on the east side of the site. Detailed construction and utility plans meeting all applicable Village code requirements will be required for all future multi-family and commercial buildings.

Village Surveyor

With respect to the certified survey map (CSM), the Village Surveyor has provided a list of corrections and items in an August 15, 23025 review memo that will need to be addressed prior to recording the CSM with Washington County.

Fire Department/Police Department

The Fire Department has commented that a single access road to/from the multi-family residential area is acceptable subject to Fiore Department review and approval of detailed construction and geometric specifications for the access road and internal drive lane connections serving the residential buildings. Detailed and state-approved construction plans meeting all applicable fire safety code requirements will be required for all multi-family and commercial buildings.

Inspection Services

The Building Inspector has indicated that the submission of state-approved plans is required along with the required $20,000 occupancy bond prior to the Village issuing any building permits for the multi-family and commercial buildings.

VILLAGE STAFF RECOMMENDATION

PDD Amendments

APPROVE amendments to the Blackstone Creek Planned Development District (PDD) as proposed and summarized herein that shall be codified into an appropriate Village Board resolution amending the current General Development Plan (GDP) dated July 5, 2016, and list of conditions & restrictions contained in Resolution Nos. 19-12, 29-12, 22-13, 23-13, and 20-16:

1. Approval is subject to completion of all driveway and intersection improvements detailed in the Traffic Impact Analysis (TIA) prior to or concurrent with the development resulting from the PDD amendments. As deemed necessary by the Village Department of Public Works/Village Engineer, detailed construction plans and right-of-way permits for said improvements shall be prepared, submitted, and approved by the Village Engineer prior to construction.
2. If the Plan Commission and Village Board act to not add “restaurants with drive-through service” to the list of permitted uses in the Blackstone Creek PPD (proposed as part of Amendment #1), that the current provision allowing “banks with drive through lanes” shall also be removed from the current list of conditions & restrictions for the Blackstone Creek PDD.
3. Prior to or concurrent with the submittal of site development & building plans for the multi-family area and commercial sites, in whole or in part, a certified survey map (CSM) land division (or subdivision plat if needed) shall be prepared to formally create parcels as a prerequisite for development of said sites.
4. The applicant has indicated that the internal pathway shown on the proposed General Development Plan (GDP) is intended to be accessible to the general public. If the pending land exchange agreement with the Village is accepted in the future and all or some of the remaining golf course property is converted for public access and park purposes, detailed specifications and an access easement and maintenance agreement with the Village shall be created subject to review, and approval of the Village.

5. An overall pedestrian pathway or sidewalk plan showing specifications, how, where and in what timeframe pathways and/or sidewalks providing access to the multi-family residential area and the commercial sites will connect to sidewalks along Mequon Road, Division Road, internally to the commercial sites, and to the Fairway Knoll senior community shall be prepared by the Applicant as a supplement to the General Development Plan (GDP).Said plan shall be prepared and submitted to the Village for review and approval prior to or concurrent with the submittal of site development plans for the multi-family residential area.
6. All internal streets serving the multi-family residential area and commercial sites shall be constructed to Village standards if intended to be public or to a mutually acceptable set of standards and specifications if intended to be privately constructed, owned, and maintained. Detailed plans and specifications shall be prepared and submitted for Village review and approval prior to or concurrent with detailed site development plans for the multi-family residential area and commercial sites.
7. The proposed General Development Plan (GDP) shows the internal streets and driveways serving the commercial sites as being located outside or beyond the perimeter property lines for the two commercial sites. Because those internal streets and driveway intersections are critical to site accessibility and traffic circulation as reflected in the traffic impact analysis (TIA), detailed specifications for those internal streets and driveway intersections shall be prepared and submitted for review and approval by the Village. More importantly, the proposed driveways on Mequon Road and on Division Road need to be constructed prior to or concurrent with development of the Culver's site.
8. As shown in the proposed General Development Plan (GDP), development within the multi-family residential area includes two multi-family buildings positioned parallel to and setback from the east property line. A landscaped buffer of some significance shall be installed between the buildings and along the easterly property. Said landscaped buffer should be designed and presented as part of a larger landscaping plan for the common areas of the entire residential area and submitted for Village review and approval as part of the detailed site development and building plans for the multi-family residential area.
9. The Applicant shall develop a detailed plan for review and approval by the Plan Commission that presents details on landscaping, lighting, signage (building, monument, and directional), architecture & design, exterior materials, etc. that will guide the development of the two retail commercial sites, residential areas, and any/all common areas within the remaining areas to be developed in the Blackstone Creek PDD area. Said plan shall be prepared and submitted for review and approval by the Village Plan Commission prior to or concurrent with the submittal of detailed site development plans for the commercial sites and multi-family residential area.
10. All items listed in the Village Engineer's August 27, 2025, review memo shall be addressed as part of future development of the multi-family residential area and retail commercial sites. Detailed construction and utility plans meeting all applicable Village Code requirements and requirement is the Village's Development Handbook shall be prepared and submitted for review and approval by the Village for all future multi-family and commercial site development.
11. Given topography across the property from north to south, the multi-family residential area may be able to be served by gravity sewer extended to the south

side of the residential area from existing facilities located in Division Road to the east (south of the existing residential condominiums along Division Road). The owner shall explore cooperatively with the Village the possibility of extending water and/or sewer facilities from Division Road as part of future site development and building plans submitted for the multi-family residential area.

12. The Building Inspector has indicated that the submission of state-approved plans shall be required along with a $20,000 occupancy bond prior to the Village issuing any building permits for the multi-family and commercial buildings.
13. The Applicant shall enter into a Development Agreement if/when deemed necessary with the Village pursuant to Section 18 of the Village Code (Subdivision and Platting), as well as, the preparation of detailed construction plans for the public improvements including, but not limited to public street and intersection improvements, sanitary sewer, water, storm water management facilities, master grading and erosion control, landscaping & street trees, open space trails, lighting and signage. At a minimum, said agreement shall require the review and approval of said plans by Village staff prior to the commencement of construction activities and establish the timing for installation of said improvements (or as otherwise provided for therein).
14. The current list of conditions & restrictions governing development within the Blackstone Creek PDD is contained in a series of resolutions resulting from previous amendments, including Res. No. 19-12 that was subsequently amended by Res. Nos. 29-12, 22-13, 23-13, and 20-16. As deemed necessary by Village Staff, if the proposed PDD amendments are approved, in whole or in part, Village shall Staff create a new document containing a compilation of all valid conditions & restrictions, including the addition of all conditions adopted herein, into one updated document adopted by resolution by the Village Board.

VILLAGE STAFF RECOMMENDATION
Certified Survey Map (CSM)

APPROVE the Certified Survey Map (CSM) to re-divide the 143-acre golf course property as (Lot 2 of CSM #6749) and Outlot 1 of the Glen at Blackstone Creek as proposed subject to the following conditions:

1. All technical issues and corrections identified by the Village Surveyor in the August 15, 2025, review memo shall be addressed and reflected in a revised CSM reviewed and approved by Village staff prior to recording.
2. Cross-access easements shall be prepared and recorded as necessary to ensure Lot 1 is accessible by vehicles and pedestrians across Lot 2 given that the location of internal driveways serving Lot 1 are located on Lot 2. An easement agreement for said easement shall be submitted for review and approval by the Village Attorney prior to recording the CSM.
3. A separate cross-access easement agreement between Presbyterian Homes, owner of the Fairway Knoll senior community and the owner of Lot 2, Blackstone Creek LLC, shall be prepared and recorded as necessary to ensure the development on Lot 1 and Lot 2 (as may be further divided) is accessible by vehicles and residents of the Fairway Knoll property to the west as generally depicted on the proposed General development Plan (GDP).

HEIMAT

July 7, 2025
October 2, 2025 Revised per staff comments

Village of Germantown
c/o Jeff Retzlaff
N112 W17001 Mequon Road
Germantown, WI 53022

RE: Blackstone Creek Planned Development District Amendment Application

Dear Mr. Retzlaff,
On behalf of Blackstone Creek LLC, we are presenting the enclosed Planned Development District (PDD) Amendment Application to the Village of Germantown for consideration. It is our intent to work with the Village to seek an amendment to the existing Blackstone Creek PDD to permit the following:

1. Facilitate the sale of approximately 1 acre for the development of a new Culvers restaurant.
2. Update the General Plan to facilitate the development of a multi-family housing community generally consisting of approximately 205 dwelling units along with a clubhouse and other amenity spaces.
3. Facilitate the creation of future commercial pad sites.

As a supplement to the application form, noted below is further detail regarding a "List of Proposed Amendments" to the existing Blackstone Creek PDD.

- Section 1 - General Development Plan dated July 5, 2016 shall be revised and replaced with the plan dated October 2, 2025 (per attached) as prepared by The Kubala Washatko Architects relative to the golf course and commercial area. The revised General Plan shall allow for the following additional uses:
    - Culvers restaurant with drive through and associated lanes and parking.
    - Commercial pad site.
    - Multifamily housing uses generally consistent with Rm-3 Zoning but with a density calculation of 10 dwelling units per gross acre for a total of up to 205 dwelling units on 20.5445 gross acres (16.792 net buildable acres).
    - Mixed use or multi-family pad site with an estimated 70 dwelling units.
    - Approximately eight (8) two (2) story walk up/garden style multi-family buildings with up to 135 dwelling units.
    - Approximately seven (7) detached garage parking structures.
    - Club house/common house.
    - Amenity structure intended to house mail, package delivery, maintenance and other related uses.
    - Walking path to create connectivity between Mequon Road and Main Street, subject to the potential continued operation of the golf course.
- Section 4 – Building Regulations shall be updated such that code section 17.45(1)(c) shall allow for a seven (7) foot landscape greenbelt with respect to parking areas interior to the development, ie along the north and west sides of the Culvers lot.
- Section 5 – Architectural Design, Exterior Materials and Building Height shall be updated to reflect the following:
    - Culvers architectural design, as submitted.
    - Multi-family buildings and related amenity structures to be generally consistent in quality and materials with the precedent imagery, as submitted.

As a further supplement to the application form, noted below is a "Detailed Explanation and Justification for Proposed Amendments":

The redevelopment of the Blackstone Creek Golf Course ("The Project") is a multi-phase, mixed use development that will serve as a continuation of the original vision for the Blackstone Creek redevelopment and a catalyst for the Village Center District. Accordingly, we feel it's important to further outline our vision for the respective sites and phases of the Project:

Phase I is intended to serve as the catalyst for the commercial space. Drawing inspiration from the 2050 Comprehensive Plan ("Comp Plan"), we aim to activate the commercial pad sites located nearest to the intersection of W. Mequon Road and N. Division Road. Culvers is a high-quality, family-friendly Wisconsin brand; this location will be owned and operated by an experienced franchisee with a proven track record.

Phase II is intended to take cues from Traditional Neighborhood Design as desired in the Comp Plan. With increasing demand for right-sized residential units offering direct access, Phase II planning incorporates market rate, two story, walk up/garden style apartment concepts. As noted on Page 18 of the Comp Plan, "consider adding different housing options to accommodate smaller families and an older generation that would like to downsize but stay within their community." Evolving demographics have shown this type of housing to be in high demand and an invaluable resource for community stability. We believe strongly in the data which reinforces this need - as noted in the Village commissioned *"Residential Market Analysis: Strategy Planning Guidelines for Germantown"* as prepared by Tracy Cross & Associates.

The Project presents a once in a generation opportunity to achieve the following Village of Germantown goals:

- HOUSING
  2050 Comp Plan Goal: Nurture existing neighborhoods and develop a variety of new housing types that are accessible and welcoming to a diversity of residents. New housing should contribute to Germantown's community character and build on the Village's assets.

  Progress towards Goal: The Project adds quality housing options, as an alternative to traditional single-family housing. Based upon market study data, we anticipate multi-family rental ranges of approximately $1,300 to $2,500 per month per unit in today's dollars.

- TRANSPORTATION
  2050 Comp Plan Goal: Ensure a safe, reliable, and accessible transportation system for all residents and visitors in Germantown. Transportation investments should be coordinated regionally, and new investments should consider a range of transportation choices. New development in Germantown should consider appropriate modes of transportation during the planning and approval process.

  Progress towards Goal: The addition of a walking path provides a safe connection from Mequon Road to Main Street for pedestrians and cyclists.

- AGRICULTURAL, CULTURAL AND NATURAL RESOURCES
  2050 Comp Plan Goal: Guarantee Germantown's history and identity are preserved for the future through the protection of its most valuable resources. Germantown's community should make use of natural areas to appreciate their value without contributing to their degradation. Open space and environmental corridors must be managed and protected.

  Progress towards Goal: Phase III includes the potential addition of new public parklands. Phases I and II are designed to respect the valuable open spaces and environmental corridors.

- UTILITIES & COMMUNITY FACILITIES
  2050 Comp Plan Goal: Provide Germantown residents and businesses with safe, reliable, and adequate utilities and facilities to meet current and future needs.

Progress towards Goal: The addition of improved public infrastructure.

- ECONOMIC DEVELOPMENT
  2050 Comp Plan Goal: Promote economic, social and environmental benefits through business and commercial activity in Germantown with a cohesive and unifying vision that inspires investment, tourism, and local pride.

  Progress towards Goal: Upon full buildout, the project will add approximately $55,000,000 in new contemplated economic value, a catalytic investment to invigorate the Village Center District and welcome a new high quality commercial business.

- LAND USE
  2050 Comp Plan Goal: Pursue a land use pattern of neighborhoods, districts, and corridors that facilitates the siting and compatibility of new and existing uses in a manner that promotes the efficient use of existing and future public utilities and facilities while protecting natural and environmental resources and preserving our rural character and quality of life.
  Progress towards Goal: Create a defined residential neighborhood while preserving the natural environment and strengthening the commercial corridor.

Our proposed plan is to work closely with Village staff to amend the current PDD to incorporate the enclosed General Plan. Efforts will focus on phasing the Project and constructing buildings in a defined manner over a period of years. Preliminary phasing and massing are anticipated as follows:

- Pending Village approvals, land sale to Culvers Fall 2025 with construction commencing late 2025.
- Culvers opening in Spring 2026, coordinated with the golf course operations.
- Golf Course operations to continue as-is through the 2026 golf season.
- Phase II multifamily commencing upon achieving Village approvals – anticipated Fall 2026.
- Delivery of Phase II multifamily housing beginning in 2027.
- Future Phase III development opportunity pending Village input on a previously submitted Exchange Agreement.

Benefits to include:

Further mixed-use and multi-family development.
Expansion of public parklands.
Activation of riverfront.
Addition of varied public amenities.
Activation of Main Street, consistent with 2050 Comp Plan.

We are firm supporters of the Village of Germantown and have worked to take substantial cues from the Comp Plan. We believe the Project as a whole has the potential to create multiple defined neighborhoods with needed housing stock, contribute to strengthening the Village Center District, preserve dynamic open space for recreation and bolster a strong sense of community; improving the physical infrastructure and the overall aesthetic of the Village for generations to come.

In addition, the Project will substantially increase the Village tax base. It will propel multiple under-utilized parcels forward, creating a sense of place and adding vibrancy to the Village Center District that will ensure Germantown remains a community in which residents want to live, work and play. Simply put, it will help the Village realize the vision identified in the 2050 Comp Plan.

Please review the attached and let us know if you have further questions. Thank you in advance for your consideration of this request.

Sincerely,

BLACKSTONE CREEK LLC.
By THE HEIMAT GROUP INC.





Jim Sedgwick
Principal

Joseph F. Lak II
Principal

LOT TWO (2) OF CERTIFIED SURVEY MAP NO. 6749, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS FOR WASHINGTON COUNTY, WISCONSIN ON MARCH 31, 2017, IN VOLUME 52 OF CERTIFIED SURVEY MAPS, PAGES 41-52, AS DOCUMENT NO. 1427138, SAID CERTIFIED SURVEY MAP BEING A DIVISION OF LOTS 2 AND 3 IN CERTIFIED SURVEY MAP NO. 6177, AND LANDS LOCATED BEING A PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4, NORTHWEST 1/4 & SOUTHWEST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4, SOUTHEAST 1/4, NORTHWEST 1/4 & SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21 AND PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, ALL BEING IN TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.



LEGEND

- A – Precedents
- 1 – Storm Water
- 2 – Building Type A
- 3 – Building Type B
- 4 – Building Type C
- 5 – Garages
- 6 – Common House /Club House
- 7 – Mail + Packages /Bikes + Maintanence / Amenity Area
- 8 – Future 70 Unit Building
- 9 – Monument Sign
- 10 – Germantown Gateway Element
- 11 – Trash/Recycle Enclosure
- – Wetlands
- – Buildable Area (16.792 ac. / 731,462 sf)
- – PEC Extents
- – Floodplain Extents



LEGEND

- A Precedents
- 1 Storm Water
- 2 Building Type A [19 Units — 10 Garages]
- 3 Building Type B [14 Units — 14 Garages]
- 4 Building Type C [22 Units — 12 Garages]
- 5 Garages [37 Garages]
- 6 Common House w/ Patio
- 7 Mail + Packages / Maintanence / Amenities
- 8 Future 70 Unit Building
- 9 Monument Signage
- 10 Germantown Gateway Element
- 11 Trash/Recycle Enclosure [6 Trash and Recycling Enclosures]

SUMMARY

WALK-UP STYLE UNITS	135 UNITS
RESIDENT GARAGE PARKING	135 SPACES
RESIDENT SURFACE SPACES	135 SPACES
RESIDENT SURFACE PARKING	50 SPACES

[Excludes Future 70 Unit Building & associated parking]

Precedent Imagery



A. CONNECTION TO AND THROUGH LANDSCAPE



B. INTEGRATE BUILT ENVIRONMENT WITH LANDSCAPE



C. HIGH QUALITY MATERIALS



D. CONNECTION TO TRAILS



E. SHARED ENVIRONMENTS



F. SEMI-URBAN CORE



G. DEDICATED RESIDENT PARKING



H. SHARED OPEN SPACES

Village of Germantown
Willkommen

Fee must accompany application
$2,900 with public improvements
X $1,960 no public improvements

Paid [signature] Date 07/07/25
chk #1027

CERTIFIED SURVEY MAP APPLICATION

Pursuant to Section 18.06 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Jim Sedgwick
Heimat Capital LLC
12075 N Corporate Parkway, Ste 250
Mequon, WI 53092
Phone (414) 303-4691
Fax ( ) na
E-Mail jim.sedgwick@theheimatgroup.com

PROPERTY OWNER

Blackstone Creek LLC
Attn Corey Kincaid, Member
c/o Heimat Capital LLC

Phone ( )

RECEIVED
JUL 07 2025
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

2 PROPERTY ADDRESS OR GENERAL LOCATION | **TAX KEY NUMBER**

N112W17300 Mequon Rd, Germantown, WI 53022 | GTNV 211979

3 PURPOSE OF LAND SPLIT

Create a new legal parcel for sale and development	Will the land split require rezoning? Yes, PDD amendment	
	From	To

4 READ AND INITIAL THE FOLLOWING:

CK I understand that the Certified Survey Map is not valid until recorded at the Washington County Register of Deeds. The Village will record the document and charge the applicant all applicable recording fees.

CK I understand that the Map will not be placed on the Village Board agenda until all the technical corrections to the CSM are made, the payment of any outstanding impact fees are paid to the Village Clerk's Department, and the original signed and stamped copy of the Map is submitted on the proper paper.

CK I understand that parcels created outside the Sewer Service Area will require a soil test. I also understand that all properties abutting a State Highway will require DOT approval and I will be responsible for securing such approval prior to recording.

CK I understand all delinquent property taxes on any of the properties involved shall be paid prior to recording.

5 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

[signature] 7.7.25
Applicant Date

Corey Kincaid (Jul 7, 2025 14:22 CDT) 07/07/2025
Owner Date

Village of



Germantown

Village of Germantown
Clerk Treasurer
N112W17001 MEQUON ROAD
Germantown, WI 53022
(262)250-4700
Welcome

07/08/2025 11:33AM PRAVINA P
000932-0019
Payment effective date 07/08/2025

MISCELLANEOUS

ZONING FEES (GENZON)	
2025 GENZON	
1 @ $1960.00	$1,960.00

	$1,960.00
Subtotal	**$1,960.00**
Total	**$1,960.00**
CHECK	$1,960.00
Check Number 1027	

Change due	**$0.00**

Paid by: BLACKSTONE CREEK LLC

Thank you for your payment

CUSTOMER COPY

CERTIFIED SURVEY MAP NO. _____

BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6749 AND OUTLOT 1 OF "THE GLEN AT BLACKSTONE CREEK",BEING A PART OF THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21 AND A PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, BEING IN TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

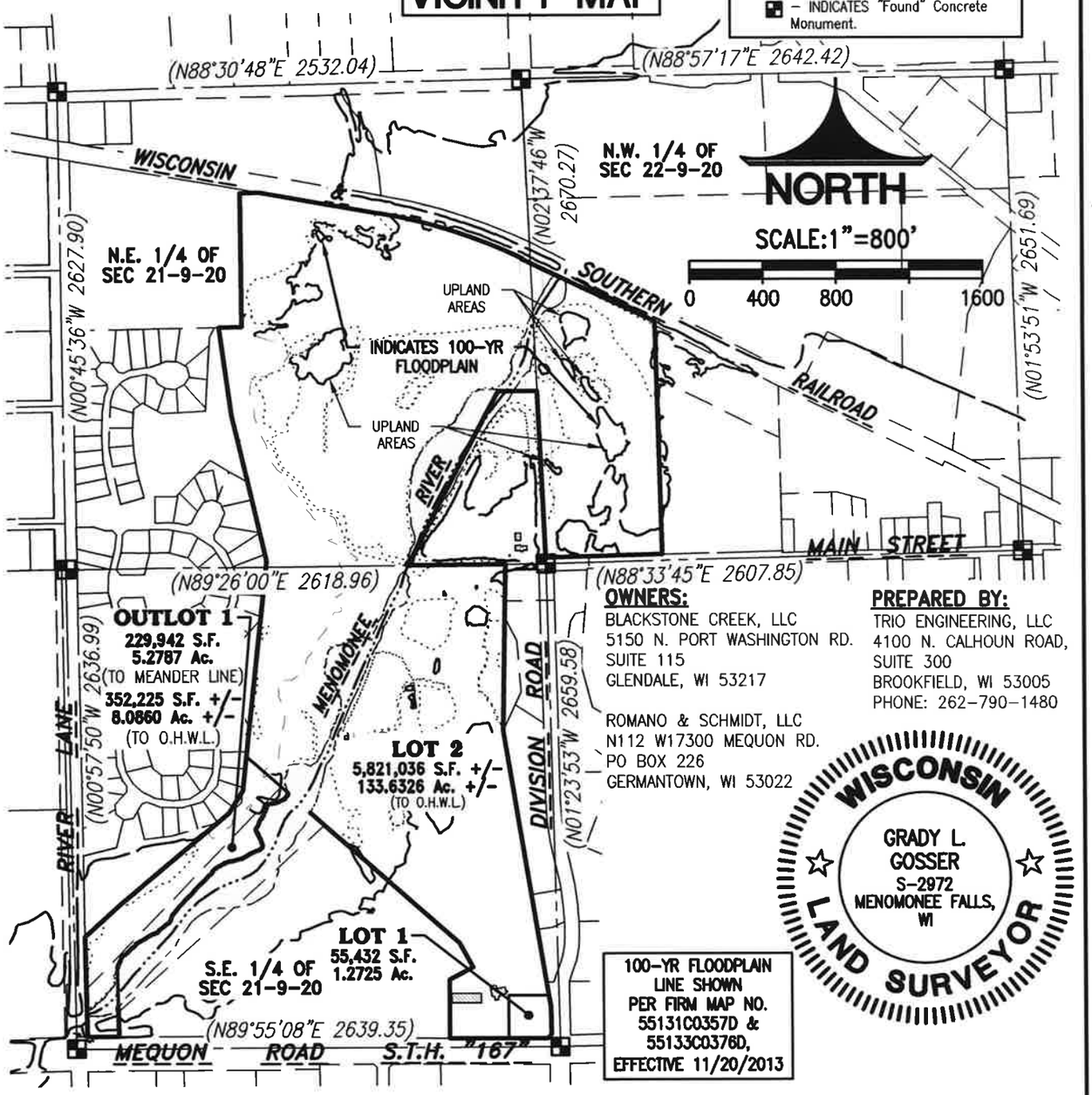
NOTES:

- ALL BEARINGS ARE REFERENCED TO GRID NORTH OF THE WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD-83/2011), IN WHICH THE SOUTH LINE OF THE S.E. 1/4 OF SECTION 21, TOWN 9 NORTH, RANGE 20 EAST, BEARS NORTH 89°55'08" EAST.
- WETLANDS SHOWN HEREON ARE PER HEARTLAND ECOLOGICAL GROUP INC. ASSURED DELINEATION AND REPORT DATED MARCH 27, 2024.
- PRIMARY ENVIRONMENTAL CORRIDOR SHOWN HEREON IS PER HEARTLAND ECOLOGICAL CROUP INC. REPORT AND MAP REFERENCED AND ATTACHED TO A SEWRPC CONCURRENCE LETTER DATED MARCH 7, 2025.
- SEE CERTIFIED SURVEY MAP NO. 6177 AND CERTIFIED SURVEY MAP NO. 6749 FOR EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS.

LEGEND:

- O – INDICATES "Set" 0.750" O.D. by 18" long Reinforcing Bar weighing 1.502 lbs. per lineal foot.
- ● – INDICATES "Found" 1" Iron Pipe (Unless otherwise noted)
- ■ – INDICATES "Found" Concrete Monument.

VICINITY MAP



OWNERS:

BLACKSTONE CREEK, LLC
5150 N. PORT WASHINGTON RD.
SUITE 115
GLENDALE, WI 53217

ROMANO & SCHMIDT, LLC
N112 W17300 MEQUON RD.
PO BOX 226
GERMANTOWN, WI 53022

PREPARED BY:

TRIO ENGINEERING, LLC
4100 N. CALHOUN ROAD,
SUITE 300
BROOKFIELD, WI 53005
PHONE: 262-790-1480

WISCONSIN
GRADY L. GOSSER
S-2972
MENOMONEE FALLS, WI
LAND SURVEYOR

100-YR FLOODPLAIN LINE SHOWN PER FIRM MAP NO. 55131C0357D & 55133C0376D, EFFECTIVE 11/20/2013

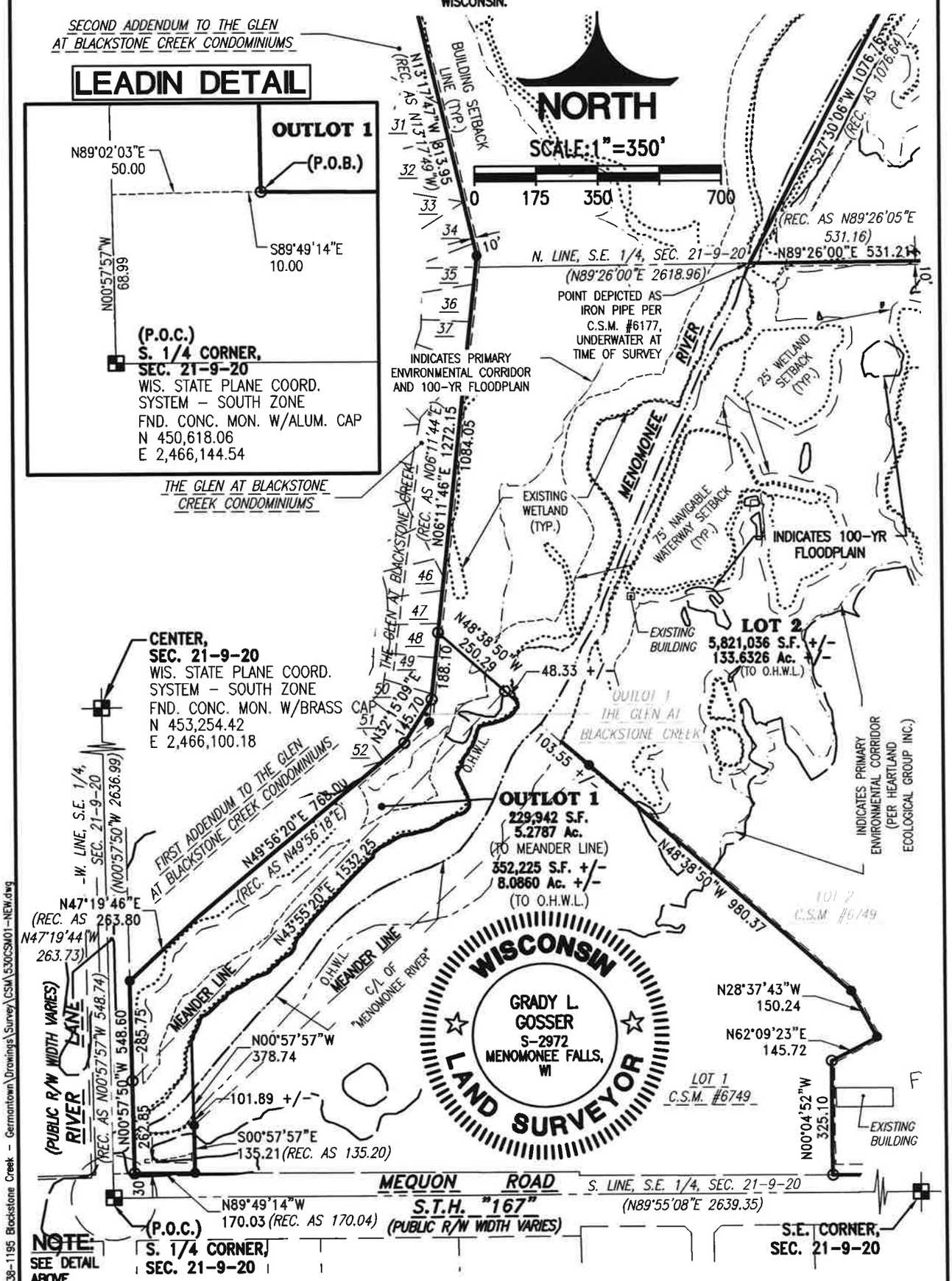
DRAFTED THIS 3rd DAY OF JULY, 2025
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972

JOB NO. 23-038-1195-01
SHEET 1 OF 8

X:\2023\23-038-1195 Blackstone Creek - Germantown\Drawings\Survey\CSM\530CSM01-NEW.dwg

CERTIFIED SURVEY MAP NO. _____

BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6749 AND OUTLOT 1 OF "THE GLEN AT BLACKSTONE CREEK", BEING A PART OF THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21 AND A PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, BEING IN TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.



NOTE: SEE DETAIL ABOVE

DRAFTED THIS 3rd DAY OF JULY, 2025

THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972

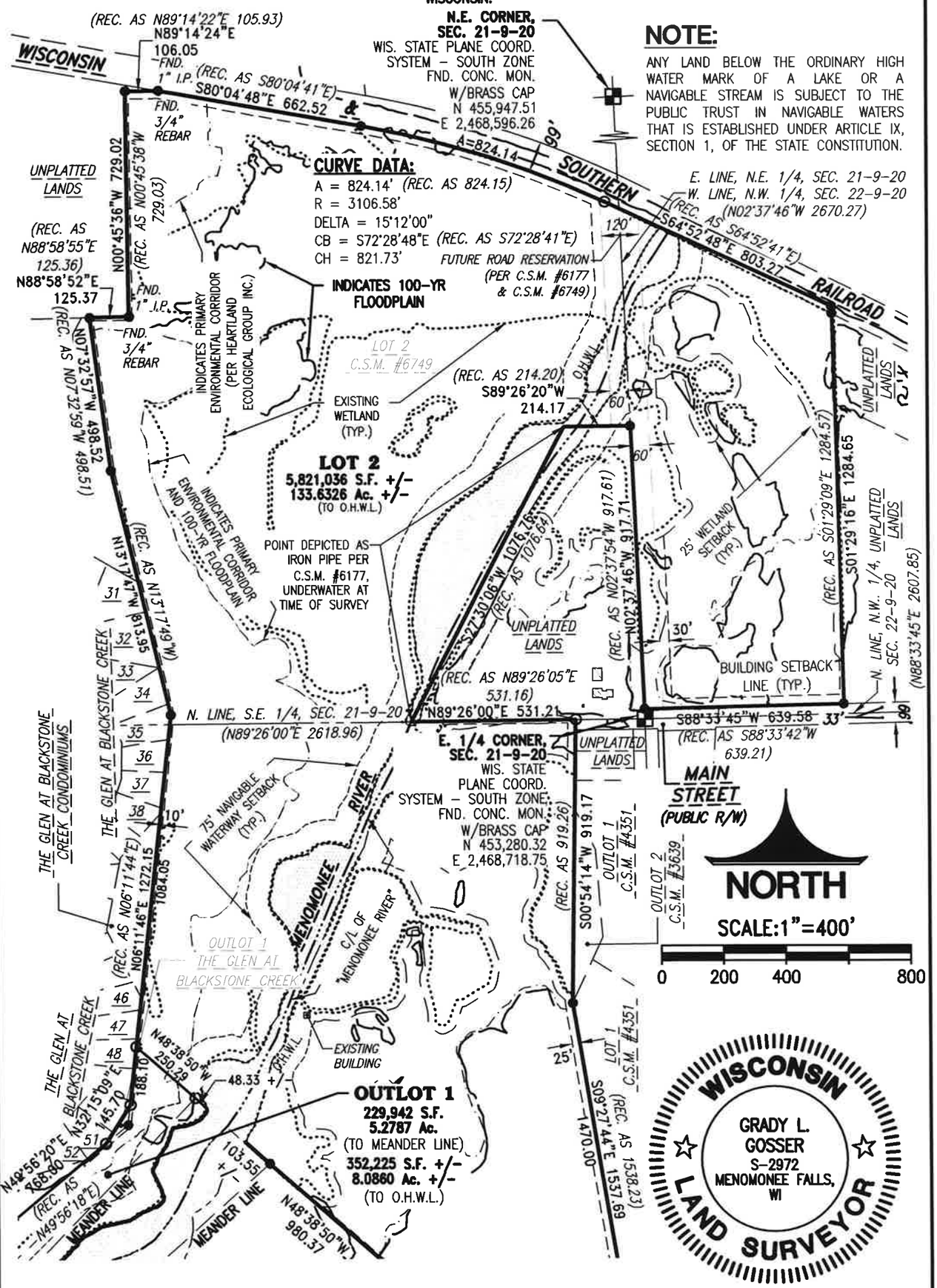
JOB NO. 23-038-1195-01

SHEET 2 OF 8

X:\2023\23-038-1195 Blackstone Creek - Germantown\Drawings\Survey\CSM\530CSM01-NEW.dwg

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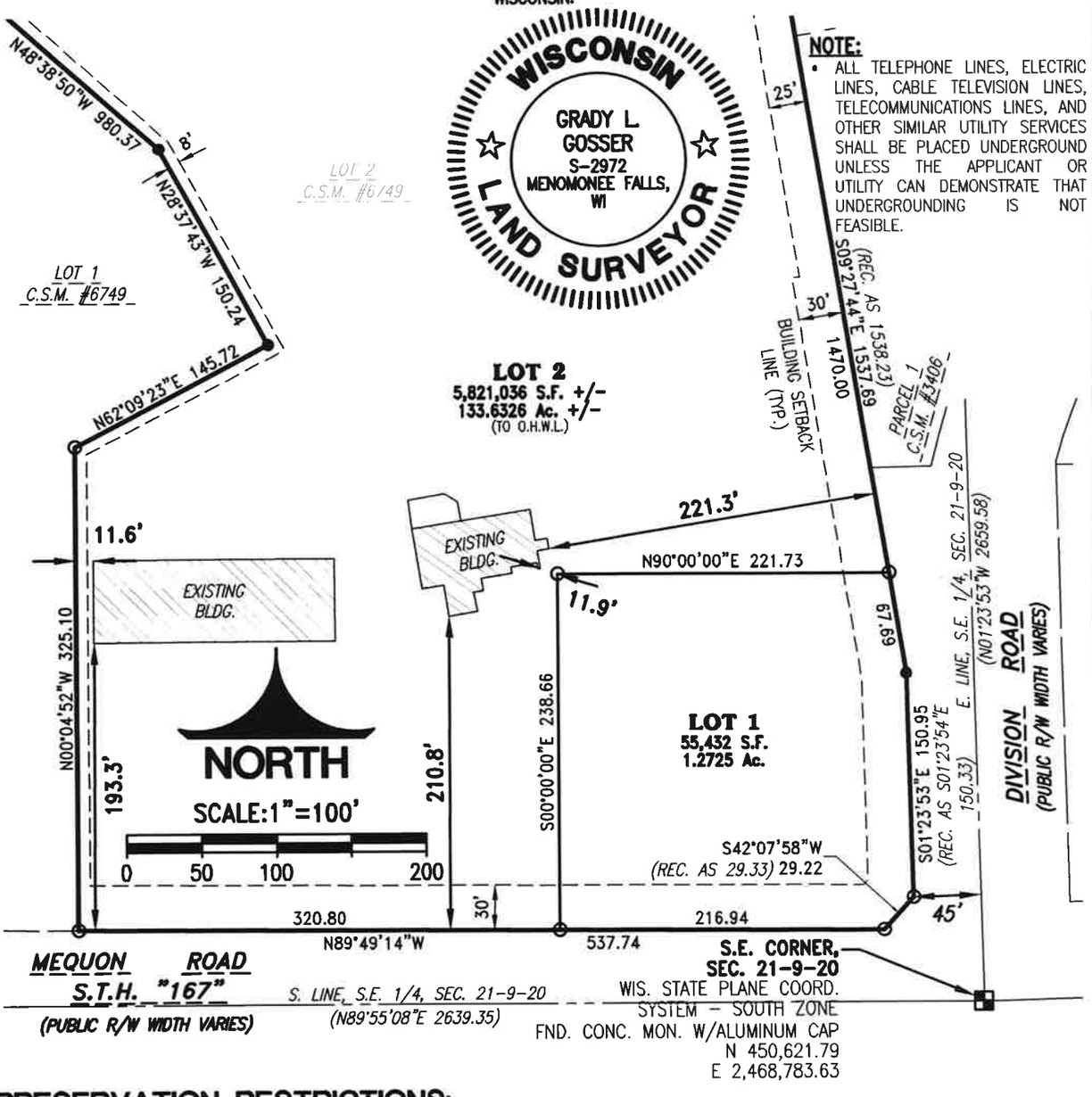
DRAFTED THIS 3rd DAY OF JULY, 2025
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972

JOB NO. 23-038-1195-01
SHEET 3 OF 8

X:\2023\23-038-1195 Blackstone Creek - Germantown\Drawings\Survey\CSM\530CSM01-NEW.dwg

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BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6749 AND OUTLOT 1 OF "THE GLEN AT BLACKSTONE CREEK", BEING A PART OF THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21 AND A PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, BEING IN TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.



PRESERVATION RESTRICTIONS:

Those areas identified as WETLAND, FLOODPLAIN and PRIMARY ENVIRONMENTAL CORRIDOR on this Certified Survey Map shall be subject to the following restrictions:

1. Grading, filling and removal of topsoil or other earthen materials are prohibited, unless specifically authorized by the municipality in which this land is located and, if applicable, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
2. The removal or destruction of any vegetative cover, i.e., trees, shrubs, grasses, etc., is prohibited, except as may be used for a Recreational Trail and with the exception that dead, diseased, or dying vegetation may be removed, at the discretion of the landowner and with approval from the municipality in which this land is located. Silvicultural thinning, upon the recommendation of a forester or naturalist and with approval from the municipality in which this land is located. The removal of any vegetative cover that is necessitated to provide access or service to an approved residence or accessory building, shall be permitted only when the access or service cannot be located outside of the Wetland/Floodplain/Primary Environmental Corridor and with approval from the municipality in which this land is located.
3. Grazing by domesticated animals, i.e., horses, cows, etc, is prohibited within the Wetland and Floodplain area and shall be discouraged to the greatest extent possible within the Primary Environmental Corridor area.
4. The introduction of plant material not indigenous to the existing environment is prohibited.
5. Ponds may be permitted subject to the approval of the municipality in which they are located and, if applicable, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
6. The construction of buildings is prohibited.

DRAFTED THIS 3rd DAY OF JULY, 2025
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972

JOB NO. 23-038-1195-01
SHEET 4 OF 8

X:\2023\23-038-1195 Blackstone Creek - Germantown\Drawings\Survey\CSM\530CSM01-NEW.dwg

CERTIFIED SURVEY MAP NO._____

BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6749 AND OUTLOT 1 OF "THE GLEN AT BLACKSTONE CREEK", BEING A PART OF THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21 AND A PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, BEING IN TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

SURVEYOR'S CERTIFICATE:

STATE OF WISCONSIN)
)ss
COUNTY OF WAUKESHA)

I, Grady L. Gosser, Professional Land Surveyor, do hereby certify:

That I have surveyed, divided and mapped a redivision of Lot 2 of Certified Survey Map No. 6749 and Outlot 1 of "The Glen at Blackstone Creek", being a part of the Northwest 1/4, Northeast 1/4, Southwest 1/4 and Southeast 1/4 of the Northeast 1/4 and the Northwest 1/4, Northeast 1/4, Southwest 1/4 and Southeast 1/4 of the Southeast 1/4 of Section 21 and a part of the Northwest 1/4 and Southwest 1/4 of the Northwest 1/4 of Section 22, all being in Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin.

Said Parcel contains 6,228,693 Square Feet (or 142.9911 Acres) of land, more or less to the Ordinary High Water Line of the "Menomonee River".

That I have made such survey, land division and map by the direction of **Blackstone Creek, LLC** and **Romano & Schmidt, LLC**, owners of said lands.

That such map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

That I have fully complied with the provisions of Chapter 236.34 of the Wisconsin Statutes and Chapter 18 of the Village of Germantown Subdivision Control Ordinance in surveying, dividing and mapping the same.

Dated this_____ day of_____, 20_____.

_____

Grady L. Gosser, P.L.S.
Professional Land Surveyor, S-2972
TRIO ENGINEERING, LLC
4100 N. Calhoun Road, Suite 300
Brookfield, WI 53005
Phone: (262)790-1480 Fax: (262)790-1481

CERTIFIED SURVEY MAP NO._____

BEING A REDIVISION OF LOT 2 OF CERTIFIED SURVEY MAP NO. 6749 AND OUTLOT 1 OF "THE GLEN AT BLACKSTONE CREEK", BEING A PART OF THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHWEST 1/4, NORTHEAST 1/4, SOUTHWEST 1/4 AND SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21 AND A PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, BEING IN TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

LOT 2 CORPORATE OWNER'S CERTIFICATE:

BLACKSTONE CREEK, LLC, a Corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said Corporation has caused the land described on this map to be surveyed, divided and mapped as represented on this map in accordance with the provisions of Chapter 236 of the Wisconsin Statutes and Chapter 18 of the Germantown Subdivision Control Ordinance, this_____ day of _____, 20 _____.

BLACKSTONE CREEK, LLC

_____
Corey Kincaid, Manager

STATE OF WISCONSIN)
) ss
COUNTY OF)

Personally came before me this _____ day of _____, 20____, Corey Kincaid, Manager of the above named Limited Liability Company, to me known to be the person who executed the foregoing instrument, and to me known to be such Manager of said Limited Liability Company, and acknowledged that he executed the foregoing instrument as such officer as the deed of said Limited Liability Company, by its authority.

_____
Print Name: _____
Notary Public, _____County, WI
My commission expires: _____

DRAFTED THIS 3rd DAY OF JULY, 2025
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972

Job. No. 23-038-1195-01
SHEET 6 OF 8

CERTIFIED SURVEY MAP NO._____

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OUTLOT 1 CORPORATE OWNER'S CERTIFICATE:

ROMANO & SCHMIDT, LLC, a Corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, does hereby certify that said Corporation has caused the land described on this map to be surveyed, divided and mapped as represented on this map in accordance with the provisions of Chapter 236 of the Wisconsin Statutes and Chapter 18 of the Germantown Subdivision Control Ordinance, this_____ day of _____, 20 _____.

ROMANO & SCHMIDT, LLC

_____
Troy Schmidt, Partner

STATE OF WISCONSIN)
) ss
COUNTY OF)

Personally came before me this _____ day of _____, 20_____, Troy Schmidt, Partner of the above named Limited Liability Company, to me known to be the person who executed the foregoing instrument, and to me known to be such Partner of said Limited Liability Company, and acknowledged that he executed the foregoing instrument as such officer as the deed of said Limited Liability Company, by its authority.

_____
Print Name: _____
Notary Public, _____County, WI
My commission expires: _____

DRAFTED THIS 3rd DAY OF JULY, 2025
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972

Job. No. 23-038-1195-01
SHEET 7 OF 8

CERTIFIED SURVEY MAP NO._____

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VILLAGE OF GERMANTOWN PLANNING COMMISSION APPROVAL:

This Certified Survey Map is hereby approved by the Planning Commission of the Village of Germantown on this ___ day of _____, 2025.

_____ Robert A. Soderberg, Chairman

_____ Deborah J. Remich, Secretary

VILLAGE OF GERMANTOWN BOARD APPROVAL:

This Certified Survey Map, being a division of Lot 2 of Certified Survey Map No. 6749 and Outlot 1 of "The Glen at Blackstone Creek", being a part of the Northwest 1/4, Northeast 1/4, Southwest 1/4 and Southeast 1/4 of the Northeast 1/4 and the Northwest 1/4, Northeast 1/4, Southwest 1/4 and Southeast 1/4 of the Southeast 1/4 of Section 21 and a part of the Northwest 1/4 and Southwest 1/4 of the Northwest 1/4 of Section 22, all being in Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin, having been approved by the Planning Commission being the same, is hereby approved by the Village Board of Trustees of the Village of Germantown on this _____ day of _____, 2025.

_____ Robert A. Soderberg, Village President

_____ Donna Ott, Village Clerk

DRAFTED THIS 3rd DAY OF JULY, 2025
THIS INSTRUMENT WAS DRAFTED BY GRADY L. GOSSER, S-2972

Job. No. 23-038-1195-01
SHEET 8 OF 8

X:\2023\23-038-1195 Blackstone Creek - Germantown\Documents\Survey 530-Certified Survey Map\CSM.doc

To: Kevin Driscoll, Village Engineer

CC: Jeff Retzlaff Village Planner

From: Bob Beilfuss, PLS

Date: August 15, 2025

Re: Culvers-Blackstone CSM

Kevin,

Here is my review comments for the CSM received 7/30/2025.

Certified Survey Map

Applicant or Owner: Jim Sedqwick
Address: N112 W17300 Mequon Road, Germantown Wl. 53022
Tax Key No. GNTV 211979

Land Surveyor/Firm: Grady L. Gosser, PLS – Trio Engineering

1. On all sheets, the Professional Land Surveyor's signature is missing.

2. The Professional Land Surveyor's seal is missing from sheets 5 through 8.

3. There is a access restriction (shown on previous CSM's) along Mequon Road and a portion of Division Road that is not shown or dimentioned on this submittal and needs to be added. As does the 50' access point. Should the existing driveway not be located within the 50' access point, then either the drive needs to be relocated or the access point will need to be relocated. These options need to be approved by the agency that required the access restriction originally. Research will need to be done to see which agency required the restriction. It could be the Village or the Wisconsin Department of Transportation.

4. There is a 20' sanitary sewer and water main easement along the Mequon Road per Document No. 1427147 that was recorded separately from the previous CSM's and is not shown on those previous CSM. This easement needs to be added to this submittal.

5. The building setbacks and dimensions are missing from the west and north boundary lines of proposed Lot 1 and needs to be added to this submittal.

6. The north access drive from Division Road to serve proposed Lot 1 is located on proposed Lot 2 and either the north line of Lot 1 needs to relocated to the north, so that the new drive is located on Lot 1 or a shared driveway easement between proposed Lot 1 and proposed Lot 2, centered on said north boundary line, with terms and conditions of the easement, needs to be created.

7. No further review comments.

Document Approval and Recording

For this CSM to be approved by the Village Board and recorded at the Washington County Register of Deeds, the document must be provided to the Village Clerk's office in a completed format including all original signatures of the owner and lending institution, original seals of the professional land surveyor on the recordable media the Wednesday prior to the scheduled Village Board meeting.

This includes the CADD file.

Any documents or digital files not submitted by the due date or contain outstanding technical review comments that have not be addressed, will be moved to the next scheduled Village Board meeting agenda.

Document Submittals and Data Conversion

As of October 2005, the Village of Germantown requires a digital copy of all Certified Survey Maps, Condominium Plats and Subdivision Plats in addition to the documents as required by Wisconsin Statute and Village Ordinances as part of the land division approval.

The digital mapping should be prepared using the NAD83 Datum (2011 Adjustment)

Prior to Recording the Certified Survey Map or Subdivision Plat
The professional land surveyor is responsible for submitting a copy of the AutoCAD drawing file (.dwg) of the document in Version 2024 via email to the Village Surveyor for mapping purposes.

All digital professional land surveyor seals and signatures will be purged from the digital copy prior to submittal.

Sincerely,
Point Land Surveying & Mapping

Bob Beilfuss

Bob Beilfuss, P.L.S.
Principle

Village of Germantown Willkommen

Fee Must Accompany Application

☒ $820 Paid [signature] Date 07/07/25

☐ $200 PC Consultation Only Paid [signature] Date 7/8/25 ChK # 1028

PLANNED DEVELOPMENT DISTRICT (PDD) AMENDMENT APPLICATION

Applications NOT signed by the Property Owner(s) will not be accepted. Attach additional sheets and/or include supplemental information in support of your application.

APPLICANT OR AGENT:
Jim Sedgwick
Heimat Capital LLC
Address: 12075 N Corporate Parkway ste 250, Mequon, WI 53092
Phone: 414.303.4691
FAX: na
E-Mail: jim.sedgwick@theheimatgroup.com

PROPERTY OWNER(S):
Blackstone Creek LLC
Atta Corey Kincaid, Member
Address: c/o Heimat Capital LLC
Phone:
FAX:
E-Mail:

RECEIVED JUL 07 2025 OFFICE OF THE VILLAGE PLANNER VILLAGE OF GERMANTOWN

PDD Name & Resolution No.:
Blackstone Creek PDD
Resolution No: 24-06

Legal Description of Property or Area (metes and bounds description):

Attach separate legal description if necessary

See Attached.

Check all that apply:

☑ **REQUEST TO AMEND PDD ZONING**
☑ **REQUEST TO AMEND PDD GENERAL DEVELOPMENT PLAN**
☑ **REQUEST TO AMEND PDD CONDITIONS & RESTRICTIONS**

List of Proposed Amendment(s) (include Resolution # and Condition #):

Attach Revised Plan(s) or Separate Pages as Necessary

See Attached

Detailed Explanation and Justification for Proposed Amendment(s):

Attach Revised Plan(s) or Separate Pages as Necessary

See Attached.

APPLICATION SUBMITTAL REQUIREMENTS (to be submitted at time of application):

All Amendment Applications:

- ❑ Complete Application Form (Affidavit of Understanding and signatures required)
- ❑ Application Fee
- ❑ Detailed explanation of and justification for proposed amendment(s)
- ❑ Detailed explanation of if and how the proposed amendment(s) will affect other aspects of the development included within the PDD

General Development Plan Amendment Only:

- ❑ Legal Description of the land subject of map amendment in electronic/digital file format (e.g. Microsoft Word)
- ❑ Revised or New General Development Plan at a scale of 1" = 50' or other suitable scale necessary to accurately present:
  - Exterior boundary of the land subject of the map amendment
  - All existing and/or proposed features to be included in the development

AFFIDAVIT OF UNDERSTANDING

Please read and indicate that you understand and agree to the following (initials in box):

CK ☑ I understand that Village Staff, the Plan Commission and/or the Village Board may request additional information to properly evaluate this application and failure to provide such information may be sufficient justification to deny this application;

CK ☑ I understand that, regardless of the justification and/or information provided in support of my application, the Village is not obligated to approve my application nor amend the PDD as requested;

CK ☑ I am aware that the approval of an application to amend a PDD only amends the General Development Plan and/or conditions & Restrictions Resolution and does not otherwise revise or change the zoning of the land affected by the amendment(s), and, I may be required to obtain separate permits and/or approvals (e.g. site plan, building permits, etc.) from the Village or other agencies as a prerequisite to actual or continued development of such land.

ALL APPLICATIONS MUST BE SIGNED BY THE APPLICANT/AGENT AND PROPERTY OWNER(S)

7.7.25
Applicant/Agent — Date

Corey Kincaid | Jul 7, 2025 14:24 CDT
07/07/2025
Property Owner — Date

7.7.25
Applicant/Agent — Date

Property Owner — Date

HEIMAT

July 7, 2025

Village of Germantown
c/o Jeff Retzlaff
N112 W17001 Mequon Road
Germantown, WI 53022

RE: Blackstone Creek Planned Development District Amendment Application

Dear Mr. Retzlaff,
On behalf of Blackstone Creek LLC, we are presenting the enclosed Planned Development District (PDD) Amendment Application to the Village of Germantown for consideration. It is our intent to work with the Village to seek an amendment to the existing Blackstone Creek PDD to permit the following:

1. Facilitate the sale of approximately 1 acre for the development of a new Culvers restaurant.
2. Update the General Plan to facilitate the development of a multi-family housing community generally consisting of approximately 205 dwelling units along with a clubhouse and other amenity spaces.
3. Facilitate the creation of future commercial pad sites.

As a supplement to the application form, noted below is further detail regarding a "List of Proposed Amendments" to the existing Blackstone Creek PDD.

- Section 1 - General Development Plan dated July 5, 2016 shall be revised and replaced with the plan dated July 7, 2025 as prepared by The Kubala Washatko Architects relative to the golf course and commercial area. The revised General Plan shall allow for the following additional uses:
    - Culvers restaurant with associated drive through lanes and parking.
    - Commercial pad site.
    - Mixed use or multi-family pad site.
    - Approximately eight (8) two (2) story walk up/garden style multi-family buildings.
    - Approximately seven (7) detached garage parking structures.
    - Club house/common house.
    - Amenity structure intended to house mail, package delivery, maintenance and other related uses.
    - Walking path to create connectivity between Mequon Road and Main Street.
- Section 5 – Architectural Design, Exterior Materials and Building Height shall be updated to reflect the following:
    - Culvers architectural design, as submitted.
    - Multi-family buildings and related amenity structures to be generally consistent in quality and materials with the precedent imagery, as submitted.

As a further supplement to the application form, noted below is a "Detailed Explanation and Justification for Proposed Amendments":

The redevelopment of the Blackstone Creek Golf Course ("The Project") is a multi-phase, mixed use development that will serve as a continuation of the original vision for the Blackstone Creek redevelopment and a catalyst for the Village Center District. Accordingly, we feel it's important to further outline our vision for the respective sites and phases of the Project:

Phase I is intended to serve as the catalyst for the commercial space. Drawing inspiration from the 2050 Comprehensive Plan ("Comp Plan"), we aim to activate the commercial pad sites located nearest to the intersection of W. Mequon Road and N. Division Road. Culvers is a high-quality, family-friendly Wisconsin brand; this location will be owned and operated by an experienced franchisee with a proven track record.

Phase II is intended to take cues from Traditional Neighborhood Design as desired in the Comp Plan. With increasing demand for right-sized residential units offering direct access, Phase II planning incorporates market rate, two story, walk up/garden style apartment concepts. As noted on Page 18 of the Comp Plan, "consider adding different housing options to accommodate smaller families and an older generation that would like to downsize but stay within their community." Evolving demographics have shown this type of housing to be in high demand and an invaluable resource for community stability. We believe strongly in the data which reinforces this need - as noted in the Village commissioned *"Residential Market Analysis: Strategy Planning Guidelines for Germantown"* as prepared by Tracy Cross & Associates.

The Project presents a once in a generation opportunity to achieve the following Village of Germantown goals:

- HOUSING
  2050 Comp Plan Goal: Nurture existing neighborhoods and develop a variety of new housing types that are accessible and welcoming to a diversity of residents. New housing should contribute to Germantown's community character and build on the Village's assets.

  Progress towards Goal: The Project adds quality housing options, as an alternative to traditional single-family housing.

- TRANSPORTATION
  2050 Comp Plan Goal: Ensure a safe, reliable, and accessible transportation system for all residents and visitors in Germantown. Transportation investments should be coordinated regionally, and new investments should consider a range of transportation choices. New development in Germantown should consider appropriate modes of transportation during the planning and approval process.

  Progress towards Goal: The addition of a walking path provides a safe connection from Mequon Road to Main Street for pedestrians and cyclists.

- AGRICULTURAL, CULTURAL AND NATURAL RESOURCES
  2050 Comp Plan Goal: Guarantee Germantown's history and identity are preserved for the future through the protection of its most valuable resources. Germantown's community should make use of natural areas to appreciate their value without contributing to their degradation. Open space and environmental corridors must be managed and protected.

  Progress towards Goal: Phase III includes the potential addition of new public parklands. Phases I and II are designed to respect the valuable open spaces and environmental corridors.

- UTILITIES & COMMUNITY FACILITIES
  2050 Comp Plan Goal: Provide Germantown residents and businesses with safe, reliable, and adequate utilities and facilities to meet current and future needs.

  Progress towards Goal: The addition of improved public infrastructure.

- ECONOMIC DEVELOPMENT
  2050 Comp Plan Goal: Promote economic, social and environmental benefits through business and commercial activity in Germantown with a cohesive and unifying vision that inspires investment, tourism, and local pride.

  Progress towards Goal: Approximately $75,000,000 in new contemplated value, a catalytic investment to invigorate the Village Center District along with welcoming a new high quality commercial business.

- LAND USE

  2050 Comp Plan Goal: Pursue a land use pattern of neighborhoods, districts, and corridors that facilitates the siting and compatibility of new and existing uses in a manner that promotes the efficient use of existing and future public utilities and facilities while protecting natural and environmental resources and preserving our rural character and quality of life.

  Progress towards Goal: Create a defined residential neighborhood while preserving the natural environment and strengthening the commercial corridor.

Our proposed plan is to work closely with Village staff to amend the current PDD to incorporate the enclosed General Plan. Efforts will focus on phasing the Project and constructing buildings in a defined manner over a period of years. Preliminary phasing and massing are anticipated as follows:

- Pending Village approvals, land sale to Culvers Fall 2025 with construction commencing late 2025.
- Culvers opening in Spring 2026, coordinated with the golf course operations.
- Golf Course operations to continue as-is through the 2026 golf season.
- Phase II multifamily commencing upon achieving Village approvals – anticipated Fall 2026.
- Delivery of Phase II multifamily housing beginning in 2027.
- Future Phase III development opportunity pending Village input on a previously submitted Exchange Agreement.

  Benefits to include:

  Further mixed-use and multi-family development.
  Expansion of public parklands.
  Activation of riverfront.
  Addition of varied public amenities.
  Activation of Main Street, consistent with 2050 Comp Plan.

We are firm supporters of the Village of Germantown and have worked to take substantial cues from the Comp Plan. We believe the Project as a whole has the potential to create multiple defined neighborhoods with needed housing stock, contribute to strengthening the Village Center District, preserve dynamic open space for recreation and bolster a strong sense of community; improving the physical infrastructure and the overall aesthetic of the Village for generations to come.

In addition, the Project will substantially increase the Village tax base. It will propel multiple under-utilized parcels forward, creating a sense of place and adding vibrancy to the Village Center District that will ensure Germantown remains a community in which residents want to live, work and play. Simply put, it will help the Village realize the vision identified in the 2050 Comp Plan.

Please review the attached and let us know if you have further questions. Thank you in advance for your consideration of this request.

Sincerely,

BLACKSTONE CREEK LLC.
By THE HEIMAT GROUP INC.

Jim Sedgwick
Principal

Joseph F. Lak II
Principal

EXHIBIT A – LEGAL DESCRIPTION OF PROPERTY

LOT TWO (2) OF CERTIFIED SURVEY MAP NO. 6749, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS FOR WASHINGTON COUNTY, WISCONSIN ON MARCH 31, 2017, IN VOLUME 52 OF CERTIFIED SURVEY MAPS, PAGES 41-52, AS DOCUMENT NO. 1427138, SAID CERTIFIED SURVEY MAP BEING A DIVISION OF LOTS 2 AND 3 IN CERTIFIED SURVEY MAP NO. 6177, AND LANDS LOCATED BEING A PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4, NORTHWEST 1/4 & SOUTHWEST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4, SOUTHEAST 1/4, NORTHWEST 1/4 & SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21 AND PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, ALL BEING IN TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

Village of



Germantown

Village of Germantown
Clerk Treasurer
N112W17001 MEQUON ROAD
Germantown, WI 53022
(262)250-4700
Welcome

07/08/2025 11:34AM PRAVINA P
000932-0020
Payment effective date 07/08/2025

MISCELLANEOUS

ZONING FEES (GENZON)	
2025 GENZON	
1 @ $820.00	$820.00

	$820.00
Subtotal	**$820.00**
Total	**$820.00**
CHECK	$820.00
Check Number 1028	

Change due	**$0.00**

Paid by: BLACKSTONE CREEK LLC

Thank you for your payment

CUSTOMER COPY

Assured Wetland Delineation & Environmental Corridor Delineation Report

Blackstone Creek Golf Course

Village of Germantown, Washington County, Wisconsin

March 27, 2024

Project Number: 20231043

506 Springdale Street | Mount Horeb, WI 53572 | www.heartlandecological.com

Blackstone Creek Golf Course

Village of Germantown, Washington County, Wisconsin

March 27, 2024

Prepared for:

Mr. Jim Sedgwick

Blackstone Creek, LLC

5150 N. Port Washington Rd. #115

Glendale, WI 53217

Prepared by:

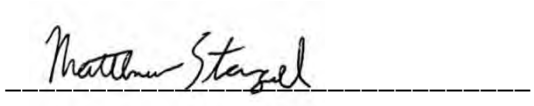
Heartland Ecological Group, Inc.

506 Springdale Street

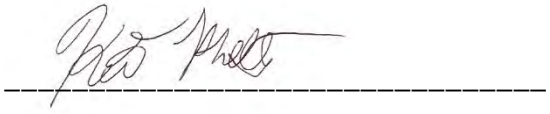
Mount Horeb, WI 53572

608-490-2450

www.heartlandecological.com



Matthew Stangel, Senior Scientist



Keith Phelps, Environmental Scientist

Solutions for people, projects, and ecological resources.

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1.0 Introduction

Heartland Ecological Group, Inc. ("Heartland") completed an assured wetland determination and delineation on the Blackstone Creek Golf Course site on July 31, August 1, and August 2, 2023, at the request of Blackstone Creek, LLC. Primary Environmental Corridor (PEC) was also refined and field delineated. Wetland delineation fieldwork was completed by Matt Stangel, an assured delineator qualified via the Wisconsin Department of Natural Resources' (WDNR's) Wetland Delineation Assurance Program and Keith Phelps, both of Heartland (Appendix E, Qualifications). Primary Environmental Corridor fieldwork was also completed by Matt Stangel and Keith Phelps. The 164.44-acre site (the "Study Area") is northeast of the intersection of Mequon Road and River Lane, in Sections 21 & 22, T9N, R20E, Village of Germantown, Washington County, WI (Figure 1, Appendix A). The purpose of the wetland and environmental corridor delineation was to determine the location and extent of wetlands, waterways, water bodies, and PEC within the Study Area.

Sixteen (16) wetland areas totaling approximately 31.97 acres were delineated and mapped within the Study Area (Figure 6, Appendix A). One PEC area totaling approximately 118.84 acres was also identified and mapped. One (1) waterway, the Menomonee River, which was historically widened/excavated, traverses the central portion of the Study Area. Additionally, twelve (12) historically excavated ponds were identified within the Study Area.

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. PEC is a designation created by Southeastern Wisconsin Regional Planning Commission (SEWRPC) that is adopted by local municipalities, townships, and counties. The municipalities have jurisdiction over environmental corridors such as PEC under the oversight of SEWRPC and WDNR. Heartland recommends this report be submitted to local authorities, the USACE, and SEWRPC (via the Village of Germantown) 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 U.S. Department of Agriculture (USDA) Natural Resource Conservation Service's (NRCS) Soil Survey Geographic Database (SSURGO) *Web Soil Survey* (Figure 3, Appendix A), the WDNR's *Wetland Indicator* data layer (Figure 4, Appendix A), the WDNR's *Wisconsin Wetland Inventory* data layer (Figure 5, Appendix A), the WDNR's *24k Hydro Flowlines (Rivers and Streams)* data layer (Figure 2 and 5, Appendix A), the WDNR's *Color-Stretch LiDAR and Hillshade Image Service Layer* (Figure 6, Appendix A), and aerial imagery available through the USDA Farm Service Agency's (FSA) National Agriculture Imagery Program (NAIP) and Washington County's Land Information Office.

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.

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 actively managed golf course areas. The GNSS data was then used to map the wetlands using ESRI ArcGIS Pro™ software.

2.2 Environmental Corridors

Per the SEWRPC Planned Environmental Corridors and 2010 Environmental Corridors (Corridors) mapping, corridor areas are located within the Study Area. Because the Corridor boundaries may need adjustment due to changing site conditions over time, a field inspection is often needed to refine them. Field work was completed by Matt Stangel and Keith Phelps of Heartland on July 31, 2023.

The initial steps in the Corridor delineation refinement process included a review of the following documents:

- NRCS Web Soil Survey
- USGS 7.5-minute Wisconsin quadrangle map and available topographic maps
- WWI Mapping
- SEWRPC Mapping and Reports

These documents provide information on where Corridors have been previously identified and identify areas that possess a high likelihood of containing Corridors. These initially identified areas were then visited to make on-site determinations, and where necessary, complete delineations of the Corridor boundary.

Heartland conducted a field review and applied the definitions, criteria, and guidelines outlined in “Refining the Delineation of Environmental Corridors in Southeastern Wisconsin” (Rubin and Emmerich, 2000). Field conditions were compared with aerial photography to assess changes in land use and/or vegetative cover. SEWRPC has identified the various

Corridor areas within southeastern Wisconsin by aerial photographic interpretation and, in many instances, field review. The following are definitions for these terms:

- Primary environmental corridor (PEC) contains concentrations of the most significant natural resources. They are at least 400 acres in size, at least two (2) miles long and at least 200 feet wide.
- Secondary environmental corridor (SEC) contains significant but smaller concentrations of natural resources. They are at least 100 acres in size and at least one (1) mile long, unless serving to link PEC's.
- Isolated natural resource areas (INRA) contain significant remaining resources apart from environmental corridors. They are at least five (5) acres in size and 200 feet wide.

The field inspection included a preliminary reconnaissance of the Study Area to determine the general topography, plant communities, and to confirm the presence of various resource features.

1) A meander survey was conducted in the northern woodland area of the PEC and all known plants were identified to the species level.
2) If soil limitations were part of the criteria, soil types were confirmed during the field inspection.
3) Changes in wildlife habitat and/or Corridor were recorded in field notes.
4) Heartland identified all key natural resource base elements present within the Study Area in accordance with definitions in Rubin & Emmerich (2000) including:

- Lakes, rivers, and streams
- Wetlands
- Prairie remnants
- Rugged terrain and steep slopes
- Poorly drained and organic soil
- Potential outdoor recreation sites
- Historic sites and structures
- Undeveloped shorelands and flood lands
- Woodlands
- Wildlife habitat
- Unique landforms
- Existing outdoor recreation sites
- Significant open spaces
- Outstanding scenic areas and vistas

Point values of each natural resource base element were then summed, and those areas with 10 or more points, and that met the minimum size and width requirements, were

identified as corridor. Setbacks from key features (e.g. navigable waterways) were also included.

Heartland then located the Corridor boundary in the Study Area mostly by finding the outer drip line of the tree canopy of woodlands. Woodlands are comprised of trees with at least a four-inch diameter at breast height (dbh), having a minimum density of 17 trees per acre, and producing greater than 50% canopy cover. Wetlands, woodlands, floodplain, and wildlife habitat elements were included in the Corridor.

3.0 Results and Discussion

3.1 Desktop Review

Climatic Conditions

According to the APT analysis (Deters & Gutenson 2021) using the previous 90 days of precipitation data, conditions encountered at the time of the fieldwork were expected to be drier than normal for the time of year (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 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 analysis.

General Topography and Land Use

The topography within the Study Area was relatively flat as much of the Study Area is located within the historic 100-year flood plain of the Menomonee River. A relatively steep slope is located on the south side of the Study Area, and indications of historic grading for golf course construction and management are present within the golf course area (e.g. tee boxes, berms, drainage swales, and artificial ponds). A topographic high of approximately 886 feet above mean sea level (msl) is present near the clubhouse building and parking lot on the south side of the Study Area, and a topographic low of approximately 842 feet above msl is present within the Menomonee River, which bisects the center of the Study Area from north to south (Figures 2 and 6, Appendix A). Land uses within the Study Area is primarily an active golf course with an area of undeveloped woodland present on the north side and the Village of Germantown's Residential Yard Waste Facility in the north-central portion of

the Study Area. Surrounding areas are primarily residential with some commercial and undeveloped areas also present.

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
FaA: Fabius loam, 1-3% slopes	Fabius	90	Flats	No
	Sebewa	10	Depressions	Yes
HmB2: Hochheim loam, 2-6% slopes, eroded	Hochheim-Eroded	80-91	Drumlins	No
	Theresa-Eroded	6-12	Till plains	No
	Lamartine	3-8	Drumlins	No
Hu: Houghton mucky peat, 0-2% slopes	Houghton-Mucky peat	85-95	Depressions	Yes
	Houghton-Ponded	3-7	Depressions	Yes
	Adrian	1-5	Lakebeds (relict)	Yes
	Palms-Mucky peat	1-3	Interdrumlins	Yes
KwB: Knowles silt loam, 2-6% slopes	Knowles	85-95	Ground moraines	No
	Dodge	3-6	Ground moraines	No
	Lamartine	1-5	Ground moraines	No
	Ritchey	1-4	Ground moraines	No
MgA: Martinton silt loam, 1-3% slopes	Martinton	86-95	Drainageways	No
	Pella	5-14	Depressions	Yes
MmA: Matherton silt loam, 1-3% slopes	Matherton	85-95	Drainageways	No
	Pella	3-8	Depressions	Yes
	Colwood	2-7	Depressions	Yes
Pc: Palms mucky peat, 0-2% slopes	Palms-Mucky peat	80-95	Interdrumlins	Yes
	Houghton-Mucky peat	3-15	Depressions	Yes

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
	Adrian	2-5	Interdrumlins	Yes
Ph: Pella silt loam, 0-2% slopes	Pella	80-91	Drainageways	Yes
	Kendall	5-9	Drainageways	No
	Lamartine	4-8	Drainageways	No
	Palms-Muck	1-3	Depressions	Yes
RkB: Ritchey silt loam, 2-6% slopes	Ritchey	100	Bluffs	No
RkC2: Ritchey silt loam, 6-12% slopes, eroded	Ritchey	100	Bluffs	No
SeB: St. Charles silt loam, gravelly subtratum, 2-6% slopes	St. Charles-Gravelly substratum	80-90	Outwash plains	No
	Fox	7-13	Outwash plains	No
	Mayville	3-7	Outwash plains	No
Sm: Sebewa silt loam, 0-2% slopes	Sebewa	80-95	Depressions	Yes
	Adrian	3-12	Lakebeds (relict)	Yes
	Ionia	1-5	Rises	No
	Fox	0-3	Rises	No
ThB2: Theresa silt loam, 2-6% slopes, eroded	Theresa-Eroded	80-90	Drumlins	No
	Hochheim-Eroded	9-15	Drumlins	No
	Lamartine	1-5	Drumlins	No
VsA: Virgil silt loam, gravelly substratum, 0-3% slopes	Virgil-Gravelly substratum	85-95	Drainageways on outwash plains	No
	Sebewa	2-5	Depressions on outwash plains	Yes
	Drummer-Drained	2-6	Depressions on outwash plains	Yes
	Sable	1-4	Depressions on outwash plains	Yes
W: Water	Water	100	—	No

Wetland Mapping

The Wisconsin Wetlands Inventory (WWI) mapping (Figure 5, Appendix A) depicts 20 wetland areas within the Study Area: four (4) forested (T3K) wetlands, one (1) scrub/shrub, emergent/wet meadow (S3/E2K) and 15 open water wetlands (W0Hx). Additionally, one (1) WWI point is located in the central portion of the Study Area.

Waterway and Water Body Mapping

The WDNR's Rivers and Streams data layer (Figure 5, Appendix A) depicts 13 waterbodies and two (2) waterways within the Study Area. The waterways consist of the Menomonee River which bisects the Study Area from north to south, and one (1) short, unnamed tributary to the Menomonee River which extends approximately 550 feet east of the Menomonee River in the central portion of the Study Area.

Previous Delineations and Landowner Contacts

Heartland is aware of one (1) previous wetland delineation completed by Stantec in November 2019, which included two (2) small portions of Heartland's Study Area (Appendix H).

Aerial Photography

Available NAIP imagery of the Study Area from the period of 2005-2022 (Appendix F) was reviewed for evidence of wetland signatures and to gain insight into the site's recent history. The site has been unchanged and has been used as a golf course and a municipal yard waste facility throughout the review period. A residential development was constructed immediately west of the Study Area beginning in 2008.

3.2 Field Review

A total of 16 wetlands were identified and delineated within the Study Area. Wetland determination data sheets (Appendix C) were completed at 55 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. The wetland boundary and sample point locations are shown on Figure 7 (Appendix A) and the wetlands are 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	Wet Meadow/Shrub Carr/Hardwood Swamp	Contiguous with Menomonee River	Moderately susceptible, 50 feet	26.19
W-2A	Wet Meadow	Potentially isolated; On fringe of historically excavated pond (Pond 3)	Less susceptible, 10-30 feet	0.03
W-2B	Wet Meadow	Potentially isolated; On fringe of historically excavated pond (Pond 4)	Less susceptible, 10-30 feet	0.03
W-3	Hardwood Swamp	Likely contiguous with Menomonee River; On fringe of historically excavated pond (Pond 5); Culvert connection to Pond 5	Moderately susceptible, 50 feet	1.25
W-4	Hardwood Swamp	On fringe of historically excavated pond (Pond 6); Culvert connection to Pond 5	Moderately susceptible, 50 feet	0.49
W-5	Hardwood Swamp	Potential surface connection to Menomonee River	Moderately susceptible, 50 feet	1.40
W-6A	Wet Meadow	Surface connection to Menomonee River	Less susceptible, 10-30 feet	0.21
W-6B	Wet Meadow	Surface connection to Menomonee River via culvert connection to W-6A	Less susceptible, 10-30 feet	0.12
W-6C	Hardwood Swamp/Wet Meadow	Surface connection to Menomonee River via culvert connections to W-6 segments	Moderately susceptible, 50 feet	1.58
W-6D	Hardwood Swamp	Surface connection to Menomonee River via culvert connections to W-6 segments	Moderately susceptible, 50 feet	0.03
W-7	Wet Meadow	Surface connection to Menomonee River via culvert connection to W-1	Less susceptible, 10-30 feet	0.07
W-8	Wet Meadow/Shrub Carr	Potentially isolated; On fringe of historically excavated pond (Pond 7)	Moderately susceptible, 50 feet	0.14

Wetland ID	Wetland Description	*Surface Water Connections	*NR151 Protective Area	Acreage (on-site)
W-9A	Wet Meadow/Shrub Carr	Likely contiguous with Menomonee River; On fringe of historically excavated pond (Pond 8)	Less susceptible, 10-30 feet	0.11
W-9B	Wet Meadow	Likely contiguous with Menomonee River via culvert connection to Pond 8	Less susceptible, 10-30 feet	0.02
W-10	Wet Meadow	Potentially isolated; On fringe of historically excavated pond (Pond 10)	Moderately susceptible, 50 feet	0.04
AW-1	Wet Meadow	Potentially isolated; on fringe of excavated stormwater pond	Less susceptible, 10-30 feet	0.26
*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.				**31.97**

Wetland 1 & 7 (W-1 & W-7)

Wetland W-1 (W-1) is a complex of wet meadow, shrub carr, and hardwood swamp which is contiguous with the Menomonee River and bisects the Study Area from north to south. Much of the wetland consists of a wet meadow fringe located along the banks of the Menomonee River which was historically widened. The greatest portion of hardwood swamp occurs in the northern portion of the Study Area, while several other areas where W-1 deviates from the course of the Menomonee River tend to contain complexes of wet meadow, shrub carr, and hardwood swamp. Some portions of W-1 are frequently mowed and managed as part of a golf course. Three (3) historically excavated ponds (Pond 1, Pond 9, & Pond 11) were identified completely within the boundaries of W-1. Wetland W-7 (W-7) is a relatively small drainage swale which is connected to W-1 through a short culvert. W-7 consists of wet meadow and is frequently mowed and maintained for golf course use.

Dominant vegetation observed in W-1 included green ash (*Fraxinus pennsylvanica*, FACW), boxelder (*Acer negundo*, FAC), crack willow (*Salix x fragilis*, FAC), peachleaf willow (*Salix amygdaloides*, FACW), silver maple (*Acer saccharinum*, FACW), common buckthorn (*Rhamnus cathartica*, FAC), red-osier dogwood (*Cornus alba*, FACW), silky dogwood (*Cornus amomum*, FACW), Indian hemp (*Apocynum cannabinum*, FAC), Kentucky bluegrass (*Poa*

pratensis, FACU), grass-leaved goldenrod (*Euthamia graminifolia*, FAC), dark green bulrush (*Scirpus atrovirens*, OBL), fowl manna grass (*Glyceria striata*, OBL), Bebb's sedge (*Carex bebbii*, OBL), swamp milkweed (*Asclepias incarnata*, OBL), reed canary grass (*Phalaris arundinacea*, FACW), stinging nettle (*Urtica dioica*, FAC), yellow nutsedge (*Cyperus esculentus*, FACW), lady's thumb (*Persicaria maculosa*, FAC), orange jewelweed (*Impatiens capensis*, FACW), broadleaf arrowhead (*Sagittaria latifolia*, OBL), and riverbank grape (*Vitis riparia*, FAC).

Dominant vegetation observed in W-7 included spotted lady's thumb and planted Kentucky bluegrass.

The Depleted Below Dark Surface (A11), Depleted Matrix (F3), and Redox Dark Surface (F6) hydric soil indicators were observed at various sample points throughout W-1 and W-7. Therefore, the hydric soil criterion was met throughout W-1 and W-7.

The primary wetland hydrology indicators of High Water Table (A2) and Saturation (A3) were observed within W-1, while no primary wetland hydrology indicators were observed in W-7. The secondary wetland hydrology indicators of Geomorphic Position (D2) and a positive FAC-Neutral Test (D5) were noted in W-1, while secondary indicators of Saturation Visible on Aerial Imagery (C9), Stunted or Stressed Plants (D1), and Geomorphic Position were noted in W-7.

The boundaries of W-1 and W-7 correlated mostly with a poorly to moderately-defined topographic break that corelated with gradients of hydric soils, hydrophytic vegetation, and hydrology indicators.

Wetland 2A, 2B, 8 & 10 (W-2A, W-2B, W-8 & W-10)

Wetlands W-2A, W-2B, W-8, and W-10 are wet meadow wetlands, with some smaller elements of shrub carr, located on the fringes of historically excavated ponds (Pond 3, Pond 4, Pond 7, and Pond 10); all of which appear isolated on the landscape.

Dominant vegetation observed in W-2A, W-2B, W-8 and W-10 included green ash, sandbar willow (*Salix interior*, FACW), reed canary grass, common spikerush (*Eleocharis palustris*, OBL), lady's thumb, and swamp milkweed. Therefore, the hydrophytic vegetation criteria was met.

The Depleted Below Dark Surface (A11), Depleted Matrix (F3), and Redox Dark Surface (F6) hydric soil indicators were observed at various sample points throughout W-2A, W-2B, W-8, and W-10. Therefore, the hydric soil criterion was met throughout these wetlands.

The primary wetland hydrology indicators of Saturation (A3), Drift Deposits (B3), and Algal Mat or Crust (B4) were observed within W-2A, W-2B, W-8, and W-10, while secondary wetland hydrology indicators of Geomorphic Position (D2) and a positive FAC-Neutral Test (D5) were noted.

The boundaries of W-2A, W-2B, W-8, and W-10 coincided mostly with a well-defined topographic break that likely correlated with the extent of historic excavation.

Wetland 3, 4, and 5 (W-3, W-4, & W-5)

Wetlands W-3, W-4, and W-5 are predominantly hardwood swamp wetlands located near each other in the east-central portion of the Study Area. Two (2) historically excavated ponds (Pond 5 and Pond 6) were noted entirely within W-3 and W-4 respectively, and a culvert was noted connecting W-3 and W-4. Some elements of wet meadow exist along the fringes of these ponds.

Dominant vegetation observed in W-3, W-4, and W-5 included silver maple, American elm (*Ulmus americana*, FACW), green ash, clearweed (*Pilea pumila*, FACW), common buckthorn, bittersweet night-shade (*Solanum dulcamara*, FAC), riverbank grape, orange jewelweed, wild black currant (*Ribes americanum*, FACW), and Virginia creeper (*Parthenocissus quinquefolia*, FACU). Therefore, the hydrophytic vegetation criterion was met.

The Thick Dark Surface (A12) and Redox Dark Surface (F6) hydric soil indicators were observed at various sample points throughout W-3, W-4, and W-5. Therefore, the hydric soil criterion was met throughout these wetlands.

The primary wetland hydrology indicator of Drift Deposits (B3) was observed within W-3, W-4, and W-5, while secondary wetland hydrology indicators of Geomorphic Position (D2) and a positive FAC-Neutral Test (D5) were noted.

The boundaries of W-3, W-4, and W-5 correlated mostly with a poorly to moderately-defined topographic break.

Wetland 6A, 6B, 6C and 6D (W-6A, W-6B, W-6C, & W-6D)

Wetlands W-6A, W-6B, W-6C and W-6D are a series of wet meadow drainage swales, interconnected by culverts, and draining down to the Menomonee River occurring in the northern portion of the Study Area. W-6C and W-6D also contain hardwood swamp which drains down to the wet meadow drainage swales.

Dominant vegetation observed in the wet meadow portion of the W-6 wetland complex was reed canary grass, while the hardwood swamp portions were dominated by American elm, silver maple, boxelder, common buckthorn, green ash, and orange jewelweed. Therefore, the hydrophytic vegetation criterion was met.

The Depleted Below Dark Surface (A11), Depleted Matrix (F3), and Redox Dark Surface (F6) hydric soil indicators were observed at various sample points throughout W-6A, W-6B, W-6C, and W-6D. Therefore, the hydric soil criterion was met throughout these wetlands.

The primary wetland hydrology indicator of Drift Deposits (B3) and Sparsely Vegetated Concave Surface (B8) were observed within the hardwood swamp portions of the W-6 wetland complex, while secondary wetland hydrology indicators of Geomorphic Position (D2) and a positive FAC-Neutral Test (D5) were noted throughout the W-6 wetland complex.

The boundaries of W-6A, W-6B, W-6C, and W-6D correlated mostly with a moderately-defined topographic break.

Wetland 9A and 9B (W-9A & W-9B)

Wetlands W-9A and W-9B are predominantly wet meadow, with some smaller elements of shrub carr. These wetlands are located on the fringe of a historically excavated pond (Pond 8) which is separated from the Menomonee River by a berm.

Dominant vegetation observed in W-9A and W-9B included barnyard grass (*Echinochloa crus-galli*, FAC), lady's thumb, and reed canary grass. Therefore, the hydrophytic vegetation criteria was met.

The Depleted Matrix (F3) and Redox Depressions (F8) hydric soil indicators were observed within W-9A and W-9B. Auger refusal was met at seven inches depth due to rock, likely due

to the constructed nature of Pond 8. The hydric soil criterion was met based on the observation of the hydric soil indicators.

The primary wetland hydrology indicators of High Water Table (A2) and Saturation (A3), were observed within W-9A and W-9B, while secondary wetland hydrology indicators of Geomorphic Position (D2) and a positive FAC-Neutral Test (D5) were also noted. Surface water dominated the interior of W-9A / Pond 8.

The boundaries of W-9A and W-9B correlated mostly with a well-defined topographic break that likely correlated with the limits of extent of historic excavation.

Artificial Wetland 1 (AW-1)

Wetland AW-1 is a wet meadow located on the fringe of an excavated storm water basin on the west edge of the Study Area. A stormwater pond (Storm Pond 1) was observed completely within the boundaries of AW-1. Based on aerial photography, Storm Pond 1 and AW-1 appear to have been constructed in conjunction with the residential development west of the Study Area, which began construction in 2008.

Dominant vegetation observed in AW-1 included lady's thumb and common spikerush. Therefore, the hydrophytic vegetation criterion was met.

The Redox Dark Surface hydric soil indicator was observed within AW-1. Therefore, the hydric soil criterion was met.

Although no primary wetland hydrology indicators were noted at the sample point within AW-1, the secondary wetland hydrology indicators of Geomorphic Position (D2) and a positive FAC-Neutral Test (D5) were noted. Therefore, the wetland hydrology criterion was satisfied. Surface water was present within the interior of AW-1 within Storm Pond 1.

The boundaries of AW-1 correlated mostly with a well-defined topographic break that likely coincided with the extent of historic excavation.

Waterways/Waterbodies

The Menomonee River traversed the central part of the Study Area and its approximate ordinary high-water mark (OHWM) was mapped. The Menomonee River was historically widened when the golf course was constructed. Additionally, the approximate ordinary high-water mark of eleven (11) historically excavated ponds were mapped throughout the Study Area. These ponds all appear to have been constructed between 1970 and 1985.

Furthermore, one (1) stormwater pond (Storm Pond 1) was mapped on the western edge of the Study Area. Storm Pond 1 appears to have been excavated around 2008.

3.3 Environmental Corridor

Primary environmental corridor (PEC) comprised of wetlands, woodlands, and floodplain is located throughout much of the Study Area (Figure 8, Appendix A). The PEC area is identified most recently on the Planned Environmental Corridors layer per SEWRPC's Regional Map Server online mapping (Appendix G). Correspondence with SEWRPC staff indicates that the PEC has not been previously field delineated on this Property. In 2023, Heartland refined the PEC boundary in the Study Area based on SEWRPC's guidance (Rubin & and Emmerich, 2000). The PEC boundary in the Study Area was determined mostly by the mapped FEMA 1% probability Annual Floodplain. In some shorter sections, the PEC boundary was mapped along the 75 foot setback from the OHWM of the Menomonee River, and in one short section in the northwest corner of the Study Area, the PEC boundary followed the woodland dripline.

PEC in the Study Area contains all of the on-site wetlands aside from W-6D and AW-1. The PEC and wetland boundaries are generally not coincident as the wetlands generally occur completely within the floodplain boundary. Much of the PEC area outside of the delineated wetlands is in active use as a golf course. One relatively large, wooded area is present on the north side of the Study Area. Dominant canopy trees in the woodland area included boxelder and silver maple. Many dead green ash trees were also present and appeared to be formerly dominant. The ground layer within the woodland area of the PEC was dominated by common buckthorn seedlings, wild black currant, white avens, reed canary grass, stinging nettle, clearweed, and fowl manna grass. A list of plant species observed in the PEC is included in Appendix G.

3.3 Other Considerations

This report is limited to the identification and delineation of wetlands and PEC 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, updated floodplain, 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 Blackstone Creek Golf Course site on July 31, August 1, and August 2, 2023, at the request of Blackstone Creek, LLC. A SEWRPC-designated PEC area was also refined, and field delineated on July 31, 2023. Wetland and PEC delineation fieldwork was completed by Matt Stangel, an assured delineator qualified via the WDNR Wetland Delineation Assurance Program and Keith Phelps, both of Heartland (Appendix E). The Study Area lies in Section 21 & 22, T9N, R20E, Village of Germantown, Washington County, WI (Figure 1, Appendix A).

Sixteen (16) wetland areas and one PEC area were delineated and mapped within the 164.44-acre Study Area (Figure 6, Appendix A). The wetlands, which may be classified as wet meadow, shrub carr, and hardwood swamp total approximately 31.97 acres within the Study Area. The approximate OHWM of the Menomonee River, eleven (11) historically excavated ponds, and one (1) stormwater pond was also mapped within the Study Area. The Menomonee River was historically excavated / widened in its segment 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 17

Section 16

Section 15

Section 20

Section 21

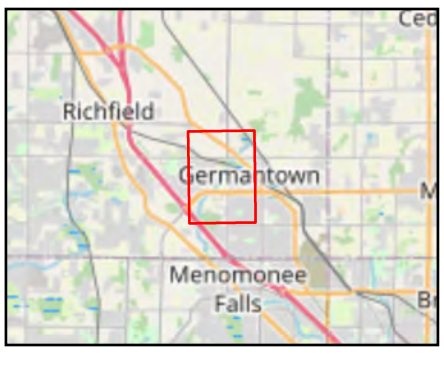
9N 20E

Section 22

Section 29

Section 28

Section 27



Study Area (164.44 ac)

Township

Section

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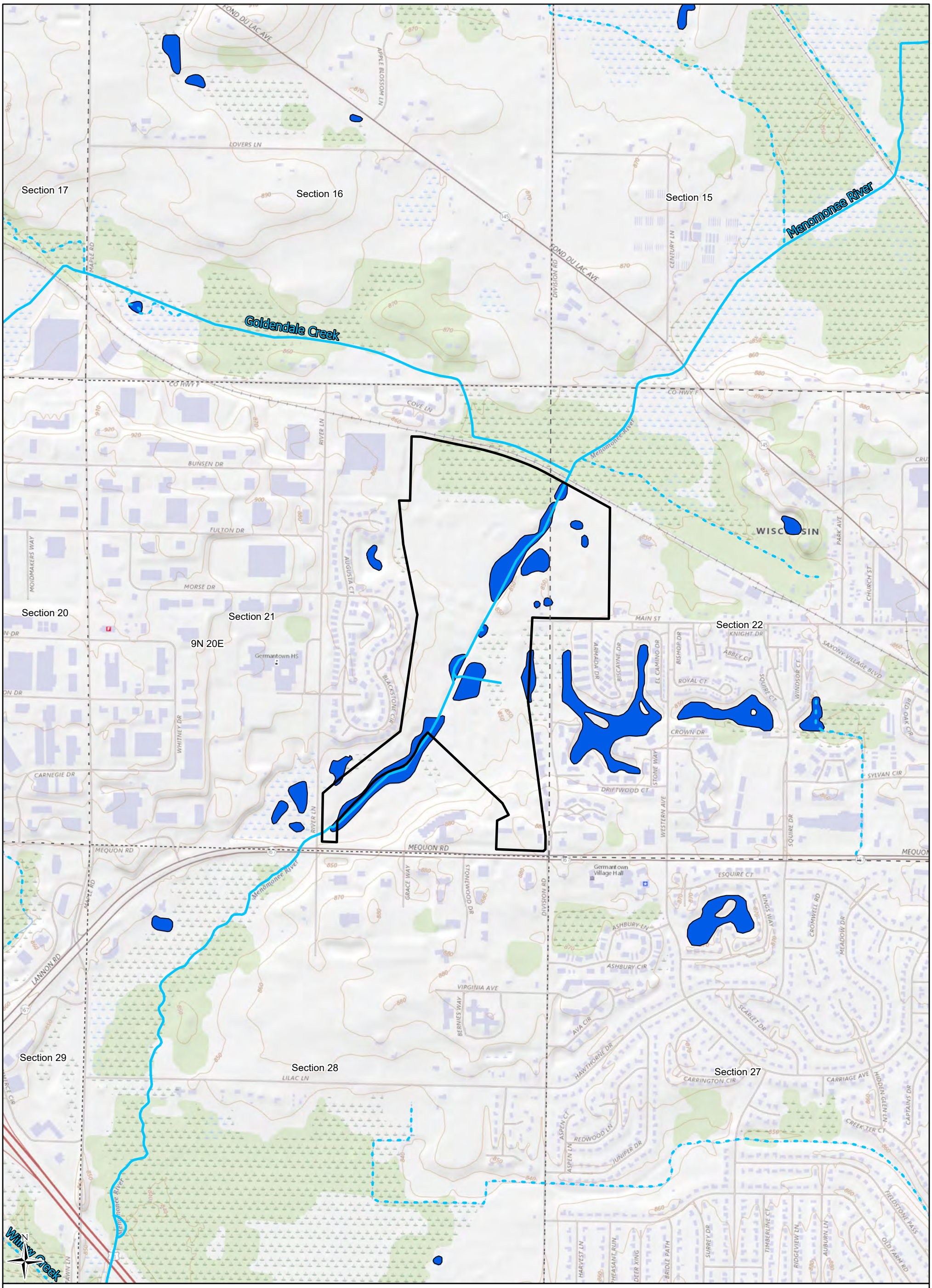
Heartland ECOLOGICAL GROUP INC

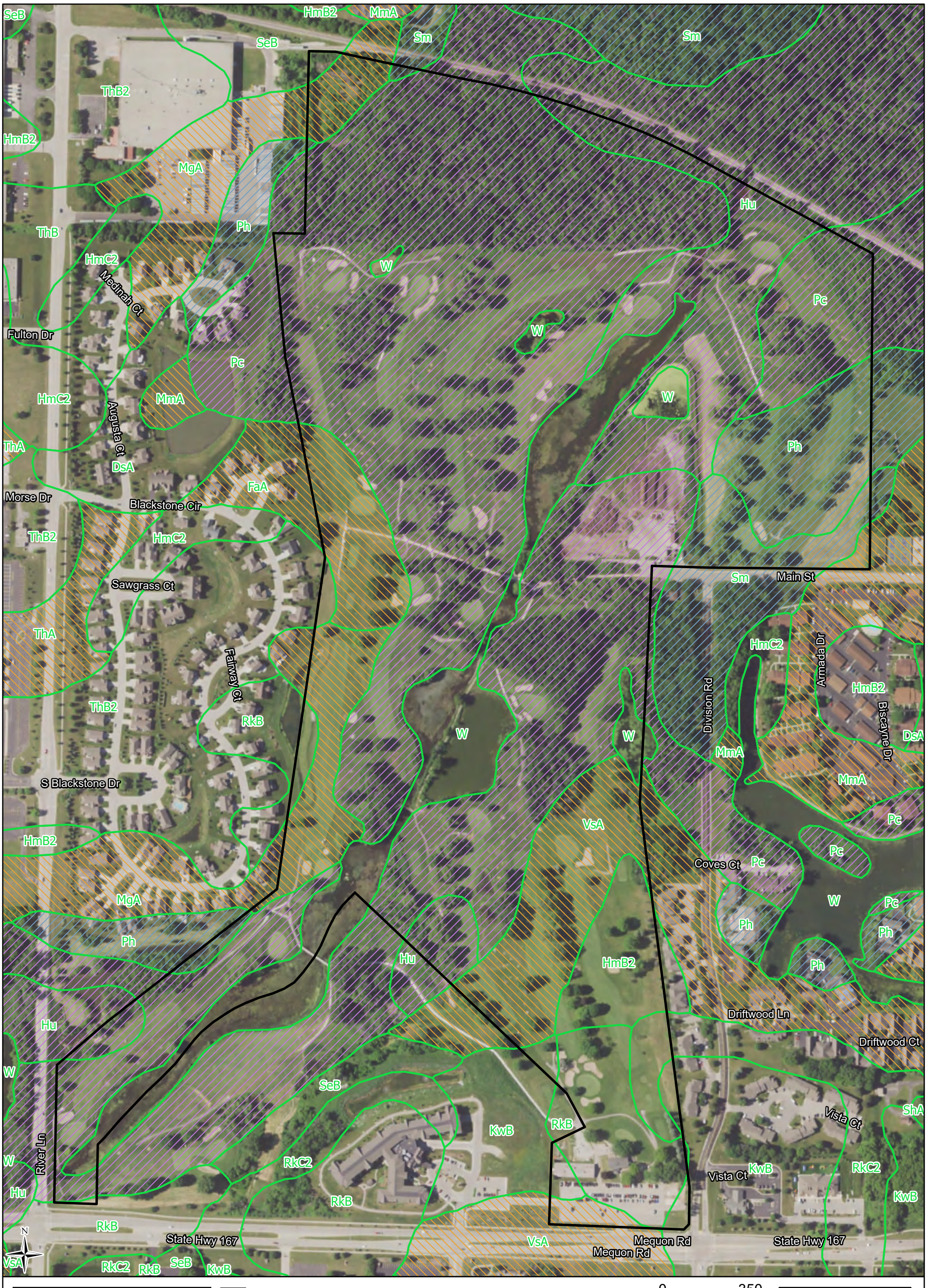
Figure 1. Project Location

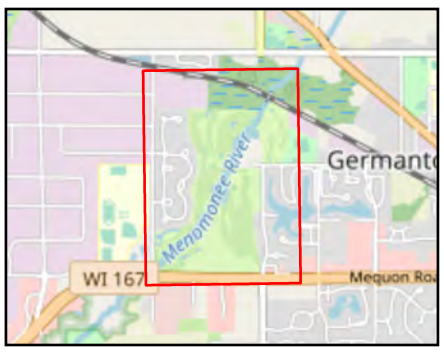
Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

OpenStreetMap
ESRI
LRR: NCNE

Figure Created: 8/7/2023


Section 17
Section 16
Section 15
Section 20
Section 21
Section 22
Section 29
Section 28
Section 27
9N 20E
Goldendale Creek
Menomonee River
Germantown HS
Germantown Village Hall
WISCONSIN
MEQUON RD
LOVERS LN
BUNSEN DR
FULTON DR
MORSE DR
MAIN ST
CO HWY T
LILAC LN
COVE LN
CARNEGIE DR
CROWN DR
DRIFTWOOD CT
ASHBURY LN
ASHBURY CIR
VIRGINIA AVE
LANNON RD
HAWTHORNE DR
CARRINGTON CIR
REDWOOD LN
JUNIPER DR
DIVISION RD
BLACKSTONE CIR
WESTERN AVE
SAXONY VILLAGE BLVD
SYLVAN CIR
Wilkins Creek
Study Area (164.44 ac)
Township
Section
Perennial Streams
Intermittent Streams
Waterbodies
Richfield
Germantown
Menomonee Falls
0 500 1,000 Ft
Heartland ECOLOGICAL GROUP INC
Figure 2. USGS Topography
Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co
USGSTopo
USGS
LRR: NCNE
Figure Created: 8/7/2023





Study Area (164.44 ac)

NRCS Soil Survey Data

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

0 350 Ft

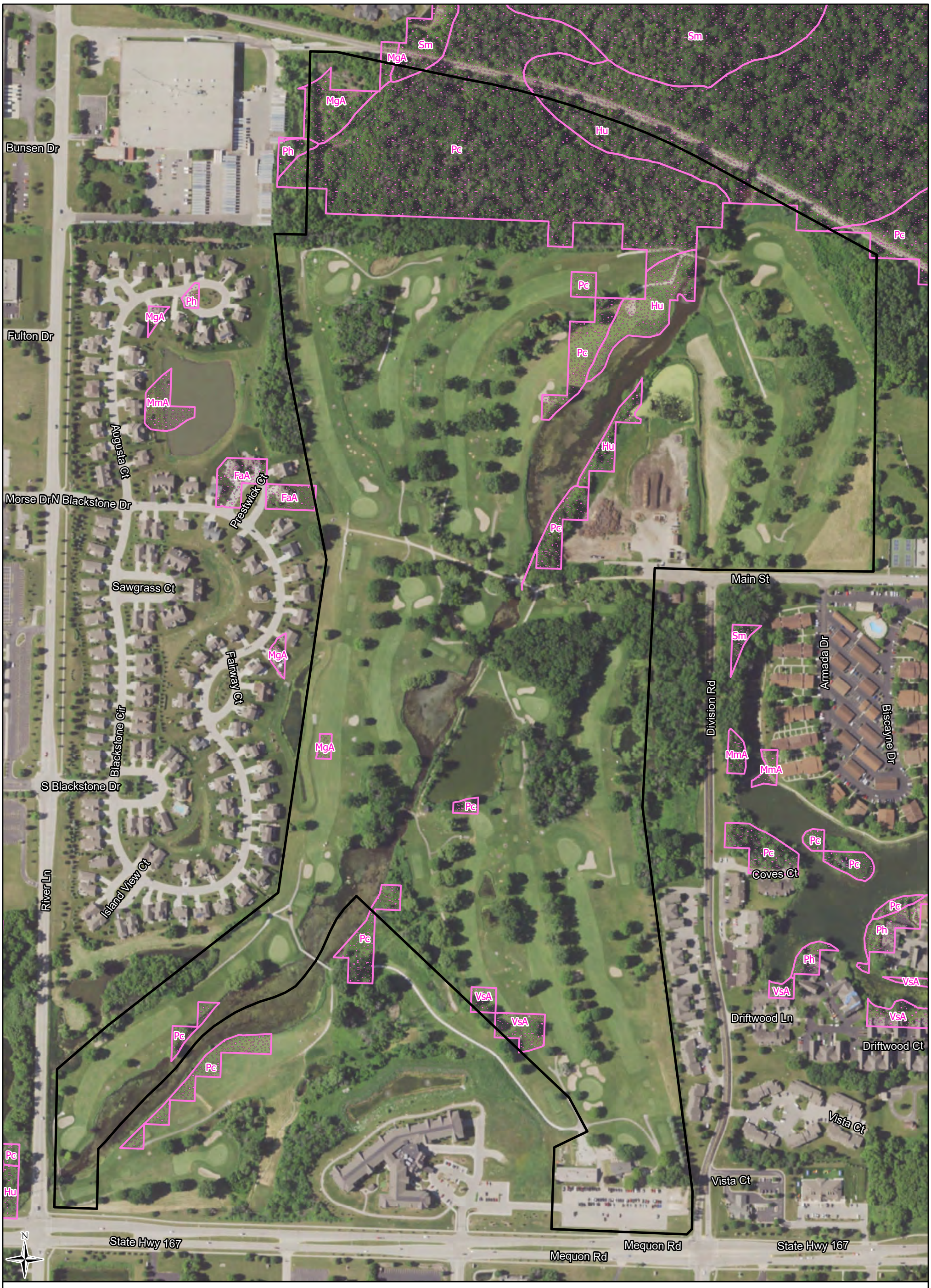
Heartland ECOLOGICAL GROUP INC

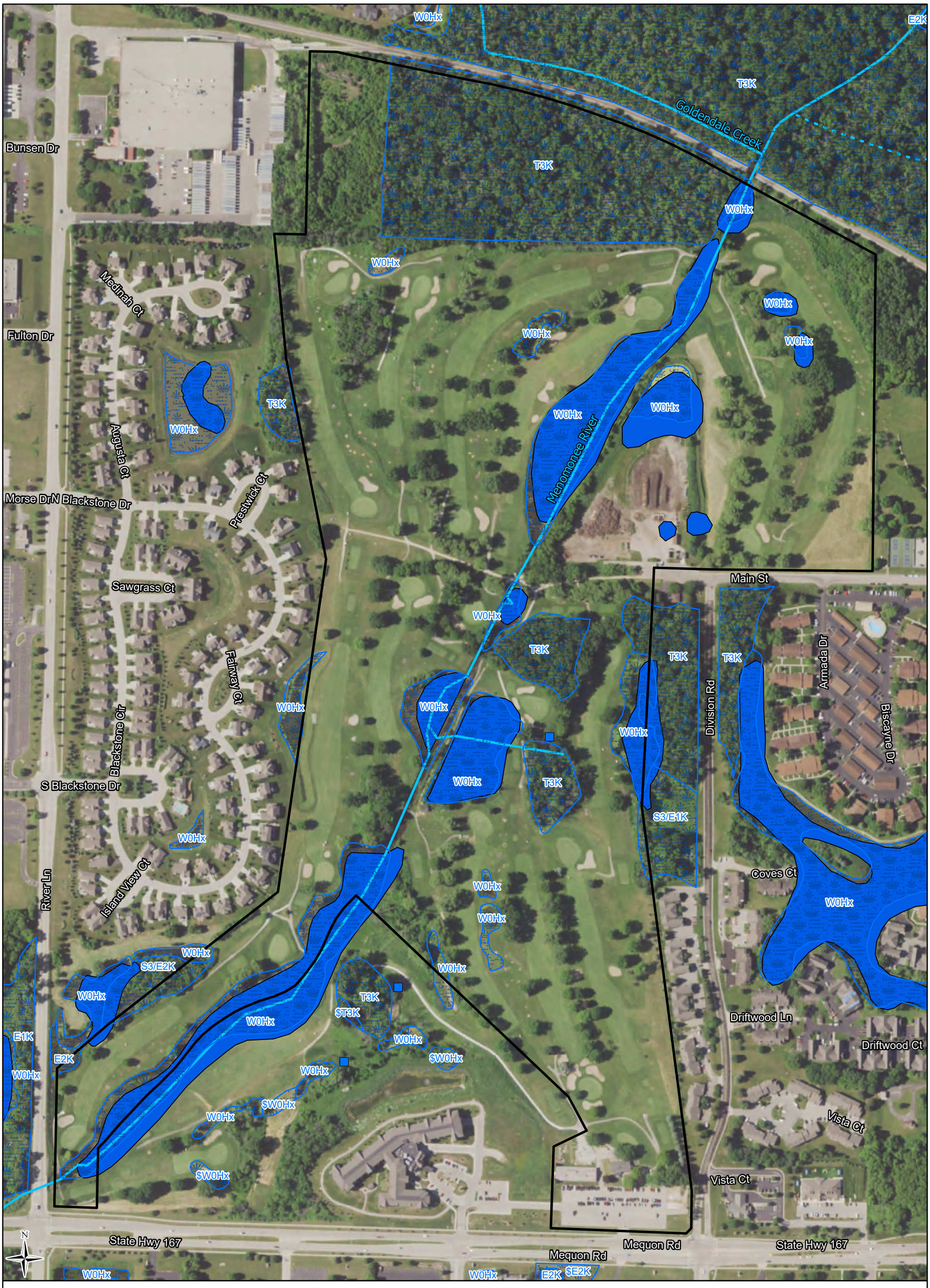
Figure 3. NRCS Hydric Soils

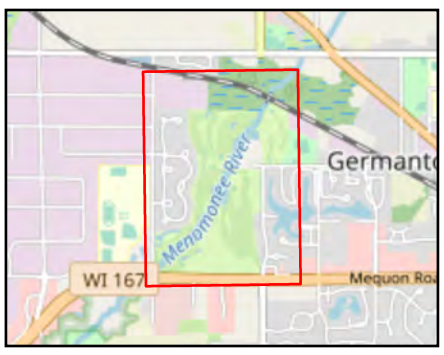
Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2022 NAIP
NRCS LRR: NCNE

Figure Created: 8/7/2023


Bunsen Dr
Fulton Dr
Morse Dr
N Blackstone Dr
Augusta Ct
Prestwick Ct
Sawgrass Ct
Fairway Ct
Blackstone Cir
S Blackstone Dr
River Ln
Island View Ct
Main St
Division Rd
Armada Dr
Biscayne Dr
Coves Ct
Driftwood Ln
Driftwood Ct
Vista Ct
Vista Ct
Mequon Rd
Mequon Rd
State Hwy 167
State Hwy 167
Sm
MgA
Ph
Pc
Hu
MmA
FaA
VsA
N
Study Area (164.44 ac)
SWDV Wetland Indicators
0
350
Ft
Heartland
ECOLOGICAL GROUP INC
Figure 4. SWDV
Wetland Indicators
Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co
2022 NAIP
WDNR
LRR: NCNE
Figure Created: 8/7/2023





- Study Area (164.44 ac)
- WWI Wetland Polygons
- WWI Wetland Points
- Perennial Streams
- Intermittent Streams
- Waterbodies

0 350 Ft

Heartland ECOLOGICAL GROUP INC

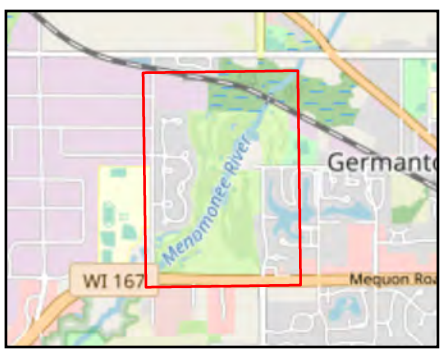
Figure 5. Wisconsin Wetland Inventory

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2022 NAIP
WDNR, USGS LRR: NCNE

Figure Created: 8/7/2023

Bunsen Dr
Medinah Ct
Fulton Dr
Augusta Ct
Morse Dr
Blackstone Cir
Prestwick Ct
Sawgrass Ct
Fairway Ct
S Blackstone Dr
River Ln
Island View Ct
Main St
Division Rd
Armada Dr
Coves Ct
Driftwood Ln
Driftwood Ct
Vista Ct
Vista Ct
Mequon Rd
Mequon Rd
State Hwy 167
State Hwy 167
N



Study Area (164.44 ac)
Washington Co 1' Contours

0 350 Ft

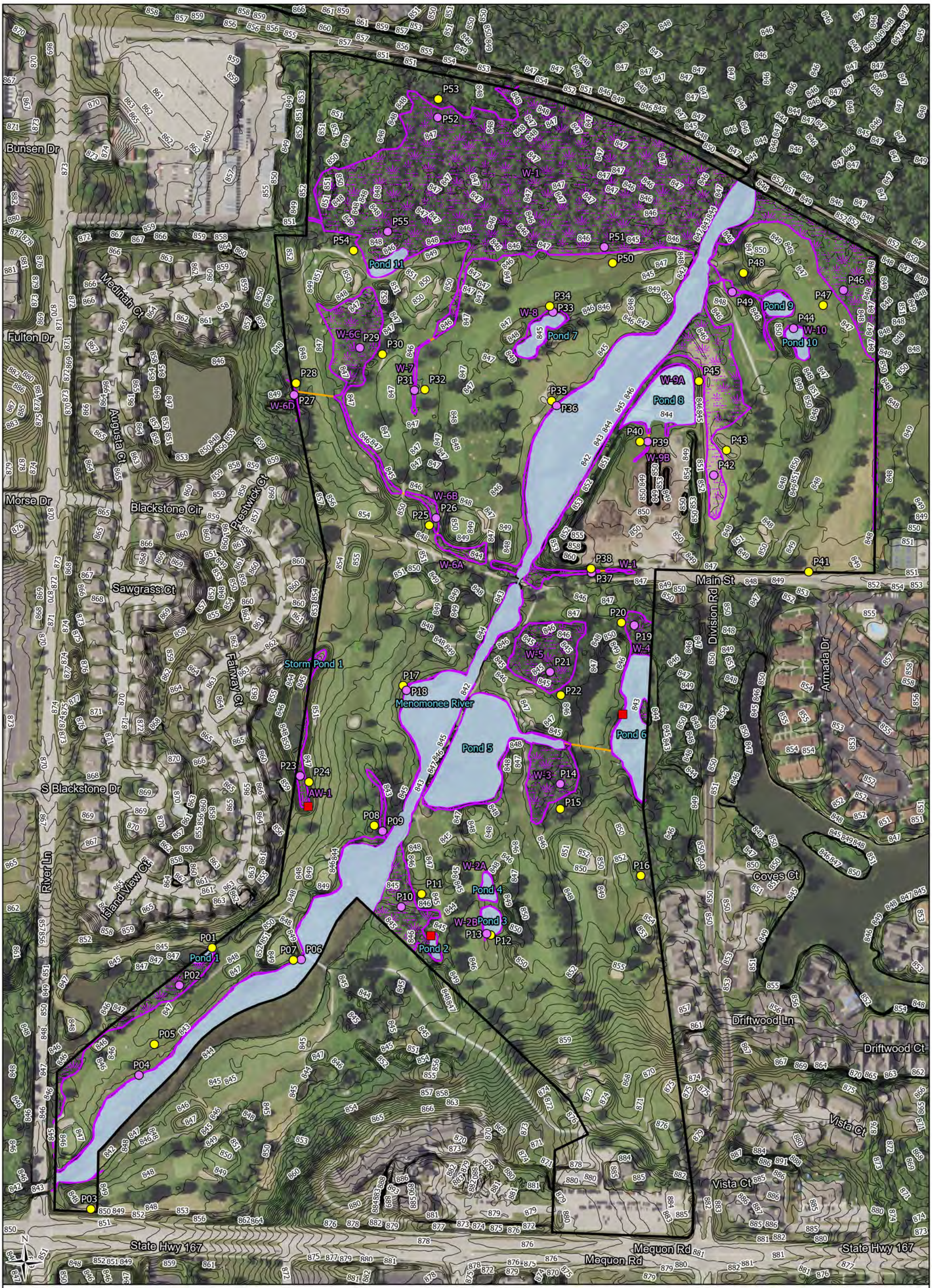
Heartland
ECOLOGICAL GROUP INC

Figure 6. Color-Stretch Digital Elevation Model

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2022 NAIP
Washington Co, HEG LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)
Field Delineated Wetland (31.97 ac)
Waterway/Waterbody (17.48 ac)
Culvert
Off-site Wetland Boundary
Washington Co 1' Contours
Tile Outlet

Sample Points

Upland
Wetland

0 350 Ft

Heartland ECOLOGICAL GROUP INC

Figure 7. Field Delineated Wetlands

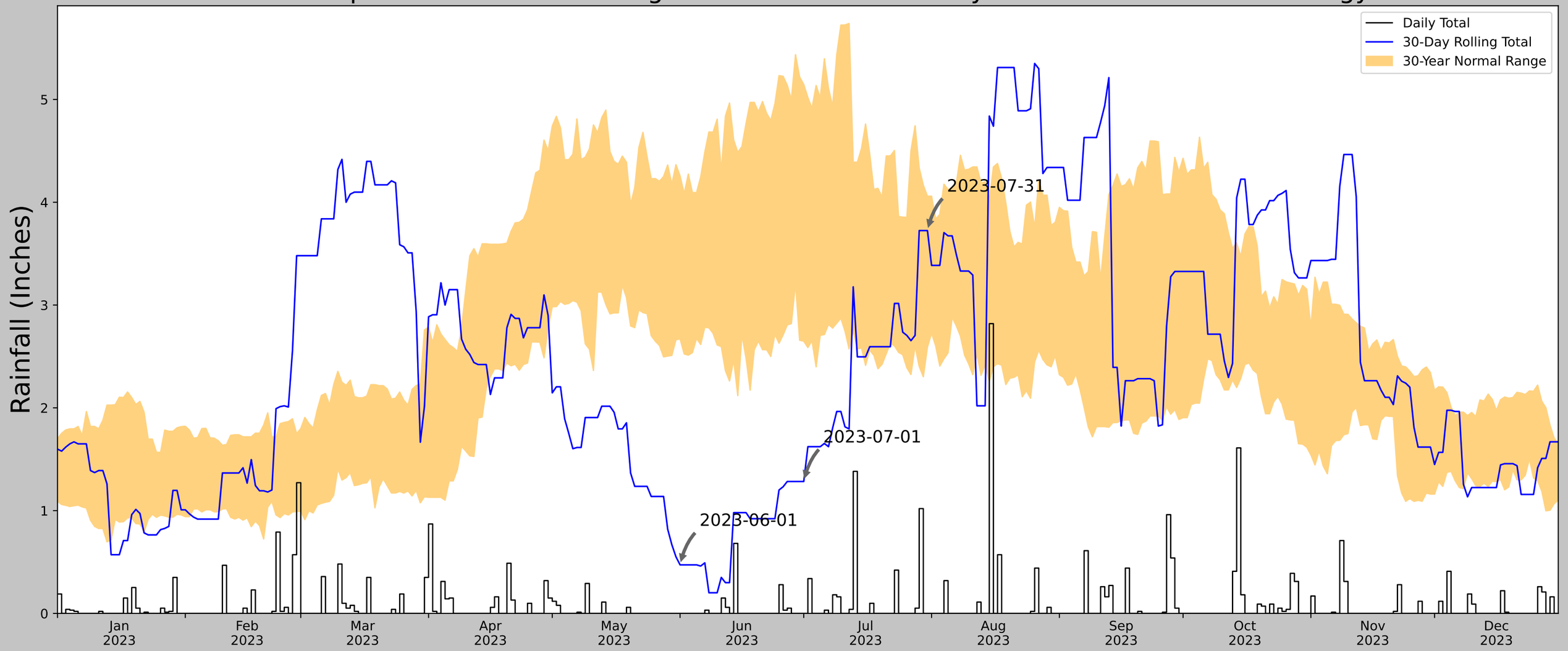
Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2022 NAIP
Washington Co, HEG LRR: NCNE

Figure Created: 3/26/2024

Appendix B | APT Analysis

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	43.223630, -88.125561
Observation Date	2023-07-31
Elevation (ft)	850.423
Drought Index (PDSI)	Mild drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-07-31	2.590551	4.059449	3.72441	Normal	2	3	6
2023-07-01	2.648819	5.146457	1.283465	Dry	1	2	2
2023-06-01	2.671654	4.257087	0.472441	Dry	1	1	1
Result							Drier than Normal - 9

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
GERMANTOWN WASTEWATER UTILITY	43.2389, -88.1222	870.079	1.069	19.656	0.502	11300	90
GERMANTOWN 0.6 S	43.2268, -88.1214	855.971	0.837	14.108	0.388	5	0
GERMANTOWN 1.3 NE	43.2313, -88.1023	887.139	1.131	17.06	0.528	2	0
HUBERTUS 3.1 E	43.2368, -88.1589	890.092	1.853	20.013	0.871	2	0
MENOMONEE FALLS 3.2 NNW	43.1882, -88.1555	881.89	3.884	11.811	1.794	2	0
CEDARBURG 3.7 WSW	43.2788, -88.0566	878.937	4.301	8.858	1.974	2	0
JACKSON 0.5 SSE	43.3144, -88.1617	895.997	5.582	25.918	2.657	3	0
JACKSON	43.3197, -88.1681	892.06	6.041	21.981	2.851	4	0
WEST BEND	43.3681, -88.0858	939.961	9.113	69.882	4.738	27	0
W BEND FIRE STN #2	43.4319, -88.1603	895.013	13.472	24.934	6.398	4	0
MT MARY COLLEGE	43.0722, -88.0294	714.895	12.431	155.184	7.523	2	0

Appendix C | Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P01

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.224207 Long: -88.130429 Datum: WGS84

Soil Map Unit Name: Pella silt loam, 0 to 2 percent slopes NWI classification: None (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.)

Plot located in periodically mowed area off of golf fairway- normal circumstances present. Plot is on slight rise from wet meadow pond fringe. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants. Sampling Point: P1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	5	Y	FACW
2. *Populus deltoides*	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
	10.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Elaeagnus angustifolia*	10	Y	FACU
2. *Salix interior*	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
	20.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	90	Y	FACU
2. *Zizia aptera*	20	N	FACU
3. *Andropogon gerardii*	10	N	FACU
4. *Daucus carota*	2	N	UPL
5. *Rudbeckia hirta*	2	N	FACU
6. *Salix interior*	2	N	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	126.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 60.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	17.00	x 2 =	34.00
FAC species	5.00	x 3 =	15.00
FACU species	132.00	x 4 =	528.00
UPL species	2.00	x 5 =	10.00
Column Totals:	156.00 (A)		587.00 (B)

Prevalence Index = B/A = 3.76

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.)

Area appears to be periodically roughly mowed based on stature of vegetation and a prairie planting area.

SOIL

Sampling Point: P1

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 3/2	100					SIL	
9-14	10YR 3/2	97	10YR 3/6	3	C	M	SICL	
14-24	10YR 4/1	95	10YR 4/3	5	C	M	CL	

[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 redox observed in upper soil profile.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P02

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

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

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.223737 Long: -88.130800 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: S3/E2K (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Plot located in slight depression to south of pond 1. Ruderal shrub/swamp community present. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	40	Y	FACW
2. *Acer negundo*	25	Y	FAC
3.			
4.			
5.			
6.			
7.			
	65.0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	Y	FAC
2. *Acer negundo*	5	N	FAC
3.			
4.			
5.			
6.			
7.			
	35.0 = Total Cover		

Herb Stratum (Plot size: 5)			
1. *Rhamnus cathartica*	25	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25.0 = Total Cover		

Woody Vine Stratum (Plot size: 30)			
1. *Vitis riparia*	5	Y	FAC
2.			
3.			
4.			
	5.0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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	0.00	x 1 =	0.00
FACW species	40.00	x 2 =	80.00
FAC species	90.00	x 3 =	270.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	130.00 (A)		350.00 (B)

Prevalence Index = B/A = 2.69

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.)

Larger dead ash present in canopy.

SOIL

Sampling Point: P2

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
0-4	10YR 3/2	100					SIL	
4-14	10YR 3/2	85	10YR 3/6	15	C	M	SICL	Contains 5% gravel
14-17	10YR 2/1	100					SICL	
17-24	10YR 5/1	80	10YR 5/4	20	C	M	CL	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P03

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Baseslope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.221411 Long: -88.132021 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland meadow within a shallow overland drainage swale. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

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.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	60	Y	FACW
2. *Poa pratensis*	30	Y	FACU
3. *Cirsium arvense*	10	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	60.00	x 2 =	120.00
FAC species	0.00	x 3 =	0.00
FACU species	40.00	x 4 =	160.00
UPL species	0.00	x 5 =	0.00
Column Totals:	100.00 (A)		280.00 (B)

Prevalence Index = B/A = 2.8

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: 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
0-14	10YR 3/2	100			C	M	SIL	
14-24	10YR 4/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P04

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.222758 Long: -88.131333 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a wet meadow fringe along bank of Menomonee River. APT analysis indicates climatic conditions are drier than normal.

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): 9	
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 4	**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.

Sampling Point: P04

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Cyperus esculentus*	30	Y	FACW
2. *Persicaria maculosa*	20	Y	FAC
3. *Verbena hastata*	15	N	FACW
4. *Phalaris arundinacea*	10	N	FACW
5. *Poa pratensis*	10	N	FACU
6. *Bidens frondosa*	5	N	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	90.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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 0.00	x 1 = 0.00
FACW species 60.00	x 2 = 120.00
FAC species 20.00	x 3 = 60.00
FACU species 10.00	x 4 = 40.00
UPL species 0.00	x 5 = 0.00
Column Totals: 90.00 (A)	220.00 (B)

Prevalence Index = B/A = 2.44

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: 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
0-11	10YR 2/1	85	7.5YR 5/6	15	C	M	SICL	
11-24	10YR 5/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P05

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.223092 Long: -88.131153 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

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.			
	0 = Total Cover		

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 0.00 (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.)

Planted Poa pratensis 90% of herb stratum. No weeds present.

SOIL

Sampling Point: P05

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 4/4	100					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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P06

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.224046 Long: -88.128972 Datum: WGS84

Soil Map Unit Name: Water NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a wet meadow fringe along bank of Menomonee River. APT analysis indicates climatic conditions are drier than normal.

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): 18
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 14

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.

Sampling Point: P06

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	80	Y	FACW
2. *Urtica dioica*	10	N	FAC
3. *Impatiens capensis*	10	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0.00	x 1 = 0.00
FACW species 90.00	x 2 = 180.00
FAC species 10.00	x 3 = 30.00
FACU species 0.00	x 4 = 0.00
UPL species 0.00	x 5 = 0.00
Column Totals: 100.00 (A)	210.00 (B)

Prevalence Index = B/A = 2.1

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: 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
0-14	10YR 3/1	85	7.5YR 5/6	15	C	M	SICL	
14-24	10YR 5/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P07

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex Slope (%): 8-15

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.224028 Long: -88.129102 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

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.			
	0 = Total Cover		

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 0.00 (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.)

Planted Poa pratensis 100% of herb stratum. No weeds present.

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
0-15	10YR 3/2	100					SIL	
15-24	10YR 3/3	100					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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P08

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.225506 Long: -88.127939 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None (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 ✓	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes _____	No ✓	

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

Plot located in a slight rise in elevation from wetland swale contiguous to Menomonee River. APT analysis indicates climatic conditions are drier than normal.

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. Sampling Point: P8

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	40	Y	FACW
2. *Fraxinus pennsylvanica*	25	Y	FACW
3.			
4.			
5.			
6.			
7.			
	65.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	15	Y	FAC
2. *Fraxinus pennsylvanica*	10	Y	FACW
3. *Cornus amomum*	5	N	FACW
4.			
5.			
6.			
7.			
	30.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Parthenocissus quinquefolia*	30	Y	FACU
2. *Phalaris arundinacea*	10	Y	FACW
3. *Rhamnus cathartica*	2	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	42.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0.00	x 1 = 0.00
FACW species 90.00	x 2 = 180.00
FAC species 17.00	x 3 = 51.00
FACU species 30.00	x 4 = 120.00
UPL species 0.00	x 5 = 0.00
Column Totals: 137.00 (A)	351.00 (B)

Prevalence Index = B/A = 2.56

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.)

Larger dead ash present in canopy. Vegetation in area historically cleared of woody vegetation and appears roughly mowed. Normal circumstances interpretated to be present.

SOIL

Sampling Point: P8

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
0-23	10YR 2/2	100					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 observed.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P9

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.225458 Long: -88.127846 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None (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 ____	If yes, optional Wetland Site ID: ____
Wetland Hydrology Present?	Yes ✓	No ____	

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

Plot located in swale that leads to Menomonee River. Ruderal wet meadow/shrub swamp present. APT analysis indicates climatic conditions are drier than normal.

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): 1
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

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.

Sampling Point: P9

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	60	Y	FACW
2. *Acer negundo*	10	N	FAC
3.			
4.			
5.			
6.			
7.			
	70.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	30	Y	FAC
2. *Cornus amomum*	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
	40.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	20	Y	FACW
2. *Urtica dioica*	10	Y	FAC
3. *Pilea pumila*	5	N	FACW
4. *Persicaria maculosa*	2	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	37.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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	0.00	x 1 =	0.00
FACW species	95.00	x 2 =	190.00
FAC species	52.00	x 3 =	156.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	147.00 (A)		346.00 (B)

Prevalence Index = B/A = 2.35

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.)

Larger dead ash present in canopy.

SOIL

Sampling Point: P9

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	100					SIL	
6-16	10YR 4/2	80	10YR 3/4	20	C	M	SICL	
16-20	10YR 4/2	75	10YR 3/4	25	C	M	COSL	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P10

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Baseslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.224640 Long: -88.127530 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in a wet meadow/shrub carr wetland. APT analysis indicates climatic conditions are drier than normal.

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): 8
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

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.

Sampling Point: P10

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix X fragilis*	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	30	Y	FACW
2. *Acer saccharinum*	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
	40.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	70	Y	FACW
2. *Typha X glauca*	15	N	OBL
3. *Impatiens capensis*	15	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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 15.00	x 1 = 15.00
FACW species 125.00	x 2 = 250.00
FAC species 10.00	x 3 = 30.00
FACU species 0.00	x 4 = 0.00
UPL species 0.00	x 5 = 0.00
Column Totals: 150.00 (A)	295.00 (B)

Prevalence Index = B/A = 1.97

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: 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
0-6	10YR 2/1	85	7.5YR 5/6	15	C	M	FSL	
6-14	10YR 4/1	90	10YR 5/6	10	C	M	FSL	
14-24	10YR 5/1	85	10YR 6/6	15	C	M	SL	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P11

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.224769 Long: -88.127205 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

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.			
	0 = Total Cover		

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 0.00 (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.)

Planted Poa pratensis 100% of herb stratum. No weeds present.

SOIL

Sampling Point: P11

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 3/1	100					SIL	
13-24	10YR 4/1	90	10YR 5/8	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P12

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Crest Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.224401 Long: -88.126167 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: WOHx (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.)

Plot located just outside wetland pond fringe in golf fairway- not normal circumstances. APT analysis indicates climatic conditions are drier than normal.

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:

No hydrology observed.

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.			
	0 = Total Cover		

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 33.33 (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.)

Plot located on fairway green near pond- not normal circumstances. No weed cover, poa pratensis 100%

SOIL

Sampling Point: P12

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 4/3	100					SIL	
8-18	7.5YR 3/2	90	7.5YR 3/4	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 redox observed in upper soil profile.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P13

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.224451 Long: -88.126239 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: WOHx (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Plot located in concave depression on wet meadow fringe of pond. APT analysis indicates climatic conditions are drier than normal.

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:

No hydrology observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P13

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	100	Y	FACW
2. *Cirsium arvense*	2	N	FACU
3. *Persicaria maculosa*	2	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	104.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	100.00	x 2 =	200.00
FAC species	2.00	x 3 =	6.00
FACU species	2.00	x 4 =	8.00
UPL species	0.00	x 5 =	0.00
Column Totals:	104.00 (A)		214.00 (B)

Prevalence Index = B/A = 2.06

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

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
0-20	7.5YR 3/2	85	7.5YR 3/4	15	C	M/PL	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P14

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.225991 Long: -88.125170 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: T3K

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a hardwood swamp. APT analysis indicates climatic conditions are drier than normal.

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. Sampling Point: P14

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	40	Y	FACW
2. *Ulmus americana*	20	Y	FACW
3.			
4.			
5.			
6.			
7.			
	60.0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	15	Y	FACW
2. *Acer saccharinum*	10	Y	FACW
3. *Ulmus americana*	10	Y	FACW
4.			
5.			
6.			
7.			
	35.0	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Pilea pumila*	20	Y	FACW
2. *Rhamnus cathartica*	15	Y	FAC
3. *Solanum dulcamara*	10	Y	FAC
4. *Vitis riparia*	10	Y	FAC
5. *Impatiens capensis*	10	Y	FACW
6. *Parthenocissus quinquefolia*	5	N	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	70.0	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (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	0.00	x 1 =	0.00
FACW species	125.00	x 2 =	250.00
FAC species	35.00	x 3 =	105.00
FACU species	5.00	x 4 =	20.00
UPL species	0.00	x 5 =	0.00
Column Totals:	165.00 (A)		375.00 (B)

Prevalence Index = B/A = 2.27

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.)

Dead Fraxinus pennsylvanica in tree stratum.

SOIL

Sampling Point: P14

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 3/1	85	7.5YR 4/6	15	C	M	SIL	
14-24	10YR 6/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P15

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.225686 Long: -88.125160 Datum: WGS84

Soil Map Unit Name: Virgil silt loam, gravelly substratum, 0 to 3 percent slopes NWI classification: T3K

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.)

Sample point located in an upland forest. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P15

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	20	Y	FACW
2. *Acer negundo*	15	Y	FAC
3. *Ulmus americana*	10	Y	FACW
4.			
5.			
6.			
7.			
	45.0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10.0	= Total Cover	
Herb Stratum (Plot size: 5)			
1. *Rhamnus cathartica*	20	Y	FAC
2. *Circaea canadensis*	15	Y	FACU
3. *Parthenocissus quinquefolia*	10	N	FACU
4. *Alliaria petiolata*	10	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55.0	= Total Cover	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (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	45.00	x 3 =	135.00
FACU species	35.00	x 4 =	140.00
UPL species	0.00	x 5 =	0.00
Column Totals:	110.00 (A)		335.00 (B)

Prevalence Index = B/A = 3.05

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.)

Dead Fraxinus pennsylvanica in tree stratum.

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
0-16	10YR 3/1	100					SIL	
16-24	10YR 4/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P16

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.224988 Long: -88.123963 Datum: WGS84

Soil Map Unit Name: Hochheim loam, 2 to 6 percent slopes, eroded NWI classification: S3/E1K (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.)

Sample point located in an upland forest. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P16

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tilia americana*	20	Y	FACU
2. *Quercus macrocarpa*	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
	30.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	60	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	60.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Rhamnus cathartica*	30	Y	FAC
2. *Parthenocissus quinquefolia*	10	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	40.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 40.00 (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	90.00	x 3 =	270.00
FACU species	40.00	x 4 =	160.00
UPL species	0.00	x 5 =	0.00
Column Totals:	130.00 (A)		430.00 (B)

Prevalence Index = B/A = 3.31

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.)

Dead Fraxinus pennsylvanica in tree stratum.

SOIL

Sampling Point: P16

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
0-11	10YR 3/1	100					SIL	
11-24	10YR 4/3	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P17

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.227046 Long: -88.127475 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None (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.)

Plot located just outside wetland pond fringe in golf fairway- not normal circumstances. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P17

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

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 33.33 (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.)

Plot located on fairway green near pond- not normal circumstances. No weed cover, poa pratensis 100%. Planted weeping Willow also present.

SOIL

Sampling Point: P17

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 3/2	100					SIL	
8-10	10YR 4/3	100					SIL	
11-13	10YR 5/4	100					COSL	Contains 5% gravel
13-17	10YR 5/2	95	10YR 5/4	5	C	M	CL	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P18

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.226989 Long: -88.127466 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: WOHx (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Plot located in concave depression on wet meadow fringe of pond. APT analysis indicates climatic conditions are drier than normal.

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): 16
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 15

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.

Sampling Point: P18

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus alba*	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	90	Y	FACW
2. *Lythrum salicaria*	15	N	OBL
3. *Morus rubra*	5	N	FACU
4. *Asclepias incarnata*	2	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	112.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	17.00	x 1 =	17.00
FACW species	95.00	x 2 =	190.00
FAC species	0.00	x 3 =	0.00
FACU species	5.00	x 4 =	20.00
UPL species	0.00	x 5 =	0.00
Column Totals:	117.00 (A)		227.00 (B)

Prevalence Index = B/A = 1.94

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: P18

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 3/1	90	10YR 3/3	10	C	M/PL	SICL	
16-19	10YR 4/1	90	10YR 3/4	10	C	M	CL	Contains 5% 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P19

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.227745 Long: -88.123954 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: T3K (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a hardwood swamp. APT analysis indicates climatic conditions are drier than normal.

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): 20

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.

Sampling Point: P19

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	70	Y	FACW
2. *Ulmus americana*	10	N	FACW
3.			
4.			
5.			
6.			
7.			
	80.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	15	Y	FACW
2. *Rhamnus cathartica*	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
	25.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Ribes americanum*	15	Y	FACW
2. *Parthenocissus quinquefolia*	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0.00	x 1 = 0.00
FACW species 110.00	x 2 = 220.00
FAC species 10.00	x 3 = 30.00
FACU species 5.00	x 4 = 20.00
UPL species 0.00	x 5 = 0.00
Column Totals: 125.00 (A)	270.00 (B)

Prevalence Index = B/A = 2.16

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: P19

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
0-24	10YR 2/1	90	7.5YR 4/6	10	C	M	SIL	
24-30	10YR 6/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P20

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.227671 Long: -88.124062 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland forest near a mowed lawn/golf course edge. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P20

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	30	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	30.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Alliaria petiolata*	40	Y	FACU
2. *Poa pratensis*	15	Y	FACU
3. *Viola sororia*	5	N	FAC
4. *Erigeron annuus*	5	N	FACU
5. *Impatiens capensis*	5	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	35.00	x 2 =	70.00
FAC species	15.00	x 3 =	45.00
FACU species	60.00	x 4 =	240.00
UPL species	0.00	x 5 =	0.00
Column Totals:	110.00 (A)		355.00 (B)

Prevalence Index = B/A = 3.23

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.)

Dead Fraxinus pennsylvanica in tree stratum.

SOIL

Sampling Point: P20

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
0-15	10YR 3/1	100					SIL	
15-24	10YR 4/3	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P21

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.227207 Long: -88.125385 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: T3K

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a hardwood swamp. APT analysis indicates climatic conditions are drier than normal for the time of year.

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. Sampling Point: P21

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	60	Y	FACW
2. *Ulmus americana*	10	N	FACW
3.			
4.			
5.			
6.			
7.			
	70.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	20	Y	FACW
2. *Ulmus americana*	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
	30.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Rhamnus cathartica*	10	Y	FAC
2. *Ribes americanum*	10	Y	FACW
3. *Fraxinus pennsylvanica*	10	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (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	0.00	x 1 =	0.00
FACW species	120.00	x 2 =	240.00
FAC species	10.00	x 3 =	30.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	130.00 (A)		270.00 (B)

Prevalence Index = B/A = 2.08

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: P21

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 3/1	85	7.5YR 4/6	15	C	M	L	
16-24	10YR 6/2	90	10YR 5/6	10	C	M	SCL	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P22

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.226889 Long: -88.125167 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: T3K (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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

No primary wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P22

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	15	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0.00	x 1 = 0.00
FACW species 15.00	x 2 = 30.00
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: 15.00 (A)	30.00 (B)

Prevalence Index = B/A = 2.0

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.)

Planted Poa pratensis 100% of herb stratum. No weeds present.

SOIL

Sampling Point: P22

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 3/1	100					L	
12-24	10YR 4/3	90	10YR 6/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P23

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.225985 Long: -88.129005 Datum: WGS84

Soil Map Unit Name: Ritchey silt loam, 2 to 6 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a wet meadow within a constructed storm water basin. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P23

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Persicaria maculosa*	50	Y	FAC
2. *Eleocharis palustris*	20	Y	OBL
3. *Phalaris arundinacea*	15	N	FACW
4. *Typha X glauca*	10	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	30.00	x 1 =	30.00
FACW species	15.00	x 2 =	30.00
FAC species	50.00	x 3 =	150.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	95.00 (A)		210.00 (B)

Prevalence Index = B/A = 2.21

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: P23

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	85	7.5YR 4/4	15	C	M	SICL	
14-24	10YR 4/2	90	7.5YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P24

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 8-15

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.225973 Long: -88.128891 Datum: WGS84

Soil Map Unit Name: Martinton silt loam, 1 to 3 percent slopes NWI classification: None

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.)

Sample point located in an upland meadow along edge of constructed stormwater basin. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P24

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	50	Y	FACU
2. *Daucus carota*	15	N	UPL
3. *Lotus corniculatus*	15	N	FACU
4. *Plantago lanceolata*	10	N	FACU
5. *Erigeron annuus*	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (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	80.00	x 4 =	320.00
UPL species	15.00	x 5 =	75.00
Column Totals:	95.00 (A)		395.00 (B)

Prevalence Index = B/A = 4.16

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: P24

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 4/3	100					SIL	
12-24	10YR 6/3	100					LS	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P25

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.228859 Long: -88.127331 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None (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.)

Plot located just outside wet meadow swale in golf fairway- not normal circumstances. APT analysis indicates climatic conditions are drier than normal.

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:

No hydrology observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P25

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

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 33.33 (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.)

Plot located on fairway green near pond- not normal circumstances. No weed cover, poa pratensis 100%. Planted weeping Willow also present

SOIL

Sampling Point: P25

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 3/2	100					SIL	
13-20	10YR 5/1	90	10YR 5/4	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P26

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.228882 Long: -88.127124 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Plot located in concave depression/swale in a ruderal wet meadow. Area appears to support periodic surface water flows from storm events but no waterway evident. APT analysis indicates climatic conditions are drier than normal.

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): 20
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 19

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.

Sampling Point: P26

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	100	Y	FACW
2. *Urtica dioica*	5	N	FAC
3. *Cirsium arvense*	2	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	107.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0.00	x 1 = 0.00
FACW species 100.00	x 2 = 200.00
FAC species 5.00	x 3 = 15.00
FACU species 2.00	x 4 = 8.00
UPL species 0.00	x 5 = 0.00
Column Totals: 107.00 (A)	223.00 (B)

Prevalence Index = B/A = 2.08

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.)

Area contains 3 planted weeping Willow.

SOIL

Sampling Point: P26

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-5	10YR 3/1	100					SICL	
5-13	10YR 4/1	85	10YR 4/6	15	C	M	COSL	Contains 5% gravel
13-20	10YR 5/4	100					COS	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P27

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230192 Long: -88.129202 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: T3K (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a hardwood swamp. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P27

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	20	Y	FACW
2. *Acer saccharinum*	20	Y	FACW
3. *Acer negundo*	10	Y	FAC
4.			
5.			
6.			
7.			
	50.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	15	Y	FAC
2. *Fraxinus pennsylvanica*	15	Y	FACW
3. *Acer saccharinum*	10	Y	FACW
4. *Ulmus americana*	10	Y	FACW
5.			
6.			
7.			
	50.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	50	Y	FACW
2. *Ribes americanum*	10	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (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	0.00	x 1 =	0.00
FACW species	135.00	x 2 =	270.00
FAC species	25.00	x 3 =	75.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	160.00 (A)		345.00 (B)

Prevalence Index = B/A = 2.16

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.)

Dead Fraxinus pennsylvanica in tree stratum.

SOIL

Sampling Point: P27

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 3/1	85	7.5YR 4/6	15	C	M	SICL	
10-24	10YR 5/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P28

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230707 Long: -88.128211 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P28

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 0.00 (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.)

Planted Poa pratensis 100% of herb stratum. No weeds present.

SOIL

Sampling Point: P28

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
0-18	10YR 3/1	100					SIL	
18-24	10YR 5/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P29

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230703 Long: -88.128218 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a hardwood swamp. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P29

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	70	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	70.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Acer saccharinum*	20	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	0.00	x 1 =	0.00
FACW species	90.00	x 2 =	180.00
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:	90.00 (A)		180.00 (B)

Prevalence Index = B/A = 2.0

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: P29

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 2/1	85	7.5YR 4/6	15	C	M	L	
9-24	10YR 6/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P30

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230641 Long: -88.127891 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P30

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

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 0.00 (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.)

Planted Poa pratensis 100% of herb stratum. No weeds present.

SOIL

Sampling Point: P30

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
0-15	10YR 3/1	100					SIL	
15-24	10YR 4/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P31

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Baseslope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230094 Long: -88.127379 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in a mowed wet meadow within a shallow swale. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

Planted Poa pratensis is stressed within wetland.

VEGETATION – Use scientific names of plants.

Sampling Point: P31

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Persicaria maculosa*	80	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (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	80.00	x 3 =	240.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	80.00 (A)		240.00 (B)

Prevalence Index = B/A = 3.0

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.)

Planted Poa pratensis 20% of herb stratum.

SOIL

Sampling Point: P31

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 3/1	85	7.5YR 5/6	15	C	M	SICL	
13-24	10YR 4/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P32

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230673 Long: -88.127165 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P32

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

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 0.00 (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.)

Planted Poa pratensis 100% of herb stratum. No weeds present.

SOIL

Sampling Point: P32

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 3/1	100					SIL	
16-24	10YR 4/2	90	10YR 6/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P33

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231084 Long: -88.125212 Datum: WGS84

Soil Map Unit Name: Water NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a wet meadow on a pond fringe. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P33

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	20	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Persicaria maculosa*	20	Y	FAC
2. *Eleocharis palustris*	20	Y	OBL
3. *Phalaris arundinacea*	15	Y	FACW
4. *Asclepias incarnata*	15	Y	OBL
5. *Impatiens capensis*	10	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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	35.00	x 1 =	35.00
FACW species	45.00	x 2 =	90.00
FAC species	20.00	x 3 =	60.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	100.00 (A)		185.00 (B)

Prevalence Index = B/A = 1.85

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: P33

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
0-4	10YR 3/1	85	7.5YR 4/4	15	C	M	SICL	
4-24	10YR 5/1	90	7.5YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P34

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Baseslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231039 Long: -88.125195 Datum: WGS84

Soil Map Unit Name: Palms mucky peat NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P34

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

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (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.)

Planted Poa pratensis 100% of herb stratum.

SOIL

Sampling Point: P34

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 3/1	100					SICL	
14-24	10YR 4/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P35

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Convex Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230209 Long: -88.125333 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None (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.)

Plot located outside wetland pond fringe in golf fairway near sandtrap- not normal circumstances. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P35

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

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 33.33 (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.)

Plot located on fairway green near pond- not normal circumstances. No weed cover, poa pratensis 100%. Planted weeping Willow also present

SOIL

Sampling Point: P35

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 3/2	100					SIL	
6-13	10YR 4/3	100					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:

Auger refusal at 13 inches. Most likely related to berm/sand trap construction.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P36

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230106 Long: -88.125296 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a wet meadow fringe along bank of Menomonee River. APT analysis indicates climatic conditions are drier than normal.

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): 10
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 5

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.

Sampling Point: P36

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Apocynum cannabinum*	15	Y	FAC
2. *Poa pratensis*	15	Y	FACU
3. *Phalaris arundinacea*	15	Y	FACW
4. *Persicaria maculosa*	15	Y	FAC
5. *Asclepias incarnata*	15	Y	OBL
6. *Urtica dioica*	5	N	FAC
7. *Bidens frondosa*	3	N	FACW
8.			
9.			
10.			
11.			
12.			
	83.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15.00	x 1 =	15.00
FACW species	18.00	x 2 =	36.00
FAC species	35.00	x 3 =	105.00
FACU species	15.00	x 4 =	60.00
UPL species	0.00	x 5 =	0.00
Column Totals:	83.00 (A)		216.00 (B)

Prevalence Index = B/A = 2.60

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: P36

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
0-4	10YR 3/1	100					SICL	
4-20	10YR 5/1	90	10YR 6/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P37

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.228294 Long: -88.124725 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Plot located in concave depression/swale in a wet meadow. Area appears to support periodic surface water flows from storm events but no waterway evident. APT analysis indicates climatic conditions are drier than normal.

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): 9
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 1

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. Sampling Point: P37

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	35	Y	FAC
2. *Acer saccharinum*	15	Y	FACW
3. *Ulmus americana*	10	N	FACW
4.			
5.			
6.			
7.			
	60.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	25	Y	FAC
2. *Ribes americanum*	5	N	FACW
3.			
4.			
5.			
6.			
7.			
	30.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Sagittaria latifolia*	25	Y	OBL
2. *Phalaris arundinacea*	25	Y	FACW
3. *Urtica dioica*	5	N	FAC
4. *Cirsium arvense*	2	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	57.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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	25.00	x 1 =	25.00
FACW species	55.00	x 2 =	110.00
FAC species	65.00	x 3 =	195.00
FACU species	2.00	x 4 =	8.00
UPL species	0.00	x 5 =	0.00
Column Totals:	147.00 (A)		338.00 (B)

Prevalence Index = B/A = 2.3

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: P37

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 3/2	100					SICL	
6-12	10YR 4/2	93	10YR 4/4	7	C	M/PL	SICL	Contains 5% gravel
12-21	10YR 4/1	97	10YR 4/4	3	C	M	COSL	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P38

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.228329 Long: -88.124744 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None (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.)

Plot located upslope from drainage swale wetland. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P38

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	65	Y	FACU
2. *Phalaris arundinacea*	25	Y	FACW
3. *Parthenocissus quinquefolia*	10	N	FACU
4. *Cirsium arvense*	2	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	102.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	25.00	x 2 =	50.00
FAC species	0.00	x 3 =	0.00
FACU species	77.00	x 4 =	308.00
UPL species	0.00	x 5 =	0.00
Column Totals:	102.00 (A)		358.00 (B)

Prevalence Index = B/A = 3.51

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: P38

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 3/3	100					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:

Auger refusal at 8 inches due to rock/gravel. Swale appears to have been constructed near recycling center. Fill most likely present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P39

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.229682 Long: -88.123894 Datum: WGS84

Soil Map Unit Name: Houghton mucky peat, 0 to 2 percent slopes NWI classification: None (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 X No ___(If

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? 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.)

Plot located in concave depression/swale in a wet meadow. Area feeds into a constructed pond to the north. APT analysis indicates climatic conditions are drier than normal.

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): 9
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 1

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.

Sampling Point: P39

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Echinochloa crus-galli*	30	Y	FAC
2. *Persicaria maculosa*	20	Y	FAC
3. *Phalaris arundinacea*	15	Y	FACW
4. *Typha angustifolia*	2	N	OBL
5. *Alisma subcordatum*	2	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	69.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	4.00	x 1 =	4.00
FACW species	15.00	x 2 =	30.00
FAC species	50.00	x 3 =	150.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	69.00 (A)		184.00 (B)

Prevalence Index = B/A = 2.67

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: P39

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 4/2	85	10YR 4/6	15	C	M/PL	SICL	Contains 10% gravel/cobble

[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:

Auger refusal at 7 inches due to rock. Hydric soil indicator met at surface. Cobble assumed due to pond construction.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P40

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.229720 Long: -88.124041 Datum: WGS84

Soil Map Unit Name: Houghton mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland occasionally mowed meadow. Normal circumstances present. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P40

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	50	Y	FACU
2. *Phalaris arundinacea*	30	Y	FACW
3. *Lotus corniculatus*	15	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	95.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	65.00	x 4 =	260.00
UPL species	0.00	x 5 =	0.00
Column Totals:	95.00 (A)		320.00 (B)

Prevalence Index = B/A = 3.37

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: P40

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					SICL	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:

Auger refusal at 14" due to rock and gravel

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P41

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 22 T009N R020E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.228318 Long: -88.121463 Datum: WGS84

Soil Map Unit Name: Sebewa silt loam, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland meadow located along toe slope of road embankment. No ditch present. Normal circumstances present but mowed golf course present approximately one foot from sample plot. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P41

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	40	Y	FACU
2. *Cirsium arvense*	30	Y	FACU
3. *Elymus repens*	10	N	FACU
4. *Daucus carota*	10	N	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (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	80.00	x 4 =	320.00
UPL species	10.00	x 5 =	50.00
Column Totals:	90.00 (A)		370.00 (B)

Prevalence Index = B/A = 4.11

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: P41

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 3/1	100					SICL	
14-24	10YR 4/2	85	10YR 5/6	15	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-07-31

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P42

Investigator(s): Keith Phelps, Matt Stange Section, Township, Range: sec 22 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.229393 Long: -88.122898 Datum: WGS84

Soil Map Unit Name: Pella silt loam, 0 to 2 percent slopes NWI classification: None (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Plot located in concave depression in a ruderal wet meadow dominated by RCG. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P42

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	90	Y	FACW
2. *Typha angustifolia*	4	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	94.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 4.00	x 1 = 4.00
FACW species 90.00	x 2 = 180.00
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: 94.00 (A)	184.00 (B)

Prevalence Index = B/A = 1.96

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: P42

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	97	7.5YR 3/4	3	C	PL	SICL	
10-15	10YR 5/1	85	10YR 3/6	15	C	M	CL	
15-22	10YR 5/1	85	10YR 3/6	15	C	M	COSL	

[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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P43

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 22 T009N R020E

Landform (hillslope, terrace, etc.): Rise Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.229639 Long: -88.122754 Datum: WGS84

Soil Map Unit Name: Pella silt loam, 0 to 2 percent slopes NWI classification: None (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.)

Plot located atop level berm. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P43

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	100	Y	FACU
2. *Parthenocissus quinquefolia*	7	N	FACU
3. *Phalaris arundinacea*	2	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	109.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	2.00	x 2 =	4.00
FAC species	0.00	x 3 =	0.00
FACU species	107.00	x 4 =	428.00
UPL species	0.00	x 5 =	0.00
Column Totals:	109.00 (A)		432.00 (B)

Prevalence Index = B/A = 3.96

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: P43

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 3/3	100					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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P44

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 22 T009N R020E

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230976 Long: -88.121772 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: W0Hx

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a wet meadow on a pond fringe. APT analysis indicates climatic conditions are drier than normal.

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): 10

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.

Sampling Point: P44

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	10	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Persicaria maculosa*	20	Y	FAC
2. *Asclepias incarnata*	15	Y	OBL
3. *Lycopus americanus*	10	N	OBL
4. *Cicuta maculata*	10	N	OBL
5. *Impatiens capensis*	5	N	FACW
6. *Urtica dioica*	5	N	FAC
7. *Carex pellita*	3	N	OBL
8.			
9.			
10.			
11.			
12.			
	68.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	38.00	x 1 =	38.00
FACW species	15.00	x 2 =	30.00
FAC species	25.00	x 3 =	75.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	78.00 (A)		143.00 (B)

Prevalence Index = B/A = 1.83

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: P44

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
0-4	10YR 2/1	100					SICL	
4-24	10YR 5/1	80	7.5YR 5/6	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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P45

Investigator(s): Keith Phelps, Matt Stangel Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.230486 Long: -88.123190 Datum: WGS84

Soil Map Unit Name: Houghton mucky peat, 0 to 2 percent slopes NWI classification: None (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.)

Plot located upslope from drainage swale wetland. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P45

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	80	Y	FACU
2. *Cyperus esculentus*	15	N	FACW
3. *Plantago major*	5	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	15.00	x 2 =	30.00
FAC species	0.00	x 3 =	0.00
FACU species	85.00	x 4 =	340.00
UPL species	0.00	x 5 =	0.00
Column Totals:	100.00 (A)		370.00 (B)

Prevalence Index = B/A = 3.7

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: P45

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 3/3	100					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:

Auger refusal at 6 inches due to rock/gravel. Most likely related to berm construction

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P46

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 22 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231397 Long: -88.121061 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a shrub carr/green ash thicket. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P46

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Fraxinus pennsylvanica*	60	Y	FACW
2. *Salix interior*	5	N	FACW
3.			
4.			
5.			
6.			
7.			
	65.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Impatiens capensis*	50	Y	FACW
2. *Helianthus grosseserratus*	10	N	FACW
3. *Geum canadense*	5	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	0.00	x 1 =	0.00
FACW species	125.00	x 2 =	250.00
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:	130.00 (A)		265.00 (B)

Prevalence Index = B/A = 2.04

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: P46

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
0-11	10YR 3/1	95	7.5YR 4/6	5	C	M	SIL	
11-24	10YR 5/1	75	7.5YR 5/6	25	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: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-02

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P47

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231236 Long: -88.121349 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes _____	No ✓	

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

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P47

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

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

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

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (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.)

Planted Poa pratensis 100% of herb stratum.

SOIL

Sampling Point: P47

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 3/1	100					SICL	
10-24	10YR 4/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-01

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P48

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 22 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 3-7

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231573 Long: -88.122533 Datum: WGS84

Soil Map Unit Name: Houghton mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P48

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 0.00 (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.)

Planted Poa pratensis 100% of herb stratum. No weeds present.

SOIL

Sampling Point: P48

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 3/1	100					SIL	
14-24	10YR 5/1	90	10YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-02

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P49

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 22 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231365 Long: -88.122703 Datum: WGS84

Soil Map Unit Name: Houghton mucky peat, 0 to 2 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a wet meadow. Not mowed - normal circumstances present. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P49

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix amygdaloides*	20	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	20.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	30	Y	FACW
2. *Euthamia graminifolia*	20	Y	FAC
3. *Scirpus atrovirens*	20	Y	OBL
4. *Agrostis gigantea*	10	N	FACW
5. *Asclepias incarnata*	5	N	OBL
6. *Impatiens capensis*	3	N	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	88.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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 25.00	x 1 = 25.00
FACW species 63.00	x 2 = 126.00
FAC species 20.00	x 3 = 60.00
FACU species 0.00	x 4 = 0.00
UPL species 0.00	x 5 = 0.00
Column Totals: 108.00 (A)	211.00 (B)

Prevalence Index = B/A = 1.95

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: P49

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
0-11	10YR 3/1	95	7.5YR 4/6	5	C	M	SIL	
11-24	10YR 5/1	85	7.5YR 6/6	15	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-02

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P50

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231664 Long: -88.124487 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland golf course fairway. Normal circumstances not present and vegetation significantly disturbed due to turf grass maintenance (mowing & herbicide). APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P50

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 100.00 (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.)

Planted Poa pratensis 100% of herb stratum.

SOIL

Sampling Point: P50

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 3/1	100					SICL	
8-18	10YR 4/3	90	10YR 5/6	10	C	M	SICL	
18-24	10YR 5/1	85	10YR 5/8	15	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-02

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P51

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Baseslope Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231808 Long: -88.124593 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a wet meadow drainage swale on boundary of hardwood swamp. APT analysis indicates climatic conditions are drier than normal.

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): 18

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.

Sampling Point: P51

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	10	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Salix interior*	20	Y	FACW
2. *Fraxinus pennsylvanica*	10	Y	FACW
3. *Rhamnus cathartica*	5	N	FAC
4.			
5.			
6.			
7.			
	35.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Phalaris arundinacea*	90	Y	FACW
2. *Typha X glauca*	10	N	OBL
3. *Impatiens capensis*	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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 10.00	x 1 = 10.00
FACW species 135.00	x 2 = 270.00
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: 150.00 (A)	295.00 (B)

Prevalence Index = B/A = 1.97

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.)

Dead Fraxinus pennsylvanica in tree stratum.

SOIL

Sampling Point: P51

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 3/1	85	7.5YR 5/6	15	C	M	SICL	
8-24	10YR 6/1	90	7.5YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-02

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P52

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.233210 Long: -88.127113 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a hardwood swamp. APT analysis indicates climatic conditions are drier than normal.

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.

Sampling Point: P52

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	60	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	60.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Glyceria striata*	40	Y	OBL
2. *Carex bebbii*	15	Y	OBL
3. *Fraxinus pennsylvanica*	10	N	FACW
4. *Pilea pumila*	10	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (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	55.00	x 1 =	55.00
FACW species	80.00	x 2 =	160.00
FAC species	10.00	x 3 =	30.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	145.00 (A)		245.00 (B)

Prevalence Index = B/A = 1.69

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.)

Dead Fraxinus pennsylvanica in tree stratum.

SOIL

Sampling Point: P52

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	85	7.5YR 5/6	15	C	M	SIL	
10-24	10YR 5/1	90	7.5YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-02

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P53

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.233406 Long: -88.127219 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland forest. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P53

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	20	Y	FACW
2. *Quercus alba*	15	Y	FACU
3. *Quercus macrocarpa*	10	Y	FACU
4.			
5.			
6.			
7.			
	45.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	40.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Ribes cynosbati*	30	Y	FACU
2. *Parthenocissus quinquefolia*	20	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	20.00	x 2 =	40.00
FAC species	40.00	x 3 =	120.00
FACU species	75.00	x 4 =	300.00
UPL species	0.00	x 5 =	0.00
Column Totals:	135.00 (A)		460.00 (B)

Prevalence Index = B/A = 3.41

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.)

Dead Fraxinus pennsylvanica in tree stratum.

SOIL

Sampling Point: P53

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 3/1	100					SIL	
14-24	10YR 5/1	90	7.5YR 5/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-02

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P54

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231760 Long: -88.128324 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: None

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.)

Sample point located in an upland meadow. APT analysis indicates climatic conditions are drier than normal.

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:

No wetland hydrology indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: P54

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	50	Y	FACU
2. *Cirsium arvense*	20	Y	FACU
3. *DAUCUS CAROTA*	15	N	UPL
4. *Phalaris arundinacea*	15	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0.00	x 1 =	0.00
FACW species	15.00	x 2 =	30.00
FAC species	0.00	x 3 =	0.00
FACU species	70.00	x 4 =	280.00
UPL species	15.00	x 5 =	75.00
Column Totals:	100.00 (A)		385.00 (B)

Prevalence Index = B/A = 3.85

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: P54

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 3/1	100					SIL	
8-24	10YR 5/1	90	10YR 6/6	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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Blackstone Creek Golf Course City/County: Washington County Sampling Date: 2023-08-02

Applicant/Owner: Blackstone Creek, LLC State: Wisconsin Sampling Point: P55

Investigator(s): Matt Stangel, Keith Phelps Section, Township, Range: sec 21 T009N R020E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR K, MLRA 95B Lat: 43.231974 Long: -88.127823 Datum: WGS84

Soil Map Unit Name: Palms mucky peat, 0 to 2 percent slopes NWI classification: T3K (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 _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present?	Yes ✓	No _____	

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

Sample point located in a hardwood swamp. APT analysis indicates climatic conditions are drier than normal.

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): 17

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. Sampling Point: P55

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	60	Y	FACW
2. *Ulmus americana*	10	N	FACW
3.			
4.			
5.			
6.			
7.			
	70.0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Rhamnus cathartica*	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10.0 = Total Cover		
Herb Stratum (Plot size: 5)			
1. *Glyceria striata*	60	Y	OBL
2. *Geum canadense*	10	N	FAC
3. *Impatiens capensis*	10	N	FACW
4. *Acer saccharinum*	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85.0 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = 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	60.00	x 1 =	60.00
FACW species	85.00	x 2 =	170.00
FAC species	20.00	x 3 =	60.00
FACU species	0.00	x 4 =	0.00
UPL species	0.00	x 5 =	0.00
Column Totals:	165.00 (A)		290.00 (B)

Prevalence Index = B/A = 1.76

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.)

Dead Fraxinus pennsylvanica in tree stratum.

SOIL

Sampling Point: P55

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
0-11	10YR 3/1	85	7.5YR 4/6	15	C	M	SICL	
11-24	10YR 6/1	90	7.5YR 5/6	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:

Appendix D | Site Photographs

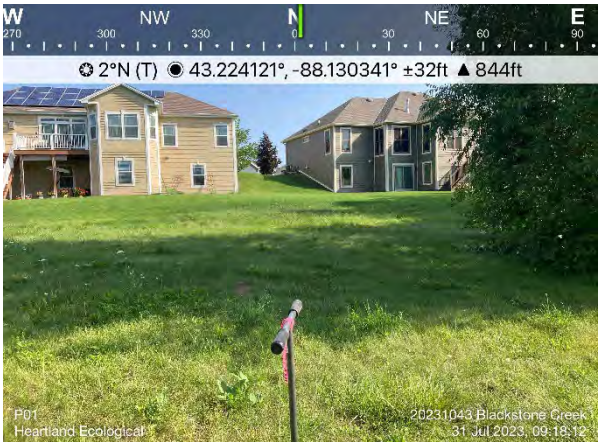


Photo #1 Sample point P01



Photo #2 Sample point P01



Photo #3 Sample point P01



Photo #4 Sample point P01



Photo #5 Sample point P02



Photo #6 Sample point P02



Photo #7 Sample point P02



Photo #8 Sample point P02



Photo #9 Sample point P03



Photo #10 Sample point P03



Photo #11 Sample point P03



Photo #12 Sample point P03



Photo #13 Sample point P04



Photo #14 Sample point P04



Photo #15 Sample point P04



Photo #16 Sample point P04



Photo #17 Sample point P05



Photo #18 Sample point P05

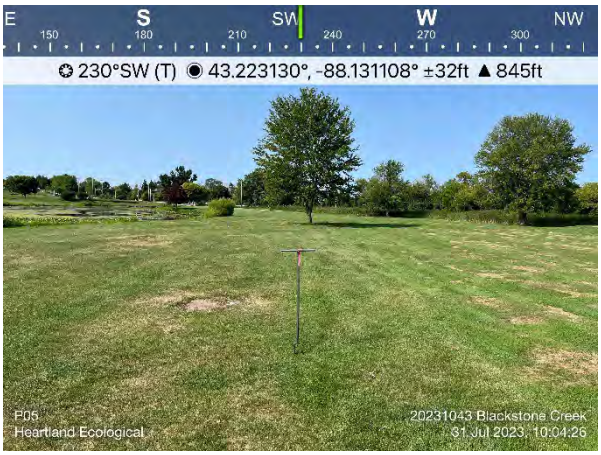


Photo #19 Sample point P05

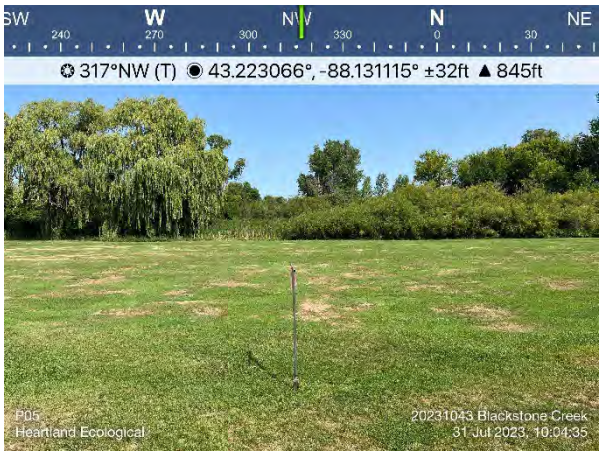


Photo #20 Sample point P05



Photo #21 Sample point P06



Photo #22 Sample point P06



Photo #23 Sample point P06



Photo #24 Sample point P06



Photo #25 Sample point P07



Photo #26 Sample point P07



Photo #27 Sample point P07



Photo #28 Sample point P07



Photo #29 Sample point P08



Photo #30 Sample point P08



Photo #31 Sample point P08



Photo #32 Sample point P08



Photo #33 Sample point P09



Photo #34 Sample point P09



Photo #35 Sample point P09



Photo #36 Sample point P09



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



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



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



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



Photo #61 Sample point P16



Photo #62 Sample point P16



Photo #63 Sample point P16



Photo #64 Sample point P16



Photo #65 Sample point P17



Photo #66 Sample point P17



Photo #67 Sample point P17



Photo #68 Sample point P17



Photo #69 Sample point P18



Photo #70 Sample point P18



Photo #71 Sample point P18



Photo #72 Sample point P18

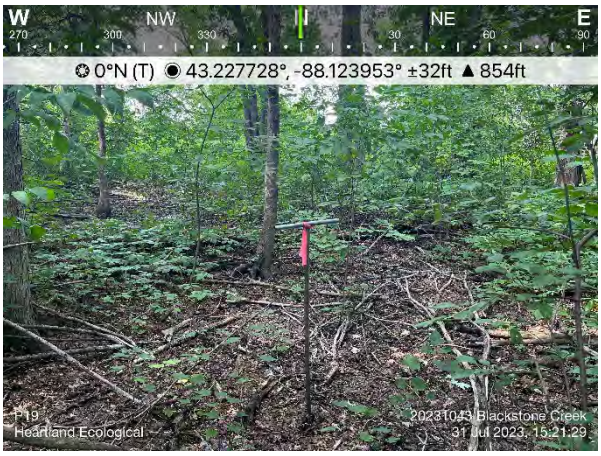


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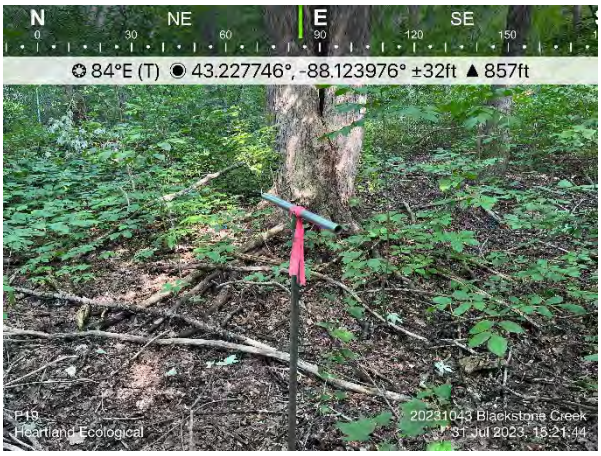


Photo #74 Sample point P19



Photo #75 Sample point P19



Photo #76 Sample point P19



Photo #77 Sample point P20



Photo #78 Sample point P20



Photo #79 Sample point P20



Photo #80 Sample point P20



Photo #81 Sample point P21



Photo #82 Sample point P21

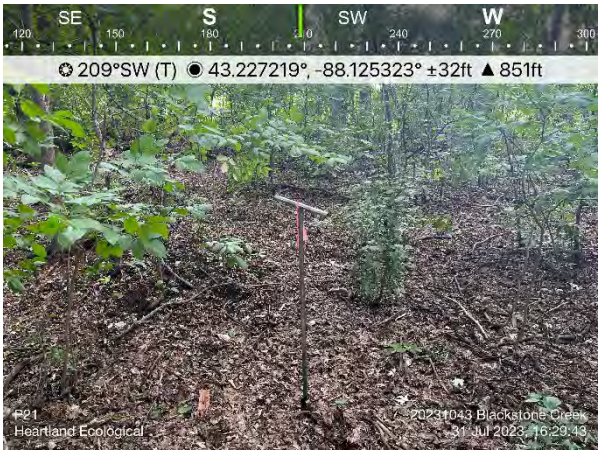


Photo #83 Sample point P21

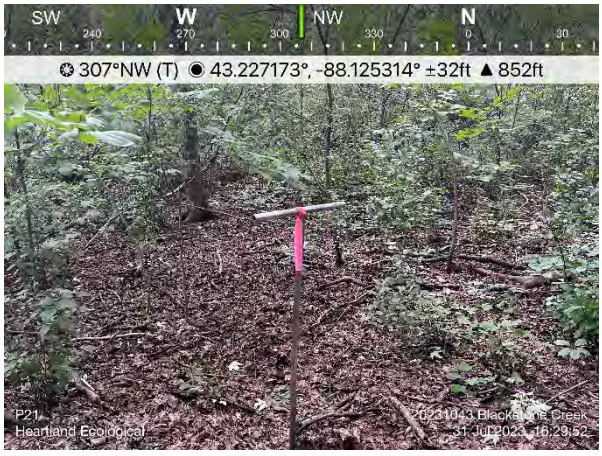


Photo #84 Sample point P21



Photo #85 Sample point P22



Photo #86 Sample point P22



Photo #87 Sample point P22



Photo #88 Sample point P22



Photo #89 Sample point P23



Photo #90 Sample point P23



Photo #91 Sample point P23

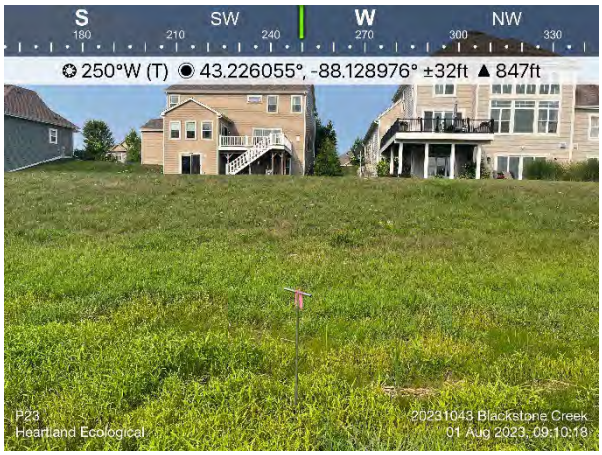


Photo #92 Sample point P23



Photo #93 Sample point P24



Photo #94 Sample point P24



Photo #95 Sample point P24



Photo #96 Sample point P24



Photo #97 Sample point P25



Photo #98 Sample point P25



Photo #99 Sample point P25

Photo Missing

Photo #100 Sample point P25



Photo #101 Sample point P26



Photo #102 Sample point P26



Photo #103 Sample point P26



Photo #104 Sample point P26



Photo #105 Sample point P27



Photo #106 Sample point P27



Photo #107 Sample point P27



Photo #108 Sample point P27



Photo #109 Sample point P28



Photo #110 Sample point P28



Photo #111 Sample point P28



Photo #112 Sample point P28

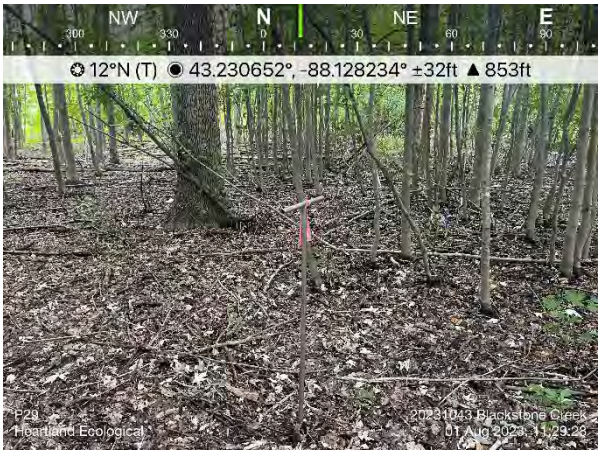


Photo #113 Sample point P29

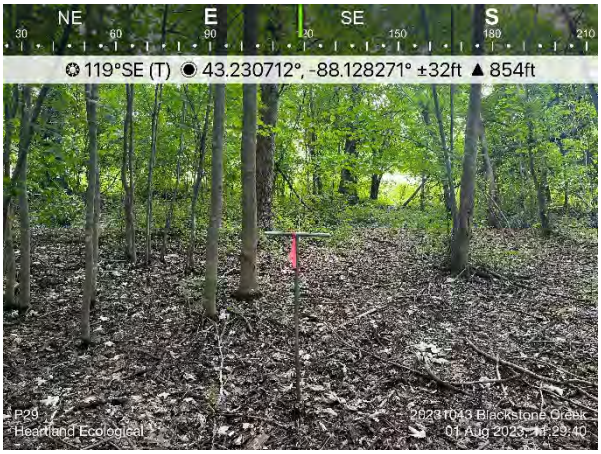


Photo #114 Sample point P29



Photo #115 Sample point P29

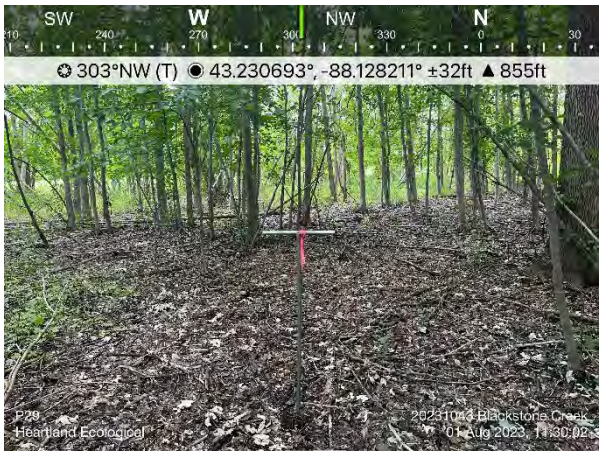


Photo #116 Sample point P29



Photo #117 Sample point P30



Photo #118 Sample point P30



Photo #119 Sample point P30



Photo #120 Sample point P30



Photo #121 Sample point P31



Photo #122 Sample point P31



Photo #123 Sample point P31



Photo #124 Sample point P31



Photo #125 Sample point P32



Photo #126 Sample point P32



Photo #127 Sample point P32



Photo #128 Sample point P32



Photo #129 Sample point P33



Photo #130 Sample point P33



Photo #131 Sample point P33



Photo #132 Sample point P33



Photo #133 Sample point P34



Photo #134 Sample point P34



Photo #135 Sample point P34



Photo #136 Sample point P34



Photo #137 Sample point P35



Photo #138 Sample point P35



Photo #139 Sample point P35



Photo #140 Sample point P35



Photo #141 Sample point P36



Photo #142 Sample point P36



Photo #143 Sample point P36



Photo #144 Sample point P36



Photo #145 Sample point P37



Photo #146 Sample point P37



Photo #147 Sample point P37



Photo #148 Sample point P37



Photo #149 Sample point P38



Photo #150 Sample point P38



Photo #151 Sample point P38



Photo #152 Sample point P38



Photo #153 Sample point P39



Photo #154 Sample point P39



Photo #155 Sample point P39



Photo #156 Sample point P39



Photo #157 Sample point P40



Photo #158 Sample point P40



Photo #159 Sample point P40

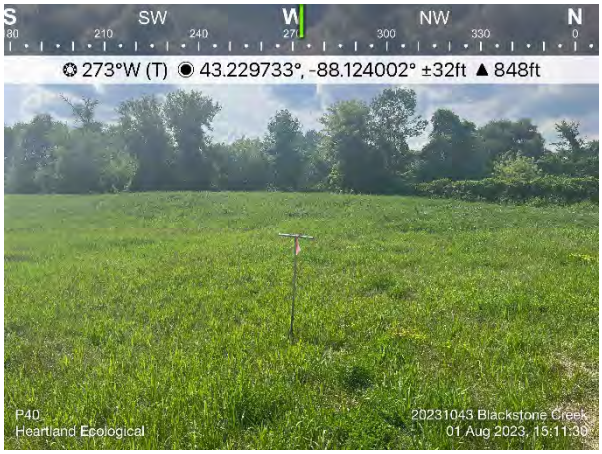


Photo #160 Sample point P40



Photo #161 Sample point P41



Photo #162 Sample point P41



Photo #163 Sample point P41

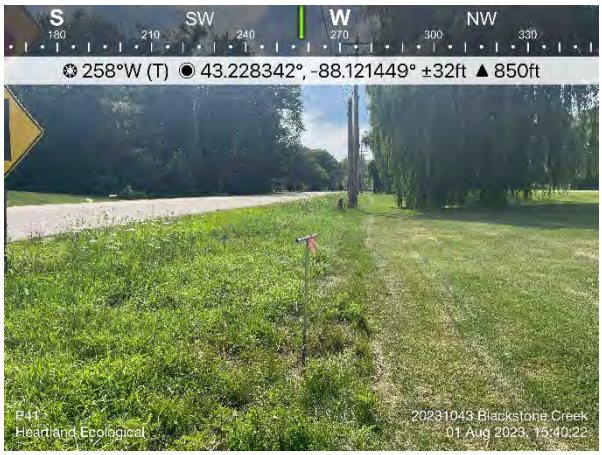


Photo #164 Sample point P41



Photo #165 Sample point P42



Photo #166 Sample point P42



Photo #167 Sample point P42

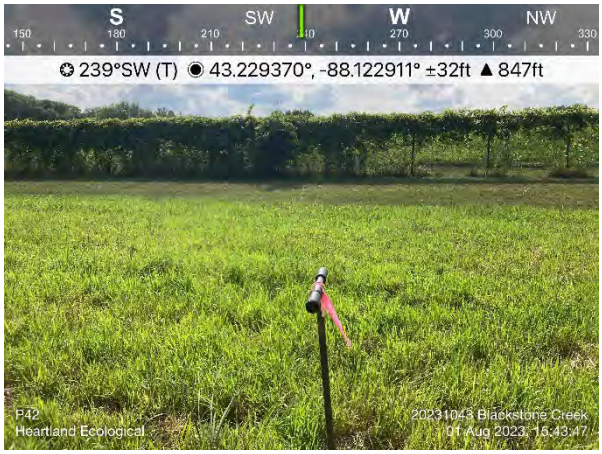


Photo #168 Sample point P42



Photo #169 Sample point P43



Photo #170 Sample point P43



Photo #171 Sample point P43



Photo #172 Sample point P43



Photo #173 Sample point P44



Photo #174 Sample point P44



Photo #175 Sample point P44



Photo #176 Sample point P44



Photo #177 Sample point P45



Photo #178 Sample point P45



Photo #179 Sample point P45



Photo #180 Sample point P45



Photo #181 Sample point P46



Photo #182 Sample point P46



Photo #183 Sample point P46



Photo #184 Sample point P46



Photo #185 Sample point P47



Photo #186 Sample point P47



Photo #187 Sample point P47



Photo #188 Sample point P47



Photo #189 Sample point P48



Photo #190 Sample point P48



Photo #191 Sample point P48



Photo #192 Sample point P48



Photo #193 Sample point P49



Photo #194 Sample point P49



Photo #195 Sample point P49



Photo #196 Sample point P49



Photo #197 Sample point P50



Photo #198 Sample point P50



Photo #199 Sample point P50



Photo #200 Sample point P50



Photo #201 Sample point P51



Photo #202 Sample point P51



Photo #203 Sample point P51



Photo #204 Sample point P51



Photo #205 Sample point P52



Photo #206 Sample point P52



Photo #207 Sample point P52



Photo #208 Sample point P52



Photo #209 Sample point P53



Photo #210 Sample point P53



Photo #211 Sample point P53



Photo #212 Sample point P53



Photo #213 Sample point P54



Photo #214 Sample point P54



Photo #215 Sample point P54



Photo #216 Sample point P54



Photo #217 Menomonee River South End



Photo #218 Menomonee River South End



Photo #219 W-1 Fringe Along Menomonee River



Photo #220 Pond 2



Photo #221 Pond 3



Photo #222 Pond 4



Photo #223 Pond 5

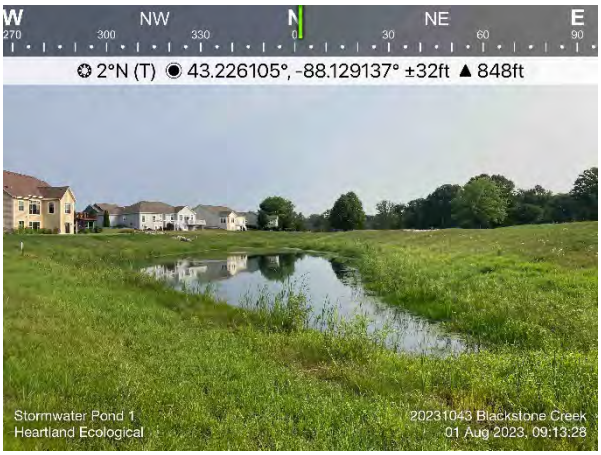


Photo #224 Storm Pond 1



Photo #225 Pond 6



Photo #226 Pond 6



Photo #227 Pond 7

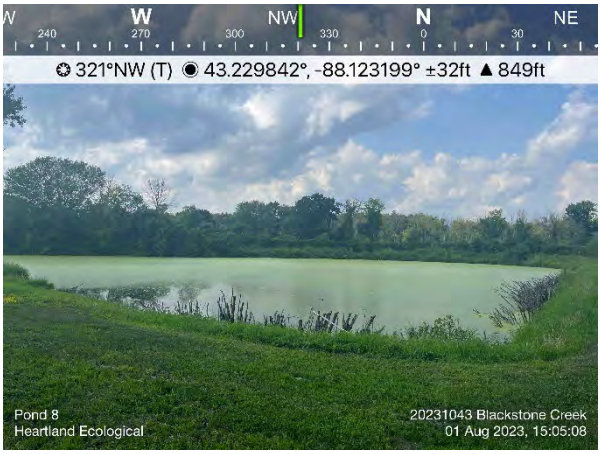


Photo #228 Pond 8



Photo #229 Pond 9



Photo #230 Pond 10



Photo #231 Pond 11



Photo #232 W-7 Mowed Section



Photo #233 Upland Path Between Men. River and Pond 5



Photo #234 Upland Path Between Men. River and Pond 5

Appendix E | Delineator Qualifications

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
1027 W St Paul Ave
Milwaukee WI, WI, 53233

Tony Evers, Governor
Adam N. Payne, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

April 3, 2023

Matt Stangel
Heartland Ecological Group, Inc.
243 E Wilbur Ave.
Milwaukee, WI 53207

Subject: 2023 Assured Wetland Delineator Confirmation

Dear Mr. Stangel:

This letter provides Wisconsin Department of Natural Resources (WDNR) confirmation for the wetland delineations you conduct during the 2023 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 is 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.

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
Wetland Identification Coordinator
Bureau of Watershed Management



Matt Stangel

Environmental Scientist

243 East Wilbur Avenue, Milwaukee, WI 53207
matt@heartlandecological.com
(920) 419-5634

Heartland ECOLOGICAL GROUP INC

Matt Stangel holds a B.A. degree in Geography as well as an M.S. in Freshwater Sciences and Technology from the University of Wisconsin – Milwaukee. He has over eight years of professional experience in environmental science including wetland delineation, ecological restoration, natural area management, and environmental sampling and analysis. Matt is proficient with ESRI ArcGIS software and supports Heartland's projects by processing field data and creating map figures. He has completed basic (2017) and advanced (2018) wetland delineation courses through UW-La Crosse and has assisted on hundreds of wetland delineations for public and private clientele. He is an assured wetland delineator and a certified endangered resources reviewer with the DNR, and a Wetland Professional in Training (WPIT) with the Society of Wetland Scientists.

Education

MS, Freshwater Sciences and Technology, University of Wisconsin – Milwaukee, Milwaukee, WI, 2016

BA, Geography (emphasis Environmental Geography), University of Wisconsin – Milwaukee, Milwaukee, WI, 2011

Certifications and Licensing

Assured Wetland Delineator, WDNR, 2022-present

Wetland Professional in Training (WPIT), Society of Wetland Scientists Professional Certification Program, 2020 - present

Certified Endangered Resources Reviewer, WDNR, 2017 - present

Professional Development

Critical Methods in Wetland Delineation, University of Wisconsin - La Crosse Continuing Education and Extension, Madison, WI, 2017 - 2021

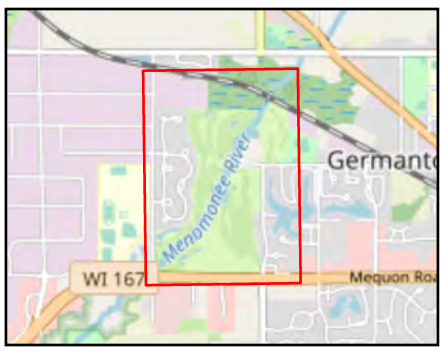
Grasses and Sedges Identification and Sampling, University of Wisconsin – Stevens Point, Schmeeckle Reserve, Stevens Point, WI, 2019

Advanced Wetland Delineation, University of Wisconsin - La Crosse, La Crosse, WI, 2018

Basic Wetland Delineation Training, University of Wisconsin – La Crosse, La Crosse, WI, 2017

Appendix F | NAIP Imagery





Study Area (164.44 ac)

0 350 Ft

Heartland
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Appendix: 2005-06-16
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2005 NAIP
USDA LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)

0 350 Ft

Heartland ECOLOGICAL GROUP INC

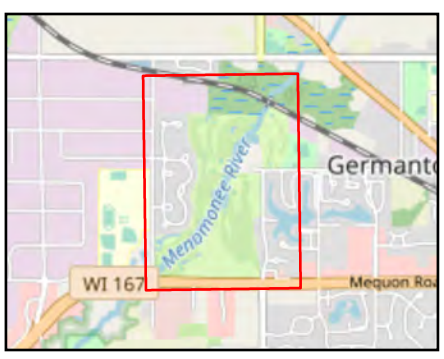
Appendix: 2006-06-29
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2006 NAIP
USDA
LRR: NCNE

Figure Created: 8/7/2023





Study Area (164.44 ac)

0 350 Ft

Heartland ECOLOGICAL GROUP INC

Appendix: 2008-07-05
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2008 NAIP
USDA
LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)

0 350 Ft

Heartland
ECOLOGICAL GROUP INC

Appendix: 2010-07-01
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2010 NAIP
USDA LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)

0 350 Ft

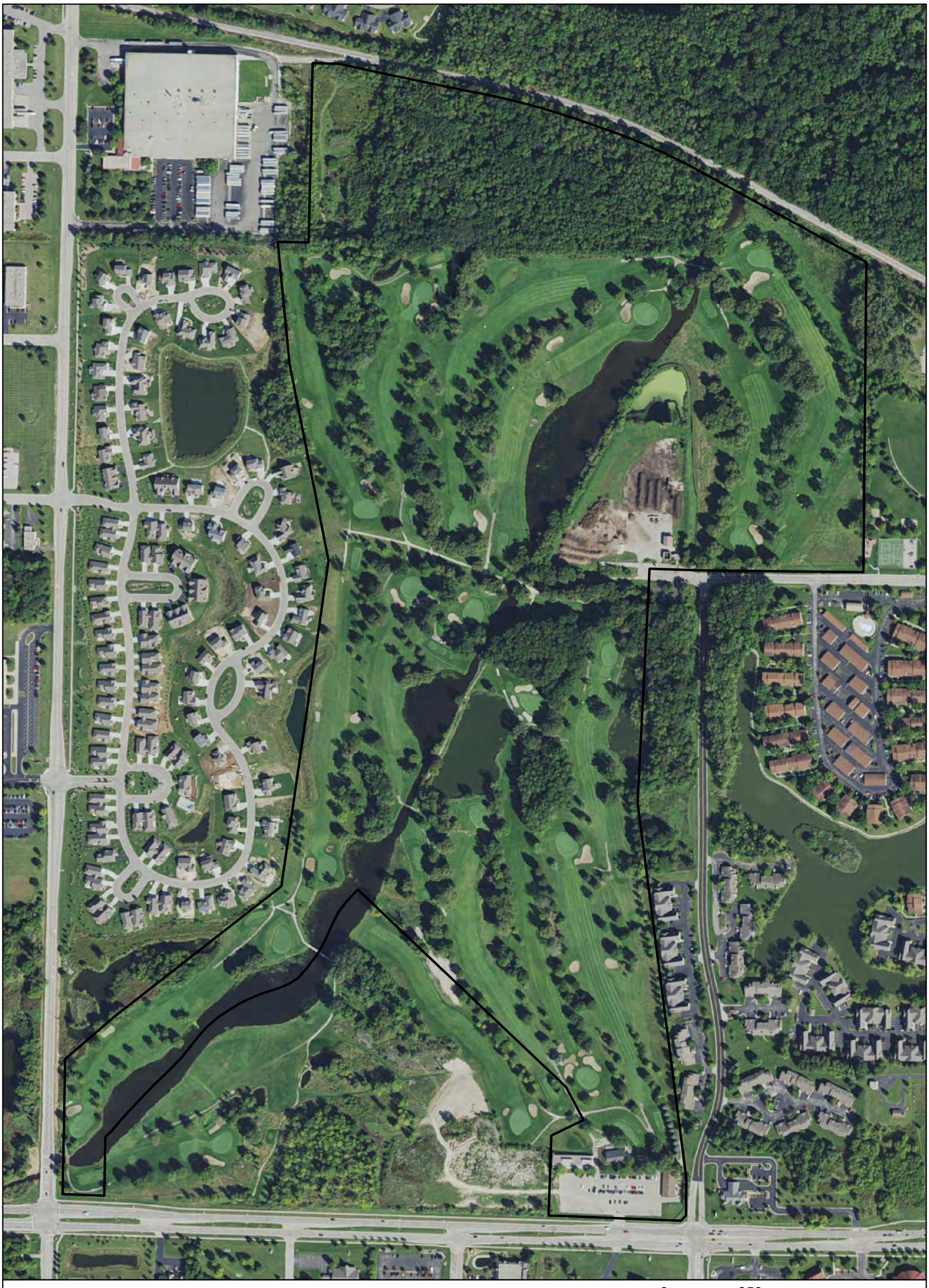
Heartland ECOLOGICAL GROUP INC

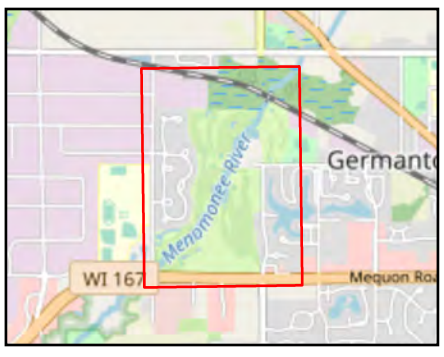
Appendix: 2013-06-19
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2013 NAIP
USDA LRR: NCNE

Figure Created: 8/7/2023





Study Area (164.44 ac)

0 350 Ft

Heartland ECOLOGICAL GROUP INC

Appendix: 2015-09-22
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2015 NAIP
USDA LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)

0 350 Ft

Heartland ECOLOGICAL GROUP INC

Appendix: 2017-07-30
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2017 NAIP
USDA
LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)

0 350 Ft

Heartland ECOLOGICAL GROUP INC

Appendix: 2018-09-15
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2018 NAIP
USDA
LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)

0 350 Ft

Heartland ECOLOGICAL GROUP INC

Appendix: 2020-07-24
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2020 NAIP
USDA
LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)

0 350 Ft

Heartland ECOLOGICAL GROUP INC

Appendix: 2022-05-01
Maxar Sat. Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2022 Sat. Imagery
Maxar LRR: NCNE

Figure Created: 8/7/2023



Study Area (164.44 ac)

0 350 Ft

Heartland ECOLOGICAL GROUP INC

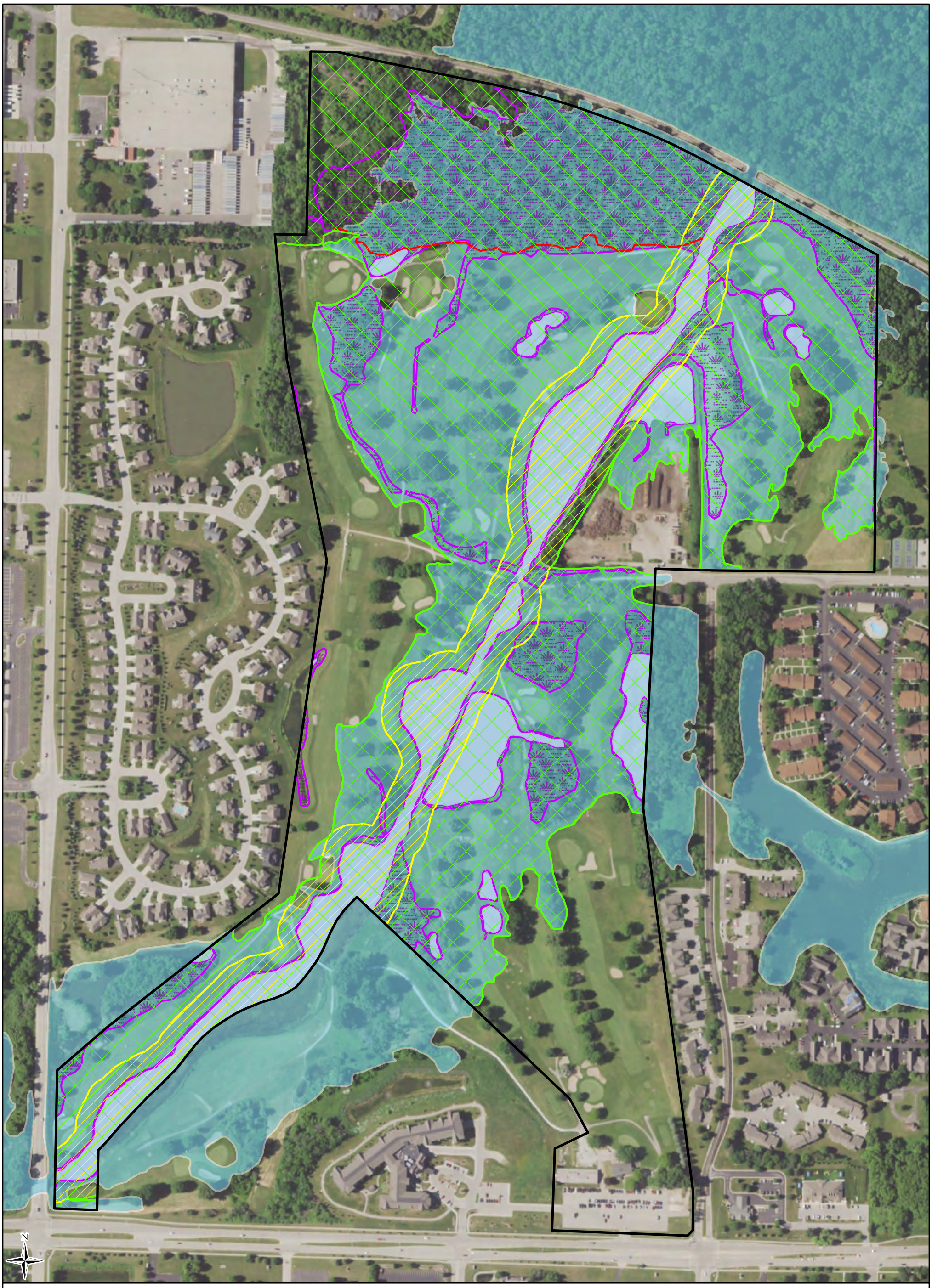
Appendix: 2022-06-23
NAIP Aerial Imagery

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2022 NAIP
USDA
LRR: NCNE

Figure Created: 8/7/2023

Appendix G | Corridor Mapping and Plant Lists



- Study Area (164.44 ac)
- Preliminary Primary Environmental Corridor (118.84 ac)
- Field Delineated Wetland (31.97 ac)
- Navigable Waterway 75' Buffer
- FEMA 1% Annual Floodplain/Zone AE
- Waterway/Waterbody (17.48 ac)
- Woodland Dripline

0 350 Ft

Heartland ECOLOGICAL GROUP INC

Environmental Corridors Map

Blackstone Creek Golf Course
Project #20231043
T9N, R20E, S21, 22
V Germantown, Washington Co

2022 NAIP
Washington Co, HEG LRR: NCNE

Figure Created: 8/29/2023



Inventory Assessment

Edit This Inventory | Download Report | Done

Blackstone Creek PEC

» Date & Location:

2024-03-27
Blackstone Creek PEC

» FQA Database:

Region: **Wisconsin (WDNR)-MW Wetland region (Southwestern and Southeastern Wisconsin)**
Year Published: **2017**
Description:
Chung-Gibson, M., Bernthal T., Doyle K., Wetter, M., Haber, E. (2017). Wisconsin Department of Natural Resources, Water Quality Bureau. From WDNR_FQA_Calculator_v1.5.17. Nomenclature from Wisconsin State Herbarium, University of Wisconsin-Madison (2016). COFC values from Bernthal, TW. Development of a Floristic Quality Assessment Methodology for Wisconsin. Wisconsin Department of Natural Resources, 2003. Note that regions differ only in Wetland Indicator Status.

» Details:

Practitioner: **Matthew Stangel**
Latitude:
Longitude:
Weather Notes:
Duration Notes:
Community Type Notes:
Other Notes:
This assessment is **public** (viewable by all users of this website).

» Conservatism-Based Metrics:

Total Mean C: **3.2**
Native Mean C: **3.5**
Total FQI: **20.2**
Native FQI: **21.3**
Adjusted FQI: **33.7**

% C value 0: **10%**
% C value 1-3: **50%**
% C value 4-6: **35%**
% C value 7-10: **5%**
Native Tree Mean C: **2.3**
Native Shrub Mean C: **2.8**
Native Herbaceous Mean C: **4**

» Species Richness:

Total Species: **40**
Native Species: **37 (92.5%)**
Non-native Species: **3 (7.5%)**

» Species Wetness:

Mean Wetness: **-2.3**
Native Mean Wetness: **-2.4**

» Physiognomy Metrics:

Tree: **7 (17.5%)**
Shrub: **6 (15%)**
Vine: **3 (7.5%)**
Forb: **19 (47.5%)**
Grass: **3 (7.5%)**
Sedge: **2 (5%)**
Rush: **0 (0%)**
Fern: **0 (0%)**
Bryophyte: **0 (0%)**

» Duration Metrics:

Annual: **2 (5%)**
Perennial: **36 (90%)**
Biennial: **0 (0%)**

Native Annual: **2 (5%)**
Native Perennial: **33 (82.5%)**
Native Biennial: **0 (0%)**

» Species:

Scientific Name	Family	Acronym	Native?	C	W	Physiognomy	Duration	Common Name
Acer negundo	Sapindaceae	ACENEG	native	0	0	tree	perennial	ash-leaved maple
Acer rubrum	Sapindaceae	ACERUB	native	3	0	tree	perennial	red maple
Acer saccharinum	Sapindaceae	ACESACCH	native	2	-3	tree	perennial	silver maple
Arisaema triphyllum	Araceae	ARITRI	native	5	-3	forb	perennial	indian turnip
Carex bebbii	Cyperaceae	CARBEB	native	4	-5	sedge	perennial	bebbs oval sedge
Circaea canadensis	Onagraceae	CIRCAN	native	2	3	forb	perennial	broad-leaf enchanters-nightshade
Cornus racemosa	Cornaceae	CORRAC	native	2	0	shrub	n/a	gray dogwood
Cornus sericea	Cornaceae	CORSER	native	3	-3	shrub	perennial	red osier dogwood

Elymus virginicus	Poaceae	ELYVIR	native	6	-3	grass	perennial	common eastern wild-rye
Enemion biternatum	Ranunculaceae	ENEBIT	native	7	0	forb	perennial	false rue anemone
Epilobium coloratum	Onagraceae	EPICOL	native	3	-5	forb	perennial	cinnamon willow-herb
Fraxinus pennsylvanica	Oleaceae	FRAPEN	native	2	-3	tree	perennial	green ash
Geum aleppicum	Rosaceae	GEUALE	native	3	-3	forb	perennial	yellow avens
Geum canadense	Rosaceae	GEUCAN	native	2	0	forb	perennial	white avens
Glyceria striata	Poaceae	GLYSTR	native	4	-5	grass	perennial	fowl manna grass
Helenium autumnale	Asteraceae	HELAUT	native	4	-3	forb	perennial	common sneezeweed
Impatiens capensis	Balsaminaceae	IMPCAP	native	2	-3	forb	annual	orange jewelweed
Juncus effusus	Juncaceae	JUNEFF	native	4	-5	forb	perennial	common rush
Laportea canadensis	Urticaceae	LAPCAN	native	4	-3	forb	perennial	canadian wood-nettle
Lobelia siphilitica	Campanulaceae	LOBSIP	native	5	-5	forb	perennial	great blue lobelia
Menispermum canadense	Menispermaceae	MENCAN1	native	5	0	vine	perennial	canadian moonseed
Mentha arvensis var. canadensis	Lamiaceae	MENARVVC	native	3	-3	forb	perennial	field mint
Parthenocissus quinquefolia	Vitaceae	PARQUI	native	5	3	vine	perennial	virginia creeper
Phalaris arundinacea	Poaceae	PHAARU	non-native	0	-3	grass	perennial	reed canary grass
Pilea pumila	Urticaceae	PILPUM	native	3	-3	forb	annual	canadian clearweed
Populus deltoides	Salicaceae	POPDEL	native	2	0	tree	perennial	eastern cottonwood
Rhamnus cathartica	Rhamnaceae	RHACAT	non-native	0	0	shrub	perennial	common buckthorn
Ribes americanum	Grossulariaceae	RIBAME	native	4	-3	shrub	perennial	american black currant
Ribes cynosbati	Grossulariaceae	RIBCYN	native	3	0	shrub	perennial	dogberry
Salix interior	Salicaceae	SALINT	native	2	-3	shrub	perennial	sandbar willow
Scirpus atrovirens	Cyperaceae	SCIATR	native	3	-5	sedge	perennial	black bulrush
Solanum dulcamara	Solanaceae	SOLDUL	non-native	0	0	vine	perennial	bittersweet nightshade
Solidago gigantea	Asteraceae	SOLGIG	native	3	-3	forb	perennial	giant goldenrod
Stachys palustris	Lamiaceae	STAPAL	native	5	-5	forb	perennial	hedge-nettle
Symphyotrichum lateriflorum	Asteraceae	SYMLAT	native	3	-3	forb	perennial	side-flowering aster

Symplocarpus foetidus	Araceae	SYMFOE	native	8	-5	forb	perennial	skunk-cabbage
Ulmus americana	Ulmaceae	ULMAME	native	3	-3	tree	perennial	american elm
Ulmus rubra	Ulmaceae	ULMRUB	native	4	0	tree	perennial	red elm
Urtica dioica	Urticaceae	URTDIO	native	1	-3	forb	perennial	stinging nettle
Vernonia fasciculata	Asteraceae	VERFAS	native	5	-3	forb	n/a	common ironweed

universalFQA.org (http://universalFQA.org) | About this site (/about)

Appendix H | Previous Wetland Mapping





Legend

- Approximate Project Boundary
- Sample Point
- Field Delineated Off-site Wetland
- Field Delineated Wetland

DNR 24k Hydrography

- Perennial Stream
- Intermittent Stream
- Waterbody

Figure No. 5

Title: **Field Collected Data**

Client/Project
Fiduciary Real Estate Development, Inc.
Blackstone Creek Parcels
Wetland Delineation

Project Location
19N, R20E, S21 & 22,
V. of Germantown,
Washington Co., WI

193707248

Prepared by bf on 2019-11-05
Technical Review by jh on 2019-11-05
Independent Review by BSL on 2019-11-14

0 250 500 Feet
1:6,000 (at original document size of 8.5x11)

N

Stantec

Page 1 of 1

Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WisDOT, WDNR, Washington County
3. Orthophotography: NAIP 2017

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

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NOTICE OF PUBLIC HEARING
VILLAGE OF GERMANTOWN

NOTICE is hereby given that a Public Hearing will be held before the Village of Germantown Plan Commission at the Germantown Village Hall located at N112W17001 Mequon Road, Germantown, Wisconsin and virtually through the WebEx platform on the following date and at the time noted below (or soon thereafter):

DATE: Monday, October 13th, 2025
TIME: 6:30pm or later

The purpose of said hearing is to hear any and all parties, their attorneys or agents, for or against the following regarding the Blackstone Creek Planned Development District (PDD): (1) a rezoning application to rezone portions of the following described parcel from the Rd-2: One & Two-Family Zoning District to the Rm-3: Multi-Family Zoning District and the B-2: Community Business District within the Blackstone Creek PDD; and (2) amendments to the Blackstone Creek PDD General Development Plan and Conditions and Restrictions that would allow the development of a mixed-use development comprised of commercial retail and approximately 205 multi-family dwelling units:

Applicant: Jim Sedgwick/Heimat Capital LLC, Agent for Blackstone Creek LLC, Property Owners
Property: N112 W17300 Mequon Road; Tax Parcel GTNV 211-979

Property Description:
LOT TWO (2) OF CERTIFIED SURVEY MAP NO. 6749, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS FOR WASHINGTON COUNTY, WISCONSIN ON MARCH 31, 2017, IN VOLUME 52 OF CERTIFIED SURVEY MAPS, PAGES 41-52, AS DOCUMENT NO. 1427138, SAID CERTIFIED SURVEY MAP BEING A DIVISION OF LOTS 2 AND 3 IN CERTIFIED SURVEY MAP NO. 6177, AND LANDS LOCATED BEING A PART OF THE NORTHEAST 1/4, SOUTHEAST 1/4, NORTHWEST 1/4 & SOUTHWEST 1/4 OF THE NORTHEAST 1/4 AND THE NORTHEAST 1/4, SOUTHEAST 1/4, NORTHWEST 1/4 & SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 21 AND PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 22, ALL BEING IN TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

A copy of the application and a map showing the property described above are on file at the Community Development Department-Planning & Zoning Services office in the Germantown Village Hall and can be viewed on our website by following this link:
https://www.germantownwi.gov/589/Proposed-Development-Projects

Citizens wishing to submit any public comments should do so by sending them by email to: comments@germantownwi.gov no later than 4:00pm on the meeting date listed above.

Donna Ott, Village Clerk
Dated this 17th day of September 2025

To Be Published On: September 24th & October 1st, 2025

Community Development Department
Jeffrey W. Retzlaff, AICP, Community Development Director
N112W17001 Mequon Road, PO Box 337
Germantown, WI 53022-0337
(262) 250-4735
www.germantownwi.gov

September 2025

NOTICE OF PUBLIC HEARING

You are receiving this notice because our records indicate that you are the owner and/or occupant of property located in the vicinity of the 143-acre property located at N112W17300 Mequon Road (known as the "Blackstone Creek Golf Club" property). As stated in the attached notice, Jim Sedgwick, agent for Blackstone Creek LLC, property owner, is requesting a series of approvals affecting the Blackstone Creek Golf Club property and the Planned Development District (PDD) within which it is located, including: (1) rezoning a portion of the property from the current Rd-2: One & Two-Family Zoning District to the Rm-3: Multi-Family Zoning District within the Blackstone Creek PDD; (2) amending the Blackstone Creek PDD General Development Plan and list of Conditions and Restrictions that would allow the development of a mixed-use development comprised of commercial and residential land uses including 205 multi-family dwelling units; and (3) dividing a 1.27-acre parcel nearest to the Division Road @ Mequon Road intersection for the development of a Culver's fast-food/sit-down restaurant.

A public hearing of the rezoning application and proposal to amend the PDD for the proposed development will be held before the Village Plan Commission on **October 13th, 2025 at 6:30pm** in the Village Hall Board Room. A copy of the official public hearing notice is on the backside of this letter.

At that time, the Plan Commission will review and discuss the application and supporting information about the proposal. Village staff will report their evaluation of the proposal, discuss Village plans, policies, code requirements, and make a recommendation to the Plan Commission to approve or deny the proposal. During the public hearing, members of the public will be asked to share their comments and any other information about the proposal that they feel the Plan Commission and Village Board should consider before deciding to approve or deny the requested approvals. Once the public hearing is closed the Plan Commission will consider the public comments and other information received before making a formal recommendation to the Village Board.

At a future meeting (on a date to be determined), the Village Board will consider the proposal and requested approvals, the Village staff report & recommendation, public hearing comments received, and the Plan Commission recommendation before making a final decision to approve or deny the requested approvals.

You are invited to attend both the Plan Commission Public Hearing and Village Board meeting regarding the proposal and application. If you are unable to attend, you can provide written feedback sent by letter or email addressed to the Community Development Department or to your Village Trustee no later than 4pm on October 13th. Please visit the Village's website for Trustee contact information: www.germantownwi.gov

Finally, as listed on the bottom of the enclosed notice, you can inspect the application, and all supporting information submitted for this proposal by visiting the "Proposed Development Projects" webpage on the Community Development Department Page on the Village's website.

Village of Germantown

Engineering Department Memorandum

To: **Jeff Retzlaff, AICP, Planning Director/Zoning Administrator**

From: **Kevin Driscoll, Village Engineer**

Date: **August 27, 2025**

Re: **Culvers – Storm Water Management Review**

Items Reviewed:
1. Stormwater Management Plan Dated: 07-07-2025

General Comments:
1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. The project will require DSPS plumbing and infiltration system review and approval. Please provide a copy of the DSPS approval prior to engineering approval
5. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
6. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction
plans.

Stormwater Management Plan:
1. Clarify what pavement area was used for the new pavement area. New driveways into the site located outside the property line shall be included as new parking and roadway area.
2. Provide soil borings demonstrating the native soil infiltration rate of 0.13 in/hr is appropriate for the on-site soils.
3. Adjust stone voids to 33% as recommended by the DNR or provide documentation supporting 40% voids in the stone proposed for use.
4. Provide additional information on how the outlet from the isolator row is being modeled. Its not clear where the weir 1.5' above the bottom is and why the 12" outlet pipe isn't included in the model.
5. Provide information on how water tributary to STM INL #2 will be treated by the isolator

row. Is the 15" outlet invert intended to by higher than the 12" inlet pipe as shown on the plans?

6. Provide information on the 6" NE out of STM MH#1. Is this a draintile that will reduce infiltration of the isolator row? If so it should be included in the SLAMM model.

Transportation:

1. Provide Traffic Impact Analysis.
2. Complete Driveway permit.
3. Extend sidewalk to connect to Mequon Road. Extend sidewalk along Division Road.

Sanitary:

1. Sanitary is available along Mequon Road in easement.
2. Complete Plumbing permit
3. Provide projected volumes based on similar sites for impact fee calculation.

Water:

1. Water is available along Mequon Road in easement.
2. Complete Plumbing permit
3. Provide projected volumes based on similar sites for impact fee calculation.

SITE PLAN APPLICATION

10/13/25 Plan Commission Meeting

Dan Braatz / Burgers & Braatz Properties / Blackstone Creek, LLC

Village Staff Report & Recommendation ***Germantown, Wisconsin***

SUMMARY

Dan Braatz, Agent for Burgers & Braatz Properties, LLC, and Blackstone Creek, LLC, Property Owner. Site Plan application for a new 4,403 sqft drive-through restaurant (Culver's) on property located at N112 W17300 Mequon Road in the Village Center District.

Location: N112 W17300 Mequon Road

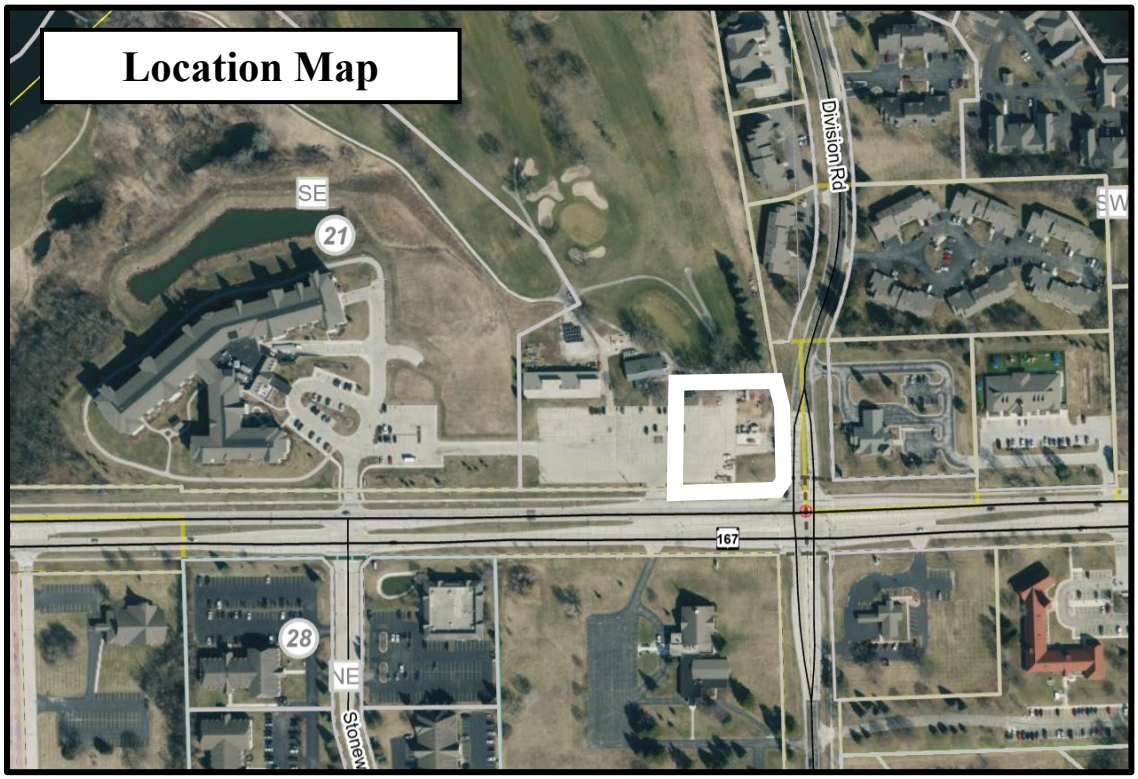
Applicant/
Property Owner:

Burgers & Braatz Properties, LLC
12455 Wrayburn Road
Elm Grove, WI 53122

Blackstone Creek, LLC
5150 N Port Wash. Road
Suite 115
Glendale, WI 53217

Zoning: B-1: Neighborhood Business District /
Planned Development District (PDD)

Adjacent Land Uses		Zoning
North	Recreational (Existing Golf Course)	PDD
South	Institutional (Church)	I
East	Commercial (Bank)	B-1
West	Residential (Fairway Knoll)	PDD



Background/Proposal

Dan Braatz, Agent for Burgers & Braatz Properties, LLC, and Blackstone Creek, LLC, Property Owner. Site Plan application for a new 4,403 sqft drive-through restaurant (Culver's) on property located at N112 W17300 Mequon Road in the Village Center District.

Culver's is proposing a new drive-through restaurant on property situated at the northwest corner of Mequon Road and Division Road. The restaurant is proposed on property slightly over an acre (1.27 acres) where the Blackstone Creek Golf Club currently sits. The restaurant is 4,403 square feet in size and will incorporate two (2) drive-through lanes and typical off-street parking areas to serve customers that opt to dine-in. This proposal is part of a larger redevelopment proposal of the Blackstone Creek golf course that includes both multi-family residential and new commercial lots, with the subject lot being one of the commercial pads. To create the new lot for Culver's and allow a drive-through restaurant on the property, the golf course owner (Blackstone Creek, LLC) has submitted an amendment to the existing Blackstone Creek Planned Development District (PDD) that governs uses at the subject location, and a Certified Survey Map (CSM) to create the new 1.27-acre parcel. The Plan Commission will hear the PDD amendment and CSM proposals prior to this site plan application.

Culver's is a Midwest based fast-casual restaurant chain. The company was founded in 1984 by George, Ruth, Craig, and Lea Culver. The first location opened in Sauk City, WI in 1984. The chain currently operates in 26 states totaling over 1,000 restaurants as of 2025. The applicant, Dan and Alicia Braatz, currently own and operate the Culver's of Menomonee Falls. Typical hours of operation for a Culver's are 10:00AM-10:00PM every day with a total of 50-60 employees, most being part-time. A link to the company website is provided here for more information (link).

Site Plan

As indicated in the applications and site/engineering plans, the proposed development includes a newly constructed building with double-lane (2 lanes) drive-through, drive-through passing lane and waiting stalls for customers, parking lot and landscaping improvements, lighting, dumpster enclosure, and business/wayfinding signage. More specifically the new Culver's site will include the following features:

- Building Plans
  - 4,403 sqft restaurant with 2-lane drive-through
  - Façade composed of EIFS and stone veneer materials
  - Roof composed of shingles with roof edge being metal with aluminum cladding system (longboard)
  - Canvas awnings and clear glazing windows around building
  - Drive-through and main entry "towers"
  - Building components to incorporate mainly blue, gray, bronze, and tan colors to tie in with franchise colors
  - 31'8" maximum building height
- Parking Lot/Exterior Improvements
  - 60 total parking spaces
    - 49 standard spaces
    - 3 ADA spaces
    - 8 forward pickup spaces
  - Designated concrete patio and pedestrian connection path from

Division Road to the restaurant
    - Dumpster enclosure
- Landscape Plan
    - New perimeter lot landscaping with trees, shrubs, and perennials
    - Interior lot landscaping including parking lot and island landscaping
- Storm Water Management Plan
    - Green Infrastructure (GI) provided beneath west side of proposed parking lot and sumped catch basin to be installed to treat runoff

Parking, Access, and Traffic Circulation

Two (2) main access points are proposed to accommodate the new restaurant development. A north driveway is proposed as a full access driveway to Division Road, directly across from the existing bank (Bank Five Nine) access driveway, which is located at the northeastern corner of Mequon Road and Division Road. A second full access driveway is proposed along Mequon Road near the center of the property, approximately 260-feet west of Division Road. Both driveways are proposed to operate under stop sign control on the driveway approaches. A cross-access drive to the Fairway Knoll retirement community property located to the west is also proposed to remain as part of the development plans.

A Traffic Impact Analysis (TIA) supplementing the application was submitted and is attached. Note that the TIA includes modifications to address "full build traffic", meaning the study considered the entire Blackstone Creek redevelopment proposal including the residential and commercial components, in addition to other off-site development. The recommended modifications are listed below:

- Mequon Road intersection with Blackstone Creek Driveway
    - Provide a dedicated right-turn lane and a dedicated left-turn lane on the north approach at the proposed driveway
- Mequon Road intersection with Division Road
    - Using pavement marking, restripe the northbound left-turn lane to a length of 125 feet (this requires an extension of 50 feet)
- Division Road intersection with Bank Driveway/North Driveway
    - Provide a full access driveway on the west approach
    - Provide stop control on the west approach
- North Driveway Intersection with Residential Driveway
    - Construct internal roadways as shown on the site plan
    - Provide stop control on the north and south approaches

Storm Water Management Plan

Included in the submittals is a Storm Water Management Plan (SWMP). As noted in the plan, the author states the existing site is located on a portion of the former Blackstone Creek golf course and is currently developed with an existing parking lot, golf cart paths, and a foundation from a former building that was recently removed. The proposed development will disturb approximately 1.28 acres of area and will result in a net increase in impervious surface by approximately 0.15 acres. Per SWMP, Green infrastructure for the development will be provided by an ADS isolator row (IR) system beneath the west side of the proposed parking lot. Additionally, one sumped catch basin will be installed to treat runoff from the drive-through area on the southeast portion of the site. Please refer to the plan for details on proposed land cover, grading, drainage boundaries, and stormwater management improvements.

Utilities

Sanitary and water utilities will serve the new development. Each utility will be provided/connected within an easement from Mequon Road.

Landscaping and Buffering

New perimeter lot landscaping with trees, shrubs, and perennials is proposed per the landscape plan submitted. Interior lot landscaping is also proposed around parking lot areas and parking islands. The landscape plan shows existing vegetation to be removed, primarily along Division Road, to accommodate the new landscape plantings. Note that the applicant has requested a reduction of the landscape "greenbelt" (i.e. buffer) requirement of 15 feet width between parking areas and property lines in certain locations around the property. This reduction request will be reviewed and voted on by the Plan Commission as part of the Blackstone Creek Planned Development District (PDD) amendment hearing prior to this site plan application.

Lighting

A photometric lighting plan was submitted and is included in the packet. The site will include the following key lighting components:

- (9) light poles at a height of 25 feet providing LED lighting throughout the vehicular circulation areas and exterior parking lot areas
- (68) building mount LED light fixtures for illumination around immediate building area

Signage

While building signage and wayfinding signage is proposed, no formal sign review application was submitted. Prior to installation of any signage, the applicant will be required to submit a formal sign permit application showing sign specifications, materials, location, and quantities. The sign permit will be subject to review and approval by the Plan Commission at a later date.

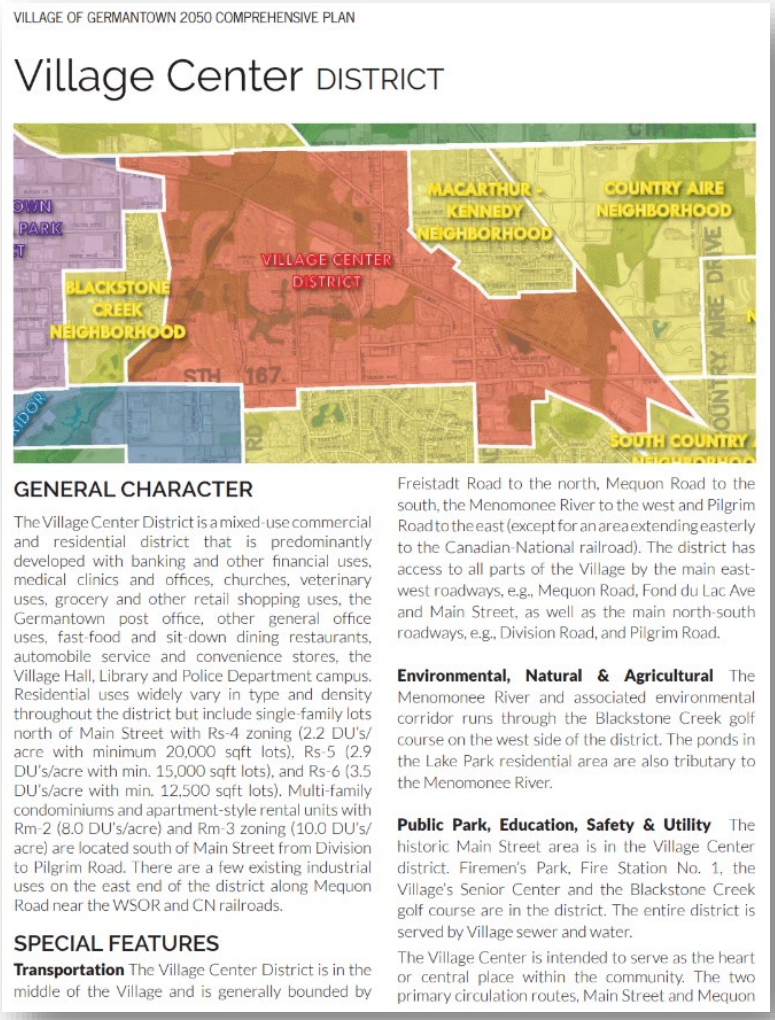
Staff Comments

Community Development: Planning and Zoning

****The Culver's site plan proposal is contingent on approval of the Blackstone Creek Planned Development District (PDD) amendment to be reviewed by the Plan Commission prior to. More specifically, the site plan is contingent on approval of the amendment request to add a restaurant with drive-through facilities as a permitted use within the PDD and underlying B-1 District at subject location. If the PDD amendment request is not approved prior to this site plan application being heard, the Plan Commission should table/postpone the Culver's application until the PDD amendment proposal is decided by final action by the Village Board.**

The project site is in the "Village Center District" under the Village's 2050 Comprehensive Plan and is currently zoned B-1: Neighborhood Business District as part of the overall Blackstone Creek Planned Development District (PDD). The Village Center District is a mixed-use commercial and residential district that is predominantly developed with banking and other financial uses, medical clinics and offices, churches, veterinary uses, grocery and other retail shopping uses, the Germantown post office,

other general office uses, fast-food and sit-down dining restaurants, automobile service and convenience stores, the Village Hall, Library, and Police Department campus. The Village Center District is intended to continue as a mixed-use commercial and residential district but reinvigorated with more placed-based, pedestrian-friendly design elements. Additionally, the B-1 District is intended to provide for individual or small groups of retail and customer service retail establishments in a "shopping center" setting. This type of district is generally separated from the traditional "central business district," but near residential development and includes such amenities as increased open space and ample off-street parking and loading areas and architectural or landscape screening from adjacent nonbusiness uses, making such retail centers more compatible with the character of adjacent residential districts.



VILLAGE OF GERMANTOWN 2050 COMPREHENSIVE PLAN

Village Center DISTRICT

GENERAL CHARACTER

The Village Center District is a mixed-use commercial and residential district that is predominantly developed with banking and other financial uses, medical clinics and offices, churches, veterinary uses, grocery and other retail shopping uses, the Germantown post office, other general office uses, fast-food and sit-down dining restaurants, automobile service and convenience stores, the Village Hall, Library and Police Department campus. Residential uses widely vary in type and density throughout the district but include single-family lots north of Main Street with Rs-4 zoning (2.2 DU's/acre with minimum 20,000 sqft lots), Rs-5 (2.9 DU's/acre with min. 15,000 sqft lots), and Rs-6 (3.5 DU's/acre with min. 12,500 sqft lots). Multi-family condominiums and apartment-style rental units with Rm-2 (8.0 DU's/acre) and Rm-3 zoning (10.0 DU's/acre) are located south of Main Street from Division to Pilgrim Road. There are a few existing industrial uses on the east end of the district along Mequon Road near the WSOR and CN railroads.

SPECIAL FEATURES

Transportation The Village Center District is in the middle of the Village and is generally bounded by Freistadt Road to the north, Mequon Road to the south, the Menomonee River to the west and Pilgrim Road to the east (except for an area extending easterly to the Canadian National railroad). The district has access to all parts of the Village by the main east-west roadways, e.g., Mequon Road, Fond du Lac Ave and Main Street, as well as the main north-south roadways, e.g., Division Road, and Pilgrim Road.

Environmental, Natural & Agricultural The Menomonee River and associated environmental corridor runs through the Blackstone Creek golf course on the west side of the district. The ponds in the Lake Park residential area are also tributary to the Menomonee River.

Public Park, Education, Safety & Utility The historic Main Street area is in the Village Center district. Firemen's Park, Fire Station No. 1, the Village's Senior Center and the Blackstone Creek golf course are in the district. The entire district is served by Village sewer and water.

The Village Center is intended to serve as the heart or central place within the community. The two primary circulation routes, Main Street and Mequon

The proposed Culver's restaurant, as part of the larger Blackstone Creek redevelopment proposal including multi-family residential and commercial lots, meets the intent of the Village Center District. The Village Center District specifies that multi-family residential, commercial, and mixed-use commercial/residential uses are "desirable" in the district. While it's arguable whether the Culver's restaurant with a 2-lane drive-through meets the intent of the B-1 District described above, the proposed use is allowed at the subject location pending Plan Commission and Village Board approval of the Blackstone Creek Planned Development District (PDD) amendment to allow a restaurant with drive-through facilities within the specific district.

In regards to the architecture and materials of the building, the applicant has worked with staff and revised the building elevations in effort to be consistent with the Village's "Germanic Theme" corridor visible along Mequon Road. While the architecture and materials of the building proposed are intended to meet the Germanic Theme, staff finds the architecture to be unsatisfactory at this point in time.

Historically, the Village has approved a pitched roof design for buildings in the "Germanic Theme" corridor along Mequon Road. Most notably, this design has been incorporated into developments including the Sendik's Village Centre, Germantown Marketplace (Pick 'n Save), Stonewood Corporate Center, Village Hall and Village Library, McDonald's, Walgreens, and most recently, Kwik Trip, among other developments. The Culver's proposal, while incorporating drive-through and main entry "towers" with shingled roof materials, maintains primarily a flat roof with metal edges along the roof line. At the same time, the "north/rear" elevation per architectural renderings, which will actually face Division Road (east), lacks a variety of colors and features found on the other sides of the building. For reference, images of the elevations have been included within this report, but please refer to the meeting packet for the full set of drawings.

Staff strongly recommends the roof design, metal materials, and elevation specified above be revised prior to the site and building plans being approved by Plan Commission. Staff recommends the roof design be modified to a pitched roof and the metal materials be modified to different non-metal material. It is recommended that the Plan Commission provide comments and any requested revisions to the applicant and table action until a revised set of renderings are submitted that adequately fulfil the "Germanic Theme" corridor expectations. Although the staff recommendation at the end of this report reflects this sentiment, a list of conditions have been incorporated in the same section in the event the Plan Commission approves the project as presented.

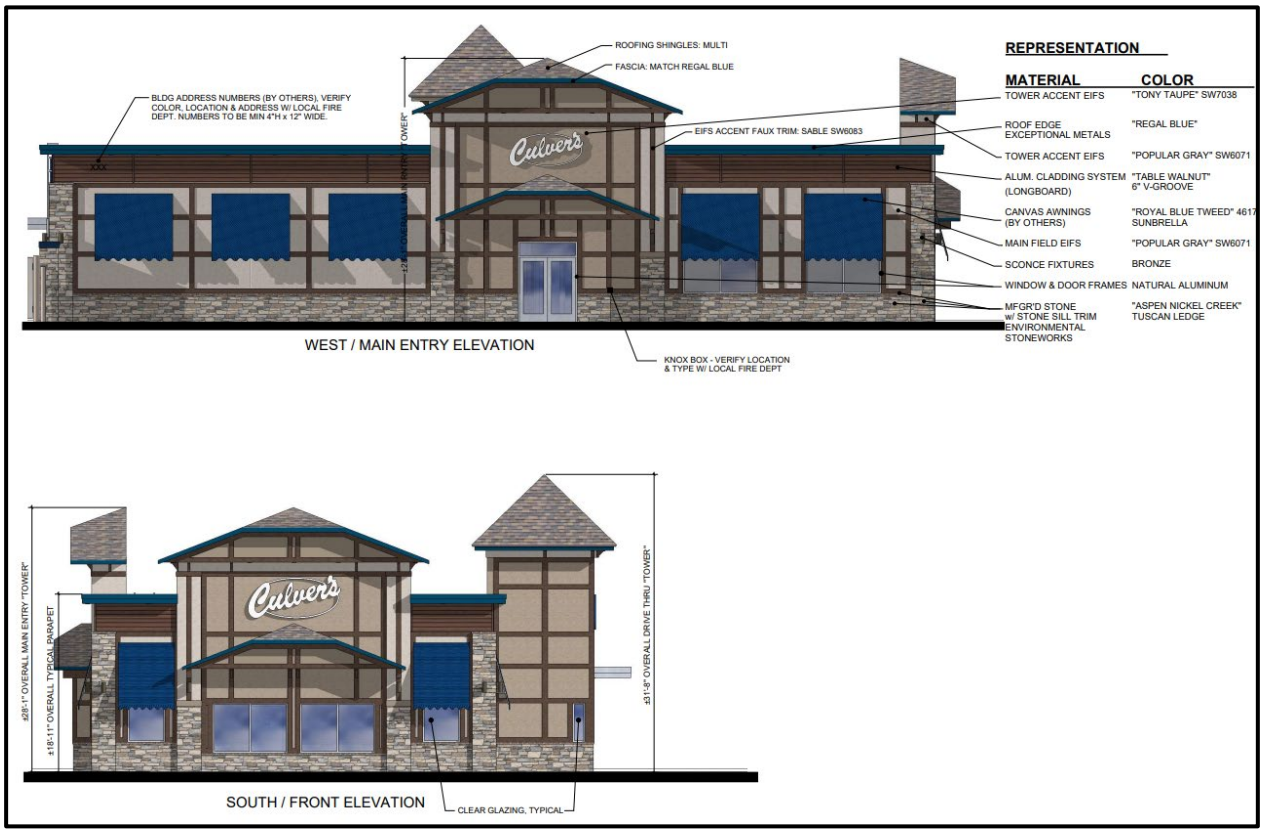


Figure 1: Culver's Architectural Building Elevation – Page 1

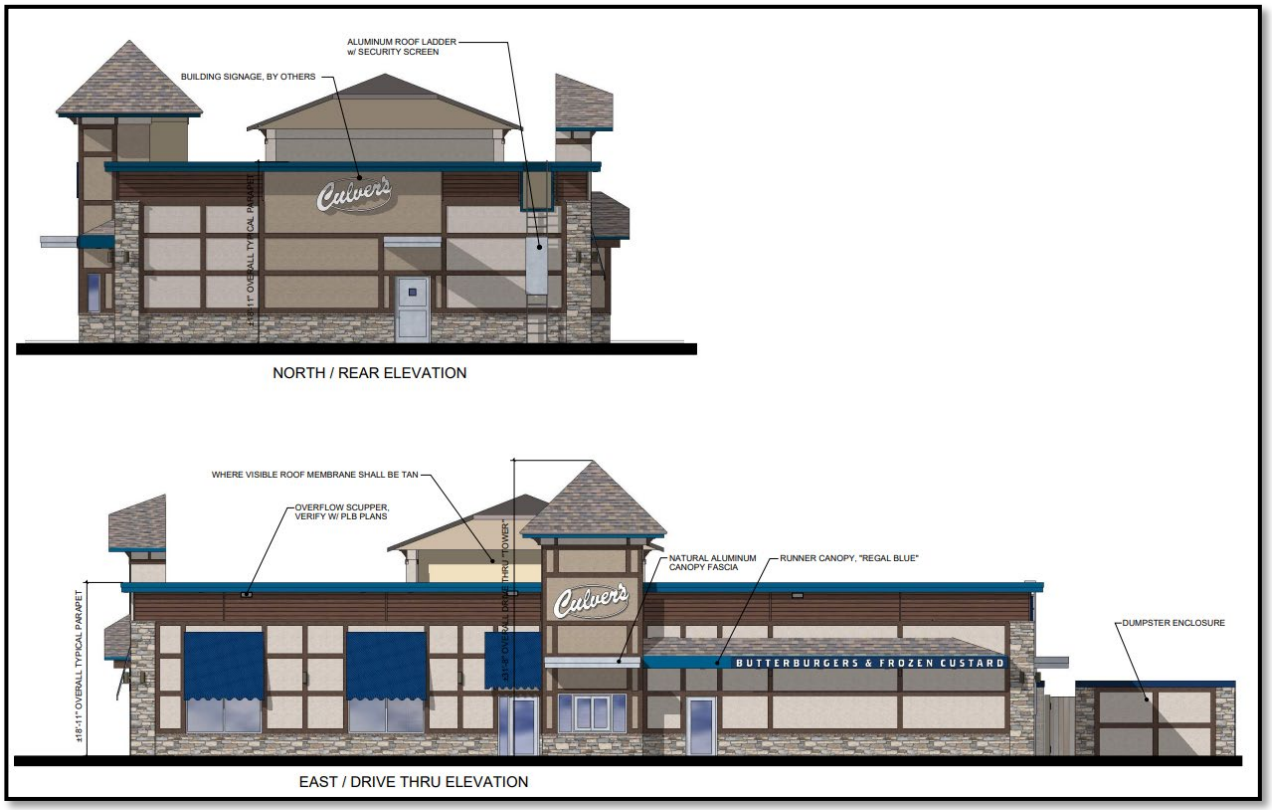


Figure 2: Culver's Architectural Building Elevation – Page 2

As was discussed as part of the Blackstone Creek PDD amendment proposal, the relative location and connectivity of the internal pathways both through the Blackstone Creek area and to Mequon Road and Division Road will become critical if the remaining area of the golf course becomes a future active or passive park as a result of the proposed land exchange between the Village and the Blackstone Creek owner/developer. With that possibility in mind, more specific attention should be paid to and plans made to provide pathway connections from the Blackstone Creek area to Mequon Road and Division Road. While the detailed site development plan for the Culver's site has been developed with new sidewalk along Division Road connecting to Mequon Road and into the Culver's site, there is no planned pathway or sidewalk connection shown from the Culver's site to Mequon Road along the main driveway to Mequon Road or to/from the residential area or to/from the other retail site to the west. An overall pedestrian pathway or sidewalk plan connecting these areas should be prepared (or ideally incorporated into the GDP) and eventually constructed either all at once or incrementally as the residential area and commercial sites are developed. At a minimum, the Culver's site development plan needs to be revised to incorporate pathway or sidewalk connection to/from Mequon Road, the commercial site to the west, and to the residential area to the north (in addition to the sidewalk proposed along Division Road).

Finally, as discussed as part of the Blackstone Creek PDD amendment proposal, the proposed Blackstone Creek General Development Plan (GDP) includes a number of features that are shown conceptually with little or no detail, such as the "Germantown Gateway Element" shown at the northwest corner of the Mequon Road and Division Road intersection (on the southeast corner of the Culver's site) and the monument signs at the driveways on Mequon Road and Division Road. Depending on the final location of

these features, they may need to be included in the detailed site development and building plans for the Culver's project. That said, the Culver's site development plan should incorporate what the proposed "gateway element" and monument signs are going to be or at least include the necessary provisions such as an easement so the gateway element and/or monument signs can be installed at a later date once the design has been approved.

Community Development: Inspection Services

State agency (DSPS) approved plans and a $20,000 occupancy bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS to provide all commercial plan review and inspection services through SAFEBuilt of Wisconsin and the Village of Germantown.

Public Works/Village Engineer

The Village Engineer has identified several technical issues and plan revisions that need to be resolved or otherwise addressed by the applicant prior to commencing construction activities. Staff is recommending conditional approval of the submitted applications subject to all outstanding items and issues identified in the following review memo being resolved and reflected in additional information and/or revised plan submitted to staff for further review, comment, and approval prior to commencing any site construction:

- August 27, 2025 – Review Memo from Village Engineer

Village Forester

The Village Forester has reviewed the submitted landscape plan and confirms it meets the requirements of the Village. The tree/shrub species (short stature) selected along Mequon Road are appropriate for the site and will not cause future interference with the overhead utility. The small size of these trees/shrubs should not interfere with the existing sanitary/watermain that parallels Mequon Road.

Fire and Police Departments

No Comments.

VILLAGE STAFF RECOMMENDATION

TABLE/POSTPONE the site development and building plans submitted by Burgers & Braatz Properties, LLC, for a new 4,403 sqft drive-through restaurant (Culver's) on property located at N112 W17300 Mequon Road in the Village Center District. This action is recommended unless/until a revised set of building renderings/elevations are submitted reflecting a pitched roof design, modifying the metal building materials to different non-metal material, and revising the "north/rear" elevation as proposed to incorporate a variety of colors and design elements shown on the other building sides.

Additionally, the Culver's site plan proposal is contingent on approval of the Blackstone Creek Planned Development District (PDD) amendment to be reviewed by the Plan Commission prior to. More specifically, the site plan is contingent on approval of the amendment request to add a restaurant with drive-through facilities as a permitted use within the PDD and underlying B-1 District at subject location. If the PDD amendment request is not approved prior to this site plan application being heard, the Plan Commission should **TABLE/POSTPONE** the Culver's application until the PDD amendment proposal is decided by final action by the Village Board.

If the Plan Commission recommends to **APPROVE** the site development and building plans as submitted, the following list of conditions are recommended by staff to be incorporated into the motion:

1. This approval is for the various plan sheets that comprise the site development plan set as noted below and is subject to compliance with all the conditions and requirements set forth herein and subsequently adopted and/or revised by the Plan Commission. Approval is granted for the following unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission:
    a. *Civil engineering plans* dated October 3, 2025.
    b. *Landscape plan* dated October 1, 2025.
    c. *Photometric lighting plan* dated October 3, 2025.
    d. *Architectural rendering set* dated September 19, 2025.

    If revised plan sheets are necessary, each revised sheet shall contain the date of said revision clearly stamped in the lower right corner.
2. The Landscape Plan shall be subject to final acceptance by the Village Forester and Community Development staff prior to commencement of construction activities.
3. The technical issues and plan revisions identified in the August 27, 2025, memo from the Village Engineer shall be addressed in revised plan sheets and/or supplemental documents as necessary prior to commencing construction activities (excluding site demolition, early start site preparation, and footing & foundation installation).
4. Applicant shall revise the Culver's site development plan to incorporate pathway or sidewalk connection to/from Mequon Road, the commercial site to the west, and to the residential area to the north (in addition to the sidewalk

proposed along Division Road).

5. Applicant shall revise the Culver's site development plan to incorporate what the proposed "gateway element" and monument signs are going to be or at least include the necessary provisions such as an easement so the gateway element and/or monument signs can be installed at a later date once the design has been approved.
6. Approval of the Site Plan application is subject to final approval/acceptance of the submitted Traffic Impact Analysis and any recommendations/modifications contained therein, by the Village Engineer.
7. State agency (DSPS) approved plans and a $20,000 occupancy bond are required by Inspection Services. The Village of Germantown is an authorized delegated agent of DSPS and may be used as an alternative to provide all commercial plan review and inspection services through SAFEBuilt of WI and the Village of Germantown.
8. All temporary and permanent exterior signs require a permit and shall comply with all current Village sign regulations and requires a permit if/when allowed. New signage shall be subject to review and approval by the Plan Commission.
9. Pursuant to Section 17.47 of the Zoning Code, if the Village observes and/or receives complaints regarding negative impacts associated with and/or created by construction activities or the facility's day-to-day operation on the property, including but not limited to glare, noise, or dust, among other things, the Property Owner/Operator shall work with the Village to identify the source of such impact(s), evaluate alternative mitigation measures, and implement a mutually-agreeable solution to mitigating the impact(s).

Village of Germantown ...Willkommen

Fee must accompany application
- ☐ $700 Minor Addition
- ☒ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☐ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID [signature] DATE 07/07/25 CHK # 1768

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1 APPLICANT OR AGENT

Dan Braatz
Burgess & Braatz Properties, LLC
12455 Wrayburn Rd.
Elm Grove, WI 53122

Phone (262) 510-8057
E-Mail danbraatz23c.yahoo.com

Future ~~PROPERTY~~ OWNER

Dan Braatz
Burgess & Braatz Properties, LLC
12455 Wrayburn Rd.
Elm Grove, WI 53122

Phone (262) 510-8057
E-Mail danbraatz23@yahoo.com

2 PROPERTY ADDRESS

GTNV_211979

1 acre portion of real estate parcel with Current Address: N112 W17300 Megnan Rd. Germantown, WI 53022
-South east corner of property-

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
TBD	Church	Bank	TBD

4 READ AND INITIAL THE FOLLOWING:

DB I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

DB I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

DB I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

RECEIVED JUL 07 2025 OFFICE OF THE PLANNER VILLAGE OF GERMANTOWN

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

[signature] 7/7/25
Applicant Date

[signature] 7/7/25
Owner Date

WELCOME TO DELICIOUS®

Culver's is a Midwest based fast-casual restaurant chain. The company was founded in 1984 by George, Ruth, Craig and Lea Culver. The first locaion opened in Sauk City, WI on July 18th, 1984. The chain currently operates in 26 states totaling over 1,000 restaurants as of July 2025.

Culver's menu includes ButterBurgers, chicken sandwiches, chicken tenders, fish, salads, soups, french fries, onion rings and cheese curds. Dessert menu includes fresh, frozen custard, shakes, malts and other seasonal items.

Culver's standard hours of operation are 10:00AM to 10:00PM, every day of the week. Restaurants are typically closed on Easter Sunday, Thanksgiving Day and Christmas Day. Seasonal hours may include 10:00AM to 11:00PM over the summer months. Culver's operates a dining room, drive through window service, curbside order delivery as well as off site delivery utilizing third party vendors. An average Culver's location has 50-60 Team Members, with most being part-time.

This proposed location will be owned and operated by Dan and Alicia Braatz. They have been working with Culver's in many different roles since 1998. They began as teenagers in a local Culver's restaurant, grew into overall operations around 2004 and became franchisees in 2012. They currently own and operate the Culver's of Menomonee Falls, WI.

The proposed site layout is for a newly divided property at the corner of Mequon Road and Division Road. The restaurant site is approximately 1 acre with access to Mequon Road on the south border and Division Road on the east border of the property. It is drawn with 52 parking spaces as well as additional drive through parking stalls after the vehicle leaves the service window.

Project goal is for construction to begin after final approval and permitting processes have been completed. Estimated time for completion will vary based on material availability and weather, but the average Culver's restaurant construction timeline is approximately six months from ground break to opening for business.

Partners working on this site plan are Trio Engineering, Ollmann Ernest Martin Architects, Springfield Sign and Campbell Construction.

Culver's Menomonee Falls
Braatz13, LLC
W186N9581 Bancroft Dr
Menomonee Falls, WI 53051
(262)225-7718
culvers.com

Culver's

CULVER'S - GERMANTOWN, WI

SITE DEVELOPMENT PLANS

VILLAGE OF GERMANTOWN, WISCONSIN

GENERAL NOTES

1. THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED.

   -STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, 6TH EDITION (SSSWCW)
   -THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
   -WDNR STORMWATER RUNOFF TECHNICAL STANDARDS.
   -WISDOT PAL APPROVED EROSION CONTROL MEASURES LIST, LATEST EDITION.
   -VILLAGE OF GERMANTOWN STANDARDS AND SPECIFICATIONS.

2. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.

3. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, AN APPROVED EROSION CONTROL PLAN WILL BE PROVIDED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY IMPLEMENTING THE APPROVED PLAN.

4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES, AND VERIFY FLOOR, CURB OR PAVEMENT ELEVATIONS WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.

5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (CALL DIGGERS HOTLINE AT 800-242-8511). COST OF REPLACEMENT OR REPAIR OF EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

6. EXISTING UTILITY INFORMATION IS SHOWN FROM SURVEY WORK, FIELD OBSERVATIONS, AVAILABLE PUBLIC RECORDS, AND AS-BUILT DRAWINGS. EXACT LOCATIONS AND ELEVATIONS OF UTILITIES SHALL BE DETERMINED PRIOR TO INSTALLING NEW WORK. EXCAVATE TEST PITS AS REQUIRED.

7. PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

8. ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION.

9. ALL TRENCHING SHALL BE PERFORMED ACCORDING TO OSHA STANDARDS.

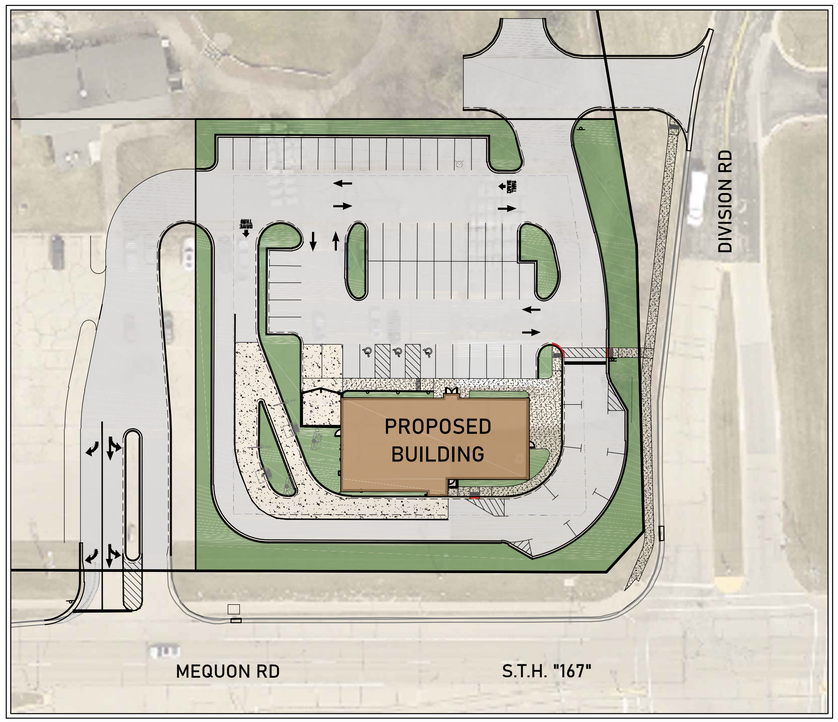
10. ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.

11. THE CONTRACTOR SHALL CLEAN ALL ADJACENT STREETS OF ANY SEDIMENT OR DEBRIS BY SWEEPING BEFORE THE END OF THE WORKING DAY OR AS REQUIRED BY THE VILLAGE OF GERMANTOWN.

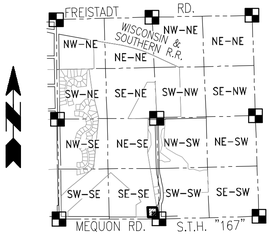
12. THE CONTRACTOR MUST AND IS REQUIRED TO NOTIFY THE VILLAGE OF GERMANTOWN SEWER AND WATER UTILITY A MINIMUM OF 48 HOURS IN ADVANCE OF WATER MAIN FILLING, WATER MAIN FLUSHING, WATER MAIN TESTING AND WATER MAIN CONNECTIONS. NO CONNECTION SHALL BE MADE TO THE EXISTING WATER SYSTEM UNTIL SAFE SAMPLES FROM THE NEW MAIN HAVE BEEN OBTAINED.



LOCATION MAP
NOT TO SCALE



SITE PLAN
SCALE: 1" = 40'



LOCALITY MAP
SCALE: 1" = 2000'

DEVELOPER:
BURGERS & BRAATZ PROPERTIES, LLC.
12455 WRAYBURN RD.
ELM GROVE, WI 53122
PHONE: 262-510-8057

ENGINEER / SURVEYOR:
TRIO ENGINEERING, LLC
4100 N. CALHOUN ROAD, SUITE 300
BROOKFIELD, WISCONSIN 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481

SHEET INDEX

CIVIL		
T1	-	COVER SHEET
C1.0	-	EXISTING SITE PLAN
C1.1	-	PROPOSED SITE PLAN
C2.0	-	GRADING & DRAINAGE PLAN
C2.1	-	STORMWATER FACILITY DETAILS
C3.0	-	EROSION CONTROL PLAN
C4.0	-	UTILITY PLAN
C5.0	-	CONSTRUCTION DETAILS
C5.1	-	ADS DETAILS & SPECIFICATIONS

WISCONSIN
MATTHEW A. MAUTHE
E-41533
OCONOMOWOC
WI
PROFESSIONAL ENGINEER

TRIO
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CIVIL ENGINEERING
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: jpudelko@trioeng.com

PROJECT:
CULVER'S - GERMANTOWN, WI
NWC OF MEQUON ROAD AND DIVISION ROAD
VILLAGE OF GERMANTOWN, WISCONSIN

REVISION HISTORY

DATE	DESCRIPTION
7/7/2025	PRELIMINARY SUBMITTAL
10/3/2025	SITE RECONFIGURATION

DATE:
OCTOBER 3, 2025

JOB NUMBER:
25-28-1265

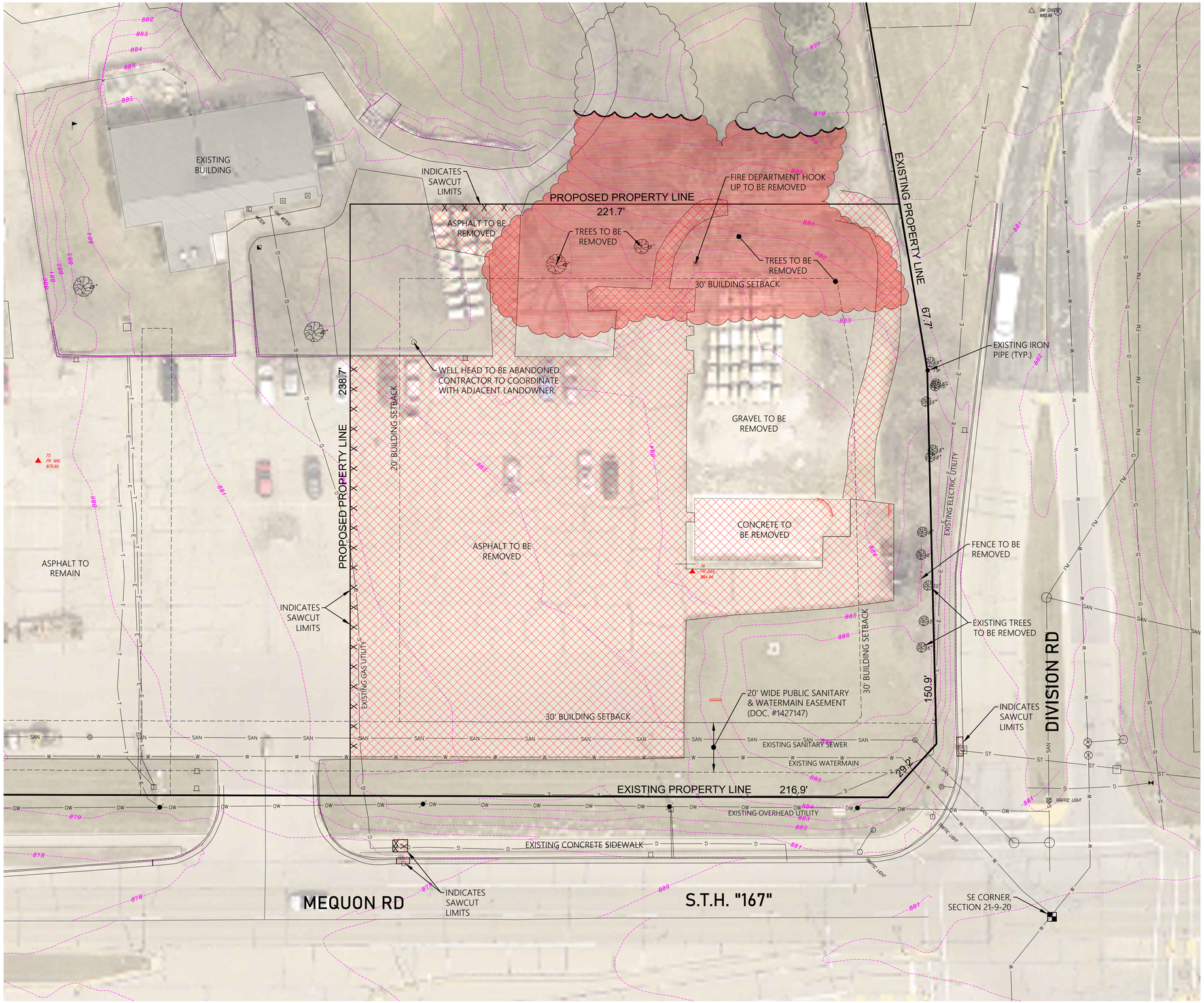
DESCRIPTION:
COVER SHEET

SHEET
T1

X:\2025\25-28-1265 CULVERS-GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG

LEGEND:

- 850 - EXISTING CONTOUR
- SAN - EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- W - EXISTING WATER MAIN
- EXISTING HYDRANT
- ST - EXISTING STORM SEWER
- EXISTING STORM MANHOLE
- EXISTING STORM INLET
- EXISTING TRANSFORMER
- EXISTING ELECTRIC PEDESTAL
- EXISTING TELEPHONE PEDESTAL
- EXISTING CATV PEDESTAL
- EXISTING POWER POLE



0 10 20 40

SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")

811 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE. KNOW WHAT'S BELOW. **CALL BEFORE YOU DIG.**

NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

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SHEET
C1.0

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SITE DATA

ZONING:	PDD-27 (Blackstone Creek District)
BASE ZONING:	RD-2 & B-1 (One-Family/Two-Family Resident & Neighborhood Business)

SETBACKS:

FRONT YARD:	30 FEET
SIDE YARD:	20 FEET

PROPOSED LOT AREA DATA:

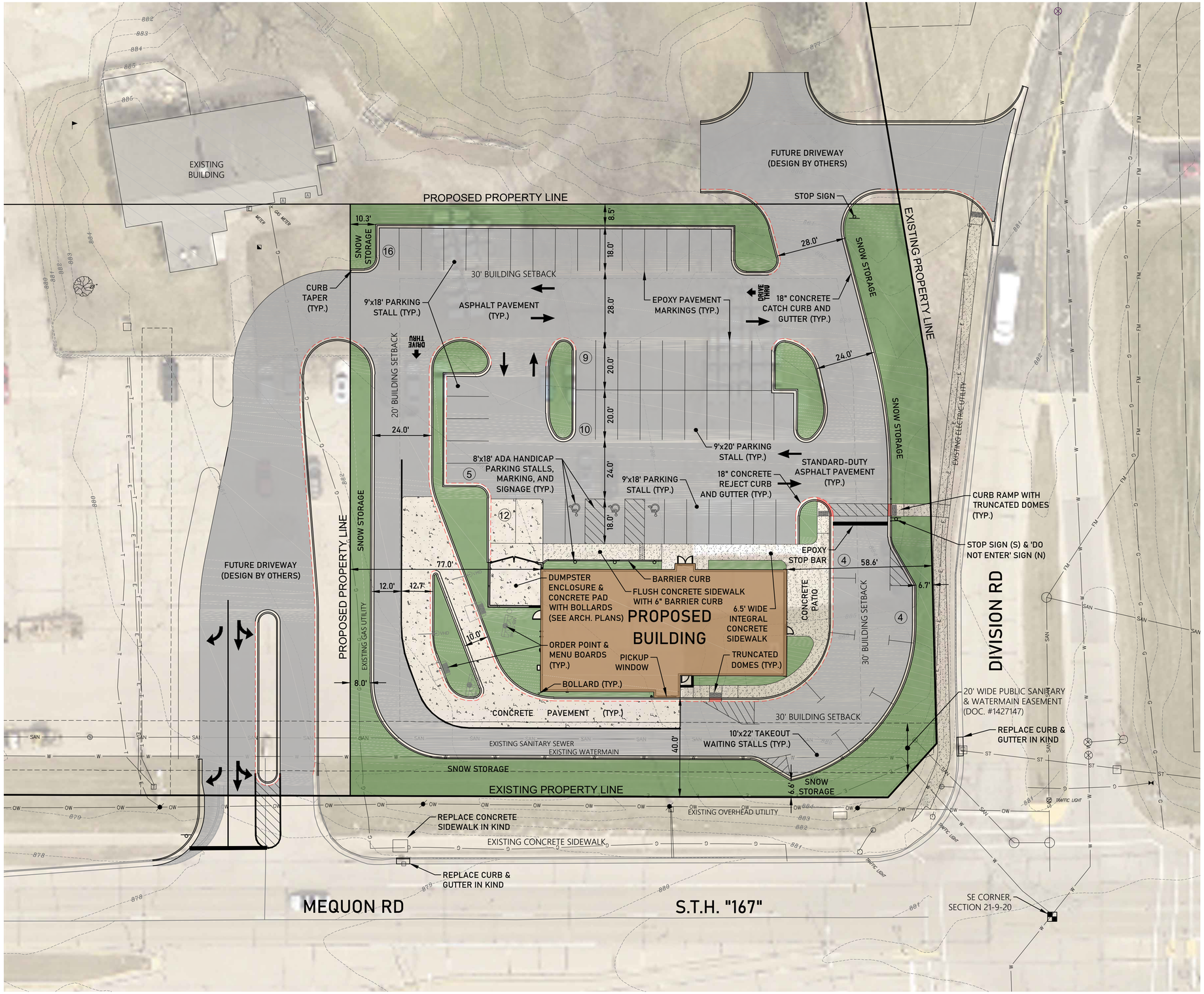
TOTAL LOT AREA:	55,432 S.F. (1.27 Acres)
LOT COVERAGE PERMITTED:	75.0% of Lot
LOT COVERAGE PROVIDED:	74.9% of Lot
BUILDING AREA:	4,403 S.F. (0.10 Acres) 8.0% of Lot
PAVEMENT AREA:	37,102 S.F. (0.85 Acres) 66.9% of Lot
OPEN SPACE AREA:	13,927 S.F. (0.32 Acres) 25.1% of Lot

~12 Concurrent Employees (at any given time)

PARKING DATA:

REQUIRED PARKING SPACES:	36 SPACES
(1 SPACE/150 SF FLOOR + 1 SPACE/2 EMPLOYEES)	
PROPOSED PARKING SPACES:	
STANDARD SPACES:	49 SPACES
HANDICAP SPACES:	3 SPACES
FORWARD PICKUP SPACES:	8 SPACES
TOTAL SPACES:	60 SPACES

PAVEMENT NOTE:
UNLESS OTHERWISE SPECIFIED, ALL PARKING STALLS SHALL BE STANDARD DUTY PAVEMENT AND ALL DRIVE AISLES SHALL BE HEAVY DUTY PAVEMENT



N

0 10 20 40

SCALE: 1" = 20' (22"X34")
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LEGEND:

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- TV — EXISTING CATV PEDESTAL
- EXISTING POWER PLE
- SAN — PROPOSED SANITARY SEWER
- PROPOSED SANITARY MANHOLE
- PROPOSED WATER MAIN
- PROPOSED HYDRANT
- PROPOSED WATER VALVE
- ST — PROPOSED STORM SEWER
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM END SECTION
- PROPOSED REJECT CURB & GUTTER

811 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE. KNOW WHAT'S BELOW. **CALL BEFORE YOU DIG.**

NOTE:
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WISCONSIN MATTHEW A. E-41533 OCONOMOWOC WI PROFESSIONAL ENGINEER

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DESCRIPTION:
PROPOSED SITE PLAN

SHEET
C1.1

X:\2025\25-28-1265 CULVERS\GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL_PLAN SET_22X34.DWG

GRADING PLAN NOTES:

1. IN ALL LOCATIONS WHERE ELEVATIONS ARE SHOWN AS ±, THE ELEVATION HAS BEEN DETERMINED USING INTERPOLATED EXISTING SURVEY GRADES. CONTRACTOR SHALL VERIFY ALL EXISTING MATCH GRADES PRIOR TO CONSTRUCTION OF ANY IMPROVEMENTS WITHIN THE PROXIMITY OF THESE INTERPOLATED GRADES. IF DISCREPANCIES ARE PRESENT CONTRACTOR SHALL REPORT THEM TO THE DESIGN ENGINEER FOR VERIFICATION OF PROPOSED SLOPES PRIOR TO INSTALLATION OF PROPOSED IMPROVEMENTS. DESIGN ENGINEER IS NOT RESPONSIBLE FOR SLOPES OF PROPOSED IMPROVEMENTS BASED ON THESE ± GRADES WITHOUT CONFIRMATION OF EXISTING ELEVATIONS AT TIME OF CONSTRUCTION.
2. OVERALL SITE MUST BE GRADED TO WITHIN 4" OF FINAL GRADE PRIOR TO THE ELECTRICAL INSTALLATION.

"AMERICANS WITH DISABILITIES ACT" (ADA) MINIMAL REQUIRMENTS:

1. GENERAL CONTRACTOR TO BECOME FAMILIAR WITH AND APPLY THE ADA MINIMAL REQUIREMENTS AND REPORT TO ENGINEER ANY DISCREPANCIES BEFORE CONSTRUCTION.
2. THE MINIMUM CLEAR WIDTH OF AN ACCESSIBLE ROUTE PER CODE IS 36".
3. ALL PROPOSED SIDEWALKS SHALL HAVE A MAXIMUM OF 2.0% CROSS SLOPE AND A MAXIMUM OF 5.0% RUNNING SLOPE.
4. THE GENERAL CONTRACTOR/CONTRACTOR SHALL MEASURE THE SUBGRADE AND ACROSS FORMS PRIOR TO INSTALLATION OF ASPHALT OR CONCRETE IMPROVEMENTS TO ASSURE THE FINAL IMPROVEMENTS WILL MEET THESE MINIMAL ADA REQUIREMENTS. ANY DISCREPANCIES SHALL BE REPORTED TO THE CIVIL ENGINEER PRIOR TO INSTALLATION OF THE IMPROVEMENTS.

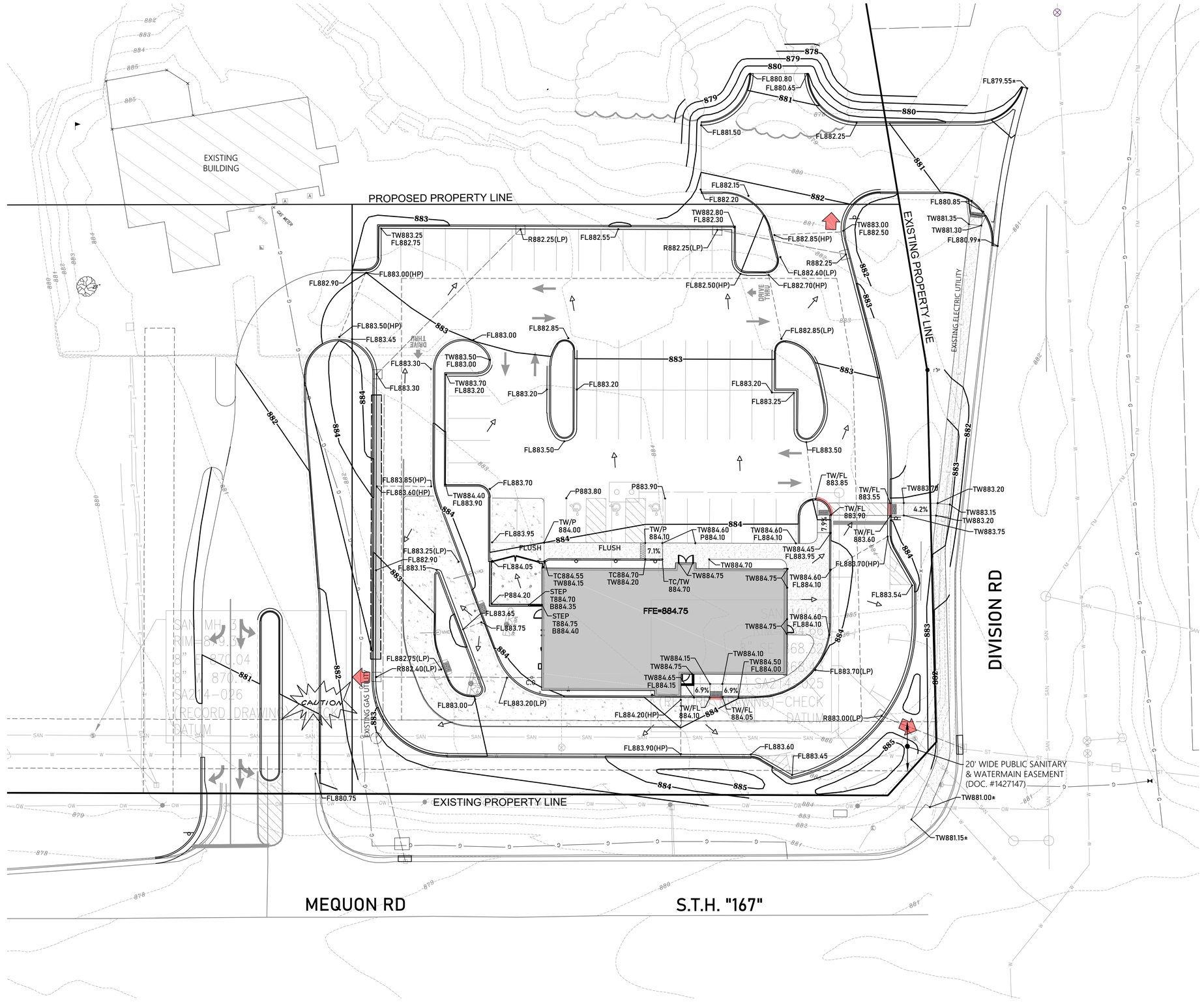
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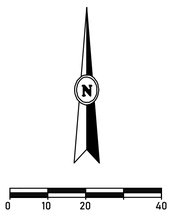
5. AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 1:20 (5.00%) IS A RAMP AND SHALL COMPLY WITH THE RAMP REQUIREMENTS.
6. AN ACCESSIBLE ROUTE MAY CROSS OPEN PAVEMENT OR FOLLOW A RAMP AS REQUIRED BY SITE-SPECIFIC CONDITIONS. THE RUNNING SLOPE OF AN ACCESSIBLE ROUTE ACROSS OPEN PAVEMENT MUST NOT EXCEED 1:20 (5.00%), WITH A CROSS SLOPE NOT EXCEEDING 1:50 (2.00%). SLOPES EXCEEDING 1:20 (5.00%), BUT LESS THAN 1:12 (8.33%), CONSTITUTE RAMPS AND MUST CONFORM TO THE REQUIREMENTS FOR RAMP DESIGN (HANDRAILS, CURBS, LANDINGS, RISE AND RUN LIMITS, ETC.) AS DETAILED ON THE CIVIL AND ARCHITECTURAL PLANS. NO RAMP SHALL HAVE A RUNNING SLOPE EXCEEDING 1:12 (8.33%), NOR HAVE A CROSS SLOPE EXCEEDING 1:50 (2.00%).

CURB RAMPS

7. A CURB RAMP SHALL BE PROVIDED WHEREVER AN ACCESSIBLE ROUTE CROSSES A CURB.
8. CURB RAMPS HAVE A MAXIMUM RISE OF 6", MAXIMUM SLOPE OF 1:12 (8.33%) AND DO NOT REQUIRE HANDRAILS.
9. IF A CURB RAMP IS LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP, OR WHERE IT IS NOT PROTECTED BY HANDRAILS, OR GUARDRAILS, IT SHALL HAVE FLARED SIDES; THE MAXIMUM SLOPE OF THE FLARE SHALL BE 1:10 (10.00%).

SPOT ELEVATION LABEL KEY:
TW = TOP OF WALK
FL = FLOW LINE
BC = BACK OF CURB
R = RIM
P = PAVEMENT
HP = HIGH POINT
LP = LOW POINT





SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")

LEGEND:

- 850 - EXISTING CONTOUR
- 785 - PROPOSED CONTOUR
- P871.20 - PROPOSED SPOT ELEVATION
- - PROPOSED FLOW ARROW
- - PROPOSED SPLIT POINT
- FFE 842.0 - FINISHED FLOOR ELEVATION
- - PROPOSED OVERLAND FLOW ROUTE

811 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE. KNOW WHAT'S BELOW. **CALL BEFORE YOU DIG.**

NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

X:\2025\25-28-1265 CULVERS\GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG

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PROJECT:
CULVER'S - GERMANTOWN, WI
NWC OF MEQUON ROAD AND DIVISION ROAD
VILLAGE OF GERMANTOWN, WISCONSIN

REVISION HISTORY

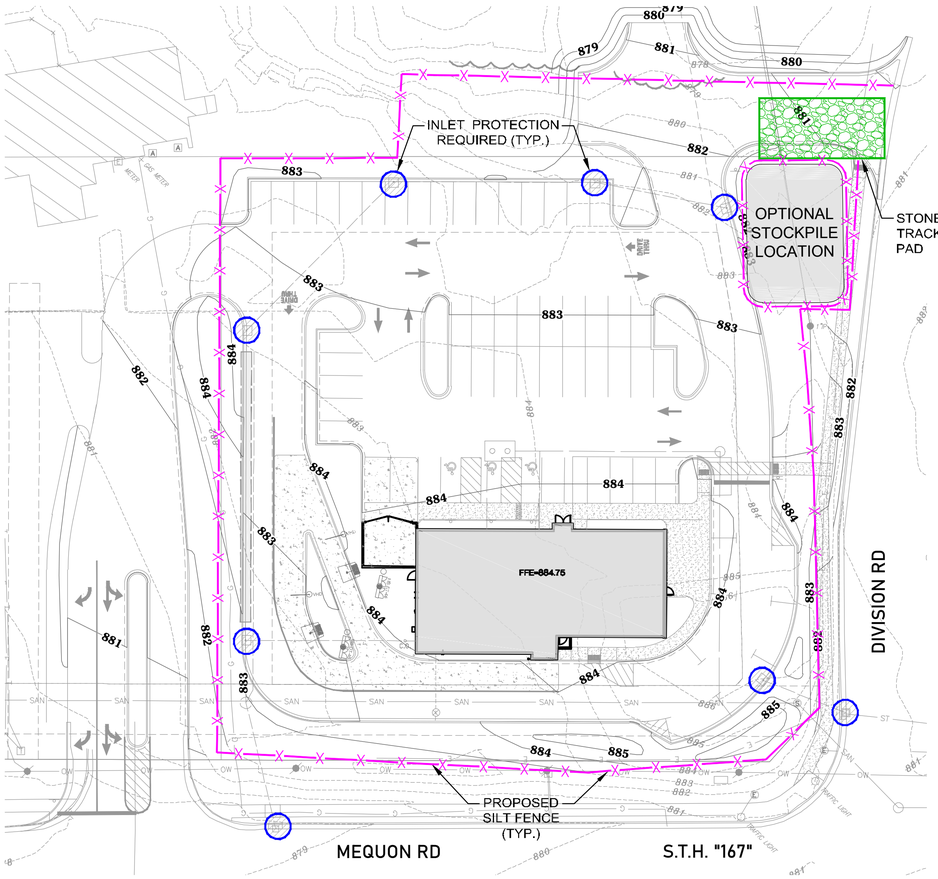
DATE	DESCRIPTION
7/7/2025	PRELIMINARY SUBMITTAL
10/3/2025	SITE RECONFIGURATION

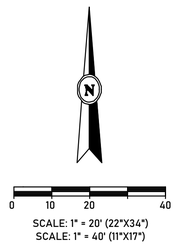
DATE:
OCTOBER 3, 2025

JOB NUMBER:
25-28-1265

DESCRIPTION:
GRADING & DRAINAGE PLAN

SHEET
C2.0





0 10 20 40

SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")

LEGEND:

- 850 - EXISTING CONTOUR
- 850 - PROPOSED CONTOUR
- PROPOSED SILT FENCE
- PROPOSED INLET PROTECTION
- PROPOSED TRACKING PAD

811 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE. KNOW WHAT'S BELOW. **CALL BEFORE YOU DIG.**

NOTE:
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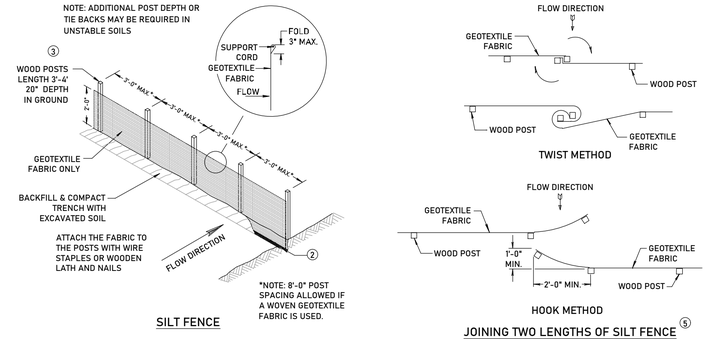
TEMPORARY DEWATERING GEOTEXTILE BAG

1. IF DEWATERING IS REQUIRED, A GEOTEXTILE DEWATERING BAG MEETING THE SPECIFICATIONS IN THE TABLE TO THE RIGHT SHALL BE UTILIZED AS STATED ON THE EROSION CONTROL PLAN.
2. REFER TO WDNR TECHNICAL STANDARDS 1061 AND MANUFACTURERS REQUIREMENTS FOR INSTALLATION AND MAINTENANCE REQUIREMENTS.
3. CONTRACTOR MAY USE THRACE-LINQ, INC 275EX GEOTEXTILE BAG, OR FUNCTIONAL EQUIVALENT TO MEET TECHNICAL STANDARD REQUIREMENTS.
4. CONTRACTOR MAY INSTALL HAY BALES AROUND DEWATERING BAG FOR STABILIZATION AS DICTATED BY SITE CONDITIONS.
5. MAX FLOW RATE SHALL NOT EXCEED 70GPM

Property	Test Method	Type I Value
Maximum Apparent Opening Sizes	ASTM D-4751	0.212 mm
Grab Tensile Strength	ASTM D-4632	200 lbs.
Mullen Burst	ASTM D-3786	350 psi
Permeability	ASTM D-4491	0.28 cm/sec
Fabric	Nominal Representative Weight	8 oz

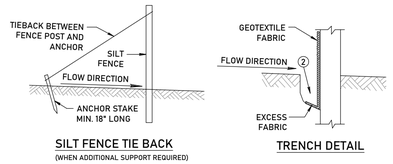
LATE SEASON STABILIZATION NOTES:
THE OBJECTIVE IS TO STABILIZE THE SITE WITH 70% VEGETATIVE COVERAGE OF ALL PERVIOUS DISTURBED AREAS BEFORE THE END OF THE GROWING SEASON. THIS WILL BE DONE BY SEEDING OF ALL DISTURBED AREAS WITH PERMANENT VEGETATION BY SEPTEMBER 15, 2022. IF THIS DEADLINE IS MISSED, THEN STABILIZATION WILL BE COMPLETED BY:

1. SEEDING OF ALL DISTURBED AREAS WITH TEMPORARY SEED MIX (OATS, WINTER WHEAT, ANNUAL RYE) BY OCTOBER 15. PERMANENT SEED MIX MUST THEN BE IMPLEMENTED BY JUNE 1 OF THE FOLLOWING YEAR.
2. IF THE OCTOBER 15 DEADLINE IS MISSED, COVERAGE OF ALL DISTURBED AREAS BY NOVEMBER 1 WITH:
   a. TOPSOIL, SEED, AND THE MATERIAL CALLED FOR ON THIS PLAN, WHERE TOPSOIL, SEED, AND EROSION CONTROL MATTING IS CALLED FOR.
   b. TOPSOIL, SEED, AND TYPE A SOIL STABILIZER FROM THE WDOT PRODUCT ACCEPTABILITY LIST OR OTHER METHOD APPROVED BY THE CITY ENGINEER FOR ALL AREAS WHERE SEED, TOPSOIL, AND MULCH IS CALLED FOR ON THIS PLAN.
3. IF THE NOVEMBER 1 DEADLINE HAS BEEN MISSED, AND THE CITY ENGINEER HAS DETERMINED THAT IT IS INFEASIBLE TO PLACE TOPSOIL, THE PERMIT APPLICANT SHALL:
   a. APPLY TYPE A SOIL STABILIZER FROM THE WDOT PRODUCT ACCEPTABILITY LIST TO ALL DISTURBED AREAS.
   b. INSTALL DITCH CHECKS IN ALL DITCHES WITH SLOPE GREATER THAN 0.5% AT INTERVALS SUCH THAT THE TOP OF THE DOWNHILL DITCH CHECK IS AT THE ELEVATION OF THE FOOT OF THE UPHILL DITCH CHECK. DITCH CHECKS SHALL BE EITHER:
      i. TRIANGULAR FOAM-CORE
      ii. STONE INSTALLED PER THE WDNR TECHNICAL STANDARD
      iii. COMPOST-FILLED TUBES, OR
      iv. A COMPARABLE PRODUCT AS APPROVED BY THE CITY ENGINEER.



SILT FENCE

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)

TRENCH DETAIL

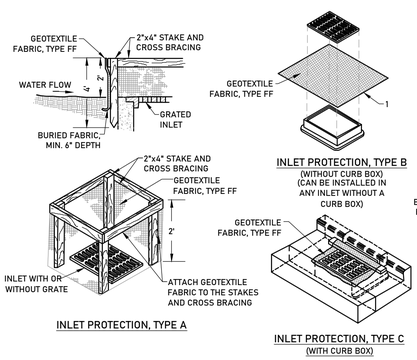
GENERAL NOTES

① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
② TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1" X 1" OF OAK OR HICKORY.
④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

SILT FENCE INSTALLATION DETAIL

NO SCALE

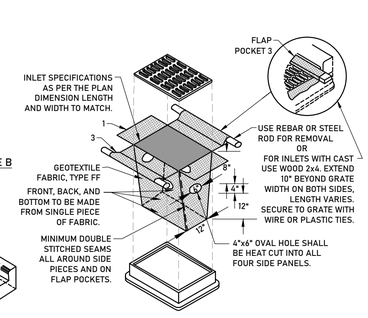
This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.



INLET PROTECTION, TYPE A

INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)

INLET PROTECTION, TYPE C
(WITH CURB BOX)



INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE 2)

GENERAL NOTES:

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX). AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES:

TYPE B & C
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OT OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

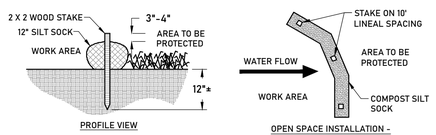
TYPE D
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION DETAIL

NO SCALE

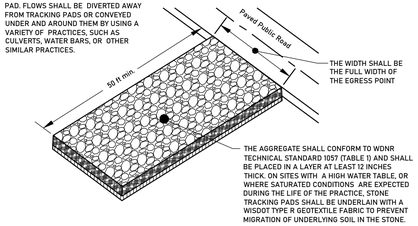


NOTES:
1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS
2. REFER TO MANUFACTURERS AND/OR SUPPLIERS SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
3. ACTUAL LOCATION MAY BE FIELD ADJUSTED TO MINIMIZE DISTURBANCE TO EXISTING VEGETATION.
4. INSTALL EVERY 200' OR 2' GRADE DROP IN SWALES.

STRAW WATTLE DITCH CHECK DETAIL

NO SCALE

NOTE:
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM BY USING A VARIETY OF PRACTICES, SUCH AS CULVERTS, WATER BARS, OR OTHER SIMILAR PRACTICES.



CONSTRUCTION ENTRANCE DETAIL

NO SCALE

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
2. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN, DETAILING SPECIFIC MEASURES THAT WILL BE USED IN THE VARIOUS STAGES OF CONSTRUCTION FOR APPROVAL BY THE ENGINEER.
3. IMPLEMENTATION: THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL AFTER INITIAL EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER.
4. EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

A. DIVERT UPSTREAM RUNOFF FROM FLOWING THROUGH CONSTRUCTION SITE.
B. PROTECT DOWNSTREAM/ADJACENT WATERWAYS/WETLANDS WITH SILT FENCE.
C. DELAY STRIPPING TOPSOIL UNTIL REQUIRED FOR CONSTRUCTION.
D. PLACE SILT FENCE OR EROSION CONTROL BALES IN DITCHES AND OTHER DRAINAGE WAYS TO COLLECT SEDIMENT AND TO SLOW THE VELOCITY OF RUNOFF.
E. MAINTAIN EXISTING SEDIMENT BASIN AS DICTATED BY SITE CONDITIONS.
F. PROTECT STORM SEWER INLETS AND THE UPSTREAM END OF CULVERTS WITH SILT FENCE OR EROSION CONTROL BALES.
G. PROMPT REMOVAL OF EXCAVATED MATERIAL.
H. PROPER STORAGE OF BACKFILL AND BEDDING MATERIALS INCLUDING PLACING SILT FENCE OR EROSION CONTROL BALES ON THE DOWNSLOPE SIDES OF SPOIL PILES.
I. CONSTRUCTION OF TRACKING PAD TO CONSTRUCTION SITE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
J. PROMPT (SAME DAY) CLEANUP OF MATERIAL TRACKED ONTO ADJACENT STREETS.
K. TIMELY RESTORATION OF DAMAGE SURFACE AREAS.
L. ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15, MUST BE TEMPORARY SEEDED AS OF THAT DATE.

5. TEMPORARY EROSION CONTROL MEASURES.

A. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES, WHERE EROSION IS LIKELY TO BE A PROBLEM, PRIOR TO BEGINNING WORK ON THOSE SECTION(S) OF THE PROJECT. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL AFTER PERMANENT EROSION CONTROL, SUCH AS SEEDING OR SODDING, HAS BEEN ESTABLISHED.
B. IN THE EVENT THE PERMANENT EROSION CONTROL MEASURES ARE NOT FULLY IMPLEMENTED IN CURRENT CONSTRUCTION SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL AFTER PERMANENT MEASURES HAVE BEEN COMPLETED IN THE FOLLOWING YEAR.

6. ALL DISTURBANCE AREAS THAT REMAIN INACTIVE FOR SEVEN DAYS OR LONGER SHALL RECEIVE TEMPORARY SEEDING.
7. TRENCH DEWATERING SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS.
8. INSTALL SILT FENCE IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS.
9. ALL RIP RAP AT PIPE OUTLETS SHALL BE 3'x5' MEDIUM RIP RAP OVER TYPE R FABRIC PER WDOT SPECIFICATIONS UNLESS OTHERWISE DESIGNATED.
10. EROSION CONTROL INSPECTION AND MAINTENANCE

A. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER SITE RECEIVES 0.5" OF RAIN IN A 24-HOUR PERIOD DURING CONSTRUCTION.
B. REPAIR OR REPLACE EROSION CONTROLS THAT ARE DAMAGED OR FAILING.

11. ALL AREAS TO BE SEEDED AND MULCHED SHALL USE WDOT SEED MIXTURE NO. 20. MULCH SHALL APPLIED PER WDOT SPECIFICATIONS USING METHOD B FOR PLACEMENT.
12. DIVERSION BERMS SHALL BE CONSTRUCTED TO BLOCK AND REDIRECT RUNOFF AS INDICATED ON THE PLAN. SIDE SLOPES SHALL NOT EXCEED 2:1; TOP WIDTH SHALL BE 2' MIN.; BERM HEIGHT SHALL BE 1.5' MIN. 13. DUST CONTROL - CONTRACTOR SHALL PREVENT EXCESSIVE DUST FROM LEAVING THE CONSTRUCTION SITE THROUGH CONSTRUCTION PHASING AND TIMELY STABILIZATION OR THE USE OF BMPS SUCH AS SITE WATERING AND MULCH - ESPECIALLY WITH VERY DRY OR FINE SANDY SOILS.
14. TO OBTAIN CITY STORM WATER PERMIT AND PERFORM WEEKLY EROSION CONTROL INSPECTIONS, AND SUBMIT INSPECTIONS TO CITY EROSION CONTROL INSPECTOR. AT THE END OF PROJECT, COORDINATE PERMIT TERMINATION WITH CITY EROSION CONTROL INSPECTOR.

CONSTRUCTION SEQUENCE PLAN

1. FALL 2025: INSTALL TRACKING PAD AND SILT FENCE AROUND THE PERIMETER OF THE SITE.
2. FALL 2025: CLEAR AND GRUB SITE.
3. FALL 2025: STRIP TOPSOIL AND STOCKPILE INITIAL TOPSOIL AT CENTER OF SITE. SEED AND STABILIZE STOCKPILES IMMEDIATELY UPON COMPLETION OF STOCKPILING.
   3.1. All EXPOSED SOIL AREAS NOT DISTURBED FOR UP TO SEVEN (7) DAYS MUST BE IMMEDIATELY RESTORED WITH SEED AND MULCH.
4. FALL 2025/SPRING 2026: ROUGH GRADE SITE.
4. FALL 2025/SPRING 2026: BEGIN BUILDING CONSTRUCTION.
5. FALL 2025/SPRING 2026: INSTALL SANITARY AND WATER SERVICES. COMPLETE ALL TESTING AND CONTACT CITY PRIOR TO CONNECTING TO EXISTING MAINS. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH ROUGH GRADING ONCE THE UTILITY AREAS HAVE BEEN GRADED TO SUBGRADE.
6. FALL 2025/SPRING 2026: INSTALL STORM SEWER AND ASSOCIATED EROSION CONTROL MEASURES PER EROSION CONTROL PLAN. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH SANITARY AND WATER SERVICE INSTALLATION.
7. SPRING/SUMMER 2026: FINISH GRADE THE SITE. NOTE THAT THIS STEP MAY OCCUR CONCURRENT WITH STORM SEWER INSTALLATION.
8. SPRING/SUMMER 2026: INSTALL STONE BASE COURSE, CONSTRUCT CURB , AND PLACE BINDER COURSE PAVEMENT. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING.
9. SUMMER 2026: RESPREAD TOPSOIL AND PLACE SEED, MULCH, MATTING AND OTHER SITE STABILIZERS AS NEEDED. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING AND PARKING LOT CONSTRUCTION. ALSO NOTE THAT ANY AREAS, SUCH AS POND SLOPES, THAT ARE FINISH GRADED AND TOPSOILED SHALL BE SEEDED, MULCHED AND/OR MATTED IMMEDIATELY AFTER TOPSOIL IS PLACED.
10. SUMMER/FALL 2026: REMOVE REMAINING CONSTRUCTION EROSION CONTROL MEASURES AFTER SITE IS STABILIZED (SUBSTANTIALLY VEGETATED) AND ALL CONSTRUCTION IS COMPLETE.

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PROJECT:
CULVER'S - GERMANTOWN, WI
NWC OF MEQUON ROAD AND DIVISION ROAD
VILLAGE OF GERMANTOWN, WISCONSIN

REVISION HISTORY

DATE	DESCRIPTION
7/7/2025	PRELIMINARY SUBMITTAL
10/3/2025	SITE RECONFIGURATION

DATE:
OCTOBER 3, 2025

JOB NUMBER:
25-28-1265

DESCRIPTION:
EROSION CONTROL PLAN

SHEET
C3.0

X:\2025\25-28-1265 CULVERS\GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG

UTILITY NOTES

SANITARY SEWER
- ALL PVC SEWER PIPE SHALL MEET THE REQUIREMENTS SET FORTH IN SECTION 8.10.0 (SSSWCW).
- ALL SANITARY SEWER LATERALS (OUTSIDE OF BUILDINGS) SHALL BE MADE OF GASKETED PVC FITTINGS MEETING ASTM D-3034, SDR 35.
- ALL SANITARY SEWER LATERALS TO CONNECT TO SANITARY MAIN VIA WYE OF 0.8" VERTICAL RISE.
- TRACER WIRE IS REQUIRED FOR ALL SANITARY LATERALS. (SEE NOTE BELOW).

WATERMAIN
- ALL PVC WATERMAIN CONSTRUCTED AS PART OF THIS PLAN SHALL BE PVC, C-900, CLASS 150 (DR18), UNLESS OTHERWISE NOTED. PVC PIPE SHALL HAVE PUSH-ON JOINTS WITH RUBBER GASKET.
- HYDRANTS SHALL BE SET AT 2 FT. BEHIND THE BACK OF CURB, WITH THE NOZZLE ELEVATION 2' ABOVE TOP OF CURB.
- HYDRANT NOZZLE TO BE 5" THREADED STEAMER CONNECTION.
- ALL WATERMAINS (AND SERVICES) CALLED FOR ON THESE PLANS ARE TO BE INSTALLED WITH CLASS "B" BEDDING AS SPECIFIED IN CH. 4.3.0, LAYING OF WATERMAIN, AND FILE NO. 36, PART VII (SSSWCW). ALL WATERMAIN INSTALLED WITHIN THE CITY OF WAUKESHA RIGHT OF WAY SHALL BE BEDDED IN SAND.
- TRACER WIRE IS REQUIRED FOR ALL WATERMAIN AND LATERALS. (SEE NOTE BELOW).

TRACER WIRE NOTE
- CONTRACTOR SHALL INSTALL PLASTIC COATED TRACER WIRE (10 TO 14 GAUGE SOLID COPPER, OR COPPER COATED STEEL WIRE) PER COMM 382.30(11)(H). PLASTIC WIRE MAY BE TAPED TO PLASTIC DRAIN PIPE. IF ATTACHED, THE TRACER SHALL BE SECURED EVERY 6 TO 20 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.

TRENCH BACKFILL
- SPOIL BACKFILL MAY BE USED FOR UTILITY TRENCHES CONTINGENT ON TESTING AND APPROVAL BY THE VILLAGE OF GERMANTOWN. ALL SPOIL BACKFILL TO BE USED MUST MEET THE STATE OF WISCONSIN SPECIFICATIONS FOR UTILITY BACKFILL.
- BACKFILL WITHIN 5' OF PUBLIC RIGHT OF WAY SHALL BE SLURRY.

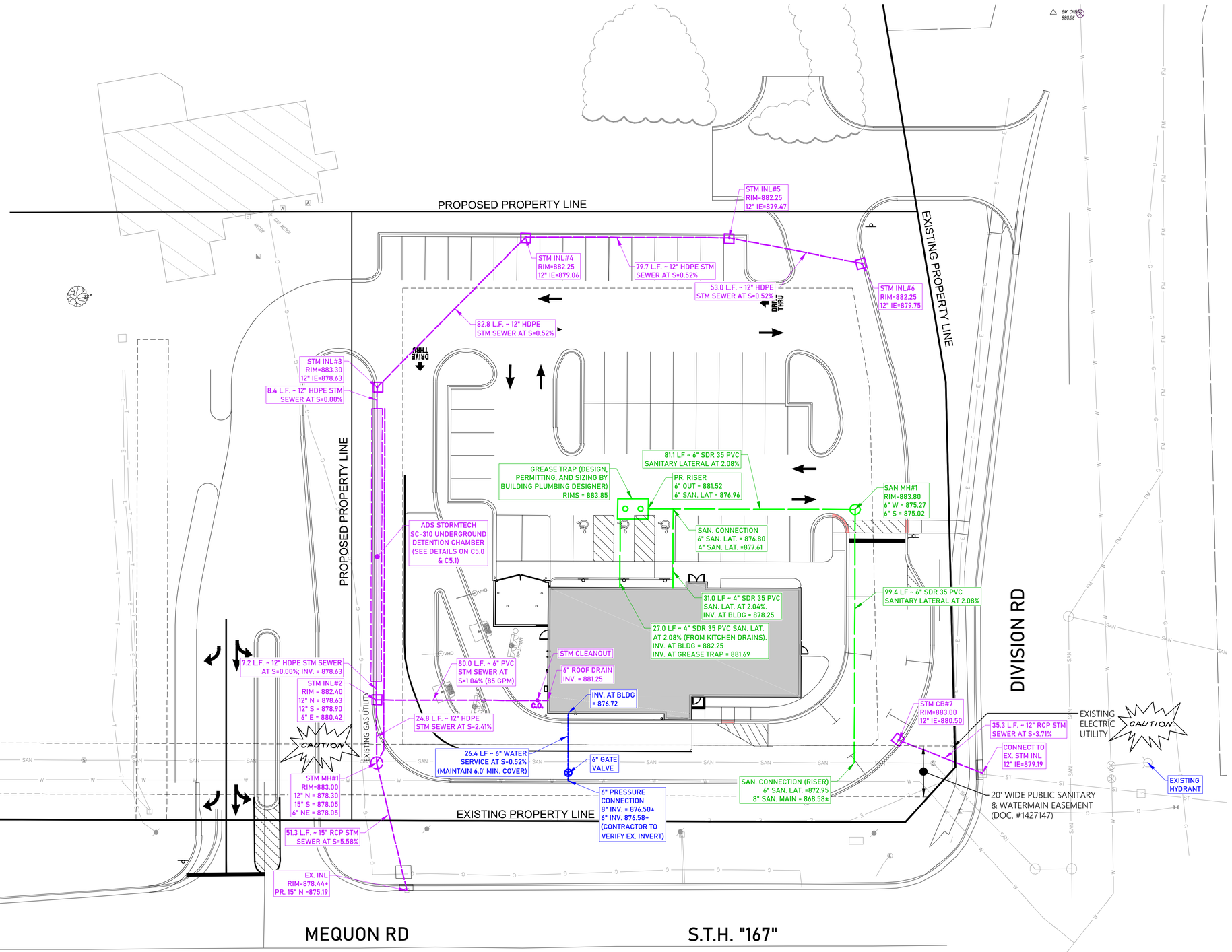
LEGEND:

- PROPOSED STORM SEWER
- PROPOSED STORM MANHOLE
- PROPOSED STORM INLET
- PROPOSED STORM END SECTION
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY MANHOLE
- PROPOSED WATER MAIN
- PROPOSED WATER VALVE
- PROPOSED WATER HYDRANT

UNDERGROUND DETENTION SYSTEM - POND 1ADS

SEE DETAIL ON SHEET C5.0

ADS STORMTECH MC-310 (15 CHAMBERS) WITH END CAPS
STONE ENCASEMENT = 6.00' x 110.00' x 2.33'
LOWEST PAVEMENT ELEVATION = 882.40
TOP OF STONE = 880.38
TOP OF CHAMBER = 879.88
BOTTOM OF CHAMBER = 878.55
BOTTOM OF STONE = 878.05
100-YEAR = 882.40
10-YEAR = 880.18
2-YEAR = 879.71
15" OUTLET PIPE = 878.05



N

0 10 20 40

SCALE: 1" = 20' (22"X34")
SCALE: 1" = 40' (11"X17")

811 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE EXCAVATION.
KNOW WHAT'S BELOW. **CALL BEFORE YOU DIG.**

NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

X:\2025\25-28-1265 CULVERS\GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL_PLAN SET_22X34.DWG

WISCONSIN — MATTHEW A. MAUDEN — E-41533 — OCONOMOWOC, WI — PROFESSIONAL ENGINEER

TRIO — DESIGN • LAND SURVEYING • CIVIL ENGINEERING
4100 N. CALHOUN RD., SUITE 300
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PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: jpudelko@trioeng.com

PROJECT:
CULVER'S - GERMANTOWN, WI
NWC OF MEQUON ROAD AND DIVISION ROAD
VILLAGE OF GERMANTOWN, WISCONSIN

REVISION HISTORY

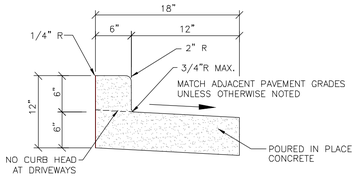
DATE	DESCRIPTION
7/7/2025	PRELIMINARY SUBMITTAL
10/3/2025	SITE RECONFIGURATION

DATE: OCTOBER 3, 2025

JOB NUMBER: 25-28-1265

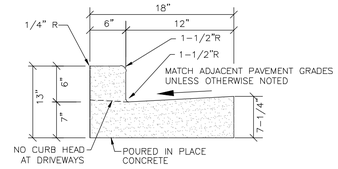
DESCRIPTION: UTILITY PLAN

SHEET C4.0



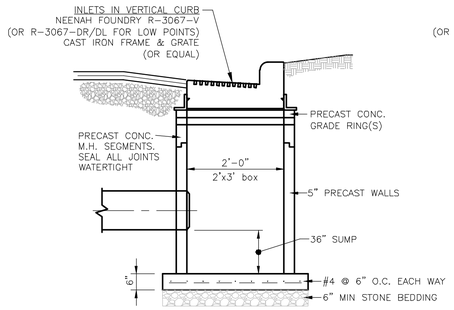
18" REJECT CURB & GUTTER DETAIL

NO SCALE



18" CONCRETE CATCH CURB & GUTTER

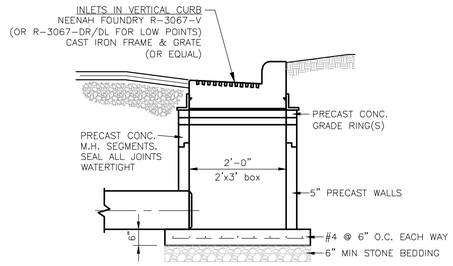
NO SCALE



NOTES:
1. EZ-STICK RUBBER GASKET OR APPROVED EQUAL SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS.
2. MINIMUM OF 2", MAXIMUM OF 6" OF ADJUSTING RINGS.
3. CLEAN UNDERSIDE OF ADJUSTING RINGS OR CAST IRON FRAME AND SET IN PLACE.
4. TUCK POINT MORTAR INTO ANNULAR CRACK AND BACK PLASTER INSIDE AND OUTSIDE OF JOINTS.
5. MEET REQUIREMENTS OF ASTM C478.

STORM SEWER CATCH BASIN DETAIL

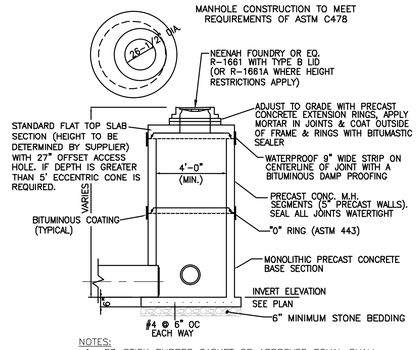
NO SCALE



NOTES:
1. EZ-STICK RUBBER GASKET OR APPROVED EQUAL SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS.
2. MINIMUM OF 2", MAXIMUM OF 6" OF ADJUSTING RINGS.
3. CLEAN UNDERSIDE OF ADJUSTING RINGS OR CAST IRON FRAME AND SET IN PLACE.
4. TUCK POINT MORTAR INTO ANNULAR CRACK AND BACK PLASTER INSIDE AND OUTSIDE OF JOINTS.
5. MEET REQUIREMENTS OF ASTM C478.

STORM SEWER CURB INLET DETAIL

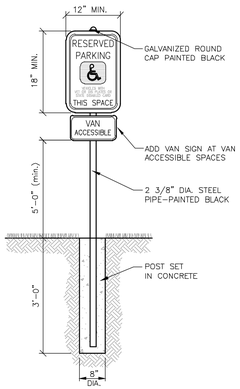
NO SCALE



NOTES:
1. EZ-STICK RUBBER GASKET OR APPROVED EQUAL SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS.
2. MINIMUM OF 2", MAXIMUM OF 14" OF ADJUSTING RINGS.
3. CLEAN UNDERSIDE OF ADJUSTING RINGS OR CAST IRON FRAME AND SET IN PLACE.
4. TUCK POINT MORTAR INTO ANNULAR CRACK AND BACK PLASTER INSIDE AND OUTSIDE OF JOINTS.
5. MEET REQUIREMENTS OF ASTM C478.

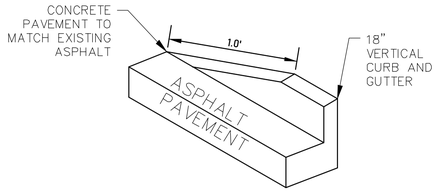
STORM MANHOLE DETAIL

NO SCALE



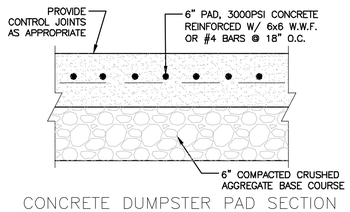
HANDICAP SIGNAGE DETAIL

NO SCALE



CURB TAPER DETAIL

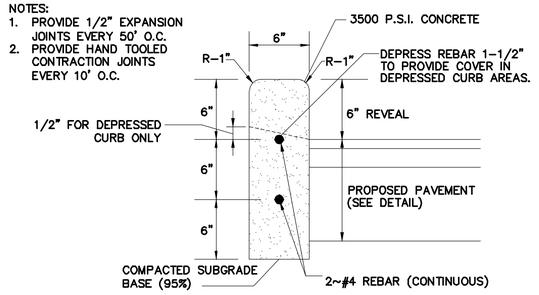
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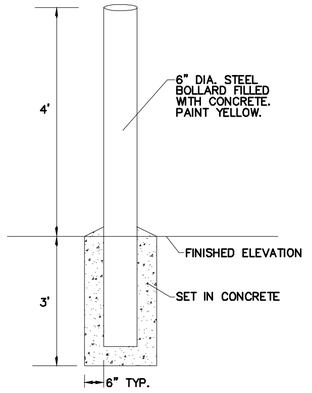
CONCRETE DUMPSTER PAD SECTION

NO SCALE

NOTES:
1. PROVIDE 1/2" EXPANSION JOINTS EVERY 50' O.C.
2. PROVIDE HAND TOOLED CONTRACTION JOINTS EVERY 10' O.C.



TYPE "C" BARRIER CURB

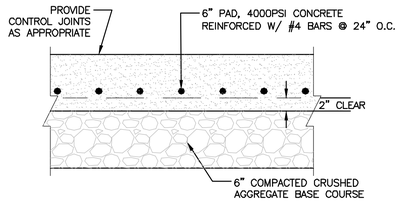


BOLLARD

STANDARD-DUTY ASPHALT PAVING DETAIL

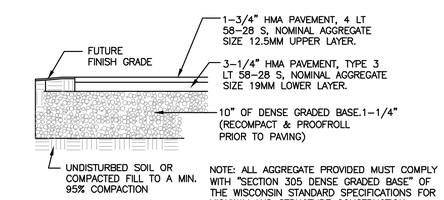
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NOTE: STANDARD-DUTY ASPHALT TO BE INSTALLED IN PARKING STALLS



CONCRETE DRIVE-THROUGH SECTION

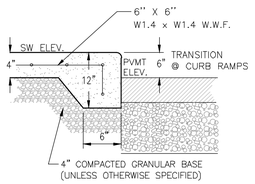
NO SCALE



HEAVY DUTY ASPHALT PAVING DETAIL

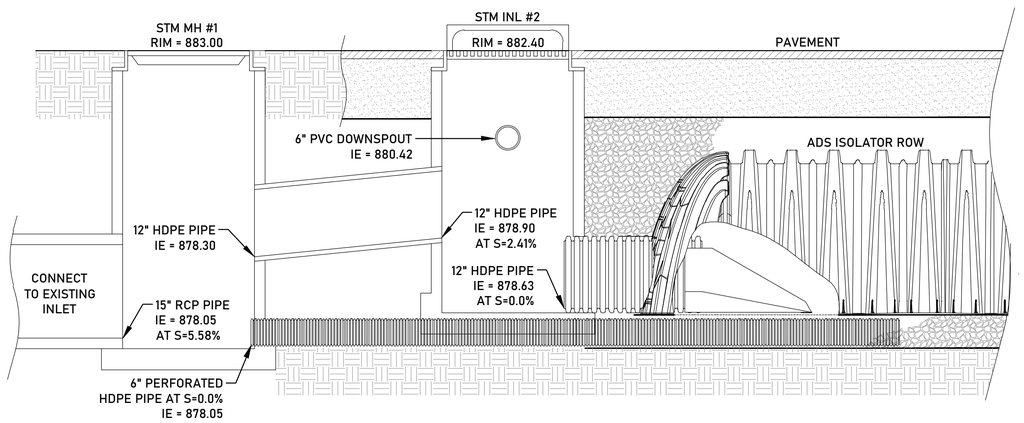
NO SCALE

NOTE: HEAVY-DUTY ASPHALT TO BE INSTALLED IN DRIVE AISLES



INTEGRAL SIDEWALK & BARRIER CURB

NO SCALE



UNDERGROUND DETENTION SYSTEM DETAIL

NO SCALE

WISCONSIN
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DESCRIPTION:
CONSTRUCTION DETAILS

SHEET
C5.0

X:\2025\25-28-1265 CULVERS-GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS\CIVIL PLAN SET_22X34.DWG
CIVIL PLAN SET_22X34.DWG

UNDERGROUND DETENTION SYSTEM NOTE:

- THIS DETAIL FOR REFERENCE ONLY. CONTRACTOR TO OBTAIN DESIGN DRAWING FROM MANUFACTURER THAT MEETS ESTABLISHED DESIGN REQUIREMENTS AS LAYED OUT IN THIS PLAN.

ADS Advanced Drainage Systems, Inc.

SiteASSIST™ FOR STORMTECH INSTRUCTIONS, DOWNLOAD THE INSTALLATION APP

SC-310 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-310.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/% . THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2922 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310 SYSTEM

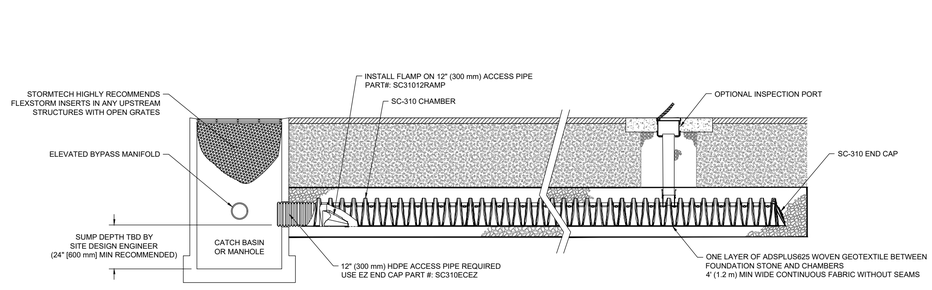
1. STORMTECH SC-310 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (75 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-310 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

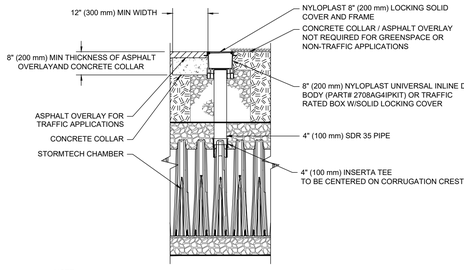
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



SC-310 ISOLATOR ROW PLUS DETAIL
NTS

3 SC-310 ISOLATOR ROW PLUS DETAIL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

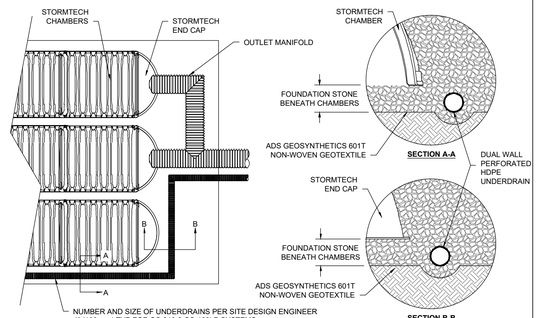
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

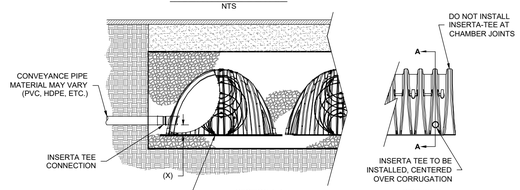
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)



5 UNDERDRAIN DETAIL

INSERTA TEE DETAIL
NTS



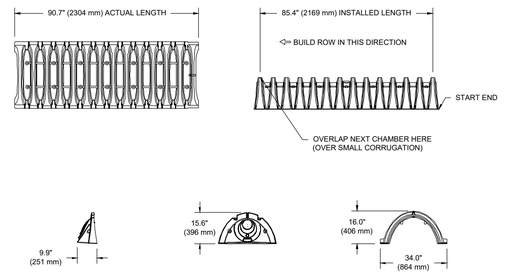
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)

INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS
GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

6 INSERTA-TEE SIDE INLET DETAIL

SC-310 TECHNICAL SPECIFICATION
NTS

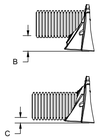


NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	29.34 CUBIC FEET	(0.83 m³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (150 mm) ABOVE AND BELOW CHAMBER; 3" (75 mm) BETWEEN CHAMBERS

PART #	STUB	B	C
SC310EPE06TPC	6" (150 mm)	5.8" (147 mm)	---
SC310EPE06BPC		---	0.5" (13 mm)
SC310EPE08TPC	8" (200 mm)	3.5" (89 mm)	---
SC310EPE08BPC		---	0.6" (15 mm)
SC310EPE10TPC	10" (250 mm)	1.4" (36 mm)	---
SC310EPE10BPC		---	0.7" (18 mm)
SC310ECEZ*	12" (300 mm)	---	0.9" (23 mm)



ALL STUBS, EXCEPT FOR THE SC310ECEZ ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310ECEZ THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

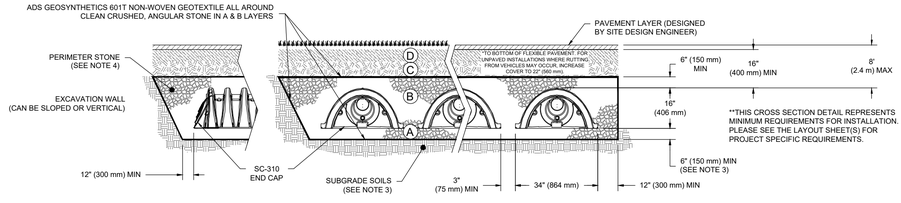
NOTE: ALL DIMENSIONS ARE NOMINAL; PRE-CORED END CAPS END WITH "PC"

2 SC-310 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-310 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	3.25	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 16" (400 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-310 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2922 SHALL BE GREATER THAN OR EQUAL TO 325 LBS/FT/%, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-310 CROSS SECTION DETAIL

DRAWN: SMW | DATE: 01/15/25
REVIEWED: JLM | PROJECT NO: 721-390
REV: | NOT TO SCALE

SC-310
STANDARD DETAILS

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. UNLESS THE PLANS ARE SIGNED AND SEALED BY THE SITE DESIGN ENGINEER, THE SITE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION AND SEALING THE DOCUMENT. IT IS THE SITE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

StormTech® Chamber System
888-892-2694 | WWW.STORMTECH.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026

ADS Advanced Drainage Systems, Inc.

SHEET
1

WISCONSIN MATTHEW A. MATTHEWS E-41533 OCONOMOWOC WI PROFESSIONAL ENGINEER

TRIO DESIGN • LAND SURVEYING CIVIL ENGINEERING
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 793-1480
FAX: (262) 790-1481
EMAIL: jpudelko@trioeng.com

PROJECT:
CULVER'S - GERMANTOWN, WI
NWC OF MEQUON ROAD AND DIVISION ROAD
VILLAGE OF GERMANTOWN, WISCONSIN

REVISION HISTORY

DATE	DESCRIPTION
7/7/2025	PRELIMINARY SUBMITTAL
10/3/2025	SITE RECONFIGURATION

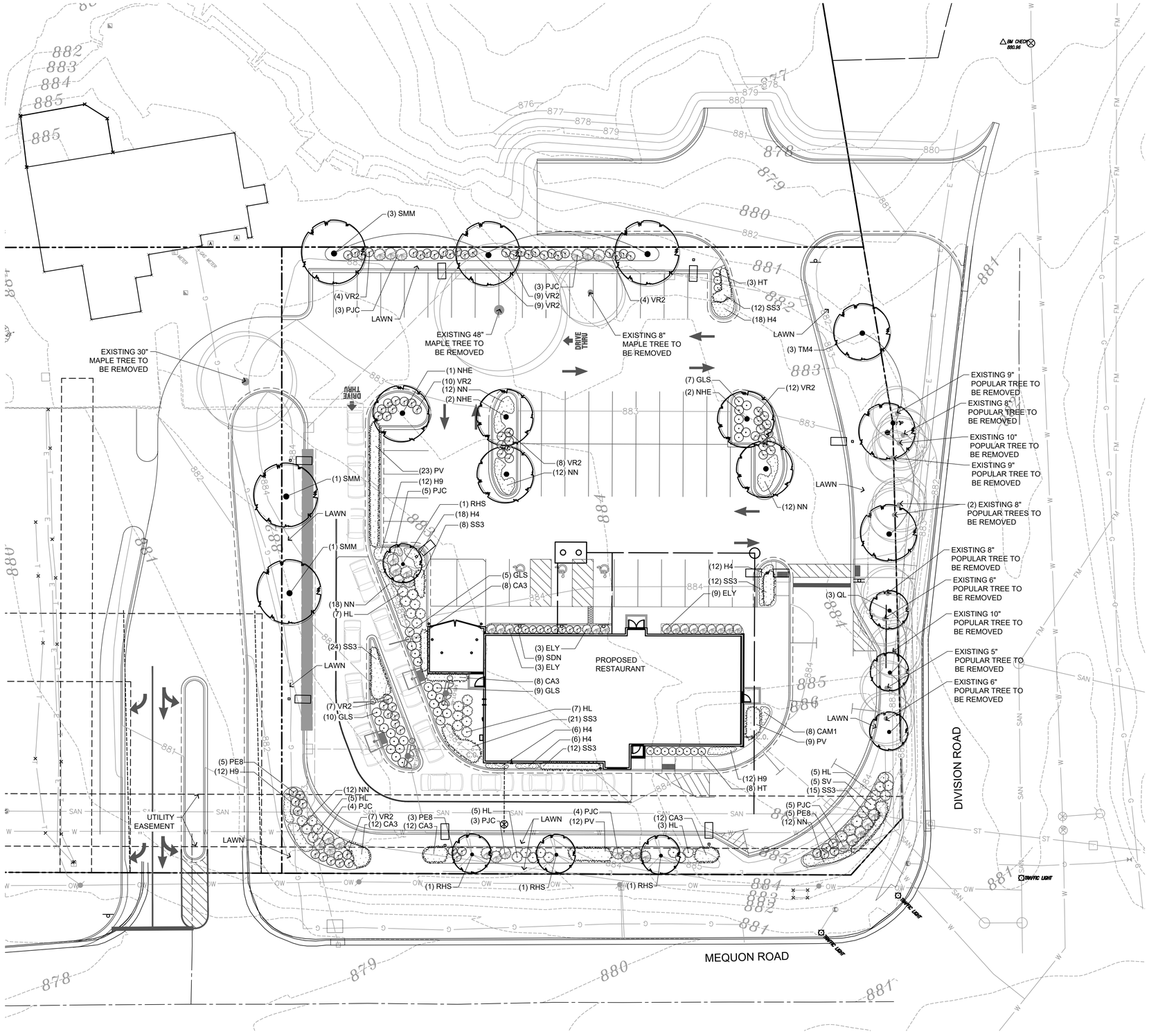
DATE:
OCTOBER 3, 2025

JOB NUMBER:
25-28-1265

DESCRIPTION:
ADS DETAILS & SPECIFICATIONS

SHEET
C5.1

K:\2025\25-28-1265 CULVERS - GERMANTOWN\DRAWINGS\CONSTRUCTION PLANS\CULVERS_CIVIL PLAN SET_22X34.DWG, 10/3/2025 7:41:16 AM, JLM, 1:1, CIVIL PLAN SET_22X34



PLANT SCHEDULE SITE

CODE	QTY	COMMON NAME	BOTANICAL NAME	INSTALLED SIZE	ROOT	SPACING
SHADE TREES						
SMM	5	State Street Miyabe Maple	Acer miyabei `Morton` State Stree	2 1/2" CAL	B&B	Spacing as shown
QL	3	Regal Prince® Oak	Quercus robur x bicolor 'Long'	2 1/2" CAL	CONT	Spacing as shown
TM4	3	American Sentry® Linden	Tilia americana 'McKSentry'	2 1/2" CAL	B&B	Spacing as shown
NHE	5	New Horizon Elm	Ulmus x `New Horizon`	2 1/2" CAL	B&B	Spacing as shown
ORNAMENTAL TREES						
RHS	4	Robin Hill Serviceberry	Amelanchier x grandiflora `Robin Hill`	2" CAL	B&B	Spacing as shown
DECIDUOUS SHRUBS						
SDN	9	Nikko Slender Deutzia	Deutzia gracilis `Nikko`	15" HT	CONT	Spacing as shown
VR2	70	Kodiak® Black Honeysuckle	Diervilla rivularis 'SMNDRSF'	15" HT	CONT	Spacing as shown
HT	11	Fire Light Tidbit® Hydrangea	Hydrangea paniculata 'SMNHPK'	15" HT	CONT	Spacing as shown
HL	32	Little Quick Fire® Hydrangea	Hydrangea paniculata `SMHPLQF`	18" HT	CONT	Spacing as shown
PE8	13	Little Joker® Ninebark	Physocarpus opulifolius 'Hoogi021'	18" HT	CONT	Spacing as shown
GLS	31	Gro-Low Fragrant Sumac	Rhus aromatica `Gro-Low`	15" HT	CONT	Spacing as shown
SV	5	Violet Uprising™ Korean Lilac	Syringa patula 'JN Upright Select' TM	24" HT	CONT	Spacing as shown
EVERGREEN SHRUBS						
PJC	27	Kallay Compact Pfitzer Juniper	Juniperus chinensis `Kallays Compact`	18" SPD	CONT	Spacing as shown
ELY	15	Everlow Yew	Taxus x media `Everlow`	15" HT	B&B	Spacing as shown
ORNAMENTAL GRASSES						
CA3	52	Overdam Feather Reed Grass	Calamagrostis x acutiflora `Overdam`	1 GAL	CONT	24" Spacing
PV	44	Ruby Ribbons® Switch Grass	Panicum virgatum 'RR1'	1 GAL	CONT	30" Spacing
SS3	104	Carousel Little Bluestem Grass	Schizachyrium scoparium `Carousel`	1 GAL	CONT	24" Spacing
PERENNIALS						
CAM1	8	Montrose White Calamint	Calamintha nepeta `Montrose White`	1 GAL	POT	18" Spacing
H9	36	Apricot Sparkles Daylily	Hemerocallis x 'Apricot Sparkles'	1 GAL	POT	18" Spacing
H4	60	Happy Returns Daylily	Hemerocallis x `Happy Returns`	1 GAL	POT	18" Spacing
NN	78	Junior Walker™ Catmint	Nepeta x faassenii 'Novanepjun'	1 GAL	POT	24" Spacing

VILLAGE OF GERMANTOWN - 17.43 SITE PLAN APPROVAL -LANDSCAPING AND SCREENING - 17.45 TRAFFIC, PARKING, LOADING AND ACCESS

17.43 (5)(c)(2) Parking Lot Landscaping - requires 5% of interior parking to be landscaped and (1) tree for every 10 spaces - requires (6) trees for proposed 52 spaces.

17.43 (5)(c)(3) Parking Lot Landscaping - requires street frontage screening and perimeter screening to be minimum 5 feet wide..

17.45 (1)(c) Parking Lot Landscaping - requires parking areas to be bounded by minimum 15 feet landscaped greengbelt between parking and all property boundaries.

NORTH

0 10 20 40
GRAPHIC SCALE

Know what's **below.**
Call before you dig.

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DESCRIPTION	DATE

raSmith
CREATIVITY BEYOND ENGINEERING
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Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com
Brookfield, WI | Milwaukee, WI | Appleton, WI | Madison, WI
Cedarburg, WI | Naperville, IL | Irvine, CA

CULVER'S
VILLAGE OF GERMANTOWN

SITE LANDSCAPE PLAN

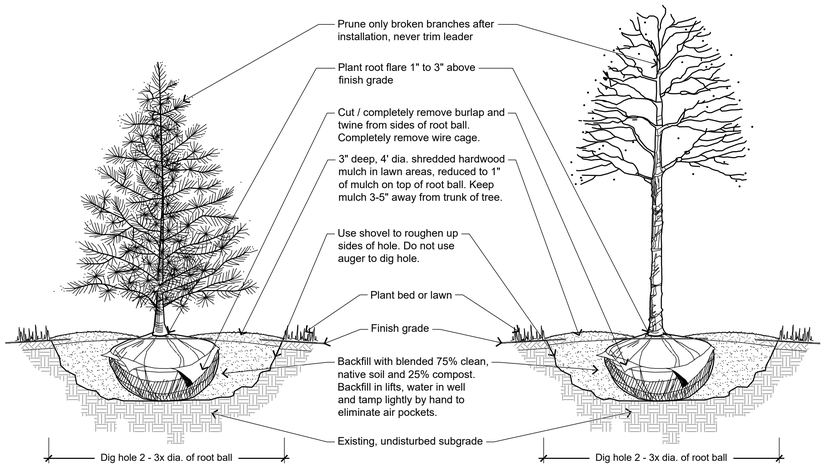
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R.A. Smith, Inc.

DATE: **10/01/25**
SCALE: **1" = 20'**
JOB NO. **3250150**
PROJECT MANAGER: **ROB WILLIAMS**
DESIGNED BY: **REW**
CHECKED BY: **REW**

SHEET NUMBER
L100

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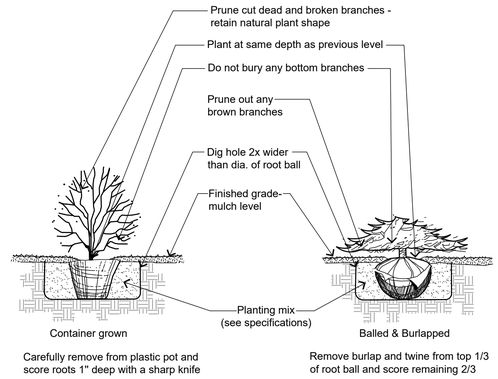
PLANTING DETAILS



1 TREE PLANTING DETAIL

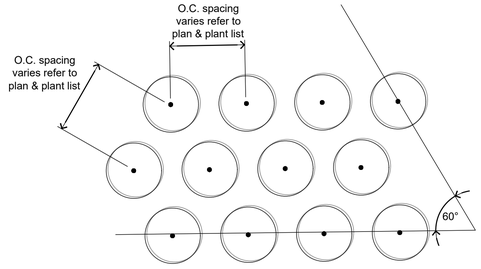
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P-PL-TREE-07



2 SHRUB PLANTING DETAIL

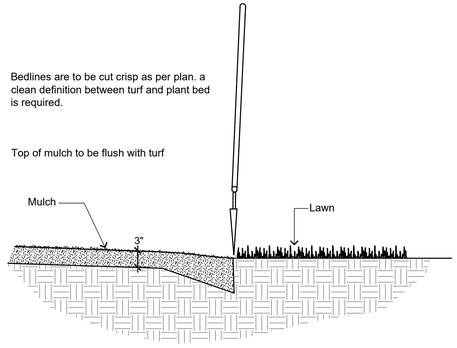
NOT TO SCALE



3 PLANTING LAYOUT

NOT TO SCALE

P-PL-PLO-01



4 SHOVEL CUT PLANT BED EDGING DETAIL

NOT TO SCALE

P-PL-BDEG-01

GENERAL LANDSCAPE NOTES

1. Contractor responsible for contacting public and private underground utility locating service to have site marked prior to any digging or earthwork.
2. Contractor to verify all plant quantities shown on plant list and verify with plan. Report any discrepancies immediately to general contractor.
3. All plantings shall comply with standards as described in American Standard of Nursery Stock - ANSI Z60.1 (latest version). General contractor or owner's representative reserves the right to inspect and potentially reject any plants that are inferior, compromised, undersized, diseased, improperly transported, installed incorrectly or damaged.
4. Any potential plant substitutions must be submitted in writing to the general contractor and approved by the owner's representative or landscape architect prior to installation. All plants must be installed as per sizes and quantities shown on plant material schedule, unless approved by the owner's representative or landscape architect. Any potential changes to sizes shown on plan and appropriate cost credits / adjustments must be submitted in writing to the general contractor and approved by the owner's representative or landscape architect prior to installation.
5. The subsequent requirements regarding topsoil should be coordinated between the general contractor, grading contractor and landscape contractor.
6. Subgrade areas shall be graded to within 1", more or less, of proposed subgrade. Deviations shall not be consistent in one direction.
7. Topsoil shall be placed to meet proposed finished grade. Planting islands to be backfilled with clean topsoil free of debris (per note below) to a minimum depth of 18" by general / grading contractor to insure long term plant health. All other landscaped areas to receive a minimum depth of 6" of clean topsoil (per note below).
8. Topsoil shall be: screened existing stockpiled topsoil, existing in-place soil, or screened soil from an off-site source that will support plant growth, and meets the following requirements. Clean topsoil shall be free of rocks, coarse fragments, gravel, sticks, trash, roots, debris over 3/4" and any substances harmful to plant growth. It also must be free of plants or plant parts of any noxious weeds. Topsoil shall contain 3 to 5 percent decomposed organic matter and a pH between 5.5 and 7.0.
9. Planting beds and parking lot islands: Landscape contractor is responsible for ensuring that unwanted material (gravel, debris, roots and other extraneous material harmful to plant growth) has been removed from the topsoil and for the fine grading of all landscaped areas. The fine grading of planting beds and parking lot islands may require additional topsoil to bring to finish grade, allowing for mulch depth. Crown all planting islands and planting beds not adjacent to buildings, a minimum of 6" to provide proper drainage, unless otherwise specified. All other finished landscaped areas to be smooth, uniform and provide positive drainage away from structures and pavement.
10. Seeded areas: to receive a settled minimum depth of 6" of blended, prepared and non-compacted topsoil. Landscape contractor is responsible for excavation and removal of unwanted material (gravel, debris, roots and other extraneous material harmful to plant growth) to the specified depth, supplementing with additional topsoil (if necessary) and the fine grading of all seeded areas.
11. Tree planting (see planting detail): plant all trees slightly higher than finished grade at root flare. Remove excess soil from top of root ball, if needed. An auger is not an acceptable method of digging tree planting holes. Scarify side walls of tree pit prior to installation. Once tree has been placed into the hole, is at the correct depth and vertical alignment and will no longer be moved; brace root ball by tamping soil around the lower portion of the root ball. Remove and discard twine / rope, burlap and support wire from the sides of root ball. Backfill pit with 75% existing soil removed from excavation and 25% compost blended prior to backfilling holes, in six-inch lifts. Lightly tamp each lift using foot pressure or hand tools to settle backfill, support the tree and eliminate voids. Do not over compact or use mechanical or pneumatic tamping equipment. Discard any gravel, heavy clay or stones. When hole has been backfilled to three-quarters of its depth, pour water around the root ball and allow to soak into soil to settle the soil. Continue backfilling until soil is brought to grade level.

    Provide a 3" deep, 4 ft. diameter shredded hardwood bark mulch ring around all trees in lawn areas, reduced to 1" deep on top of root ball. Keep mulch 3"- 5" away from trunk of tree. Trees that are installed incorrectly will be replaced at the time and expense of the landscape contractor. Trees too large for two people to lift in and out of holes, shall be placed with sling. Do not rock the trees in holes to raise them.
12. Shrub planting (see planting detail): all shrubs to be pocket planted with a mix of 75% existing soil removed from excavation and 25% compost, blended prior to backfilling holes. When hole is two-thirds full, shrubs shall be watered thoroughly and water left to soak in before proceeding.
13. Mulching: all tree and shrub planting beds to receive a 3" deep layer of high-quality shredded hardwood bark mulch (not enviromulch or wood chips). Mulch shall be uniform in size, color, quality and overall appearance. Mulch shall be free of debris, large wood chunks, soil, rocks, weeds, invasive plant parts or seeds and any other material injurious to plant growth. All perennial and ornamental grass planting areas to receive a 2" layer and groundcover areas a 1-2" layer of the same mulch. Do not mulch annual flower beds (if applicable). Do not allow mulch to contact plant stems and tree trunks.
14. Edging: edge all planting beds with a 4" deep spaded edge (shovel cut or mechanical). Bedlines are to be cut crisp, as per plan. A clean definition between lawn area and plant bed is required.
15. Plant bed preparation: the soil in all perennial, ornamental grass, annual and groundcover areas shall be amended with compost prior to plant installation. Spread a 2" layer of compost (per note below) on top of clean topsoil and rototill to a depth of approximately 8".
16. Compost shall be stable, and weed-free organic matter. It shall be resistant to further decomposition and free of compounds, such as ammonia and organic acids, in concentrations toxic to plant growth. The compost shall contain no pathogens or other chemical contaminants and meet the requirements of WisDNR S100 Compost Specification.
17. Lawn installation for all seeded turfgrass areas: remove / kill off any existing unwanted vegetation prior to seeding. Prepare the topsoil and seed bed by removing all surface stones 1" or larger and grading lawn areas to finish grade. Apply a starter fertilizer and specified seed, ensure good seed to soil contact, and provide mulch covering suitable to germinate and establish turf. Provide seed and fertilizer mix information to general contractor prior to installation. Erosion control measures are to be used in swales and on steep grades, where applicable. Methods of installation may vary at the discretion of the landscape contractor on his/her responsibility to establish and guarantee a smooth, uniform, quality turf. If straw mulch is used as a mulch covering, a tackifier may be necessary to avoid wind damage. Marsh hay containing reed canary grass is not acceptable as a mulch covering.

    An acceptable quality turf is defined as having no more than 5% of the total area with bare spots larger than 1/2 square foot and uniform coverage throughout all turf areas.
18. Seed mix type 'A' for lawn areas - use only a premium quality seed mix. Premium blend seed mix (or equivalent): 50% blended bluegrass, 25% creeping red fescue, 25% perennial rye applied at 5 lbs per 1,000 SF or at recommended rates from supplier. Provide seed specifications to general contractor prior to installation.
19. Lawn installation for all sodded turfgrass areas(Optional): remove / kill off any existing unwanted vegetation prior to sodding. Prepare the topsoil and sod bed by removing all surface stones 1" or larger and grading lawn areas to finish grade, allowing for thickness of sod. Use only premium sod blend according to TPI (revised 1995) and ASPA standards. Install sod uniformly with staggered joints, laid tightly end to end and side to side. Roll sod with a walk behind roller and water immediately upon installation to a 3" depth. Stake any sod installed on steep slopes or in swales, etc. Landscape contractor is responsible to provide a smooth, uniform, healthy turf. Landscape contractor shall repair and re-sod any eroded, sunken or bare spots (larger than ½ square foot) until acceptance by owner.
20. The landscape contractor is responsible for the watering and maintenance of all landscape areas at time of planting and throughout construction until the substantial completion of the installation and acceptance by the owner. This includes all trees, shrubs, evergreens, perennials, ornamental grasses, and seeded slopes and turf grass areas. Maintenance includes mowing, weeding, watering, mulching, edging, pruning, deadheading, raking leaves / debris, sweeping up grass clippings, fertilizing and maintaining turf areas (including applying pre and post emergent herbicides), and any other needs that are required to keep the landscape healthy and well maintained.
21. Substantial Completion of Landscape: after the landscape has been installed, the landscape contractor is responsible to conduct a final review with the owner's representative and the general contractor to ensure that all plans and specifications have been met. After this review, the landscape will be considered to be installed in substantial completion unless otherwise noted by the owner's representative and/or general contractor. Any items missing or incomplete, shall be corrected within 30 days. The landscape contractor shall provide written watering and maintenance instructions for the new plantings and lawn to the owner.
22. Warranty and replacements: All plants (trees, evergreens, shrubs, perennials, ornamental grasses and groundcovers) shall be warranted by the landscape contractor to be in healthy and flourishing condition for a period of one year from the date of substantial completion. This assumes the owner performs required maintenance (i.e. regular watering) after substantial completion of the landscape. Only one replacement per plant will be required during the warranty period, except for losses or replacements due to failure to comply with specified requirements. Replacements shall be plants of the same variety specified on the plan and closely match adjacent specimens in size. The landscape contractor is responsible for keeping a documented record of which plants have been replaced during the warranty period.

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DATE	DESCRIPTION

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rasmith.com
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Cedarburg, WI | Naperville, IL | Irvine, CA

CULVER'S
VILLAGE OF GERMANTOWN

LANDSCAPE NOTES AND DETAILS

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R.A. Smith, Inc.

DATE: 10/01/25

SCALE: –

JOB NO. 3250150

PROJECT MANAGER: ROB WILLIAMS

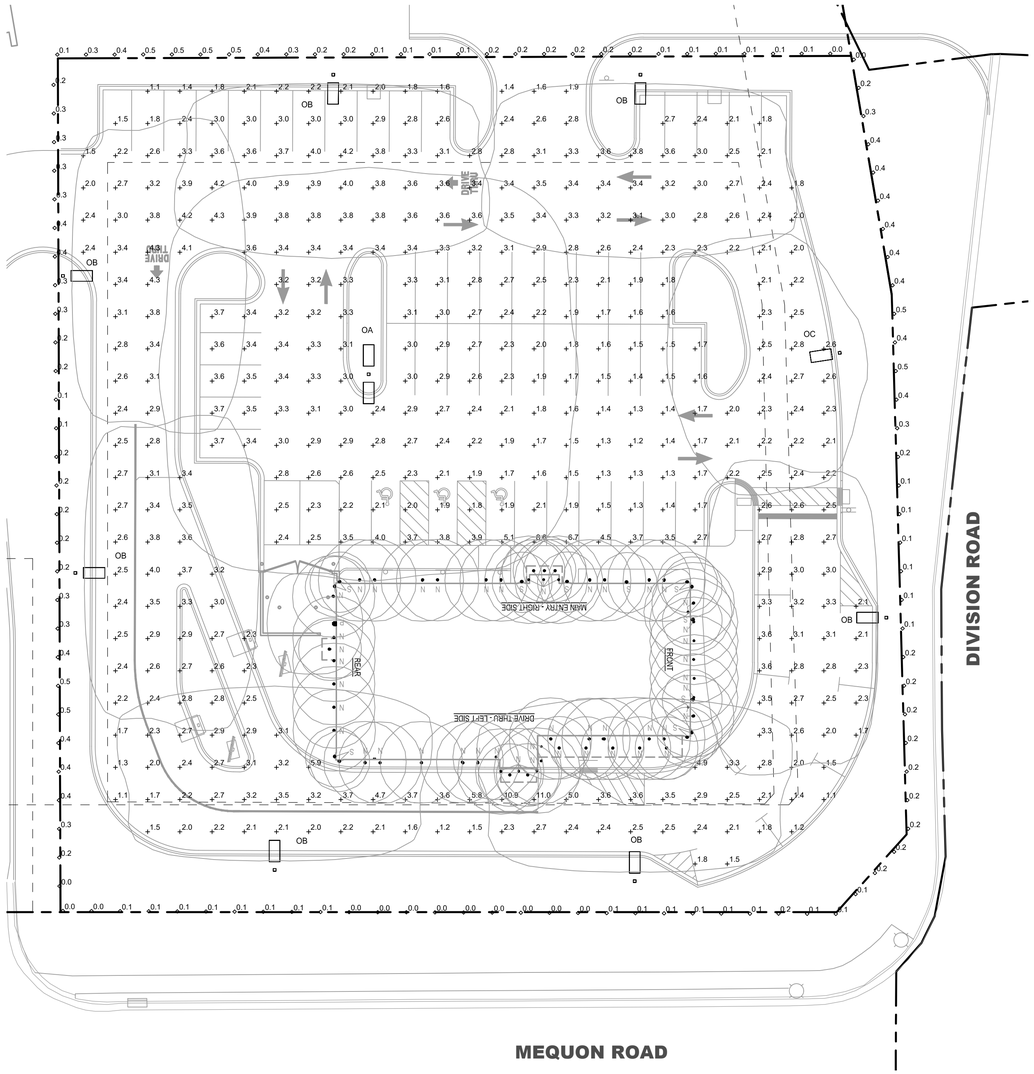
DESIGNED BY: REW

CHECKED BY: REW

SHEET NUMBER

L200

F:\3250150\Dwg\Sheets\3250150-LSP01.dwg, L200 34x22, 10/1/2025 3:16:22 PM, rew



H3 SITE PHOTOMETRIC PLAN

SCALE : 1" = 20'-0"

LUMINAIRE SCHEDULE - SITE LIGHTING

SYMBOL	LABEL	CATALOGUE NUMBER	LAMP	WATTS
▭▫▭	OA	(2) DSX1 LED P4 40K 80CRI T5M 25' POLE; POLE BASE @ 6" ABOVE GRADE	LED	247.9
▭▫	OB	DSX1 LED P4 40K 80CRI BLC3 (extreme backlight control) 25' POLE; POLE BASE @ 6" ABOVE GRADE	LED	123.9
▭▫	OC	DSX1 LED P4 40K 80CRI TFM HS (forward throw houseside shield) 25' POLE; POLE BASE @ 6" ABOVE GRADE	LED	123.9

LUMINAIRE SCHEDULE - BUILDING MOUNT

SYMBOL	LABEL	CATALOGUE NUMBER	LAMP	WATTS
●	N	LDN6 40/15 L06AR LS MVOLT GZ10 LITHONIA	LED	21
⧉	P	SLIM17FA15ADJ RAB LIGHTING	LED	17.5
◘	S	CD34-6WZ (down light only) RAB LIGHTING	LED	22

STATISTICS - LIGHT LOSS FACTOR 0.91

DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
PARKING	+	2.8 fc	11.0 fc	1.1 fc	10.0:1	2.5:1
PROPERTY LINE	◇	0.2 fc	0.5 fc	0.0 fc	N/A	N/A

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NEW CULVER'S RESTAURANT
NWC Mequon Road & Division Road
Germantown, WI 530022
County of WASHINGTON

Culver Franchising System, Inc.
1240 Water Street
Prairie du Sac, WI 53578
608-643-7980

OWNER:
Burgers & Braatz Properties, LLC
12455 Wrayburn Rd
Elm Grove, WI 53122
Dan Braatz
(262) 510-8057

OLLMANN ASSOCIATES ARCHITECTS, P.C.
200 South State Street
Belvidere, Illinois 61008
815-544-7790 Phone
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SITE PHOTOMETRIC PLAN

Date: 10-3-2025 Revision:

2025-111

SE 101

FOR REVIEW

CD34-6WZ

RAB



Color: Bronze

Weight: 6.3 lbs

Project: | Type:

Prepared By: | Date:

Driver Info		LED Info	
Type	Constant Current	Watts	36/28/22WW
120V	0.30A	Color Temp	3000/4000/5000K
208V	0.17A	Color Accuracy	90 CRI
240V	0.15A	L70 Lifespan	50,000 Hours
277V	0.13A	Lumens	3300/2750/2100 lm
Input Watts	36/28/22WW	Efficacy	95

Technical Specifications

Performance

Product Type:
Cylinder Wall Mount

Description :
Economical cylinders with field-adjustable color temperature, power and light distribution along with field-swappable optics to fit any indoor or outdoor application.

Wattage Equivalency:
200/180/140W

Input Wattage:
36/28/22W

Nominal Lumens:
3300/2750/2100lm

Efficacy:
95lm/W

Lifespan:
50,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Electrical

Driver:
Constant Current, 50-60 Hz, 120V-277V

THD:
≤20%

Power Factor:
≥0.9

Dimmable:
Yes, dimmable down to 5% on compatible 0-10V dimming systems. See Dimmer Compatibility List. Requires separate 0-10V DC dimming circuit.

Input Voltage:
120-277V

Operating Frequency:
50/60Hz

Input Current @ 120V (mA):
300mA

Input Current @ 208V (mA):
169mA

Input Current @ 240V (mA):
146mA

Input Current @ 277V (mA):
127mA

Operating Temperature:
-40°F to 120°F (-40°C to 45°C)

Flicker:
≤1%

Photocell:
Integrated photocell included with on/off switch

LED Characteristics

Beam Angle:
60° (installed)
Field swappable optics sold separately for 25°/40°/60° beam angle_

Light Distribution:
Selectable dip switch for up, down, or up/down light

Color Temperature:
3000/4000/5000K

Color Accuracy (CRI):
90 CRI

R9 Value:
High color performance with R9 greater than 0

Color Consistency:
<6-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

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LITHONIA LIGHTING®

Catalog Number

Notes

Type

LDN6 STATIC WHITE

6" Open and Wallwash LED
Non-IC
New Construction Downlight





Open Trim



Wallwash Trim

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches. Reflectors are retained by torsion springs.
Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment.
Two combination ½"–3/4" and four ½" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.
Accommodates 12"–24" joist spacing.
Passive cooling thermal management for 25°C standard; high ambient (40°C) option available. Light engine and drivers are accessible from above or below ceiling.
Max ceiling thickness 1-1/2".

OPTICS — LEDs are binned to a 3-step MacAdam Ellipse; 80 CRI minimum. 90 CRI optional.
LED light source concealed with diffusing optical lens.
General illumination lighting with 1.0 S/MH and 55° cutoff to source and source image.
Self-flanged anodized reflectors in specular, semi-specular, or matte diffuse finishes. Also available in white and black painted reflectors.

A+ CAPABLE LUMINAIRE — This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products. All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates. To learn more about A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60deg, per CIE 117-1996 Discomfort Glare in Interior Lighting.

ELECTRICAL — Multi-volt (120-277V, 50/60Hz) 0-10V dimming drivers mounted to junction box, 10% or 1% minimum dimming level available.
0-10V dimming fixture requires two (2) additional low-voltage wires to be pulled.

LUMEN MAINTENANCE — 70% lumen maintenance at 60,000 hours. L70/60,000 hours

LISTINGS — Certified to US and Canadian safety standards. Wet location standard (covered ceiling). IP55 rated. ENERGY STAR® certified product. Drivers are RoHS compliant

BUY AMERICAN ACT — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

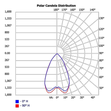
PERFORMANCE DATA

LDN6 3500K AR LSS 80CRI

Nominal Lumens	Lumens	Wattage	Lm/W
500	527.9	5.8	90.5
750	758.1	8.9	85.1
1000	950.1	10.4	91.0
1500	1514	17.5	86.4
2000	2006	22.5	89.1
2500	2504	28.3	88.6
3000	3021	34.8	86.9
4000	4008	44.3	90.6
5000	4975	57.7	86.3

Notes
- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical.

DISTRIBUTIONS


Polar Candela Distribution
0° 15° 30° 45° 60° 75° 90°
LDN
LDN
LDN



WEST / MAIN ENTRY ELEVATION

REPRESENTATION

MATERIAL	COLOR
TOWER ACCENT EIFS	"TONY TAUPE" SW7038
ROOF EDGE EXCEPTIONAL METALS	"REGAL BLUE"
TOWER ACCENT EIFS	"POPULAR GRAY" SW6071
ALUM. CLADDING SYSTEM (LONGBOARD)	"TABLE WALNUT" 6" V-GROOVE
CANVAS AWNINGS (BY OTHERS)	"ROYAL BLUE TWEED" 4617 SUNBRELLA
MAIN FIELD EIFS	"POPULAR GRAY" SW6071
SCONCE FIXTURES	BRONZE
WINDOW & DOOR FRAMES	NATURAL ALUMINUM
MFGR'D STONE w/ STONE SILL TRIM ENVIRONMENTAL STONEWORKS	"ASPEN NICKEL CREEK" TUSCAN LEDGE



SOUTH / FRONT ELEVATION

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OLLMANN ASSOCIATES ARCHITECTS
200 South State Street
Belvidere, Illinois 61008
815-544-7790 Phone

2D ELEVATIONS

NOTE: THOUGH THESE IMAGES HAVE PHOTO REALISTIC QUALITIES, THE ACTUAL BUILDING MATERIALS MAY VARY IN APPEARANCE.

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A1.1



NORTH / REAR ELEVATION



EAST / DRIVE THRU ELEVATION

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A1.2











LEFT / (WEST) PERSPECTIVE

RIGHT / (EAST) PERSPECTIVE



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3D IMAGES

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A2



ROOF EDGE METAL
"REGAL BLUE"



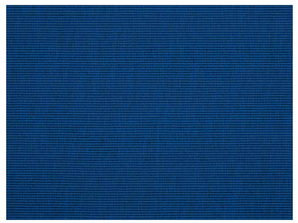
ALUM. CLADDING SYSTEM
"TABLE WALNUT"



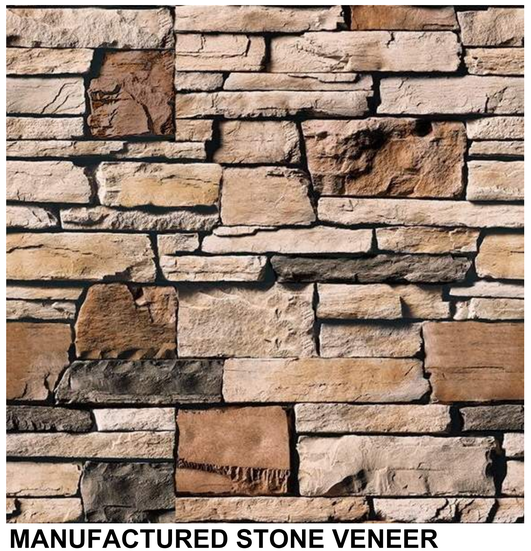
MAIN FIELD EIFS
"POPULAR GRAY" SW 6071



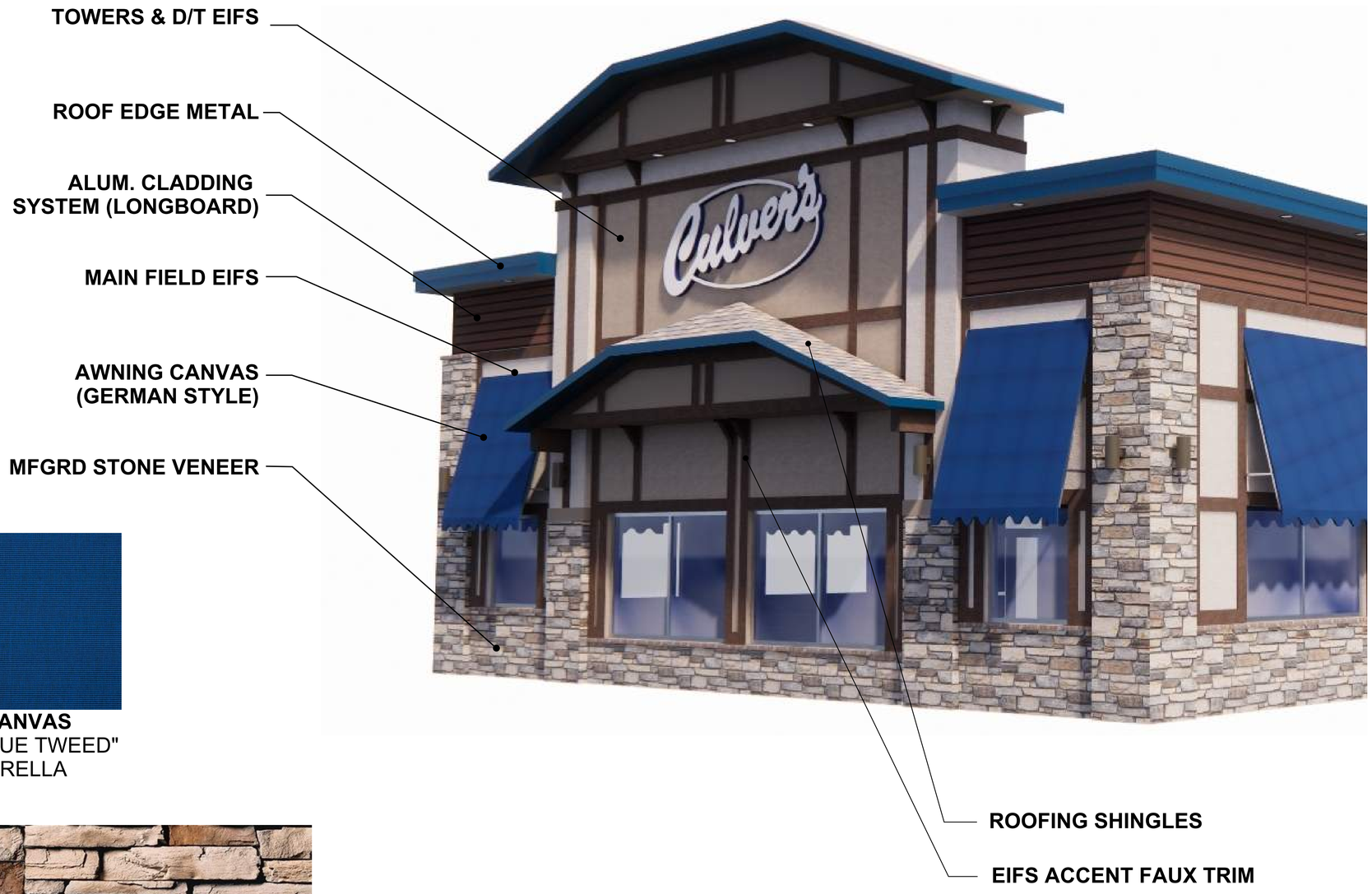
TOWERS & D/T. EIFS
"TONY TAUPE" SW 7038



AWNING CANVAS
"ROYAL BLUE TWEED"
4617 SUNBRELLA



MANUFACTURED STONE VENEER
"ASPEN NICKEL CREEK" TUSCAN LEDGE

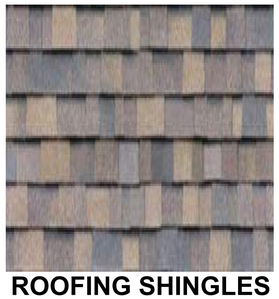


(ADDED MATERIAL)



EIFS ACCENT FAUX TRIM
"SABLE SW6083"

(ADDED MATERIAL)



ROOFING SHINGLES
"MULTI"

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OLLMANN ASSOCIATES ARCHITECTS
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SAMPLE BOARD

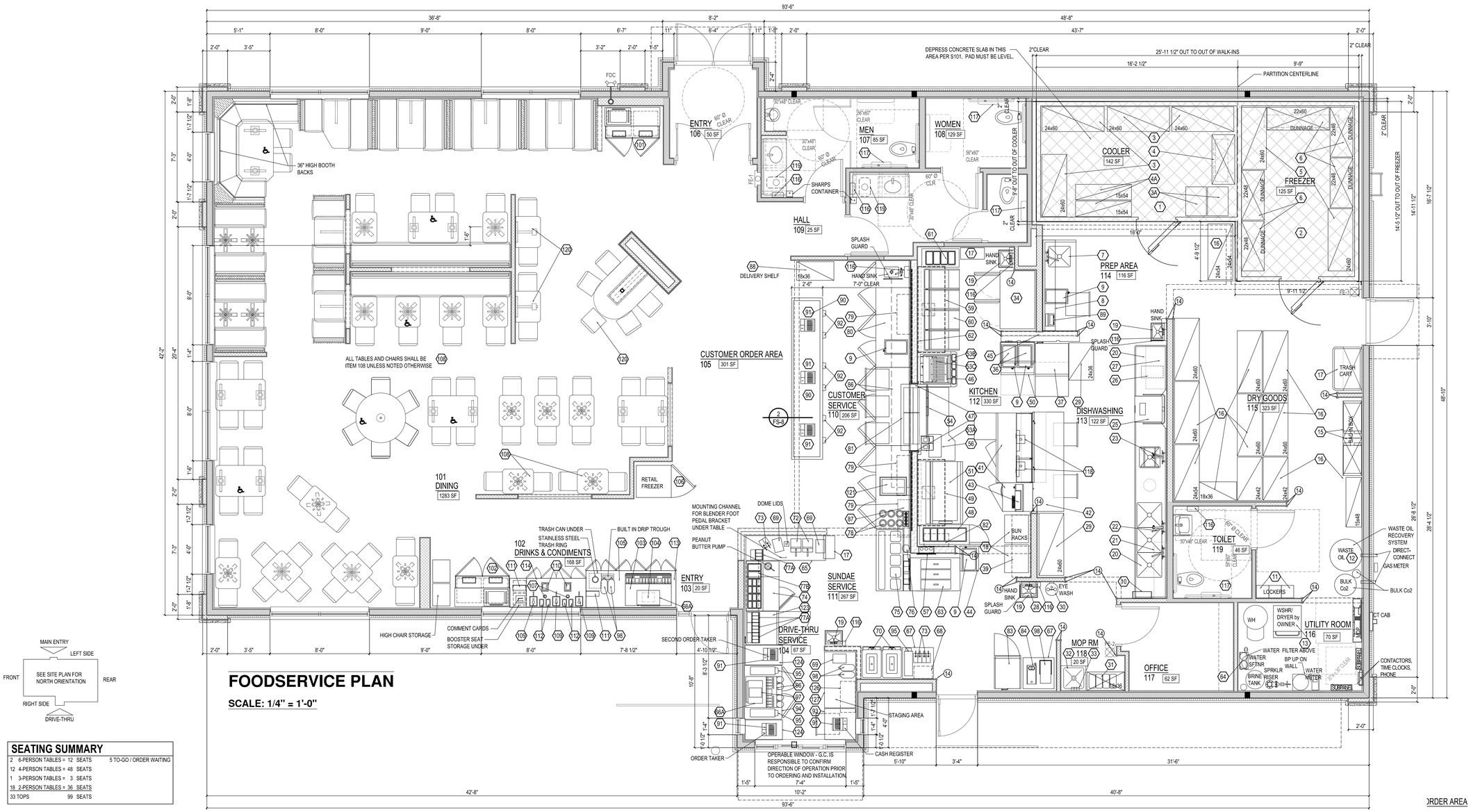
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Revision:

2025-111

A3



MAIN ENTRY
LEFT SIDE
FRONT
SEE SITE PLAN FOR NORTH ORIENTATION
REAR
RIGHT SIDE
DRIVE-THRU

FOODSERVICE PLAN

SCALE: 1/4" = 1'-0"

SEATING SUMMARY

2	6-PERSON TABLES = 12	SEATS	5 TO-GO / ORDER WAITING
12	4-PERSON TABLES = 48	SEATS	
1	3-PERSON TABLES = 3	SEATS	
18	2-PERSON TABLES = 36	SEATS	
33	TOPS	99 SEATS	

OWNER FURNISHED, FOOD SERVICE EQUIPMENT CONTRACTOR (FSEC) INSTALLED

ITEM	EQUIPMENT SCHEDULE	ITEM	EQUIPMENT SCHEDULE	ITEM	EQUIPMENT SCHEDULE
1	WALK IN COOLER (BOX, LINE SETS, & COIL DRAIN PIPES)	45	STAINLESS STEEL WALLCAP / ELEC CHASE COVER	80	REFRIGERATED S/S BACKCOUNTER
2	WALK IN FREEZER (BOX, LINE SETS, & COIL DRAIN PIPES)	46	HEATED FRY BIN	81	HEATED PASS-THRU UNIT
3	WALK-IN COOLER RACKS	47	FRONT PASS-THRU STAINLESS STEEL CHANNEL TRIM	82	TOOL SHELF
3A	THAWING RACKS	48	REFRIGERATED MEAT CART	83	REACH IN REFRIGERATOR
4	WALK-IN COOLER DUNNAGE RACKS	50	MOBILE WORKTABLE	88	DELIVERY SHELF
4A	MOBILE CUSTARD MIX RACKS	51	GRILL AND STAND	90	FRONT SERVICE COUNTER
5	WALK-IN FREEZER SHELVING	52	TRANSFER STATION - ROUGH-IN ONLY	92	CUP DISPENSERS
6	WALK-IN FREEZER DUNNAGE RACKS	53A	SANDWICH WRAP STATION LEFT	93	STAINLESS STEEL DRIVE-THRU COUNTER
7	WORKTABLE / SINK	53B	SANDWICH WRAP STATION RIGHT	94	STAINLESS STEEL DRIVE-THRU COUNTER
8	WALL SHELF	53C	WALL SHELF	95	CUP DISPENSERS
11	LOCKERS	54	ORDER BARS	100	DISPLAY CABINET - NOT INCLUDED
14	STAINLESS STEEL WALL CORNER GUARDS, SHOWN: (14)	57	STAINLESS STEEL REFRIGERATION CHASE COVER	101	TRAY / TRASH / RECYCLE CABINETS
16	WIRE SHELVING	58	FRY STATION HEAT LAMP - ROUGH-IN ONLY	102	TRAY / TRASH CABINET - NOT INCLUDED
20	DISHTABLES AND UTENSIL SINKS	60	FRYERS	106	RETAIL FREEZER
21	WALL SHELF	61	CUSTOM FISH REFRIGERATOR	107	CONDIMENT CUP DISPENSERS
24	OPEN NUMBER	62	OPEN NUMBER	108	TABLES / CHAIRS / BOOTHS
27	SLANTING WALL SHELF	65	MOBILE STAINLESS STEEL WORKTABLE	109	CONDIMENT DISPENSERS
29	CLEAN PAN SHELVING	66	FUTURE ICE MACHINE - ROUGH-IN ONLY	110	NAPKIN DISPENSERS
31	JANITOR'S SHELVING	66A	REMOTE ICE MAKER	113	BEVERAGE COUNTER
34	REACH-IN FREEZER	67	WORK TABLE	114	CONDIMENT COUNTER
35	OPEN NUMBER	68	OPEN NUMBER	119	WASTE RECEPTACLES
37	REFRIGERATED DRAWER BASE	71	OPEN NUMBER	120	HIGH TOP TABLES AND CHAIRS
38	DUAL FRY DISPENSER - NOT INCLUDED	74	REFRIGERATED TOPPING TABLE	121	DROP IN CUSTARD COLD PAN
39	WALL MOUNTED BREAD SHELF	75	CUSTARD DIPPING CABINET	123	WORKTOP REFRIGERATOR
40	OPEN NUMBER	76	CAKE CONE DISPENSER	124	WORKTABLES
41	REFRIGERATED WORKTABLES	77A	SUNDAE TOPPING DISPENSER	125	MOBILE WORKTABLE
42	MOBILE WORKTABLE / OVERSHELF	77B	SUNDAE TOPPING WALL SHELF	126	SLANTING WALL SHELF
44	GRILL SIDE WARMER CART	78	DISH / CUP DISPENSERS	127	OPEN NUMBER
		79	WALL SHELVES	505	REFRIGERATION LINE SETS (SEE H6 / A105)

OWNER FURNISHED, VENDOR INSTALLED

ITEM	EQUIPMENT SCHEDULE
9	COOKER / WARMERS
12	WASTE OIL RECOVERY SYSTEM
15	BAG-IN-BOX SYSTEM
17	TRASH CANS / CART
18	BUN RACKS
33	CHEMICAL DISPENSING SYSTEM
36	MICROWAVE OVEN
43	BUN TOASTER
55	OPEN NUMBER
56	HEATED BUN WARMER
63	TRIPLE CUSTARD MACHINE
69	ASTRO BLENDERS
70	MILKSHAKE MACHINE
72	HEATED SYRUP DISPENSERS
73	LIQUID TOPPING DISPENSERS
84	COFFEE MAKER
85	POWER WASHER - NOT INCLUDED
86	MENU BOARD / SIGNAGE PACKAGE
87	WAFFLE CONE DISPENSER
89	FOOD LABEL MARKER
91	CASH REGISTER / POS SYSTEM
96	ICE AND SODA DISPENSER
97	CARBONATOR

ITEM	EQUIPMENT SCHEDULE
98	ICED TEA BREWER / DISPENSER
103	ICE AND SODA DISPENSER
104	CARBONATOR
105	SELF SERVICE LID DISPENSER
111	STRAW DISPENSERS
112	CONDIMENT PANS
118	MONITOR BRACKETS

NOTE: G.G. TO COORDINATE SOME ITEMS PLACED BY OWNER & NOT BY VENDOR - CONFIRM

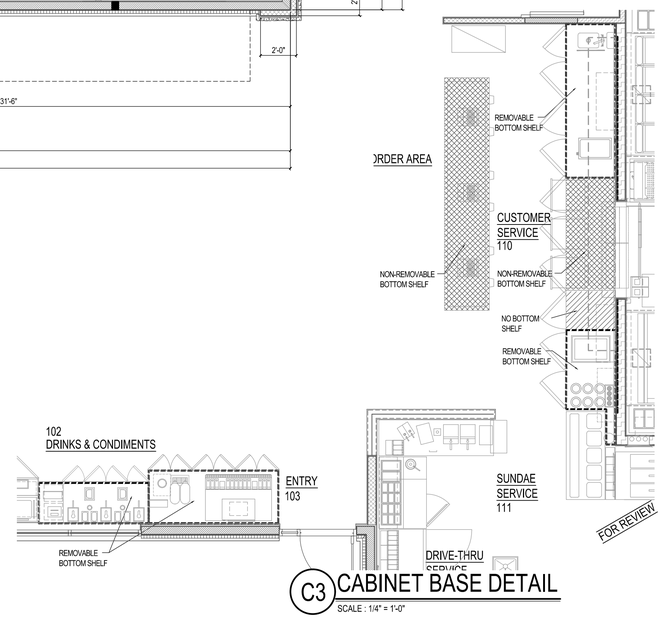
CONTRACTOR FURNISHED, CONTRACTOR INSTALLED

ITEM	EQUIPMENT SCHEDULE
25A	DISHWASHER CONDENSATE HOOD - NOT INCLUDED
28	FIRE SUPPRESSION SYSTEMS
32	MOP SINK
49	EXHAUST HOOD - GRIDDLE
59	EXHAUST HOOD - FRYERS

OWNER FURNISHED, CONTRACTOR INSTALLED

ITEM	EQUIPMENT SCHEDULE
10	KETCHUP VOL PAK DISPENSER
13	WASHER / DRYER
19	HAND SINK
22	PRE-RINSE SPRAY ASSEMBLY
23	PRE-RINSE SPRAY ASSEMBLY
25	DISHWASHER
26	BOOSTER HEATER
30	EYE WASH STATION (CONTRACTOR TO PROVIDE MIXING VALVE PER PLUMBING SCHEDULE)
64	WATER FILTER
116	HAND TOWEL DISPENSERS
117	TOILET PAPER DISPENSERS
300	TRIM PACKAGE (SEE H2 / A103)
	FOOD SERVICE EQUIP. COUNTER BASES (SEE FINISH PLAN)
	SHARPS CONTAINERS
	AED OPTIONAL - CONFIRM WITH OWNER
	MOP HANGER
	ARTWORK (SEE SHEET A103.1)

NOTE: SOME ITEMS INSTALLED BY OTHERS REQUIRE ROUGH-IN AND/OR WIRING BY CONTRACTOR AS NOTED IN PLUMBING AND ELECTRICAL SCHEDULES.



C3 CABINET BASE DETAIL
SCALE : 1/4" = 1'-0"

FOOD SERVICE EQUIPMENT AND RELATED ITEMS IDENTIFIED ON THIS SHEET ARE SELECTED AND SPECIFIED BY CULVER FRANCHISING SYSTEM, LLC. THE ARCHITECT REPRESENTS SAID ITEMS FOR COORDINATION OF DESIGN, BUT IS NOT RESPONSIBLE FOR SPECIFICATIONS

OWNER:
Burgers & Bratz Properties, LLC
12455 Wraybuirn Rd
Elm Grove, WI 53122
Dan Bratz
(262) 510-8057

OLLMANN ASSOCIATES ARCHITECTS, P.C.
200 South Slate Street
Belvidere, Illinois 61008
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Culver's
Culver Franchising System, Inc.
1240 Water Street
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County of WASHINGTON

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FOOD SERVICE PLAN

Revision:

Date: 7-7-2025

2025-111

FS-1

FOR REVIEW

Culver's - Germantown

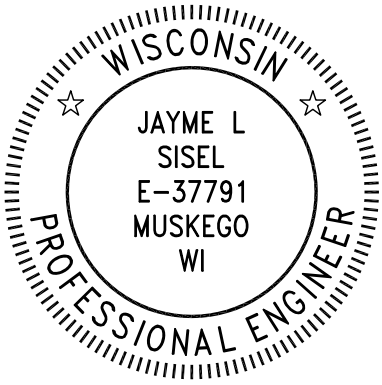
Mequon Road and Division Road
Germantown, Wisconsin

Storm Water Management Plan

Prepared by:

Trio Engineering LLC
4100 N. Calhoun Road
Brookfield, Wisconsin 53005
Contact: Josh Pudelko, P.E.
Telephone: (262) 790-1480
Email: info@trioeng.com

Sound Stormwater Design LLC
Contact: Jayme Sisel, P.E.
Telephone: (414) 286-4739
Email: jayme.sisel@soundstormwater.com



October 3, 2025

TABLE OF CONTENTS

Introduction 1

Owner/ Developer 1

Design Requirements 1

Project Site Description 2

Detention Volume Summary 2

Water Quality 3

Conclusion 3

APPENDICES

FIGURES

APPENDIX A Treatment Analysis

APPENDIX B Geotechnical Engineering Report

Introduction

Burgers & Braatz Properties, LLC is a proposing a new Culver's development on a parcel located on the northwest corner of Mequon Road and Division Road, in the Village of Germantown, Washington County, Wisconsin.

This report documents the design computations for proposed conditions and presents a plan for stormwater management that meets the requirements of the Village of Germantown, the Milwaukee Metropolitan Sewerage District (MMSD), and the Wisconsin Department of Natural Resources (WDNR).

Owner/ Developer

The owner, developer, and responsible entity for installation and maintenance of the stormwater management practices:

Burgers & Braatz Properties, LLC
12455 Wrayburn Road
Elm Grove, Wisconsin 53122
Contact: Dan Braatz
Email: danbraatz23@yahoo.com
Phone: (262) 510-8057

Design Requirements

The following design standards have been used to develop the stormwater management plan for the Culver's development:

- Village of Germantown Stormwater Management Ordinance Chapter 27 Post-Construction Stormwater Management
- Milwaukee Metropolitan Sewerage District (MMSD) Chapter 13 Rules on Surface Water and Storm Water Runoff Management
- Wisconsin Department of Natural Resources (WDNR) Technical Standards, NR151, and NR216
- Summary of design requirements:
    - Detention Volume: The Milwaukee Metropolitan Sewerage District's (MMSD) Chapter 13 Green Infrastructure requirements include developments that disturb less than 2 acres of area and increase the impervious surface area of a site by 5,000 sq-ft to 21,780 sq-ft. These sites are required to include green infrastructure with a detention volume equal to ½-inch multiplied by the area of the net new impervious surface.
    - Water Quality (Total Suspended Solids): Reduce to the maximum extent practicable the total suspended solids load from parking lots and roads by 40%, based on an average annual rainfall, as compared to no runoff management controls.

Project Site Description

The existing site is located on a portion of the former Blackstone Golf Club resort and is currently developed with an existing parking lot, golf cart paths, and a foundation from a former building that was recently removed. Refer to Figure 1, *Pre-Development Conditions Plan*, for the site location and existing land cover types.

The proposed development involves construction of a new Culver's restaurant, including a building, parking lot, drives, sidewalks and landscaping. The proposed development plan will disturb approximately 1.28 acres of area and will result in a net increase in impervious surface by approximately 0.15 acres.

Green infrastructure for the development will be provided by an ADS isolator row (IR) system beneath the west side of the proposed parking lot. Additionally, one sumped catch basin will be installed to treat runoff from the drive through area on the southeast portion of the site. Refer to Figure 2, *Post-Development Conditions Plan*, for details on proposed land cover, grading, drainage boundaries, and stormwater management improvements.

TABLE 1
Land Use Summary

Site Conditions	Impervious Area Breakdown (acres)				Total Impervious (acres)	Total Pervious (acres)	Total Area (acres)
	Roof	Parking	Drive	Sidewalk			
Pre-Development	0.15	0.51	0.05	0.09	0.80	0.48	1.28
Post-Development	0.11	0.44	0.36	0.04	0.95	0.33	1.28
				Impervious Surface Increase	**+ 0.15**		

Detention Volume Summary

Stormwater management for this development falls within the Milwaukee Metropolitan Sewerage District's (MMSD) Chapter 13 Green Infrastructure requirements which includes developments that disturb less than 2 acres of area and increase the impervious surface area of a site by 5,000 sq-ft to 21,780 sq-ft. These sites are required to include green infrastructure with a detention volume equal to ½-inch multiplied by the area of the net new impervious surface. The required detention volume for site is as follows.

TABLE 2
Detention Volume Summary

Impervious Surface Increase		GI Calculation		Detention Volume Required		Detention Volume Provided by ADS IR system
Acres	Sq-Ft					
0.15	6,534	$\frac{6{,}534 \text{ sq-ft} \times ½ \text{ in}}{12 \text{ ft/in}}$	=	**272 cu-ft**	<	**676 cu-ft**

Water Quality

The Village of Germantown requires redevelopment sites to be designed to remove 40 percent of TSS from parking lots and roads, based on an average annual rainfall as compared to no runoff management controls.

Stormwater quality was analyzed using SLAMM Version 10.5.0 software, developed by Robert Pitt and John Voorhees. The total TSS loading generated from the proposed parking areas and drives is approximately 548.8 lbs. Applying the 40 percent reduction to this loading requires at least 219.5 lbs be removed from the site. The results of the SLAMM analysis indicate that approximately 228.6 lbs of TSS will be removed from stormwater as a result of the proposed ADS isolator row system and the sumped catch basin. This meets the minimum 40 percent TSS removal requirement applied to the proposed parking areas and roads. Detailed computations are provided in Appendix A.

Conclusion

The proposed development will maintain compliance with the Village of Germantown, MMSD, and the WDNR's requirements for control of stormwater detention volume and quality. We request, on behalf of the owner, approval of this Stormwater Management Plan to allow for construction of the Culver's development.

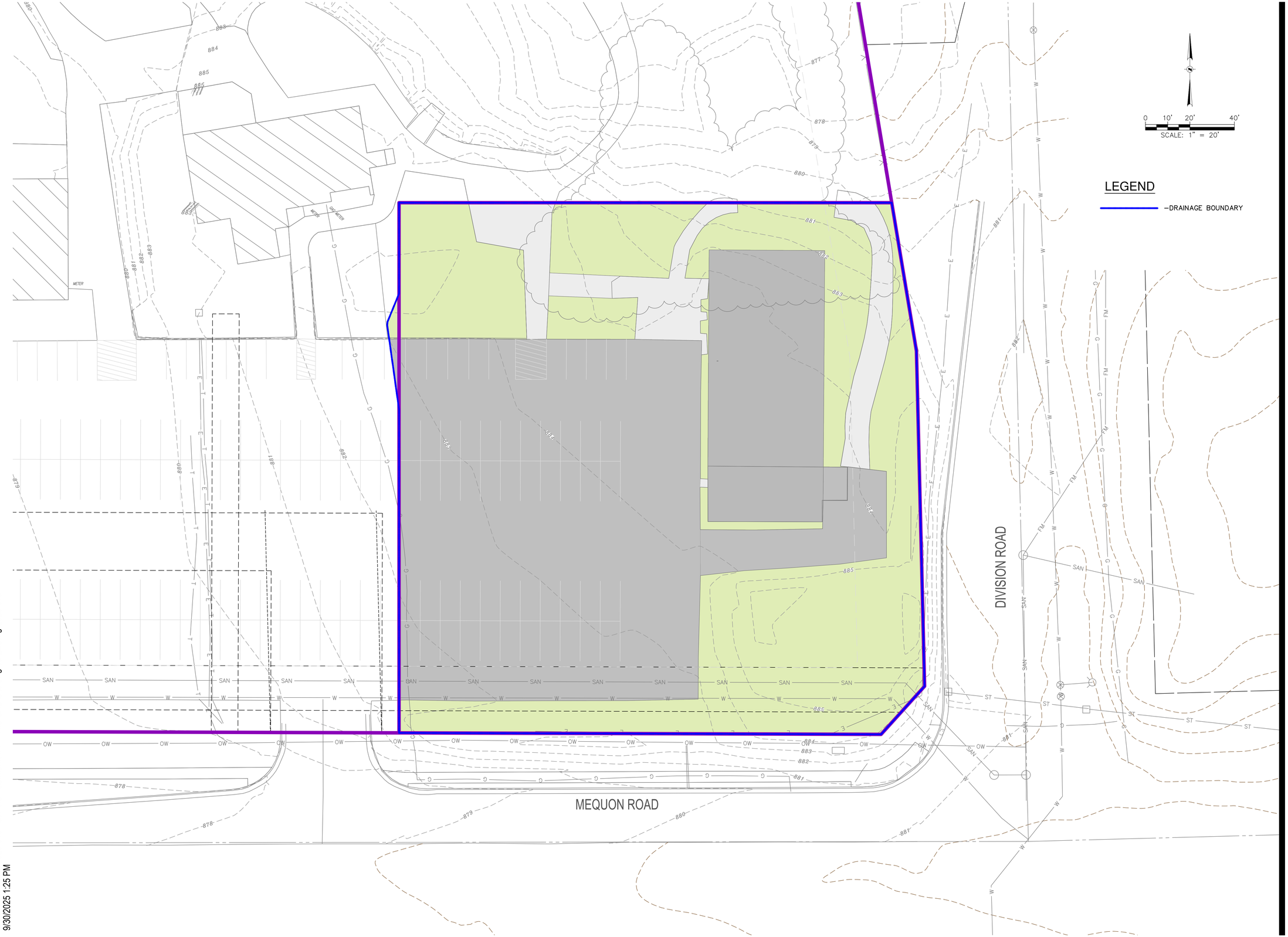
Prepared by:

SOUND STORMWATER DESIGN LLC



Jayme Sisel, P.E.

FIGURES



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9/30/2025 1:25 PM

SOUND STORMWATER DESIGN

Copper Oaks Ct.
Muskego, WI 53150
414.286.4739
jayme.sisel@soundstormwater.com

CLIENT:

PROJECT TITLE:

CULVER'S - GERMANTOWN

MEQUON ROAD AND DIVISION ROAD
GERMANTOWN, WISCONSIN

DATE: 10-03-25

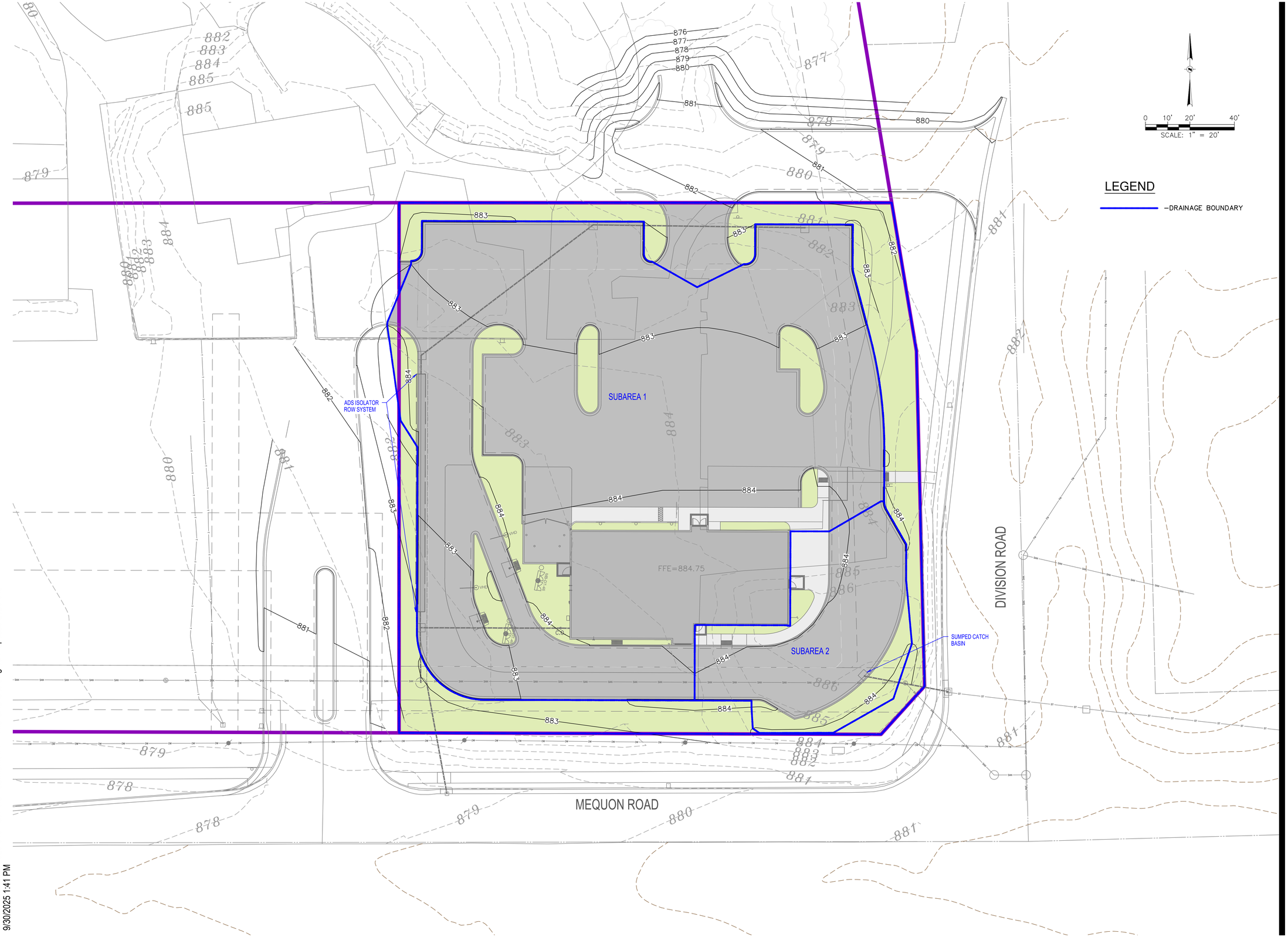
JOB NO: 2025-016

SHEET TITLE:

PRE-DEVELOPMENT CONDITIONS PLAN

FIGURE:

1



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SOUND STORMWATER DESIGN

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CLIENT:

PROJECT TITLE:

CULVER'S - GERMANTOWN

MEQUON ROAD AND DIVISION ROAD
GERMANTOWN, WISCONSIN

DATE: 10-03-25

JOB NO: 2025-016

SHEET TITLE:

POST-DEVELOPMENT CONDITIONS PLAN

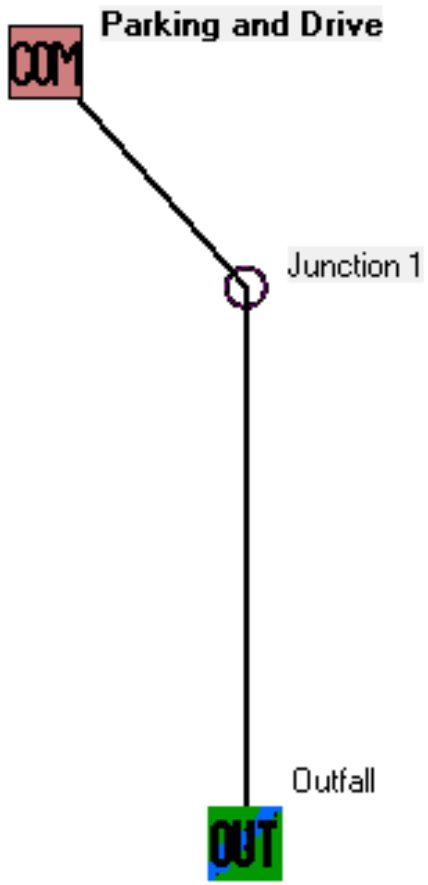
FIGURE:

2

APPENDIX A

Treatment Analysis

Parking and Drive Analysis



SLAMM for Windows Version 10.5.0
(c) Copyright Robert Pitt and John Voorhees 2019, All Rights Reserved

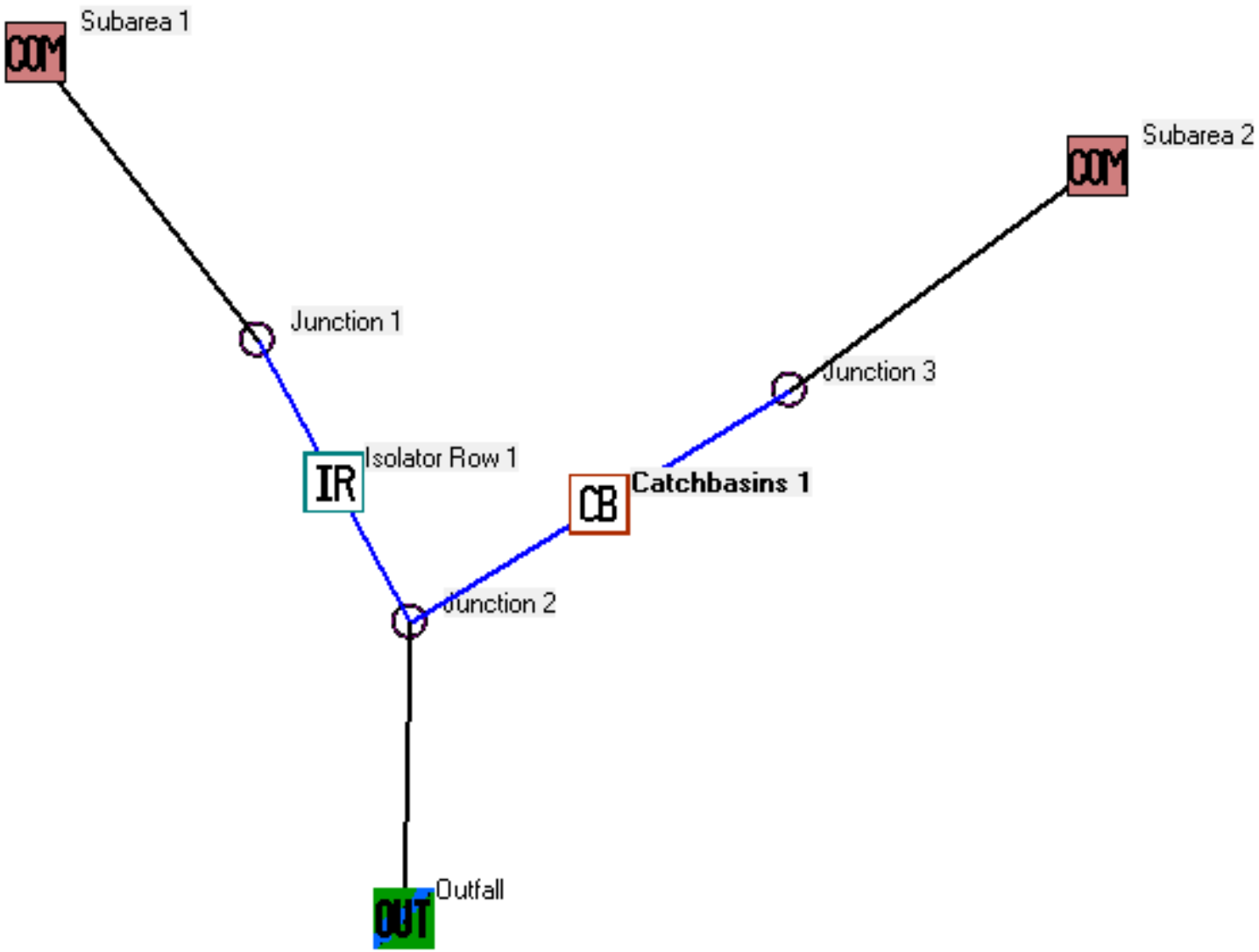
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Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
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Cost Data file name:
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Seed for random number generator: -42
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 09-29-2025 Time of run: 17:43:52
Total Area Modeled (acres): 0.800
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	61460	-	140.8	540.2	-
Outfall Total with Controls:	61461	0.00%	140.8	540.2	0.00%
Annualized Total After Outfall Controls:	62314			547.7	

Data file name: C:\Data\Jobs\2025\2025-016 - Culvers - Germantown - TRIO\Project_Information\Calcs\SLAMM\Parking and Drive.mdb
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Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69   Study period ending date: 12/31/69
Start of Winter Season: 12/06   End of Winter Season: 03/28
Date: 09-29-2025   Time: 17:44:04
Site information:

LU# 1 - Commercial: Parking and Drive   Total area (ac): 0.800
     13 - Paved Parking 1: 0.440 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
     25 - Driveways 1: 0.360 ac.   Connected   Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Treatment Analysis



SLAMM for Windows Version 10.5.0
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Data file name: C:\Data\Jobs\2025\2025-016 - Culvers - Germantown - TRIO\Project_Information\Calcs\SLAMM\Proposed_Culvers.mdb
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Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
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Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 10-02-2025 Time of run: 12:54:11
Total Area Modeled (acres): 1.070
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	74396	-	126.4	587.0	-
Outfall Total with Controls:	74172	0.30%	77.41	358.4	38.94%
Annualized Total After Outfall Controls:	75202			363.4	

Data file name: C:\Data\Jobs\2025\2025-016 - Culvers - Germantown - TRIO\Project_Information\Calcs\SLAMM\Proposed_Culvers.mdb
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Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
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Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
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If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 10-02-2025 Time: 12:54:19
Site information:

LU# 1 - Commercial: Subarea 1 Total area (ac): 0.920
  1 - Roofs 1: 0.110 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  13 - Paved Parking 1: 0.430 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  25 - Driveways 1: 0.270 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  31 - Sidewalks 1: 0.020 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  51 - Small Landscaped Areas 1: 0.090 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Subarea 2 Total area (ac): 0.150
  25 - Driveways 1: 0.100 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  31 - Sidewalks 1: 0.020 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
  51 - Small Landscaped Areas 1: 0.030 ac. Normal Clayey Medium/High Density No Alleys Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Isolator Row CP# 1 (DS) - Isolator Row 1
  Total available system length (ft) = 107
  Total available system width (ft) = 6
  Available height from chamber base to surface (ft) = 3.85
  Number of isolator rows = 1
  Native soil infiltration rate (in/hr) = 0.07
  Assumed stone porosity () = 0.40
  Sizing option: Number of rows and row length
    Number of rows = 1
    Row length ftf) = 107
  Selected Chamber Information
    Chamber type: SC-310
    Chamber height (in): 16.00
    Chamber width (in): 34.00
    Chamber segment length (in): 85.40
    Final storage volume (cf): 675.9333
    Number of rows: 1
    Row length (ft): 107.0
    Total system length (ft): 107.0
    Total system width (ft): 2.8
    Number of chambers: 15

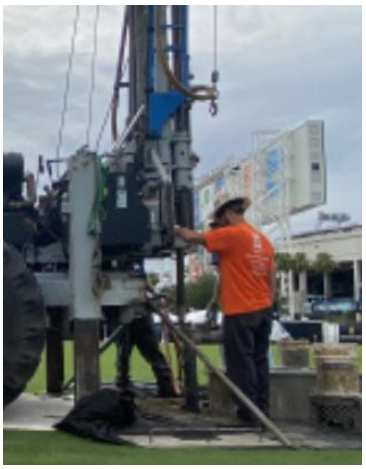
```
   Overflow weir invert elevation (ft) = 2.35
   Orifice 1 invert elevation (ft) = 0.35
   Orifice 1 diameter (ft) = 1.00
   Drain Tile Present

Control Practice 2:  Catchbasin Cleaning CP# 1 (DS) - Catchbasins 1
   1.  Fraction of area served by catchbasins = 1.00
   2.  Number of catchbasins =  1
   3.  Average sump depth below catchbasin outlet invert (feet) =  3
   4.  Depth of sediment in catchbasin sump at beginning of study period (ft) =  0
   5.  Typical outlet pipe diameter (ft) =  1
   6.  Typical outlet pipe Mannings n =  0.013
   7.  Typical outlet pipe slope (ft/ft) =  0.02
   8.  Typical catchbasin sump surface area (square feet) =  6
   9.  Total catchbasin depth (feet) =  8
   10.  Inflow hydrograph peak to average flow ratio =  3.8
   11.  Leakage rate through sump bottom (in/hr) =  0
   12.  Catchbasin Critical Particle Size File Name:  Not needed - calculated by program
```

APPENDIX B

Geotechnical Engineering Report





ECS Midwest, LLC

Geotechnical Engineering Report

Culver's

NWC Mequon Road and Division Road
Germantown, Washington County, Wisconsin

ECS Project Number 42:2762

September 5, 2025

September 5, 2025

Mr. Joseph Dedick
Campbell Construction JC, Inc.
461 River Crest Court
Mukwonago, Wisconsin 53149

ECS Project No. 42:2762

Reference: Geotechnical Engineering Report
Culver's
NWC Mequon Road and Division Road
Germantown, Washington County, Wisconsin

Dear Mr. Dedick:

ECS Midwest, LLC (ECS) has completed the subsurface exploration, field and laboratory testing, and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our agreed scope of services. This report presents our understanding of the geotechnical aspects of the project, the results of the field exploration and laboratory testing conducted, and our design and construction recommendations.

It has been our pleasure to be of service to you on this project. ECS would like to continue its services during design and provide our services during construction to check the assumptions of subsurface conditions made for this report. Please contact us should you have questions about the information contained in this report, or if ECS can be of further assistance to you.

Respectfully submitted,

ECS Midwest, LLC



Lauren McGovern
Geotechnical Staff Project Manager
LMcGovern@ecslimited.com

Darin Maciolek, P.E.
Principal, Geotechnical Dept. Manager
DMaciolek@ecslimited.com

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APPENDICES

Appendix A – Drawings & Reports

- Site Location Diagram
- Boring Location Diagram
- Subsurface Cross Section(s)
- Soil Survey Map

Appendix B – Field Operations

- USDA Classification System
- Exploration Procedures for Test Pits
- Reference Notes for Boring Logs
- Subsurface Exploration Procedures: SPT
- Boring Logs
- Test Pit Logs

Appendix C – Laboratory Testing

- Laboratory Testing Procedures: Index Testing

Appendix D – Supplemental Report Documents

- Soil Evaluation – Storm Form (SBD10793)
- Well Map
- Well Construction Record

Appendix E – Other Information

- Important Information about This Geotechnical-Engineering Report

EXECUTIVE SUMMARY

This Executive Summary is intended as a very brief overview of the primary geotechnical conditions expected to affect design and construction. Information gleaned from this Executive Summary should not be utilized in lieu of reading the entire geotechnical report.

- The main site development challenges are expected to include moisture control of the site soils, and excavation difficulties due to cobbles/boulders and shallow rock. The depth of rock should be considered in establishing site grades to help reduce excavation difficulties.
- A shallow foundation system bearing in competent native soils or bearing on engineered fill placed from a competent bearing native soil subgrade may be designed for a maximum, net, allowable bearing pressure of 3,000 psf. Undercut may be needed in areas. A higher 6,000 psf bearing pressure may be used for foundations bearing on rock.
- In our opinion the site soils can be characterized as Site Class C for seismic design considerations.
- The building floor slab thicknesses may be determined based on an estimated modulus of subgrade reaction of 125 psi/in. Undercut may be needed in areas due to the presence of existing fill.
- ECS recommends retaining walls be designed to withstand the lateral earth pressures exerted by the backfill, water, and surface or other surcharges. For rigid walls, restrained from rotation, the "at-rest" (k_o) soil condition should be used in the wall design and evaluation. For walls that are free to deflect at their tops, the "Active" (k_a) soil condition should be used in the wall design and evaluation. ECS recommends the walls be backfilled with a free-draining granular material.
- The site soils encountered at the boring and test pit located within the proposed stormwater management (SWM) area are anticipated to have low infiltration rates. Shallow bedrock is expected to be a limitation.
- It is recommended ECS review the design documents to evaluate consistency with our recommendations.
- We recommended ECS be retained for the construction materials testing to help facilitate proper implementation of our recommendations.

1.0 INTRODUCTION

The purpose of this study was to provide geotechnical information for the design of foundations, floor slabs, retaining walls, pavements, and stormwater management basins for the proposed Culver's. The recommendations developed for this report are based on project information supplied by Campbell Construction.

Our services were provided in accordance with ECS Proposal No. 42:4241-GP, dated July 16,2025, as authorized by Joseph Dedick of Campbell Construction via email on July 23, 2025, and includes the Terms and Conditions of Service included therein.

This report contains the procedures and results of the subsurface exploration and laboratory testing programs, a description of existing site conditions, engineering analyses, and geotechnical recommendations for the design and construction.

The report includes the following items:

- A brief description of the field and laboratory test procedures and results.
- A description of the observed surface topographical features and site conditions.
- A description of area and site geologic conditions.
- A description of the interpreted subsurface soil stratigraphy with pertinent available physical properties.
- Records of the subsurface explorations (test boring/test pit logs).
- Foundation recommendations.
- General ground-supported floor slab design recommendations, including a recommended design subgrade modulus value.
- Recommended seismic Site Class.
- Recommendations for design of site retaining walls.
- General recommendations for pavement design, including a recommended design CBR value.
- Evaluation and recommendations for wet detention pond design in accordance with the Wisconsin Department of Natural Resources Conservation Practice Standard 1001 and NRCS.
- Evaluation of infiltration in accordance with the Wisconsin Department of Natural Resources Conservation Practice Standard 1002 and NRCS.
- Recommendations for site preparation and construction of engineered fills, including an evaluation of on-site soils for use as engineered fills, and delineation of potentially unsuitable soils and/or soils exhibiting excessive moisture at the time of sampling.
- General considerations relative to groundwater.

The scope of services for this project did not include an environmental assessment for determining the presence or absence of wetlands, or corrosive, hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air on or below, or around this site. Statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.

2.0 PROJECT INFORMATION

2.1 PROJECT LOCATION/CURRENT SITE USE/PAST SITE USE

The project site is located at NWC Mequon Road and Division Road in Germantown, Washington County, Wisconsin. The subject property is bounded to the north and west by golf course development, to the south by Mequon Road, and to the east by Division Road. The site location is shown in Figure 2.1.1 below, and on the Site Location Diagram in Appendix A.



Figure 2.1.1 Site Location (approximate site outlined in red)

The site is currently paved parking lot and grass-covered lawn of the existing golf course development. A gravel-surfaced area is present in the northern and eastern portions of the site. Based on the Proposed Soil Boring & Test Pit Exhibit prepared by TRIO dated July 10, 2025, the site descends slightly to the west, and the approximate site surface elevations range from EL. 879 to EL. 886 feet.

ECS performed a cursory review of aerial photographs of the subject site, dated 1941, 1950, 1963, 1970, 1980, 1985, 1990, 1995, 2000, 2005, 2010, 2013, 2015, 2017, 2020. 2022, and 2024 available on the Washington County GIS website. The site appeared to be occupied by a previous farmstead development on the 1941 to 1963 aerials (refer to the 1950 aerial below). Some structures appeared to have been removed on the 1970 aerial and new structures constructed on the 1980 aerial. The site appeared relatively unchanged since the 1990 aerial except for a building at the east end of the site, which appears to have been recently removed.



Figure 2.1.2 1950 Aerial Photograph

2.2 PROPOSED CONSTRUCTION

We understand the proposed project will include the construction of a building, pavement, and a stormwater management area. The information in the table below summarizes our understanding and estimates of the project.

DESIGN INFORMATION			
Subject		**Expectation**	
Building	Construction	Wood frame and masonry	B
	Dimensions	4,150± SF	B
	Usage	Restaurant	R
	Levels	Single-story, slab-on-grade	R
	Column Loads	40 kips maximum	B
	Wall Loads	2 kips per lineal foot (klf) maximum	B
	Slab-on-Grade Live Load	125 psf	B
	Finished Floor Elevation	885±	B
	Foundation Type	Conventional shallow spread footing foundation system	B
	Settlement Tolerance	1 inch total and ½ inch differential	B
Pavement	Type	Hot mix asphalt (concrete in high stress areas)	B
	Traffic	Unknown – Expected to be relatively light	B
	Design Service Life	20 years	B
SWM Device	Type	Linear chamber system	R
	Bottom Depth	4 to 6 feet below site grades	B
Site Grading	Cut	Less than 2 feet	B
	Fill	Less than 2 feet	B

R: Reported by client and/or design team
B: Based on ECS estimates in absence of information from client and/or design team

Estimates and presumptions were made in the formation of our scope of services. If different information becomes available and/or the design criteria are changed, we would be pleased to revise our scope of services.

If ECS' understanding of the project is not correct or the design changes, especially if the structural loads or elevations are different, please contact ECS so that we may review these changes and revise our recommendations, as appropriate.

3.0 FIELD EXPLORATION AND LABORATORY TESTING

3.1 FIELD EXPLORATION

The exploration procedures are described in greater detail in Appendix B in the insert titled Subsurface Exploration Procedures: SPT.

ECS used a handheld GPS unit to field locate the borings prior to mobilization of the drilling equipment and excavator. The approximate as-drilled boring and test pit locations are shown on the Boring Location Diagram in Appendix A. Ground surface elevations at the boring locations estimated from the topographic information on the Proposed Soil Boring & Test Pit Exhibit prepared by TRIO dated July 10, 2025. Ground surface elevations and boring locations determined without professional survey are approximate and may not be appropriate for final design and construction.

3.1.1 Borings

The scope of services included drilling six borings at the site on August 19, 2025, by a subcontracted driller. Each boring was proposed to extend to an approximate depth of 15 feet below existing site grade, but each refused at depth of approximately 3½ to 6¾ feet. The drill crew utilized a 7822DT Geoprobe track-mounted rotary drilling rig equipped with continuous flight, hollow stem augers.

The drill crew backfilled the boreholes at completion of drilling. The pavement surface was patched with cold mix asphalt. Settlement of borehole backfill can occur over time resulting in a hazard. Monitoring the boreholes after initial drilling activities is not within our scope but should be done by the client or property owner.

3.1.2 Test Pits

Two test pits were dug by ECS on August 25, 2025. The test pits were dug with a Bobcat E35 excavator to approximate depths of 3 and 3½ feet below existing site grade where refusal occurred. The approximate test pit locations are indicated on the Boring Location Diagram in Appendix A.

3.2 SUBSURFACE CHARACTERIZATION

The observed subsurface conditions were generally consistent with published geological mapping. Information regarding the site geology (Soil Survey Mapping) is included in Appendix A. Below is a generalized characterization of the subsurface materials observed at the boring locations. Please refer to the Boring Logs in Appendix B. A graphical presentation of the subsurface conditions is shown on the Subsurface Cross Section Diagram(s) included in Appendix A.

GENERALIZED SUBSURFACE STRATIGRAPHY					
Approx. Depth to Stratum Bottom (feet)	**Strata**	**Description**	**SPT [1] N-value Range (bpf)**	**Calibrated Penetrometer Resistance (tsf)**	**Moisture Content (%)**
Surface	--	Asphalt (½ to 1½ inches ±), Base (4½ to 11 inches ±) Gravel (1 to 10 inches ±) Topsoil (5 inches ±)	--	--	--
1 to 1¾	I	FILL: (CL) LEAN CLAY and (CL-ML) SANDY SILTY CLAY, very stiff *[B-02, B-06]*	--	2.75	--
¾ to 3	II	(CL) LEAN CLAY with variable sand and gravel content, very stiff to hard	6 - 9	3 - 4.5	13 - 24
3 to 3½	III	(GC) CLAYEY GRAVEL *[TP-01, TP-02]*	--	--	--
3½ to 6¾	IV	(WR) Weathered Limestone	50+	--	--

1. Standard Penetration Test.

A well construction record for a well installed at the property indicates limestone bedrock at a depth of 1 foot. A copy of the well record and a map depicting the approximate location is included in Appendix D.

The soil stratification shown on the boring logs represents the interpreted soil conditions at the boring locations. Variations in the stratification can occur between sample intervals and between boring locations. The subsurface conditions at other times and locations on the site may differ from those found at the boring locations. If different site conditions are encountered during construction, ECS should be contacted to review our recommendations relative to the new information.

Because the split-spoon sampler has a 1⅜-inch inside diameter, the soil classifications noted on the boring logs may not be representative of the entire soil matrix. Material larger than the 1⅜-inch inside diameter of the split-spoon sampler cannot be collected and observed directly.

3.3 GROUNDWATER OBSERVATIONS

The drillers observed the boreholes and test pits for the presence of measurable free water during drilling and at the completion of drilling. The approximate depths and elevations of measurable water observed at the boring locations are listed on the boring logs in Appendix B.

Because mostly poor draining soils were encountered at the boring locations, the static groundwater level may take days or weeks to stabilize. Therefore, the observed groundwater levels or lack of observed water may not provide a reasonable indication of the static groundwater conditions at the time of drilling.

Based on the boring data, ECS estimates the static groundwater level to be deeper than the depths explored of approximately 3½ to 6¾ feet below the site surface at the boring locations.

Variations in the long-term water table elevation may result because of changes in precipitation, evaporation, surface water runoff, construction activities, and other factors. Perched water conditions may also develop and/or exist at shallower or variable depths seasonally, particularly within more permeable soil underlain by less permeable soil, within existing fill, within existing utility and structure backfill, and within fissured soil.

3.4 LABORATORY TESTING

The laboratory services performed by ECS for this project included classification and index property tests on select representative soil samples.

Each soil sample was visually classified based on texture and plasticity using ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedures) as a general guideline. After classification, the samples were grouped into the major zones noted on the boring logs in Appendix B. The USCS group symbols for each soil type are indicated in parentheses along with the soil descriptions. The stratification lines between strata on the boring logs are approximate; in-situ, the transitions may be gradual.

The soils retained from the infiltration basin borings were also classified using the U.S. Department of Agriculture (USDA) Soil Classification System. The USDA classification system is briefly described in Appendix C. The USDA classifications can be found on the "Soil and Site Evaluation – Storm" form (SBD10793) included in Appendix D of this report.

The results of the laboratory tests are included on the boring logs in Appendix B or separate test sheets in Appendix C. These tests included:

- Moisture content (ASTM D2216)
- Calibrated Penetrometer Resistance

The laboratory procedures are described in greater detail in Appendix C including the insert titled Laboratory Procedures.

The soil samples will be retained in our laboratory for a period of 60 days, after which, the samples will be discarded, unless other instructions are received as to their disposal.

4.0 DESIGN RECOMMENDATIONS

The following sections contain geotechnical design recommendations for foundations, soil supported slabs, retaining walls, pavement, and stormwater management devices.

4.1 FOUNDATIONS

Provided subgrades and engineered fills are prepared recommended in this report, the proposed structure may be supported by a shallow conventional individual column (spread) footing and continuous wall (strip) footing foundation system. The existing undocumented fill should not be used for foundation support. The parameters in the table below are recommended for foundation design.

FOUNDATION DESIGN [1]			
Design Parameter		**Column Footings**	**Wall Footings**
Net Allowable Bearing Pressure [2]		3,000 psf	3,000 psf
Acceptable Bearing Soil Material		Stratum II, III or IV [5] [6]	Stratum II, III or IV [5] [6]
Minimum Foundation Width		24 inches	16 inches
Minimum Footing Embedment Depth (below slab or finished grade) [3]		24 inches	18 inches
Minimum Exterior Frost Depth (below final exterior grade)		48 inches	48 inches
Post-Construction Estimated Settlement [4]	Total	1 inch or less	1 inch or less
	Differential	½ inch or less between columns	½ inch or less

1. ECS recommends a structural engineer provide specific foundation details including footing dimensions, reinforcing, and other details.
2. Applied pressure in excess of the surrounding overburden soils above the base of the foundation and includes a factor of safety of 3.
3. For bearing considerations. Deeper frost embedment should be utilized for interior foundations not in continuously heated areas.
4. Based on estimated structural loads and anticipated bearing elevation(s). If final loads or bearing elevations are different, ECS must be contacted to update foundation recommendations and settlement estimates.
5. With an Unconfined compressive strength of 1½ tsf or more.
6. With corrected SPT N-values of 10 blows per foot or more.

Potential Undercuts: Most of the soils at the foundation bearing elevation(s) are anticipated to be adequate for support of the proposed structure. Where soft or otherwise unsuitable soils are observed at the footing bearing elevations, the unsuitable soils should be undercut and removed. Existing fill soils are recommended to be removed from below foundations. We recommend ECS be retained to observe and test the foundation bearing grade as recommended in the **Foundation and Slab Observations** section. It is also recommended backfill of foundation undercuts be done as recommended in the **Earthwork Operations** section.

Foundations on Rock: Depending on the final site grades, it is likely at least a portion of the building foundations will bear on rock, in which case, a higher bearing pressure is feasible. Foundations bearing on rock may be preliminarily designed for a 6,000 psf bearing capacity. Where the foundations would be supported on a combination of soil and bedrock, abrupt differential settlement is expected at transitions between soil and bedrock support. Where wall footings bear on a combination of bedrock and soil, undercut the bedrock at least 1 foot below the planned footing grade and replace with a compacted granular engineered backfill yield cushion to help reduce abrupt transitions. Individual column foundations that would be supported on a combination of soil and bedrock are recommended to bear completely on bedrock. Some foundation preparation may be required on the rock to help facilitate a relatively flat and smooth bearing surface, and to remove loose rock. A leveling course of lean concrete or granular material may be required to create an adequate working surface for structural work.

Foundation Lateral Loading: Lateral load resistance will be developed by friction or cohesion acting at the base of foundations, and the passive earth pressure developed by the footings below-grade. Passive pressure and sliding resistance (friction or cohesion) may be used in combination in estimating the lateral resistance. The parameters in the following table are recommended for lateral foundation loading.

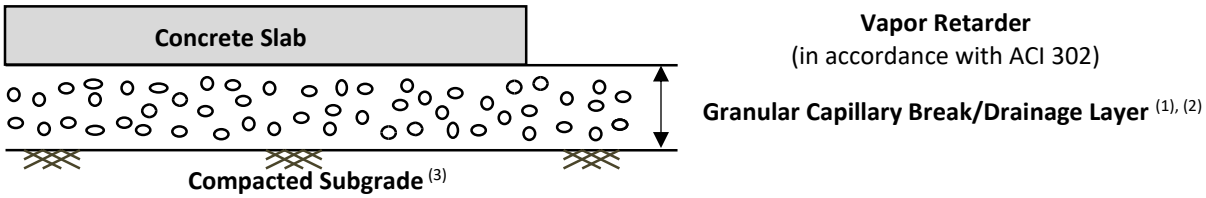
FOUNDATION LATERAL LOADING RESISTANCE PARAMETERS	
Soil Parameter	**Estimated Value**
Coefficient of Passive Earth Pressure (K_p)	2.0
Soil Moist Unit Weight (γ)	125 pcf
Cohesion [Concrete *on clay*] (C) [1]	1,000 psf
Interface Friction Angle [*Concrete on granular soil*] (ϕ_f)	21°
Sliding Friction Coefficient [*Concrete on granular soil*] (μ)	0.38
Sliding Friction Coefficient [*Concrete on rock*] (μ)	0.5
Passive Equivalent Fluid Pressure [2]	250H (psf/ft)

1. Cohesion may be used for lateral sliding resistance on the clay soil, but in no case should the lateral sliding resistance exceed half the dead load.
2. Neglect the passive resistance in the frost zone due to loss of strength seasonally and strain required to mobilize.

Design of the foundation for lateral loads should include a minimum factor of safety against sliding of 1.5 and overturning of 2. If the resultant force of the maximum vertical force does not act within the middle one-third (kern) of the footing, a smaller effective bearing area will occur and thereby result in a higher effective bearing pressure. If the soil to provide passive resistance against the side of the foundation may not be present during the life of the structure (e.g., the soil could be excavated or be subject to erosion) then passive pressure should be ignored. Anchored foundations could also be used to help resist overturning.

4.2 SLABS-ON-GRADE

Provided subgrades and engineered fills are prepared as discussed herein, the proposed floor slabs can be constructed as ground-supported slabs (or slabs-on-grade). Based on a lowest finished floor elevation of EL. 885 feet, it appears that the slabs will bear on newly placed engineered fill and/or Stratum I and II soil. Some areas of undercut should be expected due to existing fill. The following graphic depicts our soil-supported slab recommendations:



1. **Drainage Layer:** Minimum 6 inches thick
2. **Drainage Layer Material:** Gravel (GP, GW) having a maximum aggregate size of 1 inch, no more than 10 percent passing the No. 200 sieve, and follow the recommendations of ACI 302.
3. **Compacted Subgrade:** Compacted to at least 95 percent of the maximum dry density per Modified Proctor (ASTM D1557).

The structural engineer should determine the slab thickness and other requirements. The design should include adequate construction joints, contraction joints and isolation joints in the slab to reduce the impacts of cracking and shrinkage. Refer to the ACI 302.1R04 *Guide for Concrete Floor and Slab Construction* for additional information regarding concrete slab joint design. Inclusion of welded wire fabric or an appropriate fiber mesh admixture is recommended to help control shrinkage cracking.

Slabs-on-grade are recommended to be underlain by a granular drainage layer placed on a properly prepared subgrade as recommended in the **Site Construction Considerations** section. The granular material will serve as a capillary break, which if properly designed and installed can assist in more uniform curing of concrete.

Modulus of Subgrade Reaction: Provided the subgrade is prepared, and engineered fill and the granular drainage layer are placed as recommended in this report, design the slabs assuming an un-factored modulus of subgrade reaction, k_{v1}, of 125 psi/in (pounds per square inch per inch). This estimated modulus of subgrade reaction value is based on the recommended minimum drainage base thickness and correlation of index properties and soil type to historical 1 foot by 1 foot plate load tests.

Vapor Retarder: Inclusion of a vapor retarder should be considered if the building will contain moisture-sensitive floor coverings, equipment or materials. The vapor retarder will help reduce the potential of upward migration of water vapor from the soil into and through the concrete slab, which can contribute to excess humidity and microbial growth in the building. Where a vapor retarder is considered, special attention should be given to the surface curing of the slabs to reduce uneven drying of the slabs and associated cracking and/or slab curling. The designer should consider the moisture sensitivity of floor coverings and finishes, and the potential effects of slab curling and cracking when determining if the vapor retarder will be in direct contact with the slab or beneath a layer of granular fill. The use of a blotter or cushion layer above the vapor retarder may be considered for project specific reasons. Refer to ACI 302.1R04 *Guide for Concrete Floor and Slab Construction* and ASTM E 1643 *Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs* for additional guidance on these issues.

Positive drainage around the perimeter of the proposed structures should be used to reduce the potential for water accumulation under the structure elements. Slope exterior grades such that runoff is directed away from the structure. Direct downspouts away from the structure. Direct surface runoff to appropriate stormwater infrastructure.

Slab Isolation: Ground-supported slabs are recommended to be isolated from the foundations and foundation-supported elements of the structure to help reduce shear and bending stresses in the floor caused by differential movement between the foundations and slab. Where the structural configuration prevents the use of a free-floating slab, ECS recommends the slab be designed with suitable reinforcement and load transfer devices to preclude overstressing of the slab.

Frost Susceptible Areas: Frost susceptible soils were encountered. Exterior slabs and slabs in poorly or unheated areas, particularly around coolers and freezers, may be subject to frost heave. To help reduce frost heave potential, consider additional insulation, installation of subgrade drainage, and/or replacement to the frost depth with non-frost-susceptible backfill. Slope pavement and ground surface grades away from the building and flatwork, to help reduce water infiltration and potential frost heave problems.

4.3 RETAINING WALLS

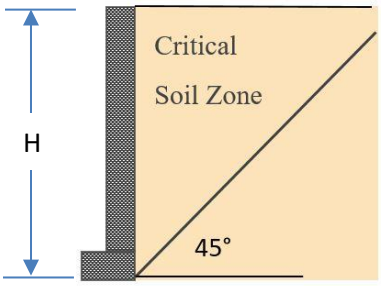
Retaining walls may be needed at the site for grade separation. Retaining walls are often constructed "bottom-up" and therefore the type of soil used to backfill the wall is chosen or specified by contract. The lateral earth pressures developed behind site retaining walls are commonly a function of the backfill and retained soil type, the zone of backfill behind the walls, and presence of water and surcharge loads.

Lateral Earth Pressures: The walls are recommended to be designed to withstand the lateral earth pressures exerted by the backfill, water, and surface or other surcharges. The pressure diagram is triangular. It is anticipated that retaining walls associated with the building structure, such as for the unloading/loading dock situation, will be rigid walls restrained from rotation by the floor slab. For rigid walls, the "at-rest" (k_o) soil condition should be used in the wall design and evaluation. For walls that are free to deflect at their tops, the "Active" (k_a) soil condition should be used in the wall design and evaluation. The parameters below are recommended for retaining wall design.

RECOMMENDED LATERAL EARTH PRESSURE PARAMETERS		
Zone	**Soil Parameter**	**Estimated value**
Aggregate Backfill (in Critical Zone)	Unit Weight (γ)	120 pcf
	Angle of Internal Friction (ϕ)	32°
	Cohesion (C)	0 psf
	Coefficient of Earth Pressure at Rest (K_o)	0.47
	At-rest Equivalent Fluid Pressure	57H (psf/ft)
	Coefficient of Active Earth Pressure (K_a)	0.31
	Active Equivalent Fluid Pressure	37H (psf/ft)
	Backslope	0° (flat)
	Surcharge Pressures	0 psf (none)

The lateral pressure design parameters indicated above are based upon drained conditions for the backfill materials behind the walls. If submerged or not drained higher nominal equivalent fluid pressures will result.

These parameters are based on free-draining granular aggregate meeting the recommendations herein for retaining wall backfill will be placed throughout the "critical zone" and the backfill will be properly drained. The critical zone is defined as the area between the back of the retaining wall structure and an imaginary line projected upward and rearward from the bottom back edge of the wall footing at a 45-degree angle. The parameters provided are based on the grade behind the wall and the grade in front of the wall being level. If the grade behind or in front of the wall will be sloped, contact us for revised parameters.



Refer to the **Foundations** section for lateral resistance due to cohesion/friction and passive pressure. Avoid the operation of heavy equipment to compact the wall backfill since it may overload and damage the wall. Such loads are often not considered in the design of retaining walls and are not considered for in our recommendations.

Wall Backfill: The backfill within the critical zone behind retaining walls is recommended to consist of crushed stone aggregate with a maximum of 15 percent fines (i.e., percentage of material passing a No. 200 Sieve), and minimum angle of internal friction of 32 degrees when compacted to a minimum of 95 percent of its maximum dry density per Modified Proctor (ASTM D1557). Remove material within the Critical Zone not meeting these criteria.

Wall Drainage: Retaining walls should be drained so that hydrostatic pressures do not build up behind the walls. Wall drains may consist of a 12-inch-wide zone of free draining gravel, such as AASHTO No. 57 Stone, placed directly behind the wall and separated from the soils beyond with a non-woven filter geotextile. Alternatively, the wall drain may consist of an appropriate geocomposite drainage board material. The wall drain should be hydraulically connected to the foundation drain discussed below. Note recycled concrete often has cement dust and other fines content that will be higher than typical crushed limestone or other natural aggregates, which could clog drains and geotextile fabrics, therefore recycled materials are NOT recommended as backfill in drainage layer/media applications.

A foundation drainage system is recommended to be included to help relieve hydrostatic pressures which may develop in the wall backfill. This system should consist of weep holes through the wall and/or a 4-inch perforated, closed joint drain line located along the backside of the walls above the top of the footing. The drain lines are recommended to be surrounded with a minimum of 8 inches of drainage aggregate, such AASHTO Size No. 57 Stone, wrapped with an appropriate non-woven geotextile that meets the requirements of AASHTO M288, Class 3, nonwoven, separation geotextile.

4.4 SEISMIC DESIGN CONSIDERATIONS

Seismic Site Class: The International Building Code (IBC) requires the site be classified as Site Class A, B, C, D, E or F in accordance with Chapter 20 of ASCE 7 based on the site soil properties. The three parameters used to classify sites are shear wave velocity (v_s); undrained shear strength (s_u); and Standard Penetration Test (SPT) resistance (N-value). The seismic Site Class definitions for the weighted average of shear wave velocity, shear strength or SPT N-value in the upper 100 feet of the soil profile are listed below.

SEISMIC SITE CLASS				
Site Class	**Soil Profile Name**	**Shear Wave Velocity, Vs, (ft./s)**	**N-Value (bpf)**	**S_u Value (psf)**
A	Hard Rock	Vs > 5,000 fps	N/A	N/A
B	Rock	2,500 < Vs ≤ 5,000 fps	N/A	N/A
C	Very dense soil and soft rock	1,200 < Vs ≤ 2,500 fps	>50	≥ 2,000
D	Stiff Soil Profile	600 ≤ Vs ≤ 1,200 fps	15 to 50	1,000 to 2,000
E	Soft Soil Profile	Vs < 600 fps	<15	≤ 1,000

It is our opinion, based on the subsurface conditions encountered and our knowledge of the area geology, the site soils can be characterized as Site Class C. If a more favorable Site Class is beneficial to the project, ECS would be pleased to discuss our ReMi testing capabilities.

4.5 PAVEMENT DESIGN CONSIDERATIONS

The following sections provide recommendations for pavements.

Subgrade Characteristics: A California Bearing Ratio (CBR) test is commonly used to determine soil support parameters for pavement design. A CBR test or other appropriate test was not part of the scope for this project, so it was necessary to estimate the CBR design value. Based on the subsurface conditions encountered, it appears the pavement subgrade soils will mainly consist of lean clay existing fill. The clay soil at the borings was found to have a very stiff to hard consistency at the anticipated subgrade, but because it is frost susceptible and does not drain well, it is generally considered a poor subgrade material. ECS estimated a preliminary design CBR value of 3 for the flexible pavement and a preliminary design modulus of subgrade reaction, k_{v1}, of 125 psi/in for the rigid pavement. The pavement design recommendations are based on the subgrade soil materials being evaluated by ECS, and the subgrade being prepared as recommended in the **Subgrade Preparation** and **Earthwork Operations** sections of this report.

The subgrade soils are considered moderately to highly susceptible to frost heave. A reduced service life, increased pavement maintenance and associated costs should be expected where the frost susceptible soil is present. The risk associated with frost susceptible soils can be reduced by removal of frost susceptible soils and replacement with properly drained low frost susceptible engineered fill. The greater the depth of frost susceptible material removed the lower the risk of frost heave up to the commonly used area frost depth of 4 feet. It has been our experience that removal depths in the range of 2 to 3 feet with appropriate drainage have often been successful in reducing frost-related issues. In areas where the pavement grade will be raised, low frost susceptible fill should be used.

Additionally, undocumented existing fill is present in areas. Undocumented fill presents a risk of reduced service life, increased pavement maintenance and associated costs. The risk associated with undocumented fill could be reduced by complete removal or partial removal of the undocumented fill and replacement with engineered fill and/or incorporation of a geogrid.

Pavement Sections: The recommended minimum pavement sections listed in the table below are based on the anticipated usage of the project site and a 20-year design service life, but were not developed based on specific traffic patterns, loading and resiliency factors, as those parameters were not provided by the design team. ***ECS should be contacted for potential revision of the pavement design recommendations once the traffic is known; otherwise, increased pavement maintenance and a shortened pavement life could result.*** The preliminary pavement sections below are guidelines that may or may not comply with local jurisdictional minimums.

RECOMMENDED MINIMUM PAVEMENT SECTIONS				
Pavement Material	**Compacted Material Thicknesses (Inches)**			
	Flexible Pavement		**Rigid Pavement**	
	Light Duty	**Heavy Duty**	**Light Duty**	**Heavy Duty**
Portland Cement Concrete [1]	--	--	5	6
Hot Mix Asphalt [2] **Surface Course**	1¾	1¾	--	--
Hot Mix Asphalt [2] **Binder Course**	1¾	2¼	--	--
Dense Graded Crushed Stone Base [3]	8	10	6	6

1. Section 415 of WisDOT Standard Specification for Highway and Structure Construction (WisDOT Standard Specs).
2. Section 460 of WisDOT Standard Specs.
3. Section 305 of WisDOT Standard Specs. ECS recommends dense graded crushed stone base. If crushed gravel or some other material is used in lieu of crushed stone, the material may have a lower structural coefficient and a thicker base may be required.

In frequent and higher stress traffic areas, such as where trucks frequently turn, drive through lanes, delivery areas, loading dock aprons, trash enclosure pads, and points of ingress or egress, heavy duty rigid (concrete) pavement is recommended and is recommended to be 7 inches thick.

Pavement materials and construction should be in accordance with the AASHTO Guide for Design of Pavement Structures, and the WisDOT Standard Specifications for Highway and Structure Construction.

If the pavements will be constructed early during site development to accommodate construction traffic, consideration should be given to the construction of designated haul roads, where thickened pavement sections are provided to accommodate the construction traffic, as well as the future in-service traffic.

Rigid Pavements: ECS recommends an air-entrained concrete mix (compressive strength of at least 4,000 pounds per square inch at 28 days) for rigid pavement. Adequate construction joints, contraction joints and isolation joints should be provided in the areas of rigid pavement to reduce the impacts of cracking and shrinkage. Please refer to ACI 330R-92 *Guide for Design of Concrete Parking Lots*. The ACI Guide recommends an appropriate spacing strategy for the anticipated loads and pavement thickness. It has been our experience that joint spacing closer to the recommended values in ACI results in a pavement with less cracks outside the joints and better long-term performance. Control joint spacing should be determined in accordance with the current ACI code. Separation joints should be provided where the pavement abuts fixed objects, such as the buildings and light poles.

Drainage: An important consideration with the design and construction of pavements is surface and subsurface drainage. Water which infiltrates the pavement and remains trapped within the pavement components during traffic loading is one of the leading causes of premature pavement failure. Based on the estimated groundwater level, surface water infiltration and seasonal perched water are expected to be the main sources of water for pavement design.

The permeability of the clay subgrade is expected to be low, which can cause water to remain within the base material for longer periods and reduce the base material support characteristics. The pavement surface is recommended to be shaped or crowned to properly direct surface water to suitable on or off-site stormwater drainage infrastructure. The pavement subgrade should be properly sloped or crowned to avoid dips or pockets where water may become trapped. Dips in the subgrade can result in a "bathtub" effect, which may trap water. This trapped water can soften the subgrade and potentially heave the pavement during freezing weather. The subgrade in areas requiring undercut and backfill with granular soils are recommended to be graded to drain toward a drainpipe. The drainpipe should be sloped a minimum of ½ to 1 percent to discharge to nearby storm sewers, drainage ditches or other appropriate drainage facilities. Edge drains should be installed where site grades slope toward the pavement edge to reduce the potential for water to enter the base course layer. Edge drains should be sloped to the nearest appropriate drainage facility. Water that ponds on the subgrade surface can lead to deterioration of the subgrade soils, reduction of the base course support characteristics, and result in pavement heave during freezing conditions. Good drainage should help reduce the possibility of the subgrade materials being wet over a long period of time.

Installation of "stub" or "finger" drains around catch basins and in other low-lying pavement areas should be considered to help reduce the accumulation of water above and within the subgrade soils and aggregate base. As an alternative to stub or finger drains, existing manholes and storm sewer inlets could be perforated with 1-inch diameter holes at 2-foot centers at the subgrade level. The holes are recommended to be covered with a wire mesh and the manhole/inlet wrapped with a non-woven

geotextile to reduce migration of material into the manhole/inlet. The excavation around the manhole is recommended to be backfilled with free draining granular materials. Consider installation of pavement edge drains or trench drains to reduce the accumulation of water within the base course and on the subgrade soils.

Water should not be allowed to pond behind curbs and saturate the pavement base course and subgrade. In downgrade areas, the base course should extend through the slope face to allow water to drain from the base course layer.

Maintenance: A sound maintenance program should be implemented to help maintain and enhance pavement performance and help attain the design service life. A preventative maintenance program should be started early in the pavement life to be effective. The "standard in the industry" supported by research indicates that preventative maintenance should typically begin within 2 to 5 years of the placement of pavement. However, maintenance of pavement on undocumented fill sites may require more maintenance and sooner. Failure to perform preventative maintenance will reduce the service life of the pavement and increase the costs for corrective maintenance and full pavement rehabilitation. Seal joints and cracks with elastomeric caulk in a timely manner to help reduce water infiltration through the pavement section into the base course layer, which may result in softening of the subgrade and deterioration of the pavement. Pavements should be observed for distresses, such as cracks, depressions and poor drainage, at least twice a year, typically once in the spring and once in the fall.

Shrinkage cracking is common with asphalt and occurs with age. Development of cracks should be expected with normal exposure to weather, wear and age. These cracks may become larger when exposed to such things as weather and vegetation growth and should be treated promptly.

4.6 INFILTRATION CONSIDERATIONS

The recommendations presented in this section are limited to stormwater infiltration considerations, which follows the general guidelines of WDNR Conservation Practice Standard 1002, Site Evaluation for Stormwater Infiltration. The recommendations in this section are based on the soil and groundwater conditions observed at Boring B-06 and Test Pit TP-01 anticipated to be located in the area of the proposed stormwater management (SWM) device.

Specific details of the proposed infiltration device and its location were not available at the time of this report preparation; it is recommended ECS be provided the infiltration device plans, when available, to check that the recommendations provided herein are applicable. ECS should be retained to provide observation and testing during infiltration device construction.

Our scope of services is not inclusive of each step involved in the initial site screening (Part A) of the WDNR Technical Standard 1002. Therefore, other conditions may exist at, or near the site that could exclude or exempt the site, or portions of the site from the infiltration requirements.

Infiltration Rates: Estimated soil infiltration rates based on the textural classification of the soils encountered and the guidelines provided in the WDNR Conservation Practice Standard 1002 no greater than 0.07 inches/hour and are listed on the Soil and Site Evaluation - Storm form (SBD10793) included in Appendix D. Infiltration rates based on soil textural classification and the guidelines provided in Table 2 of the WDNR Conservation Practice Standard 1002 should be adjusted for the least permeable soil layer within 5 feet of each of the listed intervals. These infiltration rates are estimates only. If better estimates of infiltration are required, ECS recommends field double ring infiltrometer tests be conducted.

Estimation of the final design infiltration rate should consider the effects of engineered fill placed, surface vegetation, erosion control devices, and potential groundwater mounding. Prior to and during construction, the design infiltration rate of the soil at the SWM device bottom should be verified. Compaction of the basin bottom subgrade during and following construction should be prevented as this may reduce the infiltration rate of the soil. This may require exclusion of construction traffic from the infiltration bottom, or loosening of the subgrade soil, such as by raking or discing. Sediment allowed to accumulate at the basin bottom will reduce infiltration. Measures should be taken to reduce accumulation of sediment. Periodic removal of sediment should be expected.

Seasonal High Water Table: Intermittent wet and dry periods may lead to soil mottling. The NRCS considers soil matrix or mottle colors of chroma 2 or lower (gray colors) as a potential indication of horizons that may be saturated for at least part of the year. The upper limits of this matrix or mottle coloration have been used to estimate the seasonal high water table. The presence of low chroma or gray soil colors or mottles in the observed soils suggest the estimated seasonal high water level may be at the approximate depths/elevations noted in the table below.

ESTIMATED SEASONAL HIGH WATER LEVEL		
Boring/Test Pit	**Approximate Depth (feet)**	**Approximate Elevation**
TP-01	Below 10.9	Below 910.1
B-06	3⅓±	911.7±

Estimation of the seasonal high water level based on colors (redoximorphic features) may not be reliable. Redox features can be difficult to distinguish in sandy soils. Also, we often don't know how often or long the soil is saturated at a given depth from color alone. A better estimate of the seasonal high groundwater table would require installation of groundwater observation wells along with observing the wells over a long time period.

Clayey soil was encountered at the boring locations. Areas where clayey soils are present within 5 feet of the bottom of infiltration basins can be considered to have an infiltration rate of less than 0.6 inches per hour. These areas would be exempt from infiltration because of the WDNR Conservation Practice Standard 1002 and the Wisconsin Administrative Code. That said, we anticipate the explored areas would be exempt from infiltration. Shallow bedrock is also expected to be a limitation.

Bedrock: Bedrock is estimated to be at approximate depths explored of 3 and 3½ feet at the SWM area Boring B-06 and Test Pit TP-01.

5.0 SITE CONSTRUCTION CONSIDERATIONS

5.1 SUBGRADE PREPARATION

The method of site preparation will be influenced by factors unknown at the time this report was prepared, which may include weather before and during construction, the possibility of subsurface conditions not revealed by the boring(s), and the final project details.

5.1.1 Stripping and Grubbing

The subgrade preparation should include stripping pavement, vegetation, rootmat, topsoil, and other soft or otherwise unsuitable materials from the 10-foot expanded building limits, 5-foot expanded pavement limits, and 5 feet beyond the toe of engineered fills, where feasible. The project team should

be prepared to remove unsuitable material in its entirety within the limits noted above. Because topsoil depths can vary greatly across a site the contractor should verify topsoil depths as part of their bidding process. ECS should be retained to observe and document that topsoil and other unsuitable surficial materials have been removed prior to the placement of engineered fill or construction of structures.

The subgrade should not be left exposed to the elements or construction traffic for a prolonged time as the subgrade may become disturbed and/or softened. If pavement or other protective coverings are not placed within a few days after exposing the final design subgrade, consideration should be given to leaving the subgrade approximately 1 foot above the final design subgrade, where feasible, to help reduce softening of the design subgrade soil.

5.1.2 Proofrolling

Prior to fill placement or other construction on subgrades, the subgrades should be evaluated by ECS. The exposed subgrade is recommended to be thoroughly proofrolled with construction equipment having a minimum axle load of 10 tons (e.g., fully loaded tandem-axle dump truck for clayey soils or a large vibratory smooth drum roller for sandy soils). The subgrade should be traversed with the proofroll equipment in two perpendicular (orthogonal) directions with overlapping passes of the vehicle. This procedure is intended to assist identification of yielding subgrade materials.

Unstable or pumping subgrade areas identified during the proofroll should be repaired prior to the placement of subsequent engineered fill or other construction materials. Unstable subgrade repair methods, such as undercutting, or moisture conditioning and recompaction, or chemical stabilization, should be discussed with ECS to evaluate appropriate procedures to repair the existing conditions causing the instability. Test pits may be excavated in unstable areas to explore the shallow subsurface materials and to help determine the appropriate remedial action to stabilize the subgrade.

Seasonal reduction of the near surface soil strength can occur during wet times of the year (such as during the spring and fall months) or immediately following extended periods of rain. This may result in additional unstable or pumping subgrade areas. The high moisture content/low blow count clay materials, present near surface at some of the boring locations, may not pass a proofroll, and may need to be undercut or repaired. Some undercutting or repair of unstable subgrade soils should be anticipated during subgrade preparation. Dependent on the results of proofroll observations, undercuts of as much as 2 feet may be necessary to develop a stable subgrade. The method of subgrade repair or improvement chosen may be influenced by several factors such as weather and schedule, area, depth, and nature of the unstable subgrade soils. Depending on these and other factors the actual depth of subgrade undercut and/or stabilization method should be determined at the time of construction. Some common subgrade repair methods include the following or a combination of the following:

- Scarification, aeration, and recompaction;
- Undercut and replacement with engineered fill;
- Placement of a geogrid on the subgrade along with granular engineered fill; or,
- Chemical stabilization/modification techniques. Alterations to the pavement sections to include additional drainage, such as an open-graded aggregate subdrainage layer, may be needed if a chemically modified subgrade is used.

5.1.3 Site Temporary Dewatering

The contractor shall make their own assessment of temporary dewatering needs based upon the limited subsurface groundwater information presented in this report. Soil and groundwater conditions may vary

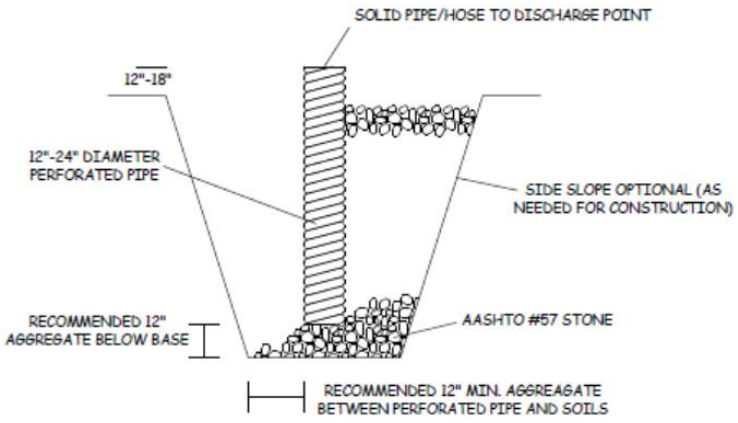
between sampling intervals. If the contractor believes additional subsurface information is needed to assess dewatering needs, the contractor should obtain such information at their own expense. ECS makes no warranties or guarantees regarding the adequacy of the provided information to determine dewatering requirements; such recommendations are beyond our scope of services.

Dewatering systems are a critical component of many construction projects. Dewatering systems must be selected, designed, and maintained by a qualified and experienced (specialty or other) contractor familiar with the geotechnical and other aspects of the project. The failure to properly design and maintain a dewatering system for a given project can result in delayed construction, unnecessary undercuts, detrimental phenomena such as 'running sand' conditions, heaved subgrades, internal erosion (i.e., 'piping'), the migration of 'fines' down-gradient towards the dewatering system, localized settlement of nearby infrastructure, foundations, slabs-on-grade and pavements, etc. Water discharged from site dewatering systems are recommended to be discharged in accordance with local, state and federal requirements.

Surface Water: The surface of the site should be kept properly graded to enhance drainage of the surface water to appropriate discharge or storage areas during construction. Effort should be made to enhance the natural drainage without interrupting its pattern.

Subsurface Water: Groundwater observations are described in the **Groundwater Observations** section of this report. Excavations for new conventional shallow foundations are not expected to extend below the groundwater level encountered at the boring locations. Based upon the results of the subsurface exploration and proposed construction, ECS' opinion is that construction dewatering at this site will be mainly to remove accumulated runoff water and perched water. Strategies for addressing groundwater are discussed below.

Strategies for Addressing Perched Groundwater: The typical strategy for addressing perched groundwater seepage into excavations and where excavations extend typically less than 1 to 2 feet below the water level, especially in areas containing primarily clay soils, is pumping from trench (or French) drains and sump pits with sump pumps which are backfilled with drainage aggregate such as AASHTO Size No. 57 Stone or open-graded bedding material. A typical sump pump drain (found in a sump pit or along a French drain) is depicted below. The inlet of the sump pump is placed at the bottom of the corrugated pipe and the discharge end of the sump is directed to an appropriate stormwater drain.



Sump Pit/Pump Conceptual Sketch

A typical French drain consists of an 18 to 24-inch wide by 18- to 24-inch-deep bed of AASHTO No. 57 aggregate (or similar open graded aggregate) wrapped in a medium duty, non-woven geotextile and (sometimes) containing a 6-inch diameter, Schedule 40 PVC perforated or slotted pipe. Actual dimensions should be determined during construction. After installation, the geotextile should be wrapped over the top of the aggregate and pipe followed by placement of backfill. The top of the drain should be positioned at least 3½ feet below the design subgrade elevation. Drains should not be routed within the expanded building limits.

Pumping wells or a vacuum system could also be used to address perched groundwater. These techniques often are only effective during the initial depletion of the perched water quantity and may quickly be ineffective at addressing accumulation of water from rain, snow, etc.

5.2 EARTHWORK OPERATIONS

The following sections describe existing fill, soil reusability, and recommendations for engineered fill.

5.2.1 Engineered Fill

Product Submittals: Prior to placement of engineered fill, representative bulk samples (typically at least 50 to 100 pounds) of on-site and off-site borrow per material type should be submitted to ECS for laboratory testing, which may include natural moisture content, organic content, grain-size distribution, Atterberg limits, and moisture-density relationships for compaction. Import material should be tested prior to being hauled to the site to determine if it complies with project specifications. Alternatively, Proctor data from other accredited laboratories can be submitted if the test results are within the last 90 days.

Satisfactory Engineered Fill Materials: Engineered fills should consist of materials free of debris with the following engineering properties.

ENGINEERED FILL INDEX PROPERTIES		
Subject		**Property**
Plasticity	Upper 4 feet in Building Areas and Upper 2 feet in Pavement Areas	LL ≤ 40, PI ≤ 15
	Below 4 feet in Building Areas and Below 2 feet in Pavement Areas	LL ≤ 50, PI ≤ 20
Max. Particle Size		3 inches
Max. Organic Content (by dry weight)		5 percent

Open-graded materials, such as coarser sands, and gravels (SP and GP), which contain increased void space in their mass may need to be encapsulated within a filter geotextile. If the engineered fill is to provide low-frost susceptible characteristics, the engineered fill must be classified as a clean GP or GW (or clean coarser SW or SP) per Unified Soil Classification System (ASTM D-2487) and must be properly drained.

Satisfactory Retaining Wall Backfill: Materials used as backfill within the critical zone behind retaining walls should have USCS classifications of sand or gravel with a maximum of 15 percent fines, and minimum angle of internal friction of 32 degrees when compacted to a minimum of 95 percent of its maximum dry density per Modified Proctor (ASTM D 1557). Material not meeting these criteria should be removed from the Critical Zone behind the walls.

Unsatisfactory Materials: Unsatisfactory fill materials, which do not satisfy the requirements for suitable materials, include topsoil and organic materials (PT, OH, OL), silt (ML) within the frost zone, and high plasticity soils elastic silt (MH) and fat clay (CH).

Pea gravel is not recommended to be used as engineered fill. Pea gravel has round/smooth characteristics, no fines and does not interlock when compacted, which makes it more susceptible to future movement and instability resulting in excessive and variable settlement.

On-Site Borrow Suitability: Soil deposits that meet the definition of Satisfactory Engineered Fill Materials are expected to be present at the site. Site soil used as engineered fill must not contain more than 5 percent organic matter as determined by ASTM D2974, and must be free of frozen matter, deleterious materials, over-sized material (maximum 3-inch particle diameter), or chemicals that may result in the material being classified as "contaminated." The on-site soil may be feasible to use as engineered fill with proper moisture conditioning during favorable conditions. Site soil considered for use as engineered fill should be further evaluated by ECS prior to its use.

Some soil samples had relatively high moisture contents so some drying of site soil prior to reuse as engineered fill is expected to be needed. This may involve spreading and discing to aerate, chemical modification or other methods to reduce the soil moisture to within a narrow range of the soil's optimum moisture content to facilitate placement and compaction. Reuse of soils having elevated moisture content is often a point of contention and a source of delays and change orders. From a technical standpoint, soils with moisture contents wet of optimum can be reused provided the moisture is properly adjusted to within a workable range of the material optimum moisture content. From a practical standpoint, wet soils can be difficult to dry, particularly within small or congested areas or during unfavorable weather, and such difficulties should be considered during planning and budgeting. A clear understanding by the general contractor and grading subcontractor regarding the reuse of excavated soils will be important to reduce delays and unexpected cost overruns. It is important to establish as part of the contract whether soils having elevated moisture content will be considered suitable for reuse. Some conditions at the time of construction, such as wet or freezing weather, may preclude the use of on-site soil, and use of an imported less moisture sensitive and/or less frost susceptible granular material may be needed. Some sorting to remove over-sized material (i.e., cobbles and/or boulders, blocks of rock) is expected to be needed prior to re-use of on-site soil as engineered fill.

It may be feasible to reuse the existing base course material as base course or subbase for the new pavement but should be checked by ECS after the material is exposed and prior to its use. The existing granular base material that is planned to be reused as fill should be stripped clean (e.g., not mixed with bituminous material, subgrade soils and other foreign materials) and stockpiled separately. Prior to its reuse, the material is recommended to be tested, such as with grain-size distribution tests. Depending on the base course properties a reduced structural coefficient may be needed for design, which would require additional base course or a thicker hot mix asphalt section.

5.2.2 Compaction

Subgrade Benching: Fill material should be placed in horizontal lifts. Where fill materials will be placed to widen existing embankment fills, or placed up against sloping ground, the soil subgrade should be scarified, and the new fill benched and keyed into the existing material. Placement and compaction of fill is recommended to be on a 5 (H):1 (V) or flatter slope, or stepped or benched as required to flatten.

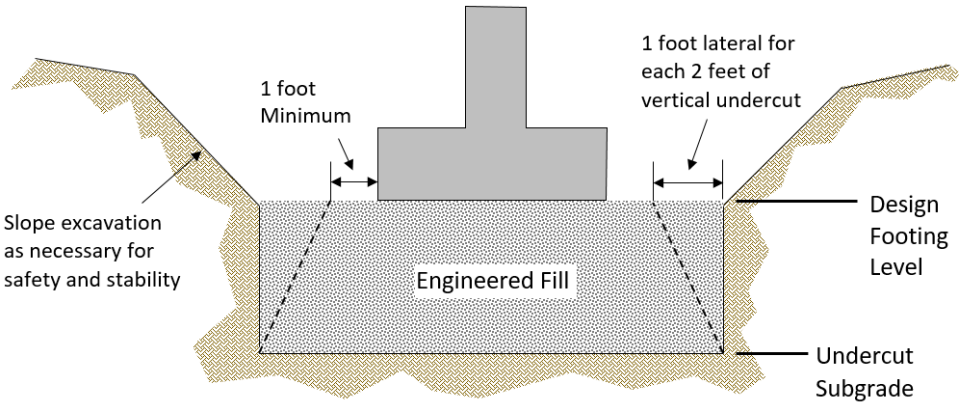
Engineered Fill Compaction: Engineered fill is recommended to be placed and compacted in appropriate thickness loose lifts as recommended below. Give as much importance to the moisture content requirements of the material as the density requirements during placement and compaction considering the moisture sensitivity of the soil.

ENGINEERED FILL COMPACTION RECOMMENDATIONS			
Subject			**Recommendation**
Compaction Standard			Modified Proctor, ASTM D1557
Recommended Compaction	Structural Areas		≥ 95 percent of Maximum Dry Density
	Landscape/Greenspace Areas		≥ 88 percent of Maximum Dry Density
Moisture Content		Fine-grained	-1 to +3 % points of the material's optimum value
		Coarse-grained	-3 to +3 % points of the material's optimum value
Maximum Loose Thickness			8 inches prior to compaction (1)

1. The maximum loose lift thickness depends upon the type of compaction equipment used and material being compacted. Density testing during fill placement is important to check and document that the specified compaction is being achieved. In some cases, thinner lifts than noted above and/or more compaction energy may be needed to achieve the required degree of compaction.

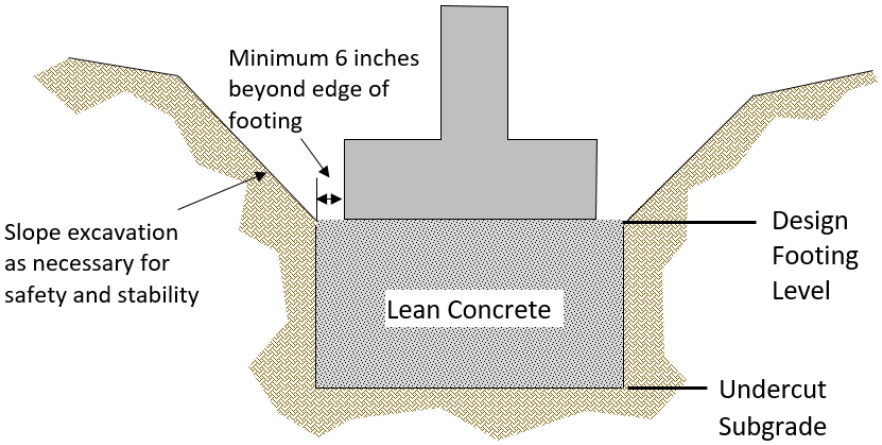
Compaction equipment appropriate for the material type being compacted should be used. Sheepsfoot compaction equipment is typically used for the fine-grained soils (clays). A vibratory steel drum roller is typically used for compaction of coarse-grained soils (sands and gravels) as well as to help seal compacted surfaces. Vibratory compaction methods should be done with caution near the water table because an unstable subgrade condition could develop. Static compaction and thinner lifts may be needed near the water table.

Engineered Fill Below Foundations: Unsuitable bearing material such as soft and very loose soils encountered at the proposed foundation bearing grade or within the foundation influence zone are recommended to be recompacted, if feasible, or removed to a competent bearing subgrade and to a lateral extent, as conceptually illustrated below and replaced with engineered fill. The zone of the engineered fill placed below the foundations is recommended to extend 1 foot beyond the outside edges of the footings and from that point, outward laterally 1 foot for every 2 feet of fill thickness below the footing.



Alternatively, undercuts could be backfilled with lean concrete ($f'_c \geq 1{,}000$ psi at 28 days) up to the original design bottom of footing elevation. The original footing should be constructed on top of the hardened lean concrete. If lean concrete is utilized the excavation is recommended to be 1 foot wider

than the footing (6 inches on each side), as conceptually illustrated below, and the lean concrete should be allowed to sufficiently harden prior to placement of the foundation concrete.



5.3 GENERAL CONSIDERATIONS

Fill Placement Considerations: Fill materials should not be placed on frozen soils, on frost-heaved soils, on excessively wet soils, or soils that are otherwise unstable. Borrow fill materials should not contain frozen materials at the time of placement, and frozen or frost-heaved soils should be removed prior to placement of engineered fill or other fill soils and aggregates. Excessively wet soils or aggregates should be scarified, aerated, and moisture conditioned.

Excavation Safety: Excavations and slopes should be maintained in accordance with OSHA excavation safety standards. The Contractor is solely responsible for designing and constructing stable, temporary excavations and slopes and should shore, slope, or bench the sides of the excavations and slopes as required to maintain stability of both the excavation sides and bottom. The Contractor's responsible person, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. In some cases, the use of shoring, bracing, or trench boxes may be required. ECS is providing this information solely as a service to our client. ECS is not assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

Undocumented Fill Considerations: Existing undocumented fill was encountered at a few of the boring locations. Additionally, aerial photographs indicate previous development at the site. Unsuitable materials may be buried beneath the site surface not identified by the borings. Questionable material encountered is recommended to be evaluated by ECS to determine if removal and replacement with engineered fill is necessary. Alteration to the recommendations of this report may be needed, if conditions different than those noted on the boring logs are revealed.

Test Pit Considerations: The test pit excavations were backfilled with the excavated soils using nominal compaction effort. Complete removal of the test pit backfill material and replacement with engineered fill is recommended during site preparation activities. If the materials are not removed and backfilled properly, settlement of the test pit backfill should be expected, along with the resultant movement, and potential distress to structures and pavements resting upon this material.

Bidding/Estimating Considerations: Contractors bidding or undertaking work at the site should examine the results of the subsurface exploration, satisfy themselves as to the adequacy of the information for bidding and construction, make their own interpretation of the data, and consider the effect it may have on their cost proposal, construction techniques, schedule, and equipment capabilities. Furthermore, it is recommended contractors complete additional fieldwork and exploration they deem necessary to properly prepare a cost proposal for the site work. Soil borings do not provide the same wide-scale view of the subsurface conditions that is obtained during site grading, excavation or other aspects of earthwork construction. Additional scope may be required to obtain more detailed subsurface information needed for earthwork bid preparation, which could include test pits to better understand the lateral and vertical extents of subsurface materials of concern, particularly topsoil and existing undocumented fill, which may not be as easily identifiable from disturbed auguring and/or with spilt-spoon samples. Even with this additional information, budget contingencies should be carried in construction to help cover potential variations in subsurface conditions.

5.4 DIFFICULT EXCAVATION

Excavation and site grading difficulties are expected to occur due to cobbles, boulders and shallow bedrock, but will depend on the final site grades.

The degree of excavation difficulty generally depends upon the depth of excavation and capabilities of the excavation equipment. The rip-ability of extremely dense material and bedrock depends on several factors, including the nature of the soils/rock, moisture content, strength, degree of weathering, and the type of excavation equipment. Based on historical data and conversations with excavation contractors, it is our opinion that standard penetration test (SPT) N-values provide only a preliminary general indicator of the rip-ability of extremely dense soil/weathered rock. Soils having SPT N-values less than 50 bpf can usually be excavated with standard construction techniques. Soils with N-values above 50 bpf, and where auger refusal has not yet been met, can usually be excavated with larger machinery equipped for ripping rock. Some of the likely attachments would include heavy shanks (ripping teeth), shank protectors, and narrow track shoes. Extremely dense soils and rock where auger refusal has been met will likely need blasting to remove the rock. Excavatability of bedrock material will be greatly controlled by in-situ jointing and bedding and may vary from location to location.

In our opinion, excavation contractors should expect special excavation equipment to be necessary and excavation rates will be slow. The boundary between soil and rock may not be sharply defined due to variations in weathering and potential presence of cobbles and/or boulders in the till above the bedrock. ***Consider additional test pits to better evaluate the most cost-effective excavation methods, and to further confirm the material types and depth of bedrock.*** Test pits performed are recommended to be backfilled with engineered fill properly benched out into the surrounding soil.

The approximate depth and elevation of difficult excavation anticipated at the test boring locations is indicated in the table below. The depth is expected to be variable based on the test borings. Therefore, the depth and elevation of difficult excavation outside the test boring locations may be shallower or deeper than interpolated from the table. These depths and elevations should be considered when establishing site grades to help reduce excavation difficulties.

APPROXIMATE DEPTH/ELEVATION OF DIFFICULT EXCAVATION		
Test Boring	**Depth Below Ground Surface (Feet)**	**Elevation**
B-01	3½	881
B-02	2½	882
B-03	3	881.5
B-04	1	883.5
B-05	1	881.5
B-06	3	879.5
TP-01	3½	880.5
TP-02	3	881.5

Excavation and removal problems may occur and should be expected and budgeted for this project. Geophysical testing could be done to help estimate the ripability of the bedrock for a given piece of equipment. The anticipated depths and elevations of difficult excavation should be taken into consideration when establishing site grades. To help reduce excavation difficulties, site grades should be kept as high as practical.

If blasting is performed, it should be done so carefully by a qualified specialty contractor so that nearby construction is not damaged. Pre- and post-blast video surveys of the surrounding properties are recommended to be performed in the presence of the adjacent property owners or representatives to help reduce the potential for fraudulent post-blast liability claims. A maximum peak particle velocity of less than 2 inches per second is typically considered the threshold for building damage, but the human annoyance threshold is less. Therefore, control of blasting vibrations and vibration monitoring is recommended. Additionally, blasting of bedrock has a potential to cause carbon monoxide gas to develop and migrate through utility trenches or fractures in the bedrock. Appropriate precautions should be taken to prevent migration of gases and nearby property owners should be notified.

Blasting frequently results in over-break (rock breakage exceeding that required for excavation to design grade), or fractures and disturbance to a greater depth than desired. If it is necessary to blast, over-break should be removed and replaced with structural compacted fill. Disturbed or loosened rock that is left in-place could cause excessive structural settlement. The distinction between soil and rock excavation should be clearly delineated in the construction documents; otherwise, costly contract disputes and change orders could result.

The specifications should call out excavation as being either classified or unclassified. Unclassified excavation means it is left up to the contractor to determine his own means and methods to excavate material and one unit price is used for excavation regardless of the material that is present on the site. Classified excavation is typically used on sites where excavation problems are expected either due to difficult excavation from shallow bedrock or granular (caving) soil. On sites with shallow bedrock, such as this site, specifications typically read that material that can be excavated with a given piece of equipment with a given amount of torque (foot-pounds) will be considered "normal" excavation and excavation requiring equipment with a greater amount of torque (foot-pounds) will be considered "special" excavation. Contractors are then required to provide unit rates for "normal" excavation and a separate rate for "special" excavation.

5.5 FOUNDATION AND SLAB OBSERVATIONS

Protection of Foundation Excavations: Exposure to the environment may weaken the soils at the footing bearing level if the foundation excavations remain open for too long a time. Foundation concrete should be placed the same day that excavations are made. If the bearing soils are softened by

surface water intrusion or exposure, the softened soils must be removed from the foundation excavation bottom immediately prior to placement of concrete. If the foundation concrete will not be placed soon after excavation and observation and testing of bearing grade, or if rainfall becomes imminent while the bearing soils are exposed, consider placement of a 2 to 3-inch thick "mud mat" of "lean" concrete on the bearing soils before the placement of reinforcing steel to help protect the bearing material otherwise a recheck of the bearing grade may be needed.

Footing Subgrade Observations: The recommendations of this report are predicated upon ECS checking the suitability of the in-situ foundation support soils during construction. The suitability of the actual bearing grade is recommended to be observed and tested to check that the soils are as indicated by the borings and are capable of supporting the recommended maximum net allowable bearing pressure.

Slab Subgrade Observation and Testing: ECS should be retained to observe and test the exposed subgrade within the expanded building limits prior to engineered fill placement and slab construction to check that adequate subgrade preparation has been achieved as recommended in the **Subgrade Preparation** section.

5.6 UTILITY INSTALLATIONS

Utility construction should follow *The Standard Specifications for Sewer and Water Line Construction in Wisconsin*.

Utility Subgrades: The soils encountered at the boring locations are expected to generally be adequate for support of utility pipes. It is recommended ECS be retained to observed and test the subgrade materials encountered at the time of construction for stability. Existing fill, soft, very loose or otherwise unsuitable materials encountered at the subgrade should be removed and replace with appropriate engineered fill or pipe bedding material.

Utility Backfilling: The granular bedding material (often AASHTO No. 57 stone) should be at least 4 inches thick, but not less than that specified by the civil engineer's project drawings and specifications. We recommend that the bedding materials be placed up to the springline of the pipe. Fill placed for support of the utilities, as well as backfill over the utilities, should satisfy the recommendations for engineered fill and fill placement.

6.0 CLOSING

ECS has prepared this report to guide geotechnical-related design and construction aspects of the project. We performed these services in accordance with the standard of care expected of professionals in the industry performing similar services on projects of like size and complexity at this time in the region. No other representation, express or implied, and no warranty or guarantee is included or intended in this report.

The description of the proposed project is based on information provided to ECS. If this information is inaccurate, either because of our interpretation of the documents provided, or site or design changes that may occur later, ECS should be contacted so that we can review our recommendations and provide additional or alternate recommendations as may be required to reflect the proposed construction.

We recommend ECS review the project's plans and specifications so that we may evaluate consistency of those plans/specifications with the intent of the geotechnical report recommendations.

Field observations and quality assurance testing during earthwork and foundation installation are an extension of, and integral to, the geotechnical design recommendations. We recommend that ECS be retained to apply our expertise throughout the geotechnical phases of construction, and to provide consultation and recommendations should issues arise.

ECS is not responsible for the conclusions, opinions, or recommendations of others based on the data in this report.

Appendix A - Drawings and Reports

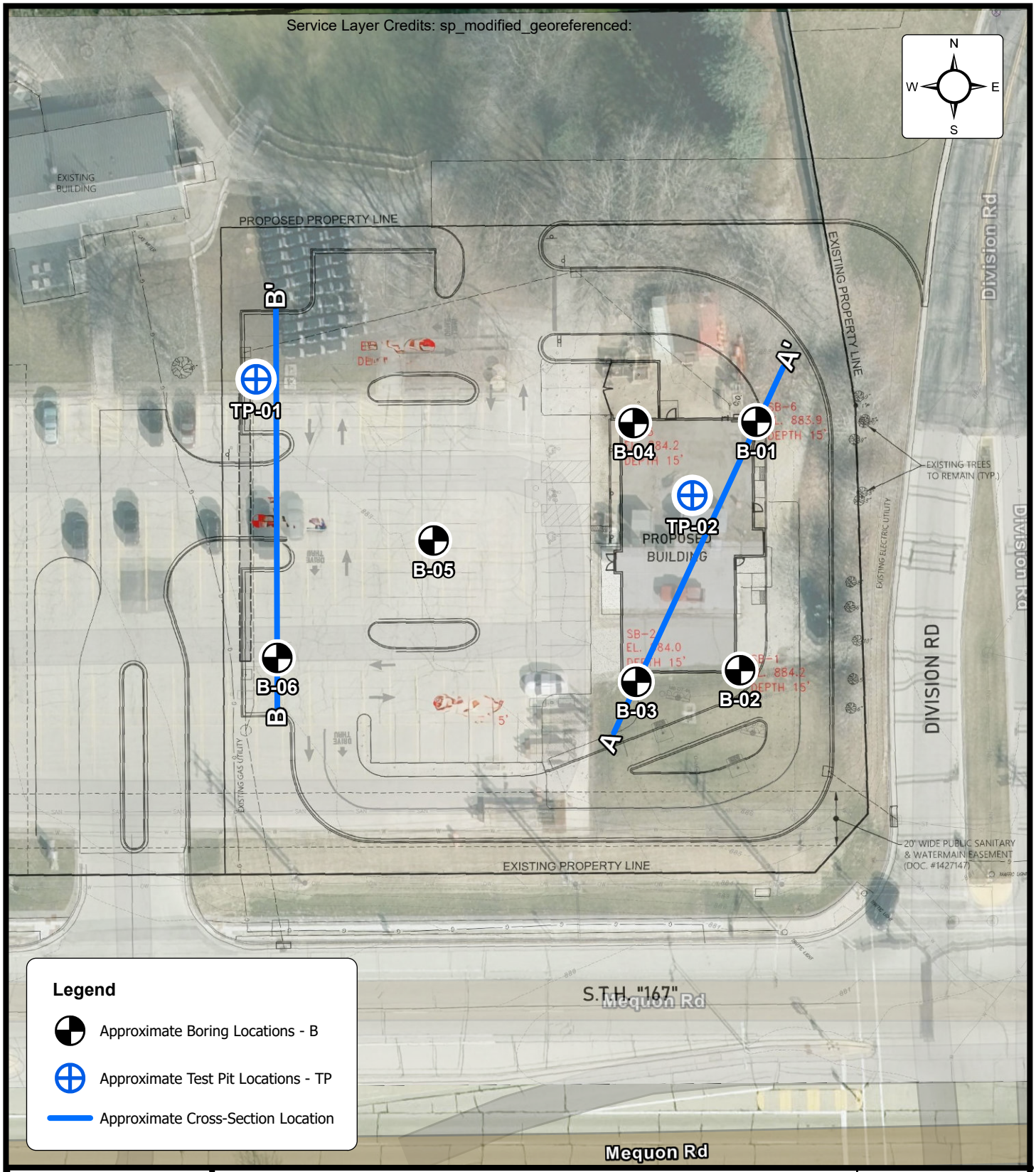
Site Location Diagram
Boring Location Diagram(s)
Subsurface Cross-Section(s)
Soil Survey Map



SITE LOCATION DIAGRAM
Culver's, Germantown

NWC Mequon Road and Division Road, Germantown, Wisconsin
Campbell Construction JC, Inc.

ENGINEER	DM1
SCALE	1" = 500'
PROJECT NO.	42:2762
SHEET	SLD
DATE	8/27/2025

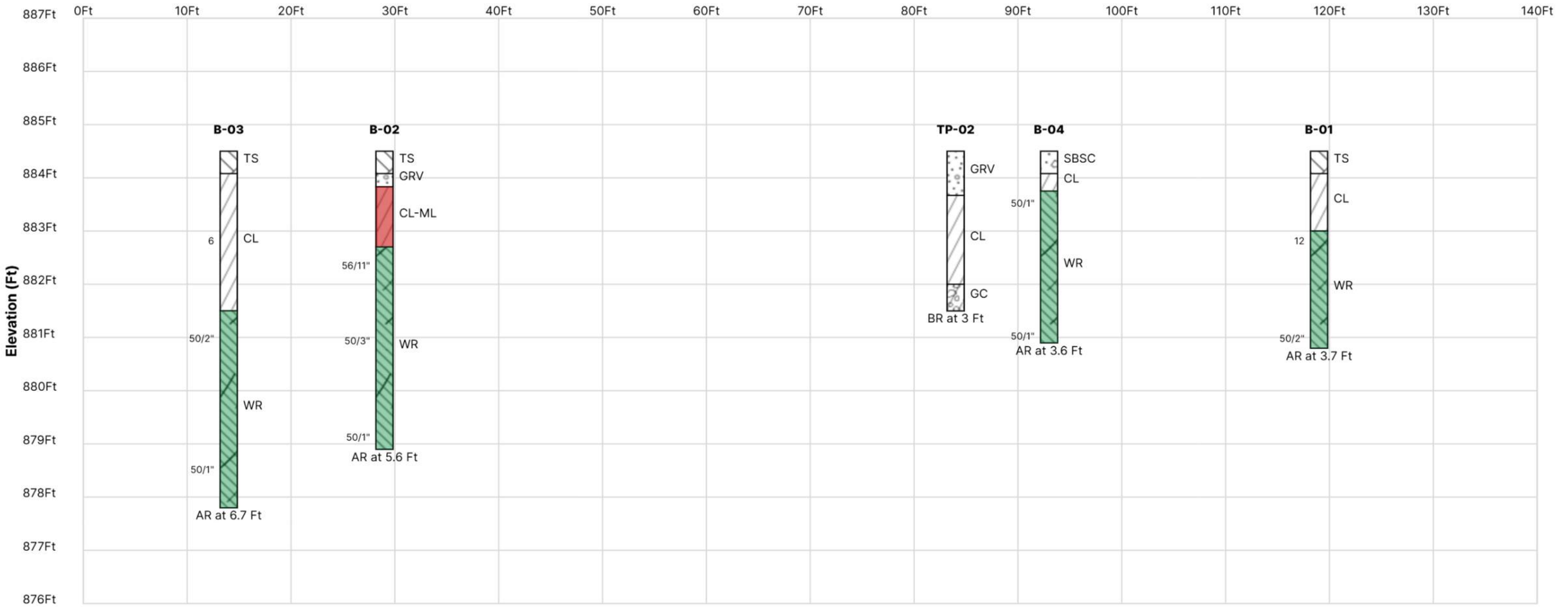


BORING LOCATION DIAGRAM
Culver's, Germantown

NWC Mequon Road and Division Road, Germantown, Wisconsin
Campbell Construction JC, Inc.

ENGINEER	DM1
SCALE	1" = 50'
PROJECT NO.	42:2762
SHEET	SLD
DATE	8/27/2025

Generalized Subsurface Cross Section Line A



CLIENT:	Campbell Construction JC, Inc.	PROJECT:	Culver's, Germantown
DRAWN DATE:	9/5/2025	PROJECT NO.:	42:2762
CHECKED DATE:	9/5/2025	SCALE:	NTS

Notes:
1-EOB: END OF BORING AR: AUGER REFUSALSR: SAMPLER REFUSAL
2-SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
3-STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).
4- TOPOGRAPHIC INFORMATION IS BASED ON PUBLICLY AVAILABLE DATA (GOOGLE OR CESIUM).THE TOPOGRAPHIC LINE SHOWN BETWEEN BORINGS IS FOR VISUAL REFERENCE ONLY.PLEASE REFER TO THE REFERENCE NOTES FOR BORING LOGS FOR SYMBOLOGY MEANING AND ADDITIONAL INFORMATION.

Plastic Limit Water Content Liquid Limit X—●—△		▽	WL (First Encountered)		Fill
[FINES CONTENT %]		▼	WL (Completion)		Possible Fill
	BOTTOM OF CASING	▼	WL (Estimated Seasonal High Water)		Probable Fill
100%	LOSS OF CIRCULATION	▽	WL (Stabilized)		WR/Rock
○	CALIBRATED PENETROMETER				

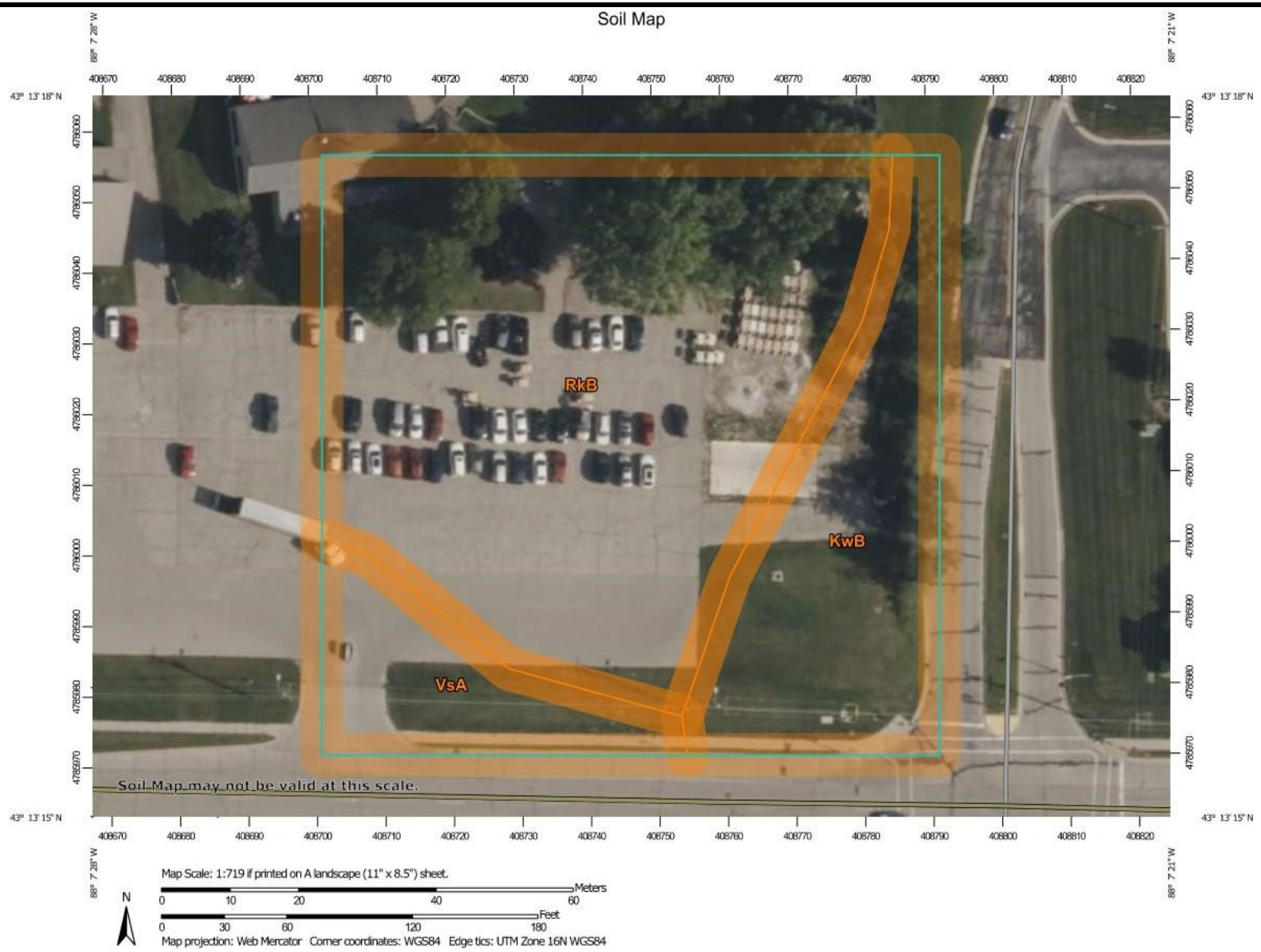
Generalized Subsurface Cross Section Line B



CLIENT:	Campbell Construction JC, Inc.	PROJECT:	Culver's, Germantown
DRAWN DATE:	9/5/2025	PROJECT NO.:	42:2762
CHECKED DATE:	9/5/2025	SCALE:	NTS

Notes:
1-EOB: END OF BORING AR: AUGER REFUSALSR: SAMPLER REFUSAL
2-SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
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Plastic Limit Water Content Liquid Limit X—●—△		WL (First Encountered)	Fill
[FINES CONTENT %]		WL (Completion)	Possible Fill
BOTTOM OF CASING		WL (Estimated Seasonal High Water)	Probable Fill
LOSS OF CIRCULATION		WL (Stabilized)	WR/Rock
CALIBRATED PENETROMETER			



SOIL SURVEY MAPPING

Culver's

NWC Mequon Road and Division Road, Germantown, Wisconsin

Campbell Construction JC, Inc.

Engineer	DM
Scale	AS SHOWN
Project No.	42:2762
Figure	SSM
Date	9/2/2025

SUMMARY OF SOIL SURVEY MAP UNIT CHARACTERISTICS			
Item	**Map Unit**		
Symbol	KwB	RkB	VsA
Name	Knowles silt loam	Ritchey silt loam	Virgil silt loam, gravelly substratum
Landforms	Ground moraines	Bluffs	Drainageways on outwash plains
Parent Material	Loess over loamy till over dolomite	Fine-loamy loess over till over dolomite	Loess over calcareous, stratified sandy and gravelly outwash
Typical Soil Profile	silt loam, silty clay loam, clay loam, bedrock	silt loam, clay loam, bedrock	silt loam, silty clay loam, sandy loam, stratified gravel to sand
Shrink-Swell Potential	Moderate	Moderate	Moderate
Potential for Frost Action	High	Moderate	High
Corrosion Risk– Uncoated Steel	Low	Low	High
Corrosion Risk – Concrete	Moderate	Low	Low
Drainage	Well drained	Well drained	Somewhat poorly drained
Hydrologic Group	C	D	B/D
Hydric Soil	No	No	No
Ksat (in/hr)	0.20 to 0.60	0.20 to 1.98	0.60 to 2.00
Depth to Water Table (inches)	More than 80	About 60 to 80	About 0 to 24

Appendix B – Field Operations

Reference Notes
Exploration Procedures
Boring Logs
Test Pit Logs

REFERENCE NOTES FOR BORING LOGS

MATERIAL[1,2]

	ASPHALT
	CONCRETE
	GRAVEL
	TOPSOIL
	VOID
	BRICK
	AGGREGATE BASE COURSE
	GW **WELL-GRADED GRAVEL** gravel-sand mixtures, little or no fines
	GP **POORLY-GRADED GRAVEL** gravel-sand mixtures, little or no fines
	GM **SILTY GRAVEL** gravel-sand-silt mixtures
	GC **CLAYEY GRAVEL** gravel-sand-clay mixtures
	SW **WELL-GRADED SAND** gravelly sand, little or no fines
	SP **POORLY-GRADED SAND** gravelly sand, little or no fines
	SM **SILTY SAND** sand-silt mixtures
	SC **CLAYEY SAND** sand-clay mixtures
	ML **SILT** non-plastic to medium plasticity
	MH **ELASTIC SILT** high plasticity
	CL **LEAN CLAY** low to medium plasticity
	CH **FAT CLAY** high plasticity
	OL **ORGANIC SILT or CLAY** non-plastic to low plasticity
	OH **ORGANIC SILT or CLAY** high plasticity
	PT **PEAT** highly organic soils

DRILLING SAMPLING SYMBOLS & ABBREVIATIONS

SS	Split Spoon Sampler	PM	Pressuremeter Test
ST	Shelby Tube Sampler	RD	Rock Bit Drilling
WS	Wash Sample	RC	Rock Core, NX, BX, AX
BS	Bulk Sample of Cuttings	REC	Rock Sample Recovery %
PA	Power Auger (no sample)	RQD	Rock Quality Designation %
HSA	Hollow Stem Auger		

PARTICLE SIZE IDENTIFICATION

DESIGNATION		PARTICLE SIZES
Boulders		12 inches (300 mm) or larger
Cobbles		3 inches to 12 inches (75 mm to 300 mm)
Gravel:	Coarse	¾ inch to 3 inches (19 mm to 75 mm)
	Fine	4.75 mm to 19 mm (No. 4 sieve to ¾ inch)
Sand:	Coarse	2.00 mm to 4.75 mm (No. 10 to No. 4 sieve)
	Medium	0.425 mm to 2.00 mm (No. 40 to No. 10 sieve)
	Fine	0.074 mm to 0.425 mm (No. 200 to No. 40 sieve)
Silt & Clay ("Fines")		<0.074 mm (smaller than a No. 200 sieve)

COHESIVE SILTS & CLAYS

UNCONFINED COMPRESSIVE STRENGTH, Q_P[4]	SPT[5] (BPF)	CONSISTENCY[7] (COHESIVE)
<0.25	<2	Very Soft
0.25 - <0.50	2 - 4	Soft
0.50 - <1.00	5 - 8	Firm
1.00 - <2.00	9 - 15	Stiff
2.00 - <4.00	16 - 30	Very Stiff
4.00 - 8.00	31 - 50	Hard
>8.00	>50	Very Hard

GRAVELS, SANDS & NON-COHESIVE SILTS

SPT[5]	DENSITY
<5	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
>50	Very Dense

RELATIVE AMOUNT[7]	COARSE GRAINED (%)[8]	FINE GRAINED (%)[8]
Trace	≤5	≤5
With	10 - 20	10 - 25
Adjective *(ex: "Silty")*	25 - 45	30 - 45

WATER LEVELS[6]

- WL (First Encountered)
- WL (Completion)
- WL (Seasonal High Water)
- WL (Stabilized)

FILL AND ROCK

FILL | POSSIBLE FILL | PROBABLE FILL | ROCK

[1]Classifications and symbols per ASTM D 2488-17 (Visual-Manual Procedure) unless noted otherwise.

[2]To be consistent with general practice, "POORLY GRADED" has been removed from GP, GP-GM, GP-GC, SP, SP-SM, SP-SC soil types on the boring logs.

[3]Non-ASTM designations are included in soil descriptions and symbols along with ASTM symbol [Ex: (SM-FILL)].

[4]Typically estimated via pocket penetrometer or Torvane shear test and expressed in tons per square foot (tsf).

[5]Standard Penetration Test (SPT) refers to the number of hammer blows (blow count) of a 140 lb. hammer falling 30 inches on a 2 inch OD split spoon sampler required to drive the sampler 12 inches (ASTM D 1586). "N-value" is another term for "blow count" and is expressed in blows per foot (bpf). SPT correlations per 7.4.2 Method B and need to be corrected if using an auto hammer.

[6]The water levels are those levels actually measured in the borehole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in granular soils. In clay and cohesive silts, the determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally employed.

[7]Minor deviation from ASTM D 2488-17 Note 14.

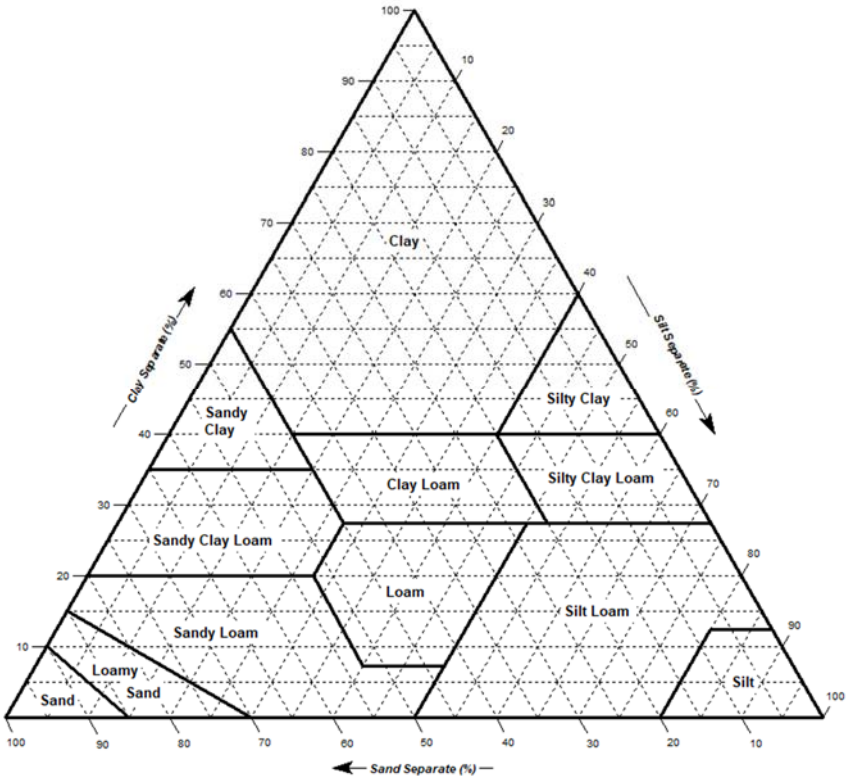
[8]Percentages are estimated to the nearest 5% per ASTM D 2488-17.

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U.S. Department of Agriculture (USDA) Soil Classification System

Texture Triangle

Fine Earth Texture Classes (▬)



Texture Class

Texture Class or Subclass	Code	
	Conv.	NASIS
Coarse Sand	cos	COS
Sand	s	S
Fine Sand	fs	FS
Very Fine Sand	vfs	VFS
Loamy Coarse Sand	lcos	LCOS
Loamy Sand	ls	LS
Loamy Fine Sand	lfs	LFS
Loamy Very Fine Sand	lvfs	LVFS
Coarse Sandy Loam	cosl	COSL
Sandy Loam	sl	SL
Fine Sandy Loam	fsl	FSL
Very Fine Sandy Loam	vfsl	VFSL
Loam	l	L
Silt Loam	sil	SIL
Silt	si	SI
Sandy Clay Loam	scl	SCL
Clay Loam	cl	CL
Silty Clay Loam	sicl	SICL
Sandy Clay	sc	SC
Silty Clay	sic	SIC
Clay	c	C

Texture Modifiers – Conventions for using "Rock Fragment Texture Modifiers" and for using textural adjectives that convey the "% volume" ranges for **Rock Fragments – Size and Quantity.**

Fragment Content % By Volume	Rock Fragment Modifier Usage
< 15	No texture adjective is used (noun only; e.g., *loam*).
15 to < 35	Use adjective for appropriate size; e.g., *gravelly*.
35 to < 60	Use "very" with the appropriate size adjective; e.g., *very gravelly.*
60 to < 90	Use "extremely" with the appropriate size adjective; e.g., *extremely gravelly.*
≥ 90	No adjective modifier. If ≤ 10% fine earth, use the appropriate noun for the dominant size class; e.g., *gravel.* **Use terms in lieu of texture.**

Texture Modifiers – (Adjectives)

Rock Fragments: Size and Quantity	Code		Criteria: Percent (by volume) of total rock fragments and dominated by (*name size*):
	Conv.	PDP/ NASIS	
Rock Fragments (> 2mm; ≥ Strongly Cemented)			
Gravelly	GR	GR	≥ 15% but < 35% gravel
Fine Gravelly	FGR	GRF	≥ 15% but < 35% fine gravel
Medium Gravelly	MGR	GRM	≥ 15% but < 35% med. gravel
Coarse Gravelly	CGR	GRC	≥ 15% but <35% coarse gravel
Very Gravelly	VGR	GRV	≥ 35% but < 60% gravel
Extremely Gravelly	XGR	GRX	≥ 60% but < 90% gravel
Cobbly	CB	CB	≥ 15% but < 35% cobbles
Very Cobbly	VCB	CBV	≥ 35% but < 60% cobbles
Extremely Cobbly	XCB	CBX	≥ 60% but < 90% cobbles
Stony	ST	ST	≥ 15% but < 35% stones
Very Stony	VST	STV	≥ 35% but < 60% stones
Extremely Stony	XST	STX	≥ 60% but < 90% stones
Boudlery	BY	BY	≥ 15% but < 35% boulders
Very Bouldery	VBY	BYV	≥ 35% but < 60% boulders
Extremely Bouldery	XBY	BYX	≥ 60% but < 90% boulders
Channery	CN	CN	≥ 15% but < 35% channers
Very Channery	VCN	CNV	≥ 35% but < 60% channers
Extremely Channery	XCN	CNX	≥ 60% but < 90% channers
Flaggy	FL	FL	≥ 15% but < 35% flagstones
Very Flaggy	VFL	FLV	≥ 35% but < 60% flagstones
Extremely Flaggy	XFL	FLX	≥ 60% but < 90% flagstones

SUBSURFACE EXPLORATION PROCEDURE: STANDARD PENETRATION TESTING (SPT) ASTM D 1586 Split-Barrel Sampling

Standard Penetration Testing, or **SPT**, is the most frequently used subsurface exploration test performed worldwide. This test provides samples for identification purposes, as well as a measure of penetration resistance, or N-value. The N-Value, or blow counts, when corrected and correlated, can approximate engineering properties of soils used for geotechnical design and engineering purposes.

SPT Procedure:

- Involves driving a hollow tube (split-spoon) into the ground by dropping a 140-lb hammer a height of 30-inches at desired depth
- Recording the number of hammer blows required to drive split-spoon a distance of 18-24 inches (in 3 or 4 Increments of 6 inches each)



- Auger is advanced* and an additional SPT is performed
- One SPT typically performed for every two to five feet. An approximate 1.5 inch diameter soil sample is recovered.



**Drilling Methods May Vary*— The predominant drilling methods used for SPT are open hole fluid rotary drilling and hollow-stem auger drilling.

SUBSURFACE EXPLORATION PROCEDURE: TEST PIT EXCAVATION

A test pit is an excavation of subsurface materials to characterize the composition and rippability/excavation efforts. Test pit exploration allows observation of the boundary relationships within a soil and rock profile and is useful to identify existing fill composition, disturbed material or the depth of soft sediments. Both track mounted excavators and backhoes are used in a variety of ground conditions allowing for difficult terrain to be accessed. The excavation process also provides access for in-situ and field testing and acquisition of samples for laboratory testing.

TEST PIT Procedure:

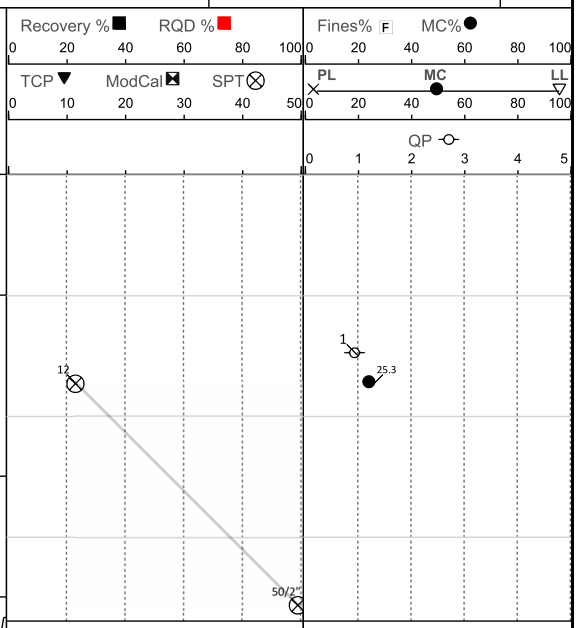
- Involves excavation subsurface material to observe composition and physical characteristics
- Recording the approximate depth of subsurface strata
- Excavation is continued as prescribed or to limits of equipment and subsurface conditions
- The exploration is typically carried out with an excavator or backhoe, with the depth dependent on machine size and ground





CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-01**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22153**	LONGITUDE: **-88.1232**	STRUCTURE:	SURFACE ELEVATION: **884.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Topsoil [Thickness=5"].				
					(CL) LEAN CLAY - trace sand, dark brown, contains slight roots, moist, stiff.				
	S-1	SS	18	8	(WR) WEATHERED ROCK sampled as SILTY SAND WITH GRAVEL - very pale brown, moist, [Weathered LIMESTONE] Sampled auger cuttings.				3-3-9 (12)
	S-2	SS	2	0	**AUGER REFUSAL AT 3.7 Ft**				50/2" (50/2")



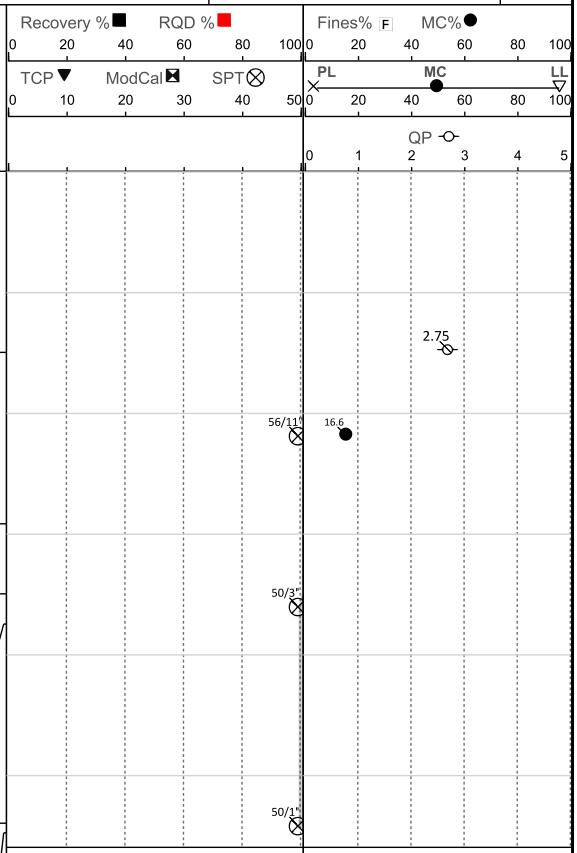
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	1.9FT
WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-3.7')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-02**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22128**	LONGITUDE: **-88.1233**	STRUCTURE:	SURFACE ELEVATION: **884.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Topsoil [Thickness=5"].				
					Gravel [Thickness=3"].				
					FILL -(CL - ML) SANDY SILTY CLAY WITH GRAVEL - brown, moist, very stiff, contains light brown SILTY SAND lenses.				
	S-1	SS	17	14	(WR) HIGHLY WEATHERED ROCK sampled as SILTY SAND WITH GRAVEL - very pale brown to very pale yellow, moist, very dense, [Weathered LIMESTONE], sampled auger cuttings.				3-6-50/5" (56/11")
	S-2	SS	3	0					50/3" (50/3")
5	S-3	SS	1	0				880	50/1" (50/1")
					AUGER REFUSAL AT 5.6 Ft				



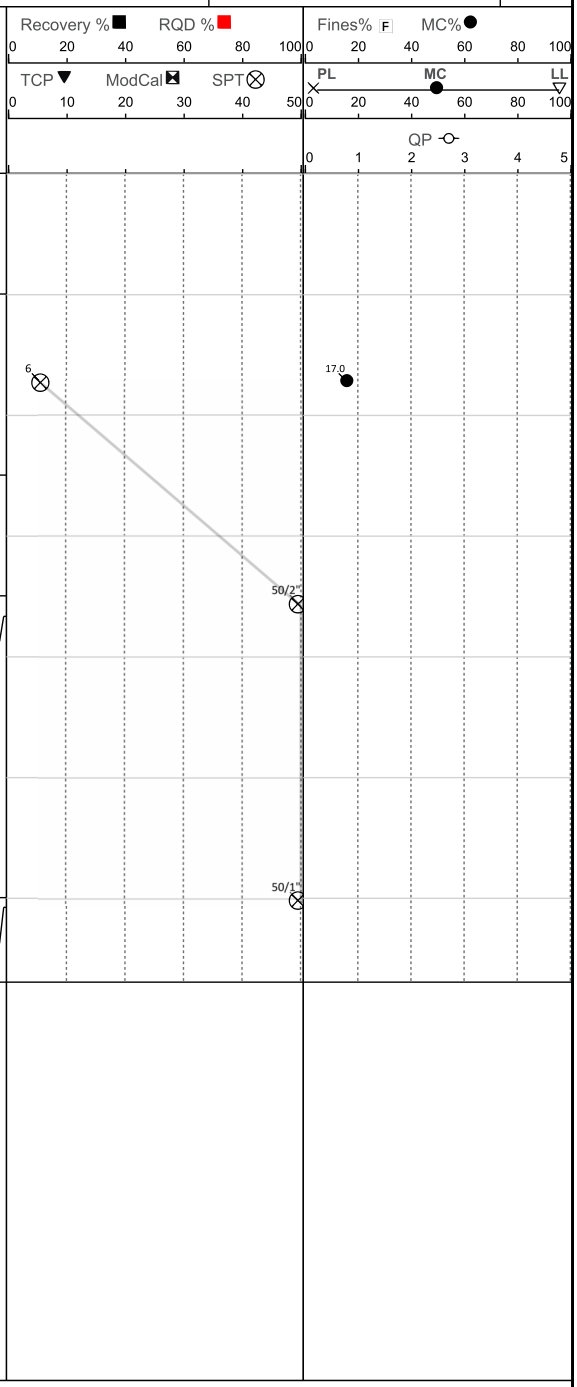
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	Dry	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	3.5FT
WL (Completion):		BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-5.6')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-03**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22128**	LONGITUDE: **-88.1234**	STRUCTURE:	SURFACE ELEVATION: **884.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Topsoil [Thickness=5"].				
					(CL) SANDY LEAN CLAY - trace gravel, brown, moist, very stiff.				
	S-1	SS	18	12					2-2-4 (6)
					(WR) HIGHLY WEATHERED ROCK sampled as SILTY SAND WITH GRAVEL - very pale brown to very pale yellow, moist, very dense, [Weathered LIMESTONE], sampled auger cuttings.			880	
5	S-2	SS	2	2					50/2" (50/2")
	S-3	SS	1	1					50/1" (50/1")
					AUGER REFUSAL AT 6.7 Ft				



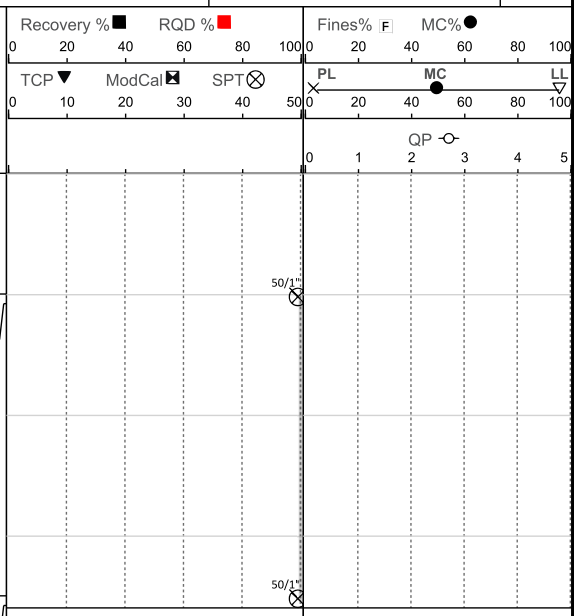
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-6.7')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-04**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22154**	LONGITUDE: **-88.1234**	STRUCTURE:	SURFACE ELEVATION: **884.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Sand Gravel Base [Thickness=5"].				
					(CL) LEAN CLAY - brown, moist.				
	S-1	SS	1	0	(WR) HIGHLY WEATHERED ROCK sampled as SILTY SAND WITH GRAVEL - very pale yellow, moist, very dense, [Weathered LIMESTONE], sampled auger cuttings.				50/1" (50/1")
	S-2	SS	1	0	**AUGER REFUSAL AT 3.6 Ft**				50/1" (50/1")



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	1.6FT
WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-3.6')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-05**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22142**	LONGITUDE: **-88.1237**	STRUCTURE:	SURFACE ELEVATION: **882.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Asphalt [Thickness=0.5"].				
					Gravel [Thickness=6"].				
					Sand Gravel Base [Thickness=5"].				
	S-1	SS	6	5	(WR) HIGHLY WEATHERED ROCK sampled as SILTY SAND - trace gravel, very pale brown to very pale yellow, moist, [Weathered LIMESTONE] contains very few residual clay lenses, sampled auger cuttings.			880	50/6" (50/6")
	S-2	SS	2	2					50/2" (50/2")
5	S-3	SS	1	0					50/1" (50/1")
					AUGER REFUSAL AT 5.5 Ft				

Recovery % ■ RQD % ■ (0 20 40 60 80 100)
TCP ▼ ModCal ▣ SPT ⊗ (0 10 20 30 40 50)
Fines% F MC% ● (0 20 40 60 80 100)
PL MC LL (0 20 40 60 80 100)
QP ⊸ (0 1 2 3 4 5)

50/6" 50/2" 50/1"

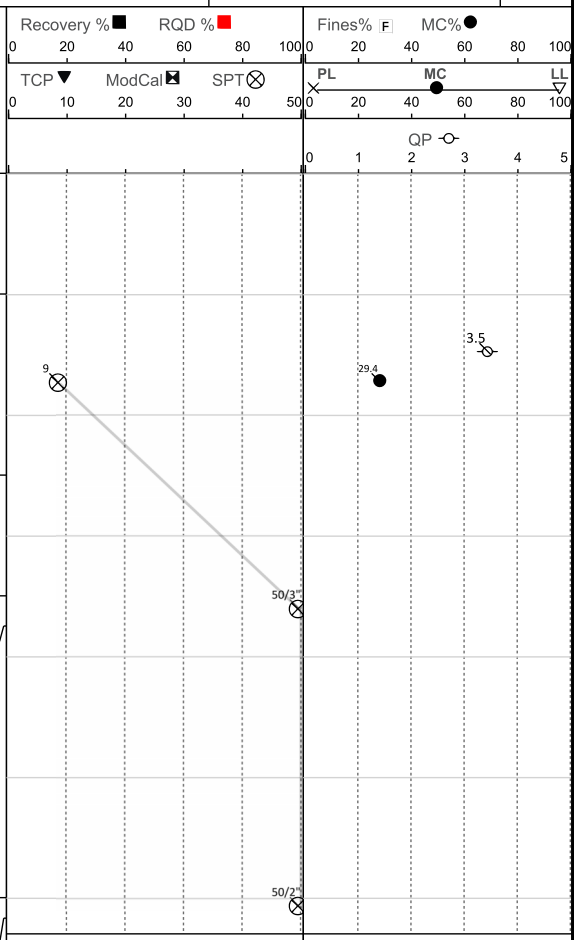
THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

▽ WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	4.1FT
▼ WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
▼ WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
▽ WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-5.5')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	BORING NO.: **B-06**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	DRILLER/CONTRACTOR: **CS Drilling**		
SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**			LOSS OF CIRCULATION
LATITUDE: **43.22131**	LONGITUDE: **-88.1239**	STRUCTURE:	SURFACE ELEVATION: **882.5**	BOTTOM OF CASING

DEPTH (FT)	SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DISTANCE (IN)	SAMPLE RECOVERY (IN)	DESCRIPTION OF MATERIAL	STRATIGRAPHY	WATER LEVELS	ELEVATION (FT)	BLOWS/6" (TCP/MC/SPT - N VALUE)*
					Asphalt [Thickness=1.5"].				
					Gravel [Thickness=4.5"].				
					FILL -(CL) LEAN CLAY WITH SAND - trace gravel, very dark gray, moist, very stiff.				
	S-1	SS	18	13	(CL) LEAN CLAY WITH SAND - trace gravel, very dark gray, moist, very stiff.			880	3-4-5 (9)
					(WR) HIGHLY WEATHERED ROCK, very pale brown, moist, [Weathered LIMESTONE].				
	S-2	SS	3	2					50/3" (50/3")
5									
	S-3	SS	2	2					50/2" (50/2")
					AUGER REFUSAL AT 6.3 Ft				



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

WL (First Encountered):	None	BORING STARTED:	08/19/2025	CAVE IN DEPTH:	Not Observed
WL (Completion):	Dry	BORING COMPLETED:	08/19/2025	HAMMER TYPE:	Automatic
WL (Seasonal High Water):		EQUIPMENT:	LOGGED BY:	DRILLING METHOD:	
WL (Stabilized):		GeoProbe 7822DT	LM	Hollow Stem Auger (0'-6.3')	

GEOTECHNICAL BOREHOLE LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	TEST PIT NO.: **TP-01**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**		
LATITUDE: **43.221590**	LONGITUDE: **-88.123900**	STATION:	SURFACE ELEVATION: **884**

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DECRIPTION OF MATERIAL	STRATIGRAPHY	DCP	EXCAVATION EFFORT	QP(TSF)	SAMPLE NUMBER	Moisture Content %
			Gravel [Thickness=1"] crushed asphalt.						
			(CL) LEAN CLAY - trace gravel and sand, dark brown, contains slight roots and organics, hard.				4.5	BS-01	15.5
			(CL) LEAN CLAY WITH GRAVEL - trace sand, dark yellowish brown, contains slight roots, moist, very stiff, Contains sandy lenses.				3	BS-02	19.5
			(GC) CLAYEY GRAVEL WITH SAND - dark yellowish brown, moist, contains many cobbles.					BS-03	
			BUCKET REFUSAL AT 3.5 Ft						

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E-EASY M-MEDIUM D-DIFFICULT VD-VERY DIFFICULT

WL (First Encountered): None	WL (Seasonal High Water):	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
WL (Completion): Dry		ECS	LM	BobcatE35
ECS REP.:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:	
LM	08/25/2025	English	Not Observed	

TEST PIT LOG

CLIENT: **Campbell Construction JC, Inc.**	PROJECT NO.: **42:2762**	TEST PIT NO.: **TP-02**	SHEET: **1 OF 1**
PROJECT NAME: **Culver's, Germantown**	SITE LOCATION: **NWC Mequon Road and Division Road, Germantown, Wisconsin, 53022**		
LATITUDE: **43.221460**	LONGITUDE: **-88.123300**	STATION:	SURFACE ELEVATION: **884.5**

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DECRIPTION OF MATERIAL	STRATIGRAPHY	DCP	EXCAVATION EFFORT	QP(TSF)	SAMPLE NUMBER	Moisture Content %
			Gravel [Thickness=10"].						
			(CL) SANDY LEAN CLAY - trace gravel, dark brown, moist, hard.				4.25	BS-01	16.5
			(GC) CLAYEY GRAVEL WITH SAND - dark yellowish brown, moist, contains brown SILTY CLAY lenses, contains many cobbles/boulders, encountered probable bedrock.					BS-02	
			BUCKET REFUSAL AT 3 Ft						

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E-EASY M-MEDIUM D-DIFFICULT VD-VERY DIFFICULT

WL (First Encountered): None	WL (Seasonal High Water):	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
WL (Completion): Dry		ECS	LM	BobcatE35
ECS REP.:	DATE COMPLETED:	UNITS:	CAVE-IN-DEPTH:	
LM	08/25/2025	English	Not Observed	

TEST PIT LOG

Appendix C – Laboratory Testing

Other Laboratory Test Results

LABORATORY PROCEDURES:

Index Testing

Moisture content determination was performed on select fine-grained soil samples in accordance with ASTM D 2216.

Calibrated hand penetrometer tests (Qp) were performed on select cohesive soil samples. In the hand penetrometer test, the unconfined compressive strength of a soil sample is estimated, to a maximum of 4.5 or 6 tons per square foot (tsf), depending on the penetrometer model, by measuring the resistance of a soil sample to penetration by a small, calibrated, spring-loaded cylinder.

Atterberg limits determination was performed on select fine-grained soil samples in accordance with ASTM D 4319. The Atterberg limits are a basic measure of the critical water contents of a fine-grained soil: its **liquid limit**, **plastic limit**, and s**hrinkage limit**. Depending on its water content, a soil may appear in one of four states: solid, semi-solid, plastic and liquid. In each state, the consistency and behavior of a soil is different and consequently so are its engineering properties. Atterberg limits can also be used to help distinguish between silt and clay, and to distinguish between different types of silts and clays.

Particle size distribution, also referred to as gradation or sieve analysis, refers to the proportions by dry mass of a soil particles distributed over specified particle-size ranges. The particle size distribution is used to help classify soils for engineering purposes. Particle size distribution determination was performed on select fine-grained soil samples in accordance with ASTM D 421, D 422 and/or D 1140.

A **loss on ignition (LOI)** test is used to estimate the organic content of the soil. In the LOI test a dry sample is heated to 440° C to burn off organic matter within the sample. The lost weight is compared to the initial dry weight to estimate the percentage of organics in the material. LOI determination was performed in accordance with ASTM D 2974.

Appendix D – Supplemental Documents

Other Supplemental Documents

Wisconsin Department of Safety and Professional Services
Division of Industry Services
4822 Madison Yards Way
PO Box 7302
Madison, WI 53707

Phone: 608-266-2112
Web: http://dsps.wi.gov
Email: dsps@wisconsin.gov

Program: Plumbing
Web: https://dsps.wi.gov/Pages/Programs/Plumbing

Soil and Site Evaluation – Stormwater Infiltration

In accordance with SPS 382.365, 385, Wis. Adm. Code, and WDNR Standard 1002

Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m)]

Attach a complete site plan on paper not less than 8 ½ x 11 inches in size. Plan must include, but is not limited to: vertical and horizontal reference point (BM); direction and percent of slope; scale or dimensions; north arrow; and BM referenced to nearest road.

PLEASE PRINT ALL INFORMATION

COUNTY: Washington

PARCEL ID: GTNV_211979

PROPERTY OWNER: Blackstone Creek, LLC

PROPERTY OWNER'S MAILING ADDRESS: 5150 N Port Washington Rd, Suite 115

CITY, STATE, ZIP CODE: Glendale, WI 53217

PHONE:

PROPERTY LOCATION

Govt. Lot ____, NE ¼, SE ¼, S 21, T 9 N, R 20 E

Lot #, Block #, Subd. Name or CSM #: CSM 6749

Municipality: Germantown

☐ City ☒ Village ☐ Town

Nearest Road: Mequon Road

Drainage area _____ ☐sq. ft. ☐acres

Test site suitable for (check all that apply):

☐Site not suitable ☐Bioretention

☐Reuse ☐Subsurface Dispersal System

☐Irrigation ☐Other _____

HYDRAULIC APPLICATION TEST METHOD

☒ Morphological Evaluation

☐ Double Ring Infiltrometer

☐ Other: (specify)

SOIL MOISTURE

Date of soil borings: August 2025

USDA-NRCS WETS VALUE:

☐ Dry = 1

☒ Normal = 2

☐ Wet = 3

TP-01 #OBS. ☒ Pit ☐ Boring Ground Surface Elevation 884 ft. Elevation of Limiting Factor 880.5 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
FILL	0-1	--	--	--	--	--	--	--	--	--
B	1-30	10YR 3/3	no redox features	c	1, vf-f, sbk	mvfi	g, s	0-5	80-90	0.07
B	30-36	10YR 3/4	no redox features	c	1, vf-m, sbk	mvfi	g, w	5-10	65-75	0.07
C	36-42	10YR 3/6	no redox features	cb-vgr-c	2, f-vc, sbk	mfi	c, w	45-50	25-35	0.07

Comments:

Refusal at 42 inches, probable bedrock.

B-06 #OBS. ☐ Pit ☒ Boring Ground Surface Elevation 882.5 ft. Elevation of Limiting Factor 879.5 ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.
Pavement	0-6	--	--	--	--	--	--	--	--	--
FILL	6-12	10YR 3/1	no redox features	c	1, vf-m, sbk	mvfi	g	0-5	65-75	0.07
C	12-36	7.5YR 3/1	no redox features	c	1, vf-m, sbk	mvfi	g	0-5	65-75	0.07
R	36-76	10YR 8/4	no redox features	wb	3 vc m	ew	c	100	--	--

Comments:
Refusal at 76 inches.

____ #OBS. ☐ Pit ☐ Boring Ground Surface Elevation _____ ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.

Comments:

____ #OBS. ☐ Pit ☐ Boring Ground Surface Elevation _____ ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.

Comments:

____ #OBS. ☐ Pit ☐ Boring Ground Surface Elevation _____ ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.

Comments:

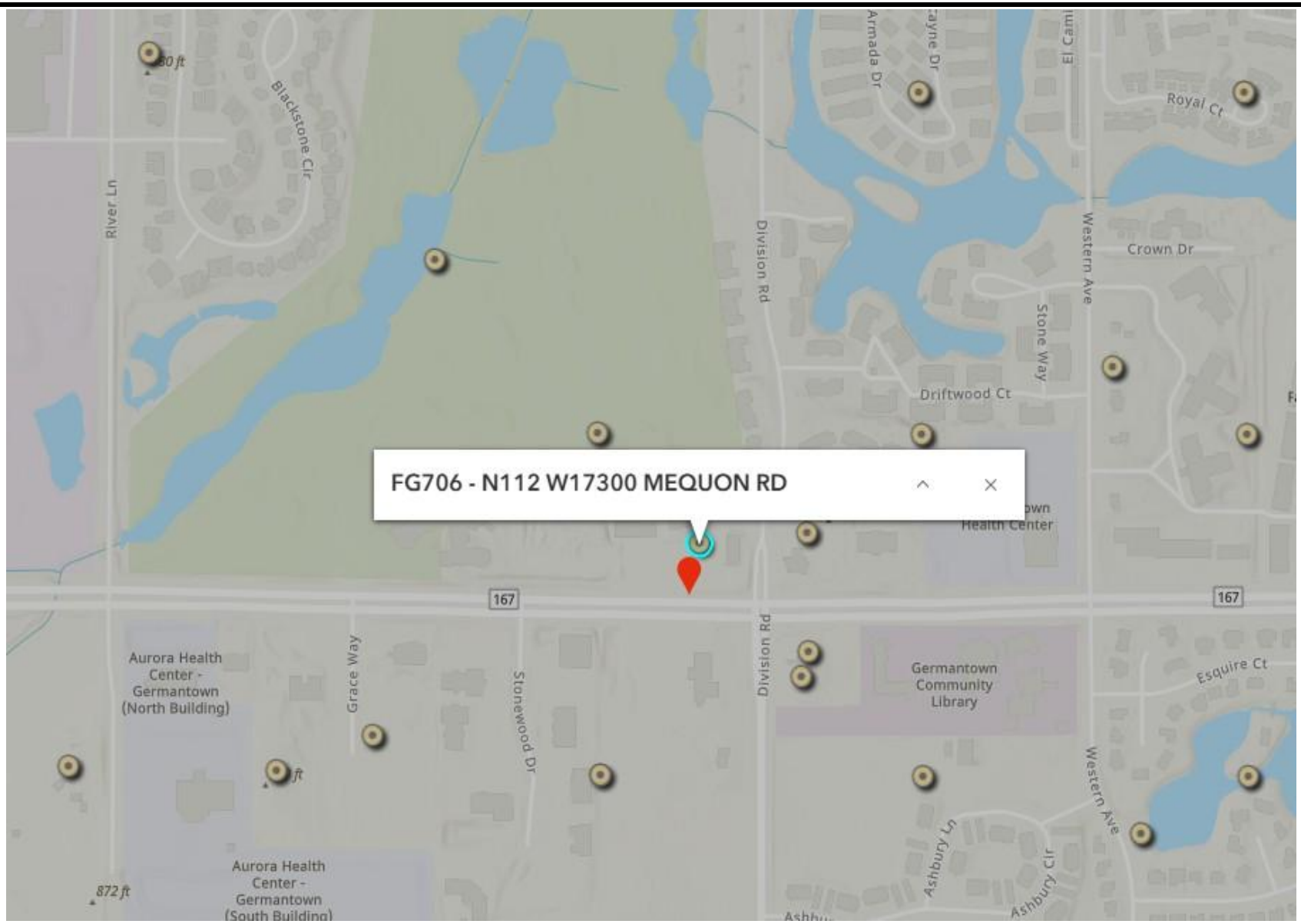
____ #OBS. ☐ Pit ☐ Boring Ground Surface Elevation _____ ft. Elevation of Limiting Factor _____ ft.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App. Rate Inches/Hr.

Comments:

Overall Site Comments:

Matthew Meyer		1053414 (SP-110700001)
Name (Please Print)	Signature	Credential Number
3315 French Road, DePere, WI 54115	09/05/2025	920.347.9040
Address	Date Evaluation Conducted	Phone Number



WELL LOG MAP
Culver's

NWC Mequon Road and Division Road, Germantown, Wisconsin
Campbell Construction JC, Inc.

Engineer	DM
Scale	AS SHOWN
Project No.	42:2762
Figure	WLM
Date	9/2/2025

Well Construction Report
WISCONSIN UNIQUE WELL NUMBER FG706

Drinking Water and Groundwater - DG/5
Department of Natural Resources, Box 7921
Madison WI 53707
Form 3300-077A

Property Owner: LLOYD B. ROBINSON		Phone #: (262)255-4200
Mailing Address: N112 W17300 MEQUON RD		
City: GERMANTOWN	State: WI	Zip Code: 53022
County: Washington	Co. Permit #:	Notification #:
Completed: 07-22-1977		

Well Constructor (Business Name): CHAS RODSUG	Lic. #:	Facility ID # (Public Wells): 267042710
Address: 12007 W. BURLEIGH APT. 1023 WAUWATOSA WI 53222		Well Plan Approval #:
		Approval Date (mm-dd-yyyy):
Hicap Permanent Well #:	Common Well #:	Specific Capacity: 15

3. Well serves 1 # of CLUB HOUSE GOLF COURSE
Non-community
Heat Exchange____# of drillholes

Hicap Well ? No
Hicap Property ? No
Hicap Potable ?

1. Well Location
Town of GERMANTOWN
Fire # (if avail.)
Street Address or Road Name and Number: N112 W17300 MEQUON RD
Subdivision Name | Lot # | Block #

Latitude / Longitude in Decimal Degree (DD): 43.2216 °N -88.1252 °W
Method Code: GCD013

SE	SE	Section	Township	Range
or Govt Lot #		21	9 N	20 E

2. Well Type New Well
of previous unique well # constructed in
Reason for replaced or reconstructed well ?

Construction Type: Drilled

4. Potential Contamination Sources - ON REVERSE SIDE

5. Drillhole Dimensions and Construction Method

Dia. (in.)	From (ft.)	To (ft.)
10	Surface	20
8	20	41
6	41	220

Upper Enlarged Drillhole		Lower Open Bedrock
No	Rotary - Mud Circulation	No
No	Rotary - Air	No
No	Rotary - Air & Foam	No
No	Drill-Through Casing Hammer	
No	Reverse Rotary	
No	Cable-tool Bit ____in. dia...	No
	Dual Rotary	
No	Temp. Outer Casing ____in. dia	
No	Removed? ____depth ft. (If NO explain on back side)	

8. Geology

Geology Codes	Type, Caving/Noncaving, Color, Hardness, etc...	From (ft.)	To (ft.)
I	TOP SOIL	Surface	1
L	LIMESTONE	1	220

6. Casing, Liner, Screen

Dia. (in.)	Material, Weight, Specification Manufacturer & Method of Assembly	From (ft.)	To (ft.)
6	19.4 LBS-FT SUTNITTOM 2 ASTM-A53 PLAIN-END	Surface	41
Dia. (in.)	Screen type, material & slot size	From (ft.)	To (ft.)

7. Grout or Other Sealing Material

Method

Kind of Sealing Material	From (ft.)	To (ft.)	# Sacks Cement
CEMENT	Surface	41	

9. Static Water Level	11. Well Is
16 ft. below ground surface	18 in. above grade
10. Pump Test	Developed ? No
Pumping level 18 ft. below surface	Disinfected ? Yes
Pumping at 30 GP for 8 Hrs.	Capped ? Yes
Pumping Method ?	

12. Notified Owner of need to fill & seal ?

Filled & Sealed Well(s) as needed? No

13. Constructor / Supervisory Driller	Lic #	Date Signed
Drill Rig Operator	**Lic or Reg #**	**Date Signed**

4a. Potential Contamination Sources Is the well located in floodplain ? No

Type	Qualifier	Distance	Type	Qualifier	Distance
POWTS dispersal component (soil absorption unit or mound)		65	Building Overhang		35
			Septic or Holding, or POWTS Tank		55

Comment:

Created On: 04-09-2002 Created by: MCCAIC Updated On: 07-11-2023 Updated by: W23583

Appendix E – Other Information

GBA - Geotechnical Engineering Report Information Sheet

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

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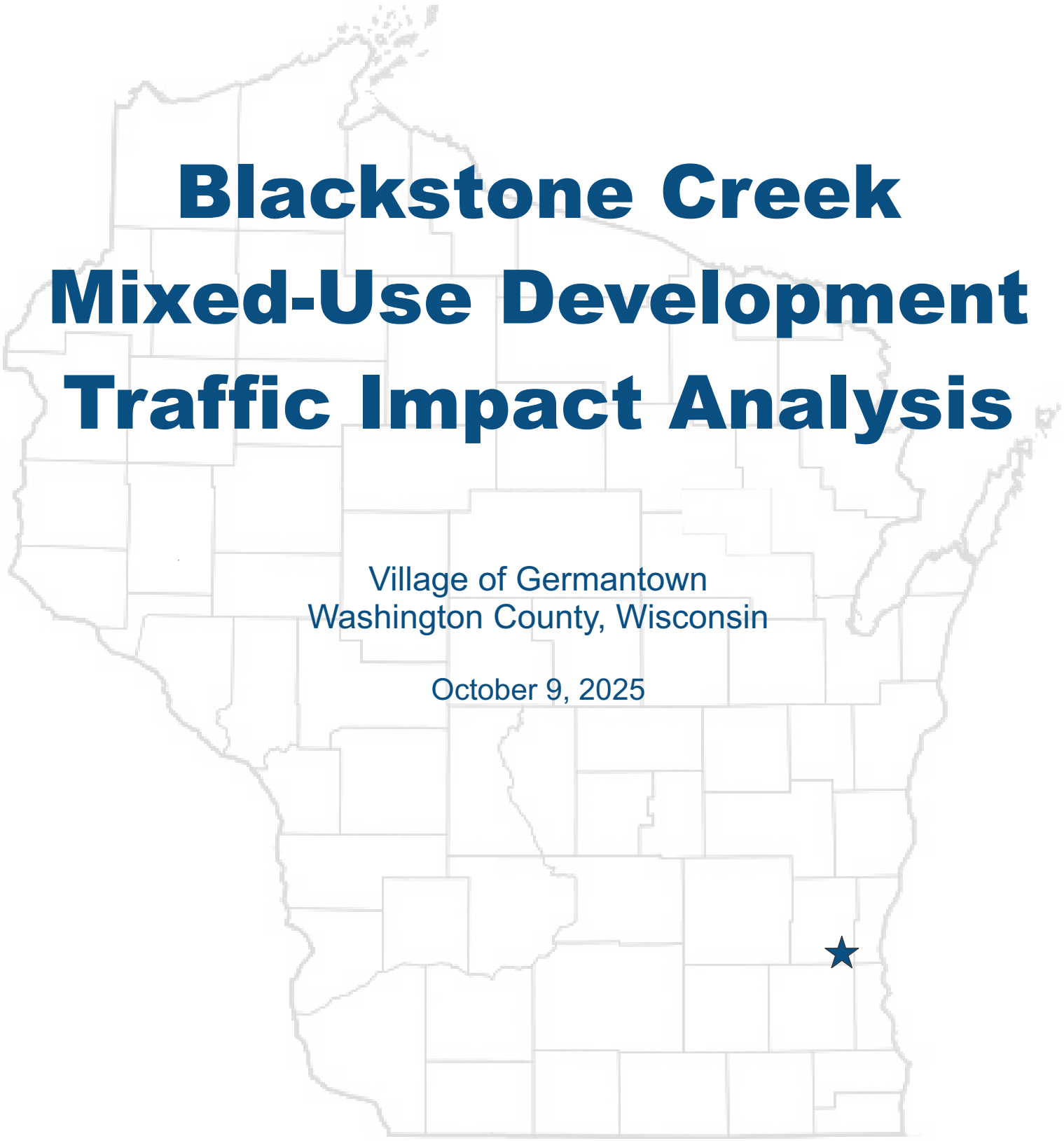
TRAFFIC ANALYSIS & DESIGN, INC.

P.O. Box 128
Cedarburg, WI 53012
800.605.3091
www.tadi-us.com

Blackstone Creek Mixed-Use Development Traffic Impact Analysis

Village of Germantown
Washington County, Wisconsin

October 9, 2025



REVISED AND EXPANDED TRAFFIC IMPACT STUDY FOR:

BLACKSTONE CREEK DEVELOPMENT
MEQUON ROAD

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

DATE SUBMITTED: October 9, 2025

PREPARED FOR:
The Heimat Group
12075 Corporate Parkway, Suite 250
Mequon, WI 53092
Phone: (262) 439-4200
Contact Persons: Jim Sedgwick

PREPARED BY:
TADI
PO Box 128
Cedarburg, WI 53012
Phone: (800) 605-3091
Contact Persons: Don Lee, P.E. (WisDOT TIA Certification # SE05-804-046)
John Bieberitz, P.E., PTOE (WisDOT TIA Certification # SE05-804-044)

"I certify that this Traffic Impact Analysis has been prepared by me or under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering."

_____
Donald J. Lee, P.E.
Wisconsin Registration #35214-006
Traffic Analysis & Design, Inc.

Blackstone Creek Development
Traffic Impact Analysis
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Exhibit 4-8D.....Off-Site New Trips – Fairway Knoll Phase II
Exhibit 4-8E.....Off-Site New Trips – All Developments
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CHAPTER I – INTRODUCTION & EXECUTIVE SUMMARY

PART A – PURPOSE OF REPORT AND STUDY OBJECTIVES

A residential/mixed-use development is being proposed on the north side of Mequon Road/State Trunk Highway (STH) 167, west of Division Road in the Village of Germantown, Washington County, Wisconsin. The development is proposed to replace the existing Blackstone Creek Golf Course. As part of the development, the Village of Germantown has requested a traffic impact analysis be conducted to determine the additional traffic expected to be generated by the proposed development under the full build out traffic conditions and to identify roadway modifications, if any, attributed to the new development for the Year 2030 full build traffic scenario. Several off-site developments were also included in the analysis.

This report documents the procedures, findings, and conclusions of the traffic impact analysis. The analysis identifies recommended modifications based on existing intersection geometrics, background traffic volumes, and additional traffic expected to be generated by the proposed on-site and off-site developments within the limits of the study area.

PART B – EXECUTIVE SUMMARY

The executive summary includes a description of the study area, description of the proposed on-site development, identified off-site developments, and conclusions based on the findings of the TIA.

B1. Location of Study Site with Respect to Area Roadway Network

The residential/mixed-use development is proposed to be located on the north side of Mequon Road (STH 167) at Division Road in the Village of Germantown, as shown in Exhibit 1-1. The study area for the proposed development includes the following intersections:

- Node 100: STH 167 with Stonewood Drive/Fairway Knoll driveway (two-way stop control)
- Node 200: STH 167 with Blackstone Creek Golf Club driveway (two-way stop control)
- Node 300: STH 167 with Division Road (traffic signal control)
- Node 400: Division Road with Bank Driveway/North Driveway (proposed two-way stop control)
- Node 450: North Driveway with Residential Driveway (proposed one-way stop control)

B2. On-Site Development Description

A conceptual site plan for the proposed residential/mixed-use development is shown on Exhibit 1-2A. The conceptual site plan for the fast food restaurant parcel only is shown on Exhibit 1-2B. The on-site residential/mixed-use development is expected to include a mix of retail/restaurant and office space over seven buildings. According to the development team the following land uses are assumed for the proposed residential/mixed-use development site:

- Multifamily Housing (Low-Rise) (Not Close to Rail Transit) – 135 units
- Multifamily Housing (Low-Rise) (Not Close to Rail Transit) – 70 units
- Strip Retail Plaza (<40k) – 9,250 square feet (sf)
- Fast-Food Restaurant with Drive-Through – 4,400 sf

It is anticipated that the full build out will occur over the next few years with construction of the northern residential buildings and the fast food restaurant anticipated to begin in year 2026; however, tenants for the southern retail lot is not known at this time and will move forward as market conditions allow. For traffic study purposes, the full build out is expected to be complete by the Year 2030.

B3. Off-Site Development Description

According to the Village of Germantown, four off-site developments are expected within the limits of the study area.

- The previously approved Kwik Trip development located to the west of the on-site development, specifically on the south side of Mequon Road, immediately east of Maple Road.
- The previously approved STH 167/Pilgrim Road mixed-use development, located in the southeast quadrant of Mequon Road at Pilgrim Road.
- The recently submitted Cirrus multi-family development, located about ¼-mile south of the proposed development, along the west side of Division Road.
- The full build out (phase II) of the previously approved Fairway Knoll senior living development, located immediately west of the proposed development.

All data from the west development was taken from the previously approved Kwik Trip TIA dated October 14, 2024. All data from the east development was taken from the previously approved STH 167/Pilgrim Road mixed-use development TIA dated July 29, 2024. All data from the south development was taken from the previously submitted residential development TIA dated September 29, 2025. Trip generation and distribution for the build out (phase II) of the previously approved Fairway Knoll senior living development have been included in this study.

B4. Site Generated Traffic

The traffic volumes expected to be generated by the proposed development are based on the size and type of the proposed uses, and on trip rates and fitted curve equations (FCE) as published in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual, 11th Edition*. A combination of trip rates and FCE's were utilized to determine the expected new trips based on current ITE practices.

The residential/mixed-use development site is expected to include both linked trips and pass-by trips. A linked trip occurs when a patron of one tenant visits another tenant prior to exiting the site (e.g., a retail patron visits the restaurant prior to entering the highway system). It is estimated that approximately 10 percent of the retail new trips will be linked trips. Pass-by trips occur when motorists already on the highway system stop at a development site prior to continuing on their intended route (e.g., an existing motorist westbound on STH 167 stops at the restaurant prior to continuing westbound on STH 167). Approximately 20 percent of the proposed retail and 25 percent of the proposed restaurant driveway trips are expected to be pass-by trips.

Full build of the residential/mixed-use development site is expected to generate 325 new trips (135 entering/190 exiting) during a typical weekday morning peak hour. Of the 325 new trips, none are expected to be linked trips and about 50 are expected to be pass-by trips resulting in 275 new trips (110 entering/165 exiting) during a typical weekday morning peak hour. During a typical weekday evening peak hour, full build of the development is expected to generate 350 new trips (195 entering/155 exiting). Of the 350 new trips, approximately 10 are expected to be linked trips and another 50 are expected to be pass-by trips resulting 290 new trips (165 entering/125 exiting). On a typical weekday, full build of the residential/mixed-use development site is expected to generate 4,020 new trips of which approximately 50 are expected to be linked

trips and another 610 are expected to be pass-by trips resulting in approximately 3,360 new trips (1,680 entering/1,680 exiting) under full build conditions.

B5. Proposed Access

Two main access points are proposed to accommodate the new development. The north driveway is proposed as a full access driveway along Division Road, directly across from the existing Bank access driveway, located in the northeast quadrant of the STH 167/Division Road signalized intersection. A second full access driveway is proposed along STH 167 near the center of the property, approximately 260-feet (stop bar to center of driveway) west of Division Road. Both driveways are proposed to operate under stop sign control on the driveway approaches. A cross-access drive to the Fairway Knoll retirement community property located to the west is also proposed to remain as part of the development plans.

B6. Recommended Modifications

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual* (HCM) 7th *Edition*. Intersection operation is defined by "level of service." Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A,' to very poor, represented by LOS 'F.' For the purpose of this study, LOS D or better was used to define acceptable peak hour operating conditions.

Modifications to address traffic impacts are shown in Exhibit 1-3 for the Year 2030 traffic conditions and have been shown for the following scenarios:

- "Existing Traffic" – These modifications are expected to be necessary to accommodate Year 2025 Existing traffic volumes without the proposed residential/mixed-use development.
- "Background Traffic" – These modifications are expected to be necessary to accommodate the Year 2030 background traffic volumes, which includes only the off-site development but no on-site development.
- "Full Build Traffic" – These modifications are expected to be necessary to accommodate the Year 2030 full build traffic volumes, which includes full build out of the proposed on-site development as well as the off-site development.

The analysis was conducted using existing intersection geometrics and traffic control. The following modifications, as shown in Exhibit 1-3, are recommended to accommodate the Year 2025 Existing, Year 2030 background and Year 2030 full build traffic volumes, respectively. *Modifications are for jurisdictional consideration and are not legally binding. The Village of Germantown reserves the right to determine alternative solutions.*

Node 100: STH 167 intersection with Stonewood Drive/Fairway Knoll Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:* No modifications.

Node 200: STH 167 intersection with Blackstone Creek Golf Club Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.

- *Full Build Traffic:*
    - Provide a full access driveway on the north approach.
    - Provide stop control on the north approach.
    - Provide a dedicated right-turn lane and a dedicated left-turn lane on the north approach at the proposed driveway.

Node 300: STH 167 intersection with Division Road

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:*
    - Using pavement marking, restripe the northbound left-turn lane to a length of 125-feet (this requires an extension of 50-feet).

Node 400: Division Road intersection with Bank Driveway/North Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:*
    - Provide a full access driveway on the west approach.
    - Provide stop control on the west approach.

Node 450: North Driveway intersection with Residential Driveway

- *Existing traffic:* Not applicable.
- *Background Traffic:* Not applicable.
- *Full Build Traffic:*
    - Construct internal roadways as shown on the site plan.
    - Provide stop control on the north and south approaches.

It is noted that consideration was given to providing additional turn lanes at the Division Road intersection with the bank driveway/proposed north driveway under full build conditions. However, since the expected northbound/southbound through volumes are currently very low (less than 100 vehicles in any peak hour) and are expected to remain low, and the conflicting turning volumes expected at the intersection are relatively low, turn lanes are not expected to be necessary nor warranted. As shown in this report, all movements at this intersection are expected to operate at LOS B (less than 12 seconds of delay) or better with minimal queueing (1 vehicle or less) during all peak periods with the existing intersection configuration.

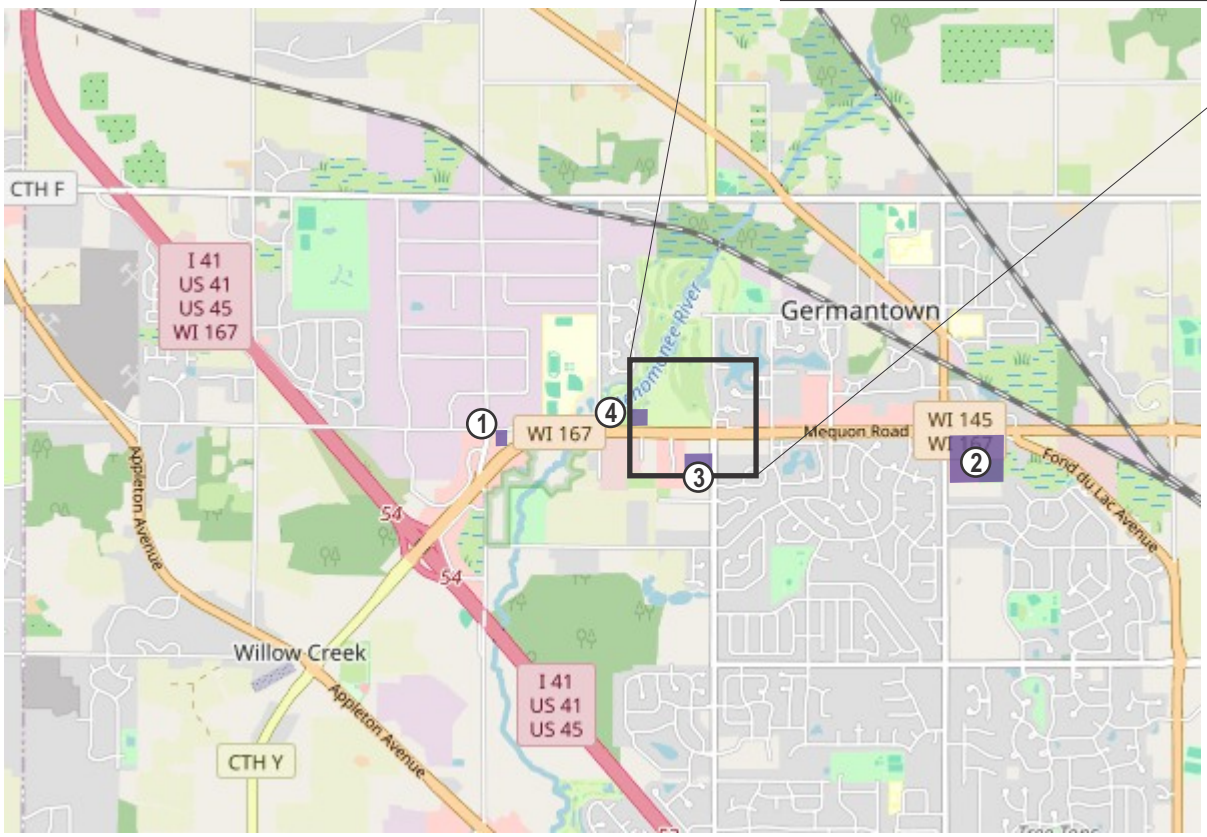
Dedicated turn lanes are recommended on the north approach at the STH 167 intersection with the Blackstone Creek Golf Club driveway under full build conditions. No other modifications are recommended at this intersection. This intersection is expected to operate acceptably at LOS D or better with minimal queueing (1 vehicle or less) during all peak periods. Even though not expected, if significant adjacent development in the future requires the restriction of left-turn exiting vehicles at the intersection (left-in/right-in/right-out access driveway), an example of the median modifications that could be considered at that time is shown on Exhibit 1-3. It is noted

that this type of modification may be considered in the future as part of a future large TIA which generates a significant amount of traffic.

Modifications to the lane configuration on the north and south approaches of the signalized STH 167 intersection with Division Road are not recommended. The intersection is expected to operate acceptably under the current lane configuration whereas, significantly higher delays (LOS E/F) are expected with a shared through/left-turn lane and a dedicated right-turn lane on the south approach.

B7. Conclusion

All movements at the study area intersections are expected to operate safely and efficiently with the development assumptions outlined in this TIA and with the identified recommended modifications if properly designed and implemented through the full built out of the development (expected year 2030).



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LEGEND

- Study Area Intersection
- On-Site Development
- Off-Site Development

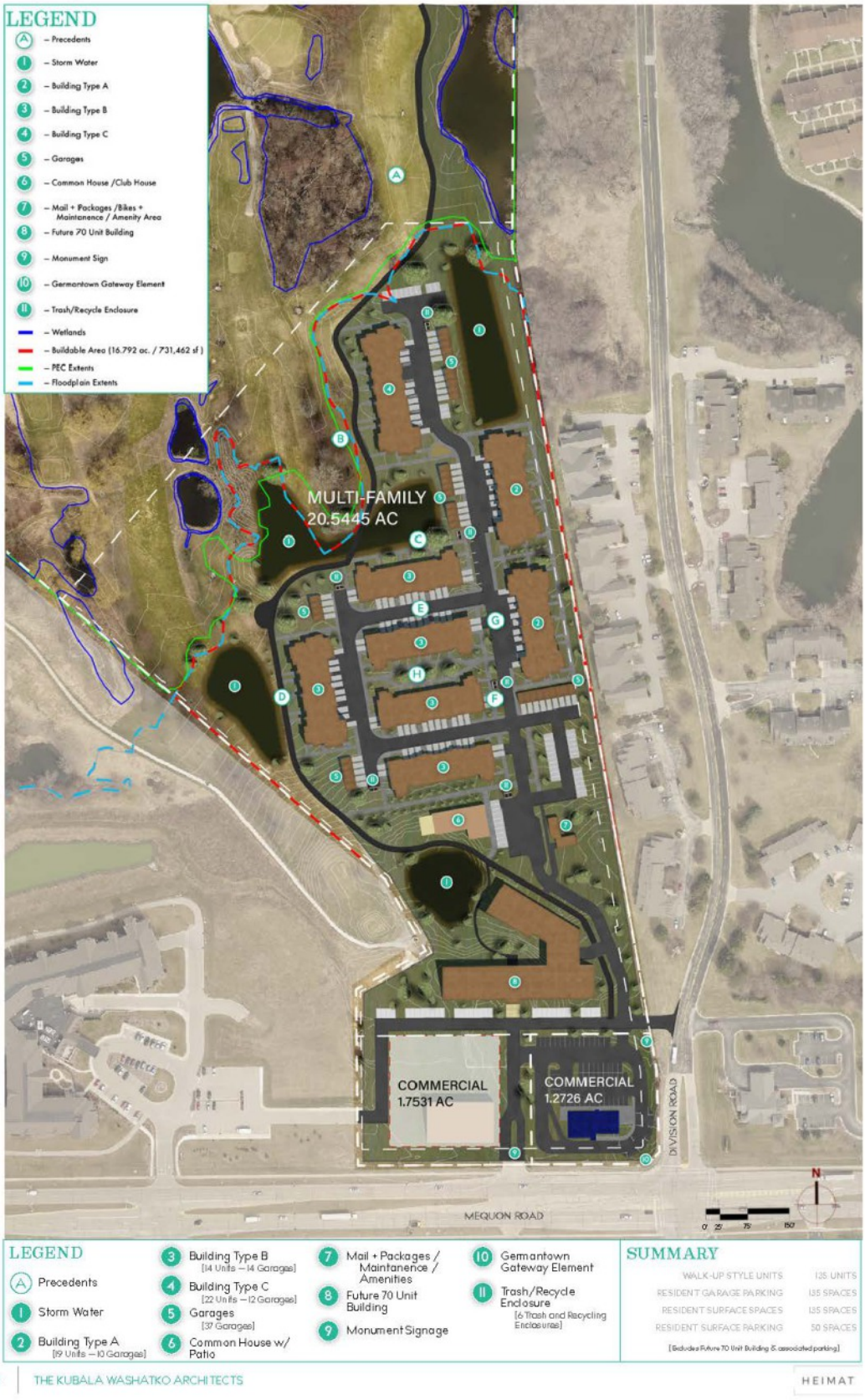
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EXHIBIT 1-1
PROJECT OVERVIEW MAP

GERMANTOWN, WISCONSIN



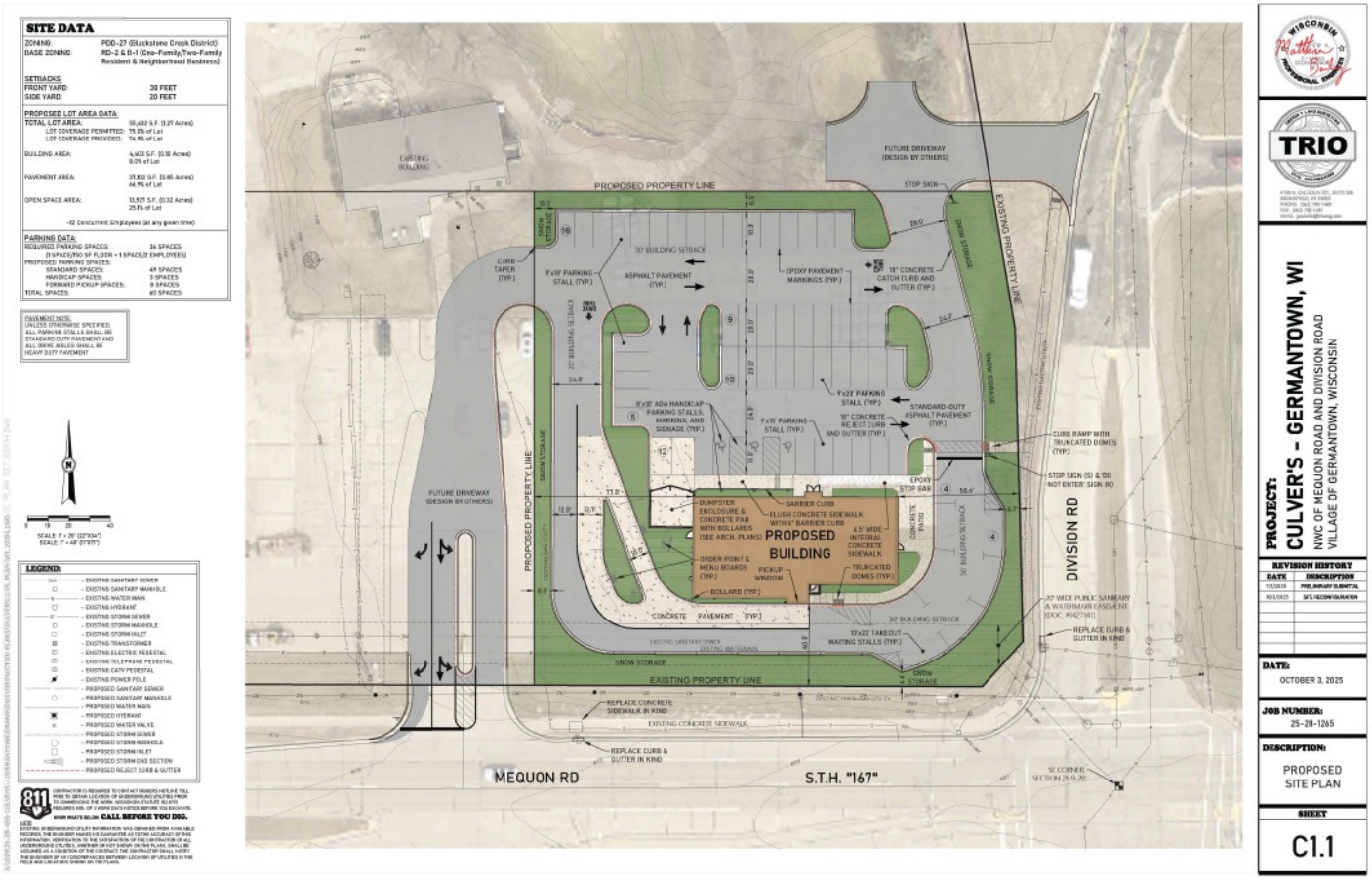
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EXHIBIT 1-2A
CONCEPTUAL SITE PLAN
FULL SITE

GERMANTOWN, WISCONSIN

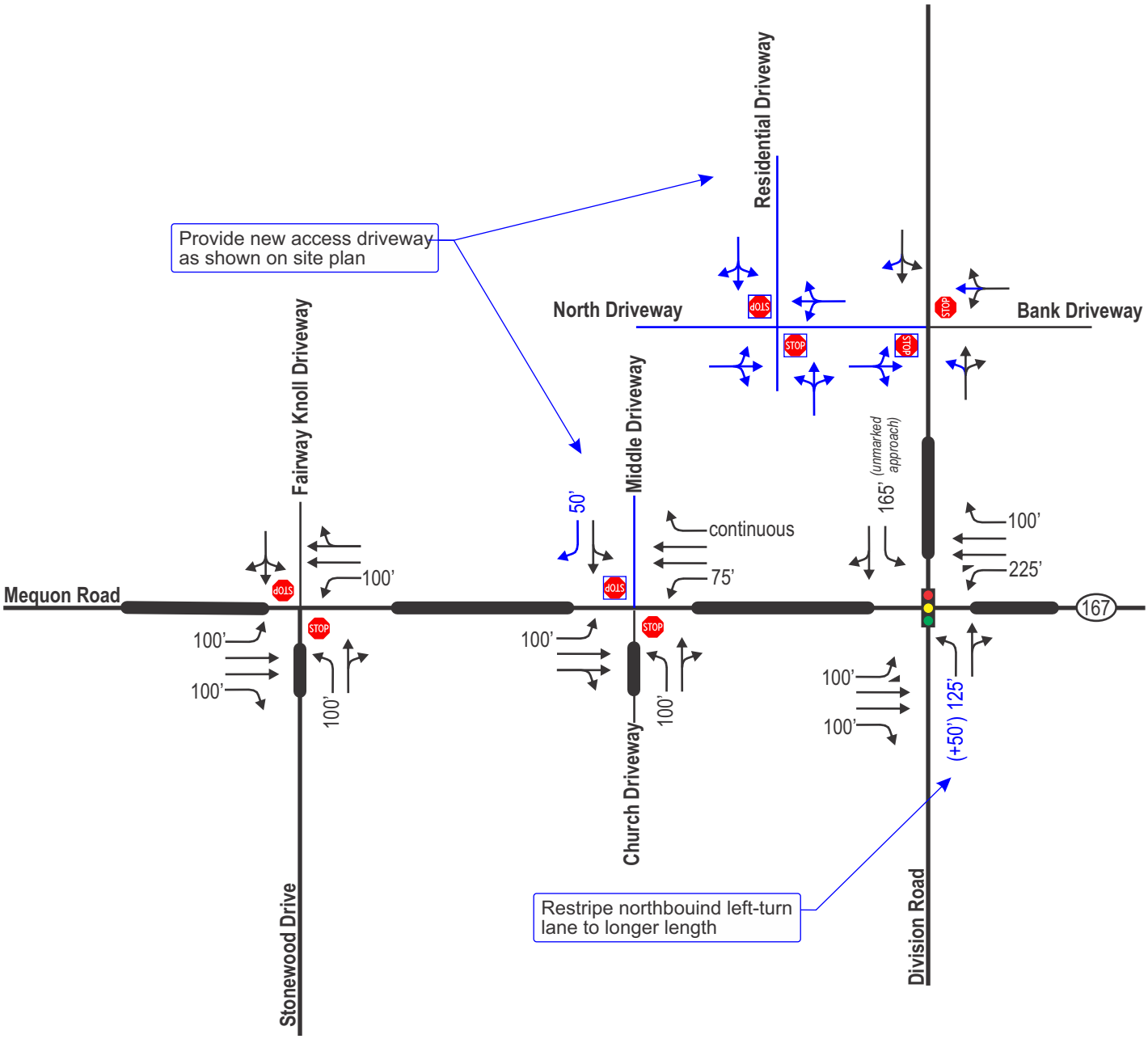


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EXHIBIT 1-2B
CONCEPTUAL SITE PLAN
RESTAURANT SITE ONLY

GERMANTOWN, WISCONSIN



LEGEND

- Traffic Signal Control
- Stop Control
- XX' Storage Length (In Feet)
- Existing Lane Configuration
- Divided Roadway Median
- **BLUE** Full Build Recommended Modifications



Left-in/Right-in/Right-out Access Example

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N
NOT TO SCALE

EXHIBIT 1-3
RECOMMENDED MODIFICATIONS

GERMANTOWN, WISCONSIN

CHAPTER II – PROPOSED DEVELOPMENT

PART A – ON-SITE DEVELOPMENT

A1. Development Description and Site Location

A residential/mixed-use development is being proposed on the north side of Mequon Road/STH 167, west of Division Road in the Village of Germantown, Washington County, Wisconsin. A project overview map illustrating the location of the proposed development site is shown in Exhibit 2-1.

A2. Land Use and Intensity

The site is currently operating as a private golf club. Residential land uses are located directly to the east and west of the site. A wooded area is located to the north. A bank is located directly to the east in the northeast corner of the STH 167 intersection with Division Road. A senior living facility is located directly to the west of the site, and a church is located immediately to the south of the site, on the south side of STH 167. A corporate center is located immediately west of this church and additional commercial land uses exist further to the east and west of the proposed site on the north and south sides of STH 167.

A3. Site Plan

A conceptual site plan for the proposed residential/mixed-use development is shown on Exhibit 2-2A. The conceptual site plan for the fast food restaurant parcel only is shown on Exhibit 2-2B. The on-site residential/mixed-use development is expected to include a mix of apartments on the north portion of the site as well as a retail building and a restaurant on the southern portion of the site. The residential component is expected to include eight (8) two-story walkup apartments and a larger two-story building with underground and ground level indoor parking. Surface parking is proposed for the walkup apartments. A club house is also proposed near the center of the site.

A4. Development Phasing

According to the development team the following land uses are assumed for the proposed residential/mixed-use development site:

- Multifamily Housing (Low-Rise) (Not Close to Rail Transit) – 135 units
- Multifamily Housing (Low-Rise) (Not Close to Rail Transit) – 70 units
- Strip Retail Plaza (<40k) – 9,250 square feet (sf)
- Fast-Food Restaurant with Drive-Through – 4,400 sf

It is anticipated that the full build out will occur over the next few years with construction of the northern residential buildings and the fast food restaurant anticipated to begin in year 2026; however, tenants for the southern retail lot is not known at this time and will move forward as market conditions allow. For traffic study purposes, the full build out is expected to be complete by the Year 2030. The staging detail is shown in Exhibit 2-3 and the Village of Germantown year 2050 comprehensive land use map is shown in Exhibit 2-4. The comprehensive plan shows the proposed site located within the Village Center District which identifies multi-family residential and mixed-use commercial land uses as desirable land uses for this area.

PART B – STUDY AREA

B1. Influence Area

Based on the type of proposed land uses and the location of the site, the proposed development is expected to draw from a local and regional customer base. Therefore, the areas of significant

influence include the Village of Germantown and other surrounding cities, villages, and towns in southeast Wisconsin.

B2. Area of Significant Traffic Impact

The study area for the proposed development includes the following intersections:

- Node 100: STH 167 with Stonewood Drive/Fairway Knoll driveway (two-way stop control)
- Node 200: STH 167 with Blackstone Creek Golf Club driveway (two-way stop control)
- Node 300: STH 167 with Division Road (traffic signal control)
- Node 400: Division Road with Bank Driveway/North Driveway (proposed two-way stop control)
- Node 450: North Driveway with Residential Driveway (proposed one-way stop control)

PART C – OFF-SITE LAND USE AND DEVELOPMENT

According to the Village of Germantown, four off-site developments are expected within the limits of the study area.

- The previously approved Kwik Trip development located to the west of the on-site development, specifically on the south side of Mequon Road, immediately east of Maple Road.
- The previously approved STH 167/Pilgrim Road mixed-use development, located in the southeast quadrant of Mequon Road at Pilgrim Road.
- The recently submitted Cirrus multi-family development, located about ¼-mile south of the proposed development, along the west side of Division Road.
- The full build out (phase II) of the previously approved Fairway Knoll senior living development, located immediately west of the proposed development.

All data from the west development was taken from the previously approved Kwik Trip TIA dated October 14, 2024. All data from the east development was taken from the previously approved STH 167/Pilgrim Road mixed-use development TIA dated July 29, 2024. All data from the south development was taken from the previously submitted residential development TIA dated September 29, 2025. Trip generation and distribution for the build out (phase II) of the previously approved Fairway Knoll senior living development have been included in this study.

PART D – SITE ACCESSIBILITY

D1. Study Area Roadways

The study area corridors include:

Mequon Road (also designated as STH 167) is a four-lane divided east/west principal arterial highway with a posted speed limit of 35 miles per hour (mph) within the limits of the study area. It is part of the state trunk highway network as a connecting highway under the jurisdiction of the Village of Germantown. According to the Wisconsin Department of Transportation (WisDOT), the Year 2023 average annual daily traffic volumes (AADT's) on STH 167 were approximately 16,700 vehicles per day (vpd) west of the project limits and 16,600-vpd east of the project limits. Sidewalks are provided along both sides of STH 167.

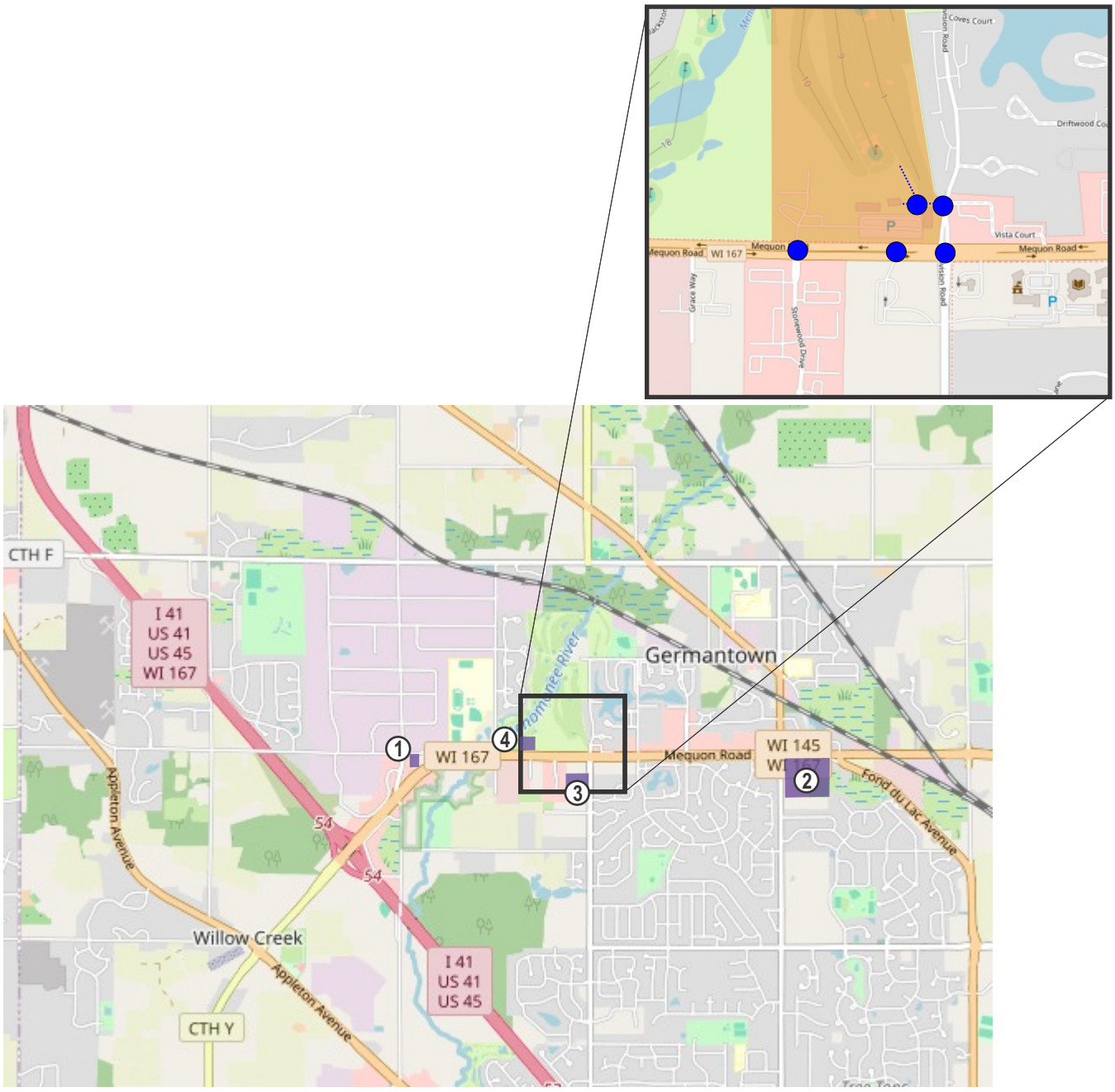
Division Road is a two-lane undivided north/south minor arterial to the south of STH 167 and a two-lane undivided local street to the north. The posted speed limit on Division Road is 35-mph

to the south of STH 167 and 25-mph to the north. The WisDOT Year 2023 AADT's on Division Road were approximately 4,200-vpd south of STH 167 and 1,100-vpd to the north. A multi-use trail is provided along the east side of Division Road, from STH 167 to the south; however, no other sidewalks exist to the north.

Stonewood Drive is a two-lane undivided north/south local dead-end street to the south of STH 167 with a posted speed limit of 25-mph. Sidewalks are not provided along either side of Stonewood Drive.

D2. Alternative Modes of Transportation

Pedestrian sidewalks or multi-use trails are provided along both sides of STH 167 and along the east side of Division Road to the south of STH 167; however, no other bicycle accommodations exist within the study area. Transit is not present within the area.



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LEGEND

- Study Area Intersection
- On-Site Development
- Off-Site Development

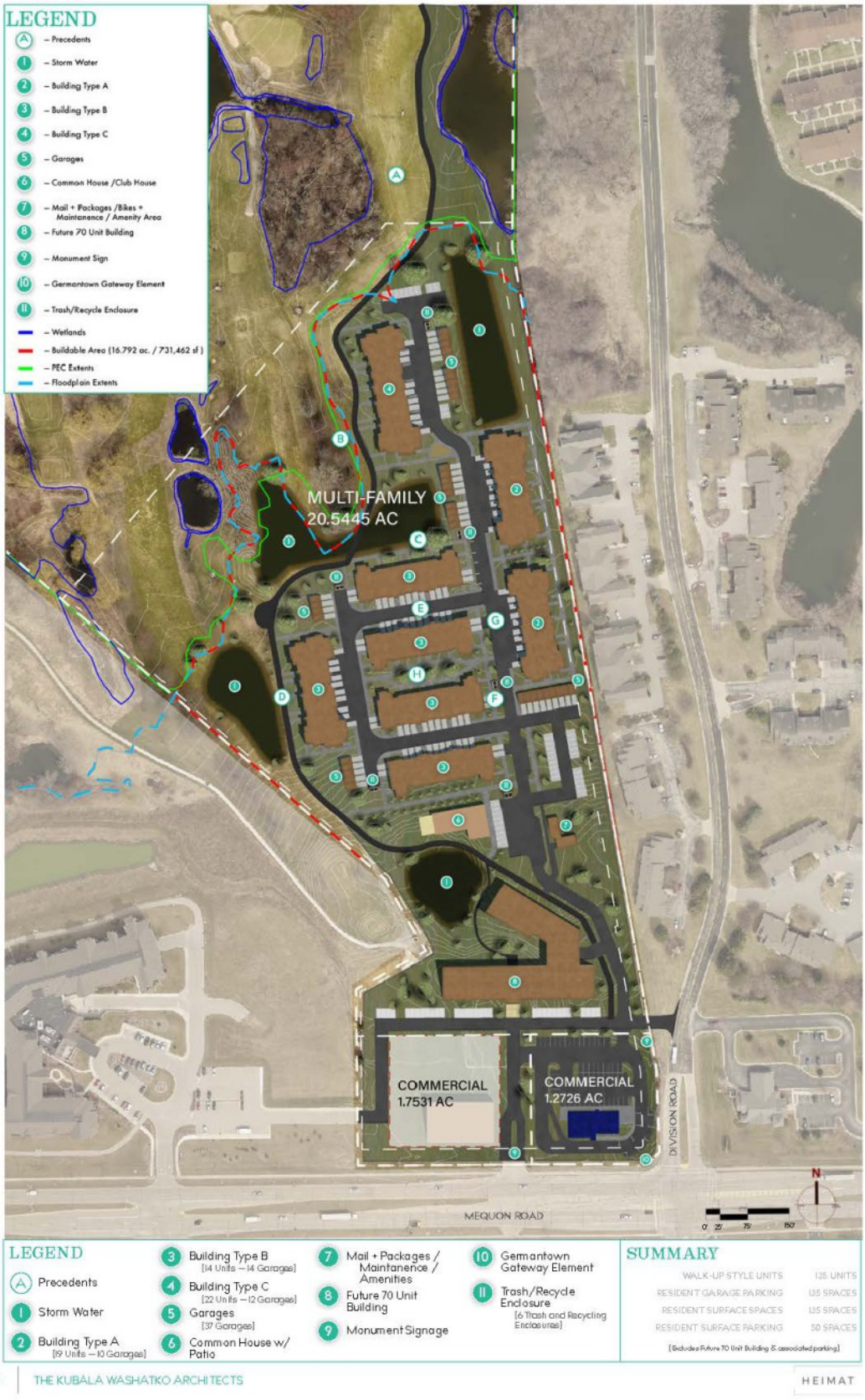
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EXHIBIT 2-1
PROJECT OVERVIEW MAP

GERMANTOWN, WISCONSIN



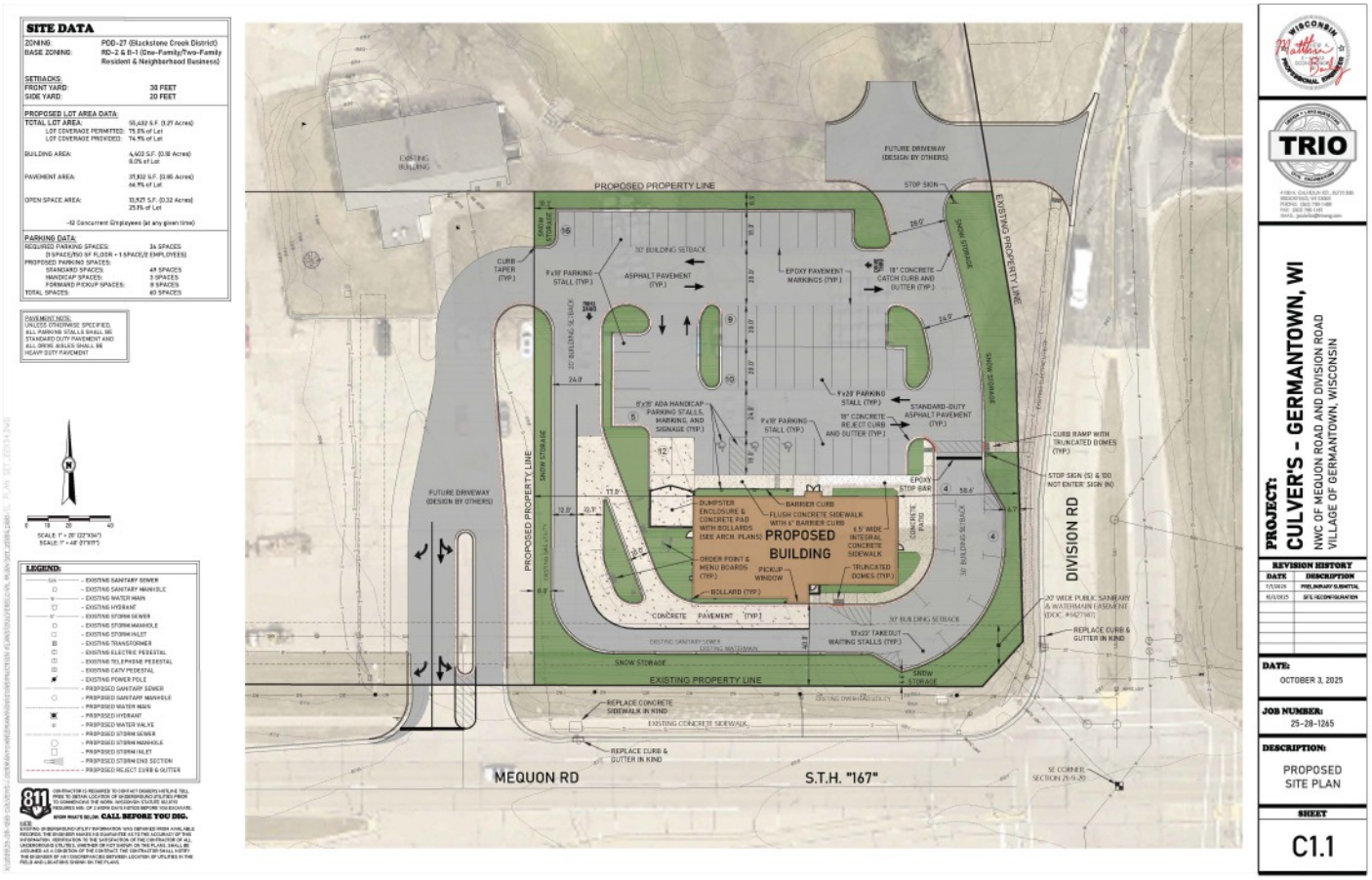
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EXHIBIT 2-2A
CONCEPTUAL SITE PLAN
FULL SITE

GERMANTOWN, WISCONSIN

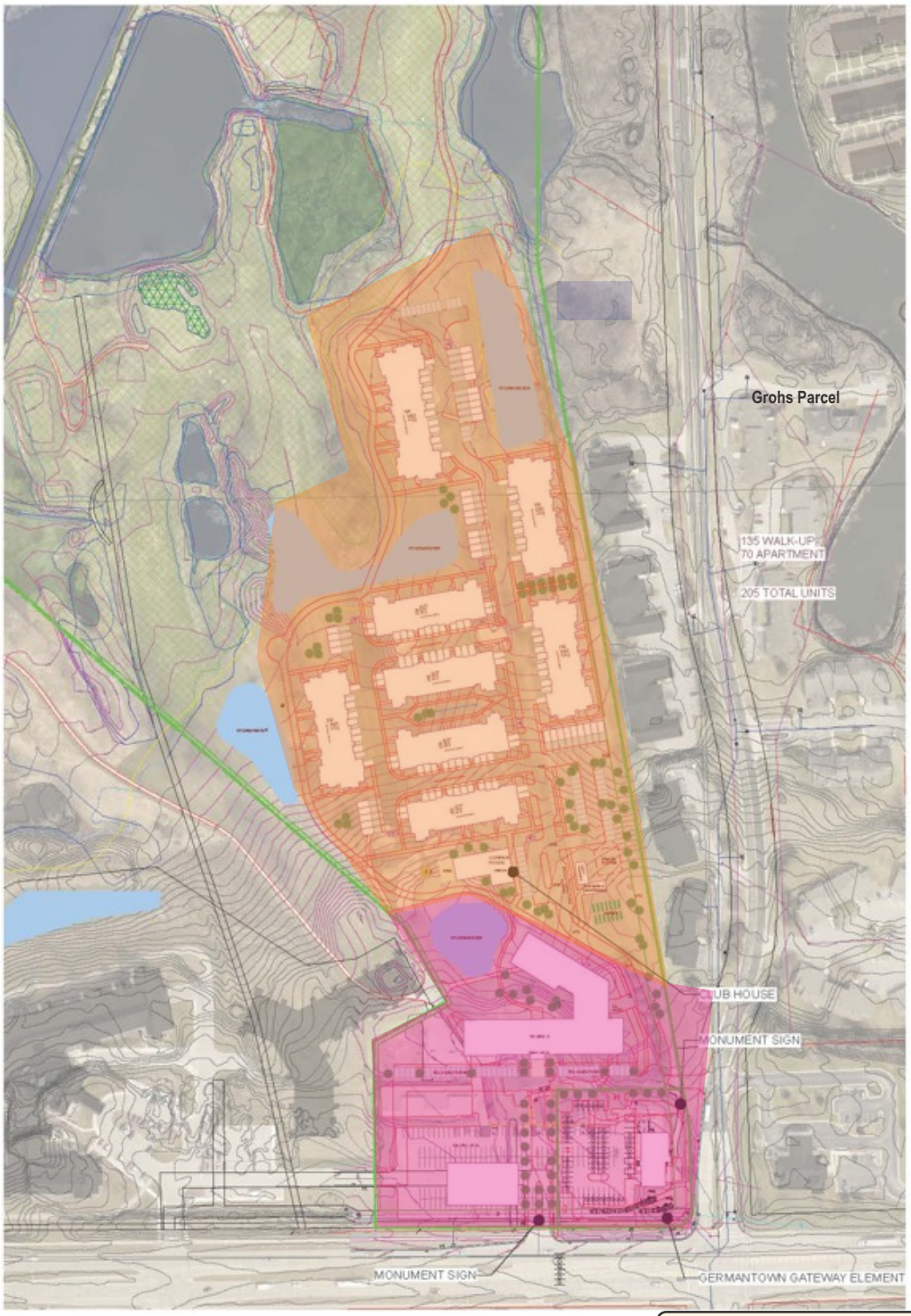


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EXHIBIT 2-2B
CONCEPTUAL SITE PLAN
RESTAURANT SITE ONLY

GERMANTOWN, WISCONSIN



TkWA
The Kubala Washatko Architects, Inc.
W61 N617 Mequon Avenue
Cedarburg, WI 53012
p: 262.377.6039 | f: 262.377.2954

BLACKSTONE CREEK
SCALE: 1" = 150'-0"
237120
June 17, 2025

LEGEND
- Phase I
- Subsequent Phases

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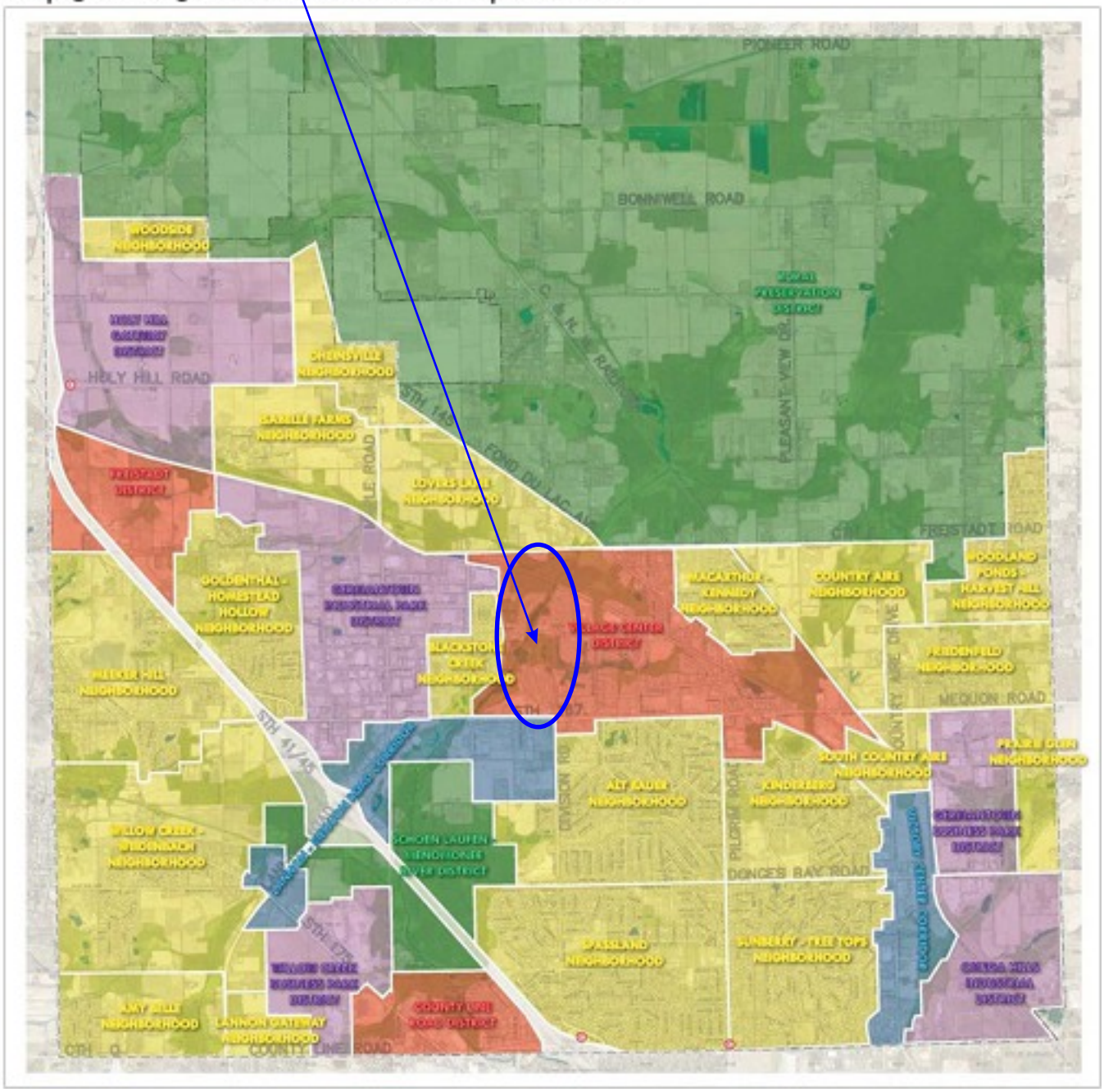
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EXHIBIT 2-3
ANTICIPATED STAGING DETAIL

GERMANTOWN, WISCONSIN

Proposed Development Site

Map 5.2 – 2050 Future Land Use Map Overview



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EXHIBIT 2-4
VILLAGE OF GERMANTOWN 2050 COMPREHENSIVE PLAN
FUTURE LAND USE MAP

GERMANTOWN, WISCONSIN

CHAPTER III – ANALYSIS OF EXISTING CONDITIONS

PART A – PHYSICAL CHARACTERISTICS

Exhibit 3-1 shows the existing transportation detail for the study area intersections. More specifically, the exhibit illustrates intersection lane configurations, intersection traffic controls, distances between intersections, and posted speed limits.

PART B – TRAFFIC VOLUMES

The weekday morning and weekday evening peak hours are expected to drive the improvements needed to adequately accommodate the residential/mixed-use development, as they represent the highest trip generation for the site and the highest volumes along STH 167. TADI conducted weekday morning (6:00 – 9:00am) and weekday evening (3:00 – 6:00pm) peak hour turning movement traffic counts at the STH 167 intersections with Division Road and the Blackstone Creek Golf Course driveway in late-July of 2025. Thirteen hour turning movement counts were also conducted over this same period for the STH 167 intersection with Stonewood Drive/Fairway Knoll driveway. All counts were conducted during the three days of July 29th through July 31st of 2025, noting that a large storm event in the area occurred two weeks after the data collection for this study. A supplemental traffic turning movement count was conducted in late September of 2025 at the Division Road intersection with the Bank Five Nine/KinderCare driveway on a weekday morning (6:00 – 9:00am) and weekday evening (3:00 – 6:00pm).

Based on the turning movement counts and utilizing the main signalized STH 167 intersection with Division Road count as the controlling intersection count; the weekday morning and weekday evening peak hours were identified as being from 7:30 to 8:30am and 4:15 to 5:15pm, respectively. The existing traffic volumes, balanced along the highway corridors, are shown in Exhibit 3-2B. Exhibit 3-2A shows the existing raw, unbalanced traffic volumes. The traffic counts used to determine peak hour factors and truck percentages have been included in the Appendix of this study.

PART C – CAPACITY LEVEL OF SERVICE

C1. Level of Service Definitions

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual* (HCM) *6th Edition*. Intersection operation is defined by "level of service." Level of service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A,' to very poor, represented by LOS 'F.' For the purpose of this study, LOS D was used to define acceptable peak hour operating conditions. Descriptions of the various levels of service are shown in the table below.

Level of Service Definitions

LOS	Signalized Intersections Control Delay/Vehicle (sec/veh)	Unsignalized Intersections Avg. Control Delay (sec/veh)	Relative Delay
A	≤10	≤10	Short Delays
	Free-flow traffic operations at avearge travel speeds. Vehicles completely unimpeded in ability to maneuver. Minimal delay at signalized intersections.		
B	> 10 - 20	> 10 - 15	
	Reasonably unimpeded traffic operations at average travel speeds. Vehicle maneuverability slightly restricted. Low traffic delays.		
C	> 20 - 35	> 15 - 25	
	Stable traffic operations. Lane changes becoming more restricted. Travel speeds reduced to half of average free flow travel speeds. Longer intersection delays.		
D	> 35 - 55	> 25 - 35	Moderate Delays
	Small increases in traffic flow can cause increased delays. Delays likely attributable to increased traffic, reduced signal progression, and adverse timing.		
E	> 55 - 80	> 35 - 50	
	Significant delays. Travel speeds reduced to one-third of average free flow travel speed.		
F	> 80	> 50	Long Delays
	Extremely low speeds. Intersection congestion. Long delays. Extensive traffic queues at intersections.		

Source: Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2010

C2. Existing Traffic Operations – No Modifications

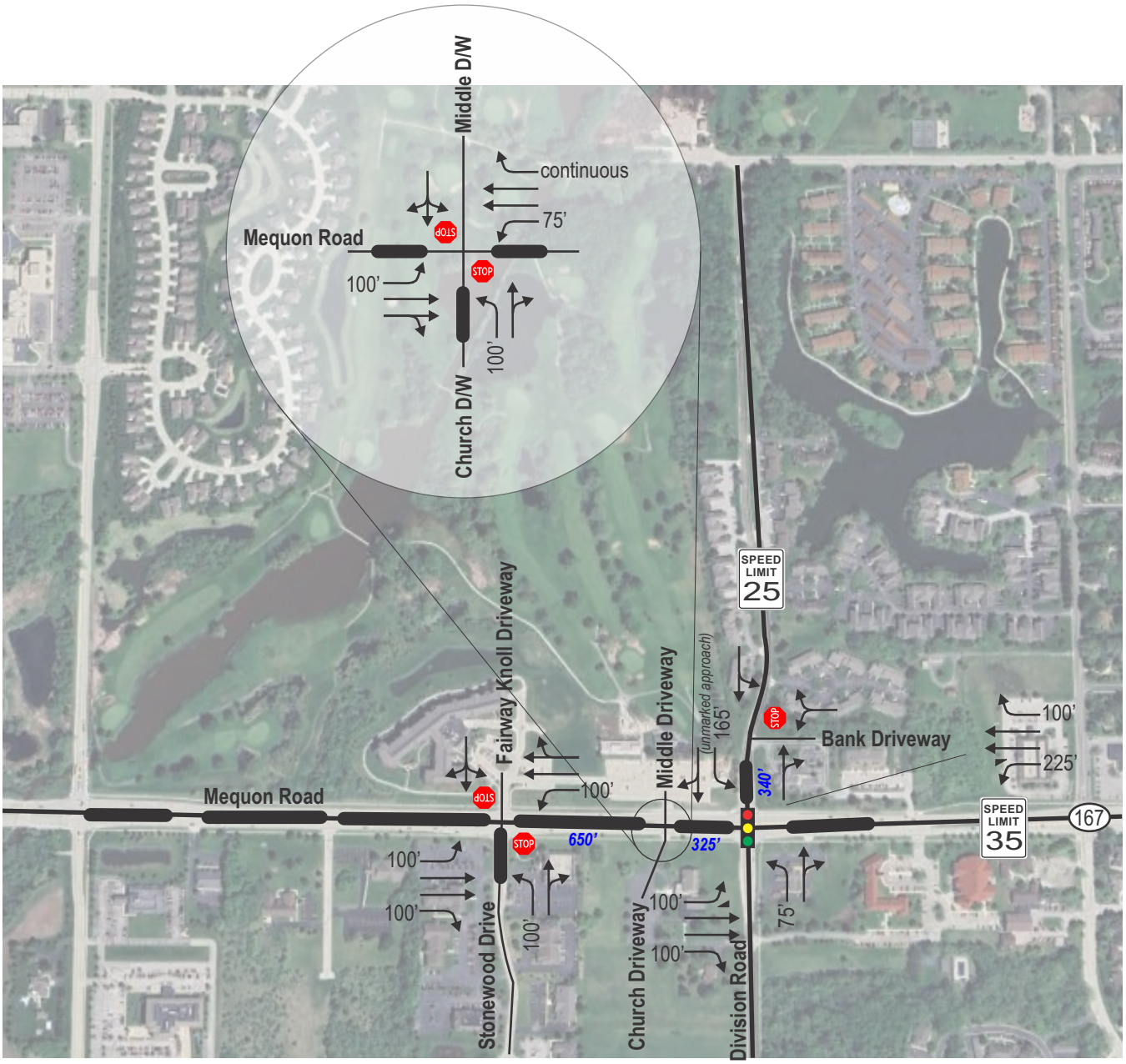
Exhibit 3-3 shows the Existing traffic peak hour operating conditions at the study area intersections. The existing traffic analysis was conducted using the existing lane configurations shown in Exhibit 3-1, the existing traffic signal timings included in the appendix, and the Existing traffic volumes shown in Exhibit 3-2B.

As shown in Exhibit 3-3, all movements are currently operating acceptably at LOS D or better at the study area intersections during the typical weekday morning and weekday evening peak periods under the Existing traffic volume conditions.

PART D – SOURCES OF DATA

The following sources of data were obtained for use in conducting this traffic study:

- Turning movement traffic counts – TADI
- Existing traffic signal plans – Village of Germantown
- Existing transportation detail – TADI along with Google Earth
- On-site development information – Heimat Group
- Off-site development information – Village of Germantown



LEGEND

- Traffic Signal Control
- Stop Sign Control
- Existing Lane Configuration
- XX' Distance Between Roadways (in Feet)
- Divided Roadway Median

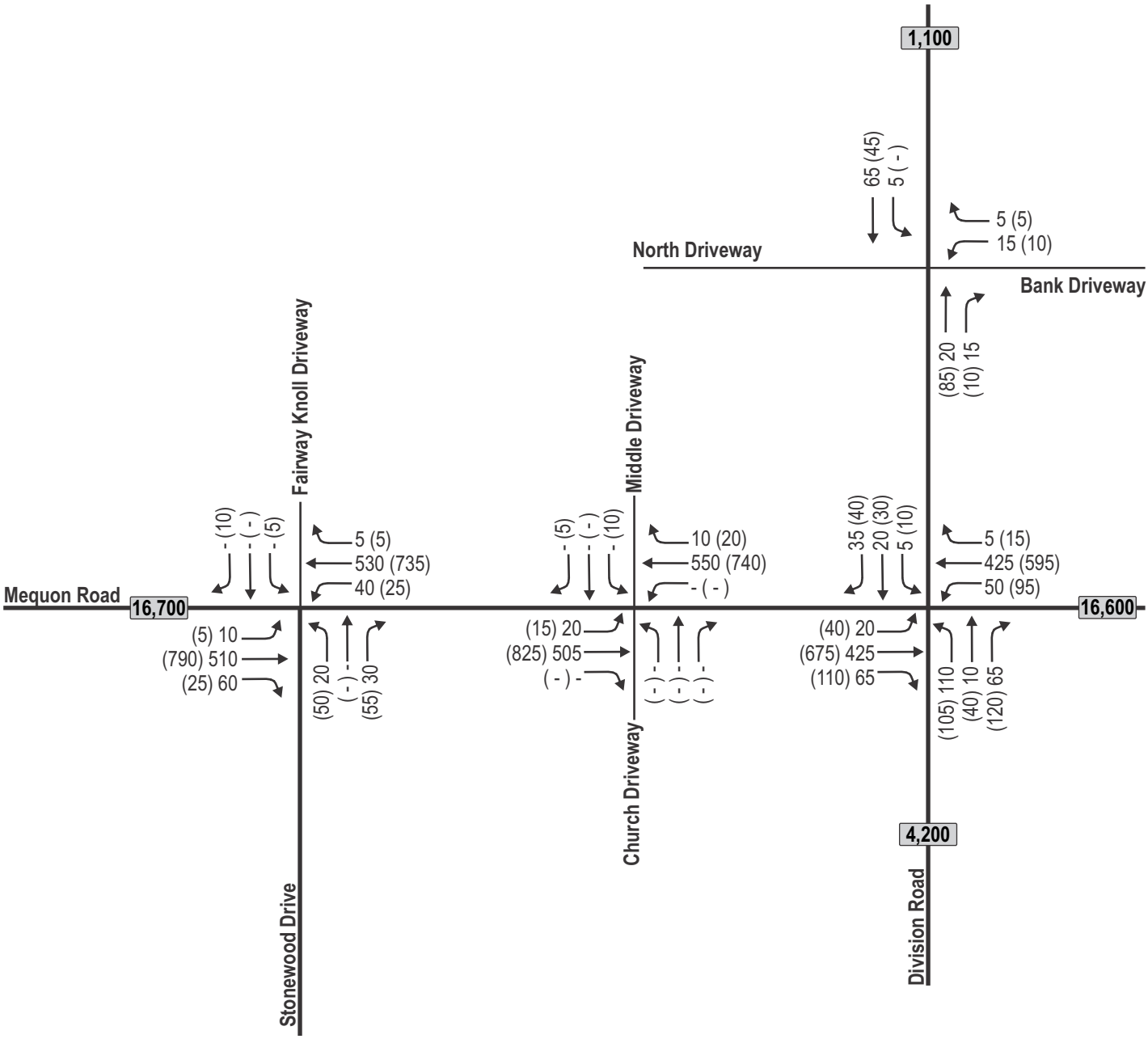
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NOT TO SCALE

EXHIBIT 3-1
EXISTING TRANSPORTATION DETAIL

GERMANTOWN, WISCONSIN



LEGEND

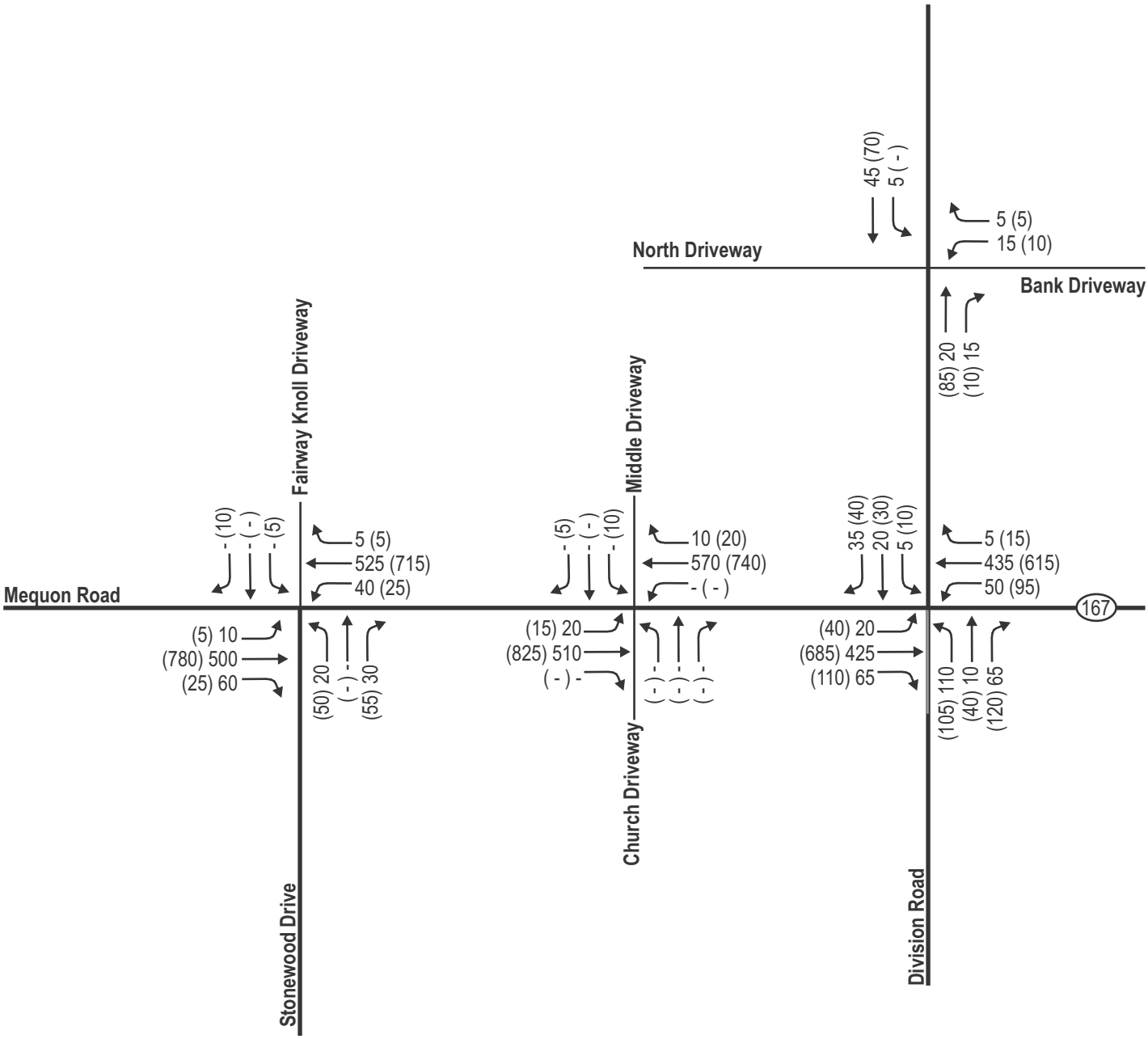
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)
X,XXX	2023 Annual Average Daily Traffic (AADT)

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N
NOT TO SCALE

EXHIBIT 3-2A
YEAR 2025 EXISTING TRAFFIC VOLUMES
UNBALANCED

GERMANTOWN, WISCONSIN



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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NOT TO SCALE

EXHIBIT 3-2B
YEAR 2025 EXISTING TRAFFIC VOLUMES
BALANCED

GERMANTOWN, WISCONSIN

Exhibit 3-3
Year 2025 Existing Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
	AM	LOS	A	*	*	A	*		C	B		C			
		Delay	8.5	*	*	9.4	*		16.9	11.0		15.0			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	A	*		C	B		B			
		Delay	8.5	*	*	9.8	*		21.4	12.0		12.4			
		Queue	25'	*	*	25'	*		25'	25'		25'			
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*		*1*	*2*	*1*	*1*			*1*			
	AM	LOS	A	*		A	*	*	C			B			
		Delay	8.9	*		9.1	*	*	15.3			14.3			
		Queue	25'	*		25'	*	*	25'			25'			
	PM	LOS	A	*		A	*	*	C			B			
		Delay	8.6	*		9.7	*	*	16.9			14.2			
		Queue	25'	*		25'	*	*	25'			25'			
Node 300: Mequon Road & Division Road *Traffic Signal Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1*		*1*	*1*		
	AM	LOS	A	A	A	A	A	A	D	C		D	C		B
		Delay	6.5	5.4	4.6	7.0	5.4	4.4	38.9	33.7		35.7	32.9		11.6
		Queue	25'	75'	25'	25'	75'	25'	110'	75'		25'	60'		
	PM	LOS	A	A	A	A	A	A	D	D		D	C		B
		Delay	6.5	5.3	4.3	8.2	5.1	4.0	39.4	37.6		40.9	34.3		11.4
		Queue	25'	115'	30'	45'	105'	25'	105'	145'		25'	70'		
Node 400: Division Road & Bank Driveway *One-Way Stop Control*		*Lanes->*	-			*1*			-	*1*		*1*		-	
	AM	LOS	-			A			-	*		A		-	
		Delay	-			9.0			-	*		7.3		-	
		Queue	-			25'			-	*		25'		-	
	PM	LOS	-			A			-	*		A		-	
		Delay	-			9.3			-	*		7.5		-	
		Queue	-			25'			-	*		25'		-	

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

CHAPTER IV – FORECASTED TRAFFIC

PART A – EXISTING TRAFFIC FORECASTING

As described in the previously approved Kwik Trip TIA dated October 14, 2024, background growth along the Mequon Road corridor is expected to be flat (traffic volumes have consistently declined over time); therefore, no growth rate was applied to the existing traffic volumes to determine the Year 2030 projected traffic volumes. However, four identified off-site developments, as described previously in this report, were added to the existing traffic volumes along Mequon Road to determine the background traffic volume conditions, as further described in *Part C* below. The Year 2030 background traffic volumes, which include the four identified off-site developments, are shown in Exhibit 4-1.

PART B – SITE TRAFFIC FORECASTING

To address any potential future traffic impacts along the study area roadways and at the intersections adjacent to the on-site and off-site development sites, it is necessary to identify the hourly and daily volume of traffic generated by the proposed and anticipated developments. The traffic volumes expected to be generated by the proposed development are based on the size and type of the proposed uses, and on trip rates and fitted curve equations (FCE) as published in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual, 11th Edition*. A combination of trip rates and FCE's were utilized to determine the expected new trips based on current ITE practices. The trip generation tables for the anticipated land uses for the on-site and off-site development sites are shown in Exhibit 4-3A&B.

B1. Trip Generation

As shown in Exhibit 4-3A, full build of the on-site residential/mixed-use development site is expected to generate 325 new trips (135 entering/190 exiting) during a typical weekday morning peak hour. Of the 325 new trips, none are expected to be linked trips and about 50 are expected to be pass-by trips resulting in 275 new trips (110 entering/165 exiting) during a typical weekday morning peak hour. During a typical weekday evening peak hour, full build of the development is expected to generate 350 new trips (195 entering/155 exiting). Of the 350 new trips, approximately 10 are expected to be linked trips and another 50 are expected to be pass-by trips resulting 290 new trips (165 entering/125 exiting). On a typical weekday, full build of the residential/mixed-use development site is expected to generate 4,020 new trips of which approximately 50 are expected to be linked trips and another 610 are expected to be pass-by trips resulting in approximately 3,360 new trips (1,680 entering/1,680 exiting) under full build conditions.

As shown in Exhibit 4-3B, full build (phase II) of the off-site (Fairway Knoll) senior living development site is expected to generate an additional 10 new trips (5 entering/5 exiting) during a typical weekday morning peak hour. During a typical weekday evening peak hour, full build of phase II of the off-site development is expected to generate an additional 10 new trips (5 entering/5 exiting). On a typical weekday, full build of phase II of the off-site (Fairway Knoll) senior living development site is expected to generate an additional 120 new trips (60 entering/60 exiting).

B2. Mode Split

Pedestrians, bicyclists, and potential future bus users may use their respective modes to access the proposed development, though these alternative modes are expected to make up a very small portion of the overall trips to/from the study area. Therefore, for the purpose of this TIA, all trips to/from the proposed on-site and off-site developments were assumed to occur via motor vehicle.

B3. Determination of Linked and Pass-by Trip Traffic

The residential/mixed-use development site is expected to include both linked trips and pass-by trips. A linked trip occurs when a patron of one tenant visits another tenant prior to exiting the site (e.g., a retail patron visits the restaurant prior to entering the highway system). It is estimated that approximately 10 percent of the retail new trips will be linked trips. Pass-by trips occur when motorists already on the highway system stop at a development site prior to continuing on their intended route (e.g., an existing motorist westbound on STH 167 stops at the restaurant prior to continuing westbound on STH 167). Approximately 20 percent of the proposed retail and 25 percent of the proposed restaurant driveway trips are expected to be pass-by trips.

B4. Trip Distribution

The trip distribution for the on-site residential/mixed-use development and the Fairway Knoll (Phase II) senior living development, which is listed below and shown in table format in Exhibits 4-3A&B and graphically in Exhibit 4-4, was determined based on the existing traffic counts, the type of proposed land uses and the location of existing populations.

- 42 percent to/from the east on STH 167
- 43 percent to/from the west on STH 167
- 3 percent to/from the north on Division Road
- 12 percent to/from the south on Division Road

B5. Trip Assignment

The new trips, pass-by trips and driveway trips for the proposed on-site development are shown as follows:

- On-Site (Commercial/Retail) New Trips – Exhibit 4-5A.1
- On- Site (Commercial/Fast Food) New Trips – Exhibit 4-5A.2
- On- Site (Residential) New Trips – Exhibit 4-5A.3
- On- Site (All Land Uses on Site) New Trips – Exhibit 4-5A.4
- On-Site Pass-by Trips – Exhibit 4-5B
- On-Site Driveway Trips – Exhibit 4-5C

The on-site driveway trips (Exhibit 4-5C) were calculated by adding the on-site (All Land Uses on Site) new trips (Exhibit 4-5A.4) to the on-site pass-by trips (Exhibit 4-5B).

The off-site development new trips, taken from the previously approved west off-site development (Kwik Trip) TIA, are shown in Exhibit 4-8A. The off-site new trips, taken from the previously approved east off-site development (STH 167/Pilgrim Road mixed-use development) TIA, are shown in Exhibit 4-8B. The off-site development new trips, taken from the recently submitted Cirrus multi-family development TIA, are shown in Exhibit 4-8C. The off-site new trips for the full build out (phase II) of the previously approved Fairway Knoll senior living development, are shown in Exhibit 4-8D. Exhibit 4-8E shows the summation of all four off-site developments (Exhibits 4-8A thru 4-8D).

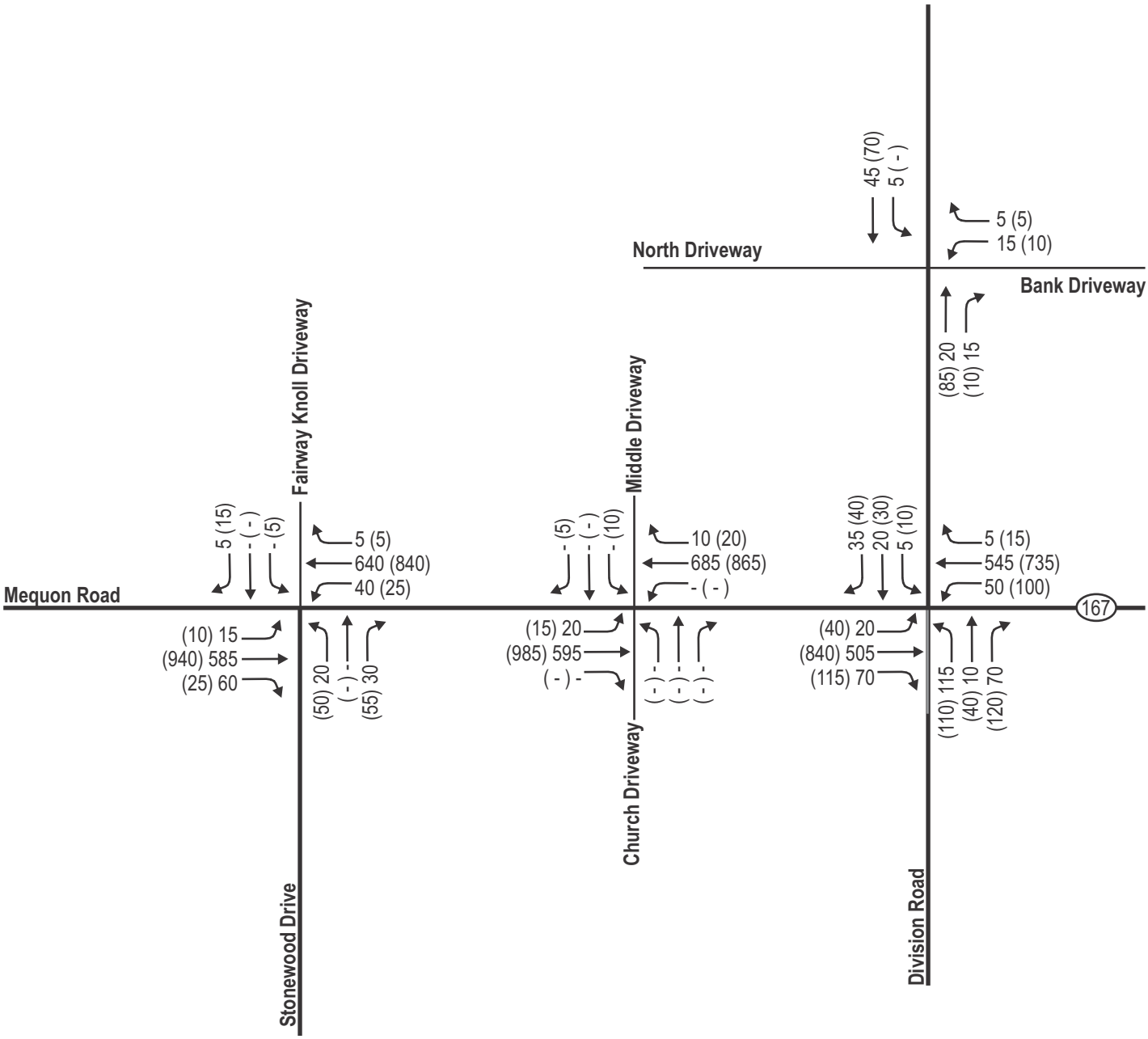
PART C – BACKGROUND AND FULL BUILD TRAFFIC

C1. Year 2030 Background Traffic

The Year 2025 existing traffic volumes, Exhibit 3-2B, were added to off-site development (all developments) new trips, Exhibit 4-8E, to determine the Year 2030 background traffic volumes (Exhibit 4-1).

C2. Year 2030 Background Traffic

The Year 2030 background traffic volumes, Exhibit 4-1, were added to the on-site driveway trips, Exhibit 4-5C, to determine the Year 2030 full build traffic volumes (Exhibit 4-11).



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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EXHIBIT 4-1
YEAR 2030 BACKGROUND TRAFFIC VOLUMES
INCLUDES ALL OFF-SITE DEVELOPMENT

GERMANTOWN, WISCONSIN

Exhibit 4-3A

On-Site Trip Generation Table[1]

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Multifamily Housing (Low-Rise) (Not Close to Rail Transit)	220	135 Units	940 FCE	15 (24%)	50 (76%)	65 FCE	50 (63%)	30 (37%)	80 FCE
Multifamily Housing (Low-Rise) (Not Close to Rail Transit)	220	70 Units	520 FCE	10 (24%)	35 (76%)	45 FCE	30 (63%)	20 (37%)	50 FCE
Strip Retail Plaza (<40k)	822	9.250 x 1,000 SF	500 (54.45)	10 (60%)	10 (40%)	20 (2.36)	40 (50%)	35 (50%)	75 FCE
Fast-Food Restaurant with Drive-Through Window	934	4.400 x 1,000 SF	2,060 (467.48)	100 (51%)	95 (49%)	195 (44.61)	75 (52%)	70 (48%)	145 (33.03)
Total Trips			**4,020**	**135**	**190**	**325**	**195**	**155**	**350**
Minus Linked Trips	*(220)*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Minus Linked Trips	*(220)*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Minus Linked Trips	*(822)*	*10%*	*-50*	*0*	*0*	*0*	*-5*	*-5*	*-10*
Minus Linked Trips	*(934)*	*0%*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total Linked Trip Reduction			**-50**	**0**	**0**	**0**	**-5**	**-5**	**-10**
Total Driveway Trips			**3,970**	**135**	**190**	**325**	**190**	**150**	**340**
Wkday: AM (PM) Pass-by Trips	*(220)*	*0%: 0% (0%)*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Wkday: AM (PM) Pass-by Trips	*(220)*	*0%: 0% (0%)*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Wkday: AM (PM) Pass-by Trips	*(822)*	*20%: 20% (20%)*	*-90*	*0*	*0*	*0*	*-5*	*-5*	*-10*
Wkday: AM (PM) Pass-by Trips	*(934)*	*25%: 25% (25%)*	*-520*	*-25*	*-25*	*-50*	*-20*	*-20*	*-40*
Total Pass-by Trip Reduction			**-610**	**-25**	**-25**	**-50**	**-25**	**-25**	**-50**
Total New Trips			**3,360**	**110**	**165**	**275**	**165**	**125**	**290**

[1] *ITE Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 11th Edition.*

TRIP DISTRIBUTION (New Trips)

East on Mequon Road	42%	1410	45	70		70	50
West on Mequon Road	43%	1445	45	70		70	55
North on Division Road	3%	105	5	5		5	5
South on Division Road	12%	400	15	20		20	15
	100%	***3360***	***110***	***165***		***165***	***125***

TRIP DISTRIBUTION (Pass-by Trips)

East on Mequon Road	52% (47%)	15	15		10	10
West on Mequon Road	48% (53%)	10	10		15	15
		25	***25***		***25***	***25***

Exhibit 4-3B

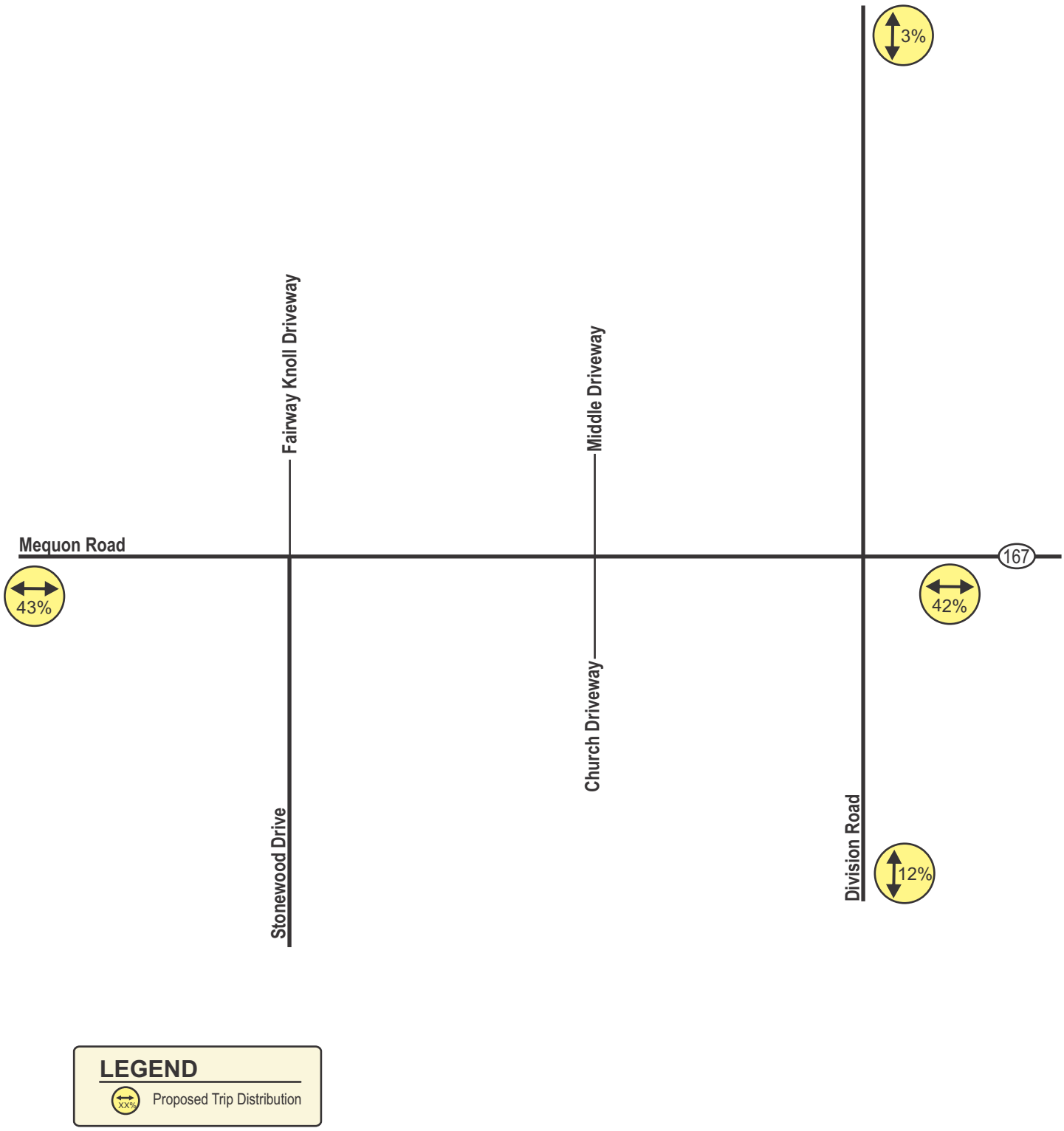
Off-Site (Fairway Knoll Phase II) Trip Generation Table[1]

Land Use	ITE Code	Proposed Size	Weekday Daily	AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total
Senior Adult Housing - Multifamily	252	38 Units	120 (3.24)	5 (34%)	5 (66%)	10 (0.20)	5 (56%)	5 (44%)	10 (0.25)
Total New Trips			**120**	**5**	**5**	**10**	**5**	**5**	**10**

[1] *ITE Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 11th Edition.*

TRIP DISTRIBUTION (New Trips)

East on Mequon Road	42%	50	0	0		0	0
West on Mequon Road	43%	55	5	5		5	5
North on Division Road	3%	5	0	0		0	0
South on Division Road	12%	10	0	0		0	0
	100%	***120***	***5***	***5***		***5***	***5***



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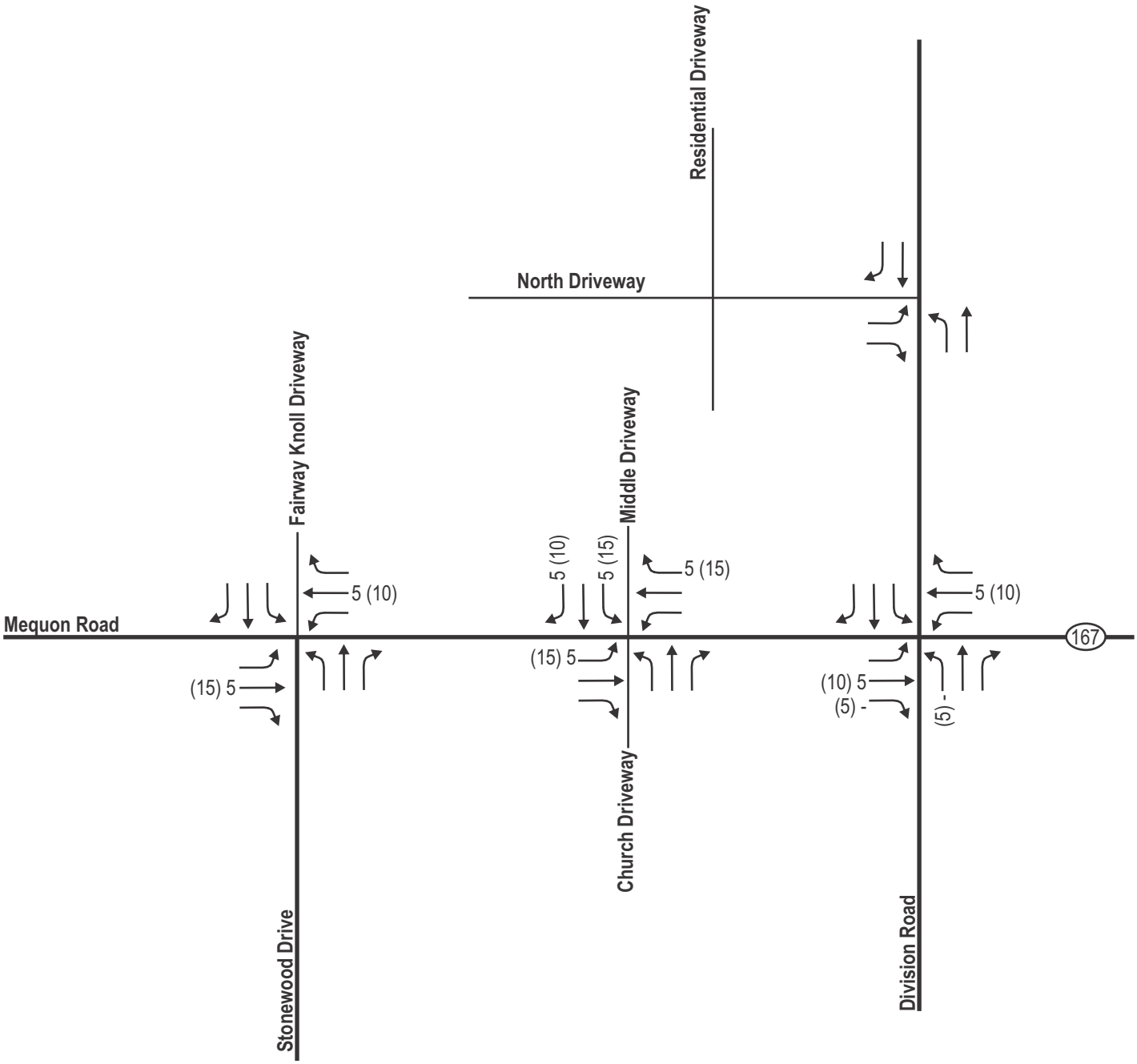
3511: 10-8-25

N

NOT TO SCALE

EXHIBIT 4-4
TRIP DISTRIBUTION DIAGRAM

GERMANTOWN, WISCONSIN



LEGEND

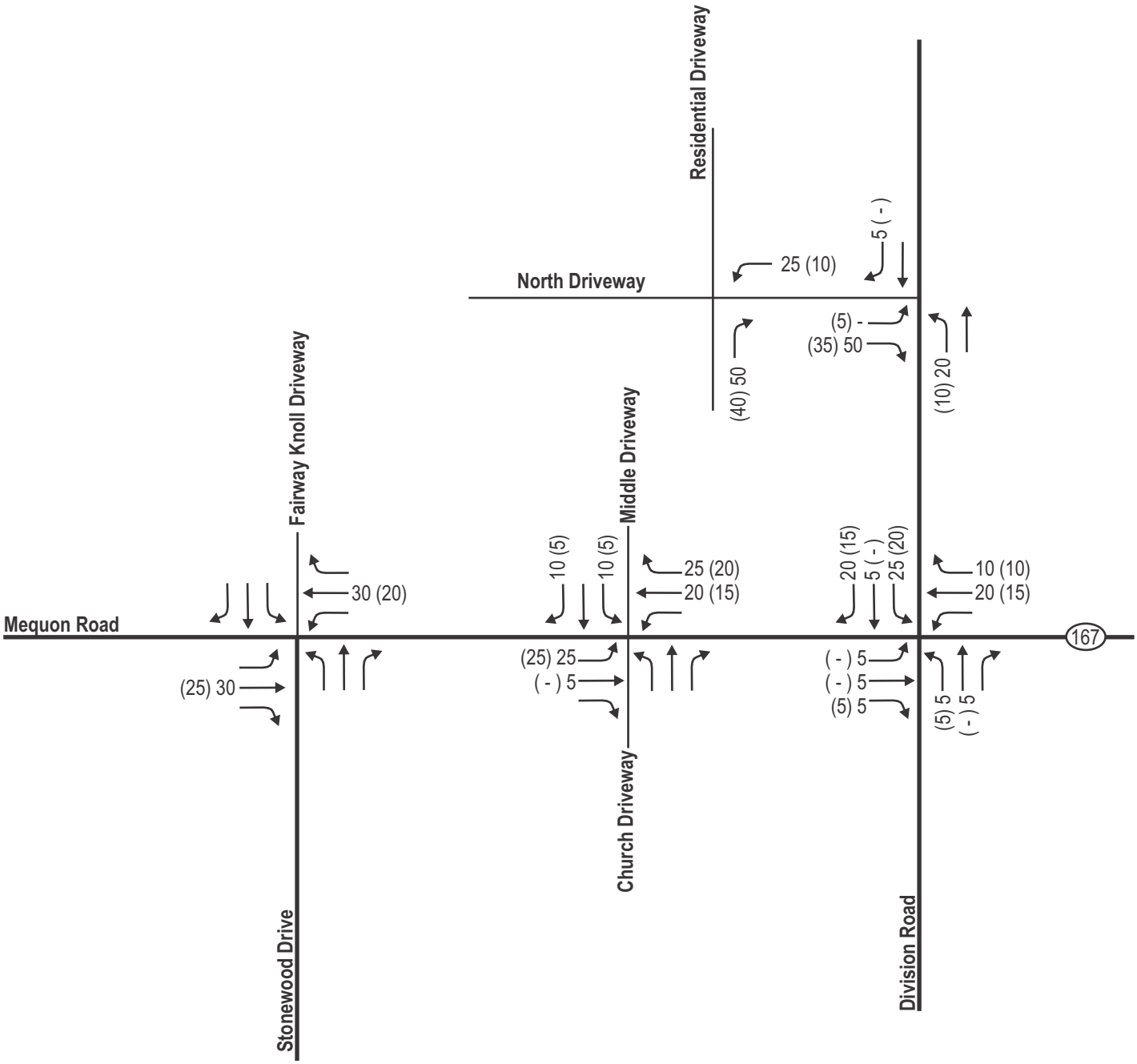
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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EXHIBIT 4-5A.1
ON-SITE NEW TRIPS
COMMERCIAL/RETAIL

GERMANTOWN, WISCONSIN



LEGEND

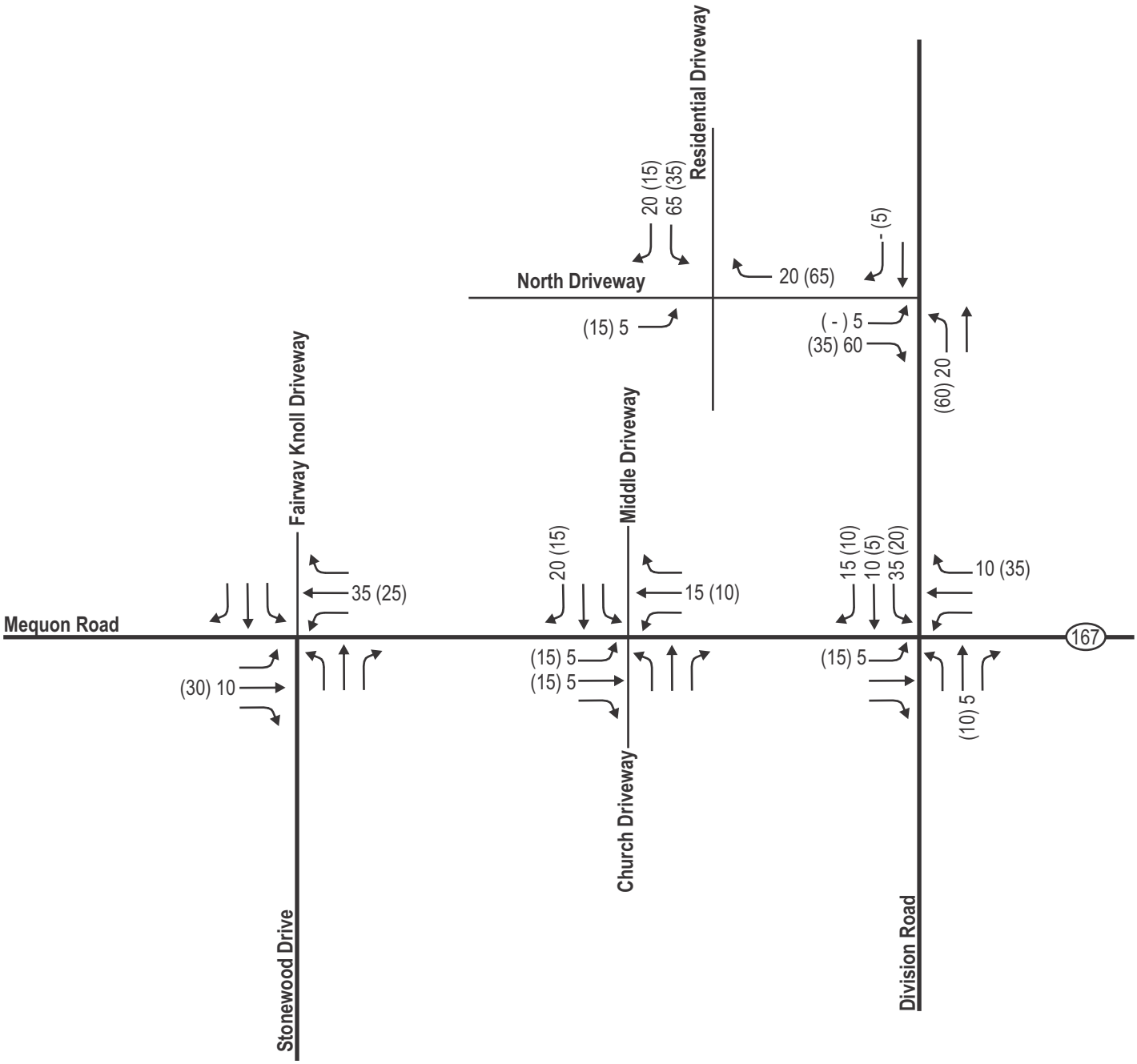
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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NOT TO SCALE

EXHIBIT 4-5A.2
ON-SITE NEW TRIPS
COMMERCIAL/FAST FOOD

GERMANTOWN, WISCONSIN



LEGEND

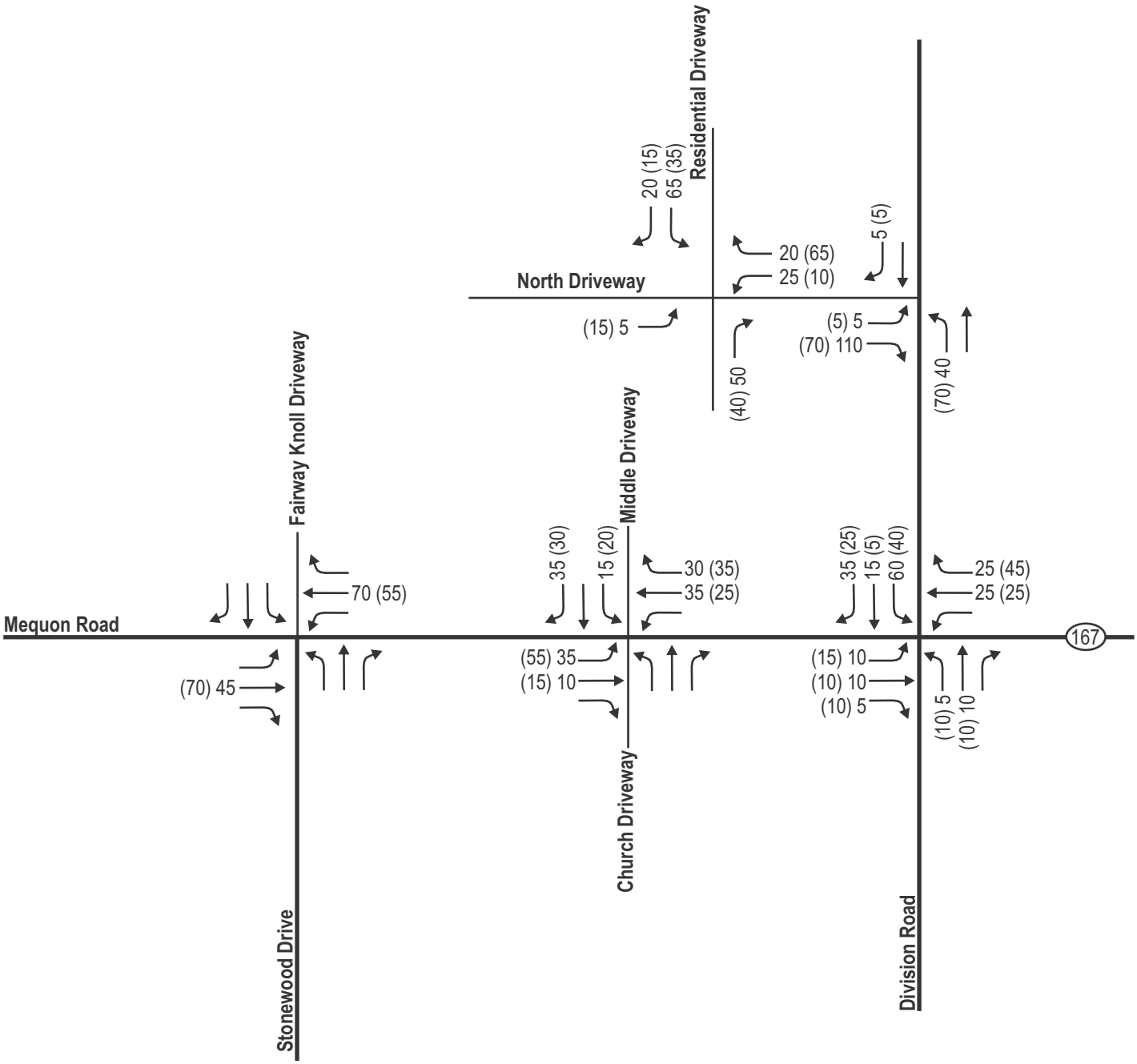
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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N
NOT TO SCALE

EXHIBIT 4-5A.3
ON-SITE NEW TRIPS
RESIDENTIAL

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LEGEND

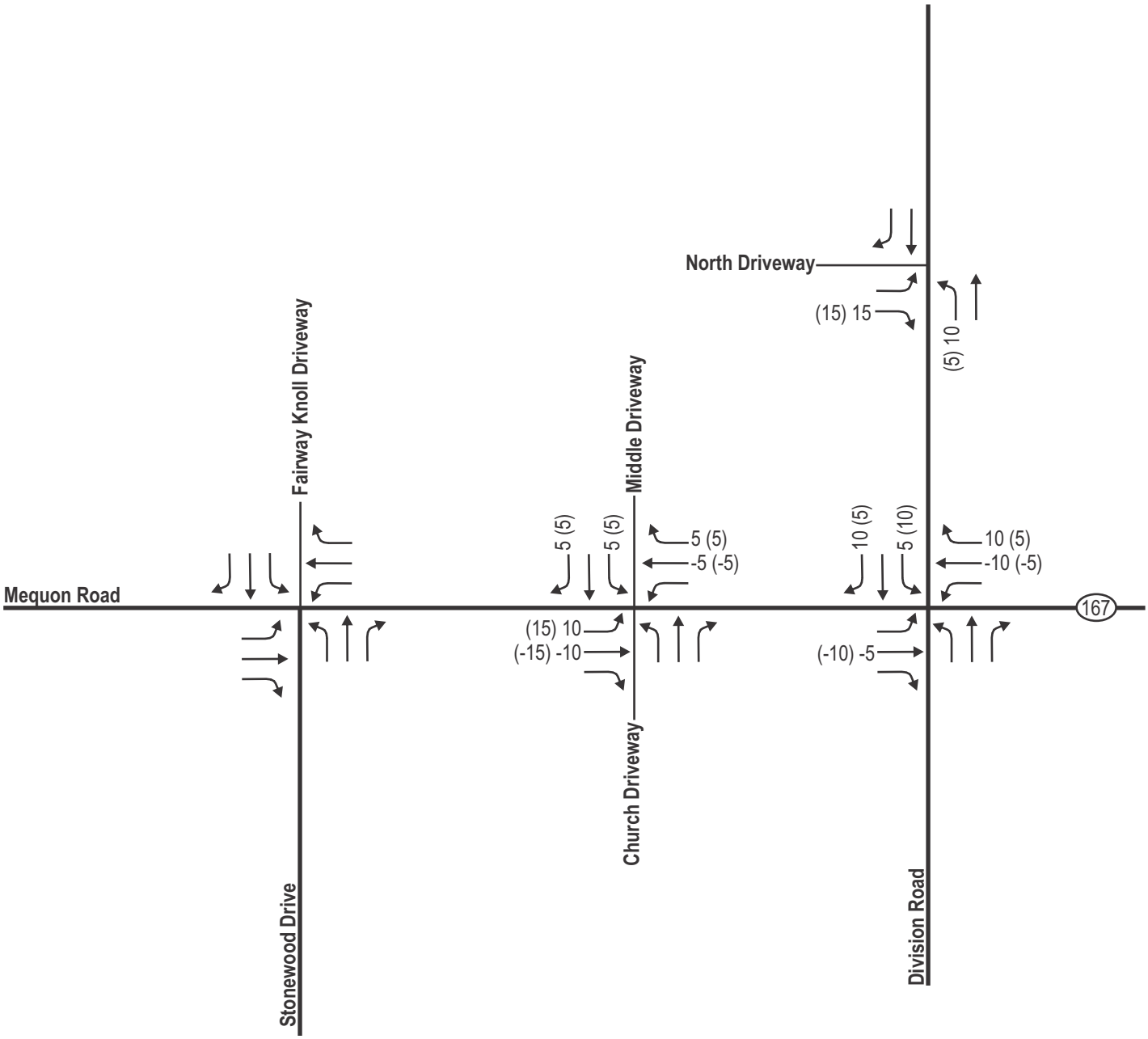
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
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N
NOT TO SCALE

EXHIBIT 4-5A.4
ON-SITE NEW TRIPS
ALL LAND USES ON SITE

GERMANTOWN, WISCONSIN



LEGEND

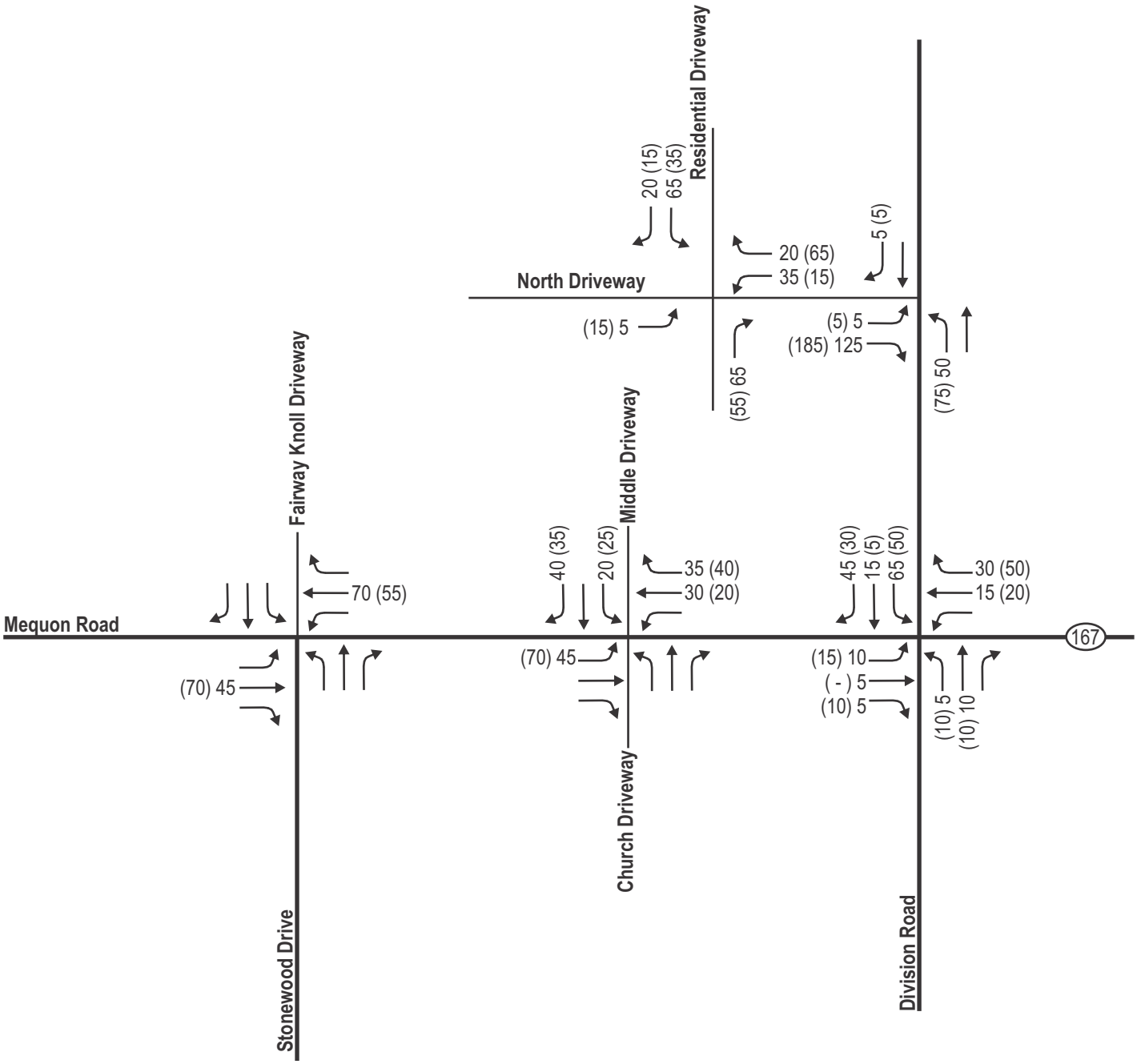
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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NOT TO SCALE

EXHIBIT 4-5B
ON-SITE PASS-BY TRIPS
ALL LAND USES ON SITE

GERMANTOWN, WISCONSIN



LEGEND

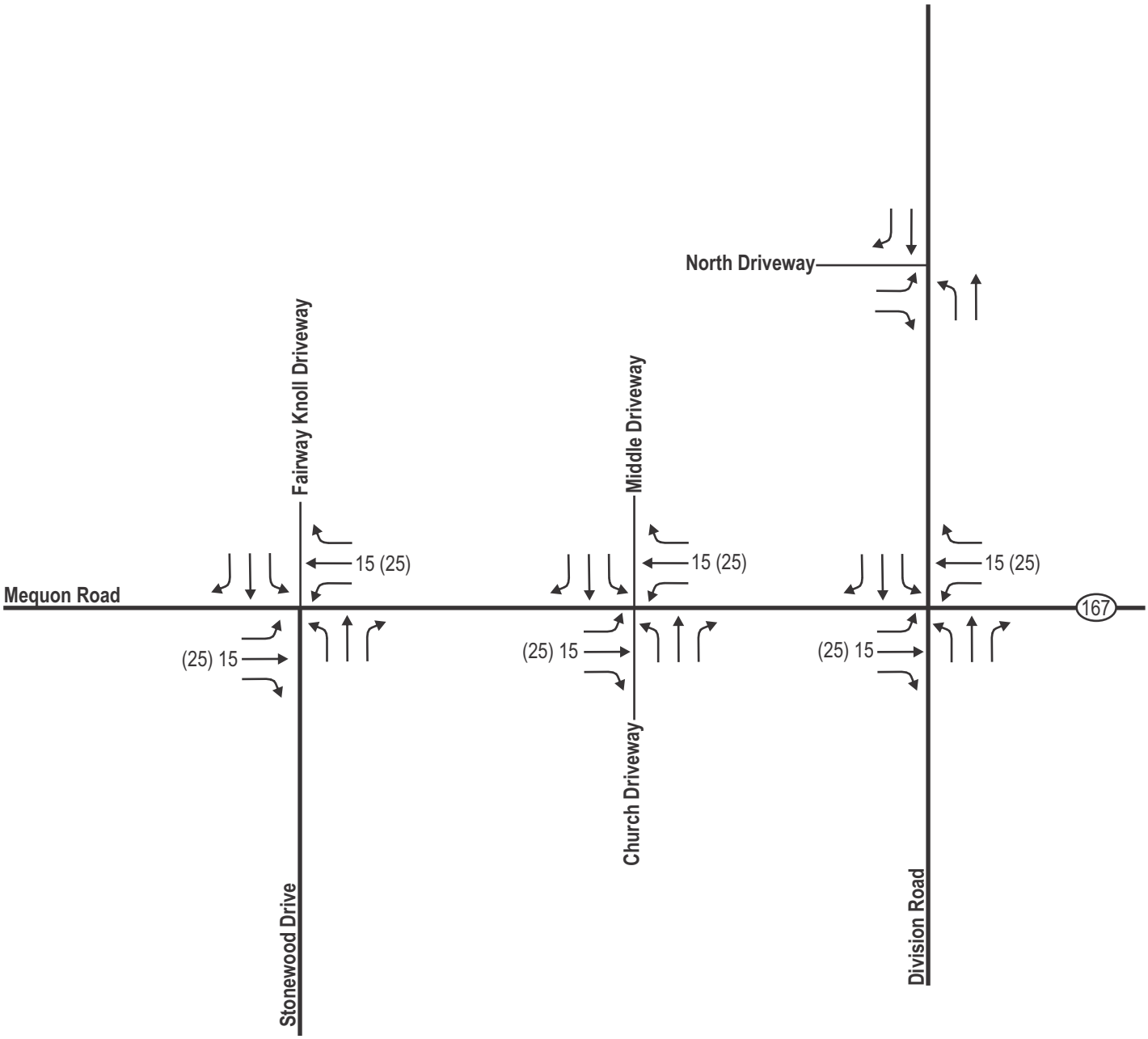
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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N
NOT TO SCALE

EXHIBIT 4-5C
ON-SITE DRIVEWAY TRIPS
ALL LAND USES ON SITE

GERMANTOWN, WISCONSIN



LEGEND

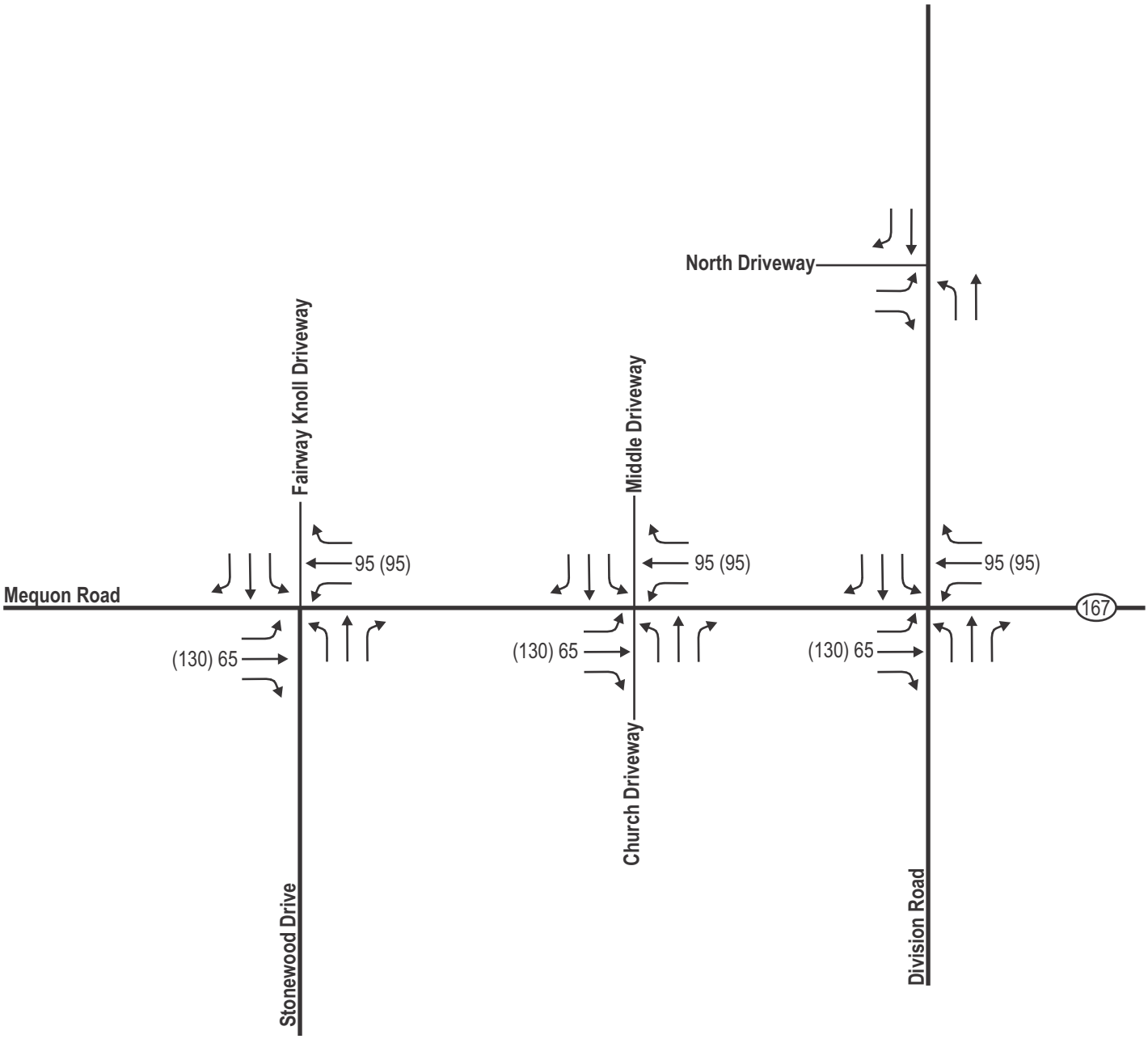
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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N
NOT TO SCALE

EXHIBIT 4-8A
OFF-SITE DRIVEWAY TRIPS
KWIK TRIP (WEST)

GERMANTOWN, WISCONSIN



LEGEND

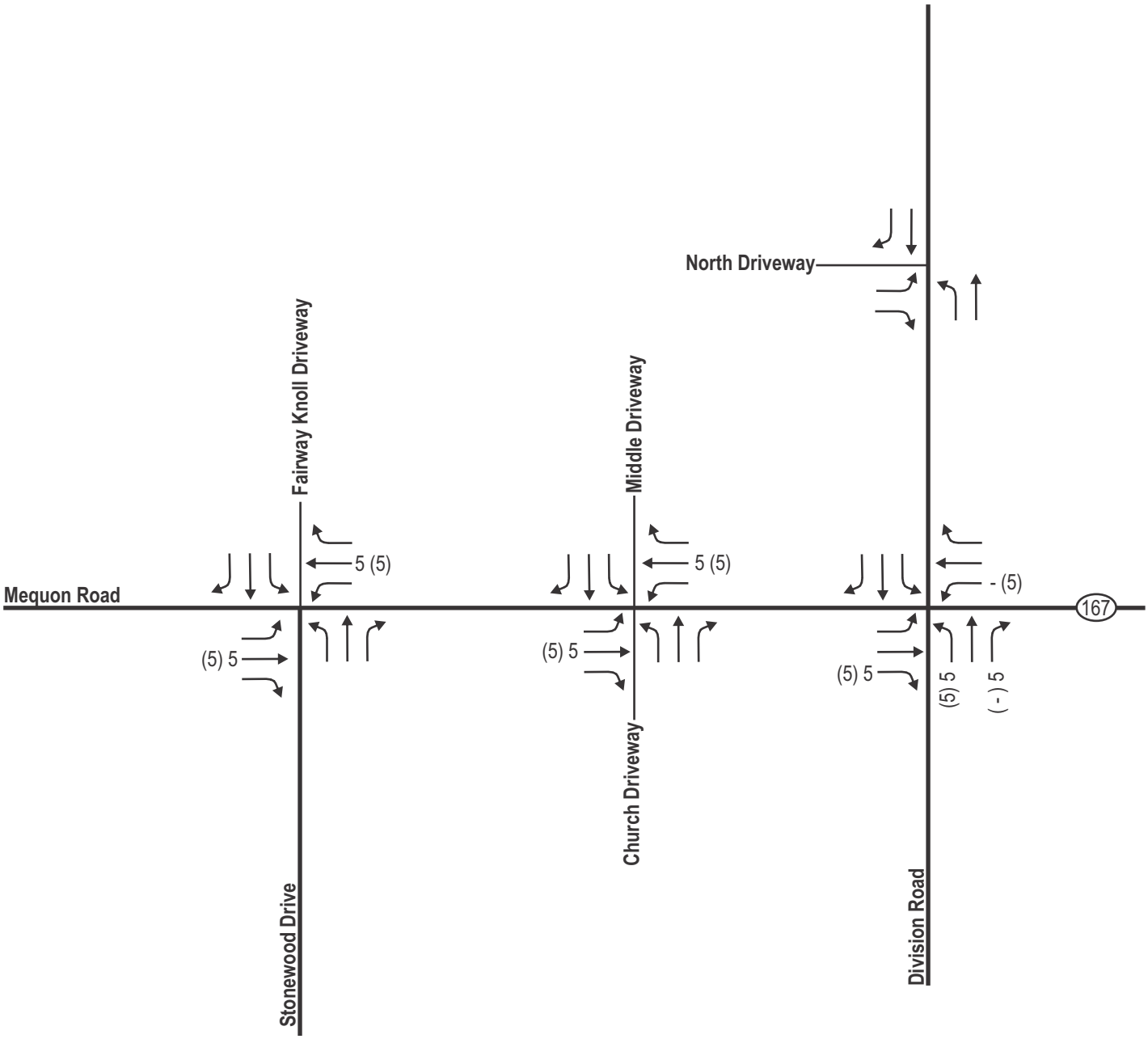
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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N
NOT TO SCALE

EXHIBIT 4-8B
OFF-SITE DRIVEWAY TRIPS
PILGRIM MIXED-USE (EAST)

GERMANTOWN, WISCONSIN



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

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3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-8C
OFF-SITE DRIVEWAY TRIPS
CIRRUS MULTI-FAMILY (SOUTH)

GERMANTOWN, WISCONSIN



LEGEND

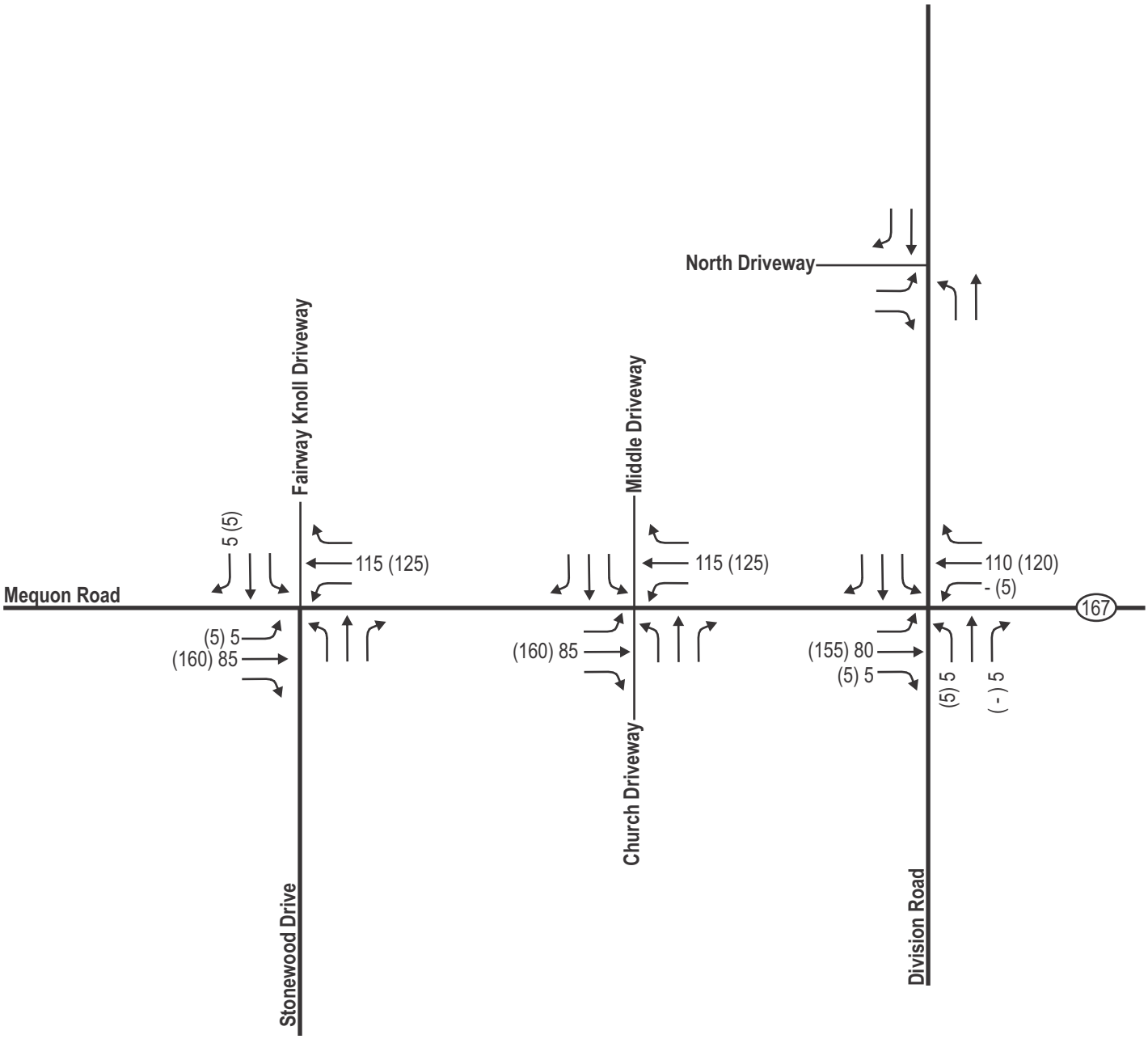
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-8D
OFF-SITE DRIVEWAY TRIPS
FAIRWAY KNOLL PHASE II

GERMANTOWN, WISCONSIN



LEGEND

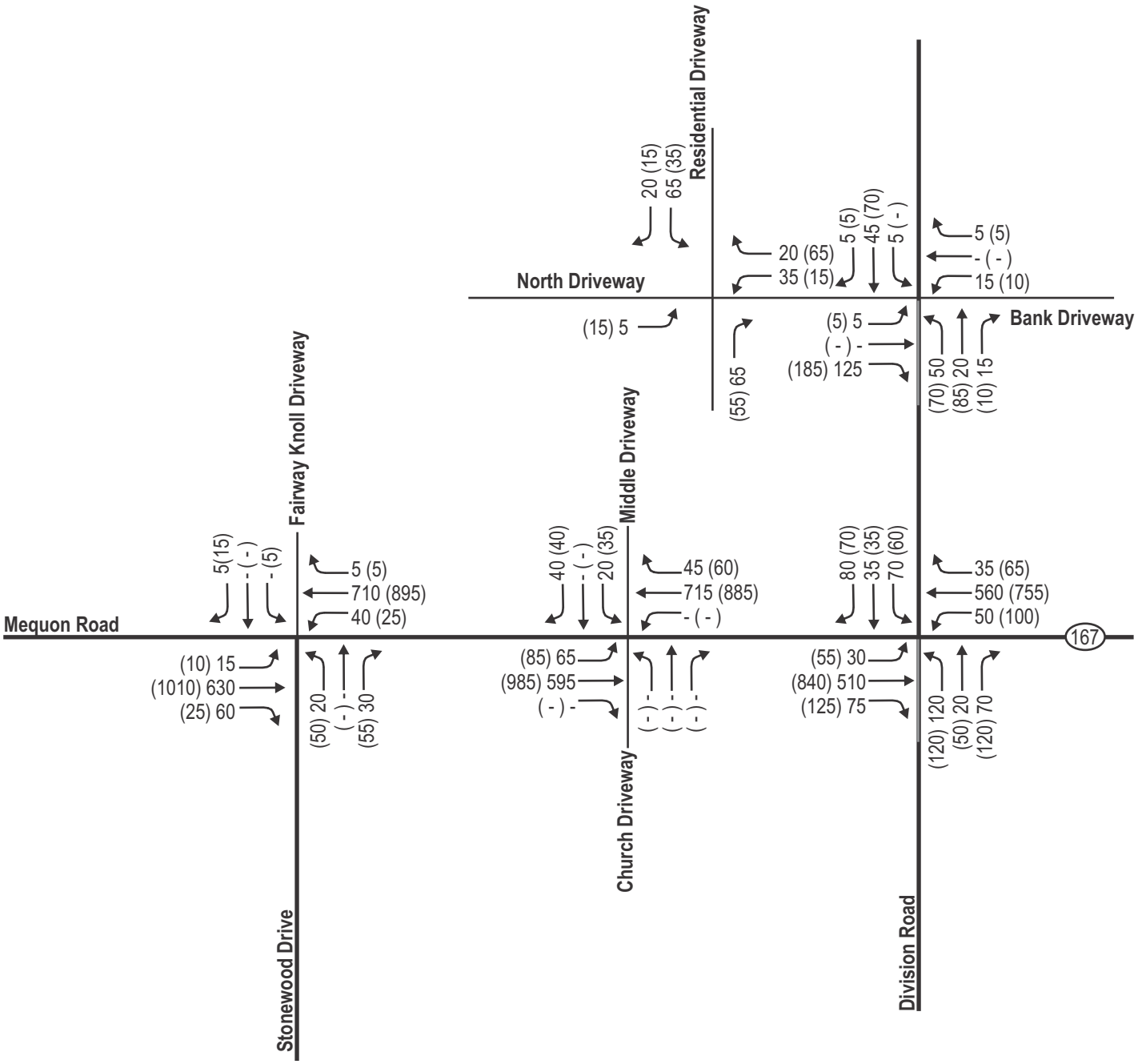
XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 4-8E
OFF-SITE DRIVEWAY TRIPS
ALL DEVELOPMENTS

GERMANTOWN, WISCONSIN



LEGEND

XX	AM Peak Hour (7:30 - 8:30 AM)
(XX)	PM Peak Hour (4:15 - 5:15 PM)
-	Negligible Traffic Volumes (Fewer than 3 vph)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N

NOT TO SCALE

EXHIBIT 4-11
YEAR 2030 FULL BUILD TRAFFIC VOLUMES

GERMANTOWN, WISCONSIN

CHAPTER V – TRAFFIC AND IMPROVEMENT ANALYSIS

PART A – SITE ACCESS

Two main access points are proposed to accommodate the new development. The north driveway is proposed as a full access driveway along Division Road, directly across from the existing Bank access driveway, located in the northeast quadrant of the STH 167/Division Road signalized intersection. A second full access driveway is proposed along STH 167 near the center of the property, approximately 260-feet (stop bar to center of driveway) west of Division Road. Both driveways are proposed to operate under stop sign control on the driveway approaches. A cross-access drive to the Fairway Knoll retirement community property located to the west is also proposed to remain as part of the development plans.

PART B – CAPACITY LEVEL OF SERVICE ANALYSIS

B1. Year 2030 Background Operating Conditions – No Modifications

Exhibit 5-1 shows the Year 2030 background (with off-site development) traffic peak hour operating conditions at the study area intersections. The Year 2030 background traffic includes the full build out of the proposed development site. The Year 2030 background traffic analysis was conducted using existing intersection configurations, traffic control, and traffic signal timings.

As shown, all movements are expected to continue to operate at LOS D or better conditions during the typical weekday morning and weekday evening peak periods under the Year 2030 background traffic volume conditions.

B2. Year 2030 Full Build Operating Conditions – No Modifications

Exhibit 5-3 shows the Year 2030 full build traffic peak hour operating conditions at the study area intersections. The Year 2030 full build traffic includes the full build out of the proposed development site. The Year 2030 full build traffic analysis was conducted using existing intersection configurations, traffic control, and traffic signal timings.

As shown, all movements are expected to continue to operate at LOS D or better conditions during the typical weekday morning and weekday evening peak periods under the Year 2030 full build traffic volume conditions.

B3. Year 2030 Full Build Traffic Operating Conditions – *With Modifications*

Modifications to the existing transportation system to accommodate any of the Year 2030 full build traffic conditions are not recommended at the existing study area intersections. However, dedicated turn lanes exiting the site at the proposed main driveway are recommended. Recommended modifications at the proposed driveway are summarized in *Chapter VI – Recommendations and Conclusion*.

As shown in Exhibit 5-12A, all movements are expected to continue to operate at LOS D or better conditions during the typical weekday morning and weekday evening peak periods under any of the Year 2030 full build traffic volume conditions with the recommended modifications.

Per the request of the Village of Germantown, an additional scenario, looking at reconfiguring the lane designation on the south approach of the STH 167 intersection with Division Road to a shared through-left turn lane and a separate exclusive right turn lane was analyzed. Using this reconfigured lane designation and as shown in Exhibit 5-12B, the northbound and southbound through/left-turn movements at the STH 167 intersection with Division Road are expected to operate at LOS F during the typical weekday morning and evening peak hours, while all other movements are expected to operate at LOS D or better. Due to the expected higher over capacity

delays, it is recommended to not change the lane designation on the south approach of the STH 167 intersection with Division Road.

PART C – QUEUEING ANALYSIS

To estimate storage length requirements for turn bays at the study area intersections with modifications, a queuing analysis has been conducted. Note that the 95th percentile probable queue lengths were used for the design of turn bay storage at stop sign and traffic signal-controlled intersections. The following is a list of where the results of the queuing analysis can be found.

- Year 2030 Background Traffic – Exhibit 5-1 & 5-18
- Year 2030 Full Build Traffic – Exhibit 5-12A & 5-21

As shown on Exhibit 5-21 the eastbound maximum queues at the Mequon Road intersection with Division Road are not expected to encroach into or block the median opening serving the development and church driveway. Likewise, the southbound maximum queues at the Mequon Road intersection with Division Road are not expected to encroach or block the development/bank driveway located to the north on Division Road.

PART D – PEDESTRIAN, BICYCLE, BUS SERVICE AND MULTI-USE TRAIL CONSIDERATIONS

Pedestrian sidewalks or multi-use trails are provided along both sides of STH 167 and along the east side of Division Road to the south of STH 167; however, no other bicycle accommodations exist within the study area. Transit is not present within the area.

PART E – TRAFFIC CONTROL NEEDS

Modifications to the existing traffic control are recommended at several of the study area intersections as follows.

As recommended to accommodate Year 2030 full build traffic:

- Install a stop sign on the north approach at the STH 167 intersection with the proposed access driveway.
- Install a stop sign on the west approach at the Division Road intersection with the bank driveway/proposed north access driveway.

Exhibit 5-1
Year 2030 Background Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
	AM	LOS	A	*	*	A	*		C	B		B			
		Delay	8.9	*	*	9.9	*		19.8	11.6		12.5			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	B	*		D	B		B			
		Delay	8.8	*	*	10.6	*		28.1	13.1		12.7			
		Queue	25'	*	*	25'	*		25'	25'		25'			
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*		*Lanes->*	*1*	*2*		*1*	*2*	*1*	*1*			*1*			
	AM	LOS	A	*		A	*	*	C			C			
		Delay	9.3	*		9.5	*	*	17.0			15.8			
		Queue	25'	*		25'	*	*	25'			25'			
	PM	LOS	A	*		B	*	*	C			C			
		Delay	8.9	*		10.4	*	*	19.6			15.7			
		Queue	25'	*		25'	*	*	25'			25'			
Node 300: Mequon Road & Division Road *Traffic Signal Control*		*Lanes->*	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1*		*1*	*1*		
	AM	LOS	A	A	A	A	A	A	D	C		D	C		B
		Delay	7.4	5.8	4.8	7.9	5.9	4.5	38.6	33.5		35.6	32.5		11.3
		Queue	25'	90'	25'	25'	100'	25'	115'	80'		25'	60'		
	PM	LOS	A	A	A	B	A	A	D	D		D	C		B
		Delay	7.4	5.8	4.4	10.2	5.5	4.1	39.3	37.2		40.6	34.0		11.0
		Queue	25'	150'	30'	55'	130'	25'	110'	145'		25'	70'		
Node 400: Division Road & Bank Driveway *One-Way Stop Control*		*Lanes->*	-			*1*			-	*1*		*1*		-	
	AM	LOS	-			A			-	*		A		-	
		Delay	-			9.0			-	*		7.3		-	
		Queue	-			25'			-	*		25'		-	
	PM	LOS	-			A			-	*		A		-	
		Delay	-			9.3			-	*		7.5		-	
		Queue	-			25'			-	*		25'		-	

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

Exhibit 5-3
Year 2030 Build Traffic Peak Hour Operating Conditions
With Existing Geometrics and Traffic Control

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
		Lanes->	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*	AM	LOS	A	*	*	B	*		C	B		B			
		Delay	9.2	*	*	10.2	*		21.2	11.9		13.1			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	B	*		D	B		B			
		Delay	9.0	*	*	11.0	*		31.9	13.7		13.2			
		Queue	25'	*	*	25'	*		30'	25'		25'			
		Lanes->	*1*	*2*		*1*	*2*	*1*	*1*			*1*			
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*	AM	LOS	B	*		A	*	*	C			B			
		Delay	10.1	*		9.5	*	*	20.2			14.6			
		Queue	25'	*		25'	*	*	25'			25'			
	PM	LOS	A	*		B	*	*	C			C			
		Delay	9.6	*		10.4	*	*	23.9			17.4			
		Queue	25'	*		25'	*	*	25'			25'			
		Lanes->	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1*		*1*	*1*		
Node 300: Mequon Road & Division Road *Traffic Signal Control*	AM	LOS	B	A	A	B	A	A	D	C		C	C		B
		Delay	10.5	7.8	6.4	10.6	8.0	6.2	38.2	29.6		34.2	30.2		14.2
		Queue	25'	100'	25'	30'	110'	25'	115'	85'		70'	105'		
	PM	LOS	A	A	A	B	A	A	D	C		D	C		B
		Delay	9.5	7.0	5.3	12.2	6.7	5.1	38.9	34.4		40.3	32.4		12.8
		Queue	30'	155'	35'	55'	135'	25'	120'	155'		65'	100'		
		Lanes->	*1*			*1*			*1*			*1*			
Node 400: Division Road & Bank Driveway/North Driveway *Two-Way Stop Control*	AM	LOS	A			B			A			A			
		Delay	9.3			10.5			7.4			7.3			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			B			A			A			
		Delay	9.4			11.2			7.5			7.5			
		Queue	25'			25'			25'			25'			
		Lanes->	*1*			*1*			*1*			*1*			
Node 450: North Driveway & Residential Driveway *One-Way Stop Control*	AM	LOS	A			A			A			A			
		Delay	7.3			7.3			8.6			9.9			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			A			A			
		Delay	7.4			7.2			8.6			9.5			
		Queue	25'			25'			25'			25'			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

Exhibit 5-12A
Year 2030 Build Traffic Peak Hour Operating Conditions
With Modified Geometrics and Traffic Control

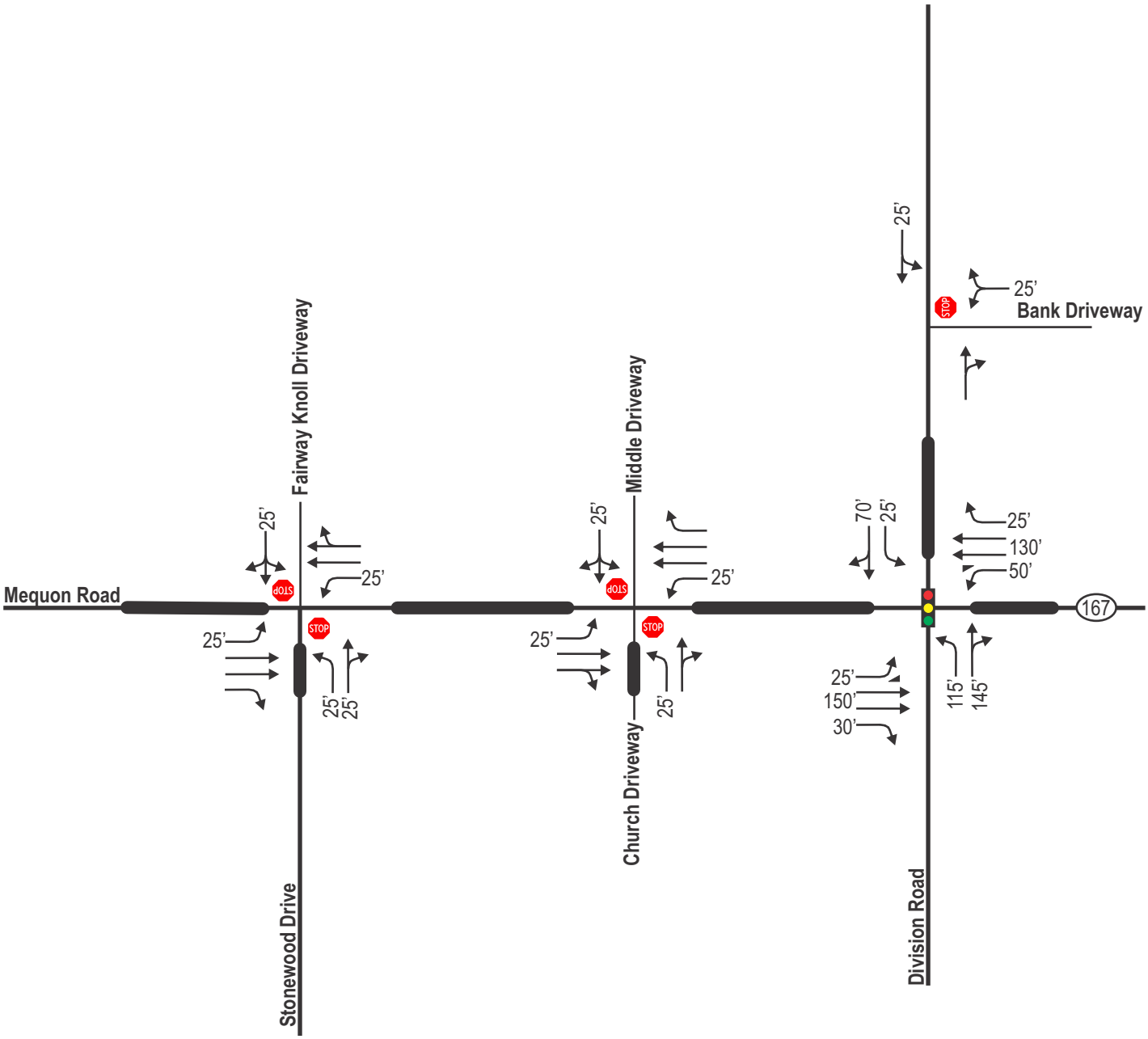
Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
		Lanes->	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*	AM	LOS	A	*	*	B	*		C	B		B			
		Delay	9.2	*	*	10.2	*		21.2	11.9		13.1			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	B	*		D	B		B			
		Delay	9.0	*	*	11.0	*		31.9	13.7		13.2			
		Queue	25'	*	*	25'	*		30'	25'		25'			
		Lanes->	*1*	*2*		*1*	*2*	*1*	*1*			*1*		*1*	
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*	AM	LOS	B	*		A	*	*	C			C		A	
		Delay	10.0	*		9.5	*	*	20.2			22.3		9.2	
		Queue	25'	*		25'	*	*	25'			25'		25'	
	PM	LOS	A	*		B	*	*	C			C		A	
		Delay	9.6	*		10.4	*	*	23.9			24.1		9.4	
		Queue	25'	*		25'	*	*	25'			25'		25'	
		Lanes->	*1*	*2*	*1*	*1*	*2*	*1*	*1*	*1*		*1*	*1*		
Node 300: Mequon Road & Division Road *Traffic Signal Control*	AM	LOS	B	A	A	B	A	A	D	C		C	C		B
		Delay	10.5	7.8	6.4	10.6	8.0	6.2	38.2	29.6		34.2	30.2		14.2
		Queue	25'	100'	25'	30'	110'	25'	115'	85'		70'	105'		
	PM	LOS	A	A	A	B	A	A	D	C		D	C		B
		Delay	9.5	7.0	5.3	12.2	6.7	5.1	38.9	34.4		40.3	32.4		12.8
		Queue	30'	155'	35'	55'	135'	25'	120'	155'		65'	100'		
		Lanes->	*1*			*1*			*1*			*1*			
Node 400: Division Road & Bank Driveway/North Driveway *Two-Way Stop Control*	AM	LOS	A			B			A			A			
		Delay	9.3			10.5			7.4			7.3			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			B			A			A			
		Delay	9.4			11.2			7.5			7.5			
		Queue	25'			25'			25'			25'			
		Lanes->	*1*			*1*			*1*			*1*			
Node 450: North Driveway & Residential Driveway *One-Way Stop Control*	AM	LOS	A			A			A			A			
		Delay	7.3			7.3			8.6			9.9			
		Queue	25'			25'			25'			25'			
	PM	LOS	A			A			A			A			
		Delay	7.4			7.2			8.6			9.5			
		Queue	25'			25'			25'			25'			

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.

Exhibit 5-12B
Year 2030 Build Traffic Peak Hour Operating Conditions
With Modified Geometrics and Traffic Control - Revised Lane Geometry on NB/SB Approaches at Signalized Intersection

Intersection	Peak Hour	Metric	Level of Service (LOS) per Movement by Approach												I/S LOS & Delay
			Eastbound			Westbound			Northbound			Southbound			
			↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙	
		Lanes->	*1*	*2*	*1*	*1*	*2*		*1*	*1*		*1*			
Node 100: Mequon Road & Stonewood Drive/Fairway Knoll Driveway *Two-Way Stop Control*	AM	LOS	A	*	*	B	*		C	B		B			
		Delay	9.2	*	*	10.2	*		21.2	11.9		13.1			
		Queue	25'	*	*	25'	*		25'	25'		25'			
	PM	LOS	A	*	*	B	*		D	B		B			
		Delay	9.0	*	*	11.0	*		31.9	13.7		13.2			
		Queue	25'	*	*	25'	*		30'	25'		25'			
		Lanes->	*1*	*2*		*1*	*2*	*1*	*1*			*1*		*1*	
Node 200: Mequon Road & Golf Club/Middle Driveway *Two-Way Stop Control*	AM	LOS	B	*		A	*	*	C			C		A	
		Delay	10.0	*		9.5	*	*	20.1			23.8		9.4	
		Queue	25'	*		25'	*	*	25'			25'		25'	
	PM	LOS	A	*		B	*	*	C			D		A	
		Delay	9.5	*		10.4	*	*	23.8			25.7		9.5	
		Queue	25'	*		25'	*	*	25'			25'		25'	
		Lanes->	*1*	*2*	*1*	*1*	*2*	*1*	*1*		*1*	*1*		*1*	
Node 300: Mequon Road & Division Road *Traffic Signal Control*	AM	LOS	C	B	B	C	B	B	F		B	F		B	F
		Delay	22.3	16.5	13.6	22.5	17.0	13.2	611.4		18.0	320.6		18.1	88.2
		Queue	25'	110'	25'	30'	120'	25'	125'		70'	95'		75'	
	PM	LOS	B	B	A	C	B	A	F		C	F		C	E
		Delay	16.5	12.1	9.2	21.2	11.6	8.8	567.8		25.1	167.0		24.0	60.2
		Queue	35'	175'	35'	60'	150'	25'	155'		110'	90'		70'	
		Lanes->		*1*			*1*			*1*			*1*		
Node 400: Division Road & Bank Driveway/North Driveway *Two-Way Stop Control*	AM	LOS		A			B			A			A		
		Delay		9.3			10.5			7.4			7.3		
		Queue		25'			25'			25'			25'		
	PM	LOS		A			B			A			A		
		Delay		9.4			11.2			7.5			7.5		
		Queue		25'			25'			25'			25'		
		Lanes->		*1*			*1*			*1*			*1*		
Node 450: North Driveway & Residential Driveway *One-Way Stop Control*	AM	LOS		A			A			A			A		
		Delay		7.3			7.3			8.6			9.9		
		Queue		25'			25'			25'			25'		
	PM	LOS		A			A			A			A		
		Delay		7.4			7.2			8.6			9.5		
		Queue		25'			25'			25'			25'		

(-) indicates a movement that is prohibited or does not exist; (*) indicates a freeflow movement.
Delay is reported in seconds. Queue is the maximum of the 50th & 95th percentile queue, measured in feet.



LEGEND

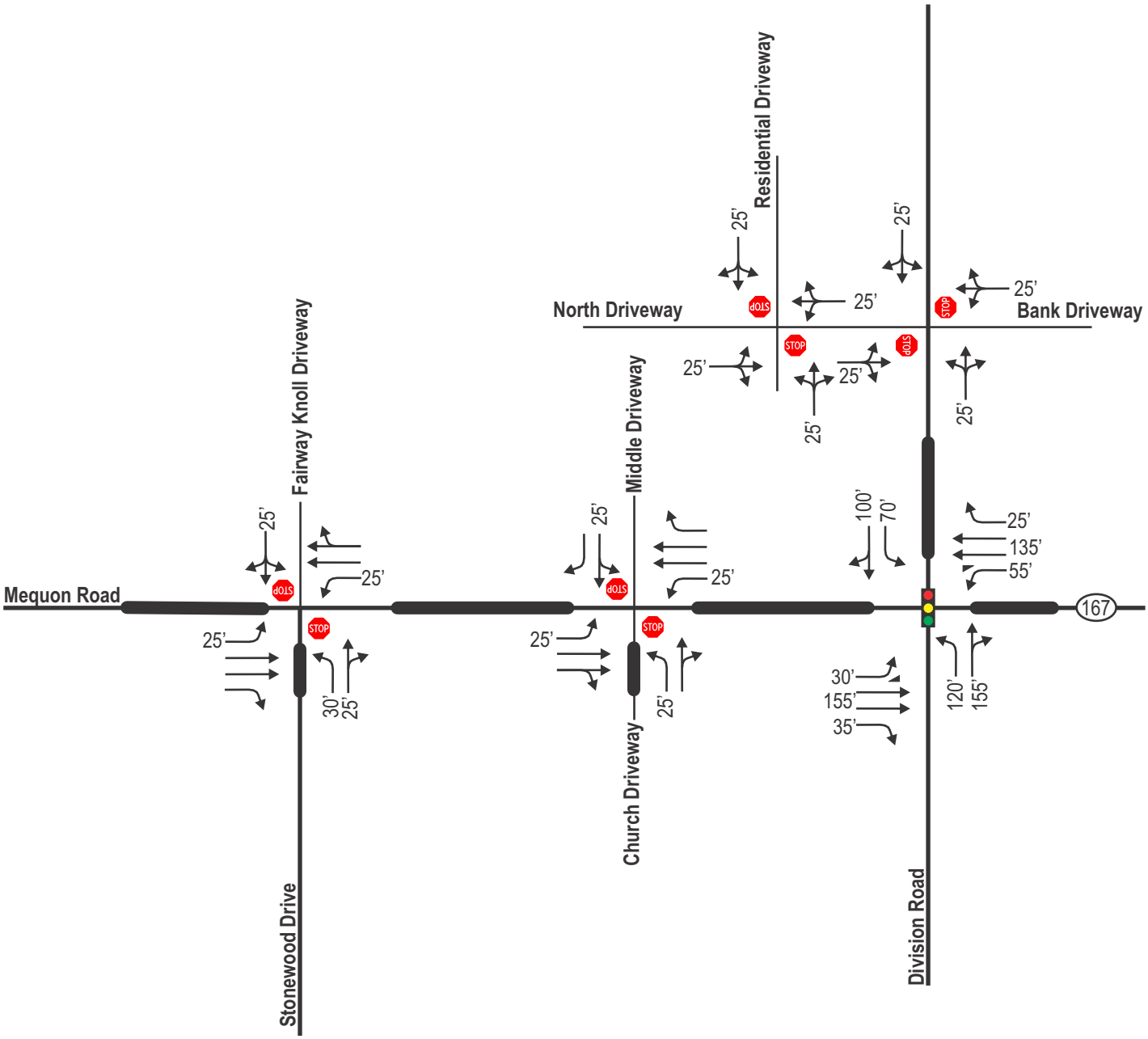
- Traffic Signal Control
- STOP Stop Control
- → Existing or Proposed Lane Configuration
- XX' Expected Maximum Peak Hour Queue Length (in feet)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 5-18
YEAR 2030 BACKGROUND TRAFFIC
MAXIMUM QUEUE LENGTHS

GERMANTOWN, WISCONSIN



LEGEND

- Traffic Signal Control
- STOP Stop Control
- → Existing or Proposed Lane Configuration
- XX' Expected Maximum Peak Hour Queue Length (in feet)

TRAFFIC ANALYSIS & DESIGN, INC.
3511: 10-8-25

N
NOT TO SCALE

EXHIBIT 5-21
YEAR 2030 FULL BUILD TRAFFIC MAXIMUM QUEUE LENGTHS

GERMANTOWN, WISCONSIN

CHAPTER VI – RECOMMENDATIONS AND CONCLUSION

PART A – RECOMMENDATIONS

The study area intersections were analyzed based on the procedures set forth in the *Highway Capacity Manual* (HCM) *6th Edition*. Intersection operation is defined by "level of service." Level of Service (LOS) is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, represented by LOS 'A,' to very poor, represented by LOS 'F.' For the purpose of this study, LOS D or better was used to define acceptable peak hour operating conditions.

Modifications to address traffic impacts are shown in Exhibit 1-3 for the Year 2030 traffic conditions and have been shown for the following scenarios:

- "Existing Traffic" – These modifications are expected to be necessary to accommodate Year 2025 Existing traffic volumes without the proposed residential/mixed-use development.
- "Background Traffic" – These modifications are expected to be necessary to accommodate the Year 2030 background traffic volumes, which includes only the off-site development but no on-site development.
- "Full Build Traffic" – These modifications are expected to be necessary to accommodate the Year 2030 full build traffic volumes, which includes full build out of the proposed on-site development as well as the off-site development.

The analysis was conducted using existing intersection geometrics and traffic control. The following modifications, as shown in Exhibit 1-3, are recommended to accommodate the Year 2025 Existing, Year 2030 background and Year 2030 full build traffic volumes, respectively. *Modifications are for jurisdictional consideration and are not legally binding. The Village of Germantown reserves the right to determine alternative solutions.*

Node 100: STH 167 intersection with Stonewood Drive/Fairway Knoll driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:* No modifications.

Node 200: STH 167 intersection with Blackstone Creek Golf Club Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:*
  - Provide a full access driveway on the north approach.
  - Provide stop control on the north approach.
  - Provide a dedicated right-turn lane and a dedicated left-turn lane on the north approach at the proposed driveway.

Node 300: STH 167 intersection with Division Road

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.

- *Full Build Traffic:*
    - Using pavement marking, restripe the northbound left-turn lane to a length of 125-feet (this requires an extension of 50-feet).

Node 400: Division Road intersection with Bank Driveway/North Driveway

- *Existing traffic:* No modifications.
- *Background Traffic:* No modifications.
- *Full Build Traffic:*
    - Provide a full access driveway on the west approach.
    - Provide stop control on the west approach.

Node 450: North Driveway intersection with Residential Driveway

- *Existing traffic:* Not applicable.
- *Background Traffic:* Not applicable.
- *Full Build Traffic:*
    - Construct internal roadways as shown on the site plan.
    - Provide stop control on the north and south approaches.

It is noted that consideration was given to providing additional turn lanes at the Division Road intersection with the bank driveway/proposed north driveway under full build conditions. However, since the expected northbound/southbound through volumes are currently very low (less than 100 vehicles in any peak hour) and are expected to remain low, and the conflicting turning volumes expected at the intersection are relatively low, turn lanes are not expected to be necessary nor warranted. As shown in this report, all movements at this intersection are expected to operate at LOS B (less than 12 seconds of delay) or better with minimal queueing (1 vehicle or less) during all peak periods with the existing intersection configuration.

Dedicated turn lanes are recommended on the north approach at the STH 167 intersection with the Blackstone Creek Golf Club driveway under full build conditions. No other modifications are recommended at this intersection. This intersection is expected to operate acceptably at LOS D or better with minimal queueing (1 vehicle or less) during all peak periods. Even though not expected, if significant adjacent development in the future requires the restriction of left-turn exiting vehicles at the intersection (left-in/right-in/right-out access driveway), an example of the median modifications that could be considered at that time is shown on Exhibit 1-3. It is noted that this type of modification may be considered in the future as part of a future large TIA which generates a significant amount of traffic.

Modifications to the lane configuration on the north and south approaches of the signalized STH 167 intersection with Division Road are not recommended. The intersection is expected to operate acceptably under the current lane configuration whereas, significantly higher delays (LOS E/F) are expected with a shared through/left-turn lane and a dedicated right-turn lane on the south approach.

PART B – CONCLUSION

All movements at the study area intersections are expected to operate safely and efficiently with the development assumptions outlined in this TIA and with the identified recommended modifications if properly designed and implemented through the full built out of the development (expected year 2030).

Engineering Department Memorandum

To: **Jeff Retzlaff, AICP, Planning Director/Zoning Administrator**

From: **Kevin Driscoll, Village Engineer**

Date: **August 27, 2025**

Re: **Culvers – Storm Water Management Review**

Items Reviewed:

1. Stormwater Management Plan Dated: 07-07-2025

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. The project will require DSPS plumbing and infiltration system review and approval. Please provide a copy of the DSPS approval prior to engineering approval
5. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
6. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction
plans.

Stormwater Management Plan:

1. Clarify what pavement area was used for the new pavement area. New driveways into the site located outside the property line shall be included as new parking and roadway area.
2. Provide soil borings demonstrating the native soil infiltration rate of 0.13 in/hr is appropriate for the on-site soils.
3. Adjust stone voids to 33% as recommended by the DNR or provide documentation supporting 40% voids in the stone proposed for use.
4. Provide additional information on how the outlet from the isolator row is being modeled. Its not clear where the weir 1.5' above the bottom is and why the 12" outlet pipe isn't included in the model.
5. Provide information on how water tributary to STM INL #2 will be treated by the isolator

row. Is the 15" outlet invert intended to by higher than the 12" inlet pipe as shown on the plans?

6. Provide information on the 6" NE out of STM MH#1. Is this a draintile that will reduce infiltration of the isolator row? If so it should be included in the SLAMM model.

Transportation:

1. Provide Traffic Impact Analysis.
2. Complete Driveway permit.
3. Extend sidewalk to connect to Mequon Road. Extend sidewalk along Division Road.

Sanitary:

1. Sanitary is available along Mequon Road in easement.
2. Complete Plumbing permit
3. Provide projected volumes based on similar sites for impact fee calculation.

Water:

1. Water is available along Mequon Road in easement.
2. Complete Plumbing permit
3. Provide projected volumes based on similar sites for impact fee calculation.

SITE PLAN APPLICATION REVIEW

10/13/25 Plan Commission Meeting

TLC Acres LLC / Matthew Seban

Village Planner Report **Germantown, Wisconsin**

Summary

Evan Nicodem, Parish Survey & Engineering, Agent for Matt Seban and TLC Acres LLC property owners, is requesting Site Plan approval for a 5,200 sqft accessory building addition and a Conditional Use Permit (CUP) to allow an encroachment into a 25' wetland and 75' navigable waterway setback on the 53.4-acre TLC Acres property located at W210 N10738 Appleton Avenue.

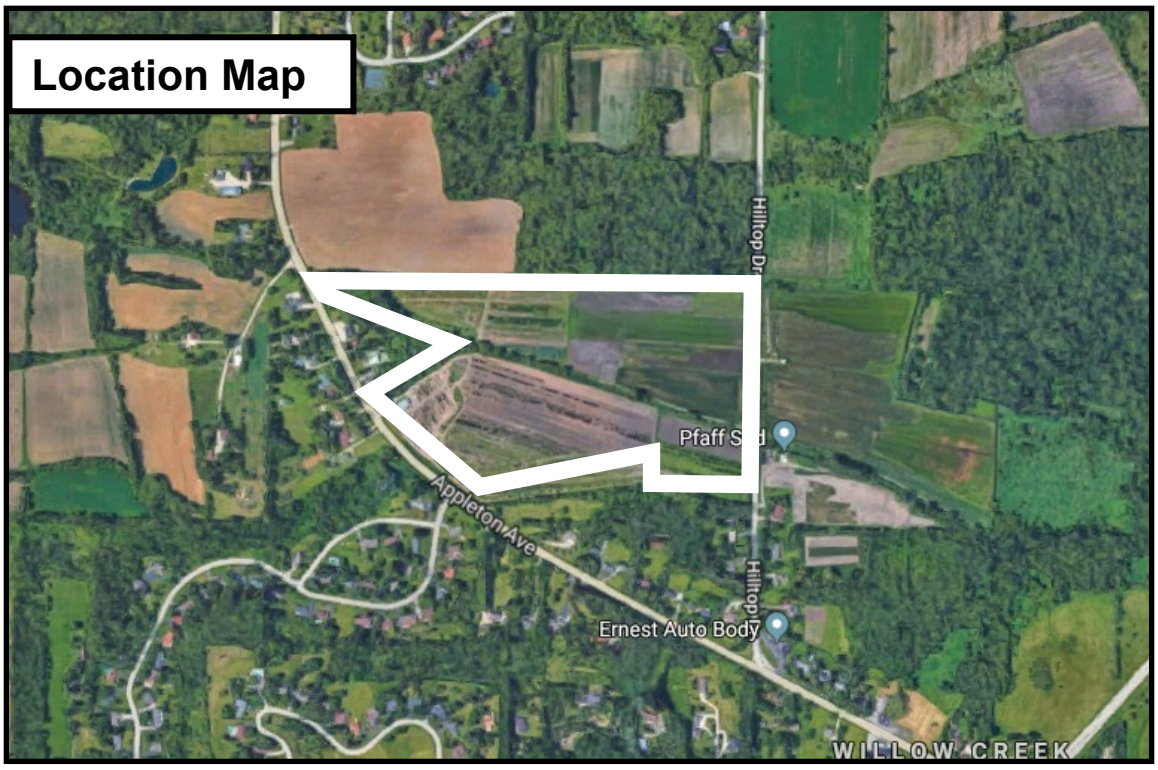
Location: W210 N10738 Appleton Avenue

Applicant/
Property Owner:

Evan Nicodem	Matthew Seban
Parish Engineering	W210 N10738 Appleton Avenue
West Bend, WI	Germantown, WI

Zoning: A-2: Agricultural

Adjacent Land Uses		Zoning
North	Agricultural	A-1/A-2
South	Residential	Rs-2/Rs-3/Rs-4/Rs-5
East	Agricultural	A-1
West	Residential/Business	Rs-2/Rs-3/Rs-4/B-3



Background

Matt & Amy Seban, MSTLC LLC, agents for TLC Acres LLC and property owners, obtained a Conditional Use Permit (CUP #08-2019) in 2019 to operate a landscape maintenance and construction services business and sell retail products not raised on the 53.4-acre tree nursery property located at W210 N10738 Appleton Avenue. The property is located in an A-2: Agricultural Zoning District.

Fundamental to the nursery operation is the concept of growing plants, e.g. evergreen and deciduous trees and shrubs, on elevated “plateaus” or “tiers”. After acquiring the property in 2019 Seban began trucking in fill material (and continue to do so) to create two (2) tiers in the area abutting Appleton Avenue south of an existing drainage ditch and existing maintenance building. Tier 1 (approximately 1.75 acres in area) was completed and a portion planted with trees in 2018. Tier 2 (approximately 4.85 acres in area) is currently under construction.

In addition to the tree nursery, Seban leases approximately 3 acres of land to MSTLC LLC, a.k.a. “Total Lawn Care”, a landscaping maintenance and construction services business also owned and operated by Seban. The area leased to MSTLC is used for parking and storage of business and employee vehicles, equipment and materials used in the landscape maintenance and construction services operation. This mutually beneficial lease arrangement also involves the use of MSTLC vehicles and equipment for the tree nursery and other farming-related activities on the 53.4-acre TLC Acres property.

Current Status

At the June 9, 2025 meeting, the Plan Commission reviewed a proposal to expand the TLC Acres operation and subsequently approved the following items:

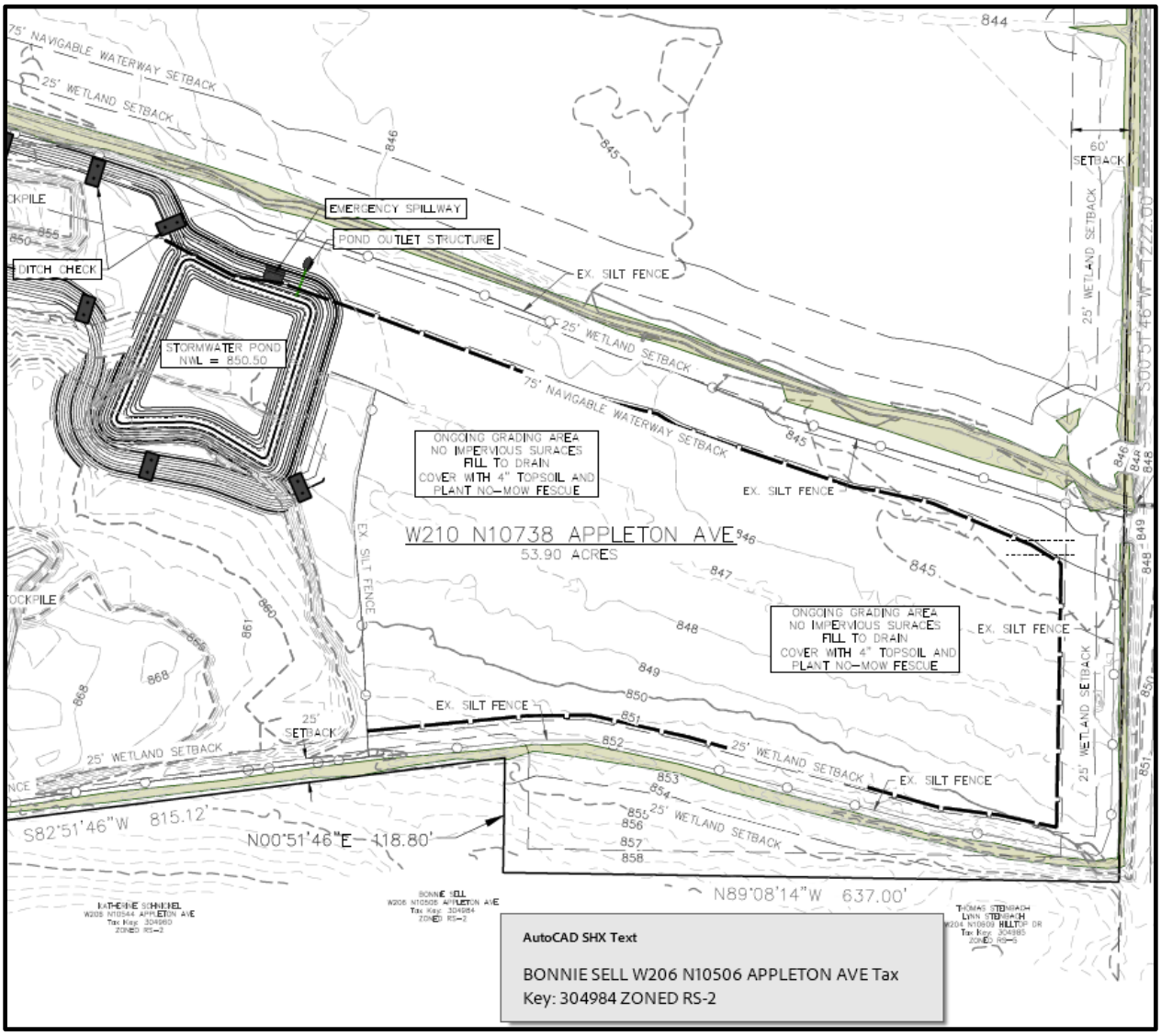
1. Site Plan Application
    a. 50’ x 104’ (5,200 sqft) accessory building addition
    b. 11,000 sqft asphalt pavement adjacent to the new building
    c. Storm water management basin to control run-off from the building addition, new impervious area, and an additional 10,000 sqft future building and 30,000 sqft of additional impervious pavement

2. Conditional Use Permit (CUP) to allow the encroachment into a 25’ wetland and 75’ navigable waterway setback on property

As part of the Site Plan approval, Condition #11 set a November 1, 2025, deadline for completing the filling & grading of the “ongoing grading area” on the site (see Figure 1 below). This condition includes an option for the Plan Commission to extend that deadline up to 60 days after reviewing the filling progress at the October 13, 2025, PC meeting. The purpose for tonight’s discussion is to consider whether or not to extend the November 1 deadline up to 60 days.

No additional information about the status of the filling operation has been provided by the property owner.

Figure 1- "Ongoing Grading Area" subject to Filling



Staff Comments

The TLC Acres property was impacted by the recent flood event in August. Staff conducted a “drive-by” inspection during the “1000 Year” storm event and noted that a large portion of the “ongoing grading area” was under water with much of that area still with standing water.

As discussed back in June, the Village's flood hazard rate maps (FIRMs) that establish the 100-year floodplain boundary used by the federal government (FEMA) for determining eligibility in the National Flood Insurance Program (NFIP) and by state and local municipalities for regulatory purposes, are in the process of being revised.

The new FIRM's will become effective on February 26, 2026. After that date, additional land area in the Village will be subject to new and more restrictive floodplain zoning regulations. Certain land uses and activities such as filling and building construction may no longer be allowed after the new FIRM maps are adopted (that may have been allowed under the "old" floodplain maps).

This is the case with respect to the TLC Acres property. As shown in Figure 3 below, the "new" 100-year floodplain boundary extends into a wide swath of the TLC Acres property (see BLUE solid line with hatching). Under the current FIRM map (valid until February 25, 2026) the floodplain boundary effectively stops at Hilltop Drive and does not extend onto any portion of the TLC Acres property.

Figure 2 - PROPOSED FIRM 100-Year Floodplain



The following three conditions are those adopted by the Plan Commission as part of the Site Plan approval that pertain to the "ongoing grading area" subject of the ongoing filling activity:

10. The owner/operator is advised that the Village's flood hazard rate maps (FIRMs) that establish the 100-year floodplain boundary used for determining eligibility in the National Flood Insurance Program (NFIP) and by the Wisconsin DNR and Village of Germantown for regulatory purposes are in the process of being revised. Sometime in late 2025 or early 2026, the new FIRMs will become effective, and the Village will update the Floodplain Zoning Code to include the new maps. As a result, portions of the TLC Acres property are expected to become impacted by and subsequently further regulated by the 100-year floodplain boundary and Floodplain Zoning Code. That part of the TLC Acres property will be subject to new and more restrictive floodplain zoning regulations and any proposed grading, filling or other elevation changes and improvements may be prohibited or otherwise impacted by these new regulations to the extent that said elevation changes and improvements may not be allowed after the new FIRM maps and Floodplain Zoning Code are adopted. To the extent provided by law, Village approval of the Site Plan referenced herein does not provide a vested right to the owner/operator to complete the grading, filling and other improvements set forth in said Site Plan in the event the new FIRMs and resulting 100-year floodplain boundary, revised Village of Germantown Floodplain Zoning Code, or other applicable floodplain regulations effect the TLC Acres property.

11. Filling, grading and site restoration activities in the area east of the proposed storm basin and shown on the revised Site Plan as "Ongoing Grading Area" shall be completed by November 1, 2025. Filling in this area shall only be allowed to the extent that the pre-existing elevations shown on the revised Site Plan are restored and positive drainage toward the waterway is achieved. The Plan Commission will re-visit the November 1, 2025 deadline date at their October 13th meeting to potentially extend the completion date by up to sixty (60) days.

12. All trucking associated with the filling, grading and site restoration activities in #11 above shall be restricted to only the following days and hours in any given week:
    a. Monday through Friday 8:00am to 6:00pm
    b. Saturday 8:00am to 2:00pm

Staff Recommendation

Subject to whatever information is provided at the meeting by the property owner and discussed at the October 13 meeting, Staff does not recommend extending the November 1, 2025 deadline. There is not adequate time to restore the original grades by the February 26, 2026 deadline with additional filling, grading, and restoration with vegetation given what little activity has been conducted to date.

SITE PLAN & CONDITIONAL USE PERMIT (CUP) APPLICATIONS

6/9/25 Plan Commission Meeting

TLC Acres LLC / Matthew Seban

Village Planner Report **Germantown, Wisconsin**

Summary

Evan Nicodem, Parish Survey & Engineering, Agent for Matt Seban and TLC Acres LLC property owners, is requesting Site Plan approval for a 5,200 sqft accessory building addition and a Conditional Use Permit (CUP) to allow an encroachment into a 25' wetland and 75' navigable waterway setback on the 53.4-acre TLC Acres property located at W210 N10738 Appleton Avenue.

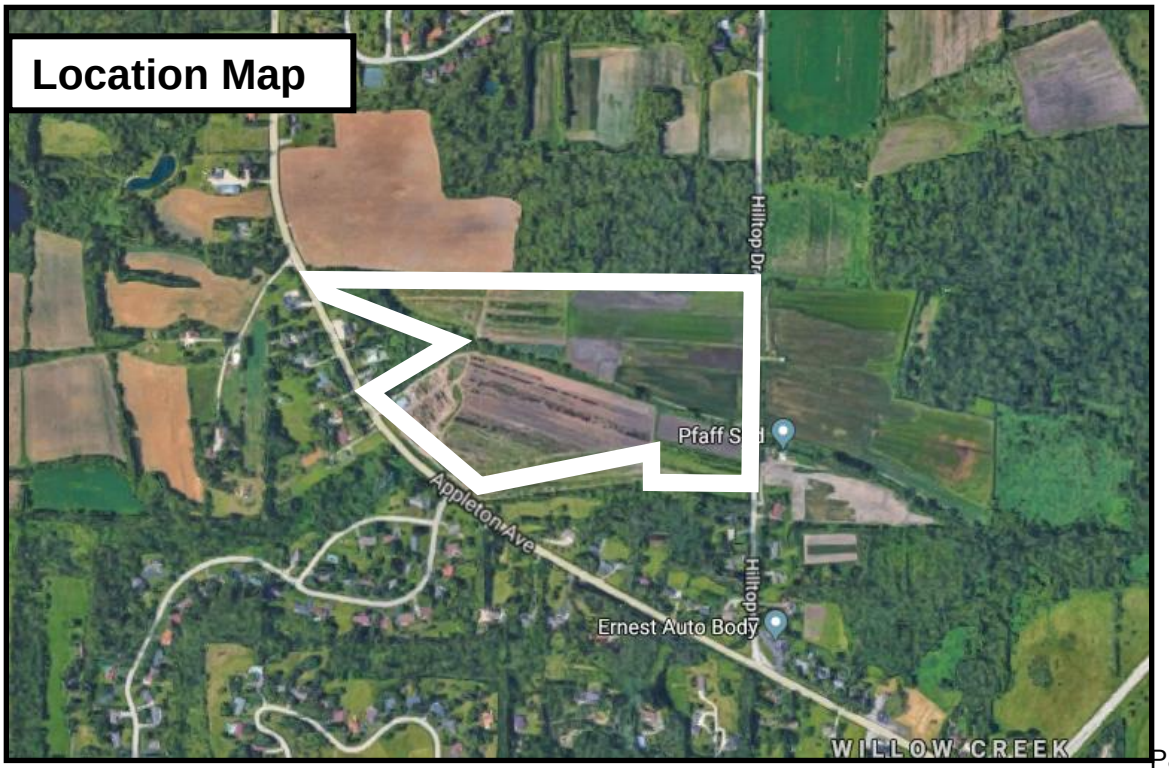
Location: W210 N10738 Appleton Avenue

Applicant/
Property Owner:

Evan Nicodem	Matthew Seban
Parish Engineering	W210 N10738 Appleton Avenue
West Bend, WI	Germantown, WI

Zoning: A-2: Agricultural

Adjacent Land Uses		Zoning
North	Agricultural	A-1/A-2
South	Residential	Rs-2/Rs-3/Rs-4/Rs-5
East	Agricultural	A-1
West	Residential/Business	Rs-2/Rs-3/Rs-4/B-3



Update

Since the April 28 Plan Commission meeting at which the public hearing of the CUP application was opened and closed, Village Staff met with the Owner and Engineer to discuss further revisions to the Site Plan. As a result, a revised Site Plan set (dated June 5, 2025) has been submitted that addresses the following:

1. removes proposed filling east of the proposed storm basin above the pre-existing elevations;
2. relocates the proposed building to the required minimum setback from the north/west property line;
3. adds a defined drainage path through the site for the existing 42" culverts; and
4. adds an additional drainage ditch around the south side of the proposed storm basin to guide run-off from the Appleton Ave/STH175 right-of-way

According to the Engineer, the amount of disturbance within the 25' wetland and 75' navigable waterway setback areas will not change.

NOTE: *The balance of this report is repeated from the April 28 Staff Report and Recommendation except where highlighted to show items that were changed or ~~deleted~~ or <u>added</u>.*

Background

Matt & Amy Seban, MSTLC LLC, agents for TLC Acres LLC and property owners, obtained a Conditional Use Permit (CUP #08-2019) in 2019 to operate a landscape maintenance and construction services business and sell retail products not raised on the 53.4-acre tree nursery property located at W210 N10738 Appleton Avenue. The property is located in an A-2: Agricultural Zoning District.

Fundamental to the nursery operation is the concept of growing plants, e.g. evergreen and deciduous trees and shrubs, on elevated "plateaus" or "tiers". After acquiring the property in 2019 Seban began trucking in fill material (and continue to do so) to create two (2) tiers in the area abutting Appleton Avenue south of an existing drainage ditch and existing maintenance building. Tier 1 (approximately 1.75 acres in area) was completed and a portion planted with trees in 2018. Tier 2 (approximately 4.85 acres in area) is currently under construction.

In addition to the tree nursery, Seban leases approximately 3 acres of land to MSTLC LLC, a.k.a. "Total Lawn Care", a landscaping maintenance and construction services business also owned and operated by Seban. The area leased to MSTLC is used for parking and storage of business and employee vehicles, equipment and materials used in the landscape maintenance and construction services operation. This mutually beneficial lease arrangement also involves the use of MSTLC vehicles and equipment for the tree nursery and other farming-related activities on the 53.4-acre TLC Acres property. *(Note: the original application and staff report are included in the packet for additional background information).*

Proposal

At this time, Evan Nicodem, agent for Matt Seban and TLC Acres LLC, is requesting Site Plan approval for a 5,200 sqft accessory building and a Conditional Use Permit (CUP) to allow encroachment into a 25' wetland and 75' navigable waterway setback on the 53.4-acre TLC Acres property as detailed below.

Site Plan Application

Seban is requesting approval of site development and building plans for a 50' x 104' (5,200 sqft) accessory building addition and associated site improvements with the following characteristics:

Site Improvements

- Reconstruct and asphalt pave approximately 11,000 sqft of existing gravel driveway internal to the site adjacent to the new building
- Construct an on-site storm water management basin and swales south of the existing navigable waterway to control the treatment and discharge of run-off from the developed portions of the property (designed to accommodate an additional future 10,000 sqft of building area and 30,000 sqft of asphalt pavement)

Building Improvements

- 5,200 sqft single-story building addition (existing 40' x 60' 2,400 sqft building)
- metal pole building w/ metal exterior wall and roof panels @ 16' wall height & 25' peak height
- equipment and material storage

No additional landscaping, lighting or signage is proposed.

Conditional Use Permit (CUP) Application

A Conditional Use Permit (CUP) application has been submitted for a proposed encroachment into the Village's 25' wetland and 75' navigable waterway setback along the south side of the drainage ditch that runs through the property. Ongoing site disturbance activities associated with the tree nursery operation, including topsoil excavation & screening along with future disturbance associated with constructing the storm water basin and swale south of the drainage ditch.

As shown and discussed in the Wetland and Navigable Waterway Setback Compensation Plan (dated January 30, 2025), collectively, these activities will result in approximately 57,650 sqft (1.32 acres) of 25' wetland & 75' waterway setback disturbance.

Under the Village's Shoreland-Wetland Code, development may be permitted within both a 25' wetland and a 75' waterway setback provided that additional buffering for these features and/or other compensation is provided somewhere else on the property. The ratio of compensation required is based on a 1:1 ratio for "horizontal" development

(defined as grading or filling with < 3' of elevation change) or a 2:1 ratio for "vertical" development (defined as any structural improvements, grading or filling with a >3' of elevation change). As detailed in the Compensation Plan, all the 57,650 sqft of disturbance qualifies as being "horizontal" development that requires a minimum compensation ratio of 1:1.

As shown on Exhibits CUP-1 & CUP-2, Seban proposes to restore a 21,895 sqft area within which past farming activities have occurred (highlighted GREEN on CUP-2) and a 41,335 sqft area adjacent to and south of the waterway (highlighted BLUE on CUP-2) will be planted with a vegetated buffer. A total of 63,230 sqft (1.45 acres) of area will eventually be converted into a permanent vegetated buffer along and adjacent to the south side of the waterway a mitigation ratio greater than the minimum required (1: 1.10 is proposed). Compensation will be in the form of installing/seeding with native grass seed mix and plant forbs to create a permanent vegetated buffer.

Staff Comments

Consistency with Village's 2050 Plan & A-2 Zoning District.

Under the Village's 2050 Plan this property is located within the "Willow Creek/Weidenbach Neighborhood". The current zoning of the property is A-2: Agricultural. As discussed above, many of the activities conducted on or from the property are permitted "by right" land uses and not subject the Village's CUP requirements. Agricultural activities such as these are "desirable" land uses consistent with the 2050 Plan.

As discussed in 2019 when the TLC Acres operations were originally approved, full-service landscaping operations such as the Seban's MSTLC/Total Lawn Care business are typically located in agricultural zoning districts. Particularly those that involve growing their own trees and other plant material, as well as those that provide landscaping maintenance and hardscaping services that include the storage and screening of topsoil, the hauling, cutting, grinding and mulching of cut trees and other plant debris. While not the same as more traditional agricultural operations as dairy farming or crop raising, landscaping services businesses are one of many specialized land uses that is typical and customary for agriculturally zoned districts.

With that said, the circumstances unique to this property and Seban's business operations are: (1) the previous owner of the 53.4-acre property also operated a tree nursery but to a much lesser degree. It did not include a full-service landscaping business with the maintenance, hardscape construction or snow management services like the MSTLC/Total Lawn Care operation; and (2) the property is relatively close to pre-existing residential neighborhoods that "were there first" before Seban acquired the property and started the MSTLC/Total Lawn Care business. This is slightly different than what has been experienced with other similar operations such as the D.J. Frank Contracting or the Wendland Landscape and Nursery operations that were already in business at their respective locations well before those areas were developed with

nearby residential development.

For these reasons, Staff supports the proposed accessory building and pavement construction because these improvements will further lessen potential impacts on the nearby residential neighborhood and adjacent properties, e.g. visual buffer with covered storage, protection against tracking mud on roads, etc.

The existing hoop structure and relocated shipping container east of the proposed building addition will have to be moved to meet the same 50' minimum setback.

Also, the proposed 5,200 sqft storage building addition is not listed as an improvement or asset contemplated or included in the original CUP application nor reflected in CUP #08-2019 (either as part of the TLC Acres nursery operation or the MSTLC landscaping services operation that leases land from TLC Acres. Therefore, CUP #08-2019 should be revised to include a revised site layout showing the proposed building addition and site improvements subject of the current Site Plan application and the revised site layout submitted on January 21, 2022.

Figure 1- Revised (1-21-2022) Site Layout-submitted for CUP #08-2019



The building and site improvements, including the proposed storm basin, were initially discussed with Village staff in 2024. At that time, a "stop work order" was issued against certain grading and filling activities that were underway on the property, i.e. topsoil excavation and screening, given close proximity of that activity to the existing drainage

ditch that runs through the property and wetlands associated with it. Until that time, this ditch was assumed to be an unregulated, man-made ditch.

However, in the fall of 2024, the DNR declared the ditch to be a navigable and, therefore, a regulated waterway. Consequently, the topsoiling activity was stopped pending the approval of Village and DNR permits and approvals for land disturbing activity within the Village's 25' wetland and 75' navigable waterway setbacks and within the DNR's jurisdictional area outward from navigable waterways (the Chapter 30 waterway protection permitting process regulates activities such as constructing ponds within 500' of a waterway, grading along the banks of a waterway, etc). In addition to the CUP application, Seban will also have to obtain whatever additional permits or approvals are required by the DNR for the proposed storm basin construction and any other land disturbing activities that may fall within DNR jurisdiction on this property.

It is important to point out that the ongoing filling and grading activities associated with construction of the tree nursery "tiers" and the topsoil excavation & screening activities were included in the original plan of operation details submitted in support of the original CUP that was eventually issued in 2019 (CUP #08-2019). While not a traditional farming activity that is exempt from certain zoning restrictions and regulation under Wisconsin's "right to farm" statutes, the tree nursery "tier" filling and grading and topsoil excavation activities are temporary land disturbing activities that are subject to the Village's erosion control permitting regulations. Seban has an existing erosion control permit from the Village and, as a result of this proposal, will need to revise that erosion control permit accordingly to reflect these proposed site improvements and land disturbing activities on the property.

Finally, the Village's flood hazard rate maps (FIRMs) that establish the 100-year floodplain boundary used by the federal government (FEMA) for determining eligibility in the National Flood Insurance Program (NFIP) and by state and local municipalities for various regulatory purposes, are in the process of being revised. Sometime in 2025, the new FIRM's will become effective, and the Village will be required to update our Floodplain Zoning Code to include the new maps. As a result of adopting the new maps, additional land area, including some developed properties with buildings and other undeveloped properties, will be subject to new and more restrictive floodplain zoning regulations. Land uses and activities, such as filling and building construction, may be impacted by these new regulations and, in some cases, may no longer even be allowed, after the new FIRM maps are adopted.

It appears that this is/will be the case with respect to the TLC Acres property.
As shown in figure 1 below, the "new" 100-year floodplain boundary presented on the new FIRM map (at an elevation approximately 850') for this area shows in a wide swath of the TLC Acres property being located within the 100-year floodplain boundary (see BLUE solid line with hatching). Under the current FIRM map (Figure 2), the floodplain boundary effectively stops at Hilltop Drive and does not extend onto the TLC Acres

property.

Figure 3- CURRENT FIRM 100-Year Floodplain



As presented in the proposed revised Site Plan, in addition to the proposed grading and drainage swales leading to and around the proposed storm basin, Seban intends to continue filling the Tier 2 growing area.

Although Seban has agreed to withdraw the plan to fill the area east of the storm basin to the 853' elevation above the future floodplain elevation, he intends to continue excavating peat & topsoil from this area and replace it with clean fill to restore the original elevations shown on the revised Site Plan so the area can, once again, drain to the north toward the waterway. This area is shown on the revised Site Plan as "ongoing grading area". The Engineer estimates that this filling and re-grading will be completed by the end of the current 2025 growing season (typically sometime in October).

Although the "ongoing grading areas" on the east side of the property can be filled today because these areas are not located in the currently adopted 100-year floodplain, it's a relative certainty that the new FIRM's are going to become effective in 2025 and adopted by the Village as part of the Floodplain Zoning Code in 2025. Therefore, unless the areas are filled and restored as presented in the proposed Site Plan before the new FIRM's become effective, the area NOT completely filled and restored before the FIRM map effective date will become regulated under the Village's Floodplain Zoning Code and possibly not permitted.

More importantly, this filling process now has a "date certain" end date in October, 2025. Because of local resident concerns with the unknown amount and duration of the previously proposed filling activities, Staff recommends including conditions of approval that prohibit filling beyond the intended October, 2025 end date, and, restricts the day and hours that the remaining filling activity can occur.

Public Works/ Village Engineer
The Village Engineer has identified several technical corrections related to grading, storm water management, and grading that will need to be resolved in revised plans and/or supplemental documents prior to commencing construction activities in a June 6, 2025 review memo (copy attached).

VILLAGE STAFF RECOMMENDATIONS

APPROVE a Conditional Use Permit to allow encroachment into a 25' wetland and 75' navigable waterway setback as presented in the Wetland and Navigable Waterway Setback Compensation Plan (dated January 30, 2025) for the TLC Acres property pursuant to Section 24.04 of the Shoreland-Wetland Zoning Code and subject to the following conditions:

1. To the extent practicable, CUP #08-2019 should be revised to include approval of the setback encroachment and Wetland and Navigable Waterway Setback Compensation Plan (dated January 30, 2025).
2. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities or uses which causes problems or harmful effects that were not anticipated at the time of approval of this CUP, the conditional use permit may be modified or terminated by the Village Board by the amendment to or addition of conditions after public hearing thereon.
3. The Property Owner shall implement the setback compensation measures as set forth in the Setback Compensation Plan dated January 30, 2025, as part of the site development activities. Any changes to the mitigation plan or changes to any proposed development of the site that impacts the ability to implement the mitigation plan shall be reported to the Village.
4. The Property Owner shall prepare and submit an annual monitoring report to the Village concerning the management activities proposed in the CUP narrative including the planting of native vegetation. Said report shall, at a minimum, detail the type and number of seeding and plantings, activities carried out in the previous year and the observed success (or failure) of previous activities, and detail on the planned activities to be carried out for the coming year. Said report shall be submitted to the Community Development Department annually at the end of each year beginning in 2025 and for a period of three (3) years.

APPROVE site development and building plans for a 5,200 sqft accessory building addition subject to the following conditions:

1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the following plans unless the conditions of approval adopted by the Plan Commission require or necessitate revisions to these plans:
   a. *Architectural, Building & Elevation plans dated March 19, 2024;*
   b. *Civil Engineering plans dated June 5, 2025;*
   c. *Storm water Management Report dated January 23, 2025;*
   d. *Wetland and Navigable Waterway Setback Compensation Plan (dated January 30, 2025).*

2. The existing hoop storage structure and re-located shipping container shall be moved to meet the minimum required 50 feet property line setback from the side yard (north) property line.

3. CUP #08-2019 shall be revised to include by reference the proposed Site Plan set including the proposed building addition, asphalt paving, and storm water basin improvements as approved by the Plan Commission.

4. The Owner/operator shall submit a revised erosion control permit application to the Village of Germantown as necessary to include the site improvements and other land disturbing activities approved as part of this Site Plan so the permit and any requirements stipulated in the erosion control permit are accurate and up-to-date. No additional land disturbing activity shall commence until a revised erosion control permit has been issued by the Village.

5. All landscaping, screening, grading, and paving improvements shown on the approved site plans related to construction of the building shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit for the shell building.

6. All exterior doors (except primary entrance) shall be clearly marked with reflective 5” or larger letters/numbers to aid emergency personnel access as required by the Police Department.

7. All comments and issues raised in the Village engineer’s February 21, 2025 and June 6, 2025 review memos shall be resolved and reflected in additional information and/or revised plans submitted to the Engineer for further review, comment, and approval prior to commencing construction or issuance of building permits (excluding any “early start” site clearing and footing/foundation work approved by the Village and/or WI DSPS).

8. The owner/operator is responsible for applying for and obtaining all permits or approvals required by the Wisconsin Department of Natural Resources (WisDNR) for construction of the storm basin and other land disturbing activities located on the property prior to commencing said construction or land disturbing activities.

9. At such time as the shipping container is no longer used for farm-related storage purposes it shall be removed from the property pursuant to Section 17.41(7)(c) of the Zoning Code.

10. The owner/operator is advised that the Village's flood hazard rate maps (FIRMs) that establish the 100-year floodplain boundary used for determining eligibility in the National Flood Insurance Program (NFIP) and by the Wisconsin DNR and Village of Germantown for regulatory purposes are in the process of being revised. Sometime in late 2025 or early 2026, the new FIRMs will become effective, and the Village will update the Floodplain Zoning Code to include the new maps. As a result, portions of the TLC Acres property are expected to become impacted by and subsequently further regulated by the 100-year floodplain boundary and Floodplain Zoning Code. That part of the TLC Acres property will be subject to new and more restrictive floodplain zoning regulations and any proposed grading, filling or other elevation changes and improvements may be prohibited or otherwise impacted by these new regulations to the extent that said elevation changes and improvements may not be allowed after the new FIRM maps and Floodplain Zoning Code are adopted. To the extent provided by law, Village approval of the Site Plan referenced herein does not provide a vested right to the owner/operator to complete the grading, filling and other improvements set forth in said Site Plan in the event the new FIRMs and resulting 100-year floodplain boundary, revised Village of Germantown Floodplain Zoning Code, or other applicable floodplain regulations effect the TLC Acres property.

11. Filling, grading and site restoration activities in the area east of the proposed storm basin and shown on the revised Site Plan as "Ongoing Grading Area" shall be completed by November 1, 2025. Filling in this area shall only be allowed to the extent that the pre-existing elevations shown on the revised Site Plan are restored and positive drainage toward the waterway is achieved. The Plan Commission will re-visit the November 1, 2025 deadline date at their October 13th meeting to potentially extend the completion date by up to sixty (60) days.

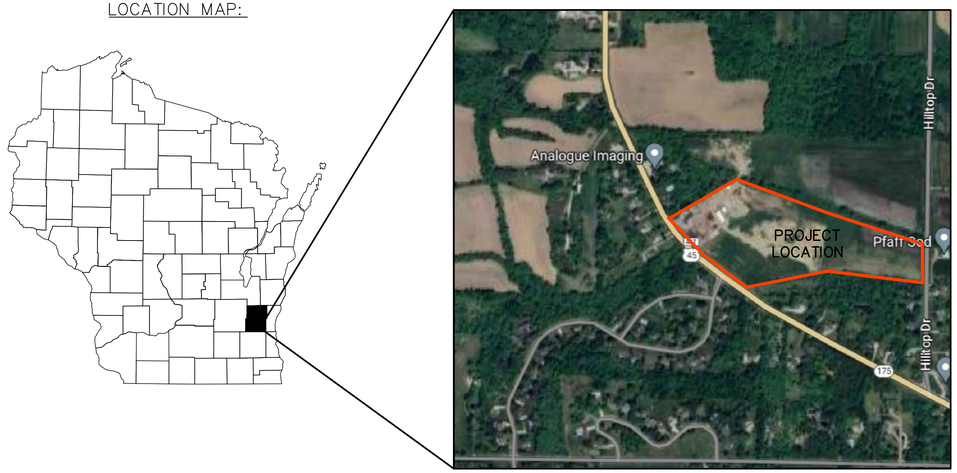
12. All trucking associated with the filling, grading and site restoration activities in #11 above shall be restricted to only the following days and hours in any given week:

    a. Monday through Friday 8:00am to 6:00pm
    b. Saturday 8:00am to 2:00pm

TLC ACRES

W210 N10738 APPLETON AVENUE

LOCATION MAP:



Professional Engineer's Seal

WISCONSIN PROFESSIONAL ENGINEER
EVAN P. NICKODEM
E-31628
JACKSON
WI

Signature

09 / 03 / 2025
Date

PROJECT CONTACTS:

OWNER:
TLC ACRES
ATTN: MATT SEBAN
W210 N10738 APPLETON AVE
GERMANTOWN, WI 53022

CIVIL:
PSE, LLC
ATTN: EVAN NICKODEM
122 WISCONSIN STREET
WEST BEND, WI 53095

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

BENCHMARK:

SITE BENCHMARK:
TOP OF WELL CASING
EAST SIDE OF EXISTING BUILDING
ELEV=862.67

SECTION CORNER:
EX: NE 1/4 OF SEC 30, T9N, R20E.
BRASS DISC IN CONCRETE
ELEV=849.11

CIVIL SHEET INDEX:

SHEET	SHEET TITLE
C1.00	TITLE
C1.01	EXISTING CONDITIONS PLAN
C1.02	EXISTING CONDITIONS WEST
C1.03	SITE PLAN WEST
C1.04	OVERALL EROSION CONTROL PLAN
C1.05	GRADING PLAN WEST
C1.06	POND GRADING PLAN
C2.01	CONSTRUCTION NOTES
C2.02	EROSION CONTROL DETAILS
C2.03	STORMWATER MANAGEMENT DETAILS

REVISIONS:

NO.	DATE	DESCRIPTION

PSE
PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
TITLE SHEET

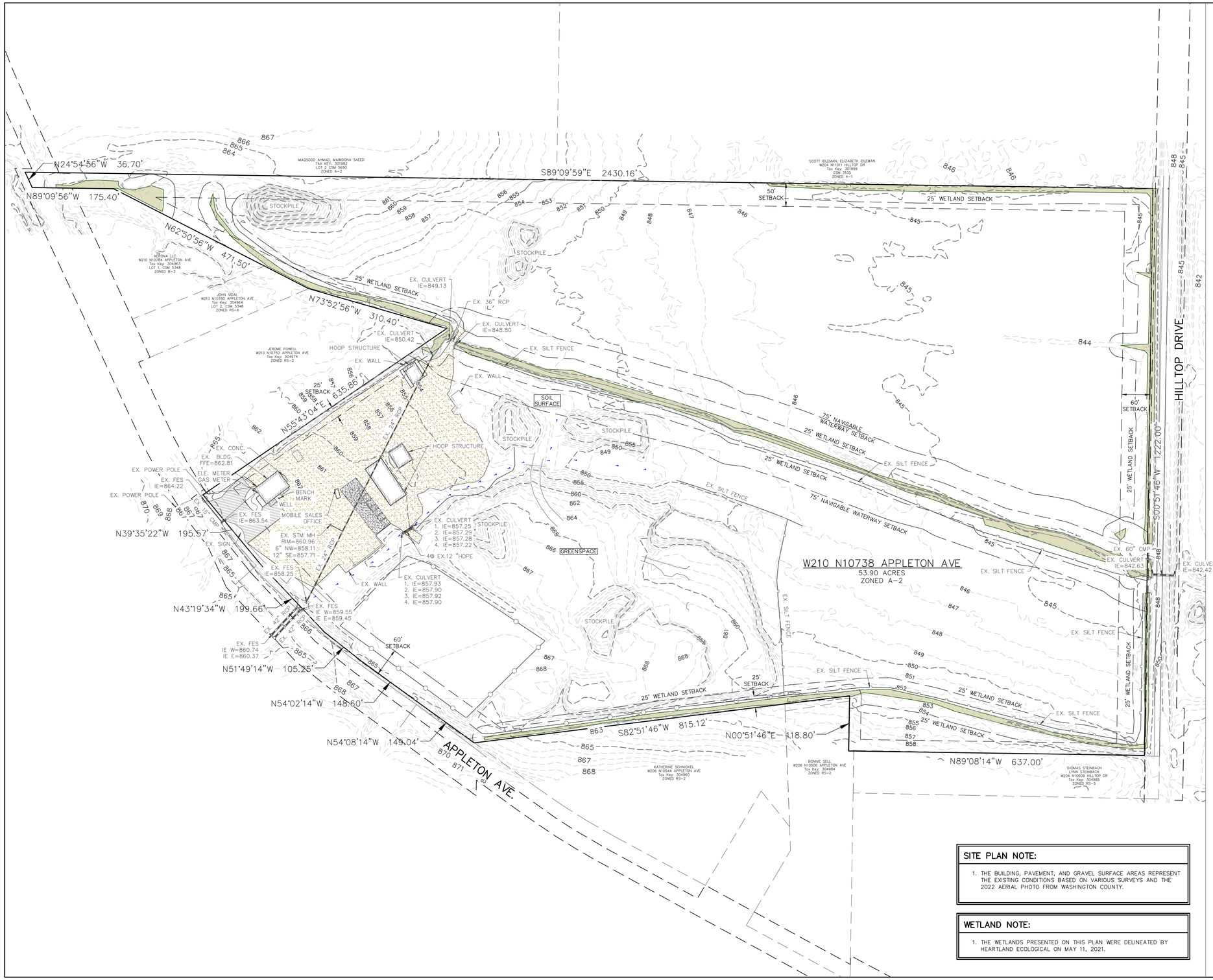
DRAWN BY:
WWS
DESIGNED BY:
EPN
CHECKED BY:
KJP

PLAN DATE:
9/1/2025

PROJECT NO:
\TL-05-21\

BID SET

SHEET NO:
C1.00



SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.

0 100 200

LEGEND:

- EXISTING WETLANDS.
- EXISTING GRANULAR SURFACE.
- EXISTING ASPHALT SURFACE.
- EXISTING CONCRETE SURFACE.
- EXISTING OVERLAND FLOW ROUTE.
- 896 – EXISTING MINOR CONTOUR.
- 895 – EXISTING MAJOR CONTOUR.
- OHEL – OVERHEAD ELECTRIC LINE.
- BuEl – BURIED ELECTRIC LINE.
- BuTel – BURIED TELEPHONE LINE.
- FO – FIBER OPTIC LINE.
- GAS – GAS LINE.
- FENCE
- EXISTING SILT FENCE
- STORM SEWER LINE.
- ELEC – ELECTRIC METER.
- GAS – GAS METER.
- GAS VALVE.
- POWER POLE.
- ST – STORM SEWER MANHOLE.
- STORM SEWER INLET.
- T – TELEPHONE PEDESTAL.
- TRAN – TRANSFORMER.

REVISIONS:		
NO.	DATE	DESCRIPTION

PSE
PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
EXISTING CONDITIONS PLAN

DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

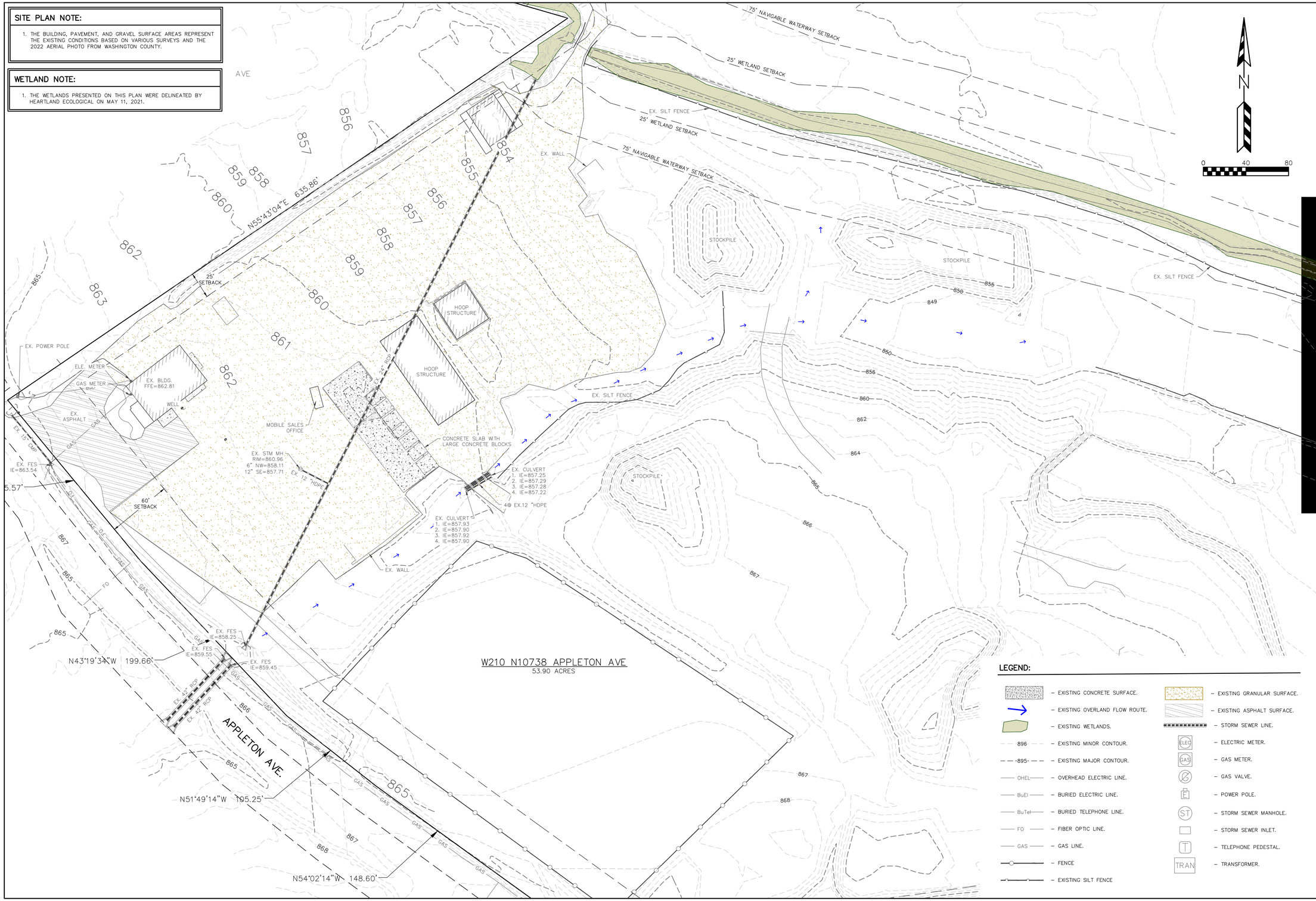
SHEET NO:
C1.01

SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.



LEGEND:

- EXISTING CONCRETE SURFACE.
- EXISTING GRANULAR SURFACE.
- EXISTING OVERLAND FLOW ROUTE.
- EXISTING ASPHALT SURFACE.
- EXISTING WETLANDS.
- STORM SEWER LINE.
- 896 — EXISTING MINOR CONTOUR.
- ELEC — ELECTRIC METER.
- 895 — EXISTING MAJOR CONTOUR.
- GAS — GAS METER.
- OHEL — OVERHEAD ELECTRIC LINE.
- GAS VALVE.
- BuEl — BURIED ELECTRIC LINE.
- POWER POLE.
- BuTel — BURIED TELEPHONE LINE.
- ST — STORM SEWER MANHOLE.
- FO — FIBER OPTIC LINE.
- STORM SEWER INLET.
- GAS — GAS LINE.
- T — TELEPHONE PEDESTAL.
- FENCE
- TRAN — TRANSFORMER.
- EXISTING SILT FENCE

REVISIONS:

NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
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262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
EXISTING CONDITIONS WEST

DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/2/2025**

PROJECT NO: **\TL-05-21**

BID SET

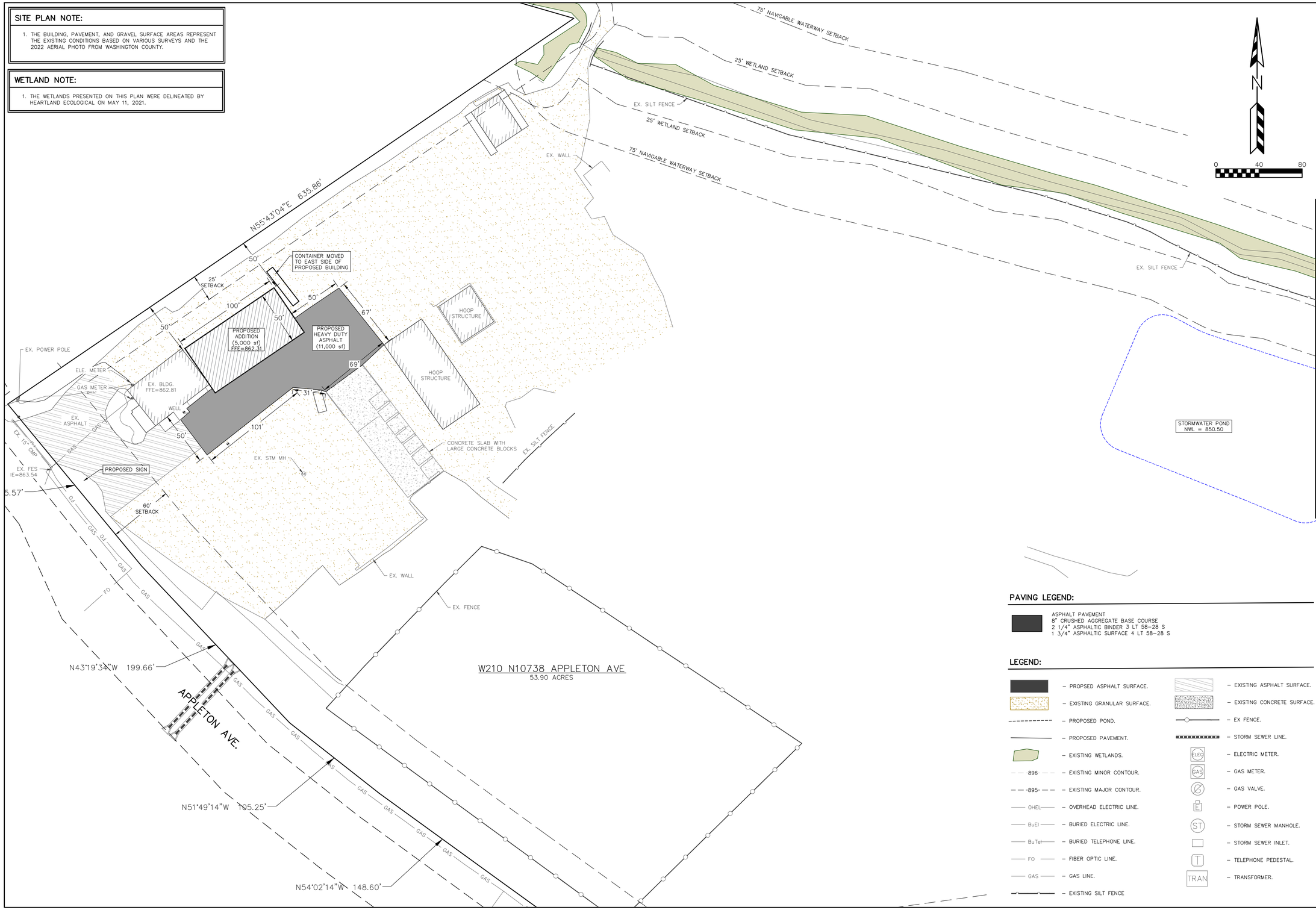
SHEET NO:
C1.02

SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.



PAVING LEGEND:

ASPHALT PAVEMENT
8" CRUSHED AGGREGATE BASE COURSE
2 1/4" ASPHALTIC BINDER 3 LT 58-28 S
1 3/4" ASPHALTIC SURFACE 4 LT 58-28 S

LEGEND:

- PROPSED ASPHALT SURFACE.
- EXISTING GRANULAR SURFACE.
- PROPOSED POND.
- PROPOSED PAVEMENT.
- EXISTING WETLANDS.
- 896 – EXISTING MINOR CONTOUR.
- 895 – EXISTING MAJOR CONTOUR.
- OHEL – OVERHEAD ELECTRIC LINE.
- BuEl – BURIED ELECTRIC LINE.
- BuTel – BURIED TELEPHONE LINE.
- FO – FIBER OPTIC LINE.
- GAS – GAS LINE.
- EXISTING SILT FENCE
- EXISTING ASPHALT SURFACE.
- EXISTING CONCRETE SURFACE.
- EX FENCE.
- STORM SEWER LINE.
- ELEC – ELECTRIC METER.
- GAS – GAS METER.
- GAS VALVE.
- POWER POLE.
- ST – STORM SEWER MANHOLE.
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REVISIONS:

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262.346.7800
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PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
SITE PLAN WEST

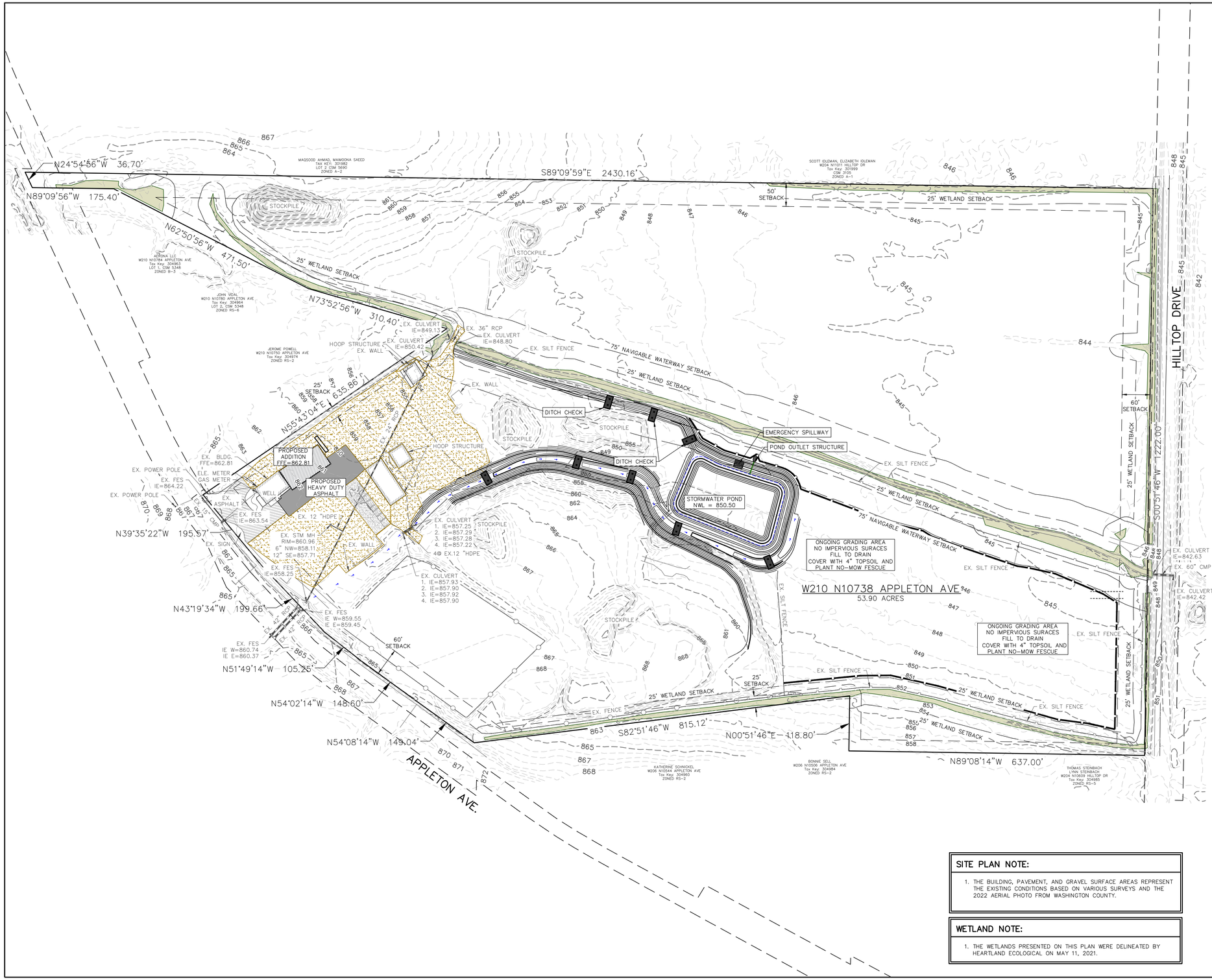
DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/2/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C1.03



SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.

LEGEND:

- EXISTING WETLANDS.
- 936 – EXISTING MINOR CONTOUR.
- 935 – EXISTING MAJOR CONTOUR.
- 936 – PROPOSED MINOR CONTOUR.
- 935 – PROPOSED MAJOR CONTOUR.
- EXISTING STORM SEWER.
- INSTALL CLASS I TYPE A EROSION MAT
- INSTALL DITCH CHECK.
- DRAINAGE ARROW.
- INSTALL SILT FENCE.
- EXISTING SILT FENCE

STAGES OF CONSTRUCTION TIME SCHEDULE:

JULY 15, 2025

1. INSTALL SITE SILT FENCE, INLET PROTECTION AND TEMPORARY CONSTRUCTION ENTRANCES AS SHOWN ON PLANS. ANY ADDITIONAL CONSTRUCTION ENTRANCES IF APPROVED BY THE VILLAGE OF GERMANTOWN SHALL HAVE A TRACKING PAD.

JULY 16, 2025 – APRIL 1, 2026

2. STRIP TOPSOIL WITHIN THE LIMITS OF THE WET DETENTION PONDS AND CONSTRUCT A TEMPORARY STOCKPILE, TO BE SEEDED AND SILT FENCE PLACED AROUND THE PERIMETER.
3. CONSTRUCT BOTH WET DETENTION PONDS. ALL GRADING SHALL DIRECT ALL RUN-OFF TO THE WET DETENTION PONDS THROUGHOUT THE CONSTRUCTION PROCESS.
4. STRIP REMAINING TOPSOIL WITHIN GRADING LIMITS AND CONSTRUCT TEMPORARY TOPSOIL STOCKPILE LOCATION ACCORDING TO "SPECIFICATIONS FOR GRADING & EROSION CONTROL" ON "CONSTRUCTION NOTES PAGE".
5. BEGIN PROPOSED SITE GRADING – RESEED SECTIONS OF PROJECT THROUGHOUT THE GRADING PROCESS TO MINIMIZE RUN-OFF.
6. CONTINUE SITE GRADING.
7. INSTALL BUILDING FOUNDATION
8. INSTALL BASE COURSE, PROPOSED PAVEMENT
9. GRADE SITE TO DRAIN AND INSTALL 4" TOPSOIL ON AREAS TO RECEIVE GRASS COVER.
10. APPLY FINAL STABILIZATION TO ENTIRE SITE.

APRIL 2 – 15, 2026

ALL PERMANENT SEEDING SHALL BE COMPLETED BY SEPTEMBER 15. ALL TEMPORARY SEEDING SHALL BE COMPLETED BY OCTOBER 15 (REFER TO DNR STANDARD 1059.)

STABILIZATION FOR ALL EXPOSED SOIL AFTER OCTOBER 15 SHALL CONSIST OF ANIONIC POLYARCRYLAMIDE (PAM) IN ADDITION TO TEMPORARY SEEDING IN AREAS WITHOUT EROSION CONTROL MAT. PLACE PAM IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1050. AFTER OCTOBER 15 ALL SLOPES 4:1 OR STEEPER THAT ARE NOT PERMANENTLY VEGETATED SHALL HAVE EROSION MAT INSTALLED IN PREPARATION OF WINTER CONDITIONS.

SPREAD SALVAGED OR IMPORTED TOPSOIL IN PROPOSED LANDSCAPE AREAS AND RESTORE.

CONTRACTOR MAY MODIFY SEQUENCING AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS SET FORTH IN FEDERAL, STATE & LOCAL PERMITS. NOTIFY VILLAGE OF GERMANTOWN PRIOR TO CHANGE.

AS CONDITIONS WARRANT DURING CONSTRUCTION ADDITIONAL BMPS SHALL BE INSTALLED TO REDUCE THE MIGRATION OF SEDIMENT THE THE MAXIMUM EXTENT PRACTICABLE

REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AFTER SITE IS STABILIZED AND STABILIZE AND AREAS DISTURBED BY REMOVAL OF BMPS.

REVISIONS:		
NO.	DATE	DESCRIPTION

PSE
PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
OVERALL EROSION CONTROL PLAN

DRAWN BY: **WWS**

DESIGNED BY: **EPN**

CHECKED BY: **KJP**

PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

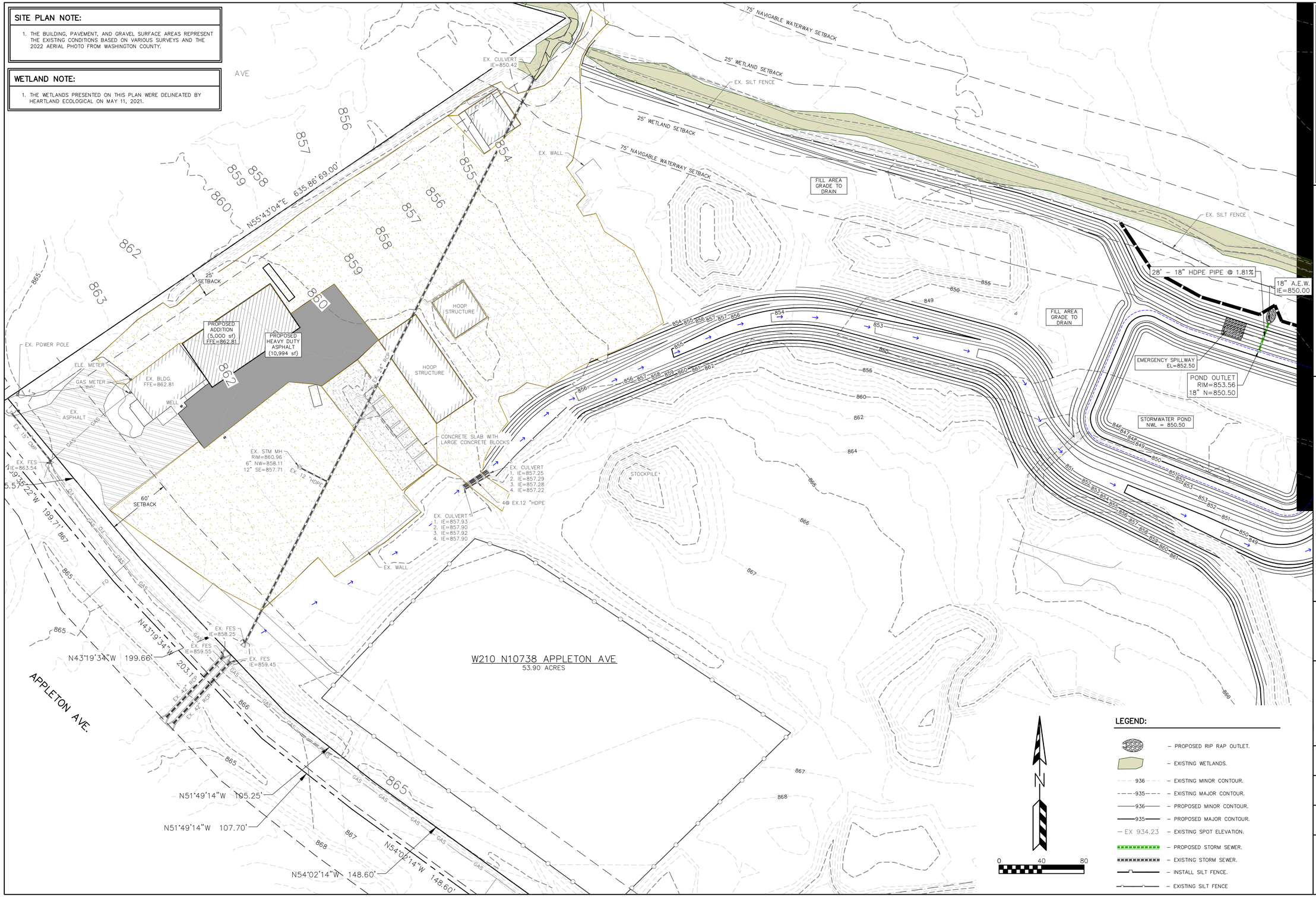
SHEET NO:
C1.04

SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.



LEGEND:

- PROPOSED RIP RAP OUTLET.
- EXISTING WETLANDS.
- 936 – EXISTING MINOR CONTOUR.
- 935 – EXISTING MAJOR CONTOUR.
- 936 – PROPOSED MINOR CONTOUR.
- 935 – PROPOSED MAJOR CONTOUR.
- EX 934.23 – EXISTING SPOT ELEVATION.
- PROPOSED STORM SEWER.
- EXISTING STORM SEWER.
- INSTALL SILT FENCE.
- EXISTING SILT FENCE

REVISIONS:

NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
GRADING PLAN WEST

DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

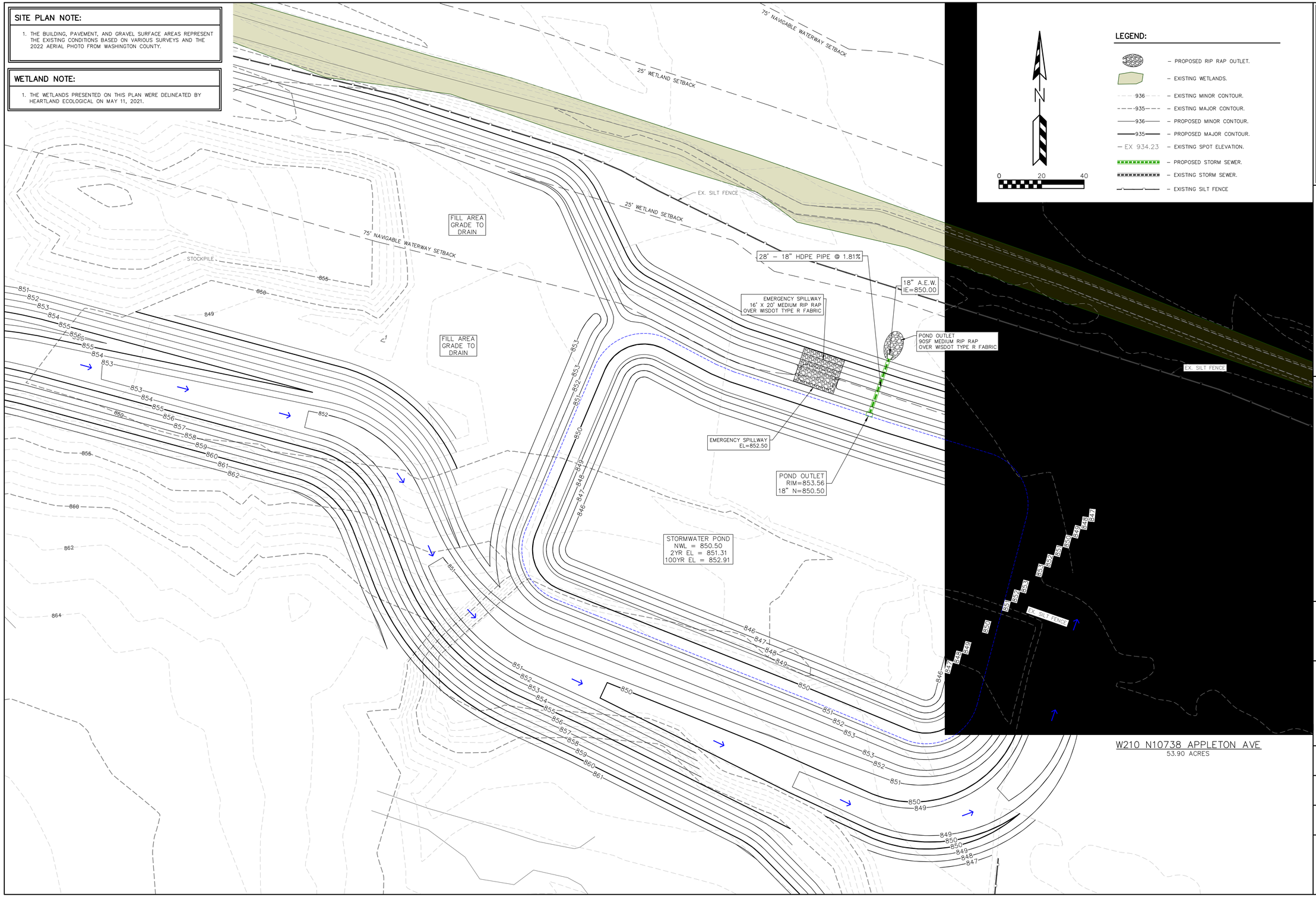
SHEET NO:
C1.05

SITE PLAN NOTE:

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WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.



LEGEND:

- PROPOSED RIP RAP OUTLET.
- EXISTING WETLANDS.
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- 936 – PROPOSED MINOR CONTOUR.
- 935 – PROPOSED MAJOR CONTOUR.
- EX 934.23 – EXISTING SPOT ELEVATION.
- PROPOSED STORM SEWER.
- EXISTING STORM SEWER.
- EXISTING SILT FENCE

0 20 40

NO.	DATE	DESCRIPTION

REVISIONS:

PSE
PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
POND GRADING PLAN

DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C1.06

GENERAL SPECIFICATIONS FOR CONSTRUCTION ACTIVITIES:

1. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ACCORDING TO THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, THE STANDARD SPECIFICATIONS FOR SEWER & WATER IN WISCONSIN, AND WISCONSIN ADMINISTRATIVE CODE, SPS 360 382–383, AND THE LOCAL ORDINANCES AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR EXECUTION OF THE WORK. THE CONTRACTOR SHALL CONDUCT HIS WORK ACCORDING TO THE REQUIREMENTS OF THE PERMITS.
3. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE MUNICIPALITY FORTY–EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.
4. THE MUNICIPALITY SHALL HAVE THE RIGHT TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF THE PUBLIC PORTIONS OF THE WORK. THE OWNER SHALL HAVE THE RIGHT TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF ALL PRIVATE PORTIONS OF THE WORK.
5. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC, FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.
6. SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY INFORMATION SHOWN ON THE PLANS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL DIGGERS HOTLINE AT 1–800–242–8511 TO NOTIFY THE UTILITIES OF HIS INTENTIONS, AND TO REQUEST FIELD STAKING OF EXISTING UTILITIES.
8. SILT FENCE AND OTHER EROSION CONTROL FACILITIES MUST BE INSTALLED PRIOR TO CONSTRUCTION OR ANY OTHER LAND DISTURBING ACTIVITY. FOLLOW THE SEQUENCE OF CONSTRUCTION ON THE EROSION CONTROL PLAN FOR MORE DETAILS. INSPECTIONS SHALL BE MADE WEEKLY OR AFTER EVERY RAINFALL OF 0.5" OR MORE. REPAIRS SHALL BE MADE IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EROSION CONTROL FACILITIES ONCE THE THREAT OF EROSION HAS PASSED WITH THE APPROVAL OF THE GOVERNING AGENCY.
9. ANY ADJACENT PROPERTIES OR ROAD RIGHT–OF–WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR.
10. TRASH AND DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE ON THIS SITE AND THE SITE SHALL BE CLEAN UPON COMPLETION OF WORK.
11. THE OWNER SHALL HAVE THE RIGHT TO HAVE ALL MATERIALS USED IN CONSTRUCTION TESTED FOR COMPLIANCE WITH THESE SPECIFICATIONS.

SPECIFICATIONS FOR GRADING & EROSION CONTROL:

1. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPUTATIONS OF ALL GRADING AND FOR ACTUAL LAND BALANCE, INCLUDING UTILITY TRENCH SPOIL. THE CONTRACTOR SHALL IMPORT OR EXPORT MATERIAL AS NECESSARY TO COMPLETE THE PROJECT. CONTRACTOR SHALL NOTIFY OWNER OF THE NEED TO IMPORT OR HAUL OFF SOIL. ON–SITE LOCATIONS SUITABLE FOR BORROW OR FILL MAY BE PRESENT. COORDINATE WITH OWNER.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT MAY BE AVAILABLE FROM THE OWNER.
3. SITE SHALL BE CLEARED TO THE LIMITS SHOWN ON THE PLANS. REMOVE VEGETATION FROM THE SITE BURNING IS NOT PERMITTED. PROTECT TREES AND OTHER FEATURES FROM DAMAGE WITH FENCING.
4. THE GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR VERIFYING COMPACTION AND FILL PLACEMENT IN THE FIELD. THE GEOTECHNICAL ENGINEER MAY SUPERCEDE THESE SPECIFICATIONS IF THERE IS GOOD CAUSE TO DO SO. AN EXPLANATION MUST BE SUBMITTED TO THE ENGINEER IN WRITING BEFORE ANY DEVIATIONS ARE MADE.
5. IF NO GEOTECHNICAL RECOMMENDATION IS AVAILABLE, THEN THE FOLLOWING SPECIFICATIONS SHALL APPLY. ALL FILL SHALL BE CONSIDERED STRUCTURAL FILL AND SHALL BE PLACED IN ACCORDANCE WITH THE FOLLOWING: THE COMPACTED FILL SUBGRADE SHALL CONSIST OF AND SHALL BE UNDERLAIN BY SUITABLE BEARING MATERIALS, FREE OF ALL ORGANIC, FROZEN OR OTHER DELETERIOUS MATERIAL AND INSPECTED AND APPROVED BY THE RESIDENT GEOTECHNICAL ENGINEER.PREPARATION OF THE SUBGRADE, AFTER STRIPPING, SHALL CONSIST OF PROOF–ROLLING TO DETECT UNSTABLE AREAS THAT MIGHT BE UNDEROUT, AND COMPACTING THE SCARIFIED SURFACE TO THE SAME MINIMUM DENSITY INDICATED BELOW.THE COMPACTED FILL MATERIALS SHALL BE FREE OF ANY DELETERIOUS, ORGANIC OR FROZEN MATTER AND SHALL HAVE A MAXIMUM LIQUID LIMIT (ASTM–D–423) AND PLASTICITY INDEX (ASTM D–424) IF 30 AND 10 RESPECTFULLY, UNLESS SPECIFICALLY TESTED AND FOUND TO HAVE LOW EXPANSIVE PROPERTIES AND APPROVED BY AN EXPERIENCED SOILS ENGINEER. THE TOP TWELVE (12") INCHES OF COMPACTED FILL SHOULD HAVE A MAXIMUM THREE (3") INCH PARTICLE DIAMETER AND ALL UNDERLYING COMPACTED FILL A MAXIMUM SIX (6") INCH PARTICLE DIAMETER UNLESS SPECIFICALLY APPROVED BY AN EXPERIENCED SOILS ENGINEER. ALL FILL MATERIAL MUST BE TESTED AND APPROVED UNDER THE DIRECTION AND SUPERVISION OF AN EXPERIENCED SOILS ENGINEER PRIOR TO PLACEMENT, IF THE FILL IS TO PROVIDE NON–FROST SUSCEPTIBLE CHARACTERISTICS, IT MUST BE CLASSIFIED AS A CLEAN GW, GP, SW, OR SP PER UNITED SOIL CLASSIFICATION SYSTEM(ASTM D–2487). FOR STRUCTURAL FILL THE DENSITY OF THE STRUCTURAL COMPACTED FILL AND SCARIFIED SUBGRADE AND GRADES SHALL NOT BE LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR (ASTM D–698) WITH THE EXCEPTION TO THE TOP 12 INCHES OF PAVEMENT SUBGRADE WHICH SHALL A MINIMUM IN–SITU DENSITY OF 100 PERCENT OF THE MAXIMUM DRY DENSITY, OR 5 PERCENT HIGHER THAN UNDERLYING FILL MATERIALS.THE MOISTURE CONTENT OF COHESIVE SOIL SHALL NOT VARY BY MORE THAN –1 TO +3 PERCENT AND GRANULAR SOIL ±3 PERCENT OF OPTIMUM WHEN PLACED AND COMPACTED OR RECOMPACTED, UNLESS SPECIFICALLY APPROVED BY THE SOILS ENGINEER TAKING INTO CONSIDERATION THE TYPE OF MATERIALS AND COMPACTION EQUIPMENT BEING USED. THE COMPACTION EQUIPMENT SHOULD CONSIST OF SUITABLE MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR SOIL COMPACTION. BULLDOZERS OR SIMILAR TRACKED VEHICLES ARE TYPICALLY NOT SUITABLE FOR COMPACTION. MATERIAL THAT IS TOO WET TO PERMIT PROPER COMPACTION MAY BE SPREAD ON THE FILL AND PERMITTED TO DRY. DISCING,HARROWING OR PULVERIZING MAY BE NECESSARY TO REDUCE THE MOISTURE CONTENT TO A SATISFACTORY VALUE, AFTER WHICH IT SHALL BE COMPACTED. THE FINISHED SUBGRADE AREAS OF THE SITE SHALL BE COMPACTED TO 100 PERCENT OF THE STANDARD PROCTOR (ASTM D–398) MAXIMUM DENSITY.
6. NO FILL SHALL BE PLACED ON A WET OR SOFT SUBGRADE THE SUBGRADE SHALL BE PROOF–ROLLED AND INSPECTED BY THE GEOTECHNICAL ENGINEER BEFORE ANY MATERIAL IS PLACED.
7. SUBGRADE TOLERANCES ARE +/– 1" FOR LANDSCAPE AREAS AND +/– ½" FOR ALL PAVEMENT AND BUILDING AREAS.
8. TOPSOIL SHALL BE FREE OF DELETERIOUS MATERIALS, ROOTS, OLD VEGETATION, ROCKS OVER 2" DIAMETER AND SHALL NOT BE EXCESSIVELY CLAYEY IN NATURE. NO CLUMPS LARGER THAN 4" ARE ACCEPTABLE. TOPSOIL MAY BE AMENDED AS NEEDED WITH SAND OR COMPOST TO BE LOOSE WHEN SPREAD.
9. THE CONTRACTOR SHALL MAINTAIN SITE DRAINAGE THROUGHOUT CONSTRUCTION. THIS MAY INCLUDE THE EXCAVATION OF TEMPORARY DITCHED OR PUMPING TO ALLEVIATE WATER PONDING. ANY DEWATERING SHALL NOT GO DIRECTLY TO STREAMS, CREEKS, WETLANDS OR OTHER ENVIRONMENTALLY SENSITIVE AREAS WITHOUT BEING TREATED FIRST. A DIRT BAG OR OTHER DEWATERING TREATMENT DEVICE MAY BE USED TO CAPTURE SEDIMENT FROM THE PUMPED WATER.
10. THE STONE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE EXISTING GRAVEL TRAILER PARKING IS TO BE USED AS STONE TRACKING PAD. THE TRACKING PAD IS TO BE MAINTAINED BY THE CONTRACTOR IN A CONDITION, WHICH WILL PREVENT THE TRACK OF MUD OR DRY SEDIMENT ONTO THE ADJACENT PUBLIC STREETS. SEDIMENT REACHING THE PUBLIC ROAD SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORKDAY.
11. SOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 75 FEET FROM LAKES, STREAMS, WETLANDS, DITCHES, DRAINAGE WAYS, CURBS AND GUTTERS OR OTHER STORMWATER CONVEYANCE SYSTEM, UNLESS OTHERWISE APPROVED BY THE ENGINEER. MEASURES SHALL BE TAKEN TO MINIMIZE EROSION AND RUNOFF FROM ANY SOIL STOCKPILES THAT WILL LIKELY REMAIN FOR MORE THAN FIVE WORKING DAYS. ANY STOCKPILE THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE COVERED OR TREATED WITH STABILIZATION PRACTICES SUCH AS TEMPORARY OR PERMANENT SEEDING AND MULCHING.
12. EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS AND SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS ESTABLISHED. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF A 0.5 INCH RAIN EVENT. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
13. CUT AND FILL SLOPES SHALL BE NO GREATER THAN 3:1.
14. EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECOGNIZING AND CORRECTING ALL EROSION CONTROL PROBLEMS THAT ARE A RESULT OF CONSTRUCTION ACTIVITIES. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
15. ALL DISTURBED SLOPES OF 4:1 OR GREATER AND DRAINAGE SWALES SHALL BE STABILIZED WITH CURLEX EROSION CONTROL FABRIC (INSTALL PER MANUFACTURER'S SPECIFICATIONS).

SPECIFICATIONS FOR PAVING:

1. AGGREGATES USED IN THE CRUSHED STONE BASE SHALL CONFORM TO THE GRADATION REQUIREMENTS SECTIONS 301.2 AND 305.2.2 OF THE STANDARD SPECIFICATIONS. THICKNESS SHALL BE PER THE DETAIL ON THE PLANS. BASE SHALL BE 1–1/4" INCH DIAMETER LIMESTONE TRAFFIC BOND AGGREGATE BASE COURSE UNLESS NOTED OTHERWISE. SUBSTITUTION AND/OR RECYCLED MATERIALS MAY BE ALLOWED WITH APPROVAL FROM THE OWNER.
2. SUBGRADE SHALL BE PROOFROLLED AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF STONE BASE. EXCAVATE UNSUITABLE AREAS AND REPLACE WITH BREAKER RUN STONE AND RECOMPACT. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL SPECIFICATIONS.
3. EXISTING PAVEMENT SHALL BE SAWCUT IN NEAT STRAIGHT LINES TO FULL DEPTH AT ANY POINT WHERE EXISTING PAVEMENT IS REMOVED. CURB AND WALK SHALL BE REMOVED TO THE NEAREST JOINT. REMOVED PAVEMENT SHALL BE REPLACED WITH THE SAME SECTION AS EXISTING. MUNICIPAL STANDARDS MAY REQUIRE ADDITIONAL WORK.
4. ASPHALT FOR PARKING AREAS AND THE PRIVATE ROAD SHALL BE PER THE DETAILS MATERIALS AND PLACEMENT SHALL CONFORM TO THE DOT STANDARD SPECIFICATIONS, SECTION 450 AND 460 LT 58–28 S IS REQUIRED UNLESS NOTED OTHERWISE A COMMERCIAL GRADE MIX MAY BE SUBSTITUTED ONLY WITH APPROVAL FROM THE OWNER.
5. TACK COAT SHALL BE IN ACCORDANCE WITH THE SUBSECTION 455.2.5 OF THE STANDARD SPECIFICATIONS. THE RATE OF APPLICATION SHALL BE 0.05 GAL/SY.
6. CONCRETE FOR CURB, DRIVEWAYS, WALKS, LOADING DOCKS AND NON–FLOOR SLABS SHALL CONFORM TO THE LATEST VERSION OF SECTION 415 OF THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR CONSTRUCTION. CONCRETE SHALL BE GRADE A, ASTM C–94, 6 BAG MIX WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI. JOINTING SHALL BE PER SECTION 415.3.7 OF THE STANDARD SPECIFICATIONS WITH CONSTRUCTION JOINTS HAVING A MAXIMUM SPACING OF 10". EXPANSION JOINTS SHALL BE PROVIDED EVERY 50'. CONCRETE SHALL BE FINISHED PER SECTION 415.3.8 WITH A MEDIUM BROOM TEXTURE. A CURING MEMBRANE IN CONFORMANCE WITH SECTION 415.3.12 IS REQUIRED. LOADING DOCKS SHALL HAVE REINFORCING CONSISTING OF NOVOMESH 950 FIBER MESH OR #4 BARS AT 24" ON CENTER EACH WAY PER SECTION 415.2.2 OF THE STANDARD SPECIFICATIONS.
7. PAVEMENT MARKINGS SHALL BE PAINT IN ACCORDANCE WITH WISCONSIN DOT SECTION 646 OF THE STANDARD SPECIFICATIONS AND WITH LOCAL CODES. THE FOLLOWING ITEMS SHALL BE PAINTED WITH COLORS NOTED BELOW:

   PARKING STALLS: WHITE
   PEDESTRIAN CROSSWALKS: WHITE
   LANE STRIPING WHERE SEPARATING TRAFFIC IS MOVING IN OPPOSITE DIRECTIONS: YELLOW
   LANE STRIPING WHERE SEPARATING TRAFFIC IS MOVING IN SAME DIRECTIONS: WHITE
   ADA SYMBOLS; WHITE

RESTORATION NOTES:

1. ALL DISTURBED AREAS, EXCEPT STREET PAVEMENT AND SIDEWALK AREAS, SHALL RECEIVE A MINIMUM OF FOUR (4) INCHES OF TOPSOIL, FERTILIZER, SEED AND MULCH. RESTORATION WILL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL. LAWN AREAS WITH SLOPES GREATER THAN 4:1 SHALL BE SEEDED WITH OLDS "NOMOW" MIX OR EQUAL. ALL OTHER DISTURBED AREAS SHALL BE SEEDED WITH MADISON PARKS MIX OR EQUAL. MIXTURES SHALL BE IN ACCORDANCE WITH SECTION 630 OF D.O.T. SPECIFICATIONS.
2. AN EQUAL AMOUNT OF ANNUAL RYEGRASS SHALL BE ADDED TO THE MIX. SEED MIXTURES SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. FERTILIZER SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. FERTILIZER SHALL MEET THE MINIMUM REQUIREMENTS THAT FOLLOW: NITROGEN, NOT LESS THAN 16%; PHOSPHORIC ACID, NOT LESS THAN 6%; POTASH, NOT LESS THAN 6%.
3. ALL FINISH GRADED AREAS SHALL BE SEEDED AND MULCHED BY SEPTEMBER 15TH. IF THE SITE DOES NOT HAVE FINISH GRADED AREAS COMPLETED BY OCTOBER 15TH, ALL DISTURBED AREAS SHALL BE RESTORED WITH TEMPORARY SEEDING (COVER CROP). AREAS NEEDING PROTECTION DURING PERIODS WHEN PERMANENT SEEDING IS NOT APPLIED SHALL BE SEEDED WITH ANNUAL SPECIES FOR TEMPORARY PROTECTION. SEE TABLE 1 OF THE WISCONSIN DNR CONSERVATION PRACTICE STANDARD 1059, FOR SEEDING RATES OF COMMONLY USED SPECIES. THE RESIDUE FROM THIS CROP MAY EITHER BE INCORPORATED INTO THE SOIL DURING SEEDBED PREPARATION AT THE NEXT PERMANENT SEEDING PERIOD OR LEFT ON THE SOIL SURFACE AND THE PLANTING MADE AS A NO–TILL SEEDING.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SATISFACTORY STAND OF GRASS ON ALL SEEDED AREAS FOR ONE YEAR AFTER THE PROJECT'S FINAL ACCEPTANCE.

REVISIONS:

NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
CONSTRUCTION NOTES

DRAWN BY: **EPN**
DESIGNED BY: **EPN**
CHECKED BY: **EPN**

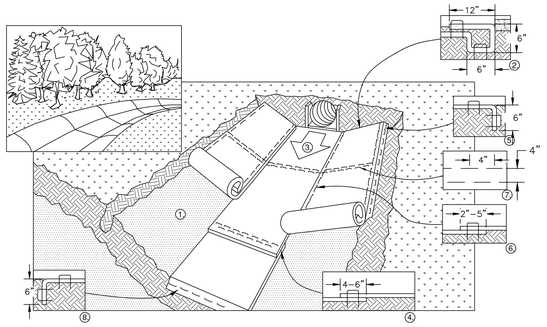
PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

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SHEET NO:
C2.01

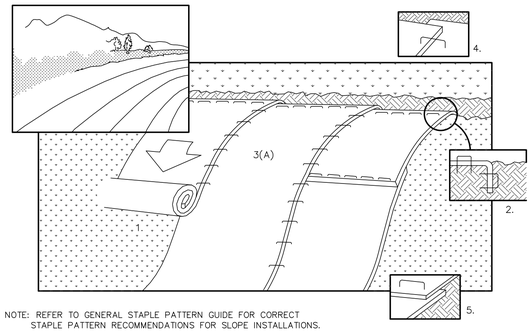
MAXIMUM PERIOD OF BARE SOIL FOR SLOPES > 20%		
SLOPE AREA DRAINS TO SEDIMENT BASIN OR SEDIMENT TRAP?	MAXIMUM PERIOD OF BARE SOIL EXPOSURE (CALENDAR DAYS)	
	LAND DISTURBANCE BETWEEN SEPTEMBER 16TH AND MAY 1ST	LAND DISTURBANCE BETWEEN MAY 2ND AND SEPTEMBER 15TH
YES	90	90
NO	60	30



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPE MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 4" AND STAPLED.
7. A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE: ALL STAPLES MUST BE 6" OR GREATER IN LENGTH

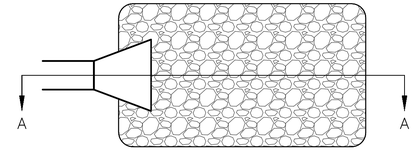
EROSION CONTROL MAT – CHANNEL INSTALLATION



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

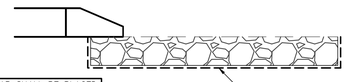
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY
6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.

EROSION CONTROL MAT – SLOPE INSTALLATION



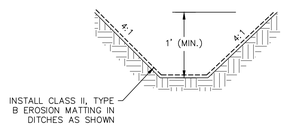
PLAN VIEW

RIPRAP SHALL BE PLACED AS DEFINED IN SECTION 606 OF WISCONSIN D.O.T. SPECIFICATIONS. STONE SIZES SHALL BE WELL GRADED WITH A MINIMUM OF 6 INCH DIAMETER.

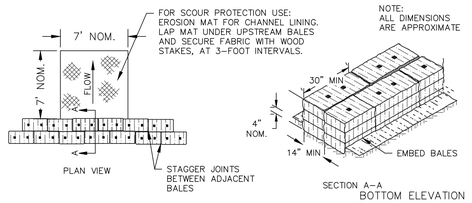


SECTION A – A

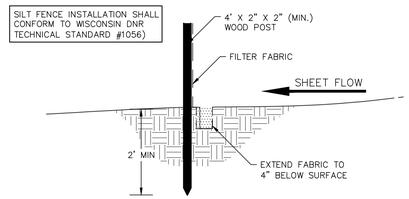
RIPRAP OUTLET DETAIL



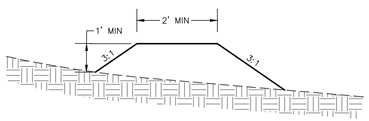
SWALE CROSS SECTION



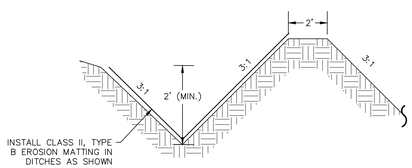
DITCH CHECK DETAIL



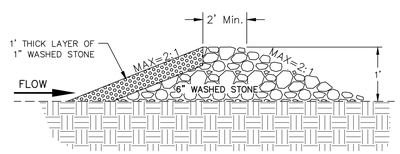
SILT FENCE CONSTRUCTION (SHEET FLOW)



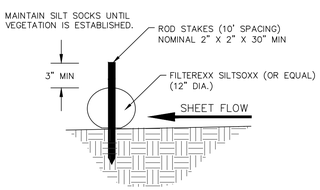
EARTH DIVERSION BERM



BERM/SWALE DETAIL



STONE DITCH CHECK DETAIL



SILT SOCK DETAIL

REVISIONS:

NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
EROSION CONTROL DETAILS

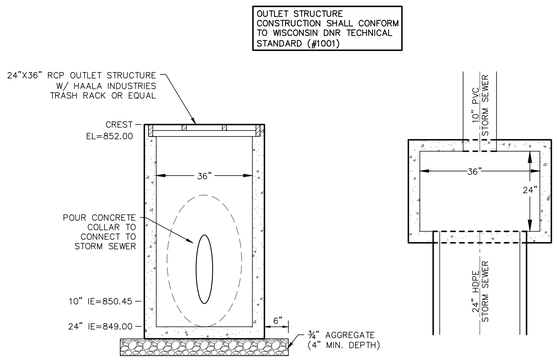
DRAWN BY: **EPN**
DESIGNED BY: **EPN**
CHECKED BY: **EPN**

PLAN DATE: **9/1/2025**

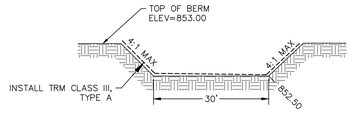
PROJECT NO: **\TL-05-21**

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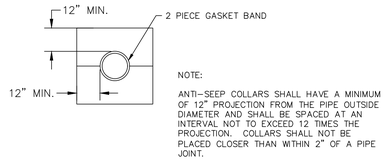
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C2.02



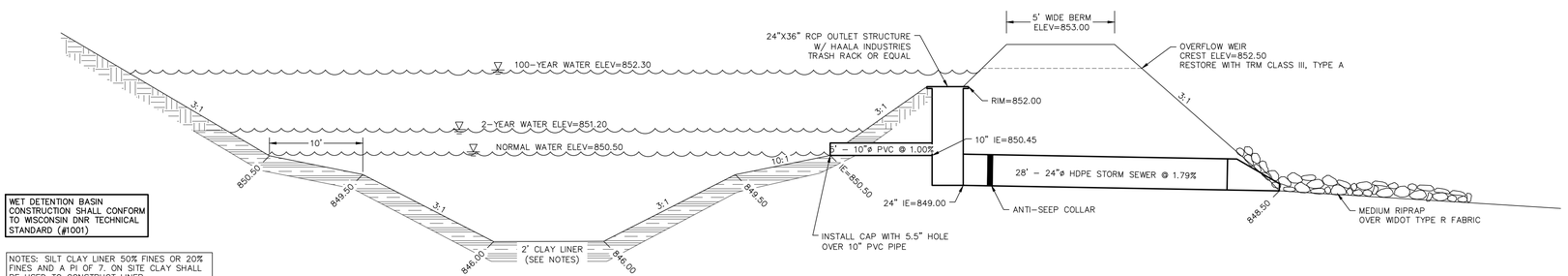
POND OUTLET – OUTLET STRUCTURE #1 DETAIL



OVERFLOW WEIR CROSS SECTION



ANTI-SEEP COLLAR DETAIL



WET DETENTION BASIN CONSTRUCTION SHALL CONFORM TO WISCONSIN DNR TECHNICAL STANDARD (#1001)

NOTES: SILT CLAY LINER 50% FINES OR 20% FINES AND A PI OF 7. ON SITE CLAY SHALL BE USED TO CONSTRUCT LINER.

MINIMUM THICKNESS OF 2 FEET

LINER MUST EXTEND ABOVE THE PERMANENT POOL UP TO THE 2 YEAR ELEVATION

RETENTION BASIN CROSS SECTION

REVISIONS:

NO.	DATE	DESCRIPTION

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PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
STORMWATER MANAGEMENT DETAILS

DRAWN BY: **EPN**

DESIGNED BY: **EPN**

CHECKED BY: **EPN**

PLAN DATE: **9/3/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C2.03

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Kevin Driscoll, P.E., Village Engineer

Date : February 21, 2025, PSE Comments in Red dated September 3, 2025

Re : TLC Acres – Review #2

Items Reviewed:

1. Civil Plan Set Dated: 01-28-25
2. Stormwater Management Plan Dates: 01-23-25

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
5. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
6. Utility permits and permits for work within the ROW are required. Contact the Village engineering department to obtain permits.
7. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

C-1.01 Overall Existing Conditions

1. Provide an existing site survey stamped by a licensed surveyor. Plans are stamped by a professional engineer.
2. Provide additional contour labels. Specifically in Appleton Ave and Hilltop drive areas (typ for all sheets that the existing contours show up on). Labels added.
3. Clearly define areas of existing pavement, gravel and greenspace. Gravel is hatched.

C-1.03 Site Plan

4. Clearly denotes areas of existing gravel to remain and greenspace. Areas noted.

C-1.04 Erosion Control Plan

5. Is the large area in the center of the site being re-graded intended to be topsoiled and seeded? Please note restoration requirements on the plans. Note added.
6. Silt fence is not an appropriate BMP for concentrated flow areas. Install rock bag silt fence relief at concentrated flow areas including the pond outlet. Rock bag outlet control added.
7. *Update dates on the construction schedule.*

C-1.05 Grading Plan - West

8. Provide grading plan for the proposed building. Minimal grading needed around the building.
9. Plans show two 42" culvert pipes under Appleton drive and a 24" existing pipe routing that runoff across the site. Provide a capacity analysis showing the existing pipe has adequate capacity. Increase pipe size if needed or provide a safe overland flow path that routes water through the site without ponding on Appleton Ave. If overland flow route will drain to the proposed basin include that flow in the calcs. A capacity analysis was added to the stormwater report, Appendix F. The single 24" pipe is not sufficient to pass flows during large storm events as expected. There is a drainage path around the pond to take off site drainage to the east into the drainage ditch on the north side of the pond. The ditch is designed to manage the 100-year storm event.
10. Provide proposed grading plan for all areas noted as fill areas.
11. Provide capacity calculations for the north swale. Provided
12. Adjust north swale to have a minimum slope of 1% Elevations do not permit north swale to be graded at 1% slope. A shallower slope is necessary to direct runoff to the pond.

C-1.06 Pond Grading Plan

13. Pond outlet pipe is 3' above existing grade. Show proposed grading in this area. Grading is necessary to maintain the usable pond volume for collection and storage of stormwater during a rainfall event to be at or above the future flood elevation of 850.50.
14. Show approximate floodplain delineation and WSEL 850.5 with respect to outlet. There is currently no regulated floodplain on this property. Note if submerged or free surface during 100-yr flood. Reference Village of Germantown webpage: https://www.germantownwi.gov/731/Floodplain-Mapping-Update---FIRM-Panels

C-2.02 Stormwater Management Details

15. *Revise safety shelf to meet WDNR requirements.*
16. Revise basin to have a 5' minimum depth per WDNR technical standards The pond is designed at a 5' depth.

Stormwater Management Plan

17. Show the locations of the future building and pavement on the plans. Remove the sentence about not requiring future permitting or reviews. Permits and plans will be required for future work. Text has been revised to call out plans for future buildings but no definite locations are provided since these buildings are unknow. The additional hard surfaces are included in the stormwater management plan to avoid

rework of the stormwater plan in the future. It is understood that permitting and review by the Village will be necessary.

18. *Adjust curve numbers for cropland to Maximum allowed by NR151.*
19. Clearly delineate on the drainage maps ground covers used to determine the curve numbers. Mapping updated.
20. Area W is routed to the basin, but its not clear how that entire area gets to the basin. A catch basin connected to the existing 24" appears to route some of the area to the drainageway and a portion along the west property line appears to route to the drainageway and not to the basin. Delineation areas have been changed to reflect the proposed grading.
21. Revised basin to contain the 100 year event without using the emergency spillway. The emergency spillway is not active during the 100 year design storm.
22. *Revise WinSLAMM model to clayey soils for type C soils.*
23. Adjusted initial stage elevation to 5' in SLAMM model and review outlet information. It doesn't appear to match the plan. Areas and elevations have been revised to match the plan.
24. All disturbed areas of the site must be included in the stormwater management plan. All disturbed areas on the west side of the site are included in the stormwater plan.
25. Show Tc path for the proposed conditions. Use a calculated Tc time, not just the minimum of 6 minutes. Tc paths for existing and proposed are shown on the plan and used in the calculations.

STORMWATER
MANAGEMENT REPORT

TLC Acres
W210 N10738 Appleton Avenue
Village of Germantown, Wisconsin

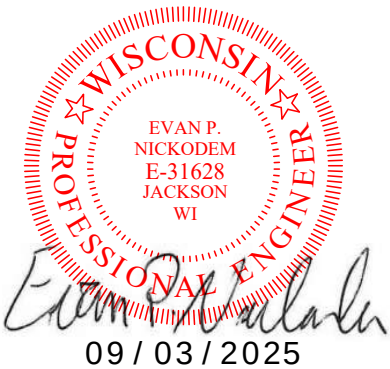
September 3, 2025

PROJECT OWNER:
TLC Acres
W210 N10738 Appleton Avenue
Germantown, WI 53022

PREPARED FOR:
TLC Acres
W210 N10738 Appleton Avenue
Germantown, WI 53022

PREPARED BY:
Parish Survey & Engineering, LLC
122 Wisconsin Street,
West Bend, WI 53095

TL-05-21



PARISH SURVEY & ENGINEERING
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www.parishse.com

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Maintenance of Stormwater Systems 9
Conclusion 9

APPENDICES

A. Location Map
B. Soils Information
C. Calculations: Water Quantity, Existing Site Conditions
    1) Topography w/ Drainage Basins, Tc Path, and CN
    2) Calculations
D. Calculations: Water Quantity, Proposed Site Conditions
    1) Site Plan and Topography w/ Drainage Basins, Tc Path, and CN
    2) Calculations
E. Calculations: Water Quality - TSS Reduction
F. Bypass Ditch Calculations
G. Civil Design Plans
H. Stormwater Management Practice Agreement

PROJECT OVERVIEW

Executive Summary

This project is located at W210 N10738 Appleton Ave (STH 175) in the Village of Germantown, WI (Village). The property covers 53.39 acres fronting both Appleton Avenue to the west, and Hilltop Drive on the east. The property has been used as an agriculture property for the known history based on review of historical aerial photos from Washington County. In general, the property drains from west to east with a ditchline roughly in the center of the site that collects water and directs runoff to a culvert under Hilltop Drive.

The primary entrance to the property is the main driveway off Appleton Ave. on the southwest side of the property. There are two agriculture access driveways off Hilltop Drive on the east side of the property.

Over the last 10 years, the property has expanded it's function both producing and selling nursery stock along with the sale of topsoil and other products while maintaining the agriculture use. The Village noted that there has been activity and changes to the surfaces by adding gravel driveways, paved driveways, and buildings when comparing the 2017 aerial photo from Washington County to the 2022 aerial photo. These changes to surfacing have occurred primarily in the southwest corner of the site near the existing building and Appleton Ave driveway. This report will focus on changes between 2017 and the current condition, included the proposed building addition and asphalt pavement additions during the 2024 construction season, and address future considerations for additional pavement and buildings.

During the summer of 2024, the Village requested the Wisconsin Department of Natural Resources (WDNR) review the ditchline on the site to determine if this would be classified as a navigable waterway. After the review, the WDNR did classify the ditchline as navigable.

A proposed stormwater basin in the center of the site, south of the drainage ditch, will be designed to capture runoff from the southwest side of the property for treatment and discharge to meet current Village of Germantown requirements. The assumption will be that the existing conditions are based on the 2017 aerial photo from Washington County. All gravel, pavement, and rooftop added between 2017 and current day will be considered "new" for the purposes of this stormwater management plan. Next, this plan will provide stormwater management for proposed modifications to the property which will include a 5,000sf addition to the main building and an 11,000sf addition to the asphalt pavement. And finally, this stormwater plan will provide for a future building addition of 10,000sf along with an additional 30,000sf of asphalt pavement that could occur at some point in the future.

Finally, this site is located within the Menomonee River watershed and is located within the Milwaukee Metropolitan Sewerage District (MMSD) jurisdictional service area.

DESIGN STANDARDS

Method of Analysis

The storm water runoff rates and quantities have been analyzed using HydroCAD® software, using the United States Department of Agriculture Soil Conservation Service Technical Release 55 (TR-55) methodology. The MSE 3, 24-hour rainfall distribution curve is used for the calculations.

The selected design storms were based on NOAA Atlas 14 as noted in Table 1 below.

Table 1 – NOAA Rainfall Depths

Rainfall Amount	
Recurrence Interval (Year)	Rainfall Depth (in)
1	2.37
2	2.68
100	6.36

TSS reduction results for the areas disturbed, as well as the areas draining to the ponds were analyzed with WinSLAMM Source Loading and Management Model. The "Milwaukee 1969" rainfall file was used with the winter season between December 6th to March 28th.

Infiltration

Soil testing is required to determine if the existing soil layers are suitable for infiltration. Per Wisconsin DNR Standard 1002, if soils have an infiltration rate of less than 0.6 in/hr the site is exempt from infiltration requirements.

If the soils are conducive for infiltration and the development has more than 40% but less than 80% of connected imperviousness, then the site will be designed to infiltrate sufficient runoff volume such that the post-development infiltration volume is at least 60% of the pre-development infiltration volume, based on an average annual rainfall. Furthermore, no more than 2% of the project site is required as an effective infiltration area, otherwise, infiltrate 10% of the post-development runoff from the 2-year, 24-hour design storm.

Peak Discharge (Water Quantity)

The target design criteria for the stormwater management facilities proposed in this report follows the Village, MMSD Chapter 13 Surface Water and Stormwater Rule, and NR 151 of the WI Administrative Code. MMSD allows the use of one of two methods for calculating storm water discharge for a developed site. For this design, the volumetric design procedure will be used to demonstrate compliance with the water quantity requirements for both MMSD and the Village. The volumetric procedure requires that the calculated existing runoff volume not be exceeded during the critical time period within a given drainage basin. This site is located within the Menomonee River basin and has a critical period of 9.5 hours. The critical time period for the watershed starts at 11:45 and ends at 21:15. HydroCAD® software is used with specific reporting parameters to provide quantities at the required time interval.

Stormwater Quality
At a minimum, a best management practice that relies on ponding runoff and settling of suspended solids shall be designed for a reduction, on an average annual basis, of 80 percent of the total estimated suspended solids load from a developed site.

Stormwater By-Pass
There is a significant watershed to the west of the site on the west side of STH 175, Appleton Avenue. This watershed drains into the twin 42" storm sewer crossing under the state trunk highway. On the east side of the highway there is a 24" storm sewer that carries flow from smaller storms however the 100-year design storm will overwhelm the culvert and flow overland to the northeast.

EXISTING SITE CONDITIONS

As mentioned above, the single property site covers a total of 53.39 acres. The north site of the property has a field access across the ditchline on the west side of the site and an access off Hilltop Dr. The south portion of the site, which will be the focus of this report, has a primary access off Appleton Ave, STH 175, and a field entrance off Hilltop Dr. south of the ditchline running through the property. Based on discussions with the Village of Germantown, the existing conditions will be considered based on the 2017 aerial photo as found in the Washington County GIS. Figure 1 is the aerial photo from 2017 showing the entire property. Figure 2 is a detailed view of the southwest nursery and landscaping area just off Appleton Ave (STH 175).

Figure 1 – 2017 Aerial Photo - Entire Site



Watersheds

In general, for this proposed pond, there is one watershed that captures the runoff from the front business area (SW corner of site) and will also account for the areas where a proposed building will be constructed and where additional asphalt will be installed. have been delineated to define the runoff under existing conditions. The report delineates the watershed based on topography of the site.

Figure 2 – 2017 Aerial Photo – SW Portion of Site



Soils Analysis

This project is exempt from infiltration requirements based on the existing soil types and presence of high groundwater within the soil test pits. The information from testing of the existing site soils can be found in the appendices. Since the surrounding soils are silt and very fine silt, there may be some natural infiltration that will occur however for purposes of this design, infiltration is considered negligible.

Surficial soils based on the NRCS Web Soil Survey are noted as silt loam soils which could be consistent with the topsoil found in the soil borings discussed above.

Offsite

While some areas discharge to this site, particularly the west side of STH 175, Appleton Avenue which drains to a culvert running under the State highway onto this site. A number of years ago, a culvert was installed on this property to pick up drainage from Appleton Ave. and discharge it to the drainage ditch running west to east in the center of the site. Since this is pass-through flow and will not be directed through our site pond, this run-on to the site is ignored. Other site run-on from the west or north flows to the west-east ditchline and will not impact the design of the proposed pond.

SUBSURFACE SOIL CONDITIONS

Soil borings and testing was conducted on April 24, 2024. A total of 2 soil test pits were conducted on the east side of the site in the location of a future stormwater basin. The soil test pits were evaluated and documented on the Soil Evaluation – Storm form per the DSPS using the USDA soil classification system.

East Drainage Area

Table 2 below has the soils information as presented on the Soil Evaluation – Storm form from Eric Schmitz Corporation. Since these soils have an infiltration rate of less than 0.6 in/hr, except for the surface soils and a thin sand/gravel layer with groundwater, the site is exempt from infiltration requirements per NR 151.12(6)(c).

Table 2 – Southeast Soils Information

B-1			B-2		
Depth (ft)	Soil Texture USDA	Infiltration Rate (in/hr)	Depth (ft)	Soil Texture USDA	Infiltration Rate (in/hr)
0.0’ – 0.7’	Sil	0.8	0.0’ – 0.7’	Sil	0.8
0.7’ – 1.3’	Peat	0.0	0.7’ – 1.3’	Peat	0.0
1.3’ – 2.7’	Peat	0.0	1.3’ – 3.0’	Peat	0.0
2.7’ – 6.0’	SiCl/Lfs & Gr	0.3/1.0	3.0’ – 6.0’	SiCl/Lfs & Gr	0.3/1.0
6.0’ – 10.0’	SiCl/vfSl	0.0/0.2	6.0’ – 10.0’	SiCl/vfSl	0.0/0.2

PROPOSED SITE CONDITIONS

As mentioned above, the total site covers 53.39 acres and is divided, roughly north and south with a drainage swale running down the center of the property from west to east. The proposed conditions will focus on the south side of the drainage swale since the north side will remain strictly agricultural. The proposed stormwater basin will be designed on the east side of the site and will capture runoff from the south side of the property for treatment and discharge to meet current Village of Germantown requirements. The assumption will be that the existing conditions are based on the 2017 aerial photo from Washington County. All gravel, pavement, and rooftop added between 2017 and current day will be considered "new" for the purposes of this stormwater management plan.

Proposed Building and Pavement Additions

This stormwater plan will provide runoff management for proposed modifications to the property in 2025 which will include a 5,000sf addition to the main building and an 11,000sf addition to the asphalt pavement. Both the building addition and the proposed asphalt are shown on the design plans.

Future Building and Pavement Additions

At some point in the future, the owner may choose to construct another addition to the building or install additional pavement. This stormwater plan includes considerations for a future building addition of 10,000sf along and/or the addition of 30,000sf of asphalt pavement without changes to the proposed stormwater basin.

Undeveloped Areas with Detention

The undeveloped areas within the larger 53.39-acre property consist primarily of upland farmland with some minor wetland areas as presented on the design plans. This stormwater management plan is set up to detain all the developed areas in the southwest corner of the site and all the undeveloped farmland area south of the west-east drainage swale.

Undeveloped Areas Without Detention

The remaining undeveloped property both east of the proposed basin and north of the west-east drainage swale will need to have a stormwater basin designed and installed to account for future development in these areas. All these areas drain east and will not be impacted by the development proposed in this plan.

Stormwater By-Pass

As mentioned above, there is a significant watershed to the west of the site on the west side of STH 175, Appleton Avenue. The 24-inch culvert located on-site system is not sized sufficiently to handle the amount of water discharging under the State highway. Therefore, a ditchline has been sized and designed to carry overland flow through the site from the culverts under the highway northeast to the ditchline during a 100-year design storm event. This overland flow route will manage a 100-year design storm event without overtopping the banks of the ditch. Calculations for this ditchline are provided in Appendix F.

Figure

The Figure 3 aerial photo is from 2024 and shows the entire property. Figure 4, is a detailed view of the southwest nursery and landscaping area just off Appleton Ave (STH 175).

Figure 3 – 2024 Aerial Photo - Entire Site



Figure 4 – 2024 Aerial Photo – SW Portion of Site



SUMMARY OF RESULTS

Stormwater Quantity

As mentioned above, the post construction stormwater quantity requirement for this project will be met using the MMSD volumetric design procedure. Below is a summary of the existing condition discharge from the southwest portion of the site that includes the proposed development areas. The HydroCAD® results for both pre-development and post-development can be found in Appendix D and E respectively. Drainage area maps for both pre-development and post-development can be found in Appendix F and G respectively.

Table 3 – Total Site Discharge Results

Rain Event	Ex West Pre-Dev. Runoff (acre-ft)	1P Post-Dev. Runoff (acre-ft)
2-year	0.391	0.365
100-year	1.562	1.221

As required by the Village, the site maintains or lowers the volume discharge as compared to the existing conditions.

Stormwater Quality

The post construction stormwater quality requirement for this project is met using the standard design procedure. The proposed ponds will provide greater than 80% TSS reduction for the proposed development areas draining through one of the ponds. Appendix E contains the details of the calculations.

Table 4 – Total Suspended Solids Discharge Results

	Total Influent Load (lbs)	Total Effluent Load (lbs)	TSS Reduction
Site Total	2173	171.9	92.09%

MAINTENANCE OF STORMWATER SYSTEMS

The stormwater management system will be maintained by the owner, TLC Acres. The maintenance agreement is presented in Appendix J.

CONCLUSION

The stormwater management system for the proposed development will meet the post-construction stormwater requirements for the Village of Germantown, MMSD, and the Wisconsin DNR. Additionally, both the storm water quantity and quality are controlled at a greater rate than required per the local ordinance, and State Statute.

Appendix A

Location Map

PARISH SURVEY & ENGINEERING
122 Wisconsin Street | West Bend, WI 53095
www.parishse.com



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&XUUHQW 3DUFHO 6GGUHVV 3RLQW

5RDG &HQWHUOLQH 67+ &7+

6WDWH +LJKZD\

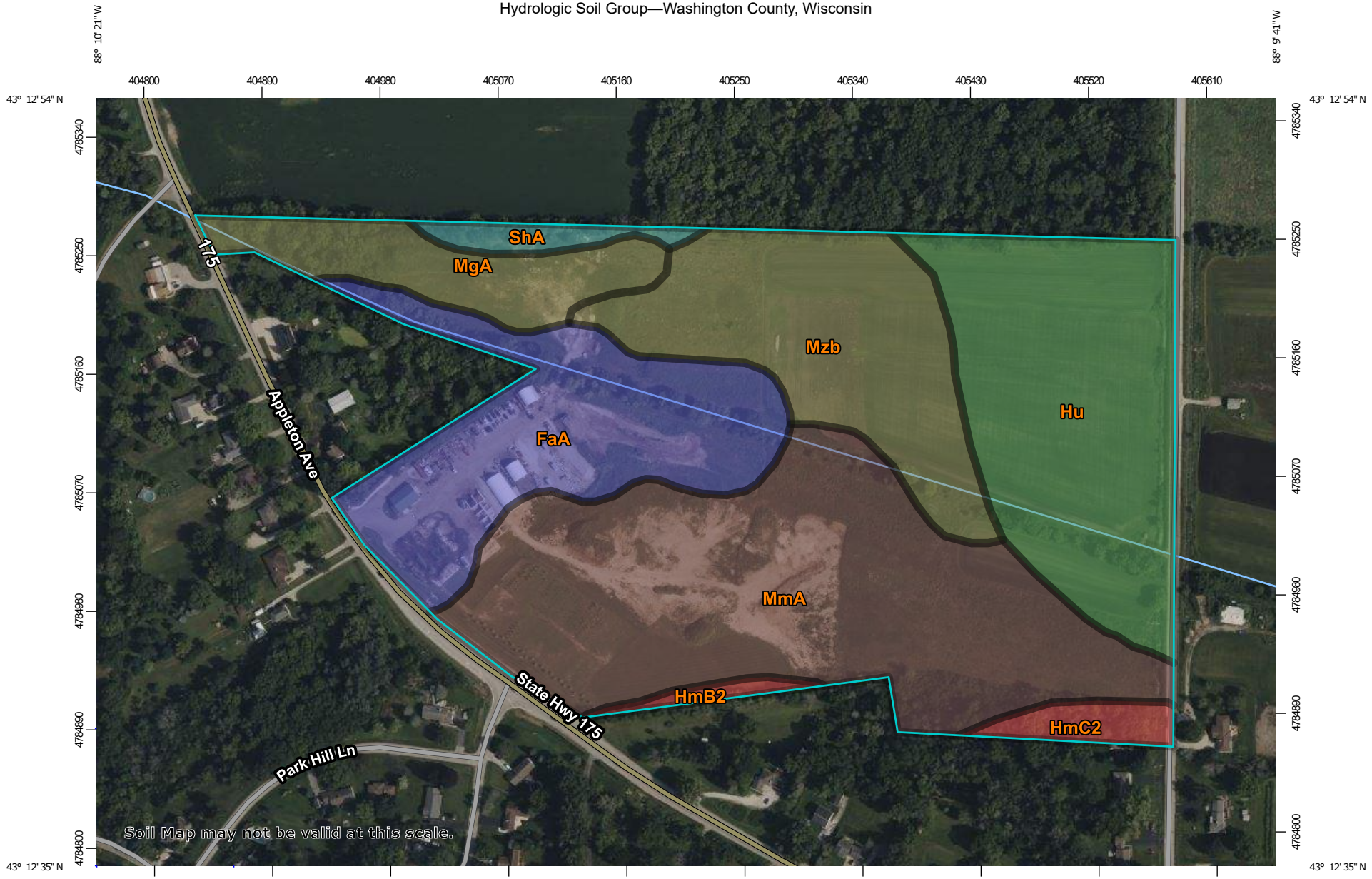
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NP

Appendix B

Soils Information

PARISH SURVEY & ENGINEERING
122 Wisconsin Street | West Bend, WI 53095
www.parishse.com



Map Scale: 1:4,110 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 23, Sep 8, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 4, 2022—Sep 13, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FaA	Fabius loam, 1 to 3 percent slopes	B	9.4	17.5%
HmB2	Hochheim loam, 2 to 6 percent slopes, eroded	D	0.4	0.8%
HmC2	Hochheim loam, 6 to 12 percent slopes, eroded	D	1.0	1.9%
Hu	Houghton mucky peat, 0 to 2 percent slopes	A/D	11.2	20.9%
MgA	Martinton silt loam, 1 to 3 percent slopes	C/D	3.9	7.2%
MmA	Matherton silt loam, 1 to 3 percent slopes	B/D	18.2	34.0%
Mzb	Montgomery silty clay loam	C/D	8.6	16.1%
ShA	Saylesville silt loam, 0 to 2 percent slopes	C	0.9	1.7%
Totals for Area of Interest			**53.7**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Wisconsin
Department of Commerce
Division of Safety and Buildings

SOIL EVALUATION - STORM

in accordance with Comm 82.365 & 85, Wis. Adm. Code

#5182

Eric Schmitz Corporation

Attach complete site plan on paper not less than 8½ x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road.

Please print all information.

Personal information you provide may be used for secondary purposes (Privacy Law, s. 15.04 (1) (m)).

County	Washington
Parcel I.D.	GTNV 304959
Reviewed By	Date

Property Owner: Matthew & Amy Seban		Property Location: Govt. Lot 1/4, SE1/4, S30, T9N, R20E	
Property Owner's Mailing Address: P.O. Box 727		Lot #	Block # / Subd. Name or CSM#: 53.39 Acre Parcel
City: Menomonee Falls	State: WI / Zip Code: 53052 / Phone Number	☐ City ☑ Village ☐ Town: Germantown	Nearest Road: See Drawing

Drainage area _____ ☐ sq. ft. ☐ acres
Optional:

Test Site Suitable for (check all that apply)

☐ Irrigation ☐ Bioretention trench ☐ Trench(es)
☐ Rain garden ☐ Grassed swale ☐ Reuse
☐ Infiltration trench ☐ SDS (> 15' wide) ☐ Other_____

Hydraulic Application Test Method:

☑ Morphological Evaluation
☐ Double-Ring Infiltrometer
☐ Other (specify)_____

SITE ADDRESS: W210 N10738 APPLETON AVE. GERMANTOWN, WI 53022

1 Obs. # ☐ Boring ☑ Pit Ground surface elev. 845± ft. Depth to limiting factor 0 in. Hydraulic App.Rate

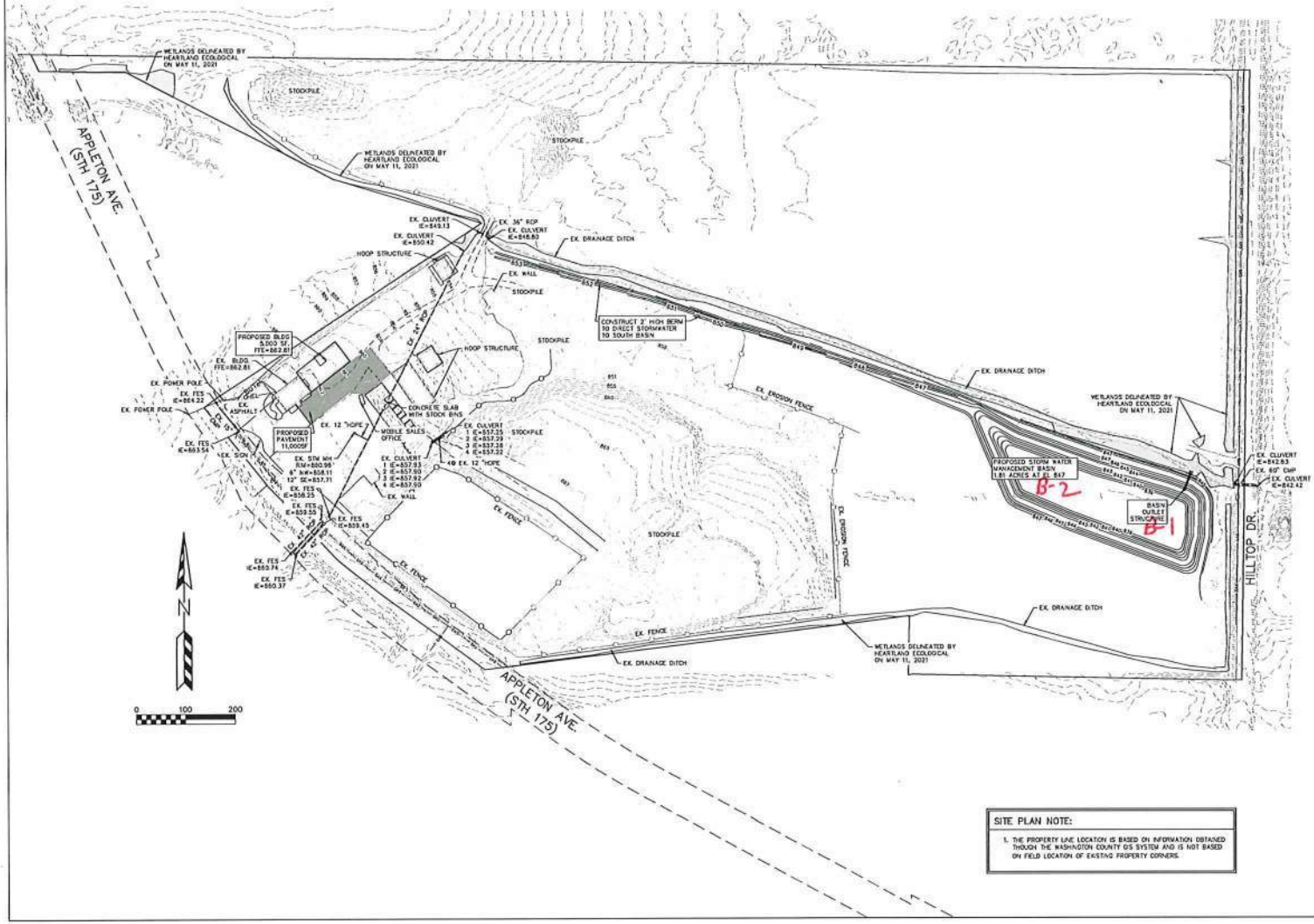
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Inches/Hr
Ap	0-8	7.5YR2/1	f-1-d 7.5YR5/8	sil	2fgr	mvfr	as	0	0.8
A-2	8-16	7.5YR2.5/1	c-2-d 7.5YR5/8	peat	0 m	mvfr	as	0	0.0
A-2	16-32	7.5YR2.5/2	c-2-d 7.5YR5/8	peat	0 m	mvfr	as	0	0.0
BC	32-72	5YR4/1	m-2-p 5YR5/6	sicl	1fabk	mfr	cw	0	0.3
5GY5/1 GLEYED		mixturing of:	OBSERVED HIGH GROUNDWATER AT 32"	lfs & gr	1fsbk	mvfr	-	10	1.0
C	72-120	5YR5/1	m-2-p 5YR5/6	sicl	0 m	mfr	-	0	0.0
		mixturing of:	5GY7/1 GLEYED	vfsl	2fpl	mfr	-	0	0.2

2 Obs. # ☐ Boring ☑ Pit Ground surface elev. 845± ft. Depth to limiting factor 0 in. Hydraulic App.Rate

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Inches/Hr
Ap	0-8	7.5YR2/1	f-1-d 7.5YR5/8	sil	2fgr	mvfr	as	0	0.8
A-2	8-16	7.5YR2.5/1	c-2-d 7.5YR5/8	peat	0 m	mvfr	as	0	0.0
A-2	16-36	7.5YR2.5/2	c-2-d 7.5YR5/8	peat	0 m	mvfr	as	0	0.0
BC	36-72	5YR4/1	m-2-p 5YR5/6	sicl	1fabk	mfr	cw	0	0.3
5GY5/1 GLEYED		mixturing of:	OBSERVED HIGH GROUNDWATER AT 36"	lfs & gr	1fsbk	mvfr	-	10	1.0
C	72-120	5YR5/1	m-2-p 5YR5/6	sicl	0 m	mfr	-	0	0.0
		mixturing of:	5GY7/1 GLEYED	vfsl	2fpl	mfr	-	0	0.2

CST/PSS Name (Please Print): Eric M. Schmitz	Signature: Eric M. Schmitz		CST/PSS Number: 222021
Address: Eric Schmitz Corporation 2334 Stonebridge Circle Unit A West Bend, WI 53095		Date Evaluation Conducted: 4/25/2024	Telephone Number: 262-338-6994

SBD-10793 (R.01/05)



NO.	DATE	DESCRIPTION
1	XX-XX-XX	XXXXXXXXXXXXXXXXX

PSE
PARISH SURVEY & ENGINEERING
122 Wisconsin Street West Bend WI 53095
262.346.7842 www.parishpse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
STORMWATER MANAGEMENT PLAN

DRAWN BY: EPN
DESIGNED BY: EPN
CHECKED BY: EPN

PLAN DATE: 4/19/2024

PROJECT NO: \TL-05-21\

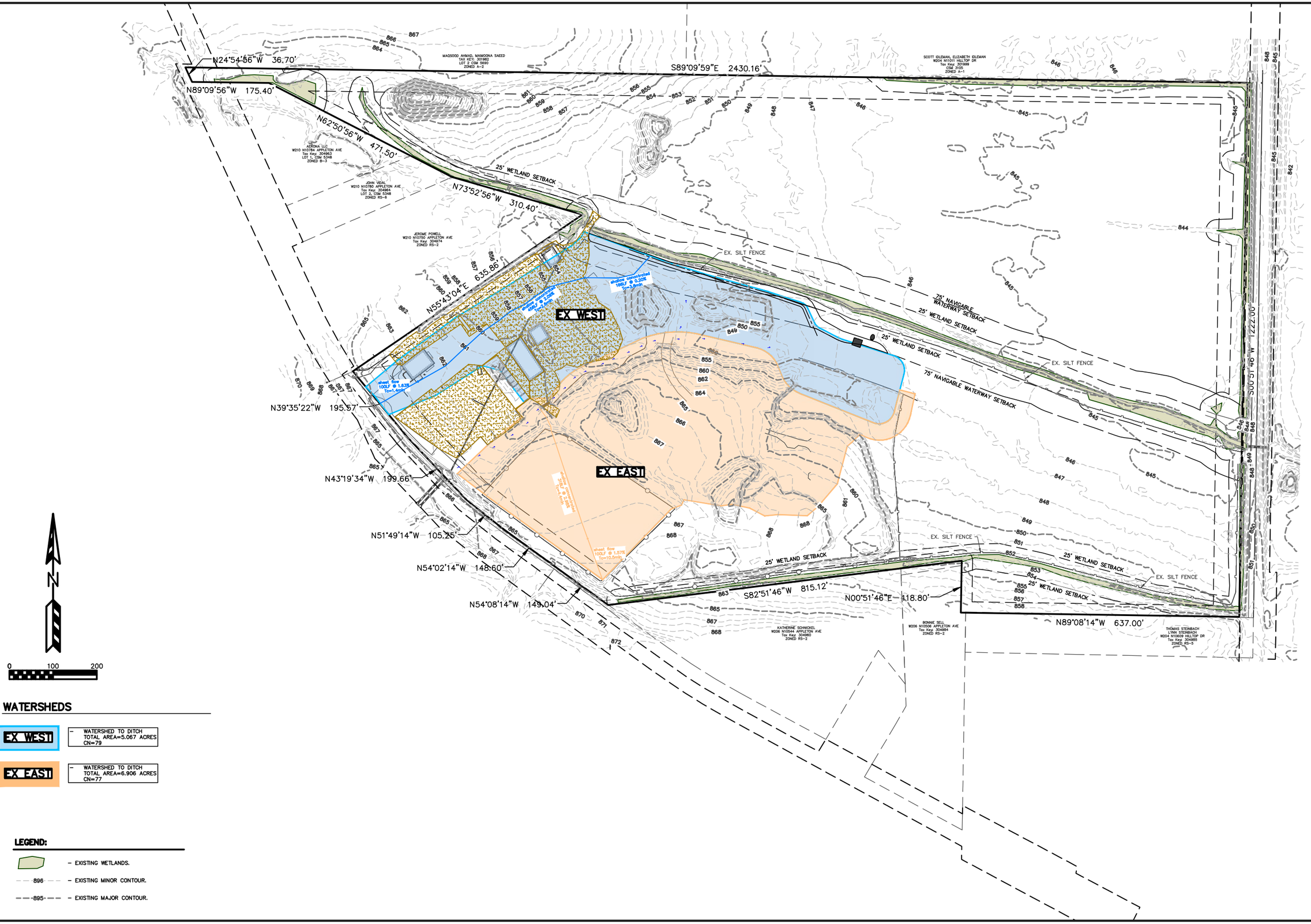
PRELIMINARY

SHEET NO:
C1.02

Appendix C

Calculations: Water Quantity
Existing Site Conditions

PARISH SURVEY & ENGINEERING
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WATERSHEDS

EX_WEST	WATERSHED TO DITCH TOTAL AREA=5.067 ACRES CN=79
EX_EAST	WATERSHED TO DITCH TOTAL AREA=6.906 ACRES CN=77

LEGEND:

- EXISTING WETLANDS.
- 896 – EXISTING MINOR CONTOUR.
- 895 – EXISTING MAJOR CONTOUR.

REVISIONS:

NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
EXISTING DRAINAGE PLAN

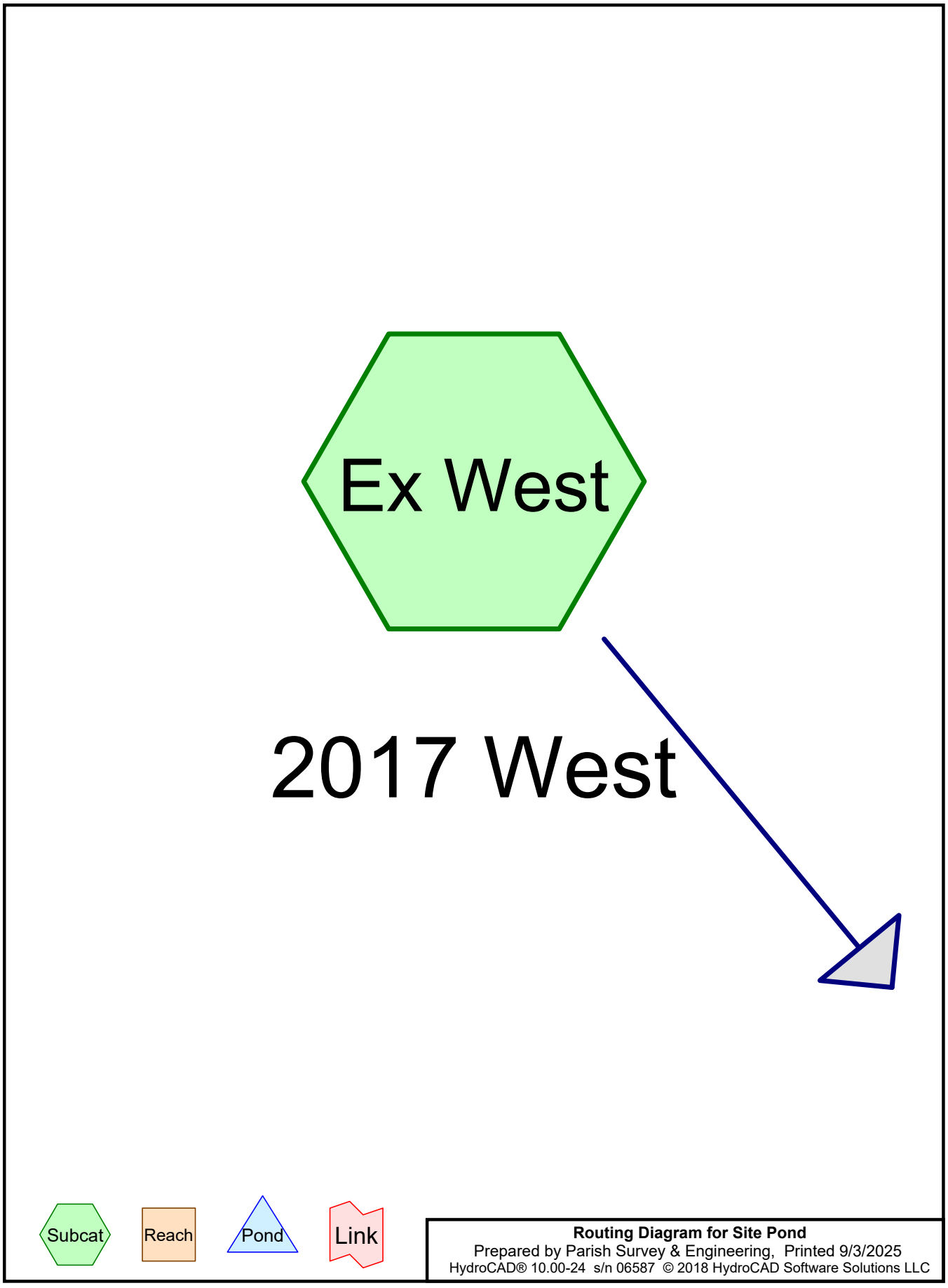
DRAWN BY: EPN
DESIGNED BY: EPN
CHECKED BY: EPN

PLAN DATE: 9/3/2025

PROJECT NO: \TL-05-21\

BID SET

SHEET NO: EX-1


Ex West
2017 West
Subcat
Reach
Pond
Link
Routing Diagram for Site Pond
Prepared by Parish Survey & Engineering, Printed 9/3/2025
HydroCAD® 10.00-24 s/n 06587 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEx West: 2017 West Runoff Area=220,715 sf 1.24% Impervious Runoff Depth>0.96"
Flow Length=898' Tc=15.7 min CN=79 Runoff=5.99 cfs 0.405 af

Total Runoff Area = 5.067 ac Runoff Volume = 0.405 af Average Runoff Depth = 0.96"
98.76% Pervious = 5.004 ac 1.24% Impervious = 0.063 ac

Summary for Subcatchment Ex West: 2017 West

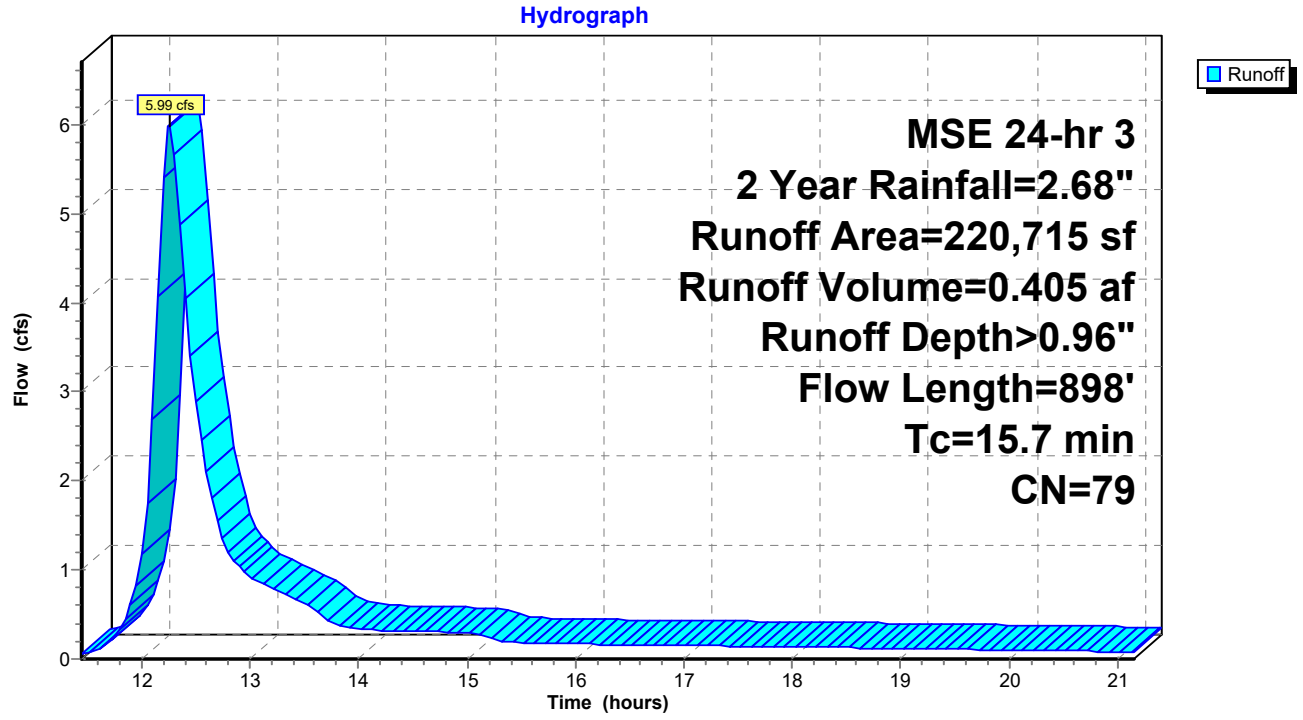
Runoff = 5.99 cfs @ 12.26 hrs, Volume= 0.405 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 Year Rainfall=2.68"

	Area (sf)	CN	Description
*	2,734	98	Main Bldg
*	41,200	87	Dirt roads, HSG C 2017 Aerial
*	22,500	74	>75% Grass cover, Good, HSG C 2017 Aerial
*	154,281	77	cultivated w/o conservation treatment
	220,715	79	Weighted Average
	217,981		98.76% Pervious Area
	2,734		1.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.0207	0.18		**Sheet Flow,** Range n= 0.130 P2= 2.68"
3.1	394	0.0176	2.14		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.2	404	0.0198	2.11		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
15.7	898	Total			

Subcatchment Ex West: 2017 West

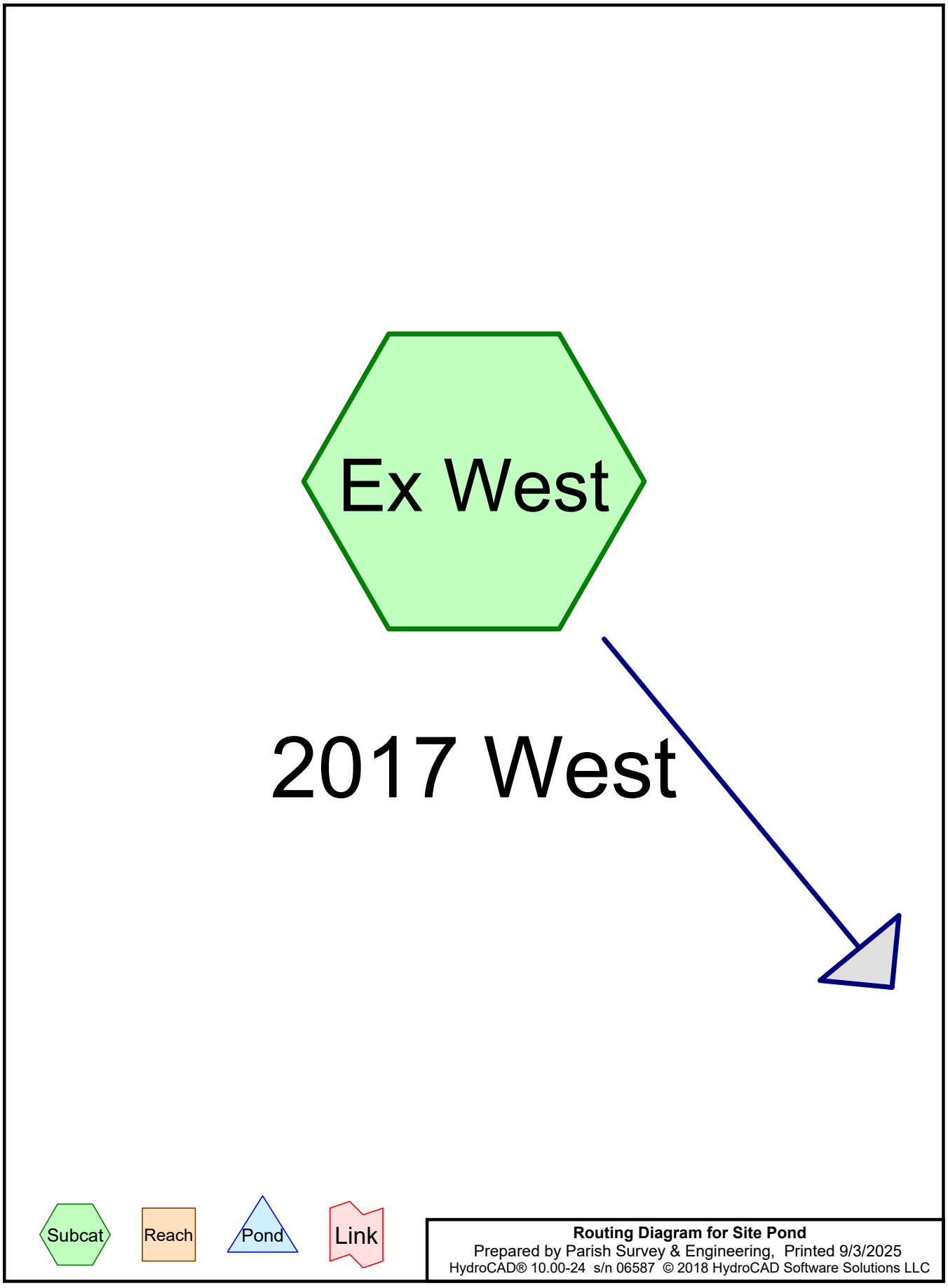


Hydrograph for Subcatchment Ex West: 2017 West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Runoff-Volume (acre-feet)
11.45	0.65	0.00	0.05	0.001
11.55	0.69	0.01	0.08	0.001
11.65	0.75	0.02	0.14	0.002
11.75	0.82	0.03	0.25	0.004
11.85	0.93	0.05	0.45	0.007
11.95	1.12	0.11	0.83	0.013
12.05	1.46	0.24	1.75	0.025
12.15	1.75	0.38	4.06	0.053
12.25	1.86	0.44	**5.98**	0.100
12.35	1.93	0.48	4.88	0.144
12.45	1.99	0.52	3.41	0.175
12.55	2.03	0.54	2.46	0.197
12.65	2.06	0.56	1.80	0.213
12.75	2.10	0.58	1.35	0.225
12.85	2.12	0.60	1.11	0.234
12.95	2.15	0.61	0.98	0.243
13.05	2.18	0.63	0.90	0.250
13.15	2.20	0.64	0.83	0.257
13.25	2.22	0.65	0.77	0.264
13.35	2.24	0.67	0.71	0.270
13.45	2.25	0.68	0.65	0.275
13.55	2.27	0.68	0.59	0.280
13.65	2.28	0.69	0.51	0.285
13.75	2.29	0.70	0.41	0.288
13.85	2.30	0.70	0.36	0.291
13.95	2.31	0.71	0.34	0.294
14.05	2.32	0.72	0.33	0.297
14.15	2.33	0.72	0.33	0.300
14.25	2.34	0.73	0.32	0.302
14.35	2.35	0.74	0.32	0.305
14.45	2.35	0.74	0.32	0.308
14.55	2.36	0.75	0.31	0.310
14.65	2.37	0.75	0.31	0.313
14.75	2.38	0.76	0.31	0.315
14.85	2.39	0.77	0.30	0.318
14.95	2.40	0.77	0.30	0.320
15.05	2.41	0.78	0.29	0.323
15.15	2.41	0.78	0.27	0.325
15.25	2.42	0.78	0.22	0.327
15.35	2.42	0.79	0.20	0.329
15.45	2.43	0.79	0.19	0.330
15.55	2.43	0.79	0.18	0.332
15.65	2.44	0.80	0.18	0.333
15.75	2.44	0.80	0.17	0.335
15.85	2.45	0.80	0.17	0.336
15.95	2.45	0.81	0.17	0.337
16.05	2.46	0.81	0.17	0.339
16.15	2.46	0.81	0.17	0.340
16.25	2.47	0.82	0.17	0.342
16.35	2.47	0.82	0.16	0.343
16.45	2.48	0.82	0.16	0.344
16.55	2.48	0.83	0.16	0.346

Hydrograph for Subcatchment Ex West: 2017 West (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Runoff-Volume (acre-feet)
16.65	2.49	0.83	0.16	0.347
16.75	2.49	0.83	0.16	0.348
16.85	2.50	0.83	0.16	0.350
16.95	2.50	0.84	0.16	0.351
17.05	2.50	0.84	0.15	0.352
17.15	2.51	0.84	0.15	0.353
17.25	2.51	0.85	0.15	0.355
17.35	2.52	0.85	0.15	0.356
17.45	2.52	0.85	0.15	0.357
17.55	2.53	0.85	0.15	0.358
17.65	2.53	0.86	0.14	0.359
17.75	2.53	0.86	0.14	0.361
17.85	2.54	0.86	0.14	0.362
17.95	2.54	0.87	0.14	0.363
18.05	2.55	0.87	0.14	0.364
18.15	2.55	0.87	0.13	0.365
18.25	2.55	0.87	0.13	0.366
18.35	2.56	0.88	0.13	0.367
18.45	2.56	0.88	0.13	0.368
18.55	2.56	0.88	0.13	0.370
18.65	2.57	0.88	0.13	0.371
18.75	2.57	0.89	0.12	0.372
18.85	2.57	0.89	0.12	0.373
18.95	2.58	0.89	0.12	0.374
19.05	2.58	0.89	0.12	0.375
19.15	2.58	0.89	0.12	0.376
19.25	2.59	0.90	0.12	0.377
19.35	2.59	0.90	0.11	0.377
19.45	2.59	0.90	0.11	0.378
19.55	2.60	0.90	0.11	0.379
19.65	2.60	0.91	0.11	0.380
19.75	2.60	0.91	0.11	0.381
19.85	2.61	0.91	0.11	0.382
19.95	2.61	0.91	0.10	0.383
20.05	2.61	0.91	0.10	0.384
20.15	2.61	0.91	0.10	0.385
20.25	2.62	0.92	0.10	0.385
20.35	2.62	0.92	0.10	0.386
20.45	2.62	0.92	0.09	0.387
20.55	2.62	0.92	0.09	0.388
20.65	2.63	0.92	0.09	0.388
20.75	2.63	0.93	0.09	0.389
20.85	2.63	0.93	0.09	0.390
20.95	2.63	0.93	0.09	0.391
21.05	2.64	0.93	0.08	0.391
21.15	2.64	0.93	0.08	0.392


Ex West
2017 West
Subcat
Reach
Pond
Link
Routing Diagram for Site Pond
Prepared by Parish Survey & Engineering, Printed 9/3/2025
HydroCAD® 10.00-24 s/n 06587 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentEx West: 2017 West Runoff Area=220,715 sf 1.24% Impervious Runoff Depth>4.00"
Flow Length=898' Tc=15.7 min CN=79 Runoff=25.41 cfs 1.689 af

Total Runoff Area = 5.067 ac Runoff Volume = 1.689 af Average Runoff Depth = 4.00"
98.76% Pervious = 5.004 ac 1.24% Impervious = 0.063 ac

Summary for Subcatchment Ex West: 2017 West

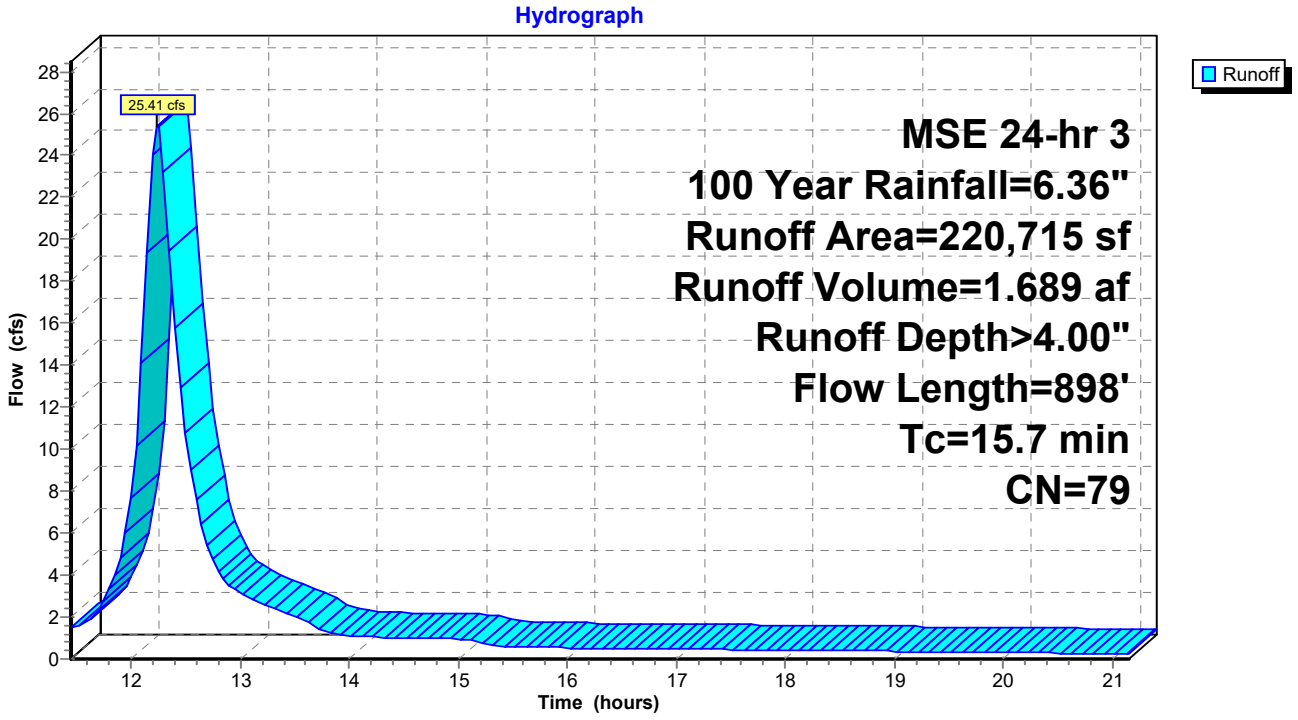
Runoff = 25.41 cfs @ 12.24 hrs, Volume= 1.689 af, Depth> 4.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 Year Rainfall=6.36"

	Area (sf)	CN	Description
*	2,734	98	Main Bldg
*	41,200	87	Dirt roads, HSG C 2017 Aerial
*	22,500	74	>75% Grass cover, Good, HSG C 2017 Aerial
*	154,281	77	cultivated w/o conservation treatment
	220,715	79	Weighted Average
	217,981		98.76% Pervious Area
	2,734		1.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.0207	0.18		**Sheet Flow,** Range n= 0.130 P2= 2.68"
3.1	394	0.0176	2.14		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.2	404	0.0198	2.11		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
15.7	898	Total			

Subcatchment Ex West: 2017 West



Hydrograph for Subcatchment Ex West: 2017 West

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Runoff-Volume (acre-feet)
11.45	1.54	0.28	1.47	0.087
11.55	1.64	0.32	1.66	0.100
11.65	1.77	0.39	2.03	0.116
11.75	1.96	0.50	2.78	0.137
11.85	2.22	0.65	4.00	0.167
11.95	2.66	0.94	5.99	0.212
12.05	3.47	1.54	10.21	0.286
12.15	4.14	2.08	19.39	0.424
12.25	4.40	2.30	**25.39**	0.629
12.35	4.59	2.45	19.44	0.805
12.45	4.72	2.57	12.95	0.924
12.55	4.82	2.65	9.01	1.005
12.65	4.90	2.72	6.42	1.063
12.75	4.97	2.78	4.72	1.105
12.85	5.04	2.84	3.81	1.138
12.95	5.10	2.89	3.32	1.167
13.05	5.16	2.94	3.02	1.192
13.15	5.22	2.99	2.78	1.216
13.25	5.26	3.03	2.57	1.237
13.35	5.31	3.07	2.36	1.257
13.45	5.35	3.10	2.15	1.276
13.55	5.38	3.13	1.93	1.292
13.65	5.40	3.15	1.66	1.306
13.75	5.43	3.17	1.36	1.318
13.85	5.45	3.19	1.19	1.328
13.95	5.47	3.21	1.12	1.338
14.05	5.50	3.23	1.08	1.347
14.15	5.52	3.25	1.06	1.355
14.25	5.54	3.27	1.05	1.364
14.35	5.57	3.29	1.03	1.373
14.45	5.59	3.31	1.02	1.381
14.55	5.61	3.33	1.01	1.390
14.65	5.63	3.35	1.00	1.398
14.75	5.65	3.37	0.98	1.406
14.85	5.67	3.39	0.97	1.414
14.95	5.69	3.41	0.96	1.422
15.05	5.71	3.42	0.94	1.430
15.15	5.72	3.43	0.87	1.437
15.25	5.74	3.45	0.72	1.443
15.35	5.75	3.46	0.63	1.449
15.45	5.76	3.47	0.59	1.454
15.55	5.77	3.48	0.58	1.459
15.65	5.79	3.49	0.56	1.463
15.75	5.80	3.50	0.56	1.468
15.85	5.81	3.51	0.55	1.472
15.95	5.82	3.52	0.55	1.477
16.05	5.83	3.53	0.54	1.481
16.15	5.84	3.54	0.53	1.486
16.25	5.86	3.55	0.53	1.490
16.35	5.87	3.56	0.52	1.495
16.45	5.88	3.57	0.52	1.499
16.55	5.89	3.58	0.51	1.503

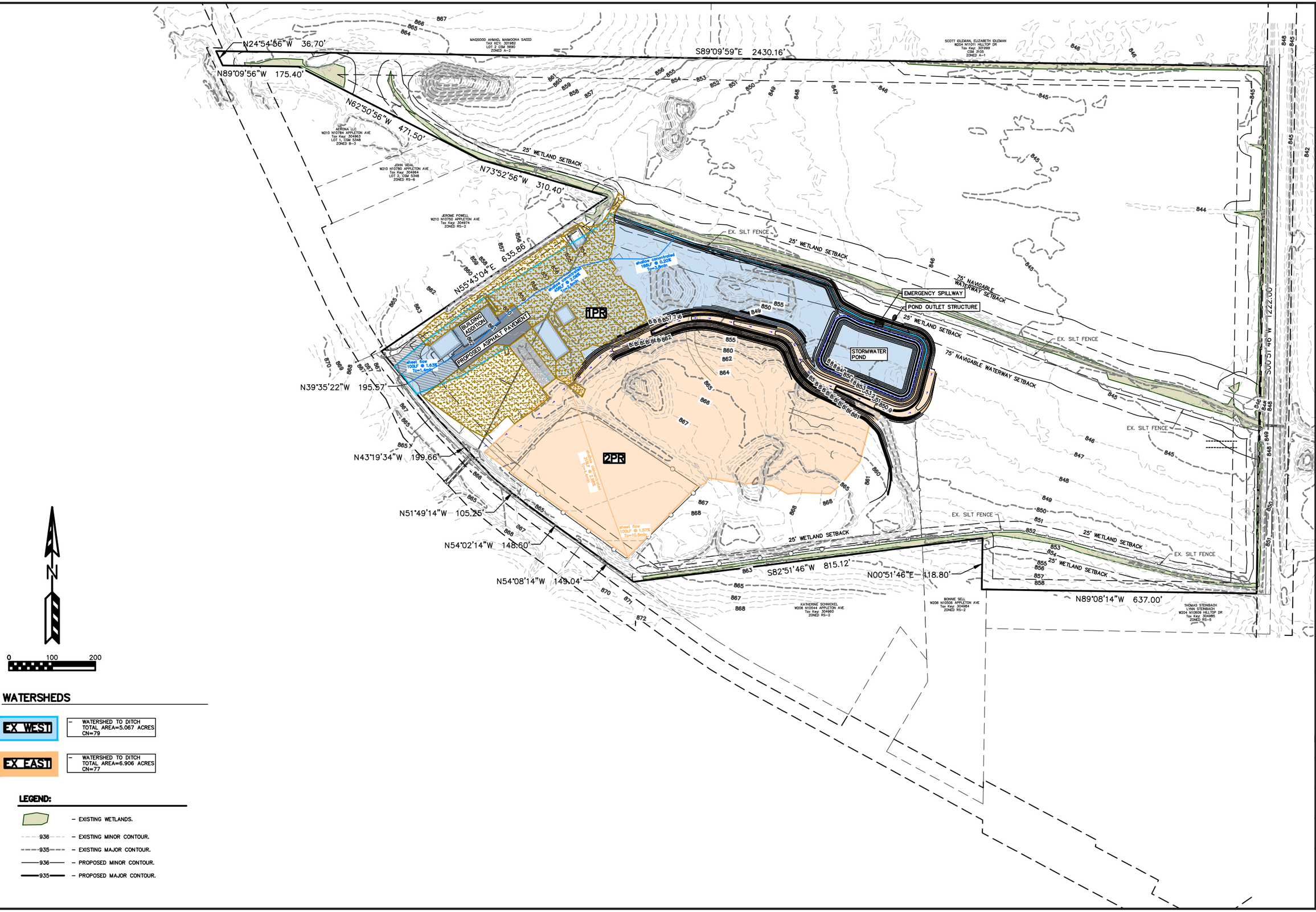
Hydrograph for Subcatchment Ex West: 2017 West (continued)

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Runoff-Volume (acre-feet)
16.65	5.90	3.59	0.51	1.507
16.75	5.91	3.60	0.50	1.511
16.85	5.92	3.61	0.50	1.516
16.95	5.93	3.62	0.49	1.520
17.05	5.94	3.63	0.49	1.524
17.15	5.95	3.64	0.48	1.528
17.25	5.96	3.65	0.47	1.532
17.35	5.97	3.66	0.47	1.535
17.45	5.98	3.67	0.46	1.539
17.55	5.99	3.67	0.46	1.543
17.65	6.00	3.68	0.45	1.547
17.75	6.01	3.69	0.45	1.551
17.85	6.02	3.70	0.44	1.554
17.95	6.03	3.71	0.43	1.558
18.05	6.04	3.72	0.43	1.561
18.15	6.05	3.72	0.42	1.565
18.25	6.06	3.73	0.42	1.568
18.35	6.07	3.74	0.41	1.572
18.45	6.08	3.75	0.41	1.575
18.55	6.08	3.76	0.40	1.578
18.65	6.09	3.76	0.40	1.582
18.75	6.10	3.77	0.39	1.585
18.85	6.11	3.78	0.38	1.588
18.95	6.12	3.78	0.38	1.591
19.05	6.13	3.79	0.37	1.594
19.15	6.13	3.80	0.37	1.597
19.25	6.14	3.81	0.36	1.600
19.35	6.15	3.81	0.36	1.603
19.45	6.16	3.82	0.35	1.606
19.55	6.16	3.83	0.34	1.609
19.65	6.17	3.83	0.34	1.612
19.75	6.18	3.84	0.33	1.615
19.85	6.18	3.84	0.33	1.617
19.95	6.19	3.85	0.32	1.620
20.05	6.20	3.86	0.32	1.623
20.15	6.20	3.86	0.31	1.625
20.25	6.21	3.87	0.31	1.628
20.35	6.22	3.87	0.30	1.630
20.45	6.22	3.88	0.29	1.633
20.55	6.23	3.88	0.29	1.635
20.65	6.23	3.89	0.28	1.638
20.75	6.24	3.90	0.28	1.640
20.85	6.25	3.90	0.27	1.642
20.95	6.25	3.91	0.27	1.644
21.05	6.26	3.91	0.26	1.646
21.15	6.26	3.91	0.25	1.649

Appendix D

Calculations: Water Quantity
Proposed Site Conditions

PARISH SURVEY & ENGINEERING
122 Wisconsin Street | West Bend, WI 53095
www.parishse.com



N

0 100 200

WATERSHEDS

EX WEST – WATERSHED TO DITCH
TOTAL AREA=5.067 ACRES
CN=79

EX EAST – WATERSHED TO DITCH
TOTAL AREA=6.906 ACRES
CN=77

LEGEND:

- EXISTING WETLANDS.
- 936 – EXISTING MINOR CONTOUR.
- 935 – EXISTING MAJOR CONTOUR.
- 936 – PROPOSED MINOR CONTOUR.
- 935 – PROPOSED MAJOR CONTOUR.

REVISIONS:		
NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
PROPOSED DRAINAGE PLAN

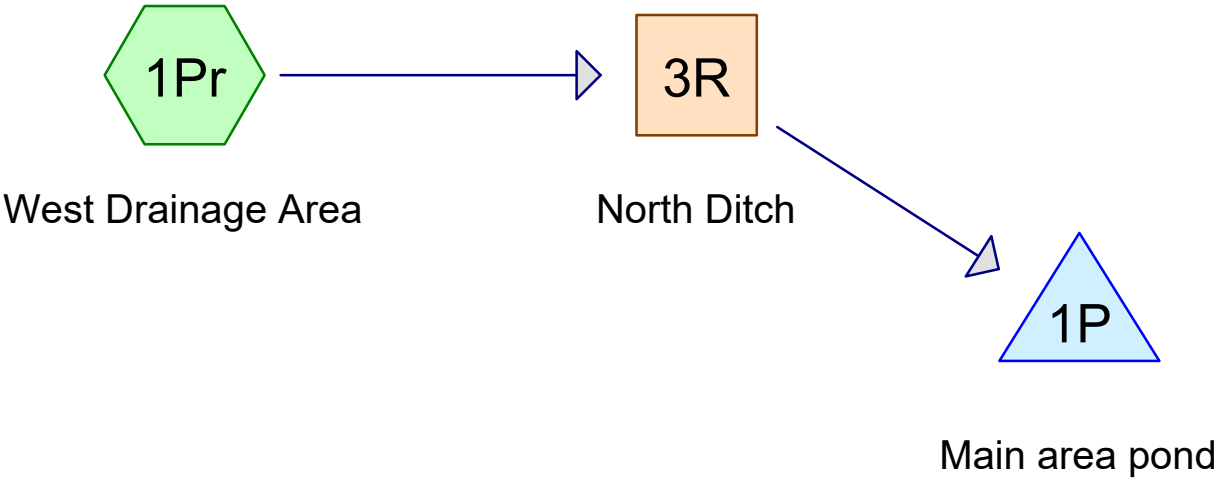
DRAWN BY: **EPN**
DESIGNED BY: **EPN**
CHECKED BY: **EPN**

PLAN DATE: **9/3/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
PR-1



Subcat Reach Pond Link

Routing Diagram for Site Pond
Prepared by Parish Survey & Engineering, Printed 9/3/2025
HydroCAD® 10.00-24 s/n 06587 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1Pr: West Drainage Area Runoff Area=220,715 sf 50.44% Impervious Runoff Depth>1.69"
Flow Length=722' Tc=7.8 min CN=90 Runoff=14.23 cfs 0.714 af

Reach 3R: North Ditch Avg. Flow Depth=1.04' Max Vel=3.01 fps Inflow=14.23 cfs 0.714 af
n=0.022 L=500.0' S=0.0050 '/' Capacity=74.89 cfs Outflow=12.85 cfs 0.714 af

Pond 1P: Main area pond Peak Elev=851.20' Storage=21,280 cf Inflow=12.85 cfs 0.714 af
Outflow=0.55 cfs 0.450 af

Total Runoff Area = 5.067 ac Runoff Volume = 0.714 af Average Runoff Depth = 1.69"
49.56% Pervious = 2.511 ac 50.44% Impervious = 2.556 ac

Summary for Subcatchment 1Pr: West Drainage Area

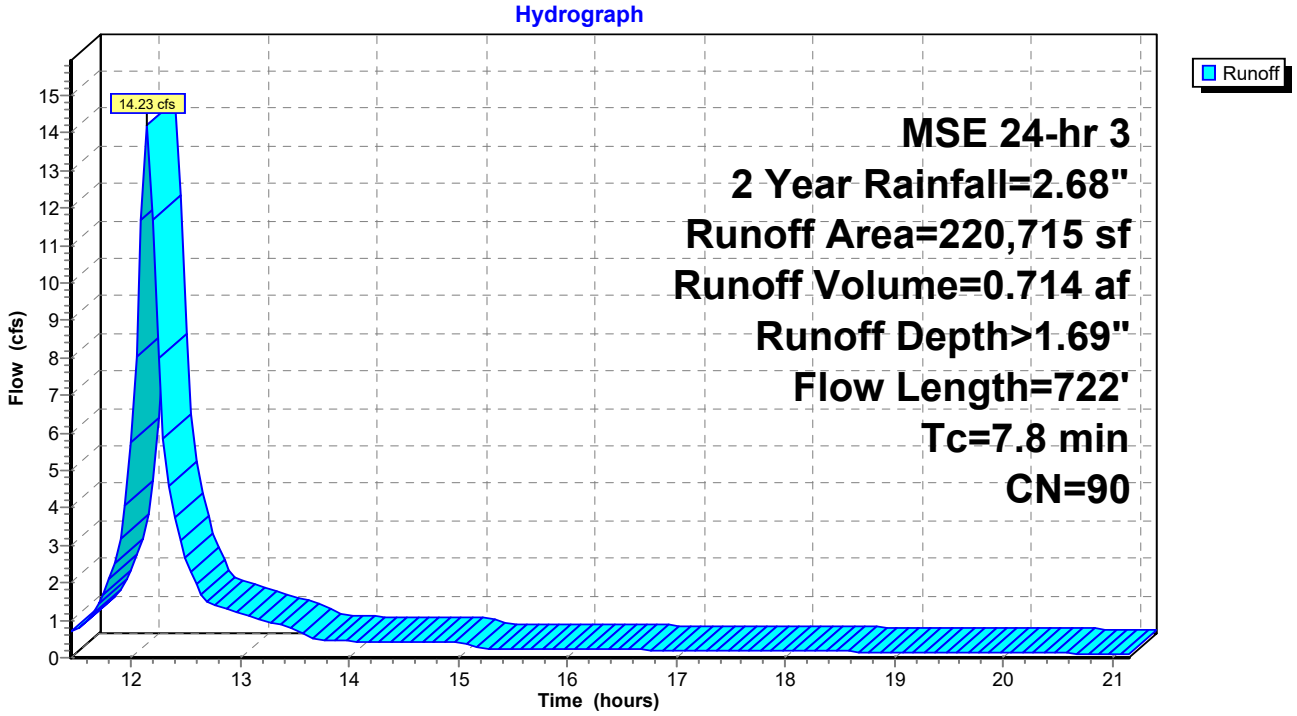
Runoff = 14.23 cfs @ 12.15 hrs, Volume= 0.714 af, Depth> 1.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2 Year Rainfall=2.68"

	Area (sf)	CN	Description
*	2,734	98	Main Bldg
*	7,241	98	2023 Bldgs
*	15,977	98	2023 asphalt/concrete
*	70,966	87	Dirt Roads, HSG C 2023 Aerial
*	5,000	98	2025 Proposed Bldg
*	10,000	98	Future bldg
*	11,000	98	2025 Proposed Pavement
*	30,000	98	Future pavement
*	15,000	74	>75% Grass cover, Good, HSG C 2017 Aerial
	23,431	74	Pasture/grassland/range, Good, HSG C
	29,366	98	Water Surface, HSG C
	220,715	90	Weighted Average
	109,397		49.56% Pervious Area
	111,318		50.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0163	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.68"
2.6	456	0.0209	2.93		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	166	0.0020	0.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.8	722	Total			

Subcatchment 1Pr: West Drainage Area



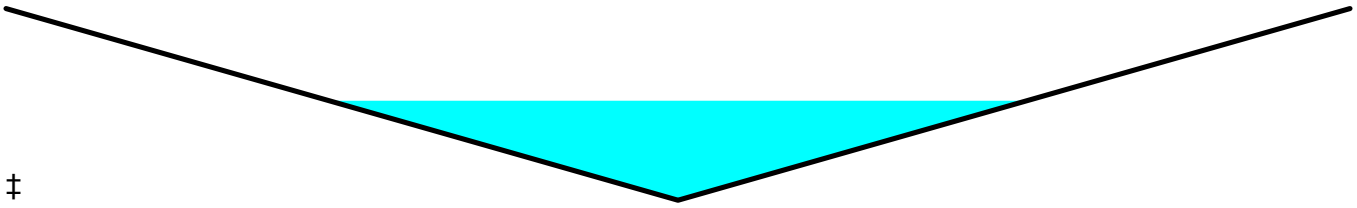
Summary for Reach 3R: North Ditch

Inflow Area = 5.067 ac, 50.44% Impervious, Inflow Depth > 1.69" for 2 Year event
Inflow = 14.23 cfs @ 12.15 hrs, Volume= 0.714 af
Outflow = 12.85 cfs @ 12.23 hrs, Volume= 0.714 af, Atten= 10%, Lag= 4.9 min

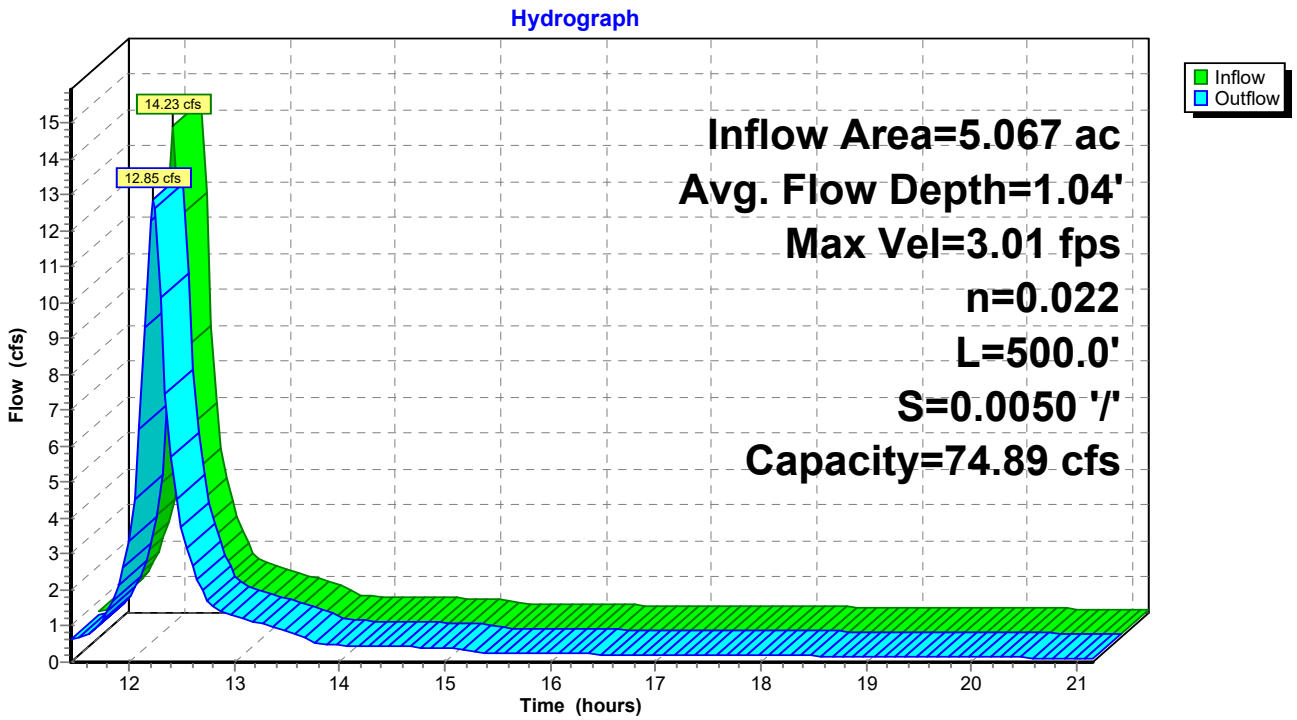
Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.01 fps, Min. Travel Time= 2.8 min
Avg. Velocity = 1.09 fps, Avg. Travel Time= 7.6 min

Peak Storage= 2,150 cf @ 12.18 hrs
Average Depth at Peak Storage= 1.04'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 74.89 cfs

0.00' x 2.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 16.00'
Length= 500.0' Slope= 0.0050 '/'
Inlet Invert= 853.00', Outlet Invert= 850.50'



‡



Summary for Pond 1P: Main area pond

Inflow Area = 5.067 ac, 50.44% Impervious, Inflow Depth > 1.69" for 2 Year event
Inflow = 12.85 cfs @ 12.23 hrs, Volume= 0.714 af
Outflow = 0.55 cfs @ 13.77 hrs, Volume= 0.450 af, Atten= 96%, Lag= 92.5 min
Primary = 0.55 cfs @ 13.77 hrs, Volume= 0.450 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 851.20' @ 13.77 hrs Surf.Area= 31,295 sf Storage= 21,280 cf
Flood Elev= 844.50' Surf.Area= 0 sf Storage= 0 cf

Plug-Flow detention time= 330.9 min calculated for 0.450 af (63% of inflow)
Center-of-Mass det. time= 254.7 min (1,057.0 - 802.3)

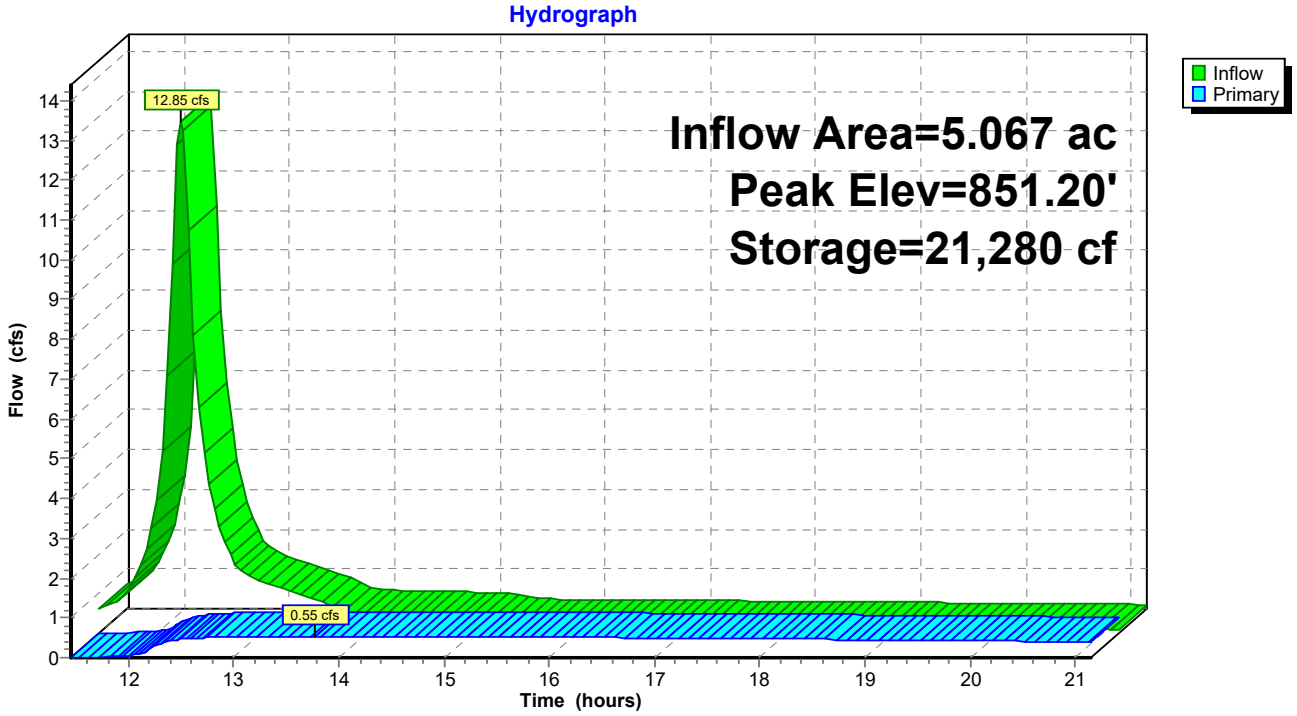
Volume	Invert	Avail.Storage	Storage Description
#1	850.50'	83,353 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
850.50	29,370	0	0
851.00	30,640	15,003	15,003
852.00	33,870	32,255	47,258
853.00	38,320	36,095	83,353

Device	Routing	Invert	Outlet Devices
#1	Primary	849.00'	**24.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 849.00' / 848.50' S= 0.0179 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	850.50'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	852.00'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	852.50'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.55 cfs @ 13.77 hrs HW=851.20' (Free Discharge)
- **1=Culvert** (Passes 0.55 cfs of 16.59 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.55 cfs @ 3.31 fps)
  - **3=Orifice/Grate** (Controls 0.00 cfs)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Main area pond

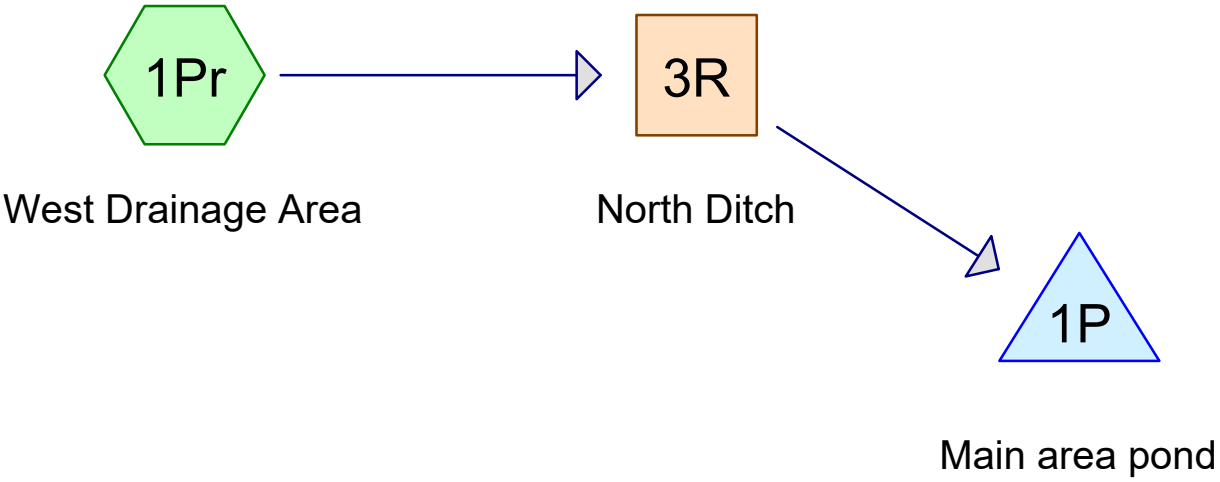


Hydrograph for Pond 1P: Main area pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)	Outflow-Volume (acre-feet)
11.45	0.62	1,491	850.55	0.01	0.000
11.55	0.70	1,727	850.56	0.01	0.000
11.65	0.85	1,998	850.57	0.01	0.000
11.75	1.18	2,352	850.58	0.02	0.001
11.85	1.73	2,861	850.60	0.03	0.001
11.95	2.63	3,623	850.62	0.04	0.001
12.05	4.56	4,855	850.66	0.07	0.002
12.15	9.31	7,227	850.74	0.15	0.003
12.25	**12.64**	11,333	850.88	0.31	0.005
12.35	7.47	14,837	850.99	0.41	0.008
12.45	4.53	16,784	851.06	0.46	0.012
12.55	3.14	17,978	851.10	0.48	0.016
12.65	2.30	18,775	851.12	0.50	0.020
12.75	1.73	19,312	851.14	0.51	0.024
12.85	1.47	19,698	851.15	0.52	0.028
12.95	1.34	20,014	851.16	0.52	0.033
13.05	1.24	20,290	851.17	0.53	0.037
13.15	1.16	20,531	851.18	0.53	0.041
13.25	1.07	20,740	851.19	0.54	0.046
13.35	0.98	20,916	851.19	0.54	0.050
13.45	0.90	21,060	851.20	0.54	0.055
13.55	0.81	21,172	851.20	0.54	0.059
13.65	0.70	21,248	851.20	0.55	0.064
13.75	0.57	**21,279**	**851.20**	**0.55**	0.068
13.85	0.49	21,272	851.20	0.55	0.073
13.95	0.47	21,247	851.20	0.55	0.077
14.05	0.45	21,216	851.20	0.55	0.082
14.15	0.45	21,182	851.20	0.54	0.086
14.25	0.44	21,146	851.20	0.54	0.091
14.35	0.44	21,108	851.20	0.54	0.095
14.45	0.43	21,069	851.20	0.54	0.100
14.55	0.43	21,028	851.19	0.54	0.104
14.65	0.42	20,986	851.19	0.54	0.109
14.75	0.42	20,942	851.19	0.54	0.113
14.85	0.41	20,896	851.19	0.54	0.118
14.95	0.41	20,849	851.19	0.54	0.122
15.05	0.40	20,800	851.19	0.54	0.127
15.15	0.38	20,747	851.19	0.54	0.131
15.25	0.31	20,677	851.18	0.54	0.135
15.35	0.27	20,588	851.18	0.53	0.140
15.45	0.25	20,489	851.18	0.53	0.144
15.55	0.24	20,387	851.17	0.53	0.149
15.65	0.24	20,283	851.17	0.53	0.153
15.75	0.24	20,179	851.17	0.53	0.157
15.85	0.23	20,074	851.16	0.52	0.162
15.95	0.23	19,970	851.16	0.52	0.166
16.05	0.23	19,865	851.16	0.52	0.170
16.15	0.23	19,760	851.15	0.52	0.175
16.25	0.22	19,655	851.15	0.52	0.179
16.35	0.22	19,550	851.15	0.51	0.183
16.45	0.22	19,444	851.14	0.51	0.187
16.55	0.22	19,339	851.14	0.51	0.191

Hydrograph for Pond 1P: Main area pond (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)	Outflow-Volume (acre-feet)
16.65	0.21	19,234	851.14	0.51	0.196
16.75	0.21	19,128	851.13	0.51	0.200
16.85	0.21	19,023	851.13	0.50	0.204
16.95	0.21	18,917	851.13	0.50	0.208
17.05	0.21	18,812	851.12	0.50	0.212
17.15	0.20	18,706	851.12	0.50	0.216
17.25	0.20	18,600	851.12	0.49	0.220
17.35	0.20	18,494	851.11	0.49	0.225
17.45	0.20	18,388	851.11	0.49	0.229
17.55	0.19	18,282	851.11	0.49	0.233
17.65	0.19	18,176	851.10	0.49	0.237
17.75	0.19	18,070	851.10	0.48	0.241
17.85	0.19	17,964	851.10	0.48	0.245
17.95	0.18	17,858	851.09	0.48	0.249
18.05	0.18	17,752	851.09	0.48	0.253
18.15	0.18	17,646	851.09	0.47	0.256
18.25	0.18	17,540	851.08	0.47	0.260
18.35	0.17	17,433	851.08	0.47	0.264
18.45	0.17	17,327	851.08	0.47	0.268
18.55	0.17	17,221	851.07	0.47	0.272
18.65	0.17	17,114	851.07	0.46	0.276
18.75	0.17	17,008	851.07	0.46	0.280
18.85	0.16	16,902	851.06	0.46	0.283
18.95	0.16	16,795	851.06	0.46	0.287
19.05	0.16	16,689	851.05	0.45	0.291
19.15	0.16	16,583	851.05	0.45	0.295
19.25	0.15	16,477	851.05	0.45	0.298
19.35	0.15	16,370	851.04	0.45	0.302
19.45	0.15	16,264	851.04	0.44	0.306
19.55	0.15	16,158	851.04	0.44	0.309
19.65	0.14	16,052	851.03	0.44	0.313
19.75	0.14	15,946	851.03	0.44	0.317
19.85	0.14	15,839	851.03	0.43	0.320
19.95	0.14	15,733	851.02	0.43	0.324
20.05	0.13	15,627	851.02	0.43	0.327
20.15	0.13	15,521	851.02	0.43	0.331
20.25	0.13	15,416	851.01	0.42	0.334
20.35	0.13	15,310	851.01	0.42	0.338
20.45	0.12	15,204	851.01	0.42	0.341
20.55	0.12	15,098	851.00	0.42	0.345
20.65	0.12	14,993	851.00	0.41	0.348
20.75	0.12	14,887	851.00	0.41	0.352
20.85	0.12	14,782	850.99	0.41	0.355
20.95	0.11	14,676	850.99	0.41	0.358
21.05	0.11	14,571	850.99	0.40	0.362
21.15	0.11	14,466	850.98	0.40	0.365



Subcat Reach Pond Link

Routing Diagram for Site Pond
Prepared by Parish Survey & Engineering, Printed 9/3/2025
HydroCAD® 10.00-24 s/n 06587 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1Pr: West Drainage Area Runoff Area=220,715 sf 50.44% Impervious Runoff Depth>5.20"
Flow Length=722' Tc=7.8 min CN=90 Runoff=41.11 cfs 2.194 af

Reach 3R: North Ditch Avg. Flow Depth=1.56' Max Vel=3.94 fps Inflow=41.11 cfs 2.194 af
n=0.022 L=500.0' S=0.0050 '/' Capacity=74.89 cfs Outflow=37.54 cfs 2.192 af

Pond 1P: Main area pond Peak Elev=852.30' Storage=57,589 cf Inflow=37.54 cfs 2.192 af
Outflow=6.35 cfs 1.421 af

Total Runoff Area = 5.067 ac Runoff Volume = 2.194 af Average Runoff Depth = 5.20"
49.56% Pervious = 2.511 ac 50.44% Impervious = 2.556 ac

Summary for Subcatchment 1Pr: West Drainage Area

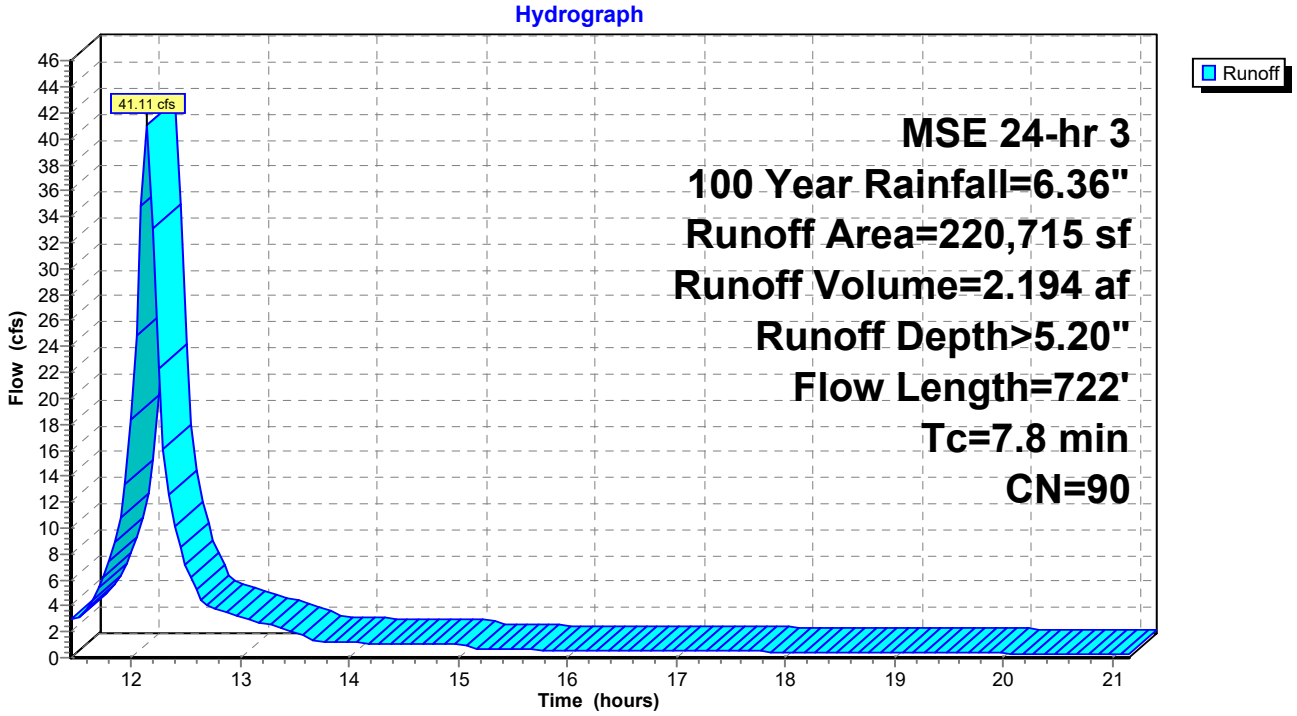
Runoff = 41.11 cfs @ 12.15 hrs, Volume= 2.194 af, Depth> 5.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 Year Rainfall=6.36"

	Area (sf)	CN	Description
*	2,734	98	Main Bldg
*	7,241	98	2023 Bldgs
*	15,977	98	2023 asphalt/concrete
*	70,966	87	Dirt Roads, HSG C 2023 Aerial
*	5,000	98	2025 Proposed Bldg
*	10,000	98	Future bldg
*	11,000	98	2025 Proposed Pavement
*	30,000	98	Future pavement
*	15,000	74	>75% Grass cover, Good, HSG C 2017 Aerial
	23,431	74	Pasture/grassland/range, Good, HSG C
	29,366	98	Water Surface, HSG C
	220,715	90	Weighted Average
	109,397		49.56% Pervious Area
	111,318		50.44% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	100	0.0163	1.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.68"
2.6	456	0.0209	2.93		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.8	166	0.0020	0.72		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.8	722	Total			

Subcatchment 1Pr: West Drainage Area



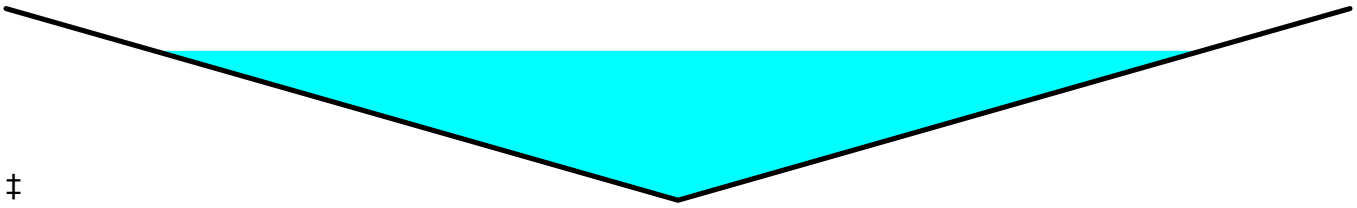
Summary for Reach 3R: North Ditch

Inflow Area = 5.067 ac, 50.44% Impervious, Inflow Depth > 5.20" for 100 Year event
Inflow = 41.11 cfs @ 12.15 hrs, Volume= 2.194 af
Outflow = 37.54 cfs @ 12.21 hrs, Volume= 2.192 af, Atten= 9%, Lag= 3.7 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.94 fps, Min. Travel Time= 2.1 min
Avg. Velocity = 1.37 fps, Avg. Travel Time= 6.1 min

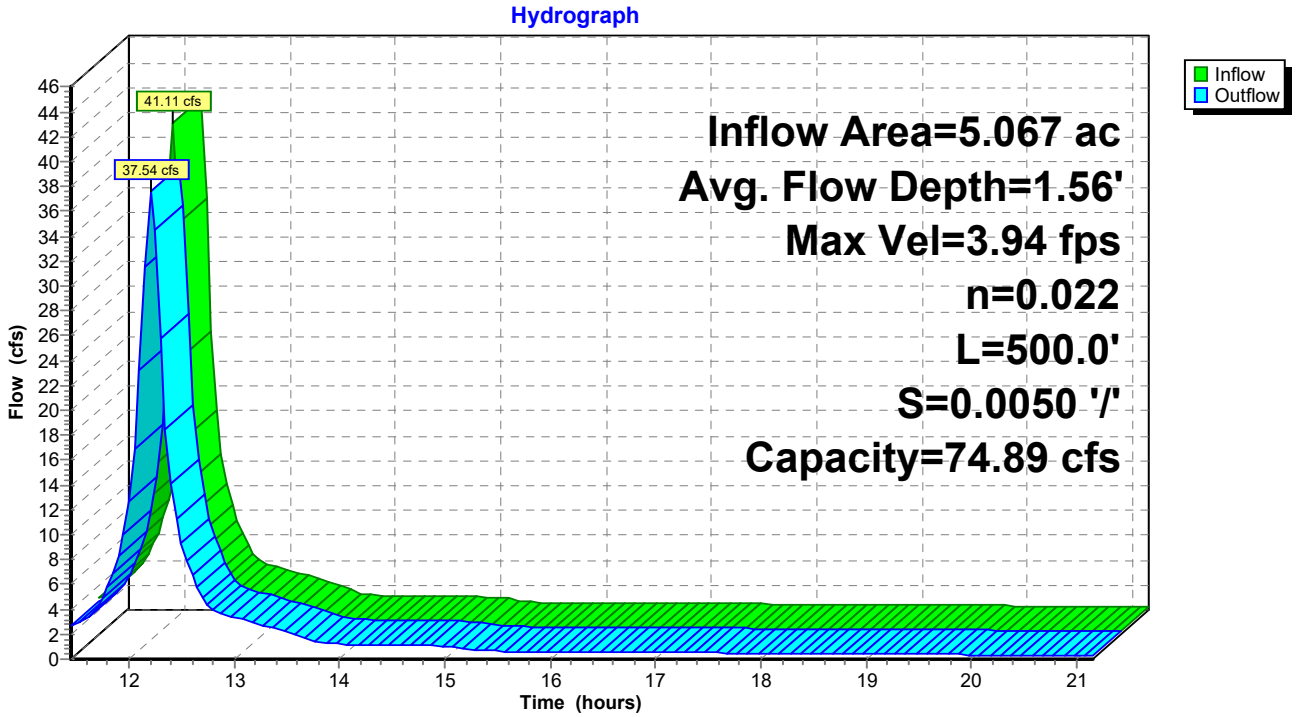
Peak Storage= 4,856 cf @ 12.17 hrs
Average Depth at Peak Storage= 1.56'
Bank-Full Depth= 2.00' Flow Area= 16.0 sf, Capacity= 74.89 cfs

0.00' x 2.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 4.0 '/' Top Width= 16.00'
Length= 500.0' Slope= 0.0050 '/'
Inlet Invert= 853.00', Outlet Invert= 850.50'



‡

Reach 3R: North Ditch



Summary for Pond 1P: Main area pond

Inflow Area = 5.067 ac, 50.44% Impervious, Inflow Depth > 5.19" for 100 Year event
Inflow = 37.54 cfs @ 12.21 hrs, Volume= 2.192 af
Outflow = 6.35 cfs @ 12.62 hrs, Volume= 1.421 af, Atten= 83%, Lag= 24.8 min
Primary = 6.35 cfs @ 12.62 hrs, Volume= 1.421 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 852.30' @ 12.62 hrs Surf.Area= 35,201 sf Storage= 57,589 cf
Flood Elev= 844.50' Surf.Area= 0 sf Storage= 0 cf

Plug-Flow detention time= 247.9 min calculated for 1.418 af (65% of inflow)
Center-of-Mass det. time= 177.4 min (956.2 - 778.7)

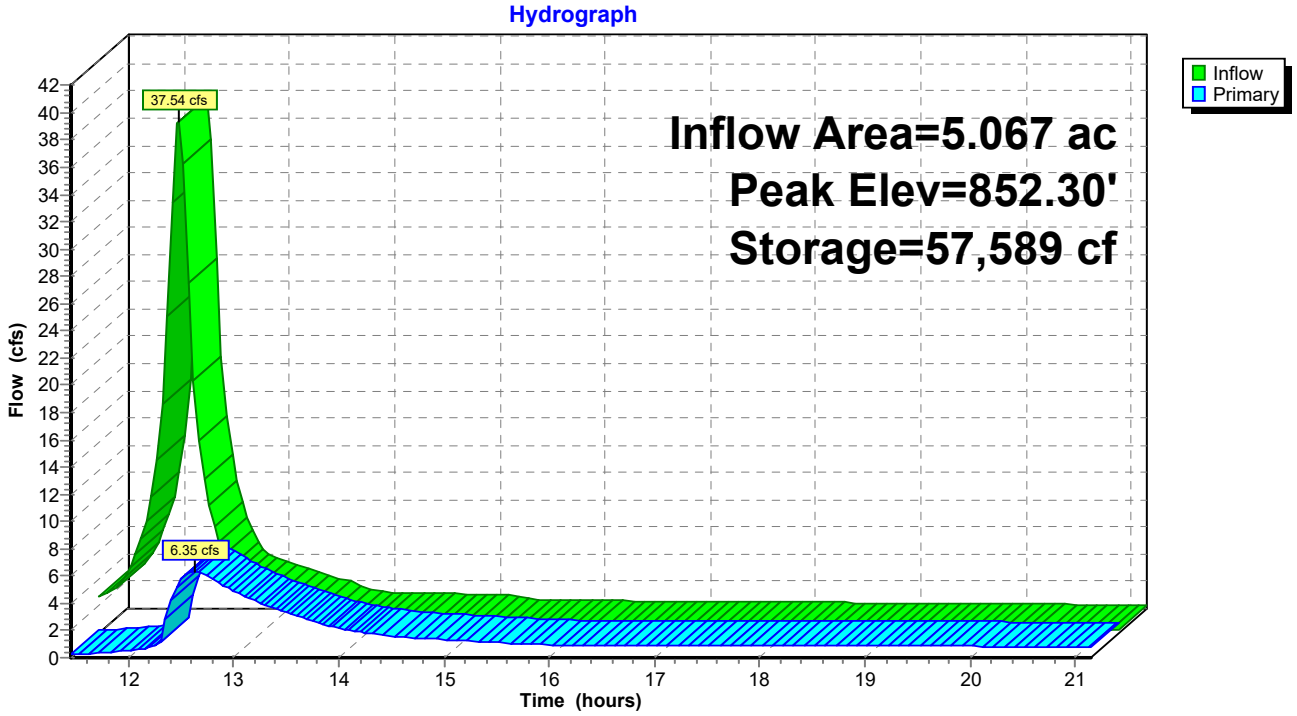
Volume	Invert	Avail.Storage	Storage Description
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Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
850.50	29,370	0	0
851.00	30,640	15,003	15,003
852.00	33,870	32,255	47,258
853.00	38,320	36,095	83,353

Device	Routing	Invert	Outlet Devices
#1	Primary	849.00'	**24.0" Round Culvert** L= 28.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 849.00' / 848.50' S= 0.0179 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	850.50'	**5.5" Vert. Orifice/Grate** C= 0.600
#3	Device 1	852.00'	**24.0" x 36.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#4	Primary	852.50'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=6.33 cfs @ 12.62 hrs HW=852.30' (Free Discharge)
- **1=Culvert** (Passes 6.33 cfs of 22.93 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 1.00 cfs @ 6.03 fps)
  - **3=Orifice/Grate** (Weir Controls 5.33 cfs @ 1.79 fps)
- **4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Main area pond



Hydrograph for Pond 1P: Main area pond

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)	Outflow-Volume (acre-feet)
11.45	2.72	10,043	850.84	0.26	0.017
11.55	2.98	10,969	850.87	0.29	0.019
11.65	3.57	12,018	850.90	0.33	0.022
11.75	4.89	13,399	850.95	0.37	0.025
11.85	6.89	15,358	851.01	0.42	0.028
11.95	10.05	18,207	851.10	0.49	0.032
12.05	16.90	22,722	851.25	0.57	0.037
12.15	**31.60**	31,054	851.51	0.70	0.042
12.25	**34.48**	43,457	851.89	0.85	0.049
12.35	18.50	52,312	852.15	2.81	0.066
12.45	11.30	56,053	852.26	5.20	0.105
12.55	7.88	**57,383**	**852.29**	**6.19**	0.154
12.65	5.75	**57,555**	**852.30**	**6.32**	0.207
12.75	4.37	57,131	852.29	6.00	0.257
12.85	3.78	56,510	852.27	5.54	0.304
12.95	3.48	55,903	852.25	5.10	0.347
13.05	3.24	55,349	852.24	4.71	0.386
13.15	3.01	54,841	852.22	4.36	0.423
13.25	2.77	54,367	852.21	4.05	0.457
13.35	2.54	53,918	852.19	3.76	0.489
13.45	2.31	53,484	852.18	3.49	0.518
13.55	2.07	53,061	852.17	3.24	0.546
13.65	1.76	52,632	852.16	2.99	0.571
13.75	1.41	52,170	852.14	2.73	0.594
13.85	1.26	51,708	852.13	2.48	0.615
13.95	1.20	51,296	852.12	2.27	0.634
14.05	1.18	50,939	852.11	2.10	0.652
14.15	1.17	50,634	852.10	1.95	0.668
14.25	1.15	50,370	852.09	1.84	0.684
14.35	1.14	50,139	852.08	1.74	0.698
14.45	1.12	49,937	852.08	1.65	0.712
14.55	1.11	49,760	852.07	1.57	0.725
14.65	1.09	49,600	852.07	1.52	0.738
14.75	1.08	49,456	852.06	1.46	0.750
14.85	1.07	49,324	852.06	1.41	0.762
14.95	1.05	49,205	852.06	1.37	0.773
15.05	1.04	49,095	852.05	1.33	0.784
15.15	0.94	48,983	852.05	1.29	0.795
15.25	0.76	48,834	852.05	1.24	0.805
15.35	0.67	48,653	852.04	1.19	0.815
15.45	0.64	48,469	852.04	1.14	0.825
15.55	0.62	48,295	852.03	1.09	0.834
15.65	0.62	48,135	852.03	1.04	0.842
15.75	0.61	47,986	852.02	1.01	0.851
15.85	0.60	47,843	852.02	0.99	0.859
15.95	0.60	47,707	852.01	0.97	0.867
16.05	0.59	47,576	852.01	0.95	0.875
16.15	0.59	47,450	852.01	0.93	0.883
16.25	0.58	47,330	852.00	0.91	0.890
16.35	0.57	47,213	852.00	0.90	0.898
16.45	0.57	47,096	852.00	0.89	0.905
16.55	0.56	46,977	851.99	0.89	0.912

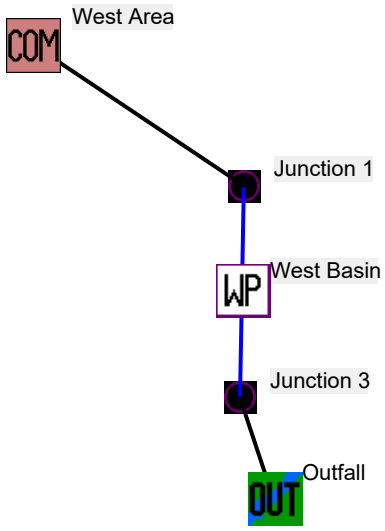
Hydrograph for Pond 1P: Main area pond (continued)

Time (hours)	Inflow (cfs)	Storage (cubic-feet)	Elevation (feet)	Primary (cfs)	Outflow-Volume (acre-feet)
16.65	0.55	46,857	851.99	0.89	0.920
16.75	0.55	46,735	851.98	0.89	0.927
16.85	0.54	46,610	851.98	0.89	0.935
16.95	0.54	46,485	851.98	0.89	0.942
17.05	0.53	46,358	851.97	0.89	0.949
17.15	0.52	46,228	851.97	0.88	0.957
17.25	0.52	46,097	851.97	0.88	0.964
17.35	0.51	45,964	851.96	0.88	0.971
17.45	0.51	45,830	851.96	0.88	0.978
17.55	0.50	45,694	851.95	0.88	0.986
17.65	0.49	45,556	851.95	0.88	0.993
17.75	0.49	45,417	851.95	0.88	1.000
17.85	0.48	45,275	851.94	0.87	1.007
17.95	0.47	45,133	851.94	0.87	1.015
18.05	0.47	44,988	851.93	0.87	1.022
18.15	0.46	44,842	851.93	0.87	1.029
18.25	0.46	44,694	851.92	0.87	1.036
18.35	0.45	44,544	851.92	0.87	1.043
18.45	0.44	44,393	851.92	0.87	1.051
18.55	0.44	44,240	851.91	0.86	1.058
18.65	0.43	44,086	851.91	0.86	1.065
18.75	0.42	43,930	851.90	0.86	1.072
18.85	0.42	43,772	851.90	0.86	1.079
18.95	0.41	43,612	851.89	0.86	1.086
19.05	0.41	43,451	851.89	0.85	1.093
19.15	0.40	43,289	851.88	0.85	1.100
19.25	0.39	43,125	851.88	0.85	1.107
19.35	0.39	42,959	851.87	0.85	1.114
19.45	0.38	42,792	851.87	0.85	1.121
19.55	0.37	42,623	851.86	0.85	1.128
19.65	0.37	42,453	851.86	0.84	1.135
19.75	0.36	42,281	851.85	0.84	1.142
19.85	0.36	42,108	851.85	0.84	1.149
19.95	0.35	41,933	851.84	0.84	1.156
20.05	0.34	41,756	851.84	0.84	1.163
20.15	0.34	41,578	851.83	0.83	1.170
20.25	0.33	41,399	851.83	0.83	1.177
20.35	0.32	41,218	851.82	0.83	1.184
20.45	0.32	41,035	851.81	0.83	1.190
20.55	0.31	40,851	851.81	0.83	1.197
20.65	0.31	40,666	851.80	0.82	1.204
20.75	0.30	40,479	851.80	0.82	1.211
20.85	0.29	40,290	851.79	0.82	1.218
20.95	0.29	40,101	851.79	0.82	1.224
21.05	0.28	39,910	851.78	0.81	1.231
21.15	0.28	39,717	851.77	0.81	1.238

Appendix E

Calculations: Water Quality
TSS Reduction

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West Area
COM
Junction 1
West Basin
WP
Junction 3
Outfall
OUT

Data file name: W:\Projects\TL-05-21\SWMP\TLAcres.mdb
WinSLAMM Version 10.4.1
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 09-03-2025 Time: 15:53:17
Site information:

LU# 1 - Commercial: West Area Total area (ac): 5.068
1 - Roofs: 0.063 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz
2 - Roofs 2: 0.166 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz
3 - Roofs 3: 0.115 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz
4 - Roofs 4: 0.230 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 0.367 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
14 - Paved Parking 2: 0.253 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
15 - Paved Parking 3: 0.689 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 1.629 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 0.344 ac. Normal Clayey Low Density PSD File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 0.538 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.674 ac. PSD File:

Control Practice 1: Wet Detention Pond CP# 1 (DS) - West Basin
Particle Size Distribution file name: Not needed - calculated by program
Initial stage elevation (ft): 0
Peak to Average Flow Ratio: 3.8
Maximum flow allowed into pond (cfs): No maximum value entered
Outlet Characteristics:
Outlet type: Orifice 1
1. Orifice diameter (ft): 0.46
2. Number of orifices: 1
3. Invert elevation above datum (ft): 4.5
Outlet type: Broad Crested Weir
1. Weir crest length (ft): 20
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 6.5
Outlet type: Vertical Stand Pipe
1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 6
Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.3868	0.00	0.00
2	1.00	0.4250	0.00	0.00
3	2.00	0.4646	0.00	0.00
4	3.00	0.5055	0.00	0.00
5	3.50	0.5264	0.00	0.00
6	4.00	0.5985	0.00	0.00
7	4.50	0.6742	0.00	0.00
8	5.00	0.7034	0.00	0.00
9	6.00	0.7775	0.00	0.00
10	7.00	0.8797	0.00	0.00

SLAMM for Windows Version 10.4.1
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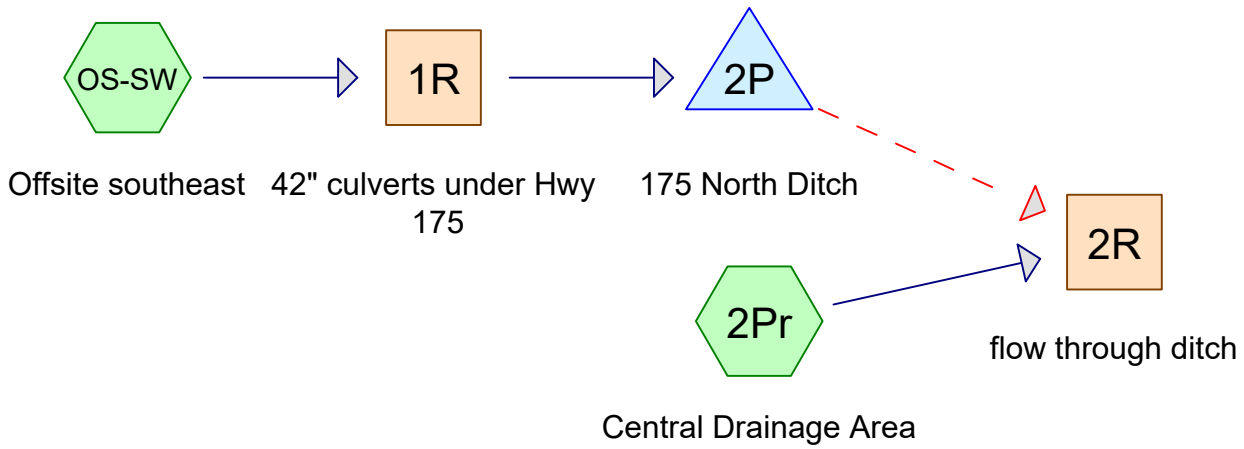
Data file name: W:\Projects\TL-05-21\SWMP\TLAcres.mdb
WinSLAMM Version 10.4.1
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 09-03-2025 Time of run: 15:52:49
Total Area Modeled (acres): 5.068
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	357732	-	97.32	2173	-
Outfall Total with Controls:	262697	26.57%	10.48	171.9	92.09%
Annualized Total After Outfall Controls:	266345			174.3	

Appendix F

Bypass Ditch Calculations

PARISH SURVEY & ENGINEERING
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Subcat Reach Pond Link

Routing Diagram for Site Pond
Prepared by Parish Survey & Engineering, Printed 9/3/2025
HydroCAD® 10.00-24 s/n 06587 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment2Pr: Central Drainage Area Runoff Area=300,830 sf 0.00% Impervious Runoff Depth>3.49"
Flow Length=418' Tc=14.9 min CN=74 Runoff=30.95 cfs 2.007 af

SubcatchmentOS-SW: Offsite southeast Runoff Area=175.430 ac 1.13% Impervious Runoff Depth>3.88"
Flow Length=3,937' Tc=57.4 min CN=78 Runoff=409.74 cfs 56.735 af

Reach 1R: 42" culverts under Hwy Avg. Flow Depth=3.50' Max Vel=15.75 fps Inflow=409.74 cfs 56.735 af
42.0" Round Pipe x 2.00 n=0.012 L=80.0' S=0.0149 '/' Capacity=265.86 cfs Outflow=266.84 cfs 56.733 af

Reach 2R: flow through ditch Avg. Flow Depth=2.51' Max Vel=6.85 fps Inflow=271.64 cfs 53.709 af
n=0.030 L=1,000.0' S=0.0100 '/' Capacity=386.27 cfs Outflow=266.54 cfs 53.663 af

Pond 2P: 175 North Ditch Peak Elev=860.01' Storage=355 cf Inflow=266.84 cfs 56.733 af
Primary=13.23 cfs 5.031 af Secondary=253.23 cfs 51.702 af Outflow=266.46 cfs 56.733 af

Total Runoff Area = 182.336 ac Runoff Volume = 58.742 af Average Runoff Depth = 3.87"
98.91% Pervious = 180.346 ac 1.09% Impervious = 1.990 ac

Summary for Subcatchment 2Pr: Central Drainage Area

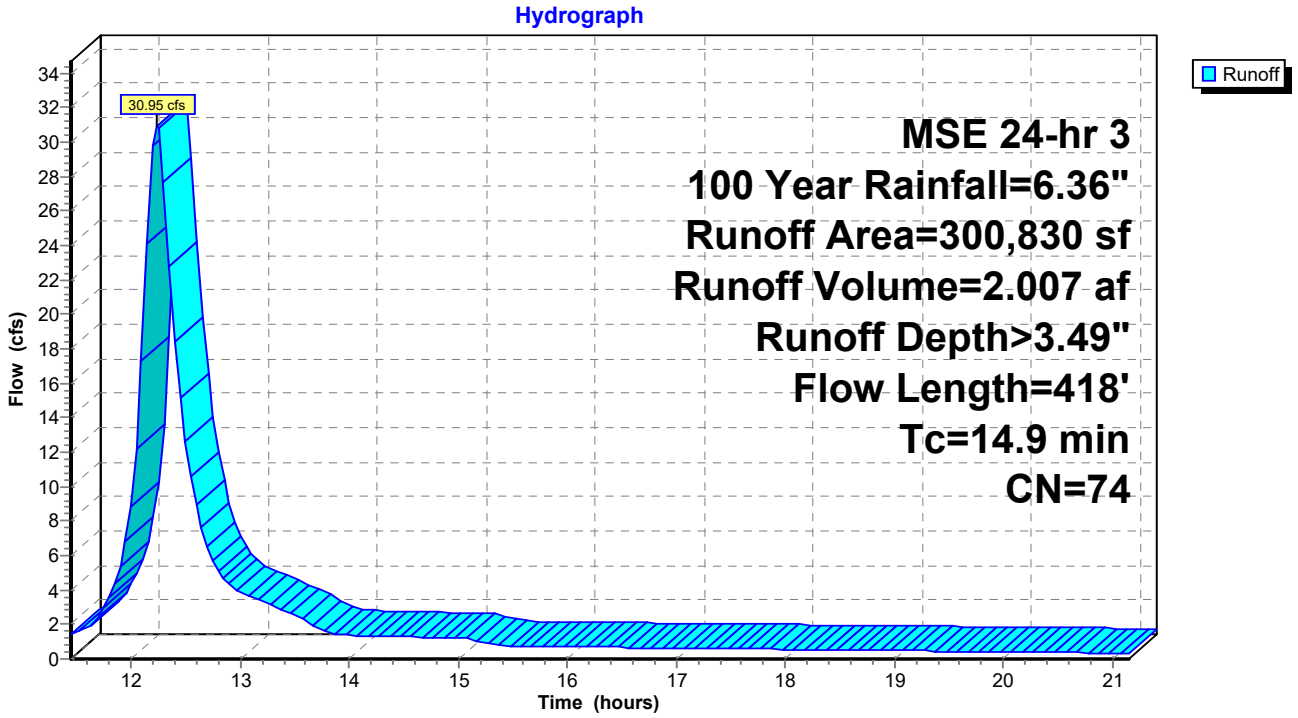
Runoff = 30.95 cfs @ 12.24 hrs, Volume= 2.007 af, Depth> 3.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 Year Rainfall=6.36"

Area (sf)	CN	Description
300,830	74	Pasture/grassland/range, Good, HSG C
300,830		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.5	100	0.0157	0.16		**Sheet Flow,** Range n= 0.130 P2= 2.68"
4.4	318	0.0298	1.21		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
14.9	418	Total			

Subcatchment 2Pr: Central Drainage Area



Summary for Subcatchment OS-SW: Offsite southeast

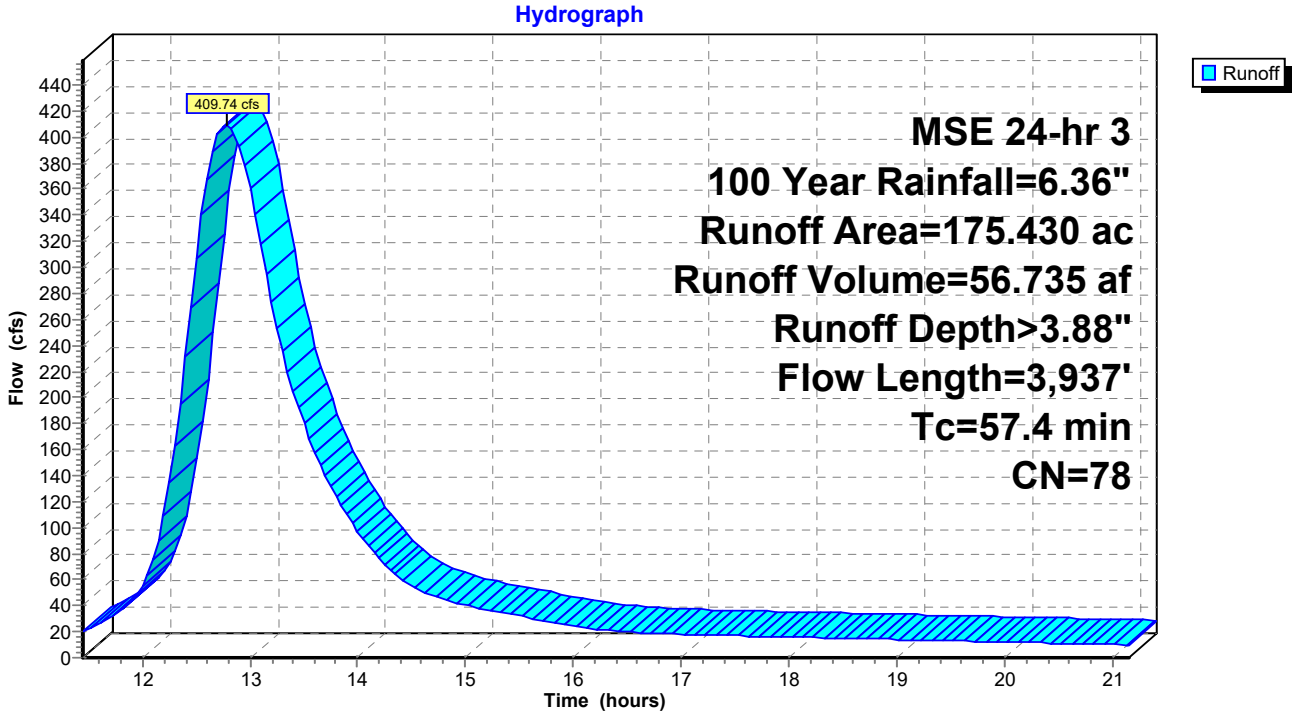
Runoff = 409.74 cfs @ 12.78 hrs, Volume= 56.735 af, Depth> 3.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 Year Rainfall=6.36"

	Area (ac)	CN	Description
*	16.150	68	farmland B
*	2.370	77	farmland C
*	43.910	80	farmland D
*	0.230	68	residential 1ac lots B
*	3.760	77	residential 1ac lots C
*	63.260	80	residential 1ac lots D
*	0.850	55	woodland B
*	1.200	70	woodland C
*	41.710	77	woodland D
*	1.990	98	water
	175.430	78	Weighted Average
	173.440		98.87% Pervious Area
	1.990		1.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	100	0.0450	0.19		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 2.68"
14.4	1,528	0.0385	1.77		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
34.4	2,309	0.0502	1.12		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
57.4	3,937	Total			

Subcatchment OS-SW: Offsite southeast



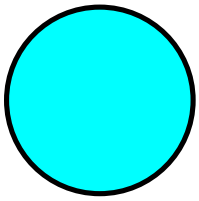
Summary for Reach 1R: 42" culverts under Hwy 175

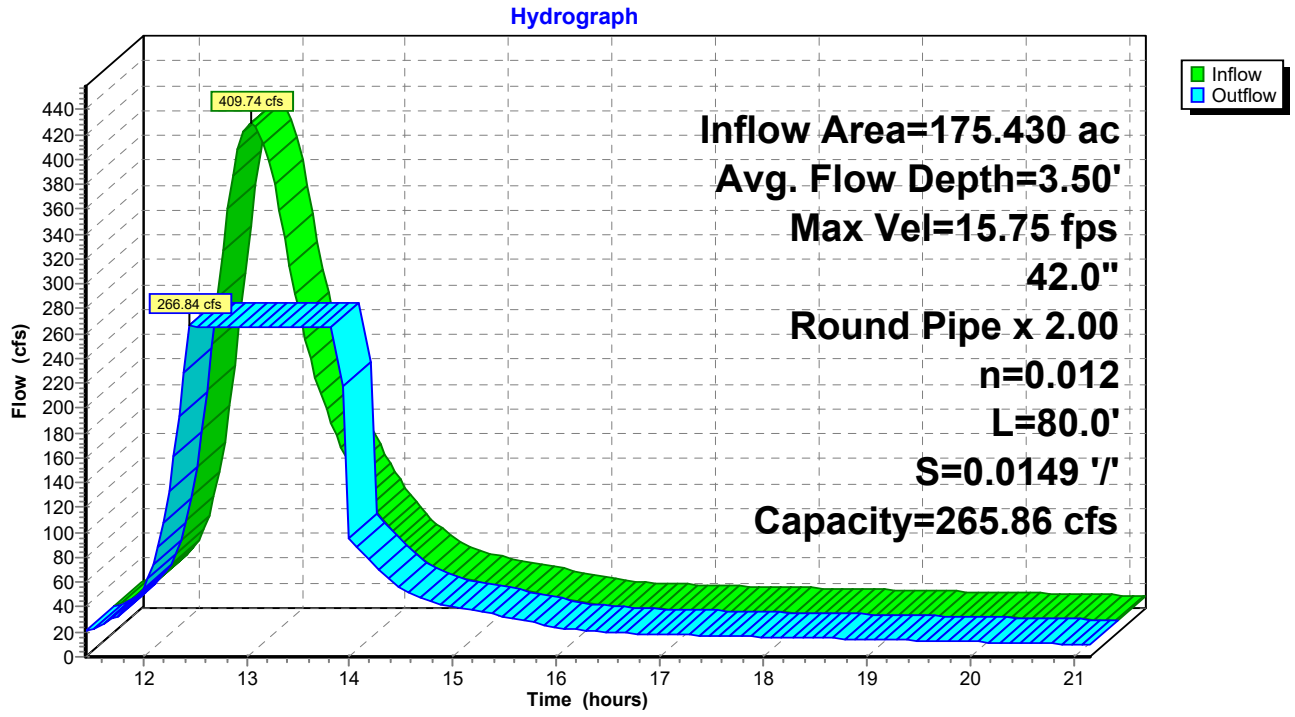
Inflow Area = 175.430 ac, 1.13% Impervious, Inflow Depth > 3.88" for 100 Year event
Inflow = 409.74 cfs @ 12.78 hrs, Volume= 56.735 af
Outflow = 266.84 cfs @ 12.45 hrs, Volume= 56.733 af, Atten= 35%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 15.75 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 7.79 fps, Avg. Travel Time= 0.2 min

Peak Storage= 1,539 cf @ 12.50 hrs
Average Depth at Peak Storage= 3.50'
Bank-Full Depth= 3.50' Flow Area= 19.2 sf, Capacity= 265.86 cfs

A factor of 2.00 has been applied to the storage and discharge capacity
42.0" Round Pipe
n= 0.012
Length= 80.0' Slope= 0.0149 '/'
Inlet Invert= 860.74', Outlet Invert= 859.55'





Summary for Reach 2R: flow through ditch

Inflow Area = 6.906 ac, 0.00% Impervious, Inflow Depth > 93.32" for 100 Year event
Inflow = 271.64 cfs @ 12.47 hrs, Volume= 53.709 af
Outflow = 266.54 cfs @ 12.57 hrs, Volume= 53.663 af, Atten= 2%, Lag= 6.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.85 fps, Min. Travel Time= 2.4 min
Avg. Velocity = 3.15 fps, Avg. Travel Time= 5.3 min

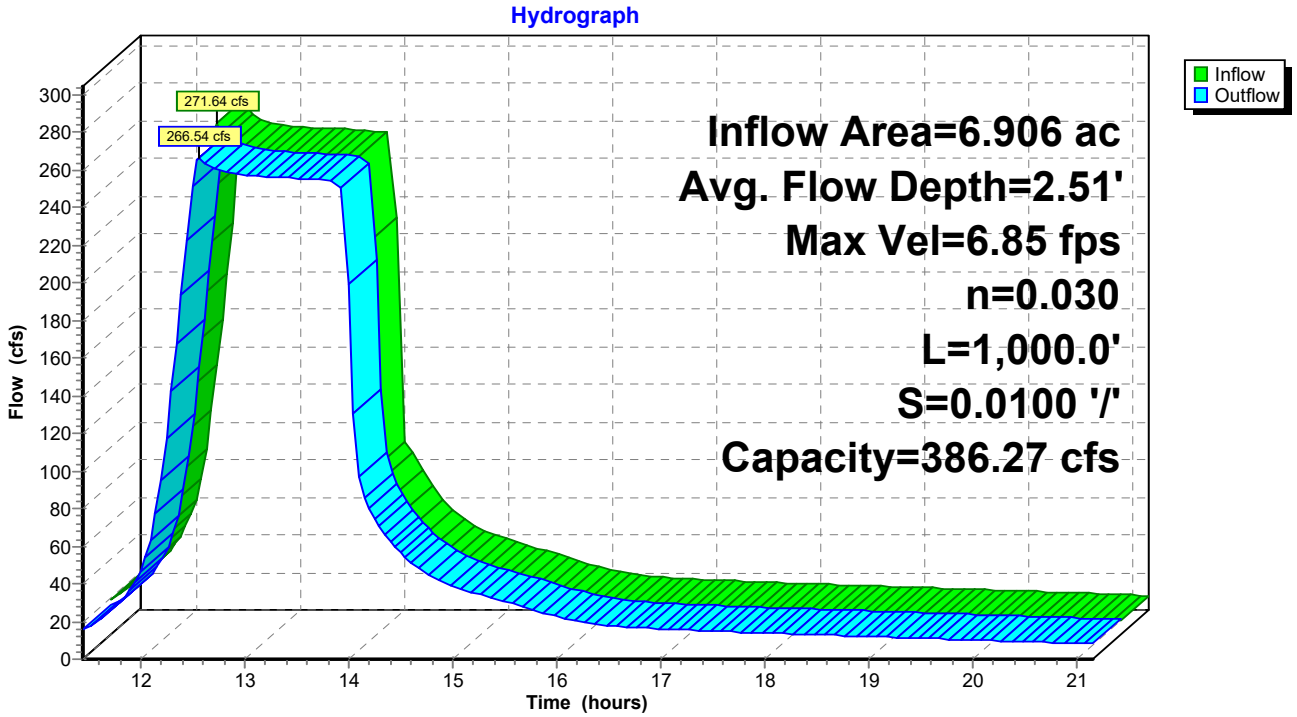
Peak Storage= 38,926 cf @ 12.52 hrs
Average Depth at Peak Storage= 2.51'
Bank-Full Depth= 3.00' Flow Area= 51.0 sf, Capacity= 386.27 cfs

8.00' x 3.00' deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 3.0 '/' Top Width= 26.00'
Length= 1,000.0' Slope= 0.0100 '/'
Inlet Invert= 857.00', Outlet Invert= 847.00'



‡

Reach 2R: flow through ditch



Summary for Pond 2P: 175 North Ditch

Inflow Area = 175.430 ac, 1.13% Impervious, Inflow Depth > 3.88" for 100 Year event
Inflow = 266.84 cfs @ 12.45 hrs, Volume= 56.733 af
Outflow = 266.46 cfs @ 12.45 hrs, Volume= 56.733 af, Atten= 0%, Lag= 0.0 min
Primary = 13.23 cfs @ 12.45 hrs, Volume= 5.031 af
Secondary = 253.23 cfs @ 12.45 hrs, Volume= 51.702 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 860.01' @ 12.45 hrs Surf.Area= 575 sf Storage= 355 cf

Plug-Flow detention time= 0.0 min calculated for 56.733 af (100% of inflow)
Center-of-Mass det. time= 0.0 min (846.2 - 846.2)

Volume	Invert	Avail.Storage	Storage Description
#1	858.25'	8,316 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

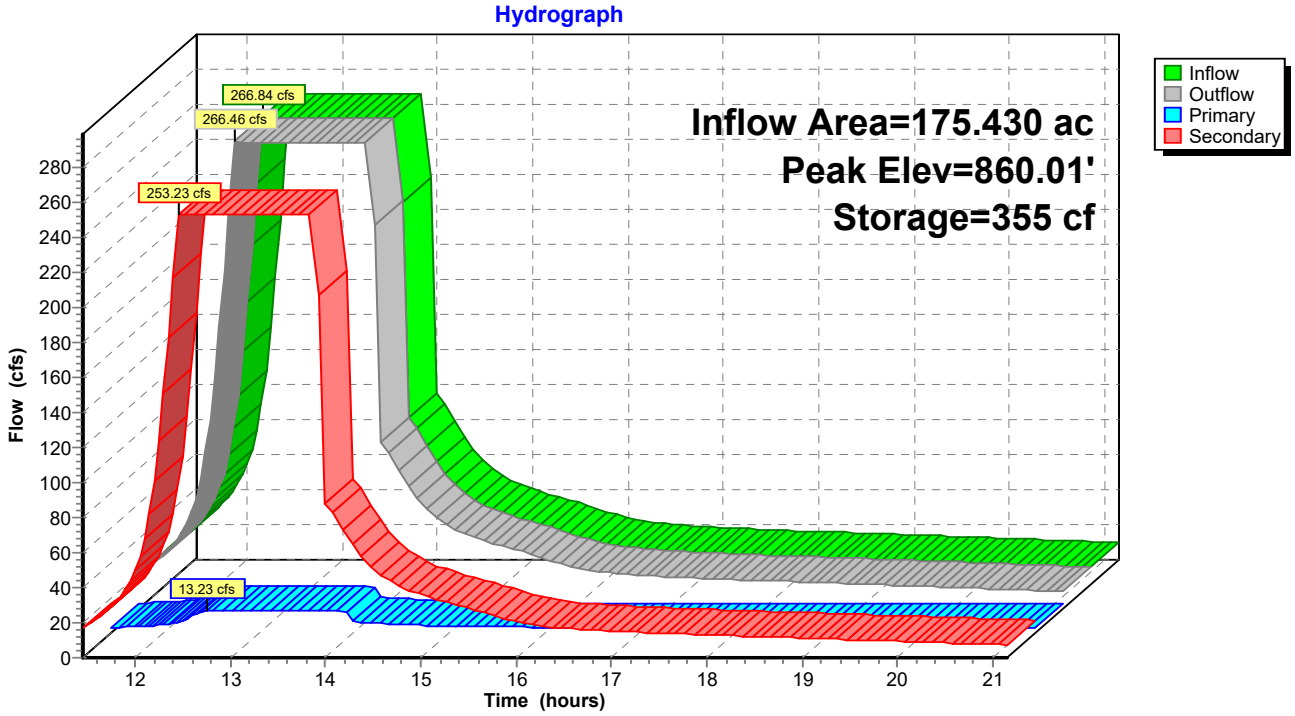
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
858.25	10	0	0
859.00	72	31	31
860.00	565	319	349
861.00	1,480	1,023	1,372
862.00	3,212	2,346	3,718
863.00	5,984	4,598	8,316

Device	Routing	Invert	Outlet Devices
#1	Primary	858.25'	**24.0" Round Culvert** L= 596.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 858.25' / 851.10' S= 0.0120 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Secondary	858.80'	**72.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=13.23 cfs @ 12.45 hrs HW=860.01' (Free Discharge)
1=Culvert (Inlet Controls 13.23 cfs @ 4.52 fps)

Secondary OutFlow Max=253.22 cfs @ 12.45 hrs HW=860.01' (Free Discharge)
2=Broad-Crested Rectangular Weir (Weir Controls 253.22 cfs @ 2.90 fps)

Pond 2P: 175 North Ditch



Appendix G

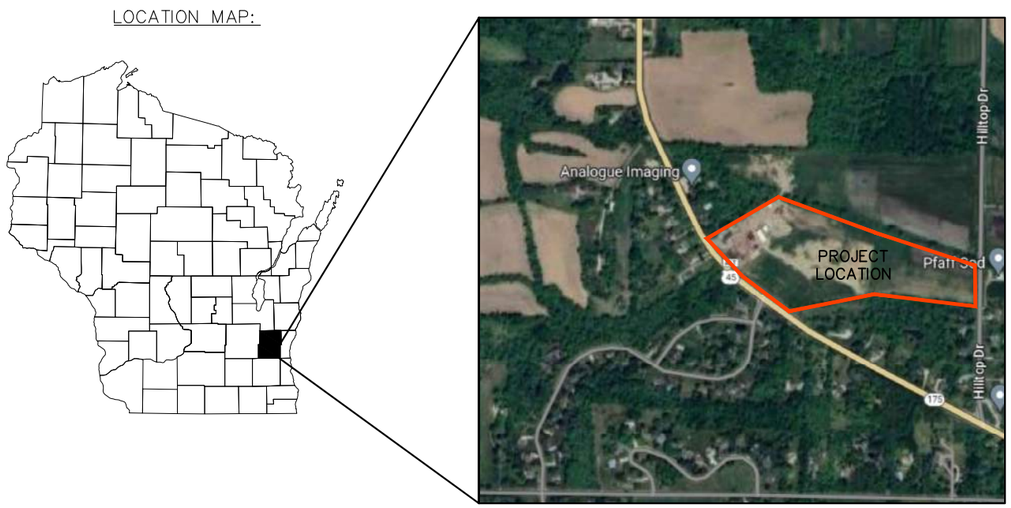
Civil Design Plans

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TLC ACRES

W210 N10738 APPLETON AVENUE

LOCATION MAP:



Professional Engineer's Seal

Signature

Date

PROJECT CONTACTS:

OWNER:
TLC ACRES
ATTN: MATT SEBAN
W210 N10738 APPLETON AVE
GERMANTOWN, WI 53022

CIVIL:
PSE, LLC
ATTN: EVAN NICKODEM
122 WISCONSIN STREET
WEST BEND, WI 53095

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

BENCHMARK:

SITE BENCHMARK:
TOP OF WELL CASING
EAST SIDE OF EXISTING BUILDING
ELEV=862.67

SECTION CORNER:
EX: NE 1/4 OF SEC 30, T9N, R20E.
BRASS DISC IN CONCRETE
ELEV=849.11

CIVIL SHEET INDEX:

SHEET	SHEET TITLE
C1.00	TITLE
C1.01	EXISTING CONDITIONS PLAN
C1.02	EXISTING CONDITIONS WEST
C1.03	SITE PLAN WEST
C1.04	OVERALL EROSION CONTROL PLAN
C1.05	GRADING PLAN WEST
C1.06	POND GRADING PLAN
C2.01	CONSTRUCTION NOTES
C2.02	EROSION CONTROL DETAILS
C2.03	STORMWATER MANAGEMENT DETAILS

REVISIONS:

NO.	DATE	DESCRIPTION

PSE
PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
TITLE SHEET

DRAWN BY:
WWS

DESIGNED BY:
EPN

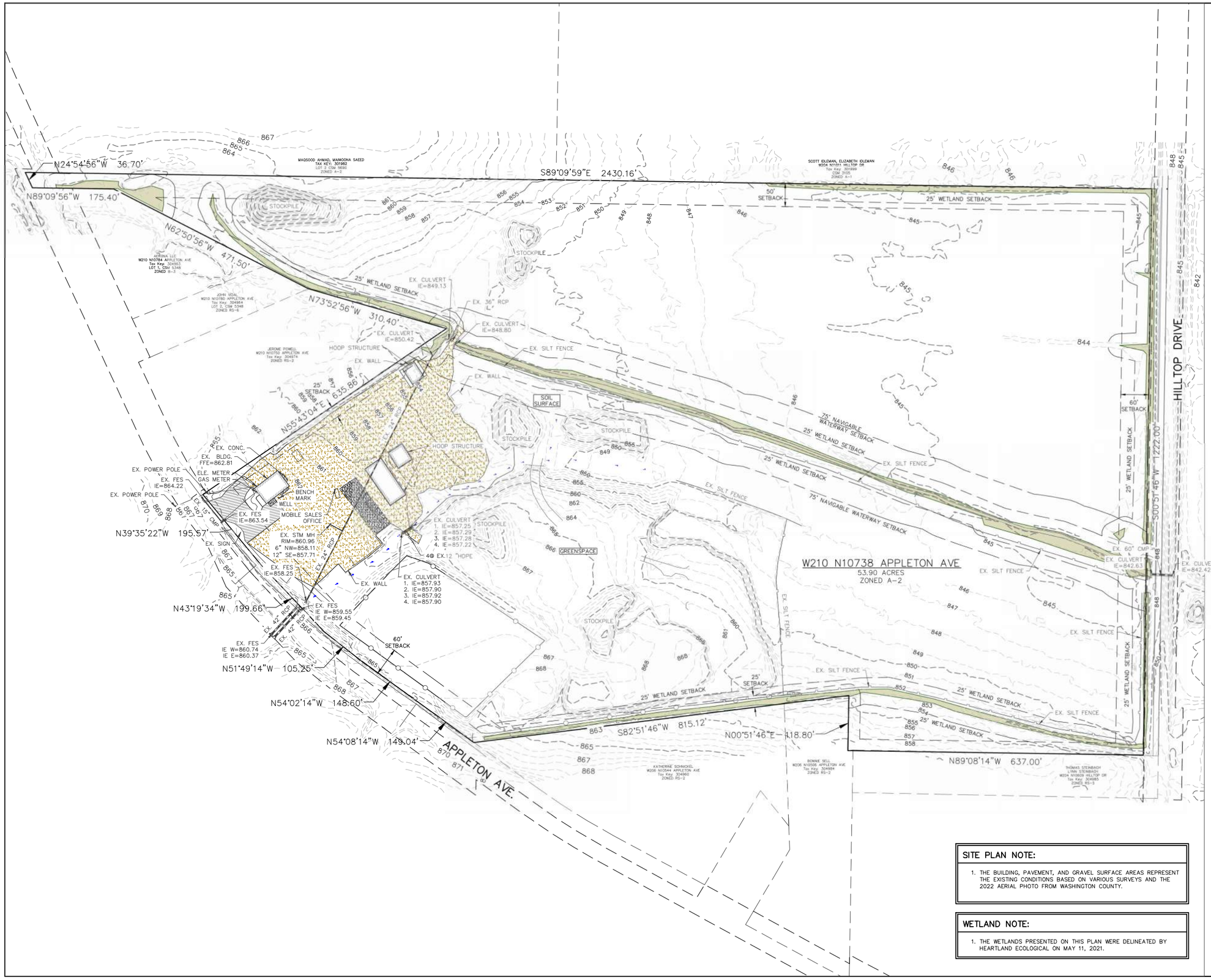
CHECKED BY:
KJP

PLAN DATE:
9/1/2025

PROJECT NO:
\TL-05-21\

BID SET

SHEET NO:
C1.00



SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.

LEGEND:

- EXISTING WETLANDS.
- EXISTING GRANULAR SURFACE.
- EXISTING ASPHALT SURFACE.
- EXISTING CONCRETE SURFACE.
- EXISTING OVERLAND FLOW ROUTE.
- 896 — EXISTING MINOR CONTOUR.
- 895 — EXISTING MAJOR CONTOUR.
- OHEL — OVERHEAD ELECTRIC LINE.
- BuEl — BURIED ELECTRIC LINE.
- BuTel — BURIED TELEPHONE LINE.
- FO — FIBER OPTIC LINE.
- GAS — GAS LINE.
- FENCE
- EXISTING SILT FENCE
- STORM SEWER LINE.
- ELEC — ELECTRIC METER.
- GAS — GAS METER.
- GAS VALVE.
- POWER POLE.
- ST — STORM SEWER MANHOLE.
- STORM SEWER INLET.
- T — TELEPHONE PEDESTAL.
- TRAN — TRANSFORMER.

REVISIONS:

NO.	DATE	DESCRIPTION

PSP
PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
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www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
EXISTING CONDITIONS PLAN

DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C1.01

SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.



REVISIONS:

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www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
EXISTING CONDITIONS WEST

DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/2/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C1.02

SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.



PAVING LEGEND:

ASPHALT PAVEMENT
8" CRUSHED AGGREGATE BASE COURSE
2 1/4" ASPHALTIC BINDER 3 LT 58-28 S
1 3/4" ASPHALTIC SURFACE 4 LT 58-28 S

LEGEND:

- PROPSED ASPHALT SURFACE.
- EXISTING GRANULAR SURFACE.
- PROPOSED POND.
- PROPOSED PAVEMENT.
- EXISTING WETLANDS.
- 896 – EXISTING MINOR CONTOUR.
- -895- – EXISTING MAJOR CONTOUR.
- OHEL – OVERHEAD ELECTRIC LINE.
- BuEl – BURIED ELECTRIC LINE.
- BuTel – BURIED TELEPHONE LINE.
- FO – FIBER OPTIC LINE.
- GAS – GAS LINE.
- EXISTING SILT FENCE
- EXISTING ASPHALT SURFACE.
- EXISTING CONCRETE SURFACE.
- EX FENCE.
- STORM SEWER LINE.
- ELEC – ELECTRIC METER.
- GAS – GAS METER.
- GAS VALVE.
- E – POWER POLE.
- ST – STORM SEWER MANHOLE.
- STORM SEWER INLET.
- T – TELEPHONE PEDESTAL.
- TRAN – TRANSFORMER.

REVISIONS:

NO.	DATE	DESCRIPTION

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262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
SITE PLAN WEST

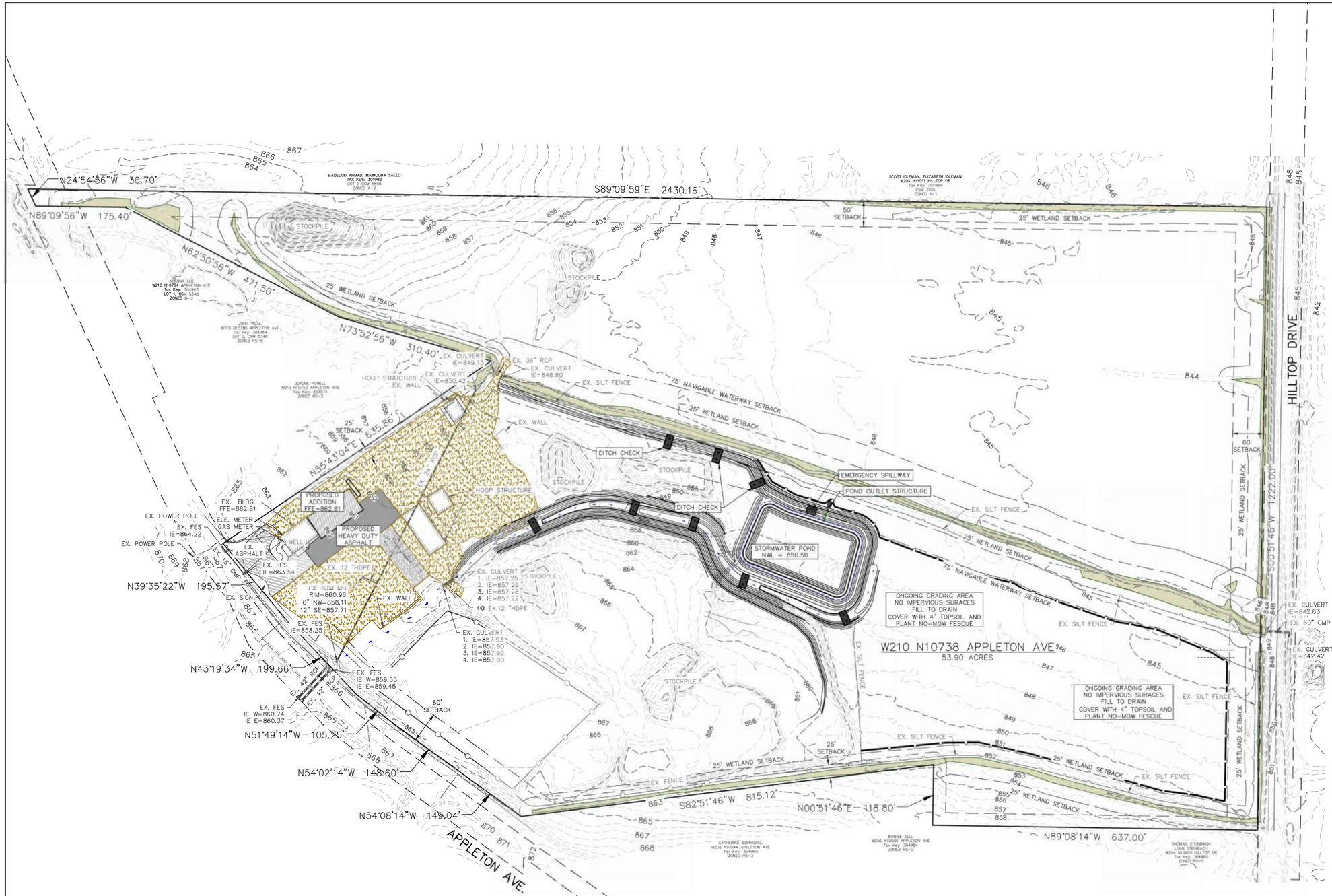
DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/2/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C1.03



LEGEND:

- EXISTING WETLANDS.
- 936 – EXISTING MINOR CONTOUR.
- 935 – EXISTING MAJOR CONTOUR.
- 936 – PROPOSED MINOR CONTOUR.
- 935 – PROPOSED MAJOR CONTOUR.
- PROPOSED STORM SEWER.
- EXISTING STORM SEWER.
- INSTALL CLASS I TYPE A EROSION MAT
- INSTALL DITCH CHECK.
- DRAINAGE ARROW.
- INSTALL SILT FENCE.
- EXISTING SILT FENCE

SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.

STAGES OF CONSTRUCTION TIME SCHEDULE:

JULY 15, 2025

1. INSTALL SITE SILT FENCE, INLET PROTECTION AND TEMPORARY CONSTRUCTION ENTRANCES AS SHOWN ON PLANS. ANY ADDITIONAL CONSTRUCTION ENTRANCES IF APPROVED BY THE VILLAGE OF GERMANTOWN SHALL HAVE A TRACKING PAD.

JULY 16, 2025 – APRIL 1, 2026

2. STRIP TOPSOIL WITHIN THE LIMITS OF THE WET DETENTION PONDS AND CONSTRUCT A TEMPORARY STOCKPILE, TO BE SEEDED AND SILT FENCE PLACED AROUND THE PERIMETER.
3. CONSTRUCT BOTH WET DETENTION PONDS. ALL GRADING SHALL DIRECT ALL RUN-OFF TO THE WET DETENTION PONDS THROUGHOUT THE CONSTRUCTION PROCESS.
4. STRIP REMAINING TOPSOIL WITHIN GRADING LIMITS AND CONSTRUCT TEMPORARY TOPSOIL STOCKPILE LOCATION ACCORDING TO "SPECIFICATIONS FOR GRADING & EROSION CONTROL" ON "CONSTRUCTION NOTES PAGE".
5. BEGIN PROPOSED SITE GRADING – RESEED SECTIONS OF PROJECT THROUGHOUT THE GRADING PROCESS TO MINIMIZE RUN-OFF.
6. CONTINUE SITE GRADING.
7. INSTALL BUILDING FOUNDATION
8. INSTALL BASE COURSE, PROPOSED PAVEMENT
9. GRADE SITE TO DRAIN AND INSTALL 4" TOPSOIL ON AREAS TO RECEIVE GRASS COVER.
10. APPLY FINAL STABILIZATION TO ENTIRE SITE.

APRIL 2 – 15, 2026

ALL PERMANENT SEEDING SHALL BE COMPLETED BY SEPTEMBER 15. ALL TEMPORARY SEEDING SHALL BE COMPLETED BY OCTOBER 15 (REFER TO DNR STANDARD 1059.)

STABILIZATION FOR ALL EXPOSED SOIL AFTER OCTOBER 15 SHALL CONSIST OF ANIONIC POLYARCRYLAMIDE (PAM) IN ADDITION TO TEMPORARY SEEDING IN AREAS WITHOUT EROSION CONTROL MAT. PLACE PAM IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1050. AFTER OCTOBER 15 ALL SLOPES 4:1 OR STEEPER THAT ARE NOT PERMANENTLY VEGETATED SHALL HAVE EROSION MAT INSTALLED IN PREPARATION OF WINTER CONDITIONS.

SPREAD SALVAGED OR IMPORTED TOPSOIL IN PROPOSED LANDSCAPE AREAS AND RESTORE.

CONTRACTOR MAY MODIFY SEQUENCING AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS SET FORTH IN FEDERAL, STATE & LOCAL PERMITS. NOTIFY VILLAGE OF GERMANTOWN PRIOR TO CHANGE.

AS CONDITIONS WARRANT DURING CONSTRUCTION ADDITIONAL BMPS SHALL BE INSTALLED TO REDUCE THE MIGRATION OF SEDIMENT THE THE MAXIMUM EXTENT PRACTICABLE

REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AFTER SITE IS STABILIZED AND STABILIZE AND AREAS DISTURBED BY REMOVAL OF BMPS.

REVISIONS:

NO.	DATE	DESCRIPTION

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122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
OVERALL EROSION CONTROL PLAN

DRAWN BY: **WWS**

DESIGNED BY: **EPN**

CHECKED BY: **KJP**

PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

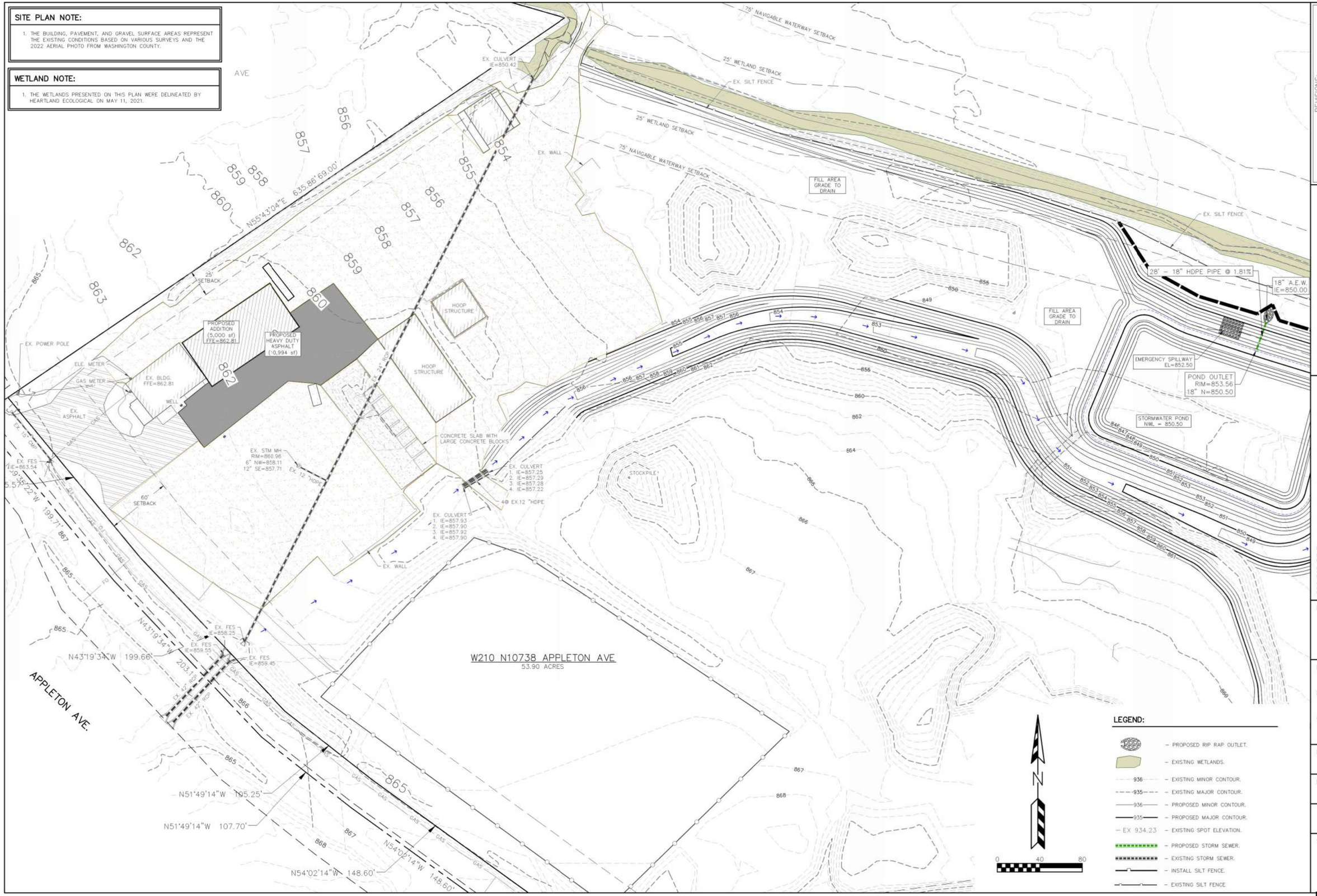
SHEET NO:
C1.04

SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.



REVISIONS:		
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262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
GRADING PLAN WEST

DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

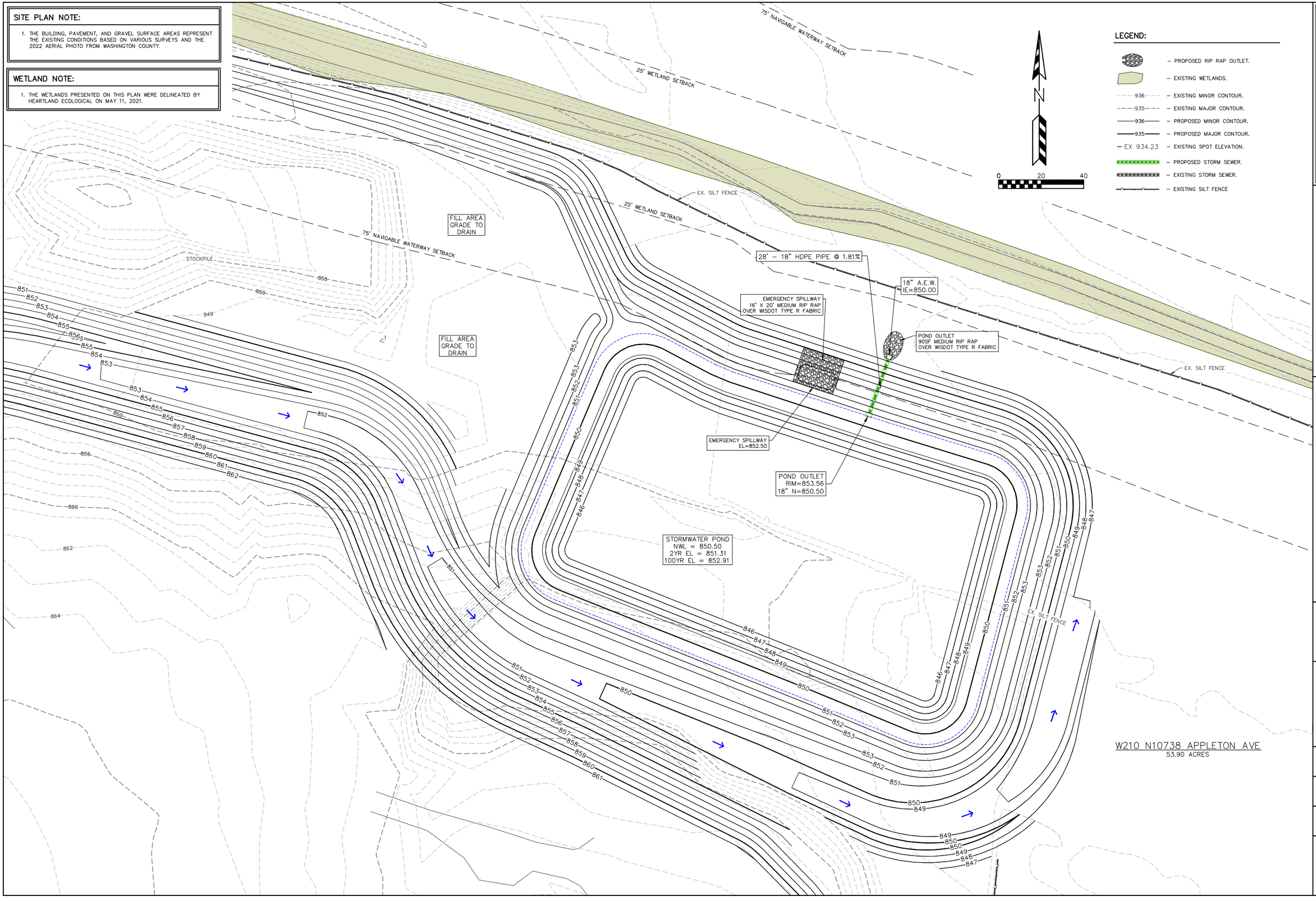
SHEET NO:
C1.05

SITE PLAN NOTE:

1. THE BUILDING, PAVEMENT, AND GRAVEL SURFACE AREAS REPRESENT THE EXISTING CONDITIONS BASED ON VARIOUS SURVEYS AND THE 2022 AERIAL PHOTO FROM WASHINGTON COUNTY.

WETLAND NOTE:

1. THE WETLANDS PRESENTED ON THIS PLAN WERE DELINEATED BY HEARTLAND ECOLOGICAL ON MAY 11, 2021.



LEGEND:

- PROPOSED RIP RAP OUTLET.
- EXISTING WETLANDS.
- 936 – EXISTING MINOR CONTOUR.
- 935 – EXISTING MAJOR CONTOUR.
- 936 – PROPOSED MINOR CONTOUR.
- 935 – PROPOSED MAJOR CONTOUR.
- EX 934.23 – EXISTING SPOT ELEVATION.
- PROPOSED STORM SEWER.
- EXISTING STORM SEWER.
- EXISTING SILT FENCE

REVISIONS:		
NO.	DATE	DESCRIPTION

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262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
POND GRADING PLAN

DRAWN BY: **WWS**
DESIGNED BY: **EPN**
CHECKED BY: **KJP**

PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C1.06

GENERAL SPECIFICATIONS FOR CONSTRUCTION ACTIVITIES:

1. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED ACCORDING TO THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION, THE STANDARD SPECIFICATIONS FOR SEWER & WATER IN WISCONSIN, AND WISCONSIN ADMINISTRATIVE CODE, SPS 360 382–383, AND THE LOCAL ORDINANCES AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR EXECUTION OF THE WORK. THE CONTRACTOR SHALL CONDUCT HIS WORK ACCORDING TO THE REQUIREMENTS OF THE PERMITS.
3. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE MUNICIPALITY FORTY–EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION.
4. THE MUNICIPALITY SHALL HAVE THE RIGHT TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF THE PUBLIC PORTIONS OF THE WORK. THE OWNER SHALL HAVE THE RIGHT TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION OF ALL PRIVATE PORTIONS OF THE WORK.
5. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, THE ENGINEER, AND THE MUNICIPALITY, THEIR AGENTS, ETC, FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.
6. SITE SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL UTILITY INFORMATION SHOWN ON THE PLANS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL DIGGERS HOTLINE AT 1–800–242–8511 TO NOTIFY THE UTILITIES OF HIS INTENTIONS, AND TO REQUEST FIELD STAKING OF EXISTING UTILITIES.
8. SILT FENCE AND OTHER EROSION CONTROL FACILITIES MUST BE INSTALLED PRIOR TO CONSTRUCTION OR ANY OTHER LAND DISTURBING ACTIVITY. FOLLOW THE SEQUENCE OF CONSTRUCTION ON THE EROSION CONTROL PLAN FOR MORE DETAILS. INSPECTIONS SHALL BE MADE WEEKLY OR AFTER EVERY RAINFALL OF 0.5" OR MORE. REPAIRS SHALL BE MADE IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL EROSION CONTROL FACILITIES ONCE THE THREAT OF EROSION HAS PASSED WITH THE APPROVAL OF THE GOVERNING AGENCY.
9. ANY ADJACENT PROPERTIES OR ROAD RIGHT–OF–WAYS WHICH ARE DAMAGED DURING CONSTRUCTION MUST BE RESTORED BY THE CONTRACTOR.
10. TRASH AND DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE ON THIS SITE AND THE SITE SHALL BE CLEAN UPON COMPLETION OF WORK.
11. THE OWNER SHALL HAVE THE RIGHT TO HAVE ALL MATERIALS USED IN CONSTRUCTION TESTED FOR COMPLIANCE WITH THESE SPECIFICATIONS.

SPECIFICATIONS FOR GRADING & EROSION CONTROL:

1. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPUTATIONS OF ALL GRADING AND FOR ACTUAL LAND BALANCE, INCLUDING UTILITY TRENCH SPOIL. THE CONTRACTOR SHALL IMPORT OR EXPORT MATERIAL AS NECESSARY TO COMPLETE THE PROJECT. CONTRACTOR SHALL NOTIFY OWNER OF THE NEED TO IMPORT OR HAUL OFF SOIL. ON–SITE LOCATIONS SUITABLE FOR BORROW OR FILL MAY BE PRESENT. COORDINATE WITH OWNER.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING SOIL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. A GEOTECHNICAL REPORT MAY BE AVAILABLE FROM THE OWNER.
3. SITE SHALL BE CLEARED TO THE LIMITS SHOWN ON THE PLANS. REMOVE VEGETATION FROM THE SITE BURNING IS NOT PERMITTED. PROTECT TREES AND OTHER FEATURES FROM DAMAGE WITH FENCING.
4. THE GEOTECHNICAL ENGINEER IS RESPONSIBLE FOR VERIFYING COMPACTION AND FILL PLACEMENT IN THE FIELD. THE GEOTECHNICAL ENGINEER MAY SUPERCEDE THESE SPECIFICATIONS IF THERE IS GOOD CAUSE TO DO SO. AN EXPLANATION MUST BE SUBMITTED TO THE ENGINEER IN WRITING BEFORE ANY DEVIATIONS ARE MADE.
5. IF NO GEOTECHNICAL RECOMMENDATION IS AVAILABLE, THEN THE FOLLOWING SPECIFICATIONS SHALL APPLY. ALL FILL SHALL BE CONSIDERED STRUCTURAL FILL AND SHALL BE PLACED IN ACCORDANCE WITH THE FOLLOWING: THE COMPACTED FILL SUBGRADE SHALL CONSIST OF AND SHALL BE UNDERLAIN BY SUITABLE BEARING MATERIALS, FREE OF ALL ORGANIC, FROZEN OR OTHER DELETERIOUS MATERIAL AND INSPECTED AND APPROVED BY THE RESIDENT GEOTECHNICAL ENGINEER.PREPARATION OF THE SUBGRADE, AFTER STRIPPING, SHALL CONSIST OF PROOF–ROLLING TO DETECT UNSTABLE AREAS THAT MIGHT BE UNDERCUT, AND COMPACTING THE SCARIFIED SURFACE TO THE SAME MINIMUM DENSITY INDICATED BELOW.THE COMPACTED FILL MATERIALS SHALL BE FREE OF ANY DELETERIOUS, ORGANIC OR FROZEN MATTER AND SHALL HAVE A MAXIMUM LIQUID LIMIT (ASTM–D–423) AND PLASTICITY INDEX (ASTM D–424) IF 30 AND 10 RESPECTFULLY, UNLESS SPECIFICALLY TESTED AND FOUND TO HAVE LOW EXPANSIVE PROPERTIES AND APPROVED BY AN EXPERIENCED SOILS ENGINEER. THE TOP TWELVE (12") INCHES OF COMPACTED FILL SHOULD HAVE A MAXIMUM THREE (3") INCH PARTICLE DIAMETER AND ALL UNDERLYING COMPACTED FILL A MAXIMUM SIX (6") INCH PARTICLE DIAMETER UNLESS SPECIFICALLY APPROVED BY AN EXPERIENCED SOILS ENGINEER. ALL FILL MATERIAL MUST BE TESTED AND APPROVED UNDER THE DIRECTION AND SUPERVISION OF AN EXPERIENCED SOILS ENGINEER PRIOR TO PLACEMENT, IF THE FILL IS TO PROVIDE NON–FROST SUSCEPTIBLE CHARACTERISTICS, IT MUST BE CLASSIFIED AS A CLEAN GW, GP, SW, OR SP PER UNITED SOIL CLASSIFICATION SYSTEM(ASTM D–2487). FOR STRUCTURAL FILL THE DENSITY OF THE STRUCTURAL COMPACTED FILL AND SCARIFIED SUBGRADE AND GRADES SHALL NOT BE LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR (ASTM D–698) WITH THE EXCEPTION TO THE TOP 12 INCHES OF PAVEMENT SUBGRADE WHICH SHALL A MINIMUM IN–SITU DENSITY OF 100 PERCENT OF THE MAXIMUM DRY DENSITY, OR 5 PERCENT HIGHER THAN UNDERLYING FILL MATERIALS.THE MOISTURE CONTENT OF COHESIVE SOIL SHALL NOT VARY BY MORE THAN –1 TO +3 PERCENT AND GRANULAR SOIL ±3 PERCENT OF OPTIMUM WHEN PLACED AND COMPACTED OR RECOMPACTED, UNLESS SPECIFICALLY APPROVED BY THE SOILS ENGINEER TAKING INTO CONSIDERATION THE TYPE OF MATERIALS AND COMPACTION EQUIPMENT BEING USED. THE COMPACTION EQUIPMENT SHOULD CONSIST OF SUITABLE MECHANICAL EQUIPMENT SPECIFICALLY DESIGNED FOR SOIL COMPACTION. BULLDOZERS OR SIMILAR TRACKED VEHICLES ARE TYPICALLY NOT SUITABLE FOR COMPACTION. MATERIAL THAT IS TOO WET TO PERMIT PROPER COMPACTION MAY BE SPREAD ON THE FILL AND PERMITTED TO DRY. DISCING,HARROWING OR PULVERIZING MAY BE NECESSARY TO REDUCE THE MOISTURE CONTENT TO A SATISFACTORY VALUE, AFTER WHICH IT SHALL BE COMPACTED. THE FINISHED SUBGRADE AREAS OF THE SITE SHALL BE COMPACTED TO 100 PERCENT OF THE STANDARD PROCTOR (ASTM D–398) MAXIMUM DENSITY.
6. NO FILL SHALL BE PLACED ON A WET OR SOFT SUBGRADE THE SUBGRADE SHALL BE PROOF–ROLLED AND INSPECTED BY THE GEOTECHNICAL ENGINEER BEFORE ANY MATERIAL IS PLACED.
7. SUBGRADE TOLERANCES ARE +/– 1" FOR LANDSCAPE AREAS AND +/– ½" FOR ALL PAVEMENT AND BUILDING AREAS.
8. TOPSOIL SHALL BE FREE OF DELETERIOUS MATERIALS, ROOTS, OLD VEGETATION, ROCKS OVER 2" DIAMETER AND SHALL NOT BE EXCESSIVELY CLAYEY IN NATURE. NO CLUMPS LARGER THAN 4" ARE ACCEPTABLE. TOPSOIL MAY BE AMENDED AS NEEDED WITH SAND OR COMPOST TO BE LOOSE WHEN SPREAD.
9. THE CONTRACTOR SHALL MAINTAIN SITE DRAINAGE THROUGHOUT CONSTRUCTION. THIS MAY INCLUDE THE EXCAVATION OF TEMPORARY DITCHED OR PUMPING TO ALLEVIATE WATER PONDING. ANY DEWATERING SHALL NOT GO DIRECTLY TO STREAMS, CREEKS, WETLANDS OR OTHER ENVIRONMENTALLY SENSITIVE AREAS WITHOUT BEING TREATED FIRST. A DIRT BAG OR OTHER DEWATERING TREATMENT DEVICE MAY BE USED TO CAPTURE SEDIMENT FROM THE PUMPED WATER.
10. THE STONE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION. THE EXISTING GRAVEL TRAILER PARKING IS TO BE USED AS STONE TRACKING PAD. THE TRACKING PAD IS TO BE MAINTAINED BY THE CONTRACTOR IN A CONDITION, WHICH WILL PREVENT THE TRACK OF MUD OR DRY SEDIMENT ONTO THE ADJACENT PUBLIC STREETS. SEDIMENT REACHING THE PUBLIC ROAD SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORKDAY.
11. SOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 75 FEET FROM LAKES, STREAMS, WETLANDS, DITCHES, DRAINAGE WAYS, CURBS AND GUTTERS OR OTHER STORMWATER CONVEYANCE SYSTEM, UNLESS OTHERWISE APPROVED BY THE ENGINEER. MEASURES SHALL BE TAKEN TO MINIMIZE EROSION AND RUNOFF FROM ANY SOIL STOCKPILES THAT WILL LIKELY REMAIN FOR MORE THAN FIVE WORKING DAYS. ANY STOCKPILE THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE COVERED OR TREATED WITH STABILIZATION PRACTICES SUCH AS TEMPORARY OR PERMANENT SEEDING AND MULCHING.
12. EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO GRADING OPERATIONS AND SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS ESTABLISHED. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF A 0.5 INCH RAIN EVENT. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
13. CUT AND FILL SLOPES SHALL BE NO GREATER THAN 3:1.
14. EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECOGNIZING AND CORRECTING ALL EROSION CONTROL PROBLEMS THAT ARE A RESULT OF CONSTRUCTION ACTIVITIES. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
15. ALL DISTURBED SLOPES OF 4:1 OR GREATER AND DRAINAGE SWALES SHALL BE STABILIZED WITH CURLEX EROSION CONTROL FABRIC (INSTALL PER MANUFACTURER'S SPECIFICATIONS).

SPECIFICATIONS FOR PAVING:

1. AGGREGATES USED IN THE CRUSHED STONE BASE SHALL CONFORM TO THE GRADATION REQUIREMENTS SECTIONS 301.2 AND 305.2.2 OF THE STANDARD SPECIFICATIONS. THICKNESS SHALL BE PER THE DETAIL ON THE PLANS. BASE SHALL BE 1–1/4" INCH DIAMETER LIMESTONE TRAFFIC BOND AGGREGATE BASE COURSE UNLESS NOTED OTHERWISE. SUBSTITUTION AND/OR RECYCLED MATERIALS MAY BE ALLOWED WITH APPROVAL FROM THE OWNER.
2. SUBGRADE SHALL BE PROOFROLLED AND APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF STONE BASE. EXCAVATE UNSUITABLE AREAS AND REPLACE WITH BREAKER RUN STONE AND RECOMPACT. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL SPECIFICATIONS.
3. EXISTING PAVEMENT SHALL BE SAWCUT IN NEAT STRAIGHT LINES TO FULL DEPTH AT ANY POINT WHERE EXISTING PAVEMENT IS REMOVED. CURB AND WALK SHALL BE REMOVED TO THE NEAREST JOINT. REMOVED PAVEMENT SHALL BE REPLACED WITH THE SAME SECTION AS EXISTING. MUNICIPAL STANDARDS MAY REQUIRE ADDITIONAL WORK.
4. ASPHALT FOR PARKING AREAS AND THE PRIVATE ROAD SHALL BE PER THE DETAILS MATERIALS AND PLACEMENT SHALL CONFORM TO THE DOT STANDARD SPECIFICATIONS, SECTION 450 AND 460 LT 58–28 S IS REQUIRED UNLESS NOTED OTHERWISE A COMMERCIAL GRADE MIX MAY BE SUBSTITUTED ONLY WITH APPROVAL FROM THE OWNER.
5. TACK COAT SHALL BE IN ACCORDANCE WITH THE SUBSECTION 455.2.5 OF THE STANDARD SPECIFICATIONS. THE RATE OF APPLICATION SHALL BE 0.05 GAL/SY.
6. CONCRETE FOR CURB, DRIVEWAYS, WALKS, LOADING DOCKS AND NON–FLOOR SLABS SHALL CONFORM TO THE LATEST VERSION OF SECTION 415 OF THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR CONSTRUCTION. CONCRETE SHALL BE GRADE A, ASTM C–94, 6 BAG MIX WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI. JOINTING SHALL BE PER SECTION 415.3.7 OF THE STANDARD SPECIFICATIONS WITH CONSTRUCTION JOINTS HAVING A MAXIMUM SPACING OF 10". EXPANSION JOINTS SHALL BE PROVIDED EVERY 50'. CONCRETE SHALL BE FINISHED PER SECTION 415.3.8 WITH A MEDIUM BROOM TEXTURE. A CURING MEMBRANE IN CONFORMANCE WITH SECTION 415.3.12 IS REQUIRED. LOADING DOCKS SHALL HAVE REINFORCING CONSISTING OF NOVOMESH 950 FIBER MESH OR #4 BARS AT 24" ON CENTER EACH WAY PER SECTION 415.2.2 OF THE STANDARD SPECIFICATIONS.
7. PAVEMENT MARKINGS SHALL BE PAINT IN ACCORDANCE WITH WISCONSIN DOT SECTION 646 OF THE STANDARD SPECIFICATIONS AND WITH LOCAL CODES. THE FOLLOWING ITEMS SHALL BE PAINTED WITH COLORS NOTED BELOW:

   PARKING STALLS: WHITE
   PEDESTRIAN CROSSWALKS: WHITE
   LANE STRIPING WHERE SEPARATING TRAFFIC IS MOVING IN OPPOSITE DIRECTIONS: YELLOW
   LANE STRIPING WHERE SEPARATING TRAFFIC IS MOVING IN SAME DIRECTIONS: WHITE
   ADA SYMBOLS; WHITE

RESTORATION NOTES:

1. ALL DISTURBED AREAS, EXCEPT STREET PAVEMENT AND SIDEWALK AREAS, SHALL RECEIVE A MINIMUM OF FOUR (4) INCHES OF TOPSOIL, FERTILIZER, SEED AND MULCH. RESTORATION WILL OCCUR AS SOON AFTER THE DISTURBANCE AS PRACTICAL. LAWN AREAS WITH SLOPES GREATER THAN 4:1 SHALL BE SEEDED WITH OLDS "NOMOW" MIX OR EQUAL. ALL OTHER DISTURBED AREAS SHALL BE SEEDED WITH MADISON PARKS MIX OR EQUAL. MIXTURES SHALL BE IN ACCORDANCE WITH SECTION 630 OF D.O.T. SPECIFICATIONS.
2. AN EQUAL AMOUNT OF ANNUAL RYEGRASS SHALL BE ADDED TO THE MIX. SEED MIXTURES SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. FERTILIZER SHALL BE APPLIED AT THE RATE OF FOUR (4) POUNDS PER 1,000 SQUARE FEET. FERTILIZER SHALL MEET THE MINIMUM REQUIREMENTS THAT FOLLOW: NITROGEN, NOT LESS THAN 16%; PHOSPHORIC ACID, NOT LESS THAN 6%; POTASH, NOT LESS THAN 6%.
3. ALL FINISH GRADED AREAS SHALL BE SEEDED AND MULCHED BY SEPTEMBER 15TH. IF THE SITE DOES NOT HAVE FINISH GRADED AREAS COMPLETED BY OCTOBER 15TH, ALL DISTURBED AREAS SHALL BE RESTORED WITH TEMPORARY SEEDING (COVER CROP). AREAS NEEDING PROTECTION DURING PERIODS WHEN PERMANENT SEEDING IS NOT APPLIED SHALL BE SEEDED WITH ANNUAL SPECIES FOR TEMPORARY PROTECTION. SEE TABLE 1 OF THE WISCONSIN DNR CONSERVATION PRACTICE STANDARD 1059, FOR SEEDING RATES OF COMMONLY USED SPECIES. THE RESIDUE FROM THIS CROP MAY EITHER BE INCORPORATED INTO THE SOIL DURING SEEDBED PREPARATION AT THE NEXT PERMANENT SEEDING PERIOD OR LEFT ON THE SOIL SURFACE AND THE PLANTING MADE AS A NO–TILL SEEDING.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SATISFACTORY STAND OF GRASS ON ALL SEEDED AREAS FOR ONE YEAR AFTER THE PROJECT'S FINAL ACCEPTANCE.

REVISIONS:

NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
CONSTRUCTION NOTES

DRAWN BY: **EPN**
DESIGNED BY: **EPN**
CHECKED BY: **EPN**

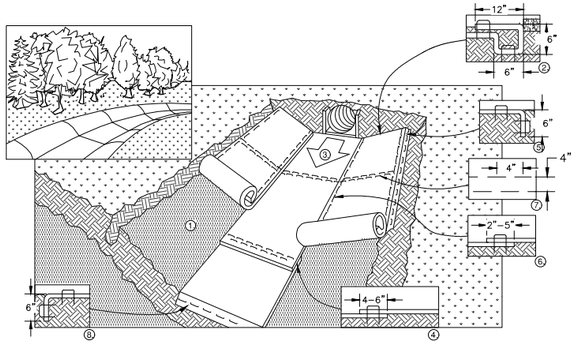
PLAN DATE: **9/1/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C2.01

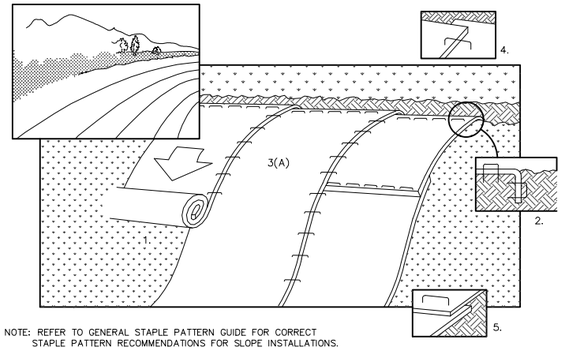
MAXIMUM PERIOD OF BARE SOIL FOR SLOPES > 20%		
SLOPE AREA DRAINS TO SEDIMENT BASIN OR SEDIMENT TRAP?	MAXIMUM PERIOD OF BARE SOIL EXPOSURE (CALENDAR DAYS)	
	LAND DISTURBANCE BETWEEN SEPTEMBER 16TH AND MAY IST	LAND DISTURBANCE BETWEEN MAY 2ND AND SEPTEMBER 15TH
YES	90	90
NO	60	30



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPE MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 4" AND STAPLED.
7. A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.

NOTE: ALL STAPLES MUST BE 6" OR GREATER IN LENGTH

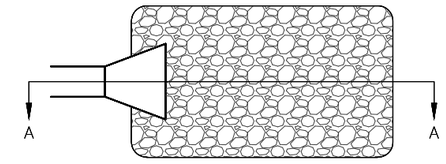
EROSION CONTROL MAT – CHANNEL INSTALLATION



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY
6. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SLOPE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.

EROSION CONTROL MAT – SLOPE INSTALLATION

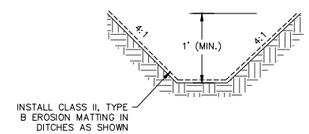


PLAN VIEW

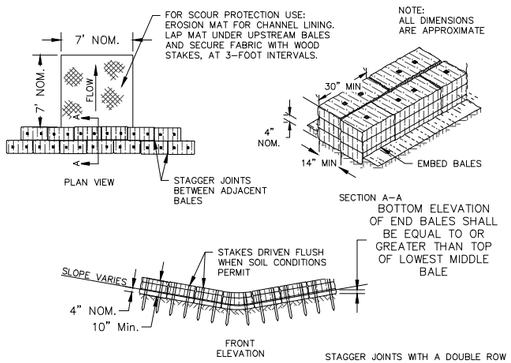
SECTION A – A

RIPRAP SHALL BE PLACED AS DEFINED IN SECTION 606 OF WISCONSIN D.O.T. SPECIFICATIONS. STONE SIZES SHALL BE WELL GRADED WITH A MINIMUM OF 6 INCH DIAMETER.

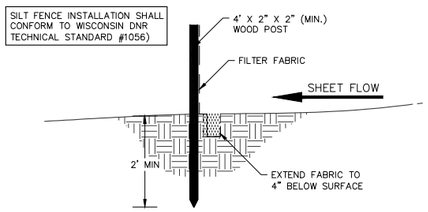
RIPRAP OUTLET DETAIL



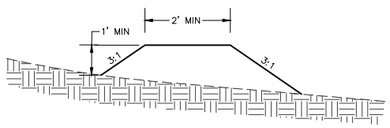
SWALE CROSS SECTION



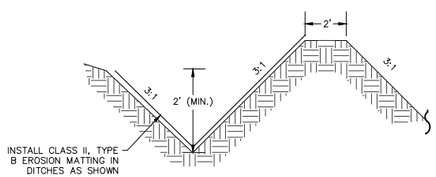
DITCH CHECK DETAIL



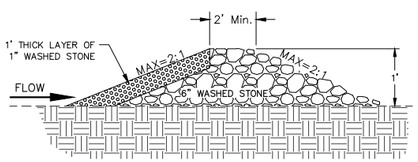
SILT FENCE CONSTRUCTION (SHEET FLOW)



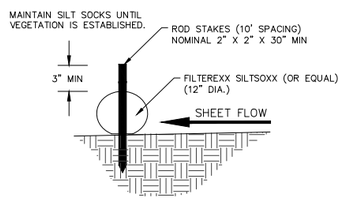
EARTH DIVERSION BERM



BERM/SWALE DETAIL



STONE DITCH CHECK DETAIL



SILT SOCK DETAIL

REVISIONS:		
NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
EROSION CONTROL DETAILS

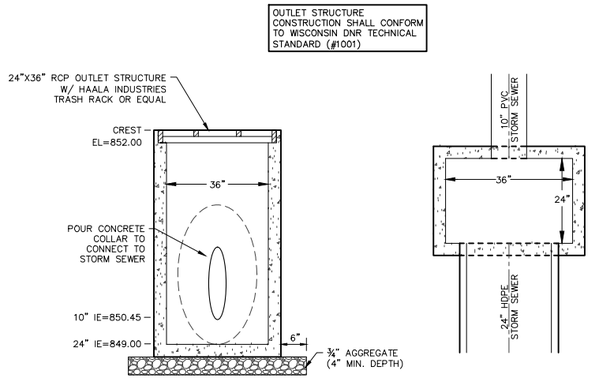
DRAWN BY: EPN
DESIGNED BY: EPN
CHECKED BY: EPN

PLAN DATE: 9/1/2025

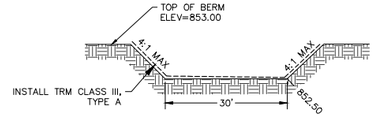
PROJECT NO: \TL-05-21\

BID SET

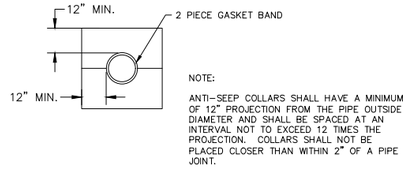
SHEET NO: C2.02



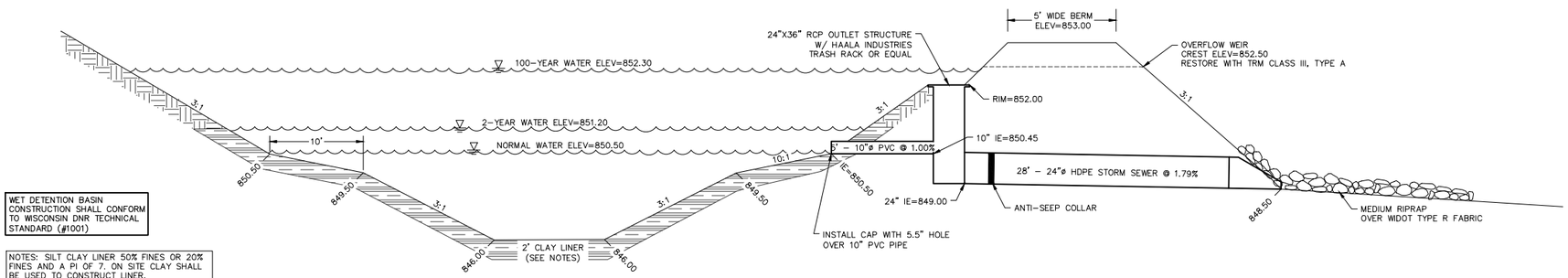
POND OUTLET – OUTLET STRUCTURE #1 DETAIL



OVERFLOW WEIR CROSS SECTION



ANTI-SEEP COLLAR DETAIL



RETENTION BASIN CROSS SECTION

REVISIONS:

NO.	DATE	DESCRIPTION

PARISH SURVEY & ENGINEERING
122 Wisconsin Street, West Bend, WI 53095
262.346.7800
www.parishse.com

PROJECT TITLE:
TLC ACRES
W210 N10738 APPLETON AVENUE
GERMANTOWN, WI 53022

PLAN TITLE:
STORMWATER MANAGEMENT DETAILS

DRAWN BY: **EPN**
DESIGNED BY: **EPN**
CHECKED BY: **EPN**

PLAN DATE: **9/3/2025**

PROJECT NO: **\TL-05-21**

BID SET

SHEET NO:
C2.03

Appendix H

Stormwater Maintenance Agreement

PARISH SURVEY & ENGINEERING
122 Wisconsin Street | West Bend, WI 53095
www.parishse.com

STORM WATER MANAGEMENT PRACTICES MAINTENANCE AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 2025, by and between TLC Acres hereinafter called the "Owner," and the Village of Germantown, a municipal corporation located in Washington County, Wisconsin, hereinafter called the "Village."

WITNESSETH:

WHEREAS, the Owner is the owner of the following described lands situated in the Village of Germantown, Washington County, State of Wisconsin:

Being a part of the Souheast ¼ of Section 30, Town 9 North, Range 20 East, Village of Germantown, Washington County, Wisconsin.

hereinafter called the "Property."

Return to:
Village of Germantown
N210 W10738 Appleton Ave
Germantown, WI 53022

Parcel No.: GTNV_193.975

WHEREAS, the Owner is developing the Property; and

WHEREAS, the Site Plan known as Appleton Avenue Storage, hereinafter called the "Plan," which is expressly made a part hereof, as approved or to be approved by the Village, provides for on-site storm water management practices within the confines of the Property; and

WHEREAS, the Village and the Owner agree that the health, safety and welfare of the residents of the Village of Germantown, require that on-site storm water management practices be constructed and maintained on the Property; and

WHEREAS, the Village requires that on-site storm water management facilities as shown on the Plan be constructed and adequately maintained by the Owner.

NOW, THEREFORE, in consideration of the foregoing recitals, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The on-site storm water management facilities shall be constructed by the Owner in accordance with the plans and specifications indicated in the Plan and applicable statutes, ordinances and rules. The storm water management practices shall serve the drainage area designated in the Plan.

2. The Owner shall regularly inspect the storm water management facilities and specifically the function of the approved storm water management system as often as conditions require, but in any event at least once each year. The Operations and Maintenance Manual attached to this agreement as Exhibit A and each by this reference made a part hereof, shall be followed for the regular inspections of the storm water management facilities. The Owner shall keep the operation and maintenance reports from past inspections as well as a log of maintenance activities indicating the date and type of maintenance completed. The reports and maintenance log shall be submitted to the Department of Public Works Director and retained by the Village for a period of 10 years. The purpose of the inspections is to assure safe and proper functioning

of the facilities. The inspections shall cover all facilities including, but not limited to, berms, outlet structures, pond areas and access roads. Deficiencies shall be noted in the operation and maintenance reports.

3. The Owner shall adequately maintain the storm water management facilities including, but not limited to, all pipes and channels built to convey storm water to the facility, as well as all structures, improvements and vegetation provided to control the quantity and quality of the storm water. Adequate maintenance, in accordance with Exhibit A, is herein defined as keeping the storm water management facilities in good working condition so that these facilities are performing their design functions and are maintained in accordance with the Plan.

4. The Owner hereby grants permission to the Village, its authorized agents and employees, to enter upon the Property and to inspect the storm water management facilities whenever the Village deems necessary. The purpose of the Village's inspection is to investigate reported deficiencies and/or to respond to citizen complaints. The Village shall provide the Owner with copies of the inspection findings and a directive to commence with repairs if necessary. Corrective actions shall be taken within a reasonable timeframe as established by the Department of Public Works Director.

5. If the Owner fails to maintain the storm water management facilities in good working condition, consistent with the terms of the Plan and does not perform the required corrective actions and inspections in the specified time, the Village may perform the corrective actions identified in the inspection report and charge the Owner for the cost of such work. If the Owner fails pay to such costs to the Village within 30 days as required by Section 7, below, the cost of such work may be specially assessed against the Property pursuant to Wisconsin Statutes Section 66.0703. The Owner hereby acknowledges that the Property benefits from the corrective actions taken by the Village and hereby waives any right to notice or hearing of said special assessment pursuant to Section 66.0703(7)(b), Stats.

6. The Owner shall perform the work necessary to keep the storm water management facilities in good working order as appropriate. In the event a maintenance schedule for the storm water management facilities (including sediment removal) is outlined on the approved plans, the schedule shall be followed. The minimal amount of maintenance on the storm water management facilities shall be in accordance with Exhibit A.

7. In the event the Village, pursuant to this Agreement, performs work of any nature or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Owner shall reimburse the Village within 30 days of receipt of an invoice for all actual costs incurred by the Village hereunder.

8. This Agreement imposes no liability of any kind whatsoever on the Village, its officers, agents and employees, and the Owner agrees to indemnify and hold the Village harmless as and against any and all claims, actions, causes of action, demands, including attorney fees and court costs which the Village may incur as a result of the failure of the storm water management system and/or actions taken or not taken by the Village to enforce the terms of this Agreement including, but not limited to, the performance of maintenance activities.

9. This Agreement shall be recorded at the Washington County Register of Deeds Office and shall constitute a covenant running with the land and shall be binding on the Owner, its administrators, executors, assigns, heirs and any other successors in interests or future owners of the Property, including any homeowners or condominium association.

10. Notwithstanding anything in this Agreement to the contrary, in the event the Owner, or the Owner's successors and assigns, sell or otherwise transfer ownership in the Property, the Owner or the successor or assigns making said transfer, is hereby released from any and all liabilities and obligations under the terms of this Agreement. The liabilities and obligations under this Agreement shall transfer with the ownership of the Property to the new owner of the Property.

VILLAGE OF GERMANTOWN

By: _____ Dated: _____
Steven Kreklow, Village Administrator

By: _____ Dated: _____
Donna Ott, Village Clerk

A C K N O W L E D G M E N T

STATE OF WISCONSIN)
)ss.
WASHINGTON COUNTY)

Personally came before me the ____ day of _____, 20____ the above named Steven Kreklow, to me known to be the Administrator of the Village of Germantown and to me known to be the person who executed the foregoing document and acknowledged the same.

_____
Notary Public, State of Wisconsin
Washington County.
My Commission is permanent. (If NOT, expiration date is: _____)

A C K N O W L E D G M E N T

STATE OF WISCONSIN)
)ss.
WASHINGTON COUNTY)

Personally came before me the ____ day of _____, 20____ the above named Donna Ott, to me known to be the Clerk of the Village of Germantown and to me known to be the person who executed the foregoing document and acknowledged the same.

_____
Notary Public, State of Wisconsin
Washington County.
My Commission is permanent. (If NOT, expiration date is: _____)

TLC Acres

By: _____ Dated: _____
Name, Title

This Document Drafted By: *Evan P. Nickodem*
Parish Survey & Engineering, LLC *September 3, 2025*

SIGN REVIEW APPLICATION

10/13/25 Plan Commission Meeting

Sign Effectz, Inc. / Sun Island Spa / Germantown Marketplace AG, LLC

Village Staff Report & Recommendation ***Germantown, Wisconsin***

SUMMARY

Sign Effectz, Inc., Agent for Germantown Marketplace AG, LLC, Property Owner. Sign Review Application for Sun Island Spa at N112 W16274 Mequon Road.

Property Location: N112 W16274 Mequon Road

Applicant/ Owner:

Sign Effectz, Inc. 1827 W Glendale Avenue Milwaukee, WI 53209	Germantown Marketplace P.O. Box 6767 Malibu, CA 90264

Zoning: B-2: Neighborhood Business District /
Planned Development District (PDD-35)

Adjacent Land Uses		Zoning
North	Commercial/Residential	B-1/PDD-12
South	Residential	Rs-6
East	Commercial	B-3
West	Commercial	PDD-06



Background/Proposal

Sign Effectz, Inc., Agent for Germantown Marketplace AG, LLC, Property Owner. Sign Review Application for Sun Island Spa at N112 W16274 Mequon Road.

In January 2017, Sun Island Spa was granted zoning permit approval and opened their business in the Germantown Marketplace shopping center. The business is currently seeking approval for a wall sign on the building. Details of the proposed sign are listed as follows:

- (1) Wall Sign – (Southern façade/building front)
  10.8 square feet, single-sided flat cut letters/logo sign mounted on roof with brackets. The proposed sign is non-illuminated.

Staff Comments

The proposed sign complies with applicable standards per the Village's Sign Code.

VILLAGE STAFF RECOMMENDATION

APPROVE the proposed sign for Sun Island Spa for property located at N112 W16274 Mequon Road, subject to the following condition:

1. Applicant/owner shall remove the existing temporary banner sign that is on site.

Village of Germantown ...Willkommen

Fee must accompany application

$275 Sign Review Fee

$ 75 Sign Face Replacement

Paid QR Date 8/25/25

chk # 12656

SIGN REVIEW APPLICATION

Pursuant to Section 17.46 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Sun Island Spa

Sign contractor : Sign Effectz Inc.

Phone (414)312-6973

Fax ( )

E-Mail Jkaylah@signeffectz.com

PROPERTY OWNER

~~GERMANTOWN MARKETPLACE~~

AG LLC, GERMANTOWN MARKETPLACE

~~AO LLC ET AL~~

Phone (424) 644-0910 ; 103

2 PROPERTY ADDRESS OR GENERAL LOCATION

N112 W16274 Mequon Rd
Germantown, WI 53022

3 SIGN INFORMATION

Sign Dimensions 1'-44" height x 5'-0" width

Number of Sides 1

Total Square Footage of Sign (include all sides) 7.2

Total height of the Sign 1'-44"

Is the Sign to be illuminated _____ yes ✓ no

Type of Sign Construction Materials Flat cut letters, Roof mounting bracket

Distance to Closest Property Line _____

Single/Multi Tenant (circle one)

Building Frontage SF _____

Are there any existing signs on the property Yes

If yes, what is the total Square Footage of existing signs Many signs strip mall

What are the intentions for the existing signs: Take down _____ Remain ✓

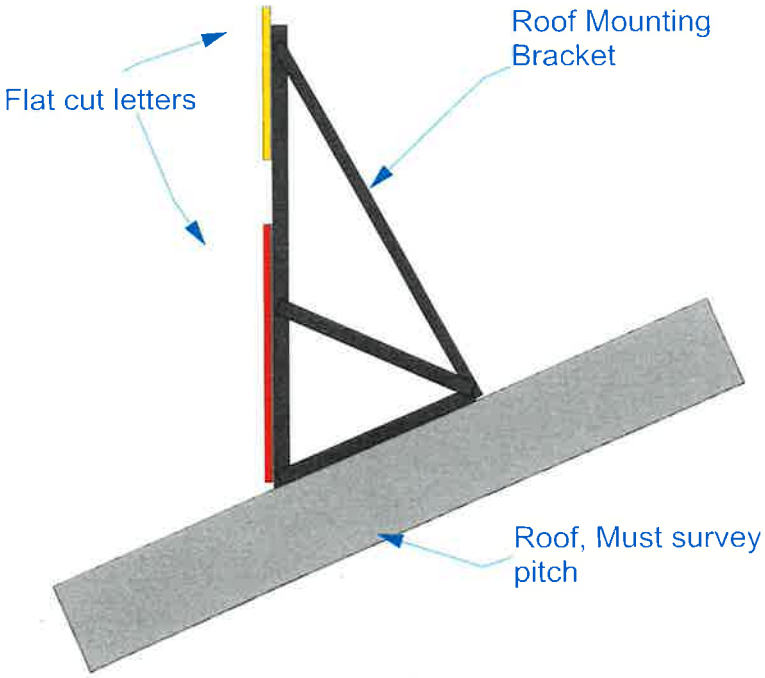
4 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Jkayla Hodges 8/19/25
Applicant Date

Owner ASSET MANAGER 8/19/25
Date

RECEIVED
AUG 25 2025
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

Option 2 - Non-Illuminated letters & Sign





Banner to be removed.



Qty 1, Flat Cut aluminum letters and sign.

Roof frame to be angle iron painted black

Not to Scale

SignEffectz,Inc
SIGN LIGHTING
www.signeffectz.com

CUSTOMER:
Sun Island Spa
N112W16274 Mequon Rd,
Germantown, WI 53022

Signature: _____ Date: _____

DISCLAIMER:
This is an original design created by Sign Effectz. The submitted design protected under copyright laws of the United States Code. You agree not to copy, photograph, modify or share directly or indirectly any of the foregoing held by you with any other party, nor will you permit any third party to do any of the foregoing without the written consent of Sign Effectz.

REVISIONS:
Rev A _____ By ___ Date ___
Rev B _____ By ___ Date ___
Rev C _____ By ___ Date ___
Rev D _____ By ___ Date ___
Rev E _____ By ___ Date ___
Rev F _____ By ___ Date ___

DRAWING:
Order #: _____
Date: 08/08/25
Sales: DLN Drawn by: DLN
Scale: 1"=1'

SIGN REVIEW APPLICATION

10/13/25 Plan Commission Meeting

Nona Nutrition / Devo Management Company, LLC

Village Staff Report & Recommendation ***Germantown, Wisconsin***

SUMMARY

Micaela Knapp, Agent for Nona Nutrition, and Devo Management Company, LLC, Property Owner. Sign Review Application for Nona Nutrition at N112 W15800 Mequon Road (Suite 4).

Property Location: N112W15800 Mequon Road (Suite 4)

Applicant/
Owner:

Nona Nutrition	Devo Management Comp., LLC
1350 Capitol Drive, Suite 6	138 Buntrock Avenue
Pewaukee, WI 53073	Thiensville, WI 53092

Zoning: B-2: Neighborhood Business District /
Planned Development District (PDD-42)

Adjacent Land Uses		Zoning
North	Residential	Rm-2
South	Residential	Rm-3
East	Commercial/Institutional	B-1/I
West	Commercial/Residential	B-3/Rm-3



Background/Proposal

Micaela Knapp, Agent for Nona Nutrition, and Devo Management Company, LLC, Property Owner. Sign Review Application for Nona Nutrition at N112 W15800 Mequon Road (Suite 4).

In September 2025, Nona Nutrition was granted zoning permit approval to open a new café/retail nutritional store in the Sendik's shopping center. The business is now seeking approval of a wall sign for the site. Details of the proposed sign are listed as follows:

- (1) Wall Sign – (Southern façade/building front)
  25.8 square feet, single-sided aluminum acrylic channel letter sign mounted on raceway. The proposed sign is illuminated.

Staff Comments

The proposed sign complies with applicable standards per the Village's Sign Code.

VILLAGE STAFF RECOMMENDATION

APPROVE the proposed sign for Nona Nutrition for property located at N112 W15800 Mequon Road (Suite 4), subject to the following condition:

1. Applicant/owner shall obtain an electrical permit from Building Inspection Services prior to sign installation.

SCANNED

Village of Germantown ...Willkommen

Fee must accompany application

$275 Sign Review Fee ✓

$ 75 Sign Face Replacement

Paid 9/22/25 Date DR

chK# 1984

SIGN REVIEW APPLICATION

Pursuant to Section 17.46 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Micaela Knapp
Nona
1350 Capitol Dr, Suite 6
Pewaukee, WI 53072
Phone (920) 210 0541
Fax ( )
E-Mail hello@nonanutrition.com

PROPERTY OWNER

Devo Management Company LLC
139 Buntrock Ave
Thiensville, WI 53092

Phone (262) 240-1500

2 PROPERTY ADDRESS OR GENERAL LOCATION

N112W15500 Mequon Rd. Stop 4
Germantown, WI 53022

3 SIGN INFORMATION

Sign Dimensions 30' height x 12'-3" width Single/Multi Tenant (circle one)
Number of Sides 4 Building Frontage SF _____
Total Square Footage of Sign (include all sides) 25.5 sq ft
Total height of the Sign 30'
Is the Sign to be illuminated X yes _____ no
Type of Sign Construction Materials Aluminum + Acrylic
Distance to Closest Property Line _____

Are there any existing signs on the property No
If yes, what is the total Square Footage of existing signs _____

What are the intentions for the existing signs: Take down _____ Remain _____

4 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Micaela Knapp 9/16/25
Applicant Date

Diane Winker Property Mgr 9/16/25
Owner Date

RECEIVED
SEP 22 2025
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN



FRONT OF BUILDING

TRIAD CREATIVEGROUP

SPECIFICATIONS:
Fabricate and install internally illuminated channel letters on front of building made from aluminum & acrylic

White & Yellow Faces
Illuminated w/ white LEDs
Mounted to electrical raceway

123.87" wide x 30" tall
Square Feet: 25.80 sq ft

13'10" from ground to the bottom of the letters

Return Depth: 5" .040
Return Color: Black
Trimcap: 1" Black
LED: Standard White
Power Supply: Low Voltage LED
Voltage: 120 Volt

Sign Length/Storefront: 51%

Installation: Concrete Tapcons

CLIENT:
Nona

3/16" = 1'

DRAWING TITLE:
Nona Oconomowoc

DATE SUBMITTED:

SUBMITTED BY:

2050 COMPREHENSIVE PLAN IMPLEMENTATION:
Holy Gateway District Master Plan RFP
10/13/25 Plan Commission Meeting

Germantown Community Development Department

Village Staff Report **Germantown, Wisconsin**

As discussed in September, the 2050 Plan is designed to have individual master plans prepared for each of the thirty-two (32) “neighborhoods, districts, and corridors” that comprise the Village. Each master plan is intended to further implement the underlying land use type, density and design policies and parameters set forth in the 2050 Plan Land Use Plan Map and Table (see attached). While the process of preparing each neighborhood, district, and corridor (NDC) master plan is not intended to be a comprehensive “redo” of the 2050 Plan, the master plans are intended to provide more specificity for that particular area. If deemed necessary and appropriate during the course of preparing a particular NDC master plan, the future land use table and/or development policies for that particular NDC may be amended.

Admittedly, the NDC master plans and the process used to prepare them are the same incomplete or missing parts in the 2050 Plan that are often referred to as the “neighborhood meetings” regularly brought up by concerned citizens and trustees.

In September, Staff went over the various objectives and action steps identified in the Implementation Plan (Chapter 8) of the 2050 Plan including Objective #5 in the Land Use section and Objectives #1 and #2 in the Economic Development section, that discuss development of a “master plan” for the Holy Hill Gateway District, the Village Center District, and the other remaining “neighborhoods, districts, and corridors” that comprise the Village.

Staff discussed the original “priority list” for preparing the NDC master plans and recommended that the list be revised as follows:

1. Holy Hill Gateway District
2. Village Center District
3. Freistadt District

A revised Request for Proposals (RFP) for consulting services to help the PC and staff prepare a combined master plan for the Holy Hill Gateway District was handed out for the Plan Commission to review and comment. Given that there weren’t many comments or recommended changes to the RFP submitted by the PC members, the special meeting tentatively scheduled for September 22 was cancelled with further discussion and action moved to the October 13 regular PC meeting.

At this time, staff is simply looking for any final feedback and/or recommended changes to the RFP (copy attached). As noted in the timeline on page 12 of the RFP, Staff would like to release the RFP on October 15 with a proposal submittal deadline on November 14. A special meeting of the Plan Commission is tentatively scheduled for December 8 to review the proposals and recommend a consultant for the project (with the General Government & Finance Committee & Village Board selection on December 15).

Request for Proposals

Holy Hill Gateway District Master Plan

RELEASE DATE: OCTOBER 15, 2025

SECTION I. Introduction & Purpose

This request for proposals (RFP) is issued by the Village of Germantown for the purpose of securing a qualified planning or design consultant to prepare a master plan to guide future development and land use in the following area in the Village:

1. **Holy Hill Gateway District**. A rapidly developing highway interchange area with warehousing/distribution, light industrial and undeveloped agricultural land that includes approximately 930 acres located east of the I-41 @ Holy Hill Road interchange in the northwest part of the Village.

The goal is to develop and adopt a master plan for the Holy Hill Gateway District that presents in general terms the preferred type, density, relative location, format, architectural design, and timing of future development and land use consistent with the Village's 2050 Comprehensive Plan. Further, the master plan is expected to address the need for and location of potential public improvements, e.g. new and/or extended roads, park & recreation facilities, storm water management facilities. The master plan should also address measures necessary to protect and enhance existing environmentally sensitive features and land use compatibility within the District and between the District and abutting neighborhoods, districts and corridors as defined in the 2050 Plan.

The master plan will be developed as a refinement to and adopted as a component of the Village's 2050 Comprehensive Plan. The master plan will form the basis for developing and/or revising the Village's zoning, land division and other development regulations that apply to future development and land use in the District.

Given ongoing and significant development pressure in the Holy Hill Gateway District, development of a master plan for the district is a high priority. Consequently, the Village prefers that the master plan process be conducted and be completed within a nine (9) month time period.

SECTION II. Background

2050 Comprehensive Plan

The "Village of Germantown 2050 Comprehensive Plan" (the "2050 Plan") was adopted in September, 2022 with the primary purpose *"to act as a roadmap for the Village of Germantown as it navigates upcoming change, growth, and development. Realizing the vision and goals presented in this plan will require that the Village face challenging decisions about where and how to grow and what services will best serve the residents of today and tomorrow."*

With that in mind, future land use planning for the Village under the 2050 Plan is intended to follow a "Neighborhood/District/Corridor" place-based approach with two components: a Future Land Use Plan Map and a Future Land Use Table.

The 2050 Future Land Use Plan Map (see Exhibit 1) shows the Village as a series of thirty-two (32) places or neighborhoods, districts, and corridors (hereafter "NDCs") that have or are intended to have the same or a similar pattern and type of land use, cultural, environmental, and economic character, and identity.

Unlike a typical land use planning approach, the 2050 Future Land Use Table (see Exhibit 2) does not assign a single acceptable land use to a particular parcel. Rather, the Future Land Use Table identifies a list of eleven preferred land uses, preferred design criteria and maximum density allowances. For each NDC, each of the preferred land uses is assigned a degree of desirability:

- "Desirable" uses should be encouraged because they are consistent with, support, and enhance the desired character of the NDC
- "Allowable" uses are generally considered appropriate for the area but may require additional consideration and/or specific modification or developed features to be compatible with other uses in the NDC
- "Undesirable" uses should not be encouraged but may still be acceptable for the NDC under special circumstances

This approach gives the Village staff, Plan Commission and Village Board an adaptable and flexible framework to discuss, evaluate and respond to unique development proposals in the village.

In addition to the 2050 Future Land Use Plan Map and Table, an objective of the 2050 Plan is to develop individual "master" or "neighborhood" plans for each of the 32 NDCs in the Village. It is intended that each master plan will provide a greater level of detail in terms of guiding the preferred type, amount, density, relative location and timing of future development, public improvements and environmental protection than presented in the 2050 Plan.

Depending on the specific conditions, character and needs of each NDC, each master plan is intended to address additional implementation objectives identified in the Implementation Chapter of the 2050 Plan to one degree or another, including:

- Design Guidelines for Industrial & Commercial Sites & Buildings
- Land use compatibility & buffer requirements
- Environmental protection requirements
- Residential housing opportunities & affordability
- Park & recreational trails & facilities
- Public improvement needs, timing & financing alternatives

Holy Hill Gateway District

The Holy Hill Gateway District is approximately 930 acres in area and lies adjacent to and east of I-41 near the Holy Hill Road interchange (see Exhibit 3). This District has had a significant amount of light industrial, warehousing & distribution development along the Holy Hill Road corridor as a direct result of the Village creating Tax Increment District No. 8 (TID#8) north of Holy Hill Road and expanding Tax Increment District No. 7 (TID#7) south of Holy Hill Road. Since 2018, approximately 2.1 million sqft of industrial building space has been developed in the Holy Hill Gateway District for warehousing & distribution, light manufacturing & assembly uses. As set forth in the 2050 Plan, the Holy Hill Gateway District is intended to continue developing as an industrial and mixed-use commercial district with light industrial, warehouse/distribution, and corporate office uses with highway-oriented hospitality & retail uses located near the Holy Hill Road interchange and mixed-use commercial retail and high-density residential uses adjacent to and along the I-41 corridor.

Public investment and improvements include a new 177' high, 500,000-gal elevated water storage tank (Tower #4) and a 420' deep well (Well #12) that became operational in 2024. Holy Hill Road was also recently widened to a 4-lane divided cross-section with signalized intersections at Gateway Crossing and Goldendale Road. Existing development is served by municipal water and sewer south of Rockfield Road and west of Goldendale Road. Ongoing public improvements include the phased construction of a frontage road (High Point Pass) east of and parallel to I-41 from Bonniwell Road south through the Holy Hill Gateway District across Holy Hill Road and the WSOR railroad to Freistadt Road (also through the Freistadt District that lies to the south). Other local and collector road needs within the Holy Hill District are expected to be identified as part of the master plan process.

The Holy Hill Gateway District abuts the Village's "Rural Preservation District" and "Woodside Neighborhood" to the north and the "Isabelle Farms Neighborhood" and "Dheinsville Neighborhood" to the south and east. All these areas surrounding the Holy Hill Gateway district contain low-density, single-family residential and/or undeveloped agricultural land. An objective of the master plan process is to address the transition between these areas, potentially incompatible land uses, and alternative buffering and setback requirements along the common boundaries for the Holy Hill Gateway District and the abutting district and neighborhoods.

Opportunity Areas

The Holy Hill Gateway District is identified in the 2050 Plan as one of two critical "opportunity areas" in the Village that present the greatest potential for change in the Village over the next 30 years. As part of the 2050 Plan process, the Village determined that land in these districts should be reserved for development comprised of light industrial, commercial warehousing & distribution, commercial and high-density residential land uses.

The 2050 Plan includes a conceptual land use plan or "vision" for both the Holy Hill Gateway and Freistadt Districts (see Exhibit 4) that presents a plan for the type and relative location of the preferred land uses and major public road and recreational trail improvements within the Holy Hill Gateway and Freistadt Districts. It is intended that this conceptual "vision" will guide future development and land use in the interim until a detailed master plan is developed and adopted for each district (or one master plan for both).

It is intended that this "vision" will be the starting point for discussing the type, amount, density, relative location of future development in the Holy Hill Gateway District. To that end, it is expected that a general level of evaluation of market demand and other economic considerations affecting preferred land uses within the District will be conducted to ensure the preferred development and land uses included in the master plan are realistic, reasonably attainable, and sustainable.

SECTION III. Master Plan Objectives

The master plan process is intended to evaluate and address several objectives, including but not limited to the following:

1. Evaluate and reaffirm (or revise as necessary) the preferred land uses for the District as set forth in the 2050 Future Land Use Plan Map and Table and in the conceptual "vision" plan in Exhibit 4 (including the preferred land use categories, preferred site design, and maximum residential density).

2. Prepare detailed maps, tables, renderings, and other graphics indicating the appropriate type, amount, location, mix, density/intensity, format, architectural design, and timing of development and land uses (light industrial, warehouse & distribution, retail, hospitality & service-oriented commercial, office, residential, mixed-use, open space, utilities, roads, trails, etc.) that are appropriate for and likely to succeed within the District.

3. Identify opportunities and adopt specific strategies, including but not limited to zoning and subdivision code revisions, to implement one or more objectives and tasks identified in the 2050 Plan Implementation Chapter, including, but not limited to:
    a. Developing & adopting specific design guidelines for industrial & commercial sites & buildings
    b. Identifying potential land use incompatibility issues with abutting neighborhoods and developing specific buffering & setback requirements
    c. Identifying environmentally sensitive features and adopting specific protection requirements
    d. Address the opportunity for owner-occupied and rental residential housing, mixed-use developments

4. Identify existing developed properties and land uses within the District that may be inconsistent with the preferred land uses set forth in 2050 Plan, properties that may be underused relative to the potential value of the property or importance to achieving the 2050 Plan "vision", or otherwise have the potential for redevelopment.

5. Identify the location of future transportation infrastructure, including the location and design characteristics of future local, collector, and arterials roadways, off-road recreational trails, and appropriate streetscaping enhancements, e.g. lighting, sidewalks, terraces, crosswalks, benches, receptacles, bike racks, etc. .

6. Identify specific strategies, e.g. plan policies, zoning and subdivision code revisions, public and private infrastructure improvements, land acquisition, alternative public and private funding sources, etc., to implement the master plan and to ensure future land use and development occurs in a cost-effective and sustainable manner.

7. Develop and adopt the master plan based in part on public input obtained from a broad set of community stakeholders including the Village Board, Plan Commission, residents, property and business owners, real estate and development professionals, and typically unrepresented stakeholders and silent supporters or objectors.

SECTION IV. Scope of Work

It is expected that the consultant will provide the Village specific recommendations regarding the final scope of the project and overall planning process, as well as, specific tasks and deliverables based on their expertise and experience completing similar district, neighborhood and corridor scale land use & development planning projects. The final project scope, as well as, the specific elements to be included in and the organization and format of the master plan document will be determined by the consultant in cooperation with the Village once the consultant is selected. However, the master plans should address or otherwise incorporate the following:

Planning Area Identification & Background
Identification of the recommended planning area boundary. A description of the planning area, including a summary of prior planning activities and relevant planning documents and studies, existing natural resources and infrastructure, issues & opportunities within the districts, etc. This includes both Village plans and any relevant plans adopted by regional or other entities such as SEWRPC, MMSD, and Washington County. While the goal is to develop a master plan for the Holy Hill Gateway District, given the need to evaluate potential land use incompatibilities and develop appropriate buffering and setback requirements between the Holy Hill Gateway District and the abutting areas to the north, east and south, the planning area may need to extend beyond the District boundaries in certain locations.

Existing Conditions & Property Redevelopment Analysis
The consultant shall perform a combination of land use, zoning, demographic, economic development and market analyses and assessments to evaluate and document existing conditions within the Districts including the identification of existing developed properties and land uses within the Districts that may be inconsistent with the 2050 Plan preferred land uses, are currently underused relative to the potential value of the property, or otherwise have the potential for redevelopment.

2050 Plan Consistency
The master plan should discuss how it is consistent with and furthers the 2050 Plan and other existing plans adopted by the Village, including the Comprehensive Outdoor Recreation Plan.

Intergovernmental Cooperation
The planning process should include an opportunity for other local governments to participate, particularly Germantown School District, the Village of Richfield, Washington County, the Southeast Wisconsin Regional Planning Commission (SEWRPC), the Milwaukee Metropolitan Sewerage District (MMSD), and the Department of Natural Resources (DNR). The master plan should document how it furthers intergovernmental cooperation, addresses any intergovernmental issues raised through the planning process, and how those issues were resolved.

Natural Resources
The plan should evaluate existing natural resources, environmental corridors, any known threatened or endangered species, heritage trees, high quality woodlands, topography and steep slopes, floodplains, wetlands, high groundwater areas that may be limiting factors to or affected by development, soils, prairies or meadows. The plan should identify any environmental corridors (as defined by SEWRPC) and identify required and recommended protection and preservation regulations these resources and environmental corridors.

Market and Economic Development Analysis
Development of the master plan should consider the market and economic conditions of the recommended preferred land uses to ensure the land uses are realistically attainable and likely to be successful.

Transportation Network Analysis
The master plan should include a general analysis of the suitability and capacity of the existing and proposed future transportation and pedestrian networks and include a proposed road, sidewalk, recreational trail network (and any realistic alternative modes of travel) necessary to provide efficient and cost-effective circulation and connectivity within District, to adjacent districts and neighborhoods in the Village, and to the surrounding regional transportation network. The proposed network should include street design principles to follow for any new streets proposed, including recommendations for street width, bicycle and pedestrian facilities, and streetscaping.

Preferred Land Use Plan, Conceptual Renderings and Site Plans
The consultant shall develop a preferred land use plan as part of the master plan for the District. The Preferred Land Use Plan should include more detail regarding land use categories, maps, concepts, policies, and recommendations that in the 2050 Plan and District profile. This may include recommendations regarding the location of preferred land uses, development density and intensity, preferred building materials or styles, recommended building height, floor area ratios, principal building setbacks, minimum or maximum parking requirements, and other typical zoning code requirements. The master plan should include the use of representative images, conceptual renderings, and scaled site plans for specific properties or land use categories. The creation of roadway conceptual cross sections should also be included. It is expected that the preferred land use plan will be developed after evaluating several alternative development and transportation network scenarios, preferred land use maps, and conceptual renderings and site plans for review and consideration by the Village as part of an iterative planning process.

Specific properties or areas in the Holy Hill Gateway District that should have conceptual renderings and site plans prepared include, but are not limited to:

1. Holy Hill Storage & MLG properties in the southeast quadrants of the Holy Hill Road @ I-41 interchange;
2. Properties east of Goldendale Road and north of Holy Hill Road;
3. The recommended cross-section(s) around the perimeter of the Holy Hill Gateway District depicting the recommended setback depth, berming, and landscape buffering requirements along the common boundary with the abutting neighborhoods

Design Guidelines
The consultant shall prepare zoning code level site, building and landscaping design principles & guidelines for the preferred land uses and (re)development in the Districts. This should include representative renderings, photos and dimensioned illustrations to adequately convey the design principles & principles. The consultant should also identify recommended street and streetscaping enhancements within the District.

Implementation Strategies.
Describe implementation strategies including amendments to the Village's existing zoning and subdivision codes, capital improvement plan, outdoor recreation plan, etc., that will be necessary to implement the master plan. Identify strategies for addressing affordable housing, sustainability, or transportation related recommendations. Identify potential implementation, timelines, and marketing strategies to redevelop the potential redevelopment sites identified earlier in the planning process. Provide preliminary cost estimates for proposed recommendations and where applicable estimated impacts to future property values and tax increment generation. Identify specific funding programs or potential partners, including public or private, that would be applicable to Germantown.

Mapping
The master plan should contain multiple maps to clearly and adequately present the preferred land uses and development within the District including, but not limited to, the following:

- Project/Planning Area Boundary
- Location Map within Germantown and relative to abutting Neighborhoods, Districts & Corridors
- Existing Land Use & Zoning Map
- Natural Resources Map including wetlands, floodplains, steep slopes, hydric soils, surface water, woodlands, SEWRPC defined environmental corridors, etc.
- Existing and Future Public Facilities Map including public roads, utilities, e.g. sewer, water, etc., facilities, stormwater management areas, park & recreation facilities, landscaping, buffering and streetscaping improvements
- Potential Redevelopment Site/Property Map
- Future Land Use Map showing the locations of the preferred land uses including conceptual locations for road improvements, bike and pedestrian facilities, park expansions, drainage areas and stormwater management facilities, etc.

SECTION V. Deliverables

The consultant shall prepare a final master plan document that contains those items described in the final Scope of Services. The master plan document shall be user friendly, incorporating graphics, tables, maps, renderings and other visual components while minimizing text to present a clear and concise document. The final master plan documents should be completed in a manner that can be integrated with and/or appended to the 2050 Plan and other master plans.

The consultant shall provide the Village with one (1) digital copy of the final master plan document and all supporting documents created during the planning process in both the original format (Microsoft Word or compatible) and PDF format, including all maps, GIS data and GIS maps, graphics, or tables used to create the master plan documents. The consultant shall provide the Village with one (1) hard copy of the final master plan document. Preliminary or draft versions of all documents, including surveys, maps, renderings, may be provided in PDF format provided they are reproducible on standard paper in color or black & white at a size not to exceed 11” x 17”. The consultant is responsible for printing any/all hard copy presentation and public engagement materials unless mutually agreed to with the Village.

SECTION VI. Minimum Consulting Services Required

The consultant selected for the project will be expected to provide a range of municipal land use planning and development-related services to complete the project including, but not necessarily limited to:

1. Demonstrated experience in the development of neighborhood plans for municipalities of a similar size, population, and (ideally) with similar development pressures and challenges, including experience conducting economic development and commercial retail market analysis and studies, residential housing analysis and studies, and transportation network analysis. To meet these expectations, a consultant may consist of a multidisciplinary team of planners, housing professionals, economic development professionals, commercial broker and real estate professionals, landscape architects, and/or civil engineers.

2. Understanding of and ability to incorporate relevant requirements into the planning process in conformance with the Wis. Stats. 62.23 pertaining to comprehensive planning, including the incorporation of necessary background information and trends, and the preparation and conduct of a statute-compliant public participation process.

3. Demonstrated experience preparing and conducting in-person, virtual and web-based presentations, public hearings, workshops, charettes, surveys and other public engagement opportunities and tools that may be needed or proposed in the planning process. Ability to provide innovative and cost-effective approaches to educating and obtaining input from residents, stakeholders, property owners, business owners/operators, and typically unrepresented stakeholders and “silent” supporters or objectors.

The above are minimum requirements for the project and are not intended to be a complete list of the services, skills and experiences that may be necessary to complete the project or used to evaluate consultant proposals.

SECTION VII. Proposal Format, Submittal & Content Requirements

Format & Method of Submittal

All proposals should adhere to or reflect the content and sequence of information described in this RFP document. The proposal shall not exceed 25 pages. If the proposal is too large to submit via email, please submit via Drop Box or other filesharing service mutually agreed to with the Village. Alternatively, a proposal may be submitted in an electronic format via a USB flash drive provided it is received at the Planning & Zoning Services counter in Village Hall before the submittal deadline.

Submit a complete electronic version of the consultant's proposal in PDF format via email to the Village of Germantown, Director of Community Development at the email address listed below:

Jeffrey W. Retzlaff, AICP, Director, Community Development Department
N112 W17001 Mequon Road
Germantown, WI 53022
262-250-4735
Email address: jretzlaff@germantownwi.gov

Submittal Deadline Date

Proposals in response to this RFP must be received before 4:00pm CST on or before the deadline date specified in Section VIII. Proposals received after this date/time will not be accepted. The consultant is responsible for verifying that their proposal has been received before the submittal deadline date.

Proposal Content

The proposal should include all the information necessary for the Village to evaluate and the proposal and make a decision. Failure of the consultant to provide specific, detailed information may result in its proposal being rejected in favor of a sufficiently detailed proposal. Any necessary exhibits or other information, including information not specifically requested in this RFP that the consultant feels would be helpful to the evaluation and decision-making process should be attached at the end of the proposal. At a minimum, the proposal shall include the following components:

1. Qualification Details
    a. Cover Letter – Including, but not limited to a statement of understanding and approach to the project. Consultants shall clearly identify whether they are submitting a proposal for completion of only one master plan or both. The cover letter should include the address, telephone number, and e- mail address of the contact person(s) and each person authorized to represent the consultant in negotiations. Unless the consultant is an individual, all proposals must be signed with a firm/company/partnership/entity name and by a responsible officer or employee indicating that officer or employee's authorization to commit the consultant to the terms of the proposal.
    b. Experience – A summary of at least five similar or relevant neighborhood, district, or corridor master plan projects for a comparable municipality that the consultant has completed within the last seven years. Website links to or digital attachments of

copies of project documents can be provided and are encouraged (digital attachments will not count against the proposal 25-page limit).

c. References – Provide at least three municipal client references for which the consultant has provided similar planning services within the last seven years. Include the municipality name, contact person name, email address and telephone number, and a brief description of the services provided.

2. Project Details
    a. Scope of Work – A complete and concise description of the approach to be taken to complete the project and address the items listed in Sections III. And IV. above, including any draft and final deliverables. An explanation of any variances from the proposed Scope of Work outlined in Section IV. and any insights into the project gained as a result of preparing the proposal or from past project experiences.

3. Project Management Details
    a. Key Personnel – A list or organization chart of personnel directly assigned to the project, including any sub-consultants, along with their responsibilities for this project and resumes. Clearly illustrate the responsibilities and lines of communication and authority relative to your project management team. Describe your plan to interface with Village staff. The Consultant's Project Manager, who will be responsible for planning, coordinating, and conducting the majority of the work, including meeting attendance with Village Staff and Plan Commission must be identified and committed to the project. The Village reserves the right to approve Consultant's Project Manager and any requested personnel and subcontractor changes during the project.
    b. Quality Control – Describe quality control measures and processes to ensure the project requirements are achieved within the project budget and schedule.
    c. Village Staff Commitments – Identification of those items within the Scope of Work for which the consultant anticipates assistance by Village Staff. Village Staff will serve as the point of contact for public inquires during the planning process, will attend all public meetings, will maintain a project website, and provide public outreach of planning activities through existing Village social media outlets, electronic and community newsletters (if any are employed for the project). Village Staff can also assist in providing existing GIS data as available.
    d. Project Schedule – A proposed schedule that indicates project meetings, milestones by phases or tasks, delivery of draft and final project deliverables, and overall timeline for completion of the master plan.

4. Public Engagement Plan
    a. Engagement Plan - The proposal should include a preliminary public engagement plan with recommended methods and strategies to disseminate information and obtain public input as part of the overall planning process, including, but not limited to, any in-person, virtual, social media, and/or web-based presentations, public hearings, workshops, charettes, surveys and other public participation events, opportunities and tools that may be needed as part of the planning process. The engagement plan should be designed to provide innovative and cost-effective approaches to sharing informing and obtaining input from residents, stakeholders, property owners, business owners/operators, and typically unrepresented stakeholders and "silent" supporters or objectors. The engagement plan will be

finalized through discussions between the consultant and the Village. The overall process, techniques, technology, social media, meetings, workshops, charettes, etc. to be employed as part of the public engagement process must be addressed in the consultant proposal.

5. Meetings & Communication
    a. Meetings - It is anticipated that a minimum of five (5) public meetings led by the consultant will be included in the planning process, although the consultant has the flexibility to provide an engagement plan and meeting schedule it feels is appropriate for the project. The consultant is expected to prepare any/all materials required for any public meetings and be responsible for setting up and testing any technology beyond that available for use through the Village. Village staff will post agendas and minutes using our agenda management software as needed.
    b. Communication with Village - The proposal should also build in appropriate contact meetings with Village staff and the Plan Commission which will serve as the "steering" committee for the project. The consultant is expected to coordinate and communicate with Village Staff on an ongoing basis throughout the planning process.

6. Project Cost and Labor Hours
    a. Cost – the proposal should include a "not to exceed" cost estimate to complete the project. The anticipated budget range is $50-$75,000 (pending final approval). This budget range reflects what the Village believes is appropriate for the type and scale of the project. The consultant may submit a proposal with a total cost that is outside of this range but must give information explaining why the proposed cost is outside the range. Innovative approaches, techniques, tools or additional tasks that exceed the intent of the Master Plan Objectives and Scope of Work set forth herein are acceptable if the consultant feels the benefits are justified or considered necessary to complete the project. If the scope and/or cost for such innovations or additional tasks increase the overall cost of the project beyond the project budget range, such innovations and tasks should be broken out and presented as additional services or alternatives with separate cost estimates in the proposal to be discussed with and considered by the Village.
    b. The Village will withhold a minimum 10% of the estimated contract value until all work has been satisfactorily completed.
    c. Estimated Labor Hours – A summary of estimated labor hours by task, or phase, that clearly identifies the project team members, their hourly rate, and the number of hours performed by each participant organized by task or phase.
    d. Additional Scope/Fees – The proposal should include the total cost, hours per employee, and hourly rates, etc. for any additional services not identified as needed to complete the basic scope of work.

7. Supplemental Information
    a. Any other information deemed necessary by the consultant to respond to the requirements of this RFP.

SECTION VIII. Proposal Evaluation and Consultant Selection

Evaluation Process

All proposals received before the submittal deadline date will be evaluated by the "RFP Evaluation Team" comprised of the Village Administrator, Community Development Director, Public Works Director, Village Engineer, and Village President. The RFP Evaluation Team will make a recommendation to the Plan Commission who will, in turn, make a recommendation to the Village Board for final selection of a consultant.

The RFP Evaluation Team is free to make any recommendations it determines to be in the best interest of the Village. Any inaccuracies in or misrepresentations of the information contained in a proposal or other errors may result in the rejection of a proposal.

The Village may select up to three (3) consultants for a pre-selection interview (in-person or virtual). Consultant must agree to appear at the pre-selection interview if required. The Village will not reimburse a consultant for any costs incurred for the preparation of a proposal or attending the pre-selection interview.

Proposal Evaluation Criteria

During the evaluation process, the RFP Evaluation Team may require a consultant to answer specific questions orally or in writing regarding their proposal. Selection of a consultant will be based on the overall strength and responsiveness of each proposal and not on any single factor such as cost. The RFP Evaluation Team, Plan Commission and Village Board will evaluate each proposal using the following criteria (but may consider other criteria it deems relevant to make their recommendation or selection):

- Qualifications and demonstrated experience of the consultant providing the same or similar planning consulting services for comparable master plan projects, including the qualifications, capability, and experience of the key personnel to be assigned to the project
- Proposed approach to the project, including the consultants demonstrated understanding of the master plan objectives, scope of work, proposed project schedule, appropriateness and uniqueness of the proposed approach, methods, techniques, and tools to be used for the project
- The proposed public engagement plan
- Proposed schedule and cost to provide the services necessary to complete the project

Timeline

The following timeline is anticipated with respect to the release of this RFP, proposal submittal, proposal review & evaluation, and consultant selection (but subject to change at the Village's discretion):

Request for Proposal Release Date	Oct 15, 2025
Deadline for submittal of consultant questions	Oct 29, 2025
Village responses to consultant questions	Oct 31, 2025
Proposal Submittal Deadline Date	Nov 14, 2025
RFP Evaluation Team Proposal Review & Recommendation	Nov 17, 2025
Plan Commission Proposal Review & Recommendation	Dec 8, 2025
Village Board Consideration and Consultant Selection	Dec 15, 2025
Negotiate & Finalize Project Contract	Dec 15-31, 2025
Project Commencement & Kick-Off Meeting	TBD, 2026

The Village reserves the right to adjust the timeline as necessary for any reason.

SECTION IX. Consultant Questions

The Village will only accept written questions concerning the RFP and master plan project(s). Questions should be submitted via email on or before 4:00pm on the deadline date specified in Section VIII above. Include “Holy Hill Gateway District Master Plan RFP Questions” in the subject line to ensure Village staff receives your question(s). Email all questions to the Community Development Director at the email address provided in Section VIII above.

The Village will respond in writing to all questions received. A copy of all consultant questions received AND the Village’s responses will be posted on the Village’s website on or before 4:00pm on the date specified in Section VIII above. In addition, a copy of the Village’s responses will be emailed to all consultants who submit questions or who request a copy of the Village’s responses by email prior to the question submittal deadline date.

SECTION X. Additional Terms and Conditions

There is no expressed or implied obligation that the Village will reimburse consultants for any expenses incurred in preparing proposals or participating in the selection process in response to this RFP. Materials submitted by consultants are subject to public inspection under Wisconsin law and any language purporting to render the entire proposal confidential or proprietary will be ineffective and will be disregarded.

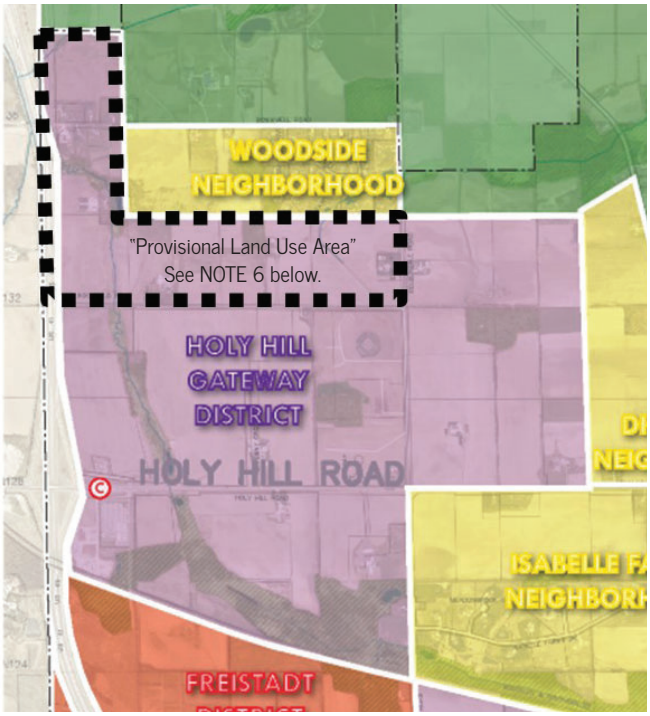
The Village will not discriminate against individuals due to sex, race, religion, creed, color, national origin, age, disability, sexual orientation, ancestry, marital status, arrest or conviction record, military service, or any other characteristics protected by law. This applies to all consultants submitting proposals to this project and their sub-consultants.

The Village reserves the right to retain all proposals submitted and to use any idea in a proposal regardless of whether the proposal and consultant were selected. Submission of a proposal indicates acceptance by the consultant of all terms and conditions in this RFP unless clearly and specifically noted in the proposal submitted and confirmed in the contract between the Village and the consultant.

All property rights, including publication rights of all reports produced by the consultant selected in connection with services performed for this project shall be vested in the Village.

The Village reserves the right to reject any or all proposals submitted for any reason.

Holy Hill Gateway DISTRICT



GENERAL CHARACTER

The Holy Hill Gateway District is predominantly undeveloped but intended to be an industrial and mixed-use commercial district comprised predominantly of light industrial uses, warehouse, corporate office uses, and service-commercial uses. A portion of the district lies within Tax Incremental District (TID) No. 8. Existing development includes personal storage and highway-oriented commercial uses at the Holy Hill road interchange, a trucking and warehouse operation at the Holy Hill @ Goldendale Road intersection, and light industrial and warehousing uses in the Gateway Corporate Park north of Holy Hill Road and west of Goldendale Road. The existing zoning of the currently undeveloped parcels in the district is predominantly A-1: Agricultural.

SPECIAL FEATURES

Transportation The Holy Hill Gateway District is located at the Holy Hill Road interchange with I-41. The district is generally bounded by I-41 to the west, the Woodside neighborhood to the north, the Dheinsville Neighborhood to the east, and the WSOR railroad to the south.

Environmental, Natural & Agricultural Goldendale Creek, a tributary to the Menomonee River, and associated environmental corridor runs along the north side of the WSOR railroad in the southern part of the district. Rockfield Creek, a separate tributary to Little Cedar Creek, runs north-south through the district parallel to I-41.

Public Park, Education, Safety & Utility Village sewer and water currently serves a portion of the Holy Hill Gateway District. The system has capacity to serve the entire district upon further extension.

PREFERRED LAND USE

The Holy Hill Gateway District is intended to develop as an industrial, warehousing and mixed-use commercial district with light industrial, warehouse, hospitality, corporate office uses. Community-scale retail and service-related commercial uses are intended to locate at the Holy Hill Road interchange (except for "big box" retail) and neighborhood-type commercial uses at the Holy Hill Road/Frontage Road intersection. The potential for mixed-use commercial with high-density is desirable for land adjacent to and along the I-41 corridor. See the Economic Development Section of this Plan for more information on future land uses within the Holy Hill Gateway District.

Industrial and Warehousing Development in the Holy Hill Gateway District created potentially negative impacts on the surrounding rural areas. Residents and property owners demand that future industrial, warehousing, and commercial development not expand beyond Rockfield Road to the North and Goldendale Road to the East. In addition, residents have requested that regardless of where the ultimate district boundary is established, the Village needs to develop specific and substantial setback and buffering requirements for future development of the land within the district that is

PREFERRED FUTURE LAND USE

Holy Hill Gateway District

Preferred Future Land Uses												Enviro Corr.	SSA	Preferred Site Design			Maximum Density (residential uses)
Existing Uses (+ existing non-conforming zoning) See NOTE 5 for details	Residential: Single Family	Residential: Two to Four Family	Residential: Multi-family / Senior	Mixed-Use: Commercial / Residential	Mixed-Use: Commercial / Industrial	Commercial (includes "Activity Centers")	Institutional	Open Space & Recreational	Mineral Extraction	Industrial	Agricultural / Hobby Farming / Agribusiness	Contains an Environmental Corridor?	Sewered? (Y/N/Partial)	Traditional Neighborhood	Suburban Subdivision	Conservation Subdivision**	Dwelling Units / Acre See NOTE 4 for details
A	u	u	D	D	D	A	A	A	u	D	u	Yes	Yes	-	-	-	25 units/acre

adjacent to the Rural Preservation District, Woodside Neighborhood, Dheinsville Neighborhood, and Isabelle Neighborhood. The Village intends to develop and adopt specific setback, buffering, lighting, noise, and other development requirements in the Zoning Code to mitigate potential negative impacts associated with future development in this and other districts.

D =	**Desirable** – These uses should be encouraged because they are consistent with, support, and enhance the desired character of the area.
A =	**Allowable** – These uses are generally considered appropriate for the area, but may require additional consideration and/or specific modification or developed features to be compatible with other uses in the area.
u =	**Undesirable** – These uses should not be encouraged but may still be acceptable for the area under special circumstances.

Master Planning A detailed master plan will be developed for the Holy Hill Gateway District (see Implementation Plan: Economic Development Objective #1). Until the master plan is prepared and incorporated into the Future Land Use component of the 2050 Comprehensive Plan, the preferred land uses allowed in and future development of the area bounded by Rockfield Road, Goldendale Road, the Woodside Neighborhood, the Town of Germantown, and I-41 shall be limited to only the land uses and development allowed under the "Agricultural/Conservation Residential" land use designation in the former 2020 Comprehensive Plan (see "Provisional Land Use Area" as shown on the Future Land Use Map). The "Agricultural/Conservation Residential" designation allows agricultural uses and single-family residential uses with a maximum density and minimum lot size of 1 dwelling per 5 acres.

NOTE 6:	Land use within the "Provisional Land Use Area" shall be consistent with the former 2020 Land Use Plan "Agricultural/Conservation Residential" designation that allows agricultural use and single-family residential use with a maximum density and minimum lot size of 1 dwelling per 5 acres.

See all notes on page 42.

Holy Hill Gateway District/ Freistadt District

The land surrounding Holy Hill Road to the north and south has been in demand for new industrial development and growth in the Village. New businesses in this area include the Gateway Corporate Park, Capstone 41 Business Park, Dielectric Manufacturing, and Illing Packaging, which are located north of Holy Hill Road and west of Goldendale Road. It is anticipated that this demand will continue, and that more development and land conversion from agricultural to industrial land use will take place as a result. However, the exact areas that should be developed as part of the emerging industrial park is in question, as well as the design of those industrial buildings themselves.

As the Village plans future land use in this area, important considerations include the existing residential development to the southeast of the industrial development, the fact that much of the area already falls within the Village's sewer service area, and the desired character of the Holy Hill and Goldendale Road corridors, both for vehicles and for cyclist and pedestrians.

Through the comprehensive planning process, the Village has determined that the land in this area should be developed as a combination of Light Industrial, Commercial Warehousing, and High Density Multi-family Residential, primarily. Commercial development, potentially including multifamily housing if it is developed alongside community amenities and with a walkable format, is also a potential use along I-41. Medium Density Residential areas are envisioned as conservation subdivisions, which allow clustering of residential lots around areas of environmental areas. These districts are also deemed suitable for potential "next generation" housing opportunities provided that the Village qualifies under the Washington County's regional affordable housing ownership initiative. These subdivisions will allow a transition in development intensity between the industrial uses and the more rural and agricultural residential areas in this part of the Village.

Additionally, the area includes a vision for a regional trail network along existing environmental corridors and newly created regional stormwater corridors. This trail network will serve as an amenity to existing and future uses and serve as a physical connection for residents and businesses to the Village Center.

Community Voices

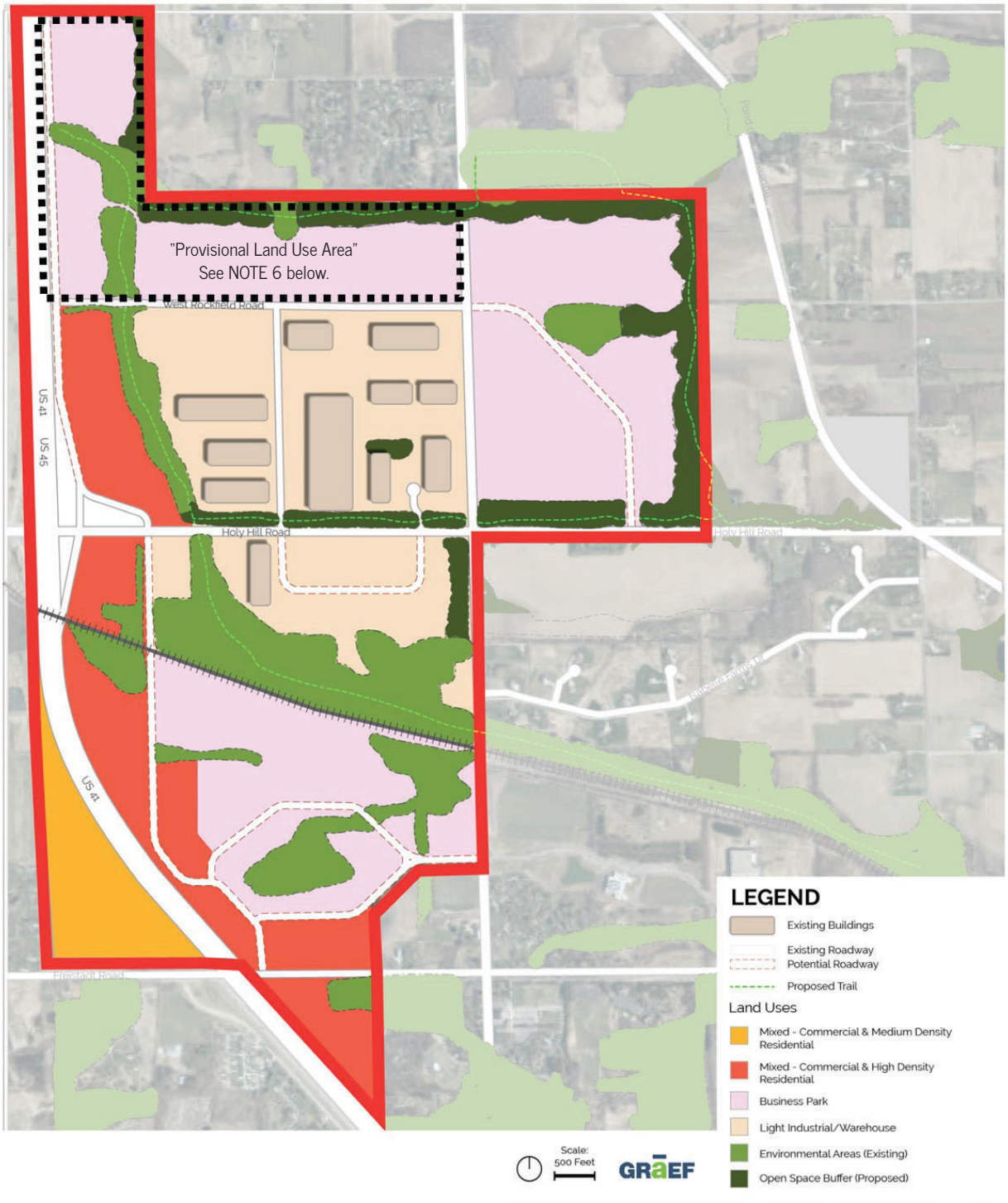
I understand the Holy Hill area is designated industrial...which is fine. I think it can be more thoughtful when looking at architectural styles, green space setbacks and parking in the rear of the buildings off the road. Include water features and walking paths in the front of the buildings in the green space. It would make a much more desirable area for all.

Next Steps

In order to realize the vision for this area of Germantown, the Village should undertake the following:

1. Develop a master plan for the Holy Hill/Freistadt Road area that includes the following elements:
   - Street and Block framework
   - Preferred Future Land Use
   - Regional stormwater concept plan
   - Trail and Open Space plan
   - Regulations and Design Guidelines
   - Funding & Incentives
2. Adopt the master plan as an amendment to the Comprehensive Plan.
3. Re-zone. Develop a new zoning district, or develop an overlay zoning district with design guidelines that will provide specific regulations and expectations for future development in this area, based on the master plan.
4. Engage with the development community to determine interest in the area and further refine proposed development patterns in response to specific needs of tenants.

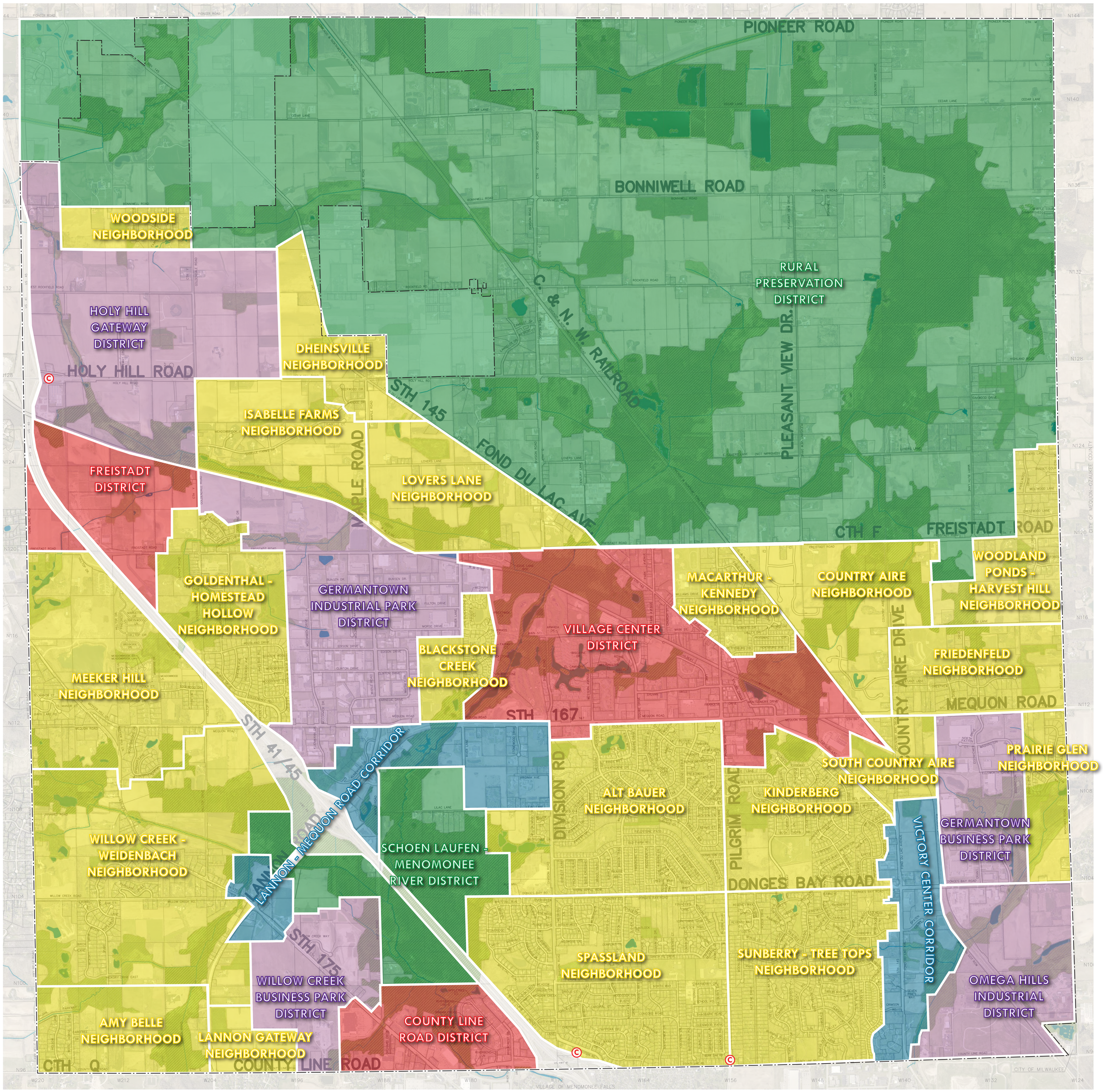
Figure 6.6 – Holy Hill Gateway & Freistadt District - Future Land Use Vision



NOTE 6:	Land use within the "Provisional Land Use Area" shall be consistent with the former 2020 Land Use Plan "Agricultural/Conservation Residential" designation that allows agricultural use and single-family residential use with a maximum density and minimum lot size of 1 dwelling per 5 acres. See Holy Hill Gateway District Profile in Chapter 5 for details on Master Planning.

NEIGHBORHOODS, DISTRICTS, CORRIDORS

Village of Germantown 2050 Future Land Use Map



*Note: This map is intended for use in combination with the Future Land Use Table

LEGEND:

NEIGHBORHOODS

DISTRICTS

CORRIDORS

NEIGHBORHOODS

- ALT BAUER
- AMY BELLE
- BLACKSTONE CREEK
- COUNTRY AIRE
- DHEINSVILLE
- FRIEDENFELD
- GOLDENTHAL - HOMESTEAD HOLLOW
- ISABELLE FARMS
- KINDERBERG
- LANNON GATEWAY
- LOVERS LANE
- MACARTHUR - KENNEDY
- MEEKER HILL
- PRAIRIE GLEN
- SOUTH COUNTRY AIRE
- SPASSLAND
- SUNBERRY - TREE TOPS
- WILLOW CREEK - WEIDENBACH
- WOODLAND PONDS - HARVEST HILL
- WOODSIDE

MIXED-USE DISTRICTS

- COUNTY LINE ROAD
- FREISTADT
- VILLAGE CENTER

BUSINESS PARK/INDUSTRIAL DISTRICTS

- GERMANTOWN BUSINESS PARK
- GERMANTOWN INDUSTRIAL PARK
- HOLY HILL GATEWAY
- OMEGA HILLS INDUSTRIAL DISTRICT
- WILLOW CREEK BUSINESS PARK

RURAL/OPEN SPACE DISTRICTS

- RURAL PRESERVATION
- SCHOEN LAUFEN - MENOMONEE RIVER

CORRIDORS

- LANNON-MEQUON ROAD
- VICTORY CENTER

MUNICIPAL BOUNDARY

GERMANTOWN 2050 Planning our future together.

ADOPTED SEPTEMBER 26, 2022

Places			Preferred Future Land Uses											SSA	Environmental Corridor	Preferred Site Design			Maximum Density (residential uses)
Neighborhood / District / Corridor	Place Type	Place Name	Existing Uses (+ existing non-conforming zoning) See Note 5 for details	Residential: Single Family	Residential: Two to Four Family	Residential: Multi-family / Senior	Mixed-Use: Commercial / Residential	Mixed-Use: Commercial / Industrial	Commercial (includes "Activity Centers")	Institutional	Open Space & Recreational	Mineral Extraction	Industrial	Agricultural / Hobby Farming / Agribusiness	Sewered? (Y/N/Partial)	Contains an Environmental Corridor?	Traditional Neighborhood	Suburban Subdivision	Conservation Subdivision**	Dwelling Units / Acre See NOTE 4 for details
District	Mixed-Use	County Line Road District	A	u	u	A	A	A	D	A	A	u	u	u	Y	YES	D	U	A	10 units/acre
District	Mixed-Use	Freistadt District	A	A	A	D	D	D	A	A	A	u	D	u	Y	YES	-	-	-	SF: 2.9 units/acre 2-4F: 6 units/acre MF: 25 units/acre
District	Mixed-Use	Village Center District	A	A	A	D	D	u	D	A	D	u	u	u	Y	YES	D	A	U	SF: 2.9 units/acre 2-4F: 6 units/acre MF: 25 units/acre
District	Industrial / Commercial	Germantown Business Park District	A	u	u	u	u	D	A	A	A	u	D	u	Y	YES	-	-	-	-
District	Industrial / Commercial	Germantown Industrial Park District	A	u	u	u	u	D	A	A	A	u	D	u	Y	YES	-	-	-	-
District	Industrial / Warehousing	Holy Hill Gateway District See NOTE 6 for details on "Provisional Land Use Area"	A	u	u	D	D	D	A	A	A	u	D	u	Y	YES	-	-	-	25 units/acre
District	Industrial / Landfill	Omega Hills Industrial District	A	u	u	u	u	D	A	A	A	A	D	u	N	YES	-	-	-	-
District	Industrial / Commercial	Willow Creek Business Park District	A	u	u	u	u	D	A	A	A	u	D	u	Y	YES	-	-	-	-
District	Rural / Open Space	Rural Preservation District	A	A	u	u	u	u	u	A	D	A	u	D	N	YES	U	U	D	see NOTE 1
District	Open Space	Schoen Laufen - Menomonee River District	A	u	u	u	u	u	u	A	D	u	u	u	P	YES	-	-	-	-
Corridor	Mixed-Use	Lannon - Mequon Road Corridor	A	A	A	A	A	A	D	A	A	u	u	u	P	YES	D	U	U	SF: 2.9 units/acre 2-4F: 6 units/acre MF: 10 units/acre
Corridor	Mixed-Use	Victory Center Corridor	A	A	A	A	A	A	D	A	A	u	A	u	Y	YES	D	U	U	SF: 2.9 units/acre 2-4F: 6 units/acre MF: 10 units/acre

NOTE 1:	"Rural Preservation" District:	1 unit/ 20 acres (4 or fewer CSM lots)
		1 unit/ 5 acres with Conservation Subdivision (5 or greater lots subdivided)
NOTE 2:	Neighborhood in SSA (w/ water & sewer)	2.2 units/ acre (4 or fewer CSM lots)
		3.5 units/acre with Conservation Subdivision (5 or greater lots subdivided)
NOTE 3:	Neighborhood outside SSA (no water & sewer)	1 unit/ 5 acres (4 or fewer CSM lots)
		1 unit/ 3 acres with Conservation Subdivision (5 or greater lots subdivided)
NOTE 4:	The density listed in this column is the maximum density permitted. However, a lower density may be required on a case by case basis and higher density may be permitted through a Planned Development District approved by the Village Board pursuant to the Planned Development District section of the Zoning Code.	
NOTE 5:	Expansion of existing and nonconforming uses within existing property boundaries may be permitted subject to zoning restrictions and Plan Commission approval.	
NOTE 6:	Land use within the "Provisional Land Use Area" shall be consistent with the former 2020 Land Use Plan "Agricultural/Conservation Residential" designation that allows agricultural use and single-family residential use with a maximum density and minimum lot size of 1 dwelling per 5 acres.	
*	Area is within (or partially within) SSA, but the majority of properties are not connected to sewer	
**	"Conservation Subdivision" includes: (a) minimum open space requirement (40-60%); (b) minimum lot size (1.0 acre for "Rural/Open Space" and 'Residential" outside SSA; 8,000SF for "Residential" inside SSA)	

D =	**Desirable** – These uses should be encouraged because they are consistent with, support, and enhance the desired character of the area.
A =	**Allowable** – These uses are generally considered appropriate for the area, but may require additional consideration and/or specific modification or developed features to be compatible with other uses in the area.
u =	**Undesirable** – These uses should not be encouraged but may still be acceptable for the area under special circumstances.

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Places			Preferred Future Land Uses												SSA	Environmental Corridor	Preferred Site Design			Maximum Density (residential uses)
Neighborhood / District / Corridor	Place Type	Place Name	Existing Uses (+ existing non-conforming zoning) See Note 5 for details	Residential: Single Family	Residential: Two to Four Family	Residential: Multi-family / Senior	Mixed-Use: Commercial / Residential	Mixed-Use: Commercial / Industrial	Commercial (includes "Activity Centers")	Institutional	Open Space & Recreational	Mineral Extraction	Industrial	Agricultural / Hobby Farming	Sewered? (Y/N/Partial)	Contains an Environmental Corridor?	Traditional Neighborhood	Suburban Subdivision	Conservation Subdivision**	Dwelling Units / Acre See NOTE 4 for details
Neighborhood	Residential Community	Alt Bauer Neighborhood	A	D	A	u	u	u	u	u	D	u	u	u	Y	YES	D	A	D	SF: 2.9 units/acre 2-4F: 6.0 units/acre
Neighborhood	Residential Community	Amy Belle Neighborhood	A	D	u	u	u	u	u	u	D	u	u	D	N	YES	A	U	D	see NOTE 2 and NOTE 3
Neighborhood	Residential Community	Blackstone Creek Neighborhood	A	D	A	u	u	u	u	u	D	u	u	u	Y	YES	D	A	D	5.8 units/acre
Neighborhood	Residential Community	Country Aire Neighborhood	A	D	u	u	u	u	u	u	D	u	u	u	P	YES	A	A	D	Non-sewered: 1.0 unit/acre Sewered: 2.9 units/acre
Neighborhood	Residential Community	Dheinsville Neighborhood	A	D	u	u	u	u	u	u	D	u	u	D	N	YES	D	U	D	see NOTE 2 and NOTE 3
Neighborhood	Residential Community	Friedenfeld Neighborhood	A	D	A	u	u	u	u	u	D	u	u	u	Y*	YES	D	A	D	SF: 2.9 units/acre 2-4F: 6 units/acre Non-sewered: 1.0 unit/acre
Neighborhood	Residential Community	Goldenthal - Homestead Hollow Neighborhood	A	D	A	u	u	u	u	u	D	u	u	u	Y	YES	D	A	D	Non-sewered: 1.0 unit/acre Sewered: 2.9 units/acre
Neighborhood	Residential Community	Isabelle Farms Neighborhood	A	D	u	u	u	u	u	u	D	u	u	D	P*	YES	A	U	D	see NOTE 2 and NOTE 3
Neighborhood	Residential Community	Kinderberg Neighborhood	A	D	A	u	u	u	u	u	D	u	u	u	Y	YES	D	A	D	SF: 2.9 units/acre 2-4F: 6.0 units/acre
Neighborhood	Residential Community	Lannon Gateway Neighborhood	A	D	u	D	u	u	u	u	D	u	u	u	Y	NO	D	U	D	SF: 2.9 units/acre MF: 10 units/acre
Neighborhood	Residential Community	Lovers Lane Neighborhood	A	D	u	u	u	u	u	u	D	u	u	D	N	YES	U	U	D	See NOTE 2 and NOTE 3
Neighborhood	Residential Community	MacArthur - Kennedy Neighborhood	A	D	A	u	u	u	u	u	D	u	u	u	Y	YES	D	A	U	SF: 2.9 units/acre 2-4F: 6.0 units/acre
Neighborhood	Residential Community	Meeker Hill Neighborhood	A	D	u	u	u	u	u	u	D	u	u	D	P	YES	A	U	D	see NOTE 2 and NOTE 3
Neighborhood	Residential Community	Prairie Glen Neighborhood	A	D	A	u	u	u	u	u	D	u	u	u	Y	YES	A	A	D	SF: 2.9 units/acre 2-4F: 6 units/acre Non-sewered: 1.0 unit/acre
Neighborhood	Residential Community	South Country Aire Neighborhood	A	D	A	u	u	u	u	u	D	u	u	u	Y	YES	D	A	D	SF: 2.9 units/acre 2-4F: 6 units/acre Non-sewered: 1.0 unit/acre
Neighborhood	Residential Community	Spassland Neighborhood	A	D	A	u	u	u	A	u	D	u	u	u	Y	YES	D	A	D	SF: 2.9 units/acre 2-4F: 6.0 units/acre
Neighborhood	Residential Community	Sunberry-Tree Tops Neighborhood	A	D	A	u	u	u	A	u	D	u	u	u	Y	NO	D	A	D	SF: 2.9 units/acre 2-4F: 6.0 units/acre
Neighborhood	Residential Community	Willow Creek - Weidenbach Neighborhood	A	D	u	u	u	u	u	u	D	u	u	D	N	YES	A	U	D	see NOTE 2 and NOTE 3
Neighborhood	Residential Community	Woodland Ponds-Harvest Hill Neighborhood	A	D	u	u	u	u	u	u	D	u	u	u	N	YES	U	A	D	1.0 units/acre
Neighborhood	Residential Community	Woodside Neighborhood	A	D	u	u	u	u	u	u	D	u	u	D	Y*	YES	A	U	D	see NOTE 2 and NOTE 3

Implementation Plan

The Implementation Plan is often the most important section of any comprehensive plan, serving as both summary and guide to realizing the vision developed through the planning process.

The Implementation Plan is often the most important section of any comprehensive plan, serving as both summary and guide to realizing the vision developed through the planning process.

Germantown's Implementation Plan includes an overarching goal for each section of the plan. Each section includes a summary of why the goal is important, key leaders responsible for carrying out the goals, and a series of objectives. Each objective in the implementation plan also includes a priority time frame and potential action steps.

The following page includes a descriptive summary and explanation of the format of each Implementation Plan Section.

Plan Review and Amendment

The Comprehensive Plan is intended to be reviewed frequently by Village staff to assess its reflection of current goals.

Periodic amendments are appropriate to the Comprehensive Plan and may be suggested by Village staff, officials, and residents. Changes should be consistent with the plan's vision.

Plan amendments must follow the processes required by State Statutes. Wisconsin Statute 66.1001(2)(I) requires comprehensive plan updates every 10 years.

Additionally, the Village will conduct an annual review of the 2050 Plan including an assessment of progress made toward achieving the Implementation Plan objectives and action steps. The Village will make amendments to the 2050 Plan on an annual basis or when deemed necessary.

Comprehensive Plan Goals, Objectives, and Action Steps

HOUSING

TRANSPORTATION

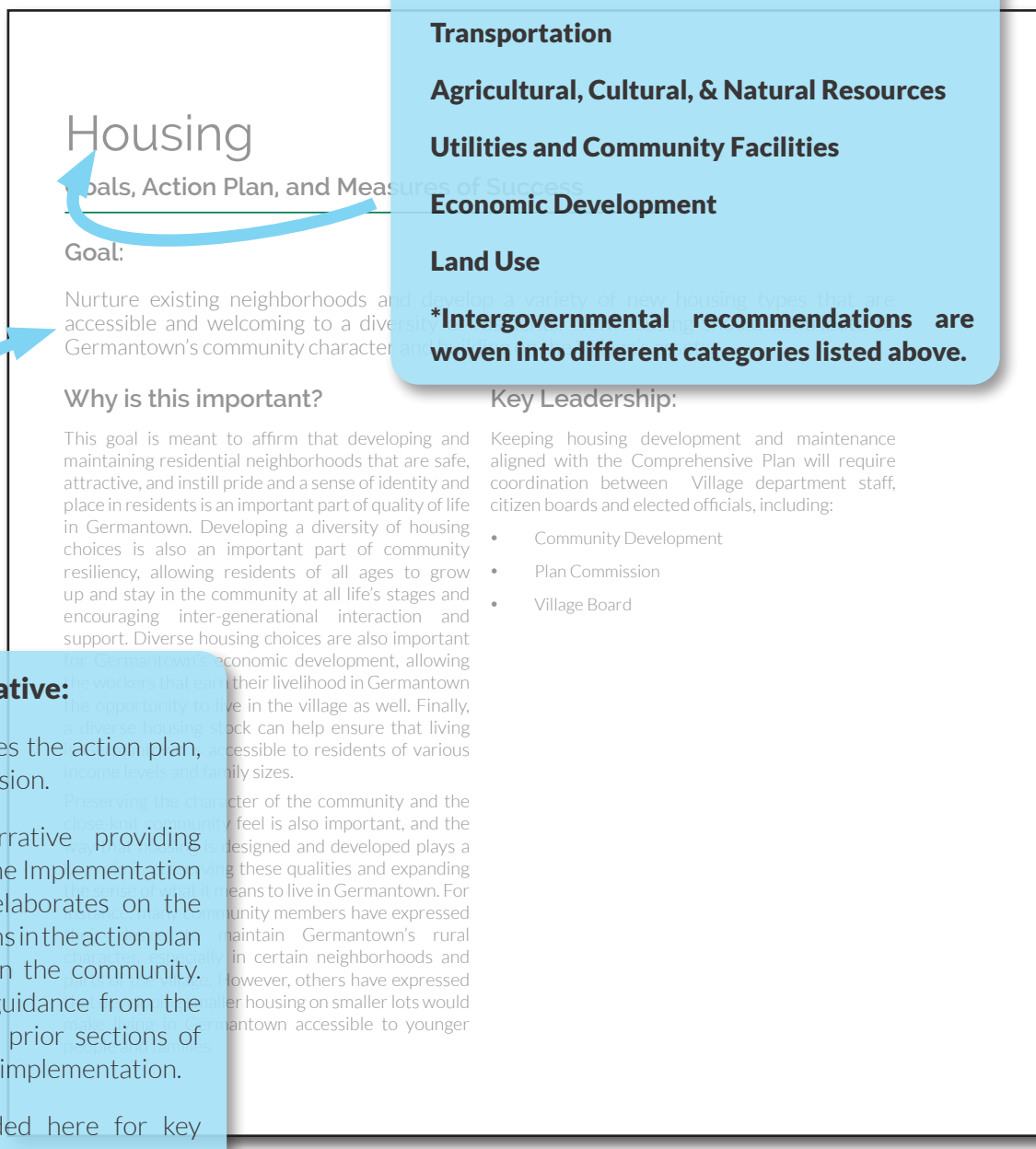
AGRICULTURAL , CULTURAL, AND NATURAL RESOURCES

UTILITIES AND COMMUNITY FACILITIES

ECONOMIC DEVELOPMENT

LAND USE

How to read the Implementation Plan



Section Headline and Description:

Each section is titled with a headline and description introducing the relevant Implementation Plan category. The categories included are:

Housing

Transportation

Agricultural, Cultural, & Natural Resources

Utilities and Community Facilities

Economic Development

Land Use

***Intergovernmental recommendations are woven into different categories listed above.**

Goal Statement and Narrative:

The goal statement summarizes the action plan, its purpose, and overarching vision.

Below each goal is a narrative providing additional details relevant to the Implementation Plan section. The narrative elaborates on the importance of each of the actions in the action plan and their intended impacts on the community. It may also reference other guidance from the 2050 Comprehensive Plan in prior sections of the document relevant to plan implementation.

Helpful information is included here for key leadership and village staff to indicate when and where certain actions may be implemented, why these actions were included in the plan, and how success can be gauged during and following implementation.

Transportation

	Objectives		Priority	Potential Action Step(s)
❑	1	Ensure State, County, and local roadways meet travel needs.	Ongoing	
❑	2	Encourage active transportation options for Germantown residents by connecting destinations with non-motorized pathways to encourage healthy active lifestyles and reduce traffic congestion.	Short ter (1-3 years	
❑	3	Promote regional transit connections to Germantown.	Intermediate (3-5 years)	G. Coordinate with the WisDOT, The Southeastern Wisconsin Regional Planning Commission (SEWRPC), and WCHD to secure opportunities for commuter service to/from the Village.
❑	4	Develop commercial and downtown areas using Complete Streets principles.	Intermediate (3-5 years)	H. Coordinating with WisDOT and Washington County Health Department (WCHD) to access current best practices and make streets more effective, attractive, and safe for all users. I. Prioritize and implement recommendations connecting Saxony Village - Historic Main Street connectivity plan by U.S. EPA Land Revitalization Technical Assistance.
❑	5	Support and implement regional transportation initiatives that impact Germantown, including the Washington County Bikeway and Trail Network Plan.	Ongoing	J. Maintain regular contact with regional agencies such as Washington County and SEWRPC.

Objectives, Priority Level, and Potential Action Steps:

The Implementation Plan includes distinct outcomes intended by the goal in each section that are actionable, measurable, and accountable. Each action describes what is to be done by key leadership and what they will be seeking to accomplish.

Each objective is assigned a priority level from Short-term to Long-term or may be ongoing. Short-term priority actions have been identified as the most crucial actions to be addressed within 1-3 years.

Intermediate goals are to be addressed within 3-5 years, and long-term goals are to be addressed within 5-10 years.

Some objectives have "Potential Action Steps" which have been identified as actionable in the short term and will contribute to the outcome and comprehensive plan goals.

Housing

Goals, Objectives, and Potential Action Steps

Goal:

Nurture existing neighborhoods and develop a variety of new housing types that are accessible and welcoming to a diversity of residents. New housing should contribute to Germantown's community character and build on the Village's assets.

Why is this important?

This goal is meant to affirm that developing and maintaining residential neighborhoods that are safe, attractive, and instill pride and a sense of identity and place in residents is an important part of quality of life in Germantown. Developing a diversity of housing choices is also an important part of community resiliency, allowing residents of all ages to grow up and stay in the community through all life's stages and encouraging inter-generational interaction and support. Diverse housing choices are also important for Germantown's economic development, allowing the workers that earn their livelihood in Germantown the opportunity to live in the village as well. Finally, a diverse housing stock can help ensure that living in Germantown is accessible to residents of various income levels and family sizes.

Preserving the character of the community and the close-knit community feel is also important, and the way that housing is designed and developed plays a key role in preserving these qualities and expanding the sense of what it means to live in Germantown. For instance, many community members have expressed their desire to maintain Germantown's rural character, especially in certain neighborhoods and parts of the village. However, others have expressed that developing smaller housing on smaller lots would make living in Germantown accessible to younger people and families.

Key Leadership:

Keeping housing development and maintenance aligned with the Comprehensive Plan will require coordination between Village department staff, citizen boards and elected officials, including:

- Community Development
- Plan Commission
- Village Board
- Germantown School District

Housing

	Objectives		Priority	Potential Action Step(s)
☐	1	Ensure the compatibility of residential infill development with the scale and character of the surrounding landscapes.	Ongoing	A. Require new developments to follow the density guidelines in the 2050 Comprehensive Plan. B. Use the zoning ordinance to maintain the character of existing residential neighborhoods and periodically review for compatibility in the changing housing market.
☐	2	Maintain a balanced housing mix and concentrate new multifamily development in walkable Village Center areas or other NDCs that provide connections to the regional transportation network (see NDC Table for areas supporting multi-family development).	Short term (1-3 years)	C. Amend appropriate zoning districts to allow for mixed-use commercial/residential buildings within Village Center, Freistadt District, Holy Hill Gateway and other NDCs that support mixed-use development. D. Initiate conversations with multifamily and conservation subdivision developers to gauge development interest in the Village Center District and Germantown.
☐	3	Pursue a range of housing types, including smaller lot sizes, mixed use, and walkable Traditional Neighborhood Developments when reviewing new developments so that new homes are more affordable, and so that undeveloped and natural resource land is conserved.	Ongoing	E. Ensure that adequate review is being given to natural resource protection and that diverse housing types are encouraged at initial review of development and subdivision proposals. F. Conduct a Housing Affordability Analysis pursuant to Ch. 66.10013 of the Wisconsin State Statutes. G. Adopt a Traditional Neighborhood Development Ordinance pursuant to Ch. 66.1027 of the Wisconsin State Statutes.
☐	4	Encourage and/or require the use of conservation subdivisions throughout the Village to preserve agricultural land and natural resources.	Short term (1-3 years)	H. Create a conservation subdivision ordinance to guide this type of residential development.
☐	5	Ensure adequate access, drainage, open space, building layout, and community amenities at the time of development by requiring developers and landowners to master plan residential developments.	Short term (1-3 years)	I. Create an ordinance requiring applicants for residential subdivisions and minor land divisions to submit a sketch master plan illustrating the ultimate development of the property.
☐	6	Ensure that there is market demand for newly created residential and mixed use lots and units.	Intermediate (3-5 years)	J. Require residential market studies as needed to ensure there is not an excessive amount of vacant or undeveloped residential housing units. K. Review housing trends and identify any opportunities to meet the needs of a changing housing market.
☐	7	Ensure that existing housing stock remains attractive and functional by encouraging the rehabilitation of older housing stock, including the multifamily housing near the Village Center.	Intermediate (3-5 years)	L. Create an inventory of existing housing stock age and determine "priority areas" for targeted rehab. M. Identify new funding, regulatory, and organizational ways to facilitate housing rehab. N. Enforce the Property Maintenance Section of the Village Code.
☐	8	Support regional housing initiatives that impact Germantown, including Washington County Next Generation Housing Initiative.	Ongoing	O. Maintain regular contact with regional agencies such as Washington County and SEWRPC.

Transportation

Goals, Objectives, and Potential Action Steps

Goal:

Ensure a safe, reliable, and accessible transportation system for all residents and visitors in Germantown. Transportation investments should be coordinated regionally, and new investments should consider a range of transportation choices. New development in Germantown should consider appropriate modes of transportation during the planning and approval process.

Why is this important?

Transportation systems are the foundation of our ability to access jobs, family, medical services, recreation, and more. It is important to maintain a balance of comprehensive road and transit systems and efficient use of these systems to maximize benefits to residents. There are benefits to planning transportation systems to meet the need of the population. Active transportation such as walking and biking are an important part of this system to keep people healthy, safe, and have the added benefit of helping reduce unnecessary congestion on roads.

These systems connect us to other places, so coordination with regional roads and highways is important to ensure compatibility of the overall transportation network beyond Germantown.

Streets make up the majority of public space, and so having streets that meet the needs of all residents is key to planning a strong community.

Key Leadership:

Keeping transportation development and maintenance aligned with the Comprehensive Plan will require coordination between Village department staff, citizen boards and elected officials, including:

- Public Works
- Streets and Highways
- Parks and Recreation
- Community Development
- Plan Commission
- Village Board
- Germantown School District

Transportation

	Objectives		Priority	Potential Action Step(s)
❑	1	Ensure State, County, and local roadways meet travel needs.	Ongoing	A. Annually review, revise, and adopt a five-year transportation improvement program that is consistent with this Plan.
				B. Make necessary roadway improvements according to five-year transportation improvement program.
				C. Update the Village's ultimate right-of-way map.
				D. Create and update a future road extension and ultimate lane improvements map for public streets and highways.
❑	2	Encourage active transportation options for Germantown residents by connecting destinations with non-motorized pathways to encourage healthy active lifestyles and reduce traffic congestion.	Short term (1-3 years)	E. Complete a Village-wide Trail Master Plan to identify priority corridors.
				F. Prioritize trails along Menomonee River, Goldendale Creek, and connections to other existing regional trails.
❑	3	Promote regional transit connections to Germantown.	Intermediate (3-5 years)	G. Coordinate with the WisDOT, The Southeastern Wisconsin Regional Planning Commission (SEWRPC), and WCHD to secure opportunities for commuter service to/from the Village.
❑	4	Develop commercial and downtown areas using Complete Streets principles.	Intermediate (3-5 years)	H. Coordinating with WisDOT and Washington County Health Department (WCHD) to access current best practices and make streets more effective, attractive, and safe for all users.
				I. Prioritize and implement recommendations connecting Saxony Village - Historic Main Street connectivity plan by U.S. EPA Land Revitalization Technical Assistance.
❑	5	Support and implement regional transportation initiatives that impact Germantown, including the Washington County Bikeway and Trail Network Plan.	Ongoing	J. Maintain regular contact with regional agencies such as Washington County and SEWRPC.

Agricultural, Cultural, & Natural Resources

Goals, Objectives, and Potential Action Steps

Goal:

Guarantee Germantown's history and identity are preserved for the future through the protection of its most valuable resources. Germantown's community should make use of natural areas to appreciate their value without contributing to their degradation. Open space and environmental corridors must be managed and protected.

Why is this important?

Natural and cultural resources are some of the most valuable resources in many communities over the long term, but they may take some planning and protection to preserve. Short-sighted development plans can sometimes threaten the protection of natural and cultural resources. Prime agricultural land is sensitive to nutrient depletion, pollution, or complete removal through development. Environmental areas such as woodlands contain habitat for native species that make up a large part of the wildlife and tourism economy and contribute to the biodiversity of our ecosystems and food systems. Even our cultural heritage is a resource that can be preserved through historic preservation and cultural activities, but may be threatened by redevelopment that isn't sensitive to local history. This Comprehensive Plan is one way of declaring these resources as valued and worth protecting.

Key Leadership:

Keeping natural and cultural resources aligned with the Comprehensive Plan will require coordination between Village department staff, citizen boards and elected officials, including:

- Community Development
- Plan Commission
- Village Board

Agricultural, Cultural, & Natural Resources

	Objectives		Priority	Potential Action Step(s)
❑	1	Enhance protection of historic resources, cultural resources, and scenic viewsheds through open space preservation techniques.	Short term (1-3 years)	A. Provide incentives and bonuses to developers for submitting natural resource protection plans including the retention of trees, wetlands, and water courses, and contiguous open spaces.
				B. Use zoning to protect environmentally sensitive areas from urban development including the creation of conservation overlay zoning districts and development regulations to protect designated environmental corridors in the Village.
❑	2	Implement green infrastructure projects to improve water quality and enhance the function and capacity of stormwater management in the Village.	Short term (1-3 years)	C. Use available street reconstruction capital improvement plans to identify near-term GI opportunities identified in the Menomonee River Watershed Updated Implementation Plan (2022).
				D. Identify, evaluate, and prioritize Germantown specific projects listed in the Menomonee River Watershed Updated Implementation Plan to see more Germantown-specific projects.
❑	3	Support environmental and habitat restoration and capacity of stormwater management in the Village.	Intermediate (3-5 years)	E. Coordinate efforts to restore habitat, remove invasives, and eliminate environmental contamination with private, nonprofit, and governmental organizations; do so in areas such as along the Menomonee River and its tributaries.
❑	4	Plan for long-term agricultural uses in Germantown which can adapt to future economic conditions by researching the efforts of, and coordinating with, agricultural planning experts.	Long-term (5-10 years)	F. Encourage the usage of agricultural conservation easements.
❑	5	Promote and celebrate the unique history of Germantown through the preservation of its historic sites, their context, and their stories.	Ongoing	G. Support the preservation and conservation efforts by promoting heritage tourism in coordination with the Chamber of Commerce and other private and non-profit entities.
				H. In cooperation with local community groups, investigate and identify opportunities to preserve, enhance and promote the Village's German heritage through private and public sector activities, events, and partnerships.

Utilities & Community Facilities

Goals, Objectives, and Potential Action Steps

Goal:

Provide Germantown residents and businesses with safe, reliable, and adequate utilities and facilities to meet current and future needs.

Why is this important?

Utility infrastructure has to be constantly planned and monitored for its capacity to support a changing residential and commercial population. Developing new neighborhoods, adding density to existing ones, or bringing new businesses and industries may change the adequacy of utility infrastructure. This Comprehensive Plan projects the future population, households, and jobs in Germantown to give some predictability to utility providers to they can anticipate future need and allocate resources effectively. It is important to make efficient use of utility infrastructure and have a plan for who is going to expand it when necessary, what type it will be, and what capacity it will have.

Utilities and community facilities in Germantown include stormwater and sewer infrastructure, electricity, natural gas, telecommunications, parks and schools, and more.

Key Leadership:

Keeping development and maintenance of utilities aligned with the Comprehensive Plan will require coordination between Village department staff, citizen boards and elected officials, including:

- Fire and Police
- Germantown School District
- Library
- Parks and Recreation
- Historic Preservation Commission
- Parks and Recreation
- Public Works
- Garbage and Recycling
- Senior Center
- Village Board

Utilities & Community Facilities

	Objectives		Priority	Potential Action Step(s)
❑	1	Plan for future growth by identifying when current facilities can no longer support projected growth.	Short term (1-3 years)	A. Develop a 5-year capital improvement program, which most efficiently meets the future needs of the sanitary sewer service area expansion area.
			Ongoing	B. Coordinate with key leadership on at least an annual basis to assess current community service, facility and staff needs, capacity and/or levels of service for use in developing and maintaining annual and 5-year capital facility, service, and staff planning & budgeting.
			Short term (1-3 years)	C. Investigate the legality, need, and logistics of creating, adopting and implementing an Adequate Public Facilities Ordinance and Concurrency Management System that uses adopted "levels of service" to ensure the approval and timing of new residential and nonresidential development is dependent upon the availability of public services and capital facilities, including: schools, roads, storm water, police, fire, parks & recreation, and public administration.
❑	2	Ensure active and passive recreation opportunities are accessible to existing neighborhoods and districts.	Short term (1-3 years)	D. Update and implement the Village Comprehensive Outdoor Recreation Plan every five years.
				E. Conduct individual park master plans that support long-term visions for community facilities within parks.
❑	3	Work with the MMSD and other public and private organizations to coordinate acquisition of sites identified as targets for protection from development in the MMSD Conservation Plan.	Short term (1-3 years)	F. Maintain regular contact with MMSD and help facilitate the acquisition of properties suited for preservation.
❑	4	Integrate regional water, sewer, and land use planning.	Ongoing	G. Coordinate with Milwaukee Metropolitan Sewerage District, the Germantown School District, the Washington County Health Department, and other relevant jurisdictions for future utility and facility expansions.
				H. Explore methods to improve coordination of long range planning goals for water and sewer infrastructure with land use planning.
❑	5	Facilitate resident access to a wide variety of services by assisting local private and nonprofit organizations that provide services to Village residents with their capital improvement objectives.	Intermediate (3-5 years)	I. Explore grant program models and opportunities to assist local organizations.
				J. Conduct a needs assessment to identify opportunities for partnerships.
❑	6	Increase energy efficiency and explore alternative energy sources to reduce peak energy demand, lower costs, and/or reduce environmental impacts. Plan for long-term reduction of energy dependence from fossil fuels.	Intermediate (3-5 years)	K. Research public best practices for guides/toolkits that support a resilient and clean energy network including wind energy, solar energy, and electrical vehicle charging stations.
❑	7	Improve coordination between the Village of Germantown and the Germantown School District related to future residential development, school district capacity, and necessary improvements to facilities.	Ongoing	L. Consider creating an advisory position on the Village Plan Commission for a representative of the School District.
				M. Coordinate and share information regarding new development proposals, approved development plans, and both updated housing & population projections with the Germantown School District on at least an annual or other mutually acceptable timeframe.

Economic Development

Goals, Objectives, and Potential Action Steps

Goal:

Promote economic, social, and environmental benefits through business and commercial activity in Germantown with a cohesive and unifying vision that inspires investment, tourism, and local pride.

Why is this important?

The economy is constantly changing. Over the past few decades, the Upper Midwest has seen a shift from a manufacturing based economy to a diversification to include more tourism and services. Germantown has maintained and continued to attract manufacturing jobs and still maintains a sizable agricultural base in addition to its retail and service sector. Strengthening each of these parts of the economy while staying able to take advantage of new opportunities requires a variety of strategies for economic development.

Enhancing the attractiveness of commercial areas, both retail and industrial, will help to attract residents, employers, and a workforce that enjoys working in Germantown. This includes enhancing the attractiveness of buildings but also the streets and districts that bring them all together. Similarly, developing a unique character and visitor experience by promoting Germantown's natural and cultural resources will help to continue attracting visitors and tourists to support the local economy.

Key Leadership:

Keeping economic development aligned with the Comprehensive Plan will require coordination between Village department staff, citizen boards and elected officials, including:

- Chamber of Commerce
- Community Development
- Economic Development Commission
- Plan Commission
- Public Works
- Village Board
- Germantown School District

Economic Development

	Objectives		Priority	Potential Action Step(s)
☐	1	Develop a Master Plan for the Holy Hill Gateway District to ensure compatible industrial expansion in Germantown by providing aesthetically appealing development along highly visible thoroughfares to ensure industrial expansion that is compatible with non-industrial surrounding land uses.	Short term (1-3 years)	A. Carry out the "Next Steps" identified in the Opportunity Areas section Chapter 6.
☐	2	Develop the Village Center District, including a Master Plan, to enhance Main Street and Mequon Road as complementary mixed-use economic zones with a unique cultural identity.	Short term (1-3 years)	B. Engage with stakeholders along commercial streets to determine a vision for the district. C. Carry out the "Village Center: Next Steps" identified in the Opportunity Areas section of Chapter 6. D. Develop a specific set of design guidelines that define an acceptable Germanic architectural identity.
☐	3	Incentivize well-designed buildings, entry features, and public infrastructure in business parks and industrial districts through the development approval process.	Short term (1-3 years)	E. Develop a set of desired building design guidelines for business parks, industrial districts, and corridors based on the context of surrounding buildings, landscapes, and architecture and Germanic Theme design requirements and guidelines.
☐	4	Promote and support the development of industrial and commercial areas in Germantown using financing incentives and regulatory tools, including but not limited to Tax Increment Financing.	Ongoing	F. Evaluate the Village's use of TIF (past and current TIDs) including an assessment of both the positive and negative impacts the use of TIF has had on the overall financial health of the Village and other taxing districts. G. Explore Business Grant types based upon examples from comparable communities or regional/State entities including alternative financing mechanisms other than Tax Increment Financing (TIF).
☐	5	Protect and promote the economic and aesthetic value of natural resources in Germantown for agriculture, recreation, and tourism.	Ongoing	H. Continue to update the Comprehensive Outdoor Recreation Plan every 5 years with information on the location and quality of natural resources for protection. I. Create zoning code regulations that support and accommodate agritourism and agricultural business uses.
☐	6	Support regional economic development initiatives that impact Germantown.	Ongoing	J. Leverage the resources and programs of Economic Development Corporation of Washington County and SEWRPC.
			Short term (1-3 years)	K. Evaluate the need for an Economic Development Coordinator position in the Community Development Department.

Land Use

Goals, Objectives, and Potential Action Steps

Goal:

Pursue a land use pattern of neighborhoods, districts, and corridors that facilitates the siting and compatibility of new and existing uses in a manner that promotes the efficient use of existing and future public utilities and facilities while protecting natural and environmental resources and preserving our rural character and quality of life.

Why is this important?

This Comprehensive Plan introduced a system of Neighborhoods, Districts, and Corridors for the land use plan to determine a desirable mix of land uses within places in Germantown. These neighborhoods, districts, and corridors already existed for the most part, but are defined more formally in this plan for the purposes of consistency and appropriateness in planning. Land use planning is forward thinking, accounting for multiple decades in the future to inform decision-making for day-to-day decisions about what is desirable or acceptable in new development proposals.

The approach focuses on a desired mix for an entire area, rather than for individual parcels, to allow for a degree of flexibility to changing future circumstances. The goals for land use ensure that areas develop with a consistent vision and give a level of assuredness of residents and property owners about the future of the areas they live and work in. New development should be guided to not impede on the agricultural resource base of the Village nor to disrupt the neighborhood patterns developed over history. Changes to the zoning ordinance should reflect the long term vision of the Comprehensive Plan, including the creation of new districts such as a mixed-use district to allow for a more vibrant Village Center District.

Key Leadership:

Keeping land development aligned with the Comprehensive Plan will require coordination between Village department staff, citizen boards and elected officials, including:

- Community Development
- Plan Commission
- Village Board
- Germantown School District

Land Use

		Objectives	Priority	Potential Action Step(s)
☐	1	Require new development to adhere to desired uses wherever possible in neighborhoods, districts, and corridors by sharing the desired uses listed during the development approval process.	Ongoing	A. Conduct a staff review of the development approval process for assessing compatibility with the Comprehensive Plan.
				B. Establish a planning task force that meets regularly to review necessary policies, guidelines, and ordinances for each Neighborhood, District, and Corridor to ensure the character of each place is preserved.
☐	2	Review and amend the Zoning Code, subdivision code, and other development regulations to implement the future Land Use policies reflected in the 2050 Comprehensive Plan.	Short term (1-3 years)	C. Create conservation subdivision regulations.
				D. Conduct working sessions with Plan Commission and other stakeholders to identify necessary code revisions and revise the zoning code matrix in the NDC chapter of this plan as necessary.
				E. Develop a new Village Center Zoning District to guide future development and redevelopment including higher density and density incentives, multi-family residential, Next Generation Housing, and mixed-use commercial/residential uses.
☐	3	Establish appropriate land use transitions to ensure compatibility between existing and new land uses.	Short term (1-3 years)	F. Develop zoning regulations to implement compatibility requirements and density policy for new uses adjacent to existing uses (ex. Lot size, bufferyards, building design, existing natural features, etc.).
			Short term (1-3 years)	G. Develop buffer requirements for all Neighborhoods, Districts, and Corridors that will see new development adjacent to existing neighborhoods and/or rural/open space districts.
☐	4	Support regional land use initiatives that impact Germantown and coordinate with adjoining municipalities to investigate, implement, and support mutually beneficial and cost-effective programs and initiatives that will positively impact the Village of Germantown, e.g. land use, shared services, etc.	Ongoing	H. Maintain regular contact with regional agencies such as Washington County and SEWRPC.
☐	5	Develop and adopt detailed Land Use Plans for each neighborhood, district, and corridor (NDC).	Short term (1-3 years)	I. Prioritize and develop program to complete detailed plans for each NDC.

BUSINESS OF THE PLAN COMMISSION

MEETING DATE: October 13, 2025

PLACEMENT: Discussion

ITEM TITLE: Community Development Department - Pending State Legislation Regarding Local Land Use, Zoning & Development Regulation (DISCUSSION)

SUBMITTED BY:

SUMMARY EXPLANATION:

ATTACHMENT:

1. League of Municipalities-Local Development Legislation Summary-Oct 25

STAFF RECOMMENDATION:

ACTION BY COMMITTEE:

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League Summary of Housing Bill Packages

Prepared on September 29, 2025

On Tuesday, September 23rd, a group of Republican legislators led by Representative Rob Brooks (R-Saukville) held a news conference in the State Capitol to unveil seven housing bills. These proposals were circulated for co-sponsorship that day, introduced on Thursday, and noticed for a public hearing on Friday. The Assembly Committee on Housing and Real Estate will hold that hearing on Tuesday, September 30th with more action expected soon after. Below is a summary of each of these proposals.

Assembly Bill (AB) 449: Local Regulation of Accessory Dwelling Units

Rep. Goeben (R-Hobart) and Sen. Bradley (R-New Berlin)

- This bill allows each single-family residence in Wisconsin to have a permitted (by-right) use of an accessory dwelling unit (ADU). In other words, local governments may not ban ADUs.
  - An ADU is defined as a complete independent living facility for one or more persons that has a separate entrance from the existing single-family dwelling. An ADU may be within, attached to, or detached from a single-family dwelling.
- Any local ordinance shall allow at least one ADU on each parcel zoned for residential use or mixed use on which an existing single-family dwelling is located. A municipality may not require a conditional use, variance, or special review or approval to create or host an ADU.
- While ADUs may not be banned, local ordinances may be created to regulate any of the following:
  - Limit the size of an ADU to no larger than the square footage of the existing single-family structure on the same parcel,
  - Limit the height of an ADU to not greater than the maximum height allowed in the zoning district, except if the ADU is a conversion of an existing legal nonconforming structure,
  - Require that an ADU satisfy current setback and lot coverage requirements, and
  - Prohibit an ADU established after the effective date of the legislation from being utilized as a short-term rental.
- If the bill is passed and signed into law by the Governor, the new restrictions would take effect on the first day of the seventh month after publication.

AB 450: Delayed Implementation of the New Commercial Building Code

Rep. Penterman (R-Hustisford) and Sen. Hutton (R-Brookfield)

- On September 1st, the Wisconsin Department of Safety and Professional Services (DSPS) published the revised Commercial Building Code (CBC) that incorporates 2021 International Building Code (IBC) standards. This rule replaces the 2015 IBC standards as Wisconsin's CBC. While published, DSPS has delayed the implementation of these new standards to November 1st.
- This bill further delays the effective date of the new CBC incorporating 2021 IBC standards until April 1, 2026. Any plans for commercial buildings including multi-family residential that are submitted to the state or a local government delegated to review commercial building plans by April 1, 2026 would continue to utilize the 2015 IBC standards in Wisconsin's former CBC.

AB 451: Workforce Housing Tax Incremental Districts

Rep. Armstrong (R-Rice Lake) and Sen. Feyen (R-Fond du Lac)

- Currently, options to utilize tax incremental financing (TIF) to promote housing are insufficient. With prohibitions on TIF for newly-platted residential, a 35% cap on residential in mixed-use tax incremental districts (TIDs), and a maximum of 12% of a municipality's equalized value in TIDs, TIF is a powerful tool to promote economic development but has limited utility for housing.
- This bill creates a new TIF structure for residential developments. Referred to as "Workforce Housing TIDs," these TIDs would not be subject to the 12% limit and instead would have a new 3% limit of the municipality's equalized value for these developer-financed TIDs.
- To create a Workforce Housing TID, a municipality would adopt a resolution designating the district and finding that it complies with statutory requirements on the eligible expenses and development restrictions, both of which are detailed below. Similar to existing TIDs, a Joint Review Board consisting of representatives from each property tax-charging jurisdiction in the area of the proposed district must be convened and approve the TID's creation.
- To qualify, a residential development must comply with the following characteristics:
  - The project must consist entirely of owner-occupied single-family or duplex residences,
  - The lot size must be 7,500 square feet or less for single-family residences or 15,000 square feet or less for duplex residences,
  - Lot widths must be 70 feet or less and lot setbacks must be no greater than 10 feet, and
  - Single-story residences must be no larger than 1,500 square feet and two-story residences must be no larger than 2,000 square feet.
- Developer-financed eligible project costs in the Workforce Housing TID must only include costs related to the construction or improvement of infrastructure necessary for residential developments within the district. These costs may include development-related stormwater costs.
- A project plan may not be amended to increase the project costs of the TID within ten years of the unextended termination date of the district unless the Joint Review Board approves the plan amendments and cost increases by a unanimous vote. A Workforce Housing TID may not be a donor district or receive increments from donor districts in the municipality.

AB 452: Subdivision Plat Approvals and Requirements

Rep. Kreibich (R-New Richmond) and Sen. Feyen (R-Fond du Lac)

- Chapter 236, Wis. Stats., governs approval for the platting of lands and recording of those plats. This bill makes several changes to that chapter as detailed below.
- *Sections 1 and 8* - Current law governing the purpose and intent of this chapter look, in part, to prevent the overcrowding of land and the undue concentration of population and to lessen congestion on streets and highways. This bill strikes those purpose and intent statements, instead adding statements to foster the development of a range of housing types and promote complete streets that prioritize safety, comfort, and accessibility for a range of transportation options.
- *Section 2* - This bill creates a "presubmission conceptual review" process wherein a subdivider may request the opportunity to informally meet with a local government before they submit a preliminary plat for approval. A local government would provide their conceptual review regarding the proposed subdivision and opinions on whether it complies with local requirements and conditions. These meetings are not binding on the local government or the subdivider.
- *Sections 3 and 4* - Current law allows a subdivider to submit a preliminary plat prior to submitting a final plat. The local government has 90 days to approve, approve conditionally, or

reject the preliminary plat and explain their conditions or reasons for rejection. This bill allows a subdivider to submit preliminary plans and reports regarding sewer, water, road cross-sections, grading, stormwater, soil testing, landscaping, and street lighting along with a preliminary plat. The preliminary plat may not be rejected on the basis that the plans and reports are not final, but the plat may be approved conditionally with the conditions described in writing.

- *Section 5* - Local governments are currently allowed either to: 1) require a subdivider to install any reasonably necessary public improvements prior to preliminary or final plat approval; or 2) require the subdivider to provide security at the commencement of a project in an amount up to 120% of the total estimated cost. This bill removes the first option, thereby only allowing a requirement for financial security of public improvements. Local governments would be expressly prohibited from requiring that public improvements are installed or accepted as a condition of submission, review, approval, or recording of a preliminary or final plat.
- *Section 6* - Current law states that, upon substantial completion of public improvements, any outstanding local building permits that are related to and dependent upon substantial completion shall be released. This bill clarifies that the requirement applies to "each home site on the plat."
- *Section 7* - The bill requires that, subject to the register of deeds office accepting an approved plat, a final plat that was approved is entitled to be recorded and the clerk of that local government shall make a certificate to that effect within 10 days of a subdivider's request.
- *Sections 9 and 10* - The requirements of Sections 3, 4, and 5 would first apply to a plat submitted on the effective date of the legislation. The effective date would be the first day of the seventh month after publication should the bill pass the legislature and be signed into law.

AB 453: Comprehensive Planning, Rezoning Requests, and Affordable Housing TID Extensions
Rep. Armstrong (R-Rice Lake) and Sen. Jagler (R-Watertown)

- This bill has four main components: 1) revising the comprehensive planning statutes to require the land use element to identify densities of areas intended for future residential development; 2) making those densities regulatory if a qualifying rezoning request is submitted for those identified areas; 3) defining newly platted residential for the purposes of tax incremental financing (TIF); and 4) increasing the affordable housing TIF extension to two-years.

1) Comprehensive Planning Changes

- *Sections 1, 2, 9, 12, and 18* - When comprehensive planning statutes were first effective in 2010, local governments received grants for the completion of their first plan. As funding was insufficient to fulfil all grant requests, the effective date of the comprehensive planning requirements were delayed for local governments that applied for but did not receive a grant. These sections delete obsolete references to this two-year delay from 2010 to 2012.
- *Section 3* - Given the requirement that certain land use ordinances are consistent with an adopted comprehensive plan (often referred to as the consistency requirement), the term "consistent with" was defined in statutes. This section deletes the definition of "consistent with" from statutes. This requirement is later redefined in Section 10 of the legislation described below.
- *Sections 4 and 5* - The land-use element of a comprehensive plan already requires that certain details are analyzed in the element and included in the corresponding land-use map. This includes assumptions of net densities. This section adds a requirement that for 20 years, in five-year increments, areas in which residential land use is projected must have minimum and maximum net densities specified in residential units per acre for each area and increment. These determinations of net density must exclude wetlands, floodplains, and government-owned land.

- *Sections 6 and 7* - Current law states that while certain land use ordinances must be consistent with a comprehensive plan, the enactment of a comprehensive plan does not make the plan itself a regulation. These sections specify that the new net density requirements for land identified for future residential development in the land-use element (described in the bullet above) are regulatory in nature, though the remainder of a plan is treated the same as current law.
- *Sections 8 and 10* - Amending the consistency requirement of current law, these sections specify that an enacted or amended land use ordinance is consistent with the comprehensive plan if the ordinance permits the use expressly identified in the land use map and corresponding land use category descriptions. An ordinance is not inconsistent with a comprehensive plan solely because it permits additional land uses beyond those identified in the map and category descriptions.
- *Section 11* - If a local government enacts or amends any land use ordinance or adds land by annexation or consolidation that is intended for residential use, the local government must:
  - Ensure the comprehensive plan includes the minimum and maximum densities of future residential development in identified areas described in Sections 4 and 5, and
  - Ensure those residential net density standards are incorporated into the ordinance.

  If a person submits a request for the rezone of a parcel as described in the next section and the minimum and maximum net densities are not included in the comprehensive plan, the local government shall amend their comprehensive plan within 180 days to include the materials. The procedures in s. 66.1001 (4) for enacting a comprehensive plan, including public notice and comment, do not apply to a comprehensive plan update commenced under this process due to the compressed timeline.

2) Approval of Rezoning Requests

- *Sections 13 and 14* - In these sections, if a person submits a request for a zoning classification change required to proceed with a residential housing development and all elements described below are satisfied, the local government is required to grant the request within 60 days:
  - The proposal is for an area identified in the comprehensive plan for residential land use,
  - The proposal is for an area that is contiguous to existing development,
    - Under Assembly Amendment 1 to AB 453, this requirement would be changed to read that it is adjacent to or in close proximity to existing development such that the area may be reasonably served by existing infrastructure and public services.
  - Either the proposal falls within the minimum and maximum net density of residences identified in the comprehensive plan for the current five-year increment or the comprehensive plan does not include the densities required under Section 5 of the bill, and
  - The housing supply in the local government does not meet existing housing demand or forecasted demand within the next five years, as identified in the comprehensive plan.

  If a person filing the request specifies their preference for a zoning classification in the local government's zoning ordinance and a request is granted, the land subject to that request shall be reclassified to the person's preference. If the person filing the request did not specify their preference for a zoning classification but did specify their preference for requirements including building setbacks, lot widths or frontage, lot sizes, and building sizes or bulks, those preferences shall be granted along with the least restrictive requirements in the local zoning ordinance.

  Local governments may reject requests that fail to identify the proposed minimum and maximum net density of residences in the proposed development. A request may also be rejected if the local government demonstrates that a request would result in a shortage in or overburdening of public facilities in the local government or to address a significant threat to public health or safety.

- *Sections 15 and 16* - Under current law, a person aggrieved by a local government failing to approve a permit for a residential housing development may seek relief from the courts. These sections expand that relief to a local government failing to approve a rezoning request under the bullet above and entitles the person to seek recovery of court costs and reasonable attorney fees.
- *Section 17* - In this section, if a local government issues a request for proposals (RFP) for a residential development that is reasonably expected to receive water and sewer services on land that is not environmentally contaminated and no person responds to the RFP, the process in Section 14 does not apply in that local government for one year from the end of the RFP. A response under this section may include a response in writing from a developer explaining the person's economic reasons for not submitting a proposal in response to the RFP.
- *Section 22* - The new requirements for granting rezoning requests in Section 14 would first apply to a request made on the effective date of the bill (see below) if it were to become law.

3) Newly Platted Residential Definition

- *Section 19* - The legislature prohibits the use of TIF for newly platted residential development to prevent mixed-use or other TIDs from extending into greenfield development. However, a lack of clarity in the law has led to an interpretation that newly platted includes redevelopment sites where blight was removed and the land was replatted for new development. This section clarifies that newly platted residential development means the parcel has not previously been the site of permanent structures other than structures used solely for agricultural purposes. The goal is to codify the initial intent to allow redevelopment to promote additional housing options in TIDs.

4) Affordable Housing TIF Extension

- *Section 20* - Current law allows municipalities to extend the lifespan of a TID by one-year and use the increments on housing. At least 75% of the funds generated must be used to benefit affordable housing in the city, with the remaining funds used to improve the city's housing stock. This section increases the affordable housing TID extension to two years.
- *Section 21* - This section requires that all increments generated by an affordable housing TID extension are expended to purchase services or goods from for-profit entities.
    - Assembly Amendment 2 to AB 453 removes this section from the bill.

5) Effective Date of the Bill

- *Section 23* - If passed and signed into law, this legislation would take effect on January 1, 2028.

AB 454: Workforce Home Loan Program

Reps. Rodriguez (R-Oak Creek), Snyder (R-Weston), Knodl (R-Germantown), and Rivera-Wagner (D-Green Bay) and Sens. James (R-Thorp) and Johnson (D-Milwaukee)

- This bill creates a "Workforce Home Loan Program" at the Wisconsin Housing and Economic Development Authority (WHEDA). These loans would provide gap financing that supplement a conventional mortgage for the purchase of a new or remodeled single-family residence.
- Residents would be eligible for a loan if they have not owned property in the past three years, have an annual household income equal to or less than 100% of the county's median income, and certain other requirements on credit score, debt-to-income ratio, and financial reserves are met.
- Loans may be issued for a period of 15 or 30 years, depending on the applicant's income, with a 0% interest rate. These loans could be up to $60,000, with the cap adjusted annually for inflation.

- The bill provides $10 million from the $525 million workforce housing fund established in the 2023-2025 State Budget to fund the four programs created by 2023 Acts 14, 15, 17, and 18.

AB 455: Condominium Conversion Reimbursement Grant Program

Rep. Murphy (R-Greenville) and Sen. Feyen (R-Fond du Lac)

- This bill creates the "Condominium Conversion Reimbursement Grant Program" at the Wisconsin Housing and Economic Development Authority (WHEDA). This program will provide up to $50,000 in reimbursement for costs to convert multifamily housing to condominiums.
- Eligible reimbursement grant costs for the property owner include reasonable attorney fees, state and local permitting fees, and any other cost incurred for the grant project.
- The bill provides $10 million from the Restore Main Street Loan Program created last session.