



# Engineering Department Memorandum

**To :** Kevin Driscoll, P.E. Village Engineer  
**From :** Brad Seubert, P.E. Harwood Engineering Consultants  
**Date :** December 12, 2023  
**Re :** Truck Country

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## **Items Reviewed:**

1. Civil Plan Set Dated: 11-13-2023
2. Stormwater Management Plan Dated: 11-13-2023

## **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. Provide copies of approved artificial wetland exemptions.
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.
7. Utility permits and permits for work within the ROW are required. Contact the Village engineering department to obtain permits.
8. Provide documentation for WisDOT approval of the work shown in the ROW.
9. 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.

## **Waste Water Utility Comments**

1. Sand and grease interceptors are required.
2. Provide a sampling manhole meeting Village requirements.

**C-102 Site Grading Plan**

1. Revise note 10 to require disturbed areas that will remain inactive for 14 days or longer to be stabilized.

**C-104 Site Utility Plan**

1. Where does the existing line shown going east out of ST-30 drain to?

**SWMP**

1. The wooded portion of the site would be new development not redevelopment.
2. The peak release rate required applies to the entire disturbed area, not just the area tributary to the retention pond.
3. Type C soils should be modeled as clayey in WinSLAMM



**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 \_\_\_\_\_ DATE \_\_\_\_\_

## 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**

Truck Country of Wisconsin, Inc.  
501 Bell Street  
Suite #301  
Dubuque, IA 52001  
C/O Jim Kane

Phone ( 563 ) 584-2626 \_\_\_\_\_  
E-Mail jimkane@mccoysgroup.com

**PROPERTY OWNER**

RA Steinman Legacy LLC  
C/O The Barry Company  
1232 North Edison Street  
C/O Jim Barry

Phone ( 414 ) 271-1870 \_\_\_\_\_  
E-Mail \_\_\_\_\_

**2 PROPERTY ADDRESS**

N128 W21795 HIGHWAY 167, GERMANTOWN, WI

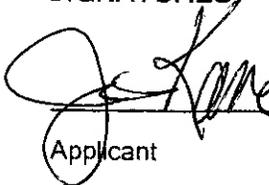
**3 NEIGHBORING USES** - Specify name and type of use. e.g. Enviro Tech - Industrial, Smith - Residential, etc.

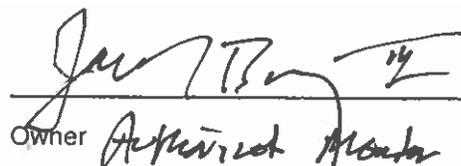
North Across Holy Hill Rd., A-1 agricultural use / B-5 Shell Gas station	South M-1 Limited Industrial / agricultural use	East M-1 Limited Industrial/Holy Hill self storage & A-1, agricultural	West Interstate I-41
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**4 READ AND INITIAL THE FOLLOWING:**

- I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.
- I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.
- 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!

 11-10-23  
Applicant Date

 11-10-23  
Owner Date



milwaukee : 333 E Chicago St	414.271.5350
madison : 309 W Johnson St, Ste 202	608.442.5350
green bay : 124 N Broadway	920.336.9929
denver : 1899 Wynkoop St, Ste 700	303.595.4500
atlanta : 1401 Peachtree St NE, Ste 300	404.596.8006

[eua.com](http://eua.com)

November 14, 2023

Jeffrey Retzlaff  
Community Development Director  
Village of Germantown  
N112 W17001 Mequon Road  
Germantown, WI 53022

Re: Design Narrative Proposed Truck Country at N128 W21795 Highway 167

Dear Mr. Retzlaff

The letter is to further detail our application for Site Plan Approval for the proposed development located at the current site known as Kasten Marine. The newly proposed development is for entire 15.9 acre site, and includes an approximately 37,700 SF building for Truck Country of Wisconsin. This location will service as a truck sales and service center, featuring of 16,000 SF of service bays plus +/- 7,000 SF of office and employee support area and approximately 15,000 SF of parts warehouse space.

The exterior materials are primarily painted precast concrete load wall system, with clear Low-E glazing and aluminum framing system. The color scheme is in keeping with Truck Country's branded colors with a primary field white with vertical accent of gray and cardinal red at the entry canopy.

#### Zoning

Separate from this submittal McCoy Group, the parent company of Truck Country has requested a change of zoning to B-5, currently M-1.

#### Business Operation

The proposed development is to support a Freightliner truck dealership sales, service, and parts sales. The hours of operation are planned to be 7 am to 11 pm Monday through Friday and 7 am to 4 pm on Saturday's and closed on Sundays. The total employee count is 45 over two shifts. There are parking stalls for new and used for sale vehicles as well as before and after service. The dealership will also have parts delivery vehicles parked on site. The site will be enclosed with an 8' high vinyl coated chain mesh fence with powered sliding gates at both entrances.

The project team consists of:

#### Applicant:

Jim Kane, Vice President of Facilities  
McCoy Group / Truck Country

Architect of Record:  
Chris Johns, Senior Project Manager  
EUA, Milwaukee Office

Civil Engineer:  
Andrew Mertz, PE  
JSD Professional Services

Storm Water Engineer:  
Jared Simon, PE  
JSD Professional Services

Landscape Architect:  
Kevin Byrne, PLA  
JSD Professional Services

The development team is excited to continue the progress for this development within the Village of Germantown.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Johns". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Chris Johns  
Senior Project Manager : Associate  
EUA

# ALTA/NSPS LAND TITLE SURVEY

LOT 2 OF CERTIFIED SURVEY MAP NO. 6264, BEING A PART OF THE NORTHWEST FRACTIONAL 1/4 AND SOUTHWEST FRACTIONAL 1/4 OF THE NORTHWEST 1/4 OF SECTION 18, TOWNSHIP 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN

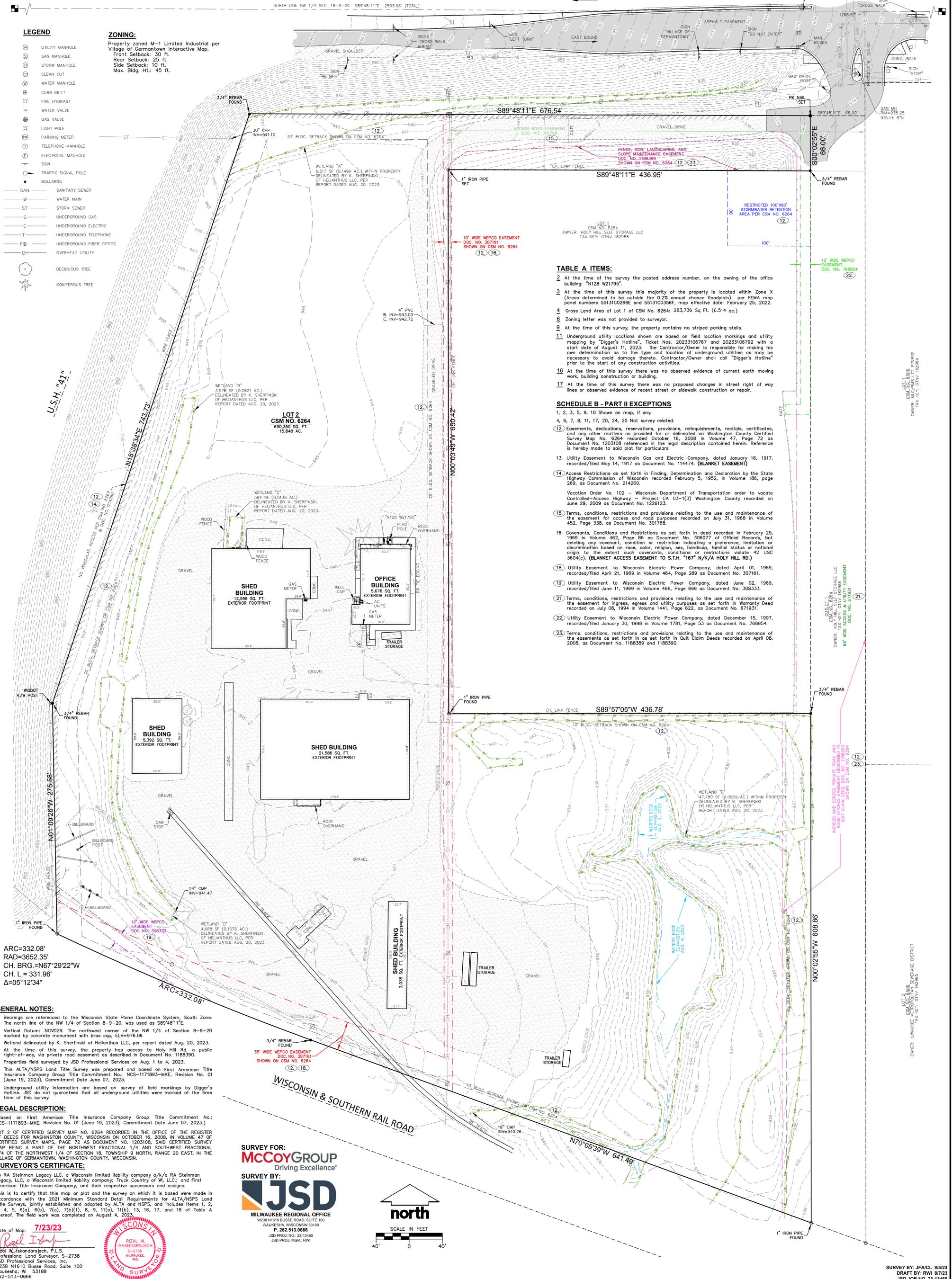
HOLY HILL ROAD

NW CORNER OF NW 1/4 SEC. 8-9-20 CONC. MONUMENT W/ BRASS CAP ELV=976.06'

SAN MH RIM=935.46 NE CORNER OF NW 1/4 SEC. 8-9-20 CONC. MONUMENT W/ BRASS CAP ELV=976.06'

- LEGEND**
- ⊕ UTILITY MANHOLE
  - ⊙ SAN MANHOLE
  - ⊙ STORM MANHOLE
  - ⊙ CLEAN OUT
  - ⊕ WATER MANHOLE
  - ⊕ CURB INLET
  - ⊕ FIRE HYDRANT
  - ⊕ WATER VALVE
  - ⊕ GAS VALVE
  - ⊕ LIGHT POLE
  - ⊕ PARKING METER
  - ⊕ TELEPHONE MANHOLE
  - ⊕ ELECTRICAL MANHOLE
  - ⊕ SIGN
  - ⊕ TRAFFIC SIGNAL POLE
  - BOLLARDS
  - SAN SANITARY SEWER
  - W WATER MAIN
  - ST STORM SEWER
  - G UNDERGROUND GAS
  - E UNDERGROUND ELECTRIC
  - T UNDERGROUND TELEPHONE
  - FIB UNDERGROUND FIBER OPTICS
  - OH OVERHEAD UTILITY
  - DECIDUOUS TREE
  - CONIFEROUS TREE

**ZONING:**  
Property zoned M-1 Limited Industrial per Village of Germantown Interactive Map.  
Front Setback: 30 ft.  
Rear Setback: 25 ft.  
Side Setback: 10 ft.  
Max. Bldg. Ht.: 45 ft.



- TABLE A ITEMS:**
- 2 At the time of the survey the posted address number, on the owning of the office building: "N128 W21795".
  - 3 At the time of this survey this majority of the property is located within Zone X (Areas determined to be outside the 0.2% annual chance floodplain) per FEMA map panel numbers 5513100268E and 5513100356F, map effective date: February 25, 2022.
  - 4 Gross Land Area of Lot 1 of CSM No. 6264: 283,736 Sq Ft. (6.514 ac.)
  - 6 Zoning letter was not provided to surveyor.
  - 9 At the time of this survey, the property contains no striped parking stalls.
  - 11 Underground utility locations shown are based on field location markings and utility mapping by "Digger's Hotline", Ticket Nos. 2023106767 and 2023106792 with a start date of August 11, 2023. The Contractor/Owner is responsible for making his own determination as to the type and location of underground utilities as may be necessary to avoid damage thereto. Contractor/Owner shall call "Digger's Hotline" prior to the start of any construction activities.
  - 16 At the time of this survey there was no observed evidence of current earth moving work, building construction or building.
  - 17 At the time of this survey there was no proposed changes in street right of way lines or observed evidence of recent street or sidewalk construction or repair.
- SCHEDULE B - PART II EXCEPTIONS**
- 1, 2, 3, 5, 9, 10 Shown on map, if any.
  - 4, 6, 7, 8, 11, 17, 20, 24, 25 Not survey related.
  - 12 Easements, dedications, reservations, provisions, relinquishments, recitals, certificates, and any other matters as provided for or delineated on Washington County Certified Survey Map No. 6264 recorded October 16, 2008 in Volume 47, Page 72 as Document No. 1203108 referenced in the legal description contained herein. Reference is hereby made to said plat for particulars.
  - 13 Utility Easement to Wisconsin Gas and Electric Company, dated January 16, 1917, recorded/ filed May 14, 1917 as Document No. 114474. (BLANKET EASEMENT)
  - 14 Access Restrictions as set forth in Finding, Determination and Declaration by the State Highway Commission of Wisconsin recorded February 5, 1952, in Volume 186, page 268, as Document No. 214260.
  - 15 Vacation Order No. 102 - Wisconsin Department of Transportation order to vacate Controlled-Access Highway - Project CA 03-1(3) Washington County recorded on June 29, 2009 as Document No. 1226123.
  - 16 Terms, conditions, restrictions and provisions relating to the use and maintenance of the easement for access and road purposes recorded on July 31, 1968 in Volume 452, Page 338, as Document No. 301768.
  - 17 Covenants, Conditions and Restrictions as set forth in deed recorded in February 25, 1969 in Volume 462, Page 86 as Document No. 306077 of Official Records, but deleting any covenant, condition or restriction indicating a preference, limitation or discrimination based on race, color, religion, sex, handicap, familial status or national origin to the extent such covenants, conditions or restrictions violate 42 USC 3604(c). (BLANKET ACCESS EASEMENT TO S.T.H. "167" N/K/A HOLY HILL RD.)
  - 18 Utility Easement to Wisconsin Electric Power Company, dated April 01, 1969, recorded/ filed April 21, 1969 in Volume 464, Page 289 as Document No. 307161.
  - 19 Utility Easement to Wisconsin Electric Power Company, dated June 02, 1969, recorded/ filed June 11, 1969 in Volume 466, Page 666 as Document No. 306333.
  - 20 Terms, conditions, restrictions and provisions relating to the use and maintenance of the easement for ingress, egress and utility purposes as set forth in Warranty Deed recorded on July 08, 1994 in Volume 1441, Page 622, as Document No. 671931.
  - 21 Utility Easement to Wisconsin Electric Power Company, dated December 15, 1997, recorded/ filed January 30, 1998 in Volume 1781, Page 53 as Document No. 768954.
  - 22 Terms, conditions, restrictions and provisions relating to the use and maintenance of the easements as set forth in as set forth in Quit Claim Deeds recorded on April 08, 2008, as Document No. 1188389 and 1188390.

ARC=332.08'  
RAD=3652.35'  
CH. BRG.=N67°29'22"W  
CH. L.=331.96'  
Δ=05°12'34"

- GENERAL NOTES:**
1. Bearings are referenced to the Wisconsin State Plane Coordinate System, South Zone. The north line of the NW 1/4 of Section 8-9-20, was used as S89°48'11"E.
  2. Vertical Datum: NGVD29. The northwest corner of the NW 1/4 of Section 8-9-20 marked by concrete monument with brass cap, ELV=976.06'
  3. Wetland delineated by K. Sherfinski of Helianthus LLC, per report dated Aug. 20, 2023.
  4. At the time of this survey, the property has access to Holy Hill Rd. a public right-of-way, via private road easement as described in Document No. 1188390.
  5. Properties field surveyed by JSD Professional Services on Aug. 1 to 4, 2023.
  6. This ALTA/NSPS Land Title Survey was prepared and based on First American Title Insurance Company Group Title Commitment No.: NCS-1171893-MKE, Revision No. 01 (June 19, 2023), Commitment Date June 07, 2023.
  7. Underground utility information are based on survey of field markings by Digger's Hotline. JSD do not guarantee that all underground utilities were marked at the time of this survey.

**LEGAL DESCRIPTION:**  
(Based on First American Title Insurance Company Group Title Commitment No.: NCS-1171893-MKE, Revision No. 01 (June 19, 2023), Commitment Date June 07, 2023.)  
LOT 2 OF CERTIFIED SURVEY MAP NO. 6264 RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS FOR WASHINGTON COUNTY, WISCONSIN ON OCTOBER 16, 2008, IN VOLUME 47 OF CERTIFIED SURVEY MAPS, PAGE 72 AS DOCUMENT NO. 1203108, SAID CERTIFIED SURVEY MAP BEING A PART OF THE NORTHWEST FRACTIONAL 1/4 AND SOUTHWEST FRACTIONAL 1/4 OF THE NORTHWEST 1/4 OF SECTION 18, TOWNSHIP 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

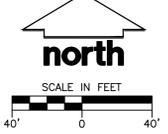
**SURVEYOR'S CERTIFICATE:**  
To RA Steinman Legacy LLC, a Wisconsin limited liability company a/k/a RA Steinman Legacy, LLC, a Wisconsin limited liability company, Truck County of WI, LLC; and First American Title Insurance Company, and their respective successors and assigns:  
This is to certify that 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)(1), 8, 9, 11(a), 11(b), 13, 16, 17, and 18 of Table A thereof. The field work was completed on August 4, 2023.

Date of Map: 7/23/23  
Rizal W. Iskandarjach, P.L.S.  
Professional Land Surveyor, S-2738  
JSD Professional Services, Inc.  
W238 N1810 Busse Road, Suite 100  
Waukesha, WI 53188  
262-513-0666



SURVEY FOR:  
**MCCOY GROUP**  
Driving Excellence<sup>SM</sup>

SURVEY BY:  
**JSD**  
MILWAUKEE REGIONAL OFFICE  
W238 N1810 BUSSE ROAD, SUITE 100  
WAUKESHA, WISCONSIN 53188  
P. 262.513.0666  
JSD PROJ. NO.: 23-13460  
JSD PROJ. MGR.: RWI





# Truck Country - Plan Commission Submittal

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 AP102 EXTERIOR ELEVATIONS  
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 AP104 EXTERIOR RENDERINGS



### OWNER MCCOY GROUP

501 Bell St. Suite #301  
 Dubuque, IA 52001  
 PHONE: (563) 584-2626  
 www.mccoygroup.com

PROJECT CONTACT: Jim Kane, Facilities  
 DIRECT PHONE: (319) 551-1797  
 EMAIL ADDRESS: jimkane@mccoygroup.com



### ARCHITECTURAL EPPSTEIN UHEN ARCHITECTS

333 East Chicago Street  
 Milwaukee, WI 53202  
 PHONE: (414) 271-5350  
 www.eua.com

PROJECT CONTACT: Chris Johns, Project Manager  
 DIRECT PHONE: (414) 291-8152  
 EMAIL ADDRESS: chrisj@eua.com



### CIVIL/LANDSCAPE JSD, Inc.

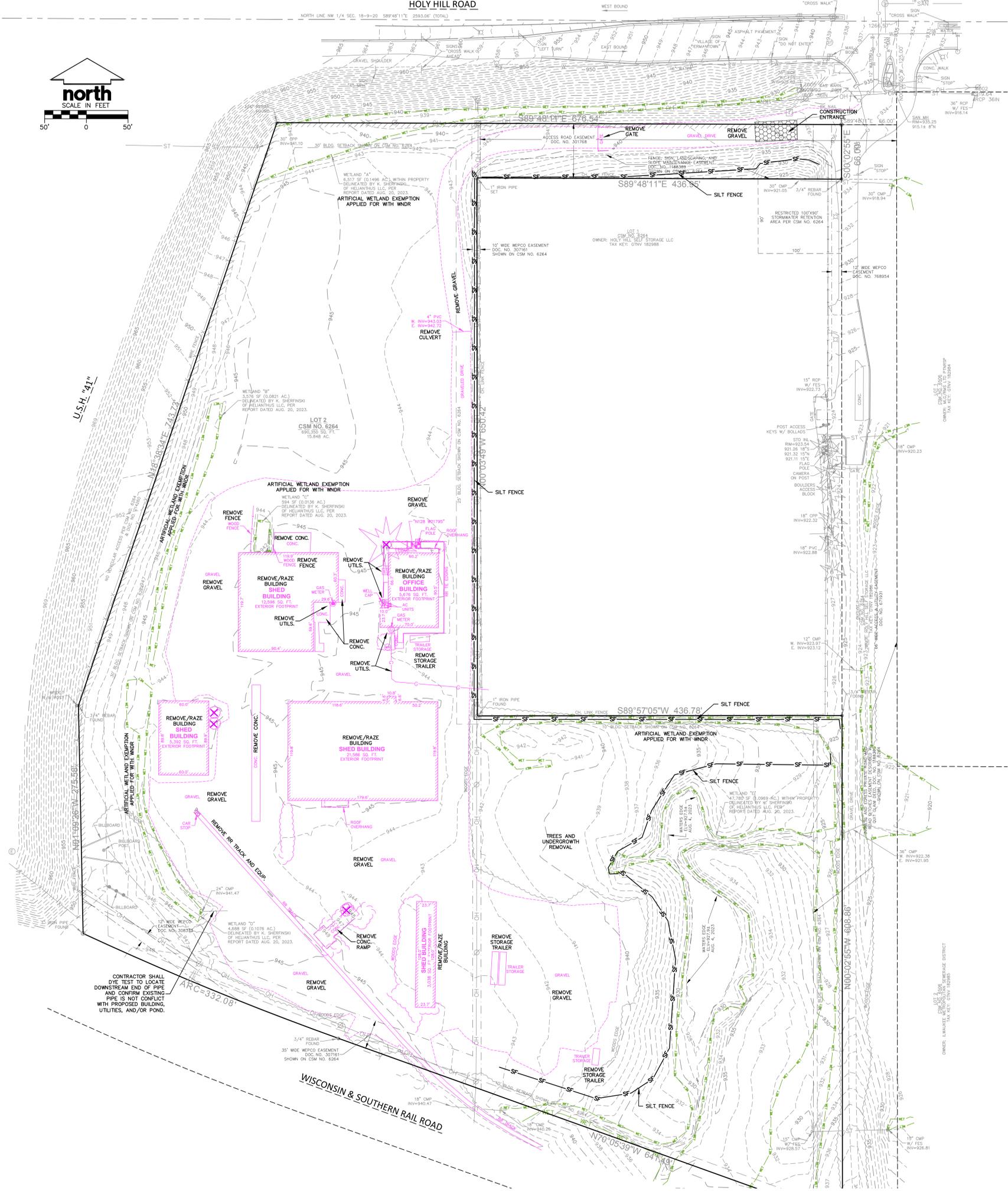
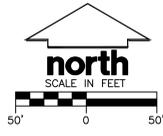
W238N1610 Busse Road, Suite 100  
 Waukesha, WI 53188  
 PHONE: (262) 513-0666  
 www.jsdinc.com

PROJECT CONTACT: Andrew Mertz, P.E.  
 DIRECT PHONE: (262) 933-4178  
 EMAIL ADDRESS: andrew.mertz@jsdinc.com

11/13/2023

PROJECT NUMBER: 23351

HOLY HILL ROAD



GENERAL NOTES

1. REFER TO THE EXISTING CONDITIONS SURVEY FOR EXISTING CONDITIONS NOTES AND LEGENDS.
2. ALL WORK IN THE ROW AND/OR PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER & WATER CONSTRUCTION IN WISCONSIN AND MUNICIPAL REQUIREMENTS.
3. EXISTING GRADE SPOT ELEVATIONS SHOWN FOR INFORMATIONAL PURPOSES. DURING CONSTRUCTION MATCH EXISTING GRADES AT CONSTRUCTION LIMITS.
4. NO SITE GRADING OUTSIDE OR DOWNSLOPE OF PROPOSED SILT FENCE LOCATION. NO LAND DISTURBANCE BEYOND PROPERTY LINES.
5. JSD SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER/CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY ANY OR ALL REGULATORY AGENCIES.

CONSTRUCTION SEQUENCING

1. INSTALL PERIMETER SILT FENCE, INLET PROTECTION AND TEMPORARY CONSTRUCTION ENTRANCE.
2. ROUGH GRADE TEMPORARY SEDIMENT TRAPS AND INSTALL OUTLETS.
3. STRIP AND STOCKPILE TOPSOIL, INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
4. CONDUCT ROUGH GRADING EFFORTS AND INSTALL CHECK DAMS WITHIN DRAINAGE DITCHES AS NEEDED.
5. CONSTRUCT BUILDING FOOTINGS.
6. INSTALL UTILITY PIPING AND STRUCTURES, IMMEDIATELY INSTALL INLET PROTECTION.
7. COMPLETE FINAL GRADING, INSTALLATION OF GRAVEL BASE COURSES, PLACEMENT OF CURBS, PAVEMENTS, WALKS, ETC.
8. PLACE TOPSOIL AND IMMEDIATELY STABILIZE DISTURBED AREAS WITH EROSION CONTROL MEASURES AS INDICATED ON PLANS.
9. REMOVE TEMPORARY SEDIMENT TRAPS AND FINAL GRADE AREA PER PLAN.
10. EROSION CONTROLS SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED OR 70% VEGETATIVE COVER IS ESTABLISHED.

CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM NO. 1 AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS.

DEMOLITION NOTES

1. THIS PLAN INDICATES ITEMS ON THE PROPERTY INTENDED FOR DEMOLITION BASED ON THE CURRENT SITE DESIGN THAT HAVE BEEN IDENTIFIED BY A REASONABLE OBSERVATION OF THE EXISTING CONDITIONS THROUGHOUT THE PROPERTY. "DIGGER'S HOTLINE" LOCATION AND GENERAL "STANDARD OF CARE". THERE MAY BE ADDITIONAL ITEMS THAT CAN NOT BE IDENTIFIED BY A REASONABLE ABOVE GROUND OBSERVATION, OF WHICH THE ENGINEER WOULD HAVE NO KNOWLEDGE OR MAY BE A PART OF ANOTHER DESIGN DISCIPLINE. IT IS THE CONTRACTOR'S/BIDDER'S RESPONSIBILITY TO REVIEW THE PLANS, INSPECT THE SITE AND PROVIDE THEIR OWN DUE DILIGENCE TO INCLUDE IN THEIR BID WHAT ADDITIONAL ITEMS, IN THEIR OPINION, MAY BE NECESSARY FOR DEMOLITION. ANY ADDITIONAL ITEMS IDENTIFIED BY THE CONTRACTOR/BIDDER SHALL BE IDENTIFIED IN THE BID AND REPORTED TO THE ENGINEER OF RECORD. JSD TAKES NO RESPONSIBILITY FOR ITEMS ON THE PROPERTY THAT CANNOT BE LOCATED BY A REASONABLE OBSERVATION OF THE PROPERTY OR OF WHICH THEY WOULD HAVE NO KNOWLEDGE.
2. ALL TREES WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS SPECIFICALLY CALLED OUT FOR PROTECTION. ALL TREES TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY AND STUMPS SHALL BE GROUND TO PROPOSED SUBGRADE.
3. ABANDONED/REMOVED ITEMS SHALL BE DISPOSED OF OFF SITE UNLESS OTHERWISE NOTED.
4. CONTRACTOR TO REPLACE ALL SIDEWALK AND CURB AND GUTTER ABUTTING THE PROPERTIES, WHICH IS DAMAGED BY THE CONSTRUCTION, OR ANY SIDEWALK AND CURB AND GUTTER THAT THE CITY ENGINEER DETERMINES NEEDS TO BE REPLACED BECAUSE IT IS NOT AT A DESIRABLE GRADE REGARDLESS OF WHETHER THE CONDITION EXISTED PRIOR TO BEGINNING CONSTRUCTION.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR:
  - 5.1. EXAMINING ALL SITE CONDITIONS RELATIVE TO THE CONDITIONS INDICATED ON THE ENGINEERING DRAWINGS. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE ENGINEER AND RESOLVED PRIOR TO THE START OF CONSTRUCTION.
  - 5.2. VERIFYING UTILITY ELEVATIONS AND NOTIFYING ENGINEER OF ANY DISCREPANCIES. NO WORK SHALL BE PERFORMED UNTIL THE DISCREPANCIES ARE RESOLVED.
  - 5.3. NOTIFYING ALL UTILITIES PRIOR TO THE REMOVAL OF ANY UNDERGROUND UTILITIES.
  - 5.4. NOTIFYING THE DESIGN ENGINEER AND LOCAL CONTROLLING MUNICIPALITY 48 HOURS PRIOR TO THE START OF CONSTRUCTION TO ARRANGE FOR APPROPRIATE CONSTRUCTION INSPECTION.
6. CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY DURING THE CONSTRUCTION OF THESE IMPROVEMENTS.
7. CONTRACTOR TO COORDINATE PRIVATE UTILITY REMOVAL / ABANDONMENT AND NECESSARY RELOCATION WITH RESPECTIVE UTILITY COMPANY. COORDINATION REQUIRED PRIOR TO CONSTRUCTION.
8. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE APPROVED MUNICIPALITY RECYCLING PLAN.
9. ANY CONTAMINATED SOILS SHALL BE REMOVED IN ACCORDANCE WITH FEDERAL AND STATE REGULATIONS TO AN APPROVED LANDFILL.
10. ALL EXISTING UTILITIES TO BE FIELD LOCATED AND FLAGGED BY CONTRACTOR.
11. SEWER ABANDONMENT SHALL BE IN ACCORDANCE WITH SECTION 3.2.24, OF THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN WISCONSIN, LATEST ADDITION, AND VILLAGE OF GERMANTOWN SPECIFICATIONS.
12. WATER ABANDONMENT SHALL BE IN ACCORDANCE WITH SECTION 4.14.0 OF THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN WISCONSIN, LATEST ADDITION, AND VILLAGE OF GERMANTOWN SPECIFICATIONS.
13. ALL PERIMETER EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF DEMOLITION ACTIVITIES. CONTRACTOR SHALL KEEP ALL STREETS AND PAVEMENT FREE AND CLEAR OF ALL CONSTRUCTION RELATED DIRT, DUST AND DEBRIS.
14. CONTRACTOR TO REMOVE EXISTING UTILITY PIPE OR PROVIDE PIPE BACK-FILLING AFTER REMOVAL OF EXISTING UTILITIES WITHIN BUILDING FOOTPRINT USING "LOW DENSITY CONCRETE/FLOWABLE FILL".
15. RESTORATION OF THE EXISTING ROADWAY RIGHT-OF-WAYS ARE CONSIDERED INCIDENTAL AND SHOULD BE PART OF THE COST OF THE UNDERGROUND IMPROVEMENTS. DEMOLITION AND REMOVAL. THIS INCLUDES CURB & GUTTER, SIDEWALK, TOPSOIL, SEEDING AND MULCHING.



milwaukee | madison | green bay | denver | atlanta

PROJECT INFORMATION



**D** N128W21795  
Holy Hill Road  
Village of Germantown  
Washington Co., WI

ISSUANCE AND REVISIONS

DATE	DESCRIPTION

KEY PLAN

LEGEND

⊙	SANITARY SEWER MANHOLE	— SAN —	SANITARY SEWER
⊕	STORM MANHOLE	— W —	WATER MAIN
⊕	CATCH BASIN ROUND	— ST —	STORM SEWER
⊕	CATCH BASIN SQUARE	— RD —	ROOF DRAIN
⊕	FIRE HYDRANT	— G —	UNDERGROUND GAS
⊕	WATER VALVE	— E —	UNDERGROUND ELECTRIC
⊕	GAS VALVE	— T —	UNDERGROUND TELEPHONE
⊕	LIGHT POLE	— FIB —	UNDERGROUND FIBER OPTICS
⊕	TELEPHONE PEDESTAL	— OH —	OVERHEAD UTILITY
⊕	ELECTRICAL MANHOLE	— SF —	SILT FENCE
—	SIGN	—	18" STANDARD CURB AND GUTTER
—	POWER POLE	—	18" HIGH SIDE CURB AND GUTTER
—	GUY WIRE	—	
—	CONFEROUS TREE	—	
—	DECIDUOUS TREE	—	

SHEET INDEX

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C-101	SITE DIMENSION AND PAVEMENT ID PLAN
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C-200	NOTES AND DETAILS
C-201	NOTES AND DETAILS



**JSD**  
MILWAUKEE REGIONAL OFFICE  
W2381610 BLUSSE ROAD, SUITE 100  
WAUKESHA, WISCONSIN 53188  
P. 262.513.0666  
JSD PROJ. NO.: 23-13460A  
JSD PROJ. MGR.: APM

**DIGGERS HOTLINE**  
Call 811 or (800) 242-8511  
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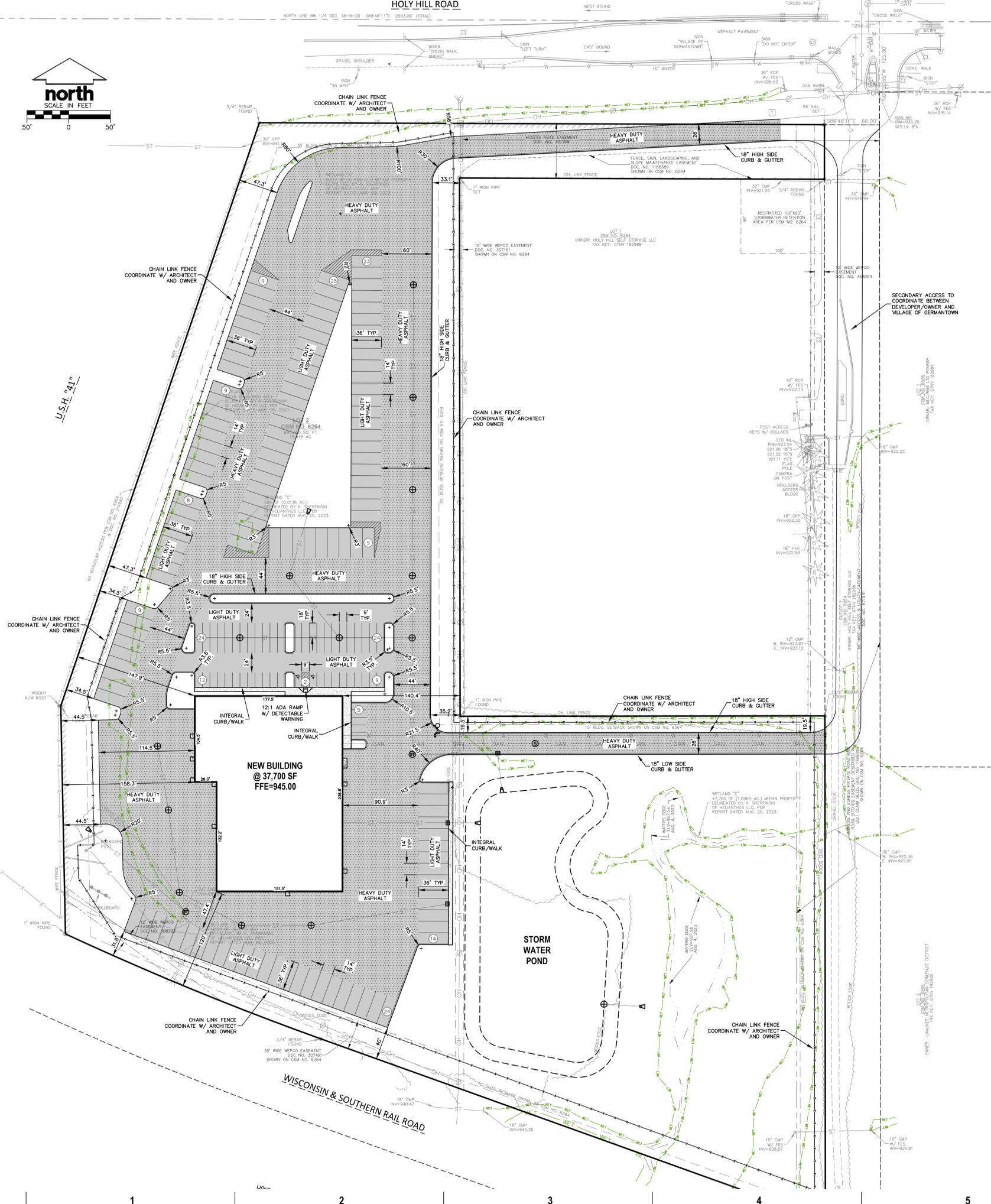
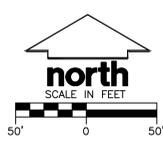
PROJECT MANAGER CJ  
PROJECT NUMBER 23351

SITE DEMOLITION PLAN

**C-100**

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HOLY HILL ROAD



PAVING NOTES

- GENERAL
  - ALL PAVING SHALL CONFORM TO "STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY & STRUCTURE CONSTRUCTION", LATEST EDITION, APPLICABLE VILLAGE OF GERMANTOWN ORDINANCES AND RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER OF RECORD.
  - ALL PAVING DIMENSIONS ARE TO FACE OF CURB UNLESS SPECIFIED OTHERWISE.
  - SURFACE PREPARATION - NOTIFY ENGINEER/OWNER OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.
  - ANY REQUIRED REPLACEMENT OF PUBLIC CURB AND GUTTER SHALL MATCH EXISTING AND MEET MUNICIPALITY REQUIREMENTS.
- ASPHALTIC CONCRETE PAVING SPECIFICATIONS
  - CODES AND STANDARDS - THE PLACING, CONSTRUCTION AND COMPOSITION OF THE ASPHALTIC BASE COURSE AND ASPHALTIC CONCRETE SURFACE COURSE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 450, 455, 460 AND 465 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, CURRENT EDITION. HEREAFTER, THIS PUBLICATION WILL BE REFERRED TO AS STATE HIGHWAY SPECIFICATIONS.
  - WEATHER LIMITATIONS - APPLY TACK COATS WHEN AMBIENT TEMPERATURE IS ABOVE 50° F (10° C) AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35° F (1° C) FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION. DO NOT APPLY WHEN BASE IS WET OR CONTAINS EXCESS OF MOISTURE. CONSTRUCT ASPHALTIC CONCRETE SURFACE COURSE WHEN ATMOSPHERIC TEMPERATURE IS ABOVE 40° F (4° C) AND WHEN BASE IS DRY AND WHEN WEATHER IS NOT RAINY. BASE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30° F (-1° C).
  - GRADE CONTROL - ESTABLISH AND MAINTAIN REQUIRED LINES AND ELEVATIONS FOR EACH COURSE DURING CONSTRUCTION.
  - CRUSHED AGGREGATE BASE COURSE - THE TOP LAYER OF BASE COURSE SHALL CONFORM TO SECTIONS 301 AND 305, STATE HIGHWAY SPECIFICATIONS.
  - BINDER COURSE AGGREGATE - THE AGGREGATE FOR THE BINDER COURSE SHALL CONFORM TO SECTIONS 460 AND 465, STATE HIGHWAY SPECIFICATIONS.
  - SURFACE COURSE AGGREGATE - THE AGGREGATE FOR THE SURFACE COURSE SHALL CONFORM TO SECTIONS 460 AND 465, STATE HIGHWAY SPECIFICATIONS.
  - ASPHALTIC MATERIALS - THE ASPHALTIC MATERIALS SHALL CONFORM TO SECTION 455 AND 460, STATE HIGHWAY SPECIFICATIONS.
- CONCRETE PAVING SPECIFICATIONS
  - CONCRETE PAVING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 415 AND 416 OF THE STATE HIGHWAY SPECIFICATIONS.
  - CONCRETE PAVEMENT SHALL BE REINFORCED WITH NOVOMESH 950 (OR EQUAL) FIBER REINFORCEMENT AT A RATE OF 5 LBS/CUBIC YARD.
  - CURING COMPOUNDS SHALL CONFORM TO SECTION 415 OF THE STATE HIGHWAY SPECIFICATIONS.
  - CONTRACTOR SHALL PROVIDE CONTROL JOINTS AND CONSTRUCTION JOINTS OF ONE-QUARTER CONCRETE THICKNESS AT AN EQUAL RATIO OF LENGTH TO WIDTH WHEREVER POSSIBLE WITH A MAXIMUM LENGTH BETWEEN JOINTS OF 8' ON CENTER.
  - CONTRACTOR SHALL PROVIDE EXPANSION JOINTS IN SIDEWALKS AT A MAXIMUM 24' ON CENTER.
  - EXTERIOR CONCRETE SURFACES SHALL BE BROOM FINISHED.
  - ALL CONCRETE SURFACES TO BE SEALED WITH TYPE TK-26UV CONCRETE SEALANT.
- PAVEMENT MARKING SPECIFICATIONS
  - USE 4" WIDE, HIGH VISIBILITY YELLOW LATEX PAINT FOR STALL LINES.
  - MARK AND STRIPE ADA PARKING SPACES APPROPRIATELY.
  - 2' x 4' TRUNCATED DOME WARNING DETECTION FIELD SHALL BE PLACED AT ALL ADA RAMPS.

PAVING THICKNESS NOTES

\*\* FINAL PAVEMENT DESIGN TO BE DETERMINED BY OWNER BASED ON GEOTECHNICAL ENGINEER OF RECORD RECOMMENDATIONS. PAVING SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER OF RECORDS RECOMMENDATIONS AS SPECIFIED IN THE SAID GEOTECHNICAL REPORT.

- MINIMUM PAVEMENT STRUCTURE
- CONCRETE PAVEMENT (TRUCK DOCK, DOLLY PAD, APRON DRIVE-IN ENTRANCE, TRASH PAD)
    - 8" CONCRETE W/ MESH REINFORCEMENT
    - 6" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
    - CLEAN RECYCLED CRUSHED CONCRETE MAY BE USED IF APPROVED BY GEOTECH ENGINEER OF RECORD.
  - HEAVY DUTY ASPHALT PAVEMENT
    - 5" ASPHALTIC CONCRETE (2 LIFTS, 3" BINDER, 2" SURFACE)
    - LOWER LAYER (3" BINDER, 4LT 58.28 S)
    - UPPER LAYER (2" SURFACE, 5LT 58.28 S)
    - 12" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
    - CLEAN RECYCLED CRUSHED CONCRETE MAY BE USED IF APPROVED BY GEOTECH ENGINEER OF RECORD.
  - LIGHT DUTY ASPHALT PAVEMENT
    - 3-1/2" ASPHALTIC CONCRETE (2 LIFTS, 2" BINDER, 1-1/2" SURFACE)
    - LOWER LAYER (2" BINDER, 4LT 58.28 S)
    - UPPER LAYER (1.5" SURFACE, 5LT 58.28 S)
    - 8" CRUSHED AGGREGATE BASE COURSE (1-1/4" DENSE GRADED LIMESTONE)
    - CLEAN RECYCLED CRUSHED CONCRETE MAY BE USED IF APPROVED BY GEOTECH ENGINEER OF RECORD.
  - CONCRETE SIDEWALK AND STOOPS
    - 5" CONCRETE
    - 6" CRUSHED AGGREGATE BASE COURSE
    - CLEAN RECYCLED CRUSHED CONCRETE MAY BE USED IF APPROVED BY GEOTECH ENGINEER OF RECORD.

LEGEND

⊙	SANITARY SEWER MANHOLE	SAN	SANITARY SEWER
⊕	STORM MANHOLE	W	WATER MAIN
⊕	CATCH BASIN ROUND	ST	STORM SEWER
⊕	CATCH BASIN SQUARE	RD	ROOF DRAIN
⊕	FIRE HYDRANT	G	UNDERGROUND GAS
⊕	WATER VALVE	E	UNDERGROUND ELECTRIC
⊕	GAS VALVE	T	UNDERGROUND TELEPHONE
⊕	LIGHT POLE	FIB	UNDERGROUND FIBER OPTICS
⊕	TELEPHONE PEDESTAL	OH	OVERHEAD UTILITY
⊕	ELECTRICAL MANHOLE	SF	SILT FENCE
⊕	SIGN	18"	STANDARD CURB AND GUTTER
⊕	POWER POLE	18"	HIGH SIDE CURB AND GUTTER
⊕	GUY WIRE		
⊕		⊕	CONIFEROUS TREE
		⊕	DECIDUOUS TREE

SHEET INFORMATION



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PROJECT INFORMATION



N128W21795  
Holy Hill Road  
Village of Germantown  
Washington Co., WI

ISSUANCE AND REVISIONS

DATE	DESCRIPTION

KEY PLAN

B

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PROJECT MANAGER CJ  
PROJECT NUMBER 23351

SITE DIMENSION AND PAVEMENT ID PLAN

**C-101**

PROPERTY IS ZONED M-1, LIMITED INDUSTRIAL DISTRICT, PER VILLAGE OF GERMANTOWN ZONING MAP. PER VILLAGE CODE PROPERTY HAS THE FOLLOWING BUILDING SETBACKS:  
FRONT SETBACK: 30 FEET  
SIDE SETBACK: 10 FEET  
REAR SETBACK: 25 FEET

PRE-DEVELOPMENT (PROPERTY LIMITS):  
PERVIOUS - 413,586 SF (59.9% GREEN SPACE)  
IMPERVIOUS - 276,784 SF (40.1% IMPERVIOUS)

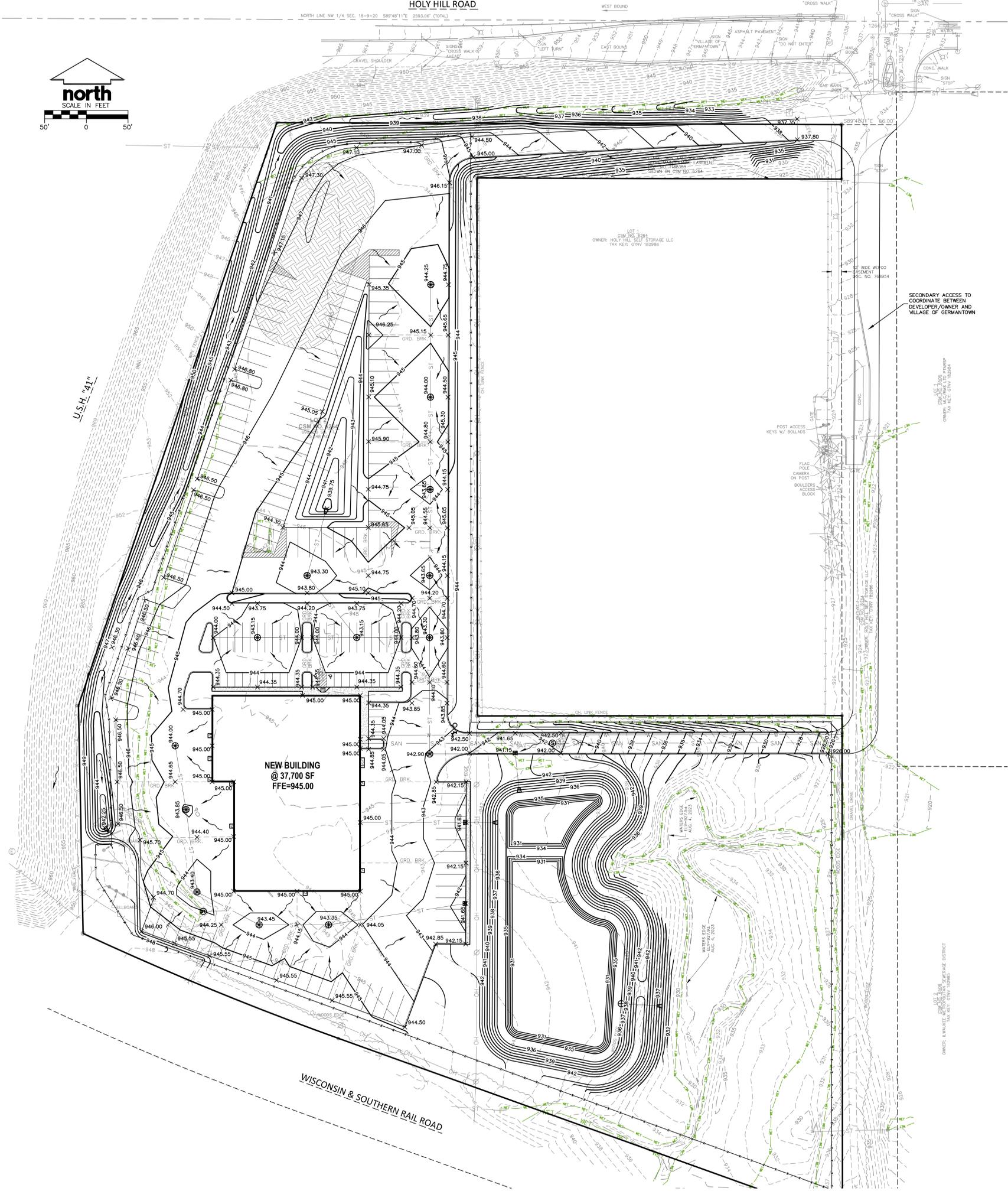
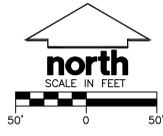
POST-DEVELOPMENT (PROPERTY LIMITS):  
PERVIOUS - 369,150 SF (53.5% GREEN SPACE)  
IMPERVIOUS - 321,200 SF (46.5% IMPERVIOUS)

74 STANDARD PARKING STALLS  
2 ADA ACCESSIBLE STALLS  
130 TRUCK DISPLAY STALLS  
PROJECT DISTURBANCE AREA - 546,260 SF (12.5 AC.)  
\*LOT 4 OF CSM NO. 6264 (PROPERTY AREA 15.8 AC.)

**JSD**  
MILWAUKEE REGIONAL OFFICE  
W2381610 BLUSSE ROAD, SUITE 100  
WAUKESHA, WISCONSIN 53188  
P. 262.513.0666  
JSD PROJ. NO.: 23-13460A  
JSD PROJ. MGR.: APM

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HOLY HILL ROAD



GRADING AND SEEDING NOTES

1. ALL PROPOSED GRADES SHOWN ARE FINISHED GRADES. CONTRACTOR SHALL VERIFY ALL GRADES, MAKE SURE ALL AREAS DRAIN PROPERLY AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR COMPUTATIONS OF ALL GRADING QUANTITIES. WHILE JSD PROFESSIONAL SERVICES, INC. ATTEMPTS TO PROVIDE A COST EFFECTIVE APPROACH TO BALANCE EARTHWORK, GRADING DESIGN IS BASED ON MANY FACTORS, INCLUDING SAFETY, AESTHETICS, AND COMMON ENGINEERING STANDARDS OF CARE. THEREFORE, NO GUARANTEE CAN BE MADE FOR A BALANCED SITE.
3. PARKING LOT AND DRIVEWAY ELEVATIONS ARE PAVEMENT GRADES, NOT TOP OF CURB GRADES, UNLESS OTHERWISE NOTED.
4. ANY WORK WITHIN RIGHT-OF-WAY SHALL BE PROPERLY PERMITTED AND COORDINATED WITH THE APPROPRIATE OFFICIALS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. ALL GRADING WITHIN RIGHT-OF-WAY IS SUBJECT TO APPROVAL BY SAID OFFICIALS.
5. CONTRACTOR SHALL PROVIDE NOTICE TO THE MUNICIPALITY IN ADVANCE OF ANY SOIL DISTURBING ACTIVITIES, IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS.
6. ALL DISTURBED AREAS SHALL BE SODDED AND/OR SEEDDED IMMEDIATELY FOLLOWING GRADING ACTIVITIES. SOOD/SEED MIX TO BE IN ACCORDANCE WITH LANDSCAPE PLAN.
7. CONTRACTOR SHALL WATER ALL NEWLY SODDED/SEEDDED AREAS DURING THE SUMMER MONTHS WHENEVER THERE IS A 7 DAY LAPSE WITH NO SIGNIFICANT RAINFALL.
8. CONTRACTOR TO DEEP TILL ALL COMPACTED PERVIOUS SURFACES PRIOR TO SODDING AND/OR SEEDING AND MULCHING.
9. ALL SLOPES 20% OR GREATER SHALL BE TEMPORARY SEEDDED, MULCHED, OR OTHER MEANS OF COVER PLACED ON THEM WITHIN 2 WEEKS OF DISTURBANCE.
10. ALL EXPOSED SOIL AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR ON WHICH LAND DISTURBING ACTIVITIES WILL NOT BE PERFORMED FOR A PERIOD GREATER THAN 30 DAYS AND REQUIRE VEGETATIVE COVER FOR LESS THAN 1 YEAR, REQUIRE TEMPORARY SEEDING FOR EROSION CONTROL. SEEDING FOR EROSION CONTROL SHALL BE IN ACCORDANCE WITH WDMR TECHNICAL STANDARD 1059 AND VILLAGE OF GERMANTOWN ORDINANCE.



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PROJECT INFORMATION



D N128W21795  
Holy Hill Road  
Village of Germantown  
Washington Co., WI

ISSUANCE AND REVISIONS

DATE	DESCRIPTION
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KEY PLAN

LEGEND

⊙	SANITARY SEWER MANHOLE	— SAN —	SANITARY SEWER
⊕	STORM MANHOLE	— W —	WATER MAIN
⊕	CATCH BASIN ROUND	— ST —	STORM SEWER
⊕	CATCH BASIN SQUARE	— RD —	ROOF DRAIN
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⊕	WATER VALVE	— E —	UNDERGROUND ELECTRIC
⊕	GAS VALVE	— T —	UNDERGROUND TELEPHONE
⊕	LIGHT POLE	— FIB —	UNDERGROUND FIBER OPTICS
⊕	TELEPHONE PEDESTAL	— OH —	OVERHEAD UTILITY
⊕	ELECTRICAL MANHOLE	— SF —	SILT FENCE
⊕	SIGN	—	18" STANDARD CURB AND GUTTER
⊕	POWER POLE	—	18" HIGH SIDE CURB AND GUTTER
⊕	GUY WIRE	⊙	CONIFEROUS TREE
		⊙	DECIDUOUS TREE

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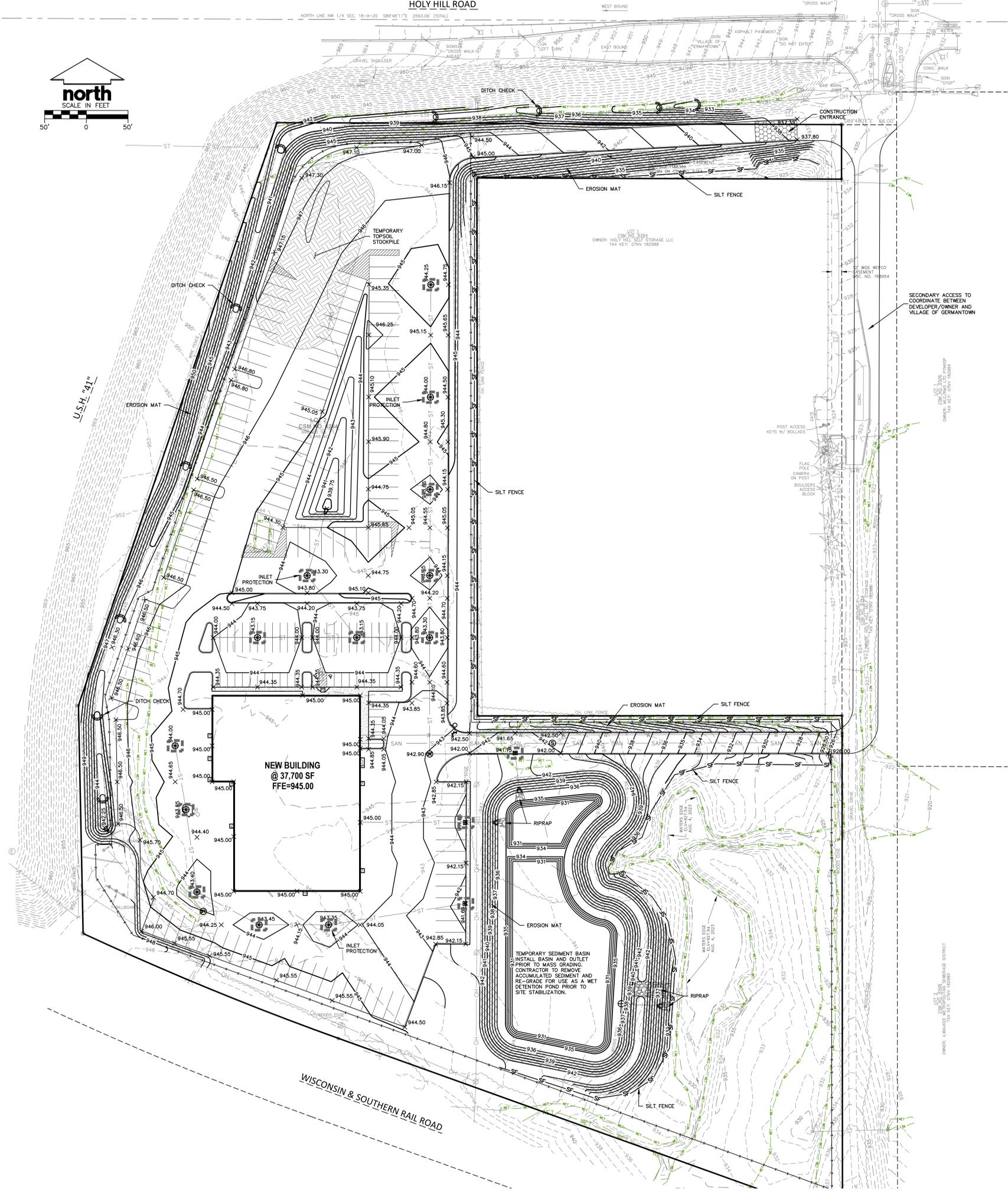
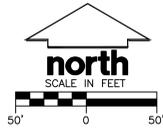
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PROJECT MANAGER CJ  
PROJECT NUMBER 23351

SITE GRADING PLAN  
**C-102**

HOLY HILL ROAD



EROSION CONTROL NOTES

- CONTRACTOR IS RESPONSIBLE TO NOTIFY ENGINEER OF RECORD AND OFFICIALS OF ANY CHANGES TO THE EROSION CONTROL PLAN, ENGINEER OF RECORD AND APPROPRIATE VILLAGE OF GERMANTOWN OFFICIALS MUST APPROVE THE PLAN PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE COVER, AS SHOWN ON PLAN.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) TECHNICAL STANDARDS (REFERRED TO AS BMP'S) AND VILLAGE OF GERMANTOWN ORDINANCE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THESE STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS OR ADDITIONAL EROSION CONTROL MEASURES WHICH MAY BE NECESSARY TO MEET UNFORESEEN FIELD CONDITIONS. MODIFICATIONS TO THE APPROVED EROSION CONTROL DESIGN IS ALLOWED IF MODIFICATIONS CONFORM TO BMP'S. ALL DESIGN MODIFICATIONS MUST BE APPROVED BY THE VILLAGE OF GERMANTOWN PRIOR TO DEVIATION OF THE APPROVED PLAN.
- ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED BY STATE INSPECTORS, LOCAL INSPECTORS, COUNTY INSPECTORS AND/OR ENGINEER OF RECORD SHALL BE INSTALLED WITHIN 24 HOURS OF REQUEST.
- INSPECTIONS AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE ROUTINE (ONCE PER WEEK MINIMUM) TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORK DAY.
- ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE INSPECTED WITHIN 24 HOURS OF ALL RAIN EVENTS EXCEEDING 0.5 INCHES. ANY DAMAGED EROSION CONTROL MEASURES SHALL BE REPAIRED OR REPLACED IMMEDIATELY UPON INSPECTION.
- CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL LOCATIONS OF VEHICLE INGRESS/EGRESS POINTS. ADDITIONAL LOCATIONS OTHER THAN AS SHOWN ON THE PLANS MUST BE PRIOR APPROVED BY THE MUNICIPALITY. CONSTRUCTION ENTRANCES SHALL BE 50' LONG AND NO LESS THAN 12" THICK BY USE OF 3" CLEAR STONE. CONSTRUCTION ENTRANCES SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION WHICH WILL PREVENT THE TRACKING OF MUD OR DRY SEDIMENT ONTO ADJACENT PUBLIC STREETS AFTER EACH WORKING DAY OR MORE FREQUENTLY AS REQUIRED.
- PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEEP AND/OR SCRAPPED TO REMOVE ACCUMULATED SOIL, DIRT AND/OR DUST AFTER THE END OF EACH WORK DAY AND AS REQUESTED BY THE VILLAGE OF GERMANTOWN.
- INLET PROTECTION SHALL BE IMMEDIATELY FITTED AT THE INLET OF ALL INSTALLED STORM SEWER TO PREVENT SEDIMENT DEPOSITION WITHIN STORM SEWER SYSTEMS.
- INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES. IF STOCKPILE REMAINS UNDISTURBED FOR MORE THAN SEVEN (7) DAYS, TEMPORARY SEEDING AND STABILIZATION IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES IS REQUIRED. IF DISTURBANCE OCCURS BETWEEN NOVEMBER 15TH AND MAY 15TH, THE MULCHING SHALL BE PERFORMED BY HYDRO-MULCHING WITH A TACKIFIER.
- DITCH CHECKS AND APPLICABLE EROSION NETTING/MATTING SHALL BE INSTALLED IMMEDIATELY AFTER COMPLETION OF GRADING EFFORTS WITHIN DITCHES/SWALES TO PREVENT SOIL TRANSPORTATION.
- EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.):
  - PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
  - BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
  - DISCHARGE TRENCH WATER INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH THE DEWATERING TECHNICAL STANDARD NO. 1051 PRIOR TO RELEASE INTO THE STORM SEWER, RECEIVING STREAM, OR DRAINAGE DITCH.
- ALL SLOPES 4:1 OR GREATER SHALL BE STABILIZED WITH CLASS I, TYPE B EROSION MATTING OR APPLICATION OF A WISCONSIN DEPARTMENT OF TRANSPORTATION (WISDOT) APPROVED POLYMER SOIL STABILIZATION TREATMENT OR A COMBINATION THEREOF, AS REQUIRED WITHIN 7 DAYS OF REACHING FINAL GRADE AND/OR AS SOON AS CONDITIONS ALLOW. DRAINAGE SWALES SHALL BE STABILIZED WITH CLASS II, TYPE B EROSION MATTING. EROSION MATTING AND/OR NETTING USED ON SITE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND WDNR TECHNICAL STANDARDS 1052 AND 1053.
- CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO CONTROL DUST ARISING FROM CONSTRUCTION OPERATIONS. REFER TO WDNR TECHNICAL STANDARD 1068.
- EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL LAND DISTURBING CONSTRUCTION ACTIVITY AT THE SITE HAS BEEN COMPLETED AND THAT A UNIFORM PERENNIAL VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST 70% FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES OR THAT EMPLOY EQUIVALENT PERMANENT STABILIZATION MEASURES.
- AREAS USED FOR TEMPORARY SEDIMENT BASINS SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN FULLY STABILIZED OR 70% VEGETATIVE COVER IS ESTABLISHED.
- CONTRACTOR/OWNER SHALL FILE A NOTICE OF TERMINATION UPON COMPLETION OF THE PROJECT IN ACCORDANCE WITH WDNR REQUIREMENTS AND/OR PROPERTY SALE IN ACCORDANCE WITH WDNR REQUIREMENTS.

STABILIZATION PRACTICES

- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. NO MORE THAN SEVEN (7) DAYS SHALL PASS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS CEASED UNLESS:
  - THE INITIATION STABILIZATION MEASURES BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY HAS CEASED IS PRECLUDED BY SNOW COVER. IN THAT EVENT, STABILIZATION SHALL BE INITIATED AS SOON AS PRACTICABLE.
  - CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN FOURTEEN (14) DAYS FROM WHEN ACTIVITY CEASED. (I.E. THE TOTAL TIME PERIOD THAT THE CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN FOURTEEN (14) DAYS. IN THAT EVENT, STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
  - STABILIZATION MEASURES SHALL BE DETERMINED BASED ON SITE CONDITIONS AT THE TIME OF CONSTRUCTION ACTIVITY HAS CEASED, INCLUDING BUT NOT LIMITED TO WEATHER CONDITIONS AND LENGTH OF TIME MEASURE MUST BE EFFECTIVE. THE FOLLOWING ARE ACCEPTABLE STABILIZATION MEASURES:
    - PERMANENT SEEDING; IN ACCORDANCE WITH APPROVED CONSTRUCTION SPECIFICATION
    - TEMPORARY SEEDING, MAY CONSIST OF SPRING OATS(100LBS/ACRE) AND/OR WHEAT OR CEREAL RYE (150LBS/ACRE)
    - HYDRO-MULCHING WITH A TACKIFIER
    - GEOTEXTILE EROSION MATTING
    - SOODING

LEGEND

⊙	SANITARY SEWER MANHOLE	— SAN —	SANITARY SEWER
⊕	STORM MANHOLE	— W —	WATER MAIN
⊕	CATCH BASIN ROUND	— ST —	STORM SEWER
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⊕	LIGHT POLE	— FIB —	UNDERGROUND FIBER OPTICS
⊕	TELEPHONE PEDESTAL	— OH —	OVERHEAD UTILITY
⊕	ELECTRICAL MANHOLE	— SF —	SILT FENCE
—	SIGN	—	18" STANDARD CURB AND GUTTER
—	POWER POLE	—	18" HIGH SIDE CURB AND GUTTER
—	GUY WIRE	—	CONIFEROUS TREE
—		—	DECIDUOUS TREE

SEDIMENT BASIN SIZING

BASIN SURFACE AREA	41,011 S.F.
PARTICLE SETTLING VELOCITY (SOIL CLASS 2)	0.000073 FPS
ALLOWABLE 1-YR STORM EVENT DISCHARGE RATE	2.49 CFS
ACTUAL 1-YR STORM EVENT DISCHARGE RATE	1.10 CFS

NOTES:

- CONSTRUCT TEMPORARY SEDIMENT BASIN IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1064.
- OUTLET STRUCTURE SHALL BE CONSTRUCTED AS SHOWN ON DETENTION POND OUTLET DETAIL.
- PRIOR TO FINAL SITE STABILIZATION, SEDIMENT BASIN SHALL BE DREDGED AND RE-GRADED TO ESTABLISH FINISHED WET DETENTION POND GRADES AS SHOWN.



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SITE EROSION CONTROL PLAN

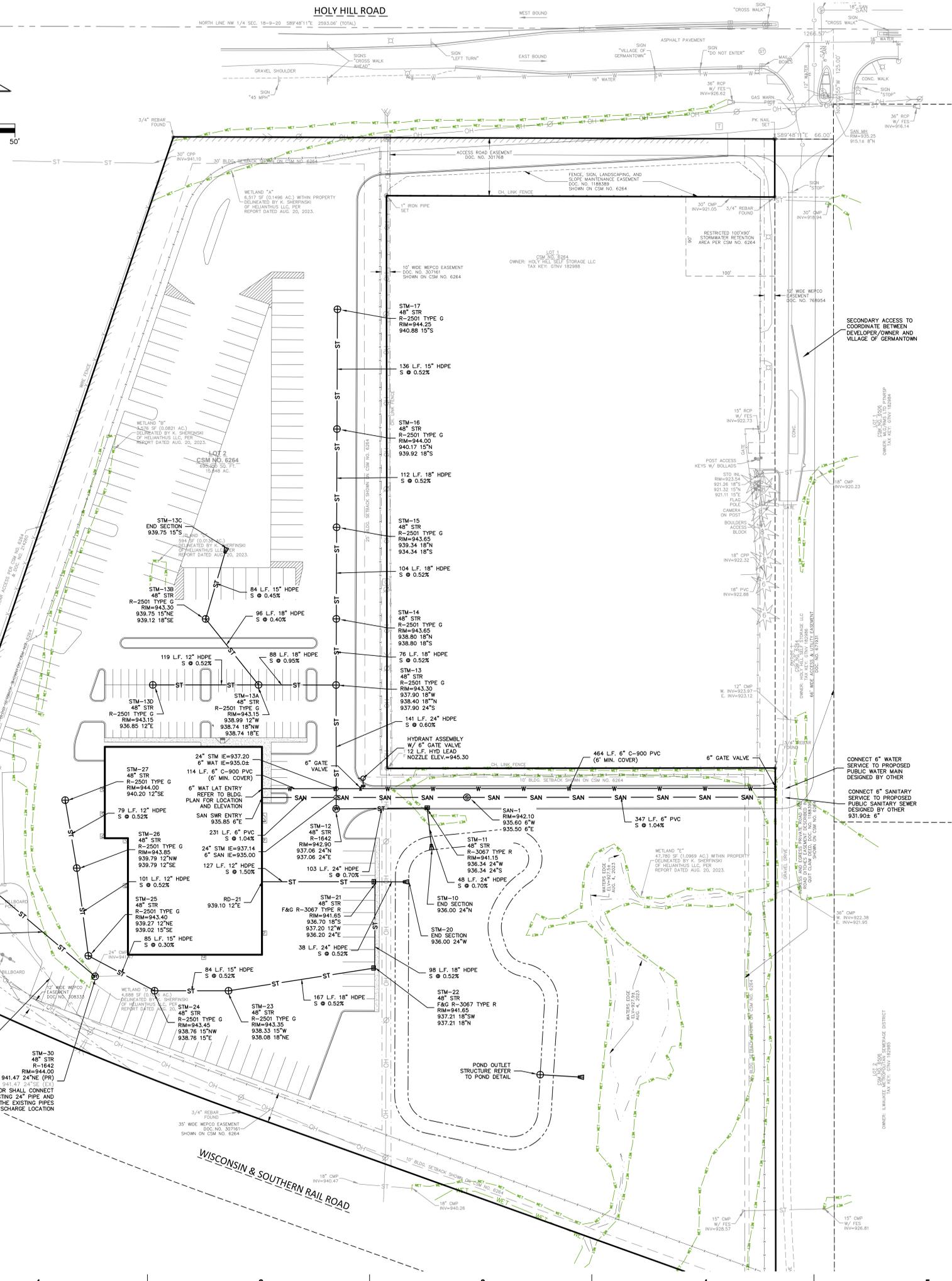
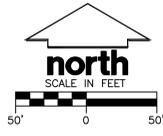
**C-103**



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HOLY HILL ROAD



UTILITY NOTES

- 1. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE...
2. PRIOR TO CONSTRUCTION, THE PRIME CONTRACTOR IS RESPONSIBLE FOR:
3. ALL UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN...
4. SPECIFICATIONS SHALL COMPLY WITH THE VILLAGE OF GERMANTOWN SPECIAL PROVISIONS.
5. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN...
6. CONTRACTOR SHALL INSTALL A PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVER NIGHT AS REQUIRED...
7. CONTRACTOR SHALL ADJUST AND/OR RECONSTRUCT ALL UTILITY COVERS (SUCH AS MANHOLE COVERS, VALVE BOX COVERS, ETC.) TO MATCH THE FINISHED GRADES OF THE AREAS EFFECTED BY THE CONSTRUCTION.
8. THE PRIME CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION WITH OTHER CONTRACTORS INVOLVED WITH CONSTRUCTION OF THE PROPOSED DEVELOPMENT AND FOR REPORTING ANY ERRORS OR DISCREPANCIES BETWEEN THESE PLANS AND PLANS PREPARED BY OTHERS.
9. ANY UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE DESIGNATED IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DRAWINGS CAN BE PREPARED, IF REQUIRED. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
11. STORM SEWER SPECIFICATIONS -
PIPE - HIGH DENSITY DUAL-WALL POLYETHYLENE CORRUGATED PIPE SHALL BE AS MANUFACTURED BY ADS OR EQUAL WITH WATER TIGHT JOINTS, AND SHALL MEET THE REQUIREMENTS OF ASHTO DESIGNATION M-294 TYPE "S".
INLETS - INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FILE NO. 28 OF THE "STANDARD SPECIFICATIONS", OR APPROVED EQUAL WITH A 1'-8" X 2'-6" MAXIMUM OPENING, FRAME & GRATE SHALL BE NEEHAH R-2501 WITH TYPE G GRATE, OR EQUAL. INLETS LOCATED IN LANDSCAPED AREAS SHALL USE NEEHAH R-2501-G BEEHIVE FRAME & GRATE, OR EQUAL. CURB FRAME & GRATE SHALL BE NEEHAH R-3067 WITH TYPE R GRATE, OR EQUAL.
MANHOLE FRAMES AND COVERS - MANHOLE FRAMES AND COVERS SHALL BE NEEHAH R-1642 WITH TYPE "B" SELF SEALING LIDS, NON-ROCKING OR EQUAL.
BACKFILL AND BEDDING - STORM SEWER SHALL BE CONSTRUCTED WITH GRAVEL BACKFILL AND CLASS "B" BEDDING IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT, TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.4.3.5 OF THE "STANDARD SPECIFICATIONS".
FIELD TILE CONNECTION - ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE(S) FOR STORM SEWER. TILE LINES CROSSED BY THE TRENCH SHALL BE REPLACED WITH THE SAME MATERIAL AS THE STORM SEWER.
12. WATER MAIN SPECIFICATIONS -
PIPE - POLYVINYL CHLORIDE (PVC) PIPE SHALL MEET THE REQUIREMENTS OF AWWA STANDARD C-900, CLASS 150, DR-18, WITH CAST IRON O.D. AND INTEGRAL ELASTOMERIC BELL AND SPIGOT JOINTS. NON-METALLIC WATER MAINS SHALL BE INSTALLED WITH BLUE INSULATION TRACER WIRE AND CONFORM WITH SPS 382.30(1)(h).
VALVES AND VALVE BOXES - GATE VALVES SHALL BE AWWA GATE VALVES MEETING THE REQUIREMENTS OF AWWA C-500 AND CHAPTER 8.27.2 OF THE "STANDARD SPECIFICATIONS". GATE VALVES AND VALVE BOXES SHALL CONFORM TO LOCAL PLUMBING ORDINANCES.
HYDRANTS - HYDRANTS SHALL CONFORM TO THE SPECIFICATIONS OF THE VILLAGE OF GERMANTOWN. THE DISTANCE FROM THE GROUND LINE TO THE CENTERLINE OF THE LOWEST NOZZLE AND THE LOWEST CONNECTION OF THE FIRE DEPARTMENT SHALL BE NO LESS THAN 18-INCHES AND NO GREATER THAN 23-INCHES (SEE DETAIL).
BEDDING AND COVER MATERIAL - PIPE BEDDING AND COVER MATERIAL SHALL BE SAND, CRUSHED STONE CHIPS OR CRUSHED STONE SCREENINGS CONFORMING TO CHAPTER 8.4.3.2 OF THE "STANDARD SPECIFICATIONS".
BACKFILL - BACKFILL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH CHAPTER 2.6.0 OF THE "STANDARD SPECIFICATIONS". GRAVEL BACKFILL IS REQUIRED IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.4.3.5 OF THE "STANDARD SPECIFICATIONS".
13. SANITARY SEWER SPECIFICATIONS -
PIPE - SANITARY SEWER PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) MEETING REQUIREMENTS OF ASTM D 3034, SDR-35, WITH INTEGRAL BELL TYPE FLEXIBLE ELASTOMERIC JOINTS, MEETING THE REQUIREMENTS OF ASTM D-5212.
BEDDING AND COVER MATERIAL - BEDDING AND COVER MATERIAL SHALL CONFORM TO THE APPROPRIATE SECTIONS OF THE "STANDARD SPECIFICATION" WITH THE FOLLOWING MODIFICATION: COVER MATERIAL SHALL BE THE SAME AS USED FOR BEDDING AND SHALL CONFORM TO SECTION 8.4.3.2 (A). BEDDING AND COVER MATERIALS SHALL BE PLACED IN A MINIMUM OF THREE SEPARATE LIFTS, OR AS REQUIRED TO INSURE ADEQUATE COMPACTING OF THESE MATERIALS, WITH ONE LIFT OF BEDDING MATERIAL ENDING AT OR NEAR THE SPRINGLINE OF THE PIPE, THE CONTRACTOR SHALL TAKE CARE TO COMPLETELY WORK BEDDING MATERIAL UNDER THE HAUNCH OF THE PIPE TO PROVIDE ADEQUATE SIDE SUPPORT.
BACKFILL - BACKFILL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE CHAPTER 2.6.0 OF THE "STANDARD SPECIFICATIONS". GRAVEL BACKFILL IS REQUIRED IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.4.3.5 OF THE "STANDARD SPECIFICATIONS".
14. WATERMAIN AND SANITARY SEWER SHALL BE INSULATED WHEREVER THE DEPTH OF COVER IS LESS THAN 6 FEET. INSULATION AND INSTALLATION OF INSULATION SHALL BE CONFORMING WITH CHAPTER 4.17.0 "INSULATION" OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN 6TH EDITION UPDATED WITH ITS LATEST ADDENDUM (TYP.).
15. TRACER WIRE SHALL BE INSTALLED ALONG THE SANITARY SEWER SERVICE. THE TRACER WIRE SHALL BE CONTINUOUS AND SHALL BE EXTENDED ABOVE GRADE VIA A 4-INCH PVC PIPE WITH SCREW-ON CAP ADJACENT TO THE PROPOSED TERMINATION POINT OF THE LATERAL. THE PROPOSED BUILDING.
16. ALL NEW ON-SITE SANITARY, STORM AND WATER UTILITIES SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE PROPERTY OWNER.



N128W21795 Holy Hill Road Village of Germantown Washington Co., WI

ISSUANCE AND REVISIONS

Table with 2 columns: DATE, DESCRIPTION

KEY PLAN

SHEET INFORMATION

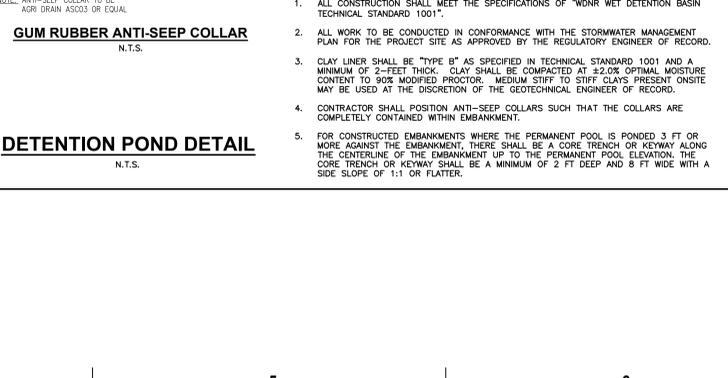
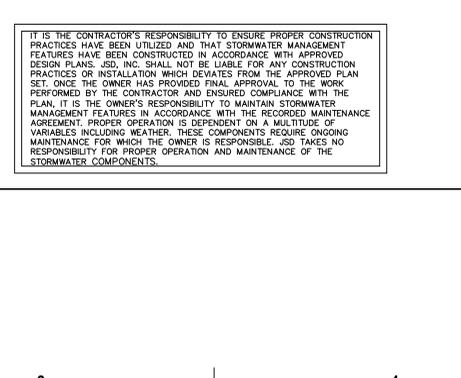
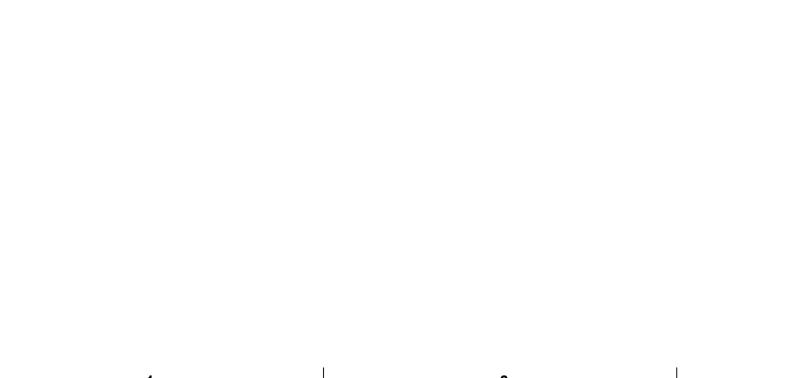
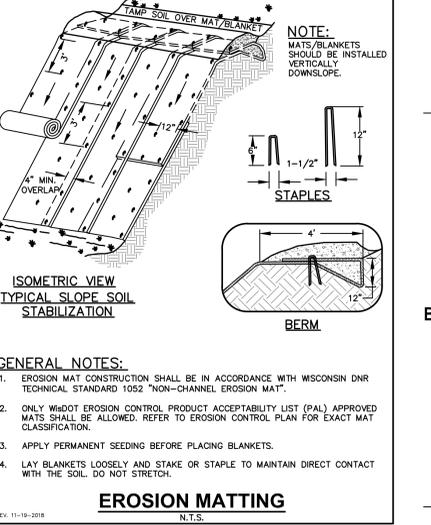
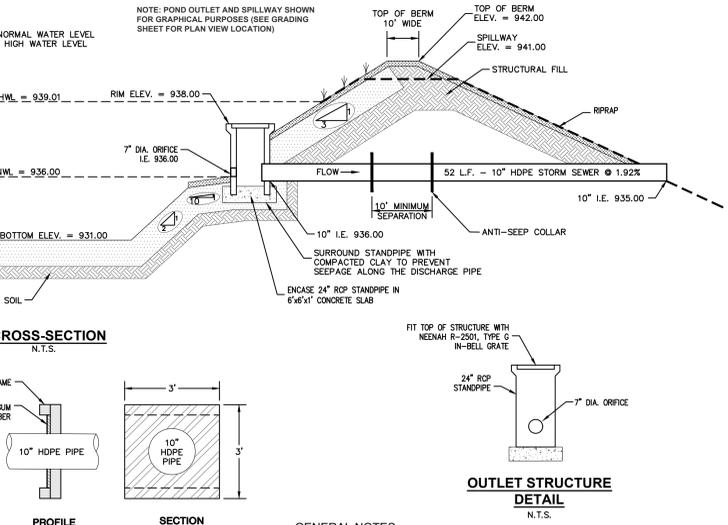
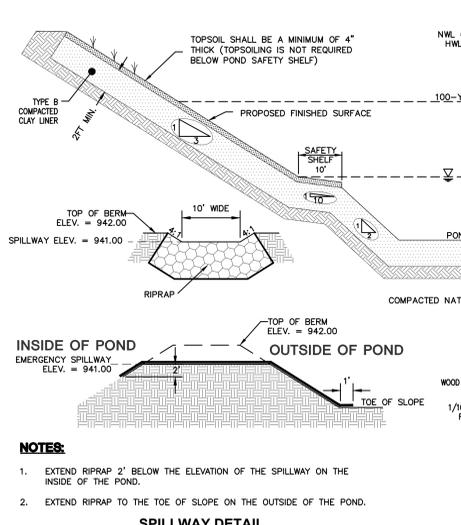
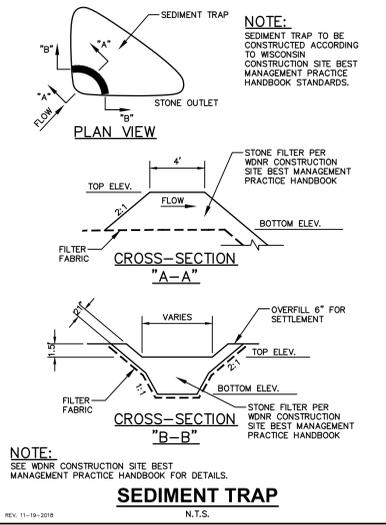
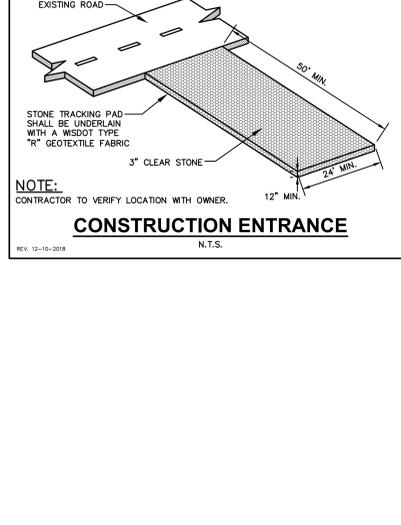
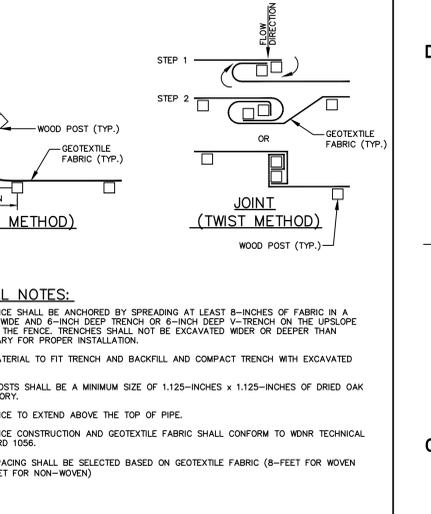
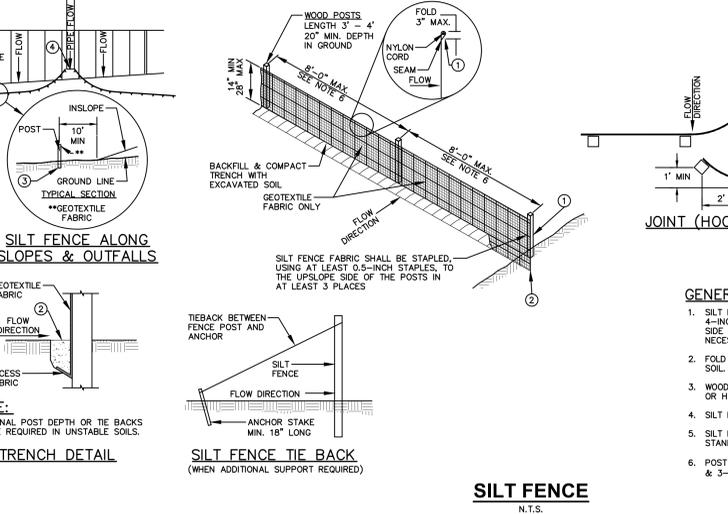
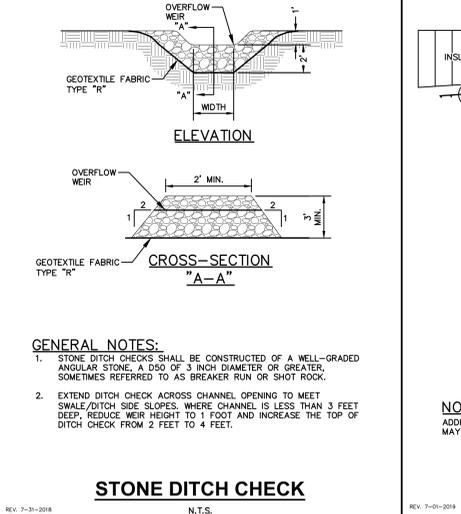
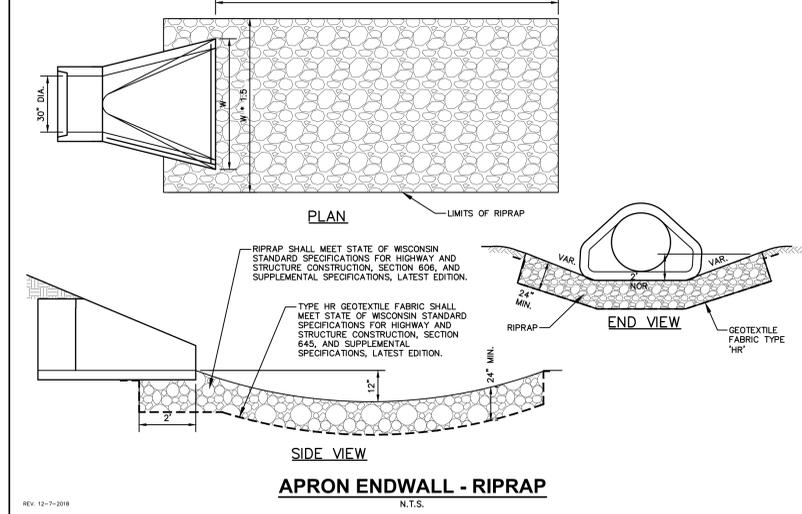
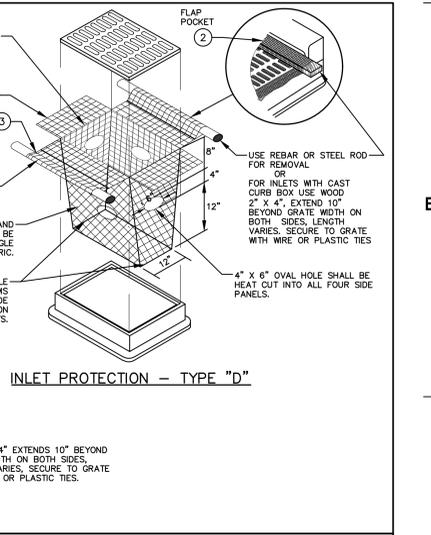
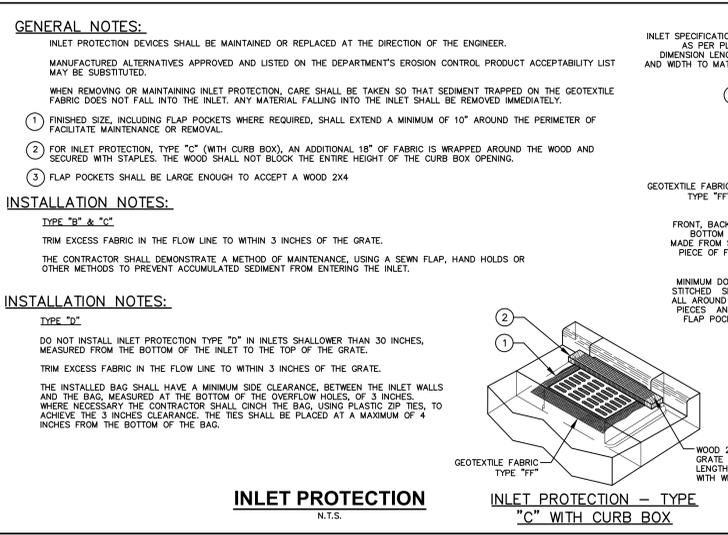
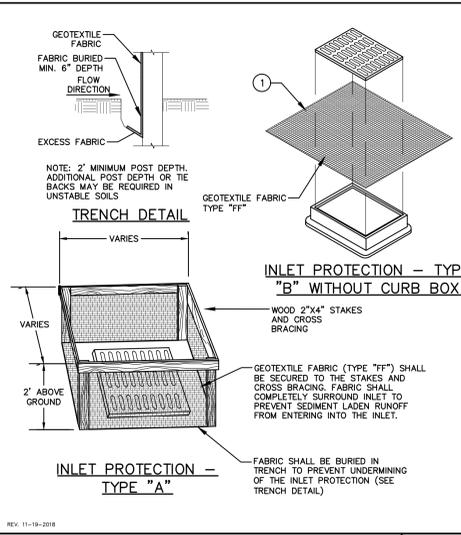
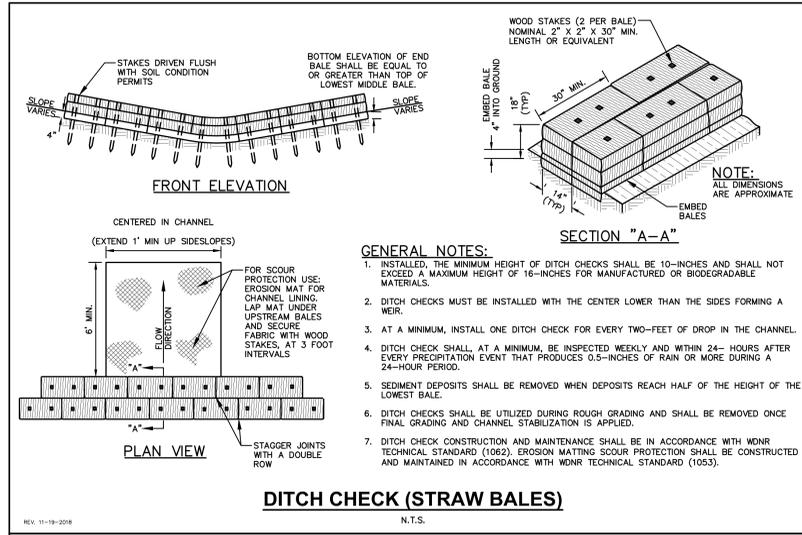
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PROJECT MANAGER CJ PROJECT NUMBER 23351

SITE UTILITY PLAN

C-104

JSD MILWAUKEE REGIONAL OFFICE W2381610 BLUESSE ROAD, SUITE 100 WAUKESHA, WISCONSIN 53188 P. 262.513.0666 JSD PROJ. NO. 23-13460A JSD PROJ. MGR. APM Diggers Hotline Call 811 or (800) 242-8511 Milwaukee Area (262) 432-7910 Hearing Impaired TDD (800) 542-2289 www.DiggersHotline.com



**PROJECT INFORMATION**

**Truck Country**

**N128W21795**  
Holy Hill Road  
Village of Germantown  
Washington Co., WI

**ISSUANCE AND REVISIONS**

DATE	DESCRIPTION

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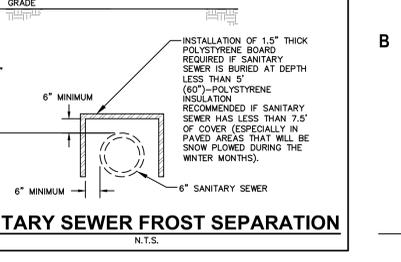
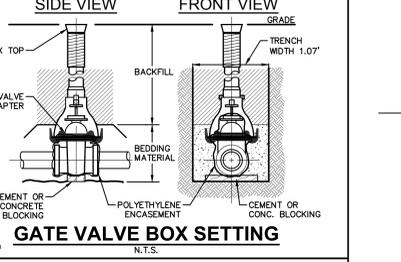
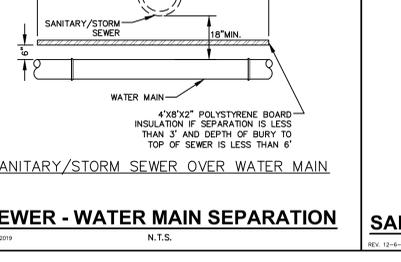
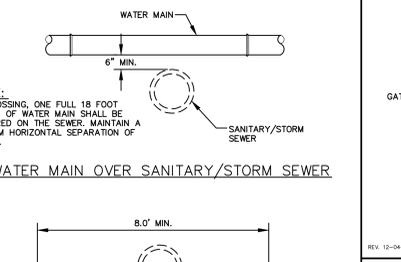
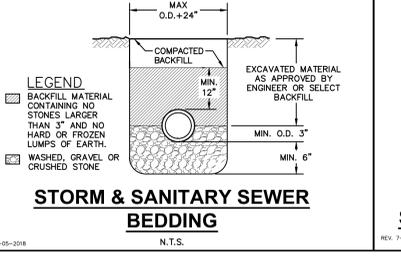
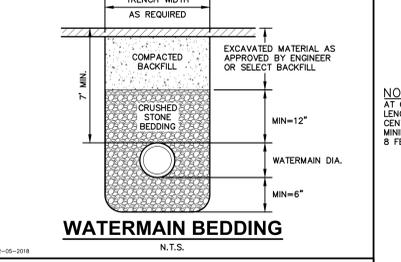
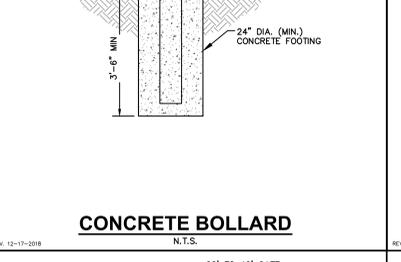
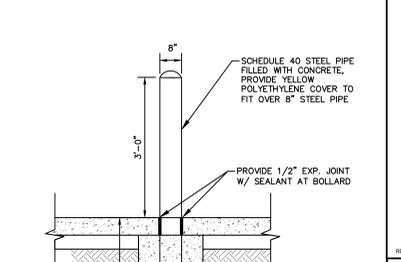
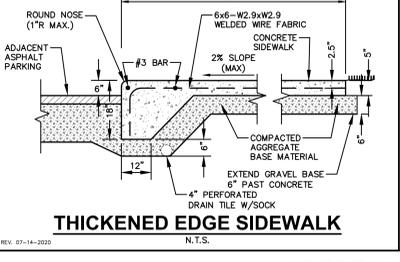
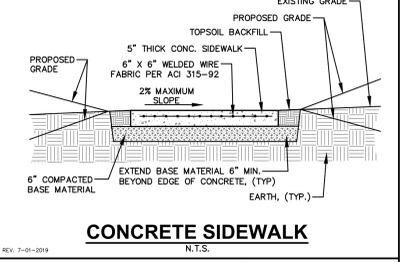
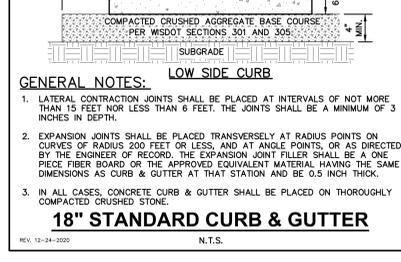
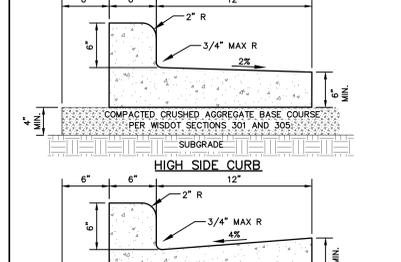
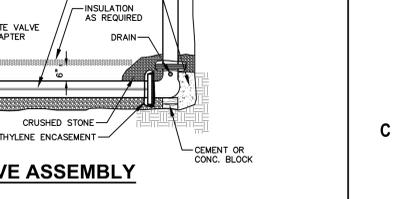
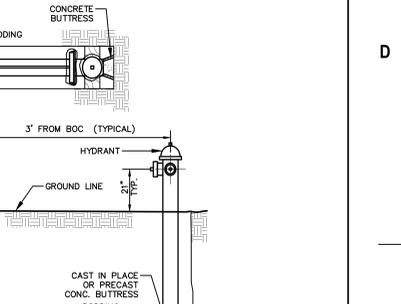
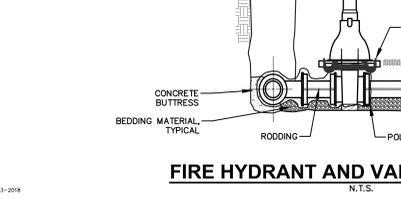
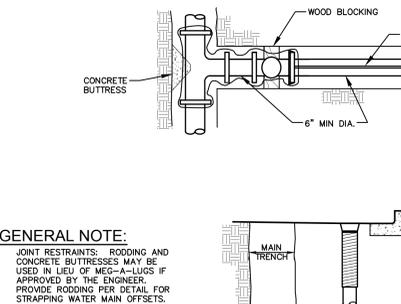
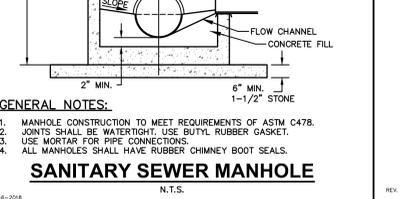
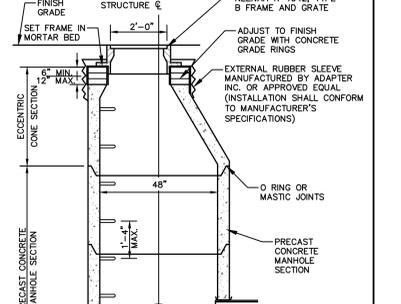
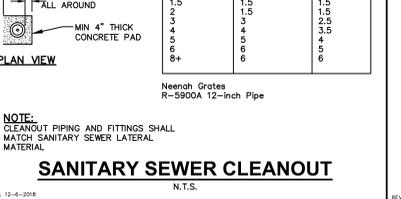
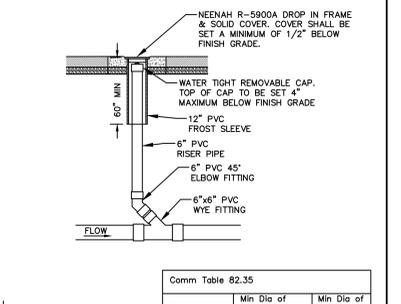
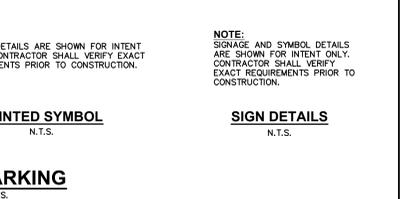
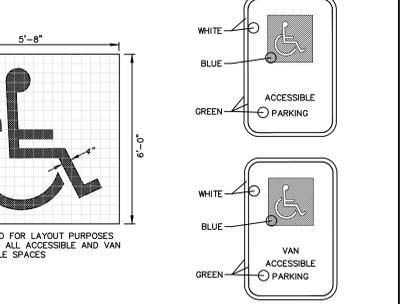
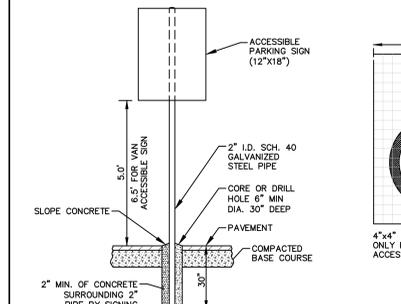
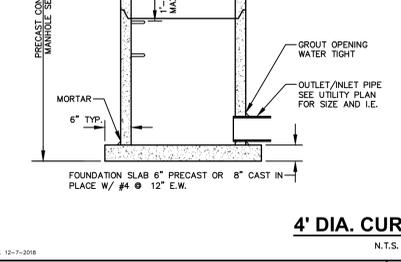
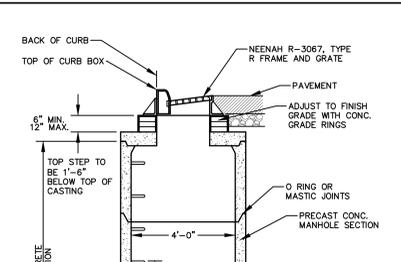
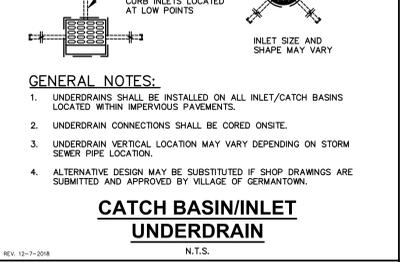
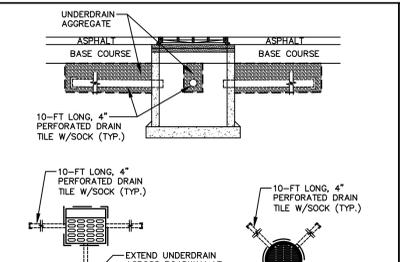
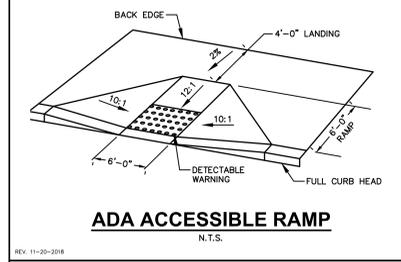
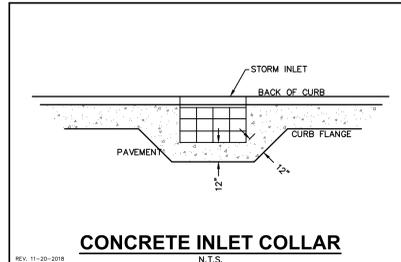
**JSD**  
MILWAUKEE REGIONAL OFFICE  
W2381610 BLUESSE ROAD, SUITE 100  
WAUKESHA, WISCONSIN 53188  
P. 262.513.0666  
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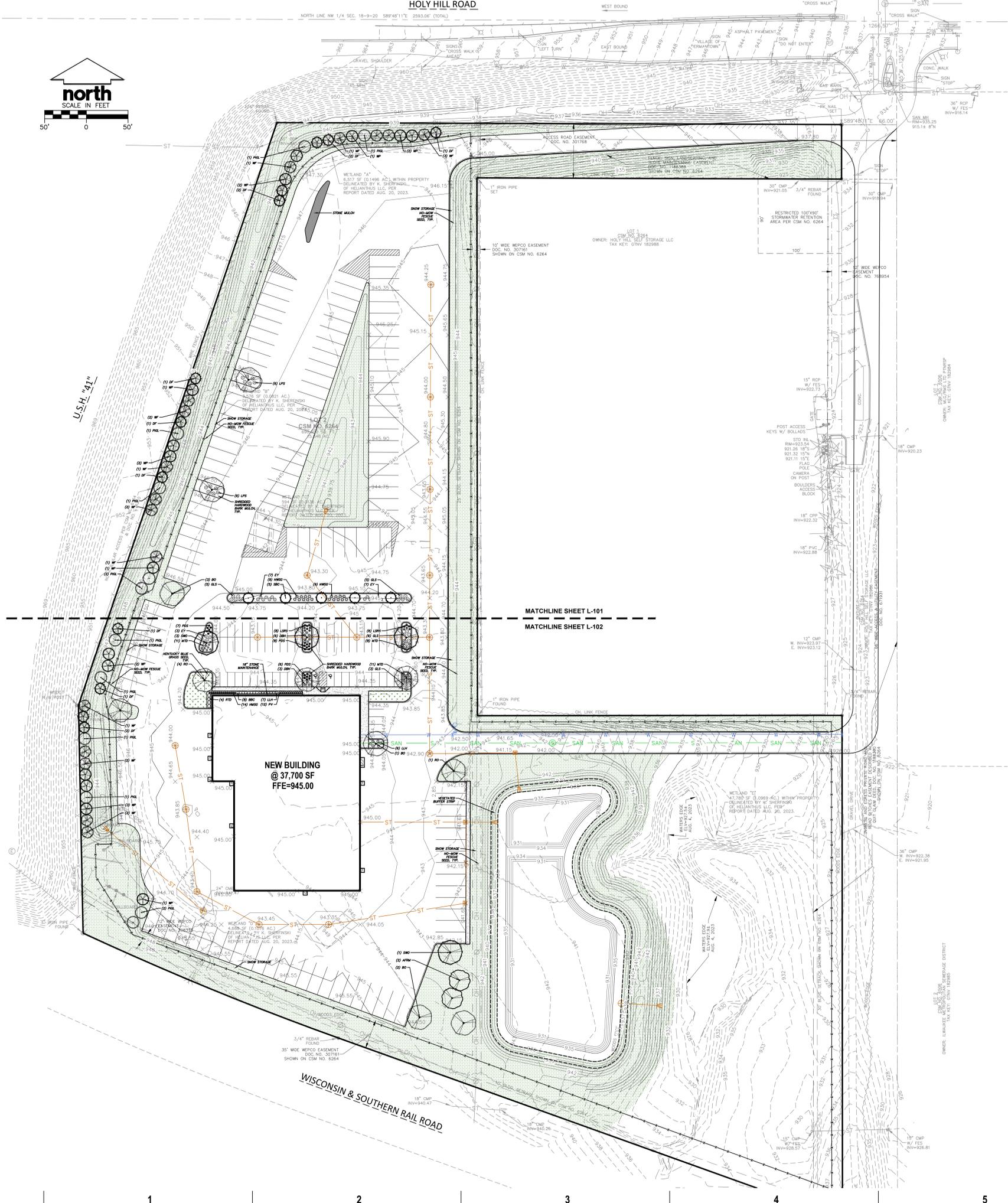
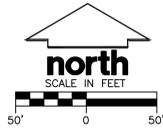
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PROJECT MANAGER CJ  
PROJECT NUMBER 23351

**SITE NOTES AND DETAILS**

**C-200**  
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GENERAL NOTES

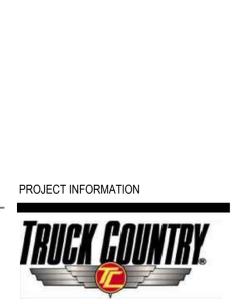
- REFER TO THE EXISTING CONDITIONS SURVEY FOR EXISTING CONDITIONS NOTES AND LEGEND.
- ALL WORK IN THE ROW SHALL BE IN ACCORDANCE WITH THE MUNICIPAL STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- JSD SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER/CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY ANY OR ALL REGULATORY AGENCIES.
- DRAWING FOR REVIEW - NOT FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE TITLE BLOCK.
- THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL FINE GRADING AND TOPSOILING WITH GENERAL CONTRACTOR.
- REFER TO "LANDSCAPE DETAILS AND NOTES" SHEET FOR ADDITIONAL DETAILS, NOTES AND SPECIFICATION INFORMATION INCLUDING MATERIALS, GUARANTEE AND EXECUTION RELATED TO LANDSCAPE PLAN.
- CONTRACTOR SHALL REVIEW SITE CONDITIONS FOR UTILITY CONFLICTS, DRAINAGE ISSUES, SUBSURFACE ROCK, AND PLANT PLACEMENT CONFLICTS PRIOR TO PLANT INSTALLATION. REPORT ANY CONDITIONS THAT MAY HAVE ADVERSE IMPACT ON PLANTING OPERATIONS TO LANDSCAPE ARCHITECT.
- DO NOT COMMENCE PLANTING OPERATIONS UNTIL ALL ADJACENT SITE IMPROVEMENTS, IRRIGATION INSTALLATION (IF APPLICABLE), AND FINISH GRADING ARE COMPLETE.

LEGEND

- PROPERTY LINE
- RIGHT-OF-WAY
- EASEMENT LINE
- BUILDING OUTLINE
- BUILDING OVERHANG
- EDGE OF PAVEMENT
- STANDARD CURB AND GUTTER
- CONCRETE PAVEMENT
- PROPOSED 1 FOOT CONTOUR
- PROPOSED 5 FOOT CONTOUR
- EXISTING 1 FOOT CONTOUR
- EXISTING 5 FOOT CONTOUR
- KENTUCKY BLUE GRASS SEED, FERTILIZER, AND MULCH
- NO-MOW FESCUE WITH ANNUAL RYE SEED, FERTILIZER, AND MULCH
- STONE MULCH
- STORMWATER MANAGEMENT AREA
- SANITARY SEWER
- WATERMAIN
- STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- FENCE
- LIGHT POLE (REFER TO PHOTOMETRIC PLAN)
- ALUMINUM EDGING

PLANT SCHEDULE

DECIDUOUS TREES	CODE	BOTANICAL / COMMON NAME	CONT	SIZE	QTY
	AFRM	<i>Acer rubrum</i> 'Autumn Flame' / Autumn Flame Red Maple	B & B	3"Cal	2
	SWO	<i>Quercus bicolor</i> / Swamp White Oak	B & B	3"Cal	4
	BO	<i>Quercus macrocarpa</i> / Burr Oak	B & B	3"Cal	6
	RO	<i>Quercus rubra</i> / Red Oak	B & B	3"Cal	5
EVERGREEN TREES	CODE	BOTANICAL / COMMON NAME	CONT	SIZE	QTY
	WF	<i>Abies concolor</i> / White Fir	B & B	8' Tall	16
	PIGL	<i>Picea glauca</i> / White Spruce	B & B	8' Tall	12
	WP	<i>Pinus strobus</i> / White Pine	B & B	8' Tall	15
	DF	<i>Pseudotsuga menziesii</i> / Douglas Fir	B & B	8' Tall	12
	SBC	<i>Taxodium distichum</i> 'Mickelson' TM / Shawnee Brave Bald Cypress	B & B	8' Tall	5
DECIDUOUS SHRUBS	CODE	BOTANICAL / COMMON NAME	CONT	SIZE	QTY
	BBC	<i>Aronia melanocarpa</i> 'Morton' TM / Iroquois Beauty Black Chokeberry	Cont.	#3	8
	RTD	<i>Cornus baileyi</i> / Bailey's Red-twig Dogwood	B & B	36" Ht.	4
	DBH	<i>Diervilla lonicera</i> / Dwarf Bush Honeysuckle	Cont.	#3	9
	LLH	<i>Hydrangea paniculata</i> 'Little Lime' / Little Lime Hydrangea	Cont.	#3	13
	GLS	<i>Rhus aromatica</i> 'Gro-Low' / Gro-Low Fragrant Sumac	Cont.	#3	19
	LPS	<i>Spiraea japonica</i> 'Little Princess' / Little Princess Japanese Spirea	Cont.	#3	12
EVERGREEN SHRUBS	CODE	BOTANICAL / COMMON NAME	CONT	SIZE	QTY
	EY	<i>Taxus x media</i> 'Everlow' / Everlow Yew	B & B	24" Tall	17
PERENNIALS & GRASSES	CODE	BOTANICAL / COMMON NAME	CONT	SIZE	QTY
	MTD	<i>Hemerocallis</i> x 'Mary Todd' / Mary Todd Daylily	Cont.	#1	30
	HMSG	<i>Panicum virgatum</i> 'Heavy Metal' / Heavy Metal Switch Grass	Cont.	#1	14
	NWSG	<i>Panicum virgatum</i> 'Northwind' / Northwind Switch Grass	Cont.	#1	18
	PV	<i>Panicum virgatum</i> 'Shenandoah' / Shenandoah Switch Grass	Cont.	#1	12
	LSRS	<i>Perovskia atriplicifolia</i> 'Little Spire' / Little Spire Russian Sage	Cont.	#1	14
	PDS	<i>Sporobolus heterolepis</i> / Prairie Dropseed	Cont.	#1	21



ISSUANCE AND REVISIONS

DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

**PROGRESS DOCUMENTS NOT FOR CONSTRUCTION**  
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PROJECT MANAGER CJ  
 PROJECT NUMBER 23351

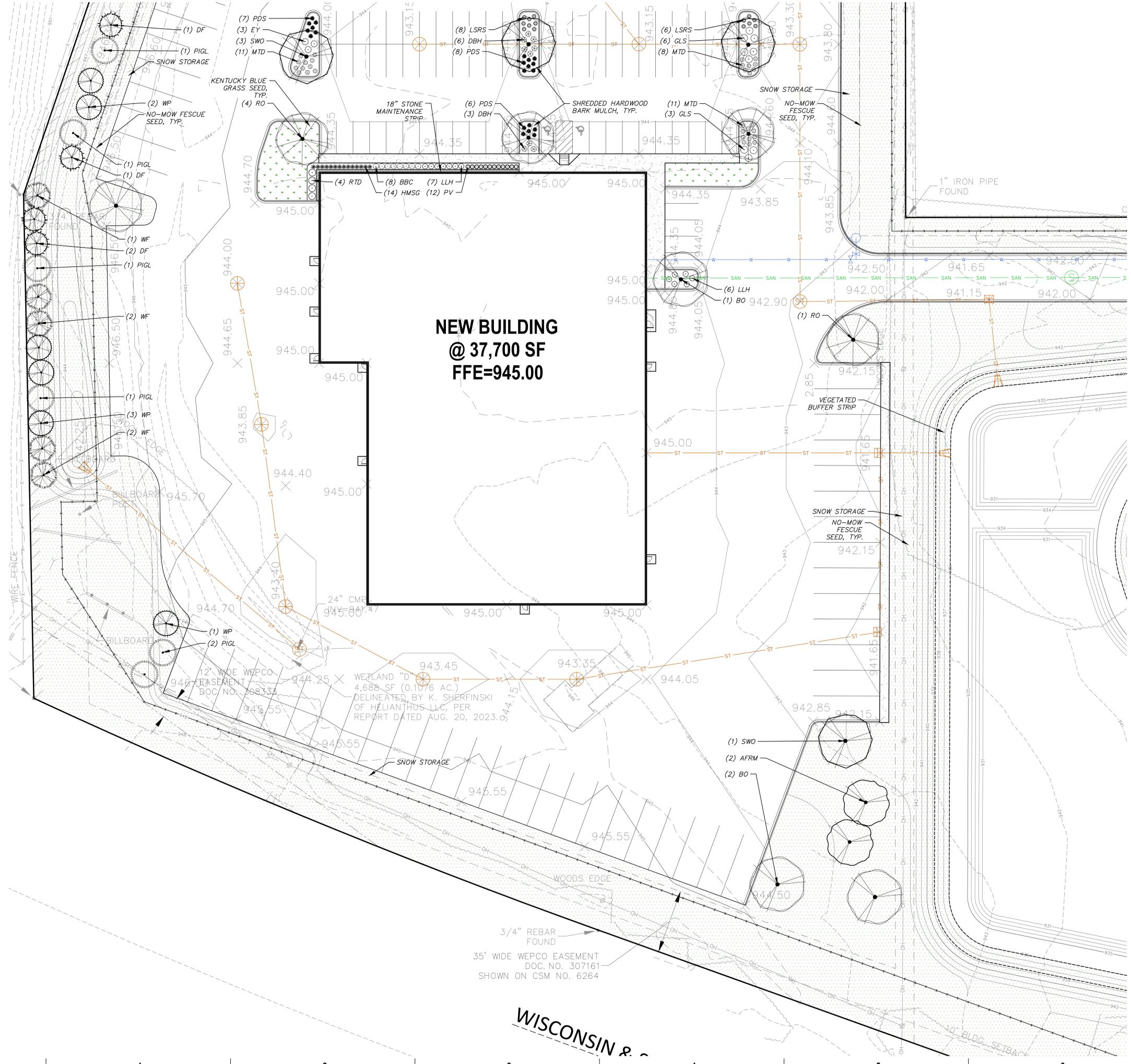
LANDSCAPE PLAN

**L-100**

**JSD**  
 MILWAUKEE REGIONAL OFFICE  
 7028 W. BLISS ROAD, SUITE 100  
 WAUKESHA, WISCONSIN 53188  
 P. 262.513.0666  
 JSD PROJ. NO.: 23-13460A  
 JSD PROJ. MGR.: APM

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FFE=945.00**

**GENERAL NOTES**

- REFER TO THE EXISTING CONDITIONS SURVEY FOR EXISTING CONDITIONS NOTES AND LEGEND.
- ALL WORK IN THE ROW SHALL BE IN ACCORDANCE WITH THE MUNICIPAL STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- JSD SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER/CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY ANY OR ALL REGULATORY AGENCIES.
- DRAWING FOR REVIEW - NOT FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE TITLE BLOCK.
- THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL FINE GRADING AND TOPSOILING WITH GENERAL CONTRACTOR.
- REFER TO "LANDSCAPE DETAILS AND NOTES" SHEET FOR ADDITIONAL DETAILS, NOTES AND SPECIFICATION INFORMATION INCLUDING MATERIALS, GUARANTEE AND EXECUTION RELATED TO LANDSCAPE PLAN.
- CONTRACTOR SHALL REVIEW SITE CONDITIONS FOR UTILITY CONFLICTS, DRAINAGE ISSUES, SUBSURFACE ROCK, AND PLANT PLACEMENT CONFLICTS PRIOR TO PLANT INSTALLATION. REPORT ANY CONDITIONS THAT MAY HAVE ADVERSE IMPACT ON PLANTING OPERATIONS TO LANDSCAPE ARCHITECT.
- DO NOT COMMENCE PLANTING OPERATIONS UNTIL ALL ADJACENT SITE IMPROVEMENTS, IRRIGATION INSTALLATION (IF APPLICABLE), AND FINISH GRADING ARE COMPLETE.

**LEGEND**

- PROPERTY LINE
- RIGHT-OF-WAY
- EASEMENT LINE
- BUILDING OUTLINE
- BUILDING OVERHANG
- EDGE OF PAVEMENT
- STANDARD CURB AND GUTTER
- CONCRETE PAVEMENT
- PROPOSED 1 FOOT CONTOUR
- PROPOSED 5 FOOT CONTOUR
- EXISTING 1 FOOT CONTOUR
- EXISTING 5 FOOT CONTOUR
- KENTUCKY BLUE GRASS SEED, FERTILIZER, AND MULCH
- NO-MOW FESCUE WITH ANNUAL RYE SEED, FERTILIZER, AND MULCH
- STONE MULCH
- STORMWATER MANAGEMENT AREA
- SANITARY SEWER
- WATERMAIN
- STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN
- EXISTING STORM SEWER
- FENCE
- LIGHT POLE (REFER TO PHOTOMETRIC PLAN)
- ALUMINUM EDGING



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**D** N128W21795  
Holy Hill Road  
Village of Germantown  
Washington Co., WI

**ISSUANCE AND REVISIONS**

DATE	DESCRIPTION

**KEY PLAN**

**SHEET INFORMATION**

**PROGRESS DOCUMENTS  
NOT FOR CONSTRUCTION**

These documents reflect progress and intent and may be subject to change, including additional details. These are not final construction documents and shall not be used for final bidding or construction-related purposes.

PROJECT MANAGER CJ  
PROJECT NUMBER 23351

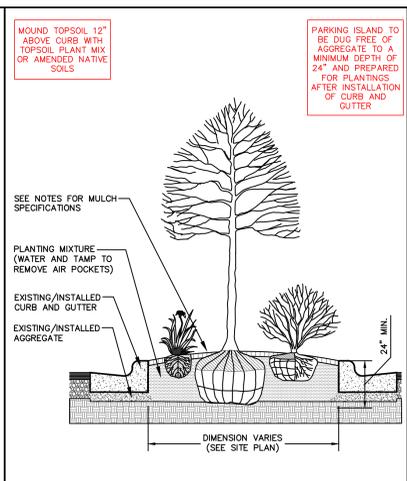
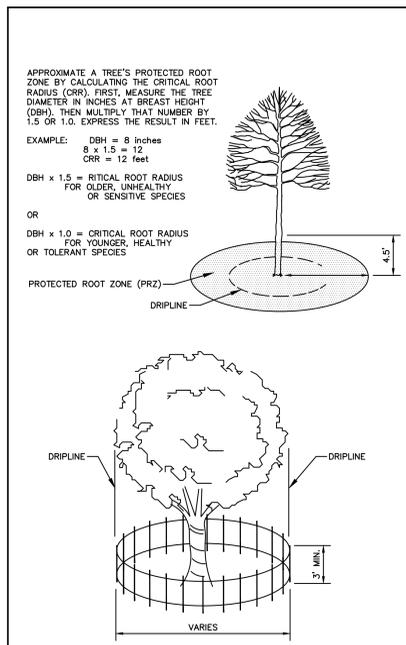
**LANDSCAPE  
PLAN SOUTH**

**L-102**

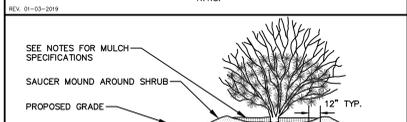
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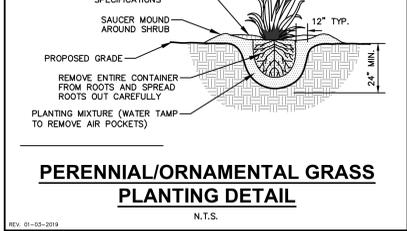
**PARKING ISLAND LANDSCAPE DETAIL**



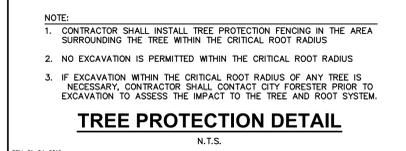
**SHRUB PLANTING DETAIL**



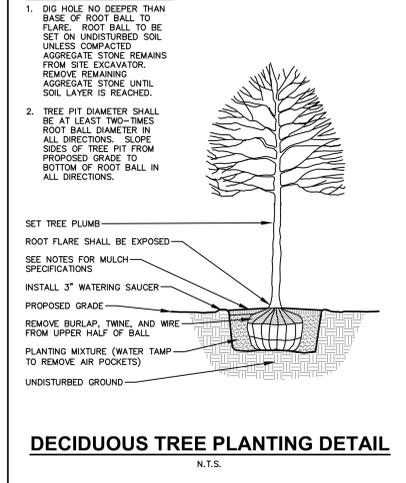
**PERENNIAL/ORNAMENTAL GRASS PLANTING DETAIL**



**ALUMINUM LANDSCAPE EDGING DETAIL**



**DECIDUOUS TREE PLANTING DETAIL**



**EVERGREEN TREE PLANTING DETAIL**

**GENERAL NOTES**

- GENERAL: ALL WORK IN THE R-O-W AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL REQUIREMENTS. JSD SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER/CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY ANY OR ALL REGULATORY AGENCIES. LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO UTILITIES. CONTRACTOR MUST CALL 1-800-242-8511 FOR UTILITY LOCATIONS AT LEAST THREE DAYS PRIOR TO DIGGING. HAND DIG AND INSTALL ALL PLANTS THAT ARE NEAR EXISTING UTILITIES. PROTECT PREVIOUSLY INSTALLED WORK OF OTHER TRADES. CONTRACTOR IS RESPONSIBLE FOR STAKING THE PLANT MATERIALS FOR REVIEW BY OWNER PRIOR TO DIGGING AND PLACEMENT AND SHALL COORDINATE ALL THE GRADING AND RESTORATION WITH THE GRADING CONTRACTOR.
- DELIVERY AND HANDLING: DO NOT DELIVER MORE PLANT MATERIALS THAN CAN BE PLANTED IN ONE DAY, UNLESS ADEQUATE, APPROPRIATE AND SECURE STORAGE IS PROVIDED AND APPROVED BY OWNER'S REPRESENTATIVE. AT ALL TIMES, PROTECT ALL PLANT MATERIALS FROM WIND AND DIRECT SUN. DELIVER PLANTS WITH LEGIBLE IDENTIFICATION LABELS. PROTECT PLANTS DURING DELIVERY, AND DO NOT PRUNE PRIOR TO DELIVERY. ALL TREES AND SHRUBS SHALL BE PLANTED ON THE DAY OF DELIVERY; IF THIS IS NOT POSSIBLE, PROTECT THE PLANT MATERIALS NOT PLANTED BY STORING THEM IN A SHADED, SECURE AREA, PROTECTING THE ROOT MASS WITH WET SOIL, MULCH, HAY OR OTHER SUITABLE MEDIUM. CONTRACTOR TO KEEP ALL PLANT MATERIALS ADEQUATELY WATERED TO PREVENT ROOT DESICCATION. DO NOT REMOVE CONTAINER GROWN STOCK FROM CONTAINERS BEFORE TIME OF PLANTING. DO NOT PICK UP CONTAINER OR BALLED PLANTS BY STEM OR ROOTS. ALL PLANTS SHALL BE LIFTED AND HANDLED FROM THE BOTTOM OF THE CONTAINER OR BALL. PERFORM ACTUAL PLANTING ONLY WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE IN ACCORDANCE WITH LOCALLY ACCEPTED BEST HORTICULTURAL PRACTICES.
- MATERIALS - PLANTS: ALL PLANTS SHALL CONFORM TO THE LATEST VERSION OF THE AMERICAN STANDARD FOR NURSERY STOCK AND Z60.1. PLANTS SHALL BE TRUE TO SPECIES AND VARIETY SPECIFIED AND NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT FOR AT LEAST 2 YEARS. PLANTS SHALL BE FRESHLY DUG (DURING THE MOST RECENT FAVORABLE HARVEST SEASON). PLANTS SHALL BE SO TRAINED IN DEVELOPMENT AND APPEARANCE AS TO BE UNQUESTIONABLY SUPERIOR IN FORM, COMPACTNESS, AND SYMMETRY. PLANTS SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF, AND FREE OF DISEASE AND INSECTS (ADULT EGGS, PUPAE OR LARVAE). THEY SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS AND SHALL BE FREE FROM PHYSICAL DAMAGE OR OTHER CONDITIONS THAT WOULD PREVENT THRIVING GROWTH OR PREMATURE MORTALITY. PLANTS SHALL BE OF THE HIGHEST QUALITY, POSSESS TYPICAL GROWTH HABITS AND FORM FOR THEIR SPECIES AND BE FREE OF INJURY. PARKWAY AND PARKING LOT TREES SHALL HAVE A MINIMUM BRANCHING HEIGHT OF SIX (6) FEET ABOVE THE GROUND TO ALLOW ADEQUATE VISUAL AND PHYSICAL CLEARANCE.
- PRUNING: THE CONTRACTOR SHALL PRUNE ALL TREES AND SHRUBS ANY INJURIES THAT OCCURRED DURING THE PLANTING PROCESS. DOUBLE LEADERS, DEAD BRANCHES AND LIMBS DAMAGED OR BROKEN DURING THE PLANTING PROCESS, SHALL BE PRUNED. THIS SHALL BE THE ONLY PRUNING ALLOWED AT PLANTING. PRUNING SHALL CONFORM TO THE LATEST VERSION OF THE AMERICAN STANDARD FOR TREE CARE OPERATIONS, AND SHALL BE PERFORMED IN ACCORDANCE WITH NAA GUIDELINES. DO NOT TOP TREES. PRUNE SHRUBS ACCORDING TO STANDARD HORTICULTURAL PRACTICES. ON CUTS OVER 3/4" IN DIAMETER AND BRUISES OR SCARS ON BARK, APPLY WOUNDING PUTTY TO INJURED CAMBIAL LAYER BACK TO LIVING TISSUE AND REMOVE. SMOOTH AND SHAPE WOUNDS SO AS NOT TO RETAIN WATER. TREAT THE AREA WITH AN APPROVED INCONSPICUOUS LATEX BASED ANTISETIC TREE PAINT. IF PRUNING OCCURS IN SEASON, DO NOT PRUNE ANY OAK TREES DURING THE MONTHS FROM APRIL TO OCTOBER.
- CLEANUP: THE WORK AREA SHALL BE KEPT SAFE AND NEAT AT ALL TIMES. DISPOSED OF EXCESS SOIL, REMOVE ALL CUTTINGS AND WASTE MATERIALS, SOIL AND BRANCHES, BIND AND WRAP THESE MATERIALS, ANY REJECTED PLANTS, AND ANY OTHER DEBRIS RESULTING FROM ALL PLANTING TASKS AND PROMPTLY CLEAN UP AND REMOVE FROM THE PROJECT SITE. UNDER NO CIRCUMSTANCES SHALL THE ACCUMULATION OF SOIL, BRANCHES OR OTHER DEBRIS BE ALLOWED UPON A PUBLIC PROPERTY IN SUCH A MANNER AS TO RESULT IN A PUBLIC SAFETY HAZARD OR DAMAGE. LIKEWISE, UNDER NO CIRCUMSTANCES SHALL ANY DEBRIS OR INCIDENTAL MATERIALS BE ALLOWED UPON ADJACENT PRIVATE PROPERTY.
- ANY SUBSTITUTIONS IN PLANT TYPE, LOCATION, OR SIZE SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- CONTRACTOR TO VERIFY PLANT MATERIAL QUANTITIES AND SQUARE FOOTAGES. QUANTITIES SHOWN ON PLAN TAKE PRECEDENCE OVER THOSE ON SCHEDULE.

**LANDSCAPE MATERIAL NOTES**

- MATERIALS - PLANTING MIXTURE: ALL HOLES EXCAVATED FOR TREES, SHRUBS, PERENNIALS AND ORNAMENTAL GRASSES SHALL BE BACKFILLED WITH TWO (2) PARTS TOPSOIL, ONE (1) PART SAND AND ONE (1) PART COMPOST. SOIL MIXTURE SHALL BE WELL BLENDED PRIOR TO INSTALLATION.
- MATERIALS - TOPSOIL: TOPSOIL TO BE CLEAN, FRIABLE LOAM FROM A LOCAL SOURCE, FREE FROM STONES OR DEBRIS OVER 3/4" IN DIAMETER, AND FREE FROM TOXINS OR OTHER DELETERIOUS MATERIALS. TOPSOIL SHALL HAVE A pH VALUE BETWEEN 6 AND 7. TOPSOIL AND PLANTING SOIL SHALL BE TESTED TO ENSURE CONFORMANCE WITH THESE SPECIFICATIONS AND SHALL BE AMENDED TO MEET THESE SPECIFICATIONS. PROVIDE TEST RESULTS TO OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT. DO NOT PLACE FROZEN OR MUDDY TOPSOIL. APPLY SOIL AMENDMENTS TO ALL LANDSCAPE AREAS PER SOIL TEST.
- MATERIALS - SHREDDED HARDWOOD BARK MULCH: ALL PLANTING AREAS LABELED ON PLAN SHALL RECEIVE CERTIFIED WEED FREE SHREDDED HARDWOOD BARK MULCH INSTALLED TO A MINIMUM AND CONSISTENT DEPTH OF 3-INCHES. SHREDDED HARDWOOD BARK MULCH SIZE & COLOR TO BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. FERTILIZER SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS. SHREDDER HARDWOOD BARK MULCH AREAS SHALL NOT RECEIVE WOVEN WEED BARRIER FABRIC.
- MATERIALS - STONE MULCH: ALL PLANTING AREAS LABELED ON PLAN SHALL RECEIVE DECORATIVE STONE MULCH SPREAD TO A MINIMUM AND CONSISTENT DEPTH OF 3-INCHES. DECORATIVE STONE MULCH TYPE, SIZE & COLOR TO BE 2" MISSISSIPPI RIVER STONE. FINAL SELECTION APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. FERTILIZER SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS. STONE MULCH AREAS SHALL RECEIVE WOVEN WEED BARRIER FABRIC. NO PLASTIC/IMPERVIOUS BARRIERS WILL BE PERMITTED, EXAMPLE: BLACK VISQUEEN.
- MATERIALS - TREE & SHRUB RINGS: ALL TREES AND/OR SHRUBS PLANTED IN SEEDING LAWN AREAS TO BE INSTALLED WITH A MINIMUM 4" DIAMETER SHREDDED HARDWOOD BARK MULCH TREE RING SPREAD TO A CONSISTENT DEPTH OF 3-INCHES. ALL TREE RINGS SHALL BE INSTALLED WITH A 5" DEPTH SHOVEL CUT EDGE, ANGLED 45 DEGREES INTO SOIL AT A 5' DIAMETER ABOUT THE CENTER OF THE TREE. PLANTING, A PRE-EMERGENT GRANULAR HERBICIDE WEED-PREVENTER SHOULD BE MIXED WITH MULCH USED TO INSTALL TREE RING AS WELL AS TO LOCALLY APPLIED TO COMPLETED INSTALLATION OF TREE RING.
- MATERIALS - ALUMINUM EDGING: EDGING SHALL BE 1/8" X 4", ALUMINUM EDGING, MILL FINISH. OWNER'S REPRESENTATIVE SHALL APPROVE PRODUCT SPECIFICATION PROVIDED BY LANDSCAPE CONTRACTOR.
- MATERIALS - TREE PROTECTION: ALL TREES TO BE INSTALLED WITH LDPE TREE GUARDS AS MANUFACTURED BY A.M. LEONARD HORTICULTURAL TOOL & SUPPLY CO., OR APPROVED EQUAL.

**SEEDING, SODDING, & POND VEGETATION NOTES**

- MATERIALS - TURFGRASS SEED: DISTURBED LAWN AREAS LABELED ON PLAN AS SUCH, SHALL RECEIVE 6" OF TOPSOIL AND EARTH CARPET'S MADISON PARKS GRASS SEED, OR EQUIVALENT AS APPROVED BY THE OWNER'S REPRESENTATIVE, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. IN ADDITION TO TURFGRASS SEED, ANNUAL RYE SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 1 1/2 LBS PER 1000 SQUARE FEET. FERTILIZE AND MULCH PER MANUFACTURER'S RECOMMENDATIONS. MULCH SHALL BE CERTIFIED NOXIOUS WEED SEED-FREE.
- MATERIALS - NO-MOW FESCUE SEED: DISTURBED LAWN AREAS LABELED ON PLAN AS SUCH, SHALL RECEIVE 6" OF TOPSOIL AND PRAIRIE NURSERY NO-MOW FESCUE GRASS SEED, OR EQUIVALENT AS APPROVED BY THE OWNER'S REPRESENTATIVE, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. IN ADDITION TO NO-MOW SEED, ANNUAL RYE SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 1 1/2 LBS PER 1000 SQUARE FEET. FERTILIZE AND MULCH PER MANUFACTURER'S RECOMMENDATIONS. MULCH SHALL BE CERTIFIED NOXIOUS WEED SEED-FREE.

**CONTRACTOR AND OWNER RESPONSIBILITY NOTES**

- GUARANTEE: THE CONTRACTOR SHALL GUARANTEE ALL PLANTS THROUGH ONE (1) YEAR AFTER ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PLANTS SHALL BE ALIVE AND IN HEALTHY AND FLOURISHING CONDITION AT THE END OF THE GUARANTEE PERIOD. THE CONTRACTOR SHALL REPLACE (AT NO COST TO OWNER) ANY PLANTS THAT ARE DEAD OR NOT IN A VIGOROUS THRIVING CONDITION. REPLACEMENT PLANTS SHALL BE OF THE SAME KIND AND SIZE AS ORIGINALLY SPECIFIED UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE. RESTORE BEDS AS NECESSARY FOLLOWING PLANT REPLACEMENT, INCLUDING BUT NOT LIMITED TO BEDDING, EDGING, MULCH, ETC. REPLACE PLANTS DAMAGED AT TIME OF PLANTING. REPAIR AREAS DISTURBED IN ANY WAY DURING PLANT REPLACEMENT AT NO COST TO OWNER. CONTRACTOR SHALL PROVIDE A ONE (1)-YEAR STRAIGHTENING GUARANTEE FOR ALL TREES.
- CONTRACTOR IS RESPONSIBLE FOR STAKING THE PLANT MATERIALS FOR REVIEW BY OWNER'S REPRESENTATIVE PRIOR TO DIGGING AND PLACEMENT AND SHALL COORDINATE ALL FINE GRADING AND RESTORATION WITH THE GRADING CONTRACTOR.
- MAINTENANCE: (CONTRACTOR) FOR ALL PLANTINGS, SEEDING AND/OR SODDED LAWN AREAS: THE CONTRACTOR SHALL MAINTAIN ALL PLANTINGS AND LAWN AREAS FOR A MINIMUM TIME PERIOD OF 60 DAYS, UNTIL FINAL ACCEPTANCE BY OWNER'S REPRESENTATIVE. THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY WATERING PLANTS AND LAWN/TURFGRASS DURING THIS 60 DAY ESTABLISHMENT PERIOD. CONTRACTOR IS RESPONSIBLE FOR THE ESTABLISHMENT OF HEALTHY VIGOROUS PLANT MATERIALS AND LAWN/TURFGRASS GROWTH. CONTRACTOR IS ALSO RESPONSIBLE FOR ANY PRUNING OF PLANT MATERIALS, AND SHAPING AND/OR REPLACEMENT OR SUPPLEMENT OF DEFICIENT SHREDDED HARDWOOD BARK MULCH DURING THIS PERIOD. LONG TERM PLANT MATERIALS AND LAWN/TURFGRASS MAINTENANCE AND ANY PROGRAM FOR SUCH IS THE RESPONSIBILITY OF THE OWNER. ALL PLANTINGS AND LAWN/TURFGRASS AREAS SHALL BE MAINTAINED IN A MANICURED CONDITION UNTIL THE TIME WHEN THE OWNER'S ACCEPTANCE IS GIVEN.
- MAINTENANCE: (OWNER) THE OWNER IS RESPONSIBLE FOR THE CONTINUED MAINTENANCE, REPAIR AND REPLACEMENT OF ALL LANDSCAPING MATERIALS AND WEED BARRIER FABRIC AS NECESSARY FOLLOWING THE ONE (1) YEAR CONTRACTOR GUARANTEE PERIOD.

**LANDSCAPE REQUIREMENTS**

<b>BUILDING FOUNDATION AREA (124 LF Plantable Foundation)</b>	
Landscape Requirement:	Plantings shall be along each building facade visible from r-o-w
Total Required:	124 LF of plantable area for foundation planting
Total Provided:	124 LF of plantable area for foundation planting
<b>PARKING SCREENING (860 LF)</b>	
Landscape Requirement:	8' wide evergreen greenbelt
Total Required:	860 LF evergreen belt
Total Provided:	860 LF evergreen belt
<b>STREET TREES N/A</b>	
Landscape Requirement:	Mix of deciduous trees with minimum 3" caliper
Total Required:	0 LF of street trees
Total Provided:	0 LF of street trees
<b>LANDSCAPE ISLANDS (4,765 SF)</b>	
Landscape Requirement:	Low plantings and taller tree species
Total Required:	4,765 SF landscape island plantings
Total Provided:	4,765 SF landscape island plantings
<b>BUFFER STRIP (977 LF)</b>	
Landscape Requirement:	8' vegetated buffer strip shall be planted with prairie grasses along shoreline of wet ponds
Total Required:	977 LF vegetated buffer strip
Total Provided:	977 LF vegetated buffer strip



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E



D

N128W21795  
 Holy Hill Road  
 Village of Germantown  
 Washington Co., WI

**ISSUANCE AND REVISIONS**

DATE	DESCRIPTION

C

**KEY PLAN**

B

**SHEET INFORMATION**

**PROGRESS DOCUMENTS NOT FOR CONSTRUCTION**

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A

PROJECT MANAGER CJ  
 PROJECT NUMBER 23351

**LANDSCAPE NOTES AND DETAILS**

**L-200**



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FIRST FLOOR PLAN

EXTERIOR COLOR LEGEND

- PT-1: WHITE DUCK SW7010
- PT-2: DORIAN GRAY SW7017
- PT-3: CARDINAL RED SW2908



East Elevation



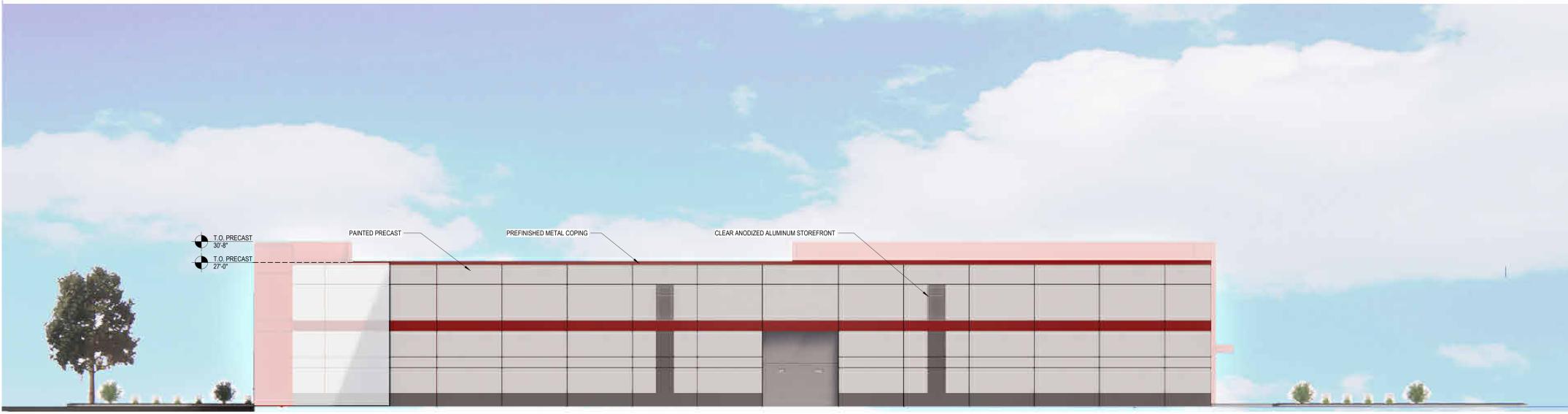
North Elevation

EXTERIOR COLOR LEGEND

- PT-1: WHITE DUCK SW7010
- PT-2: DORIAN GRAY SW7017
- PT-3: CARDINAL RED SW2908



West Elevation



South Elevation



VIEW FROM NORTHWEST CORNER



VIEW FROM NORTHEAST CORNER



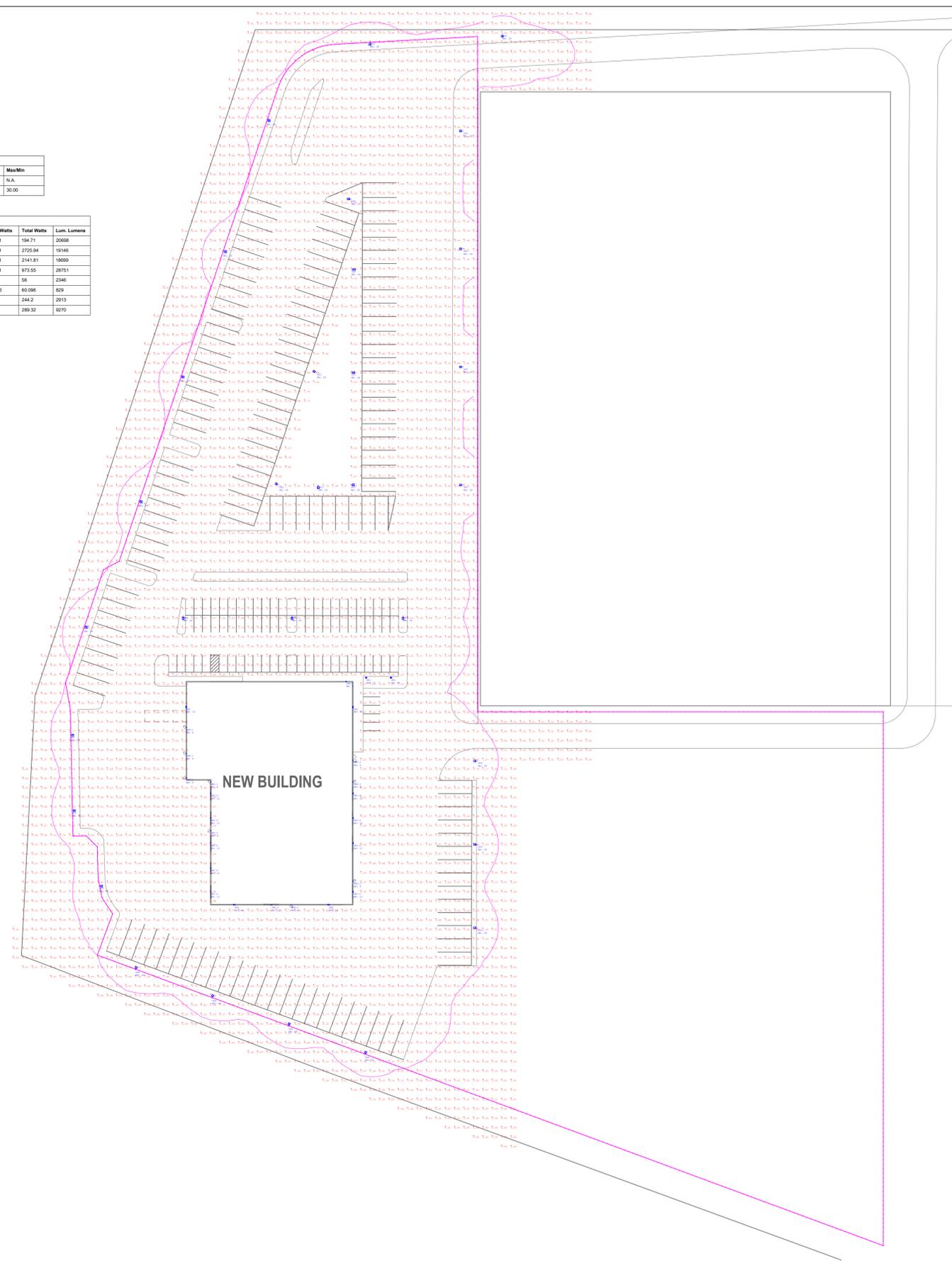
VIEW FROM SOUTHWEST CORNER



VIEW FROM SOUTHEAST CORNER

Label	CalcType	Units	Avg	Max	Min	AvgMin	MaxMin
SITE	Illuminance	Fc	1.47	10.80	0.00	N.A.	N.A.
PARKING AREAS	Illuminance	Fc	2.04	9.0	0.3	6.80	30.00

Qty	Label	Arrangement	LLF	MFR	Description	Lum. Watts	Total Watts	Lum. Lumens
1	Q42	SINGLE	0.950	LITHONIA	RSX3 LED P1 40K R3 MVOLT (Mounting) HS (Finish) -25FT POLE 3FT BASE	194.71	194.71	26596
14	Q43	SINGLE	0.950	LITHONIA	RSX3 LED P1 40K R3 MVOLT (Mounting) HS (Finish) -25FT POLE 3FT BASE	194.71	2725.94	19146
11	Q44	SINGLE	0.950	LITHONIA	RSX3 LED P1 40K R4 MVOLT (Mounting) HS (Finish) -25FT POLE 3FT BASE	194.71	2141.81	18699
5	Q45	SINGLE	0.950	LITHONIA	RSX3 LED P1 40K R5 MVOLT (Mounting) HS (Finish) -25FT POLE 3FT BASE	194.71	973.55	28751
2	OBI	SINGLE	0.950	LITHONIA	KERB LED 16C 530 300 5YM MVOLT (Finish)	28	56	2346
10	OW5-1	SINGLE	0.950	LITHONIA	WPK0 LED AL0-1 8W02 MVOLT PE DDBXD	6.096	60.96	859
10	OW1-2	SINGLE	0.950	LITHONIA	WPK1 LED P2 2x4 MVOLT -IP65HS	24.42	244.2	2915
4	OW3	SINGLE	0.950	LITHONIA	WPK3 LED 2x4 MVOLT -IP65HS	22.33	289.32	9070



#	DATE	COMMENTS

REVISIONS

DRAWN BY : DC

DATE : NOVEMBER 13, 2013

SCALE : 1/64" = 1'-0"

McCOY GROUP

GERMANTOWN, WISCONSIN

SITE LIGHTING



# RSX3 LED Area Luminaire

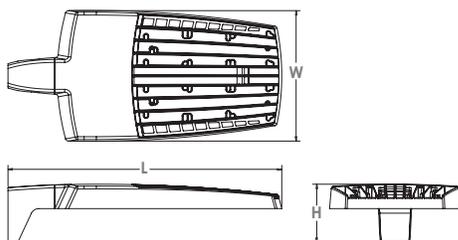


Catalog Number
Notes
Type

Hit the Tab key or mouse over the page to see all interactive elements.

## Specifications

EPA (ft <sup>2</sup> @0°):	0.70 ft <sup>2</sup> (0.07 m <sup>2</sup> )
Length:	33.8" (85.9 cm) (SPA mount)
Width:	16.1" (40.9 cm)
Height:	3.0" (7.6 cm) Main Body 7.2" (18.3 cm) Arm
Weight (max):	48.0 lbs (21.8 kg)



## Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX3 delivers 25,000 to 41,000 lumens allowing it to replace 400W to 1000W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral slipfitter and other mounting configurations are available.



Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit [www.acuitybrands.com/designselect](http://www.acuitybrands.com/designselect). \*See ordering tree for details

ds Design Select options indicated by this color background.

## Ordering Information

**EXAMPLE: RSX3 LED P4 40K R3 MVOLT SPA DDBXD**

Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
RSX3 LED	P1 P2 P3 P4	30K 3000K 40K 4000K 50K 5000K	R2 Type 2 Wide R3 Type 3 Wide R3S Type 3 Short R4 Type 4 Wide R4S Type 4 Short R5 Type 5 Wide <sup>1</sup> R5S Type 5 Short <sup>1</sup> AFR Automotive Front Row AFRR90 Automotive Front Row Right Rotated AFRL90 Automotive Front Row Left Rotated	MVOLT (120V-277V) <sup>2</sup> HVOLT (347V-480V) <sup>3</sup> XVOLT (277V-480V) <sup>4</sup> <b>(use specific voltage for options as noted)</b> 120 <sup>2</sup> 277 <sup>5</sup> 208 <sup>2</sup> 347 <sup>5</sup> 240 <sup>2</sup> 480 <sup>5</sup>	SPA Square pole mounting (3.0" min. SQ pole for 1 at 90°, 3.5" min. SQ pole for 2, 3, 4 at 90°) RPA Round pole mounting (3.2" min. dia. RND pole for 2, 3, 4 at 90°, 3.0" min. dia. RND pole for 1 at 90°, 2 at 180°, 3 at 120°) MA Mast arm adaptor (fits 2-3/8" OD horizontal tenon) IS Adjustable slipfitter (fits 2-3/8" OD tenon) <sup>6</sup> WBA Wall bracket WBASC Wall bracket with surface conduit box AASP Adjustable tilt arm square pole mounting <sup>6</sup> AARP Adjustable tilt arm round pole mounting <sup>6</sup> AAWB Adjustable tilt arm with wall bracket <sup>6</sup> AAWSC Adjustable tilt arm wall bracket and surface conduit box <sup>6</sup>

Options	Finish
<b>Shipped Installed</b> HS House-side shield <sup>7</sup> PE Photocontrol, button style <sup>8,9</sup> PER7 Seven-wire twist-lock receptacle only (no controls) <sup>9,10,11</sup> SF Single fuse (120, 277, 347) <sup>3</sup> DF Double fuse (208, 240, 480) <sup>3</sup> SPD20KV 20KV Surge pack (10KV standard) FAO Field adjustable output <sup>9</sup> DMG 0-10V dimming extend out back of housing for external control (control ordered separate) <sup>9</sup>	DDBXD Dark Bronze DBLXD Black DNAXD Natural Aluminum DWHXD White DDBTXD Textured Dark Bronze DBLTXD Textured Black DNATXD Textured Natural Aluminum DWHGXD Textured White
<b>Shipped Installed</b> *Standalone and Networked Sensors/Controls (factory default settings, see table page 9) NLTAIR2 PIRHN nLight AIR generation 2, with Networked Bi-Level motion/ambient sensor <sup>9,12,13,14</sup> BAA Buy America(n) Act Compliant CCE Coastal Construction <sup>15</sup> *Note: PIRHN with nLight Air can be used as a standalone or networked solution. Sensor coverage pattern is affected when luminaire is tilted.	
<b>Shipped Separately (requires some field assembly)</b> EGS External glare shield <sup>7</sup> EGFV External glare full visor (360° around light aperture) <sup>7</sup> BS Bird spikes <sup>16</sup>	



Ordering Information

Accessories

Ordered and shipped separately.

RSX3HS U	RSX3 House side shield (includes 3 shields)
RSX3HSAFRR U	RSX3 House side shields for AFR rotated optics (includes 3 shields)
RSX3EGS (FINISH) U	External glare shield (specify finish)
RSX3EGFV (FINISH) U	External glare full visor (specify finish)
RSXRPA (FINISH) U	RSX Universal round pole adaptor plate (specify finish)
RSXWBA (FINISH) U	RSX WBA wall bracket (specify finish) <sup>1</sup>
RSXSCB (FINISH) U	RSX Surface conduit box (specify finish, for use with WBA, WBA not included)
DLL127F 1.5 JU	Photocell -SSL twist-lock (120-277V)
DLL347F 1.5 CUL JU	Photocell -SSL twist-lock (347V) <sup>17</sup>
DLL480F 1.5 CUL JU	Photocell -SSL twist-lock (480V) <sup>17</sup>
DSHORT SBK U	Shorting cap <sup>17</sup>

NOTES

- Any Type 5 distribution, is not available with WBA.
- MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
- HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
- XVOLT driver operates on any line voltage from 277V-480V (50/60 Hz). XVOLT not available with fusing (SF or DF) and not available with PE.
- Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
- Maximum tilt is 90° above horizontal.
- It may be ordered as an accessory.
- Requires MVOLT or 347V.
- Two or more of the following options cannot be combined including PE, DMG, PER7, FAO and NLTAIR2 PIRHN. (Exception: PE and FAO can be combined; also PE and DMG can be combined.)
- Compatible with standard twist-lock photocells for dusk to dawn operation or advanced control nodes that provide 0-10V dimming

- signals. Wire 4/Wire 5 wired to dimming leads on driver. Wire6/Wire7 capped inside luminaire. Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
- For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
- Must be ordered with PIRHN.
- Requires MVOLT or HVOLT.
- Must be ordered with NLTAIR2. For additional information on PIRHN visit [here](#).
- CCE option not available with WBA, WBASC, AASP, AARP, AAWB, AAWBSC, EGS, EGFV and BS.
- Must be ordered with fixture for factory pre-drilling.
- Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

External Shields



House Side Shield



External Glare Shield

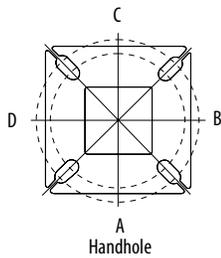


External 360 Full Visor

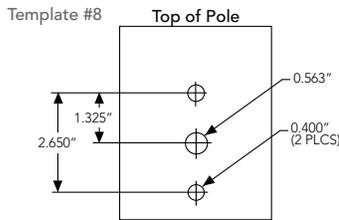
Pole/Mounting Information

Accessories including bullhorns, cross arms and other adaptaters are available under the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit [Accessories](#).

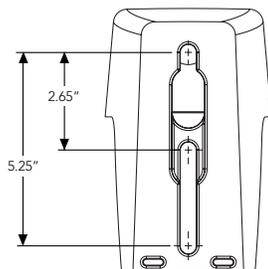
HANDHOLE ORIENTATION



RSX POLE DRILLING



RSX STANDARD ARM & ADJUSTABLE ARM



Round Tenon Mount - Pole Top Slipfitters

Tenon O.D.	RSX Mounting	Single	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	RPA, AARP	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 320	AS3-5 390	AS3-5 490
2-7/8"	RPA, AARP	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	RPA, AARP	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Drill/Side Location by Configuration Type

Drilling Template	Mounting Option	Single	2 @ 180	2 @ 90	3 @ 120	3 @ 90	4 @ 90
#8	Head Location	Side B	Side B & D	Side B & C	Round Pole Only	Side B, C & D	Side A, B, C & D
#8	Drill Nomenclature	DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS

RSX3 - Luminaire EPA

\*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

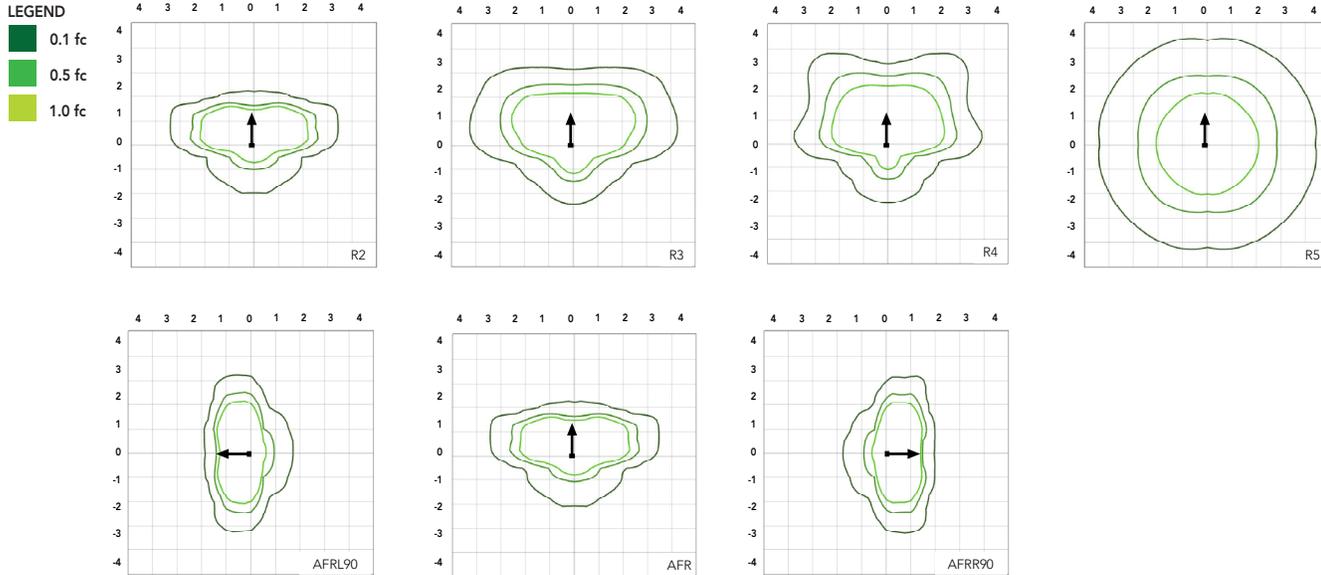
Fixture Quantity & Mounting Configuration	Tilt	EPA (ft <sup>2</sup> )								
		Single	2 @ 90	2 @ 180	3 @ 90	3 @ 120	4 @ 90	2 Side by Side	3 Side by Side	4 Side by Side
SPA - Square Pole Adaptor	0°	0.7	1.32	1.37	2	1.76	2.62	1.39	2.09	2.8
RPA - Round Pole Adaptor		0.75	1.37	1.47	2.1	1.86	2.72	1.44	2.19	2.9
MA - Mast Arm Adaptor		0.62	1.24	1.21	1.84	1.6	2.46	1.31	1.93	2.64
IS - Integral Slipfitter AARP/AASP - Adjustable Arm Square/Round Pole	0°	0.7	1.32	1.37	2	1.76	2.62	1.39	2.09	2.8
	10°	0.96	1.85	1.84	2.76	2.4	3.64	1.92	1.92	3.84
	20°	1.34	2.58	2.64	3.83	3.35	5.11	2.68	2.68	5.36
	30°	2.04	3.52	3.79	5.2	4.7	7.03	4.09	4.09	8.16
	40°	3.12	4.54	5.23	6.6	6.33	9.02	6.23	6.23	12.48
	45°	3.72	5.05	6.12	7.35	7.15	10.01	7.45	7.45	14.88
	50°	4.01	5.49	6.6	7.87	7.81	10.88	8.02	8.02	16.04
	60°	4.72	6.36	7.69	9.09	9.11	12.61	9.44	9.44	18.88
	70°	4.9	7.01	8.05	10.02	9.78	13.94	9.80	9.80	19.6
	80°	4.95	7.4	8.23	10.61	10.26	14.75	9.90	9.90	19.8
90°	4.91	7.55	8.34	10.88	10.54	15.05	9.82	9.82	19.64	



Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [RSX Area homepage](#).

Isofootcandle plots for the RSX3 LED P4 40K. Distances are in units of mounting height (30').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

Ambient	Ambient	Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97
45°C	113°F	0.96
50°C	122°F	0.95

Electrical Load

Performance Package	System Watts (W)	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	194W	1.61	0.92	0.80	0.69	0.56	0.40
P2	222W	1.85	1.06	0.92	0.80	0.63	0.45
P3	266W	2.22	1.27	1.10	0.95	0.76	0.55
P4	312W	2.60	1.49	1.29	1.11	0.89	0.64

Projected LED Lumen Maintenance

Operating Hours	50,000	75,000	100,000
Lumen Maintenance Factor	>0.97	>0.95	>0.92

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

## Performance Data

### Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	194W	R2	24,920	3	0	2	128	27,379	3	0	2	141	27,379	3	0	2	141
		R3	24,832	3	0	4	128	27,283	3	0	4	141	27,283	3	0	4	141
		R3S	25,494	3	0	3	131	28,010	3	0	3	144	28,010	3	0	3	144
		R4	25,157	3	0	4	130	27,639	3	0	4	142	27,639	3	0	4	142
		R4S	24,272	3	0	3	125	26,667	3	0	3	137	26,667	3	0	3	137
		R5	25,494	5	0	4	131	28,010	5	0	4	144	28,010	5	0	4	144
		R5S	26,171	4	0	2	135	28,754	4	0	2	148	28,754	4	0	2	148
		AFR	24,886	3	0	2	128	27,342	3	0	2	141	27,342	3	0	2	141
		AFRR90	25,123	4	0	3	129	27,602	4	0	3	142	27,602	4	0	3	142
		AFRL90	25,229	4	0	3	130	27,718	4	0	3	142	27,718	4	0	3	142
P2	222W	R2	27,570	3	0	2	124	30,291	3	0	2	136	30,291	3	0	2	136
		R3	27,473	3	0	4	124	30,185	3	0	4	136	30,185	3	0	4	136
		R3S	28,206	3	0	3	127	30,990	3	0	4	139	30,990	3	0	4	139
		R4	27,833	3	0	4	125	30,579	3	0	4	138	30,579	3	0	4	138
		R4S	26,854	3	0	3	120	29,504	3	0	3	132	29,504	3	0	3	132
		R5	28,206	5	0	4	127	30,990	5	0	4	140	30,990	5	0	4	140
		R5S	28,955	4	0	2	130	31,813	5	0	3	143	31,813	5	0	3	143
		AFR	27,533	3	0	2	124	30,251	3	0	2	136	30,251	3	0	2	136
		AFRR90	27,795	4	0	3	125	30,538	5	0	3	137	30,538	5	0	3	137
		AFRL90	27,912	4	0	3	125	30,667	5	0	3	138	30,667	5	0	3	138
P3	266W	R2	32,285	3	0	3	121	35,471	3	0	3	133	35,471	3	0	3	133
		R3	32,172	3	0	4	121	35,346	3	0	5	133	35,346	3	0	5	133
		R3S	33,030	3	0	4	124	36,289	3	0	4	136	36,289	3	0	4	136
		R4	32,593	3	0	4	123	35,809	3	0	5	135	35,809	3	0	5	135
		R4S	31,446	3	0	4	118	34,550	3	0	4	129	34,550	3	0	4	129
		R5	33,030	5	0	4	124	36,289	5	0	4	136	36,289	5	0	4	136
		R5S	33,907	5	0	3	127	37,253	5	0	3	140	37,253	5	0	3	140
		AFR	32,242	3	0	3	121	35,424	3	0	3	133	35,424	3	0	3	133
		AFRR90	32,549	5	0	4	122	35,761	5	0	4	134	35,761	5	0	4	134
		AFRL90	32,686	5	0	3	123	35,911	5	0	4	135	35,911	5	0	4	135
P4	312W	R2	36,945	3	0	3	118	40,591	3	0	3	130	40,591	3	0	3	130
		R3	36,815	3	0	5	118	40,448	3	0	5	130	40,448	3	0	5	130
		R3S	37,797	3	0	4	121	41,527	3	0	4	133	41,527	3	0	4	133
		R4	37,297	3	0	5	120	40,978	3	0	5	131	40,978	3	0	5	131
		R4S	35,985	3	0	4	115	39,537	3	0	4	127	39,537	3	0	4	127
		R5	37,797	5	0	4	121	41,527	5	0	5	133	41,527	5	0	5	133
		R5S	38,801	5	0	3	124	42,630	5	0	3	137	42,630	5	0	3	137
		AFR	36,896	3	0	3	118	40,537	3	0	3	130	40,537	3	0	3	130
		AFRR90	37,247	5	0	4	119	40,923	5	0	4	131	40,923	5	0	4	131
		AFRL90	37,403	5	0	4	120	41,095	5	0	4	132	41,095	5	0	4	132

Note: XVOLT configurations only for all RSX3 LED P4 — Inputs watts is reduced by 9% to 285W. Delivered lumens reduced by 8% for all published values under P4. IES files for RSXF3 LED P4 with XVOLT are available on Acuitybrands.com.



# KBR8 LED

## LED Specification Bollard



Catalog Number
Notes
Type

Hit the Tab key or mouse over the page to see all interactive elements.

### Introduction

The KBR8 Bollard is a stylish, fully integrated LED solution for walkways. It features a sleek, modern design and is carefully engineered to provide long-lasting, energy-efficient lighting with a variety of optical and control options for customized performance.

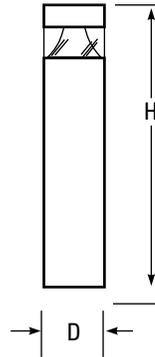
With an expected service life of over 20 years of nighttime use and up to 70% in energy savings over comparable 100W metal halide luminaires, the KBR8 Bollard is a reliable, low-maintenance lighting solution that produces sites that are exceptionally illuminated.

### Specifications

8" Round  
(20.3 cm)

**Height:** 40"  
(101.6 cm)

**Weight (max):** 27 lbs  
(12.25 kg)



### Ordering Information

**EXAMPLE:** KBR8 LED 16C 700 40K SYM MVOLT DDBXD

Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Control options	Other options	Finish <i>(required)</i>
KBR8 LED	<b>Asymmetric</b> 12C 12 LEDs <sup>1</sup>	350 350 mA	30K 3000 K	<b>ASY</b> Asymmetric <sup>1</sup> <b>SYM</b> Symmetric	MVOLT <sup>5</sup> 120 <sup>5</sup> 208 <sup>5</sup> 240 <sup>5</sup> 277 <sup>5</sup> 347 <sup>4</sup>	<b>Shipped installed</b> <b>PE</b> Photoelectric cell, button type <b>DMG</b> 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) <b>ELCW</b> Emergency battery backup, CA Title 20 Noncompliant <sup>6</sup>	<b>Shipped installed</b> <b>SF</b> Single fuse (120, 277, 347V) <sup>4,7</sup> <b>DF</b> Double fuse (208, 240V) <sup>4,7</sup> <b>H24</b> 24" overall height <b>H30</b> 30" overall height <b>H36</b> 36" overall height <b>FG</b> Ground-fault festoon outlet <b>L/AB</b> Without anchor bolts (3 bolt base) <b>L/AB4</b> 4 bolt retrofit base without anchor bolts <sup>8</sup>	DWHXD White DNAXD Natural aluminum <b>DDBXD</b> Dark bronze DBLXD Black DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white
		450 450 mA <sup>3,4</sup>	<b>40K</b> 4000 K					
	<b>Symmetric</b> <b>16C</b> 16 LEDs <sup>2</sup>	530 530 mA 700 700 mA	50K 5000 K AMBPC Amber phosphor converted AMBLW Amber limited wavelength <sup>3,4</sup>					

### Accessories

Ordered and shipped separately.

MRAB U Anchor bolts for KBR8 LED<sup>3</sup>

### NOTES

- 1 Only available in the 12C, ASY version.
- 2 Only available in the 16C, SYM version.
- 3 Only available with 450 AMBLW version.
- 4 Not available with ELCW.
- 5 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options), or photocontrol (PE option).
- 6 Not available with 347V. Not available with fusing. Not available with 450 AMBLW.
- 7 Single fuse (SF) requires 120, 277, or 347 voltage option. Double fuse (DF) requires 208 or 240 voltage option.
- 8 MRAB U not available with L/AB4 option.



## Performance Data

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Actual wattage may differ by +/- 8% when operating between 120-480V +/- 10%.

Light Engines	Drive Current	System Watts	3000 K					4000 K					5000 K					Limited Wavelength Amber					
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	
Asymmetric 3 Engines (12 LEDs)	350	16	641	40	1	1	1	809	51	1	1	1	870	54	1	1	1						
	530	22	947	43	1	1	1	1,191	54	1	1	1	1,282	58	1	1	1						
	700	31	1,214	40	1	1	1	1,527	51	1	1	1	1,646	55	1	1	1						
	Amber 450	16																324	20	0	1	0	
Symmetric 4 Engines (16 LEDs)	350	20	888	44	1	0	0	1,116	56	1	0	0	1,203	60	1	0	0						
	530	28	1,254	45	1	0	0	1,598	57	1	0	1	1,719	61	1	0	1						
	700	39	1,608	41	1	0	1	2,022	52	1	0	1	2,180	56	2	0	1						
	Amber 450	20																374	19	0	0	0	

**Note:** Available with phosphor-converted amber LED's (nomenclature AMBPC). These LED's produce light with 97+% >530 nm. Output can be calculated by applying a 0.7 factor to 4000 K lumen values and photometric files.

## Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.00	0.98	0.97	0.95

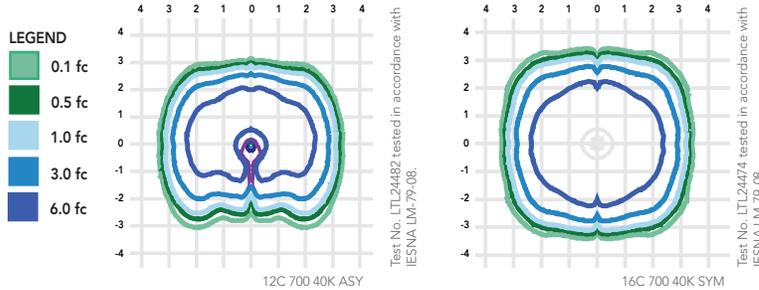
## Electrical Load

Light Engines	Drive Current (mA)	System Watts	Current (A)				
			120	208	240	277	347
12C	350	16W	0.158	0.118	0.114	0.109	0.105
	530	22W	0.217	0.146	0.136	0.128	0.118
	700	31W	0.296	0.185	0.168	0.153	0.139
	Amber 450	16W	0.161	0.120	0.115	0.110	0.106
16C	350	20W	0.197	0.137	0.128	0.121	0.114
	530	28W	0.282	0.178	0.162	0.148	0.135
	700	39W	0.385	0.231	0.207	0.185	0.163
	Amber 450	20W	0.199	0.139	0.130	0.123	0.116

## Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's [KBR8 Bollard homepage](#).

Isofootcandle plots for the KB LED Bollards. Distances are in units of mounting height (3').



## FEATURES & SPECIFICATIONS

### INTENDED USE

The rugged construction and clean lines of the KBA bollard is ideal for illuminating building entryways, walking paths, and pedestrian plazas, as well as any other location requiring a low mounting height light source with fully cutoff illumination.

### CONSTRUCTION

One-piece 8-inch round extruded aluminum shaft with thick side walls for extreme durability, a high-impact clear acrylic lens and welded top cap. Die-cast aluminum mounting ring allows for easy leveling even in sloped locations and a full 360-degree rotation for precise alignment during installation. Three 1/2" x 11" anchor bolts with double nuts and washers and 3/4" bolt circle template ensure stability. Overall height is 42" standard.

### FINISH

Exterior parts are protected by a zinc-infused super durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering for maximum retention of gloss and luster. A tightly controlled multi-stage process ensures a minimum 3-mil thickness for a finish that can withstand the elements without cracking or peeling. Available in both textured and non-textured finishes.

### OPTICS

Two fully cutoff optical distributions are available: symmetrical and asymmetrical. IP66 sealed LED light engine provides smoothly graduated illumination without any uplight. Light engines are available in standard 4000 K (>70 CRI) or optional 3000 K (>80 CRI) or 5000 K (67 CRI). Limited-wavelength amber LEDs are also available.

### ELECTRICAL

Light engines consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (L95/100,000 hours at 700mA at 25°C). Class 2 electronic drivers are designed for an expected life of 100,000 hours with < 1% failure rate. Electrical components are mounted on a removable power tray.

### LISTINGS

CSA certified to U.S. and Canadian standards. Light engines are IP66 rated. Rated for -40°C minimum ambient. Cold-weather emergency battery backup rated for -20°C minimum ambient.

### BUY AMERICAN ACT

This product 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/resources/buy-american](http://www.acuitybrands.com/resources/buy-american) for additional information.

### WARRANTY

Five-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/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx).

**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.





Catalog Number
Notes
Type

# Contractor Select™ WPX LED

## Wall packs

The WPX LED wall packs are energy-efficient, cost-effective, and aesthetically appealing full-cut off solution for both new construction and HID wall pack replacement/renovation opportunities. Reliable IP66 construction and excellent LED lumen maintenance ensure a long service life.

**FEATURES:**

- Architectural design at very economical prices
- Energy efficient - payback in less than two years
- Wide range of configuration options available

Note : WPX3 lumen package and all the WPX configuration options are not included in the Contractor Select program. For more information, please visit [WPX LED](#).



Luminaire	CCT	Lumens	Input Watts	Photocell	Finish	Voltage	Catalog Number	CI Code	UPC	Pallet qty.	Replaces Up To
WPX0	SWW2 3000K/ 4000K/ 5000K	850 - 1,650	6.4-13W	Switchable On/Off	DARK BRONZE	120-277V	WPX0 LED ALO SWW2 MVOLT PE DDBXD M2	*276U4U	196182511806	280	70W Metal Halide
WPX1	4000K	2,900	24W	N/A	DARK BRONZE	120-277V	WPX1 LED P2 40K MVOLT DDBXD M4	*265SWK	193048870589	160	150W Metal Halide
WPX2	4000K	6,000	47W	N/A	DARK BRONZE	120-277V	WPX2 LED 40K MVOLT DDBXD M2	*265SX3	193048870756	120	250W Metal Halide
	5000K	6,000	47W	N/A	DARK BRONZE	120-277V	WPX2 LED 50K MVOLT DDBXD M2	*265SX6	193048870770	120	250W Metal Halide

More configurations are available. [Click here](#) or visit [www.acuitybrands.com](http://www.acuitybrands.com) and search for [WPX LED](#).



## Specifications

### INTENDED USE:

The WPX LED wall packs are designed to provide a cost-effective, energy-efficient solution for the one-for-one replacement of existing HID wall packs. The WPX0, WPX1, WPX2 and WPX3 are ideal for replacing up to 70W, 150W, 250W, and 400W HID luminaires respectively. WPX luminaires deliver a uniform, wide distribution. WPX is rated for -40°C to 40°C.

### CONSTRUCTION:

WPX feature a die-cast aluminum main body with optimal thermal management that both enhances LED efficacy and extends component life. The luminaires are IP66 rated, and sealed against moisture or environmental contaminants.

### ELECTRICAL:

Light engine(s) configurations consist of high-efficacy LEDs with a min LED lumen maintenance of L86/100,000 hours. Color temperature (CCT) options of 3000K, 4000K and 5000K with minimum CRI of 70 (80 for WPX0). Electronic drivers ensure system power factor >90% and THD <20%. All luminaires have 6kV surge protection (Note: WPX1 LED P1 package and WPX0 comes with a standard surge protection rating of 2.5kV).

Note: The standard WPX LED wall pack luminaires come with field-adjustable drive current feature. This feature allows tuning the output current of the LED drivers to adjust the lumen output (to dim the luminaire).

### INSTALLATION:

WPX can be mounted directly over a standard electrical junction box. A port on the back surface allows poke-through conduit wiring on surfaces that don't have an electrical junction box. WPX1, WPX2 and WPX3 come with three 1/2 inch conduit ports on three sides that allow for surface conduit wiring. Wiring can be made in the integral wiring compartment in all cases. WPX is only recommended for installations with LEDs facing downwards.

### LISTINGS:

CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. IP66 Rated. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

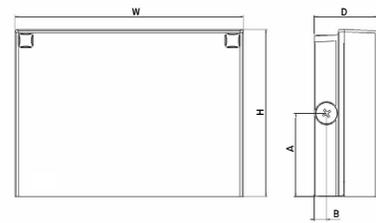
### WARRANTY:

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](http://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.

## Dimensions

All dimensions are inches (centimeters) unless otherwise indicated.



Front View

Side View

Luminaire	Height (H)	Width (W)	Depth (D)	Side Conduit Location		Weight
				A	B	
WPX0	5.75" (14.6 cm)	5.5" (14.0 cm)	2" (5.1 cm)	N/A	N/A	2.5 lbs (1.1kg)
WPX1	8.1" (20.6 cm)	11.1" (28.3 cm)	3.2" (8.1 cm)	4.0" (10.3 cm)	0.6" (1.6 cm)	6.1 lbs (2.8kg)
WPX2	9.1" (23.1 cm)	12.3" (31.1 cm)	4.1" (10.5 cm)	4.5" (11.5 cm)	0.7" (1.7 cm)	8.2 lbs (3.7kg)
WPX3	9.5" (24.1 cm)	13.0" (33.0 cm)	5.5" (13.7 cm)	4.7" (12.0 cm)	0.7" (1.7 cm)	11.0 lbs (5.0kg)



www.JSDinc.com

# Stormwater Management Plan Report

Truck Country  
N128 W21795 Holy Hill Rd.  
Village of Germantown, Wisconsin

Report Date: November 13, 2023



Prepared for:

**EUA**

333 East Chicago Street  
Milwaukee, WI 53202

Prepared by:

**JSD Professional Services, Inc.**  
W238 N1610 Busse Road, Suite 100  
Waukesha, WI 53188

JSD Project No. 23-13460

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## **APPENDICES**

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**APPENDIX 1 - LOCATION MAP**

**APPENDIX 2 - SOIL DATA**

- USDA SOIL MAP

**APPENDIX 3 - PROPOSED SITE HYDROLOGY**

- PROPOSED CONDITIONS HYDROLOGY EXHIBIT
- PROPOSED HYDROCAD OUTPUT

**APPENDIX 4 - WATER QUALITY CALCULATIONS**

- SLAMM INPUT
- SLAMM OUTPUT

**APPENDIX 5 - DESIGN DETAILS**

- PROPOSED GRADING & EROSION CONTROL PLAN
- PROPOSED UTILITY PLAN
- PROPOSED DETENTION POND DETAILS
- STORM SEWER SIZING CALCULATIONS

**APPENDIX 6 - STORM WATER MAINTENANCE & OPERATION PLAN**

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## 1.0 INTRODUCTION

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The proposed Truck Country redevelopment will be located in the Northwest 1/4 of the Northwest 1/4 of Section 18, Township 9 North, Range 20 East in the Village of Germantown, Washington County, Wisconsin. The site is positioned adjacent to Interstate 41, south of Holy Hill Road and is generally bounded by I-41 to the west, Holy Hill Road to the north, storage units to the east, and Wisconsin & Southern Railroad to the south. A location map illustrating the project site has been included in **Appendix 1**.

***This Stormwater Management Plan has been created to address peak runoff rate control, water quality treatment, and infiltration requirements in accordance with Village of Germantown, Milwaukee Metropolitan Sewerage District (MMSD), and Wisconsin Department of Natural Resources (WDNR) regulations.***

The proposed redevelopment will consist of a 38,600 square-foot commercial building with concrete sidewalks, and asphalt parking and drive aisles. A proposed wet detention pond will be constructed on-site to provide stormwater management, and private storm sewer will provide drainage conveyance to the pond. Please refer to **Section 3.0** and **Section 5.0** for design criteria and additional details of the stormwater facilities.

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## 2.0 EXISTING CONDITIONS

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The existing site contains multiple commercial buildings surrounded by gravel parking, drive aisles, and storage yards. The north end of the site is open grassland and the southeast corner contains a pond surrounded by woods. The existing topography generally slopes from west to east towards the pond.

According to the United States Department of Agriculture – Natural Resources Conservation Service Web Soil Survey the on-site soils consist of loam and silt loam. The soil location map illustrating the soils has been included in **Appendix 2** and a listing of the soil map units and descriptions is shown in Table 1 below.

**Table 1 – Soil Types**

Map Symbol	Map Unit Name	Hydrologic Soil Group
AzB	Aztalan loam	C/D
BsA	Brookston silt loam	C/D
HmB2	Hochheim loam	D
LmA	Lamartine silt loam	B/D
MoB	Mayville silt loam	C

---

## 3.0 DESIGN CRITERIA

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### 3.1 Village of Germantown

Municipal Code – Post-Construction Stormwater Management (Chapter 27)

3.2 Milwaukee Metropolitan Sewerage District

MMSD – Surface Water and Storm Water Regulations (Chapter 13)

3.3 Wisconsin Department of Natural Resources

WDNR – Technical Standards (NR151 and NR216)

Water Quantity: Village of Germantown and MMSD require redevelopment sites which increase impervious surface area by greater than one-half acre to either maintain the existing 2-year and 100-year runoff volumes during the watershed’s critical time period or reduce the peak runoff rate to no more than 0.15 cfs/acre during the 2-year event and no more than 0.50 cfs/acre during the 100-year event. Redevelopment sites are exempt from WDNR peak discharge standards per NR 151.123(2)(b). Refer to **Section 5.1** for a description of the on-site water quantity measures.

Water Quality: For a redevelopment, Village of Germantown and WDNR require stormwater discharges to be treated to remove a minimum of 40% of the total suspended solids load from parking areas and roads, based on an average annual rainfall. Please refer to **Section 5.2** for a description of the on-site water quality measures.

Infiltration: As a redevelopment site, the proposed Truck Country project is exempt from Village of Germantown and WDNR infiltration requirements per NR151.124(3)(b)3.

#### 4.0 ANALYSIS

HydroCAD® Stormwater Modeling System (Version 10.20) software has been used to analyze the stormwater characteristics for the Truck Country redevelopment. HydroCAD® uses the accepted TR-55 methodology for determining peak runoff rates. Curve numbers for proposed ground cover have been selected using the standard values specified in TR-55 for soil belonging to hydrologic soil group “D”. Rainfall depths utilized in the HydroCAD® model were based on the rainfall amounts specified in NOAA Atlas 14 for Washington County using an MSE, type 3 rainfall distribution. Results of the modeling have been included in **Appendix 3**. The corresponding rainfall depths are shown below in Table 2.

**Table 2 – Rainfall Depths**

Storm Event	Rainfall Depth
2-year	2.65”
100-year	6.41”

The sediment reduction characteristics of the proposed stormwater management facilities have been analyzed using WinSLAMM® (Version 10.5.0) Source Loading and Management Model. Source areas were based on proposed ground cover used in the HydroCAD® model. Storage volumes and outlet devices entered into the WinSLAMM® model were also derived from the HydroCAD® analysis. WinSLAMM® input and output data have been included in **Appendix 4**.

**5.0 DESIGN**

The proposed Truck Country redevelopment will include construction of a 38,600 square-foot commercial building, asphalt parking lot and drive aisles, concrete sidewalks, installation of private utilities, and construction of a wet detention pond. Stormwater runoff will be conveyed to the detention pond via proposed storm sewer. Redevelopment of the site will disturb approximately 12.69 acres and will increase the amount of impervious surface by approximately 1.27 acres compared to existing conditions.

Drainage Area 1S consists of building roof, pavement, and landscaped areas which will drain to proposed detention pond 1P. The detention pond will control peak runoff release rates using a two-stage outlet structure. The structure will be comprised of a 24-inch diameter standpipe with a 7-inch diameter orifice to control discharge from smaller, more frequent storm events. Larger storm events will be controlled by the top of the standpipe. The outlet structure will discharge through a 10-inch diameter HDPE storm sewer along the east side of the detention pond into the existing pond, which eventually outlets to the east. In the event the outlet structure becomes clogged or otherwise inoperable, or during storm events in excess of the 100-year event, stormwater will discharge through an emergency spillway located on the east side of the pond which will direct runoff into the existing pond.

Drainage Area 2S represents greenspace and asphalt pavement around the perimeter of the site that will discharge undetained. A Proposed Conditions Hydrology Exhibit illustrating the drainage areas has been included in **Appendix 3**. Please refer to **Appendix 5** for additional details of the detention pond and outlet structure.

**5.1 Runoff Rate Control**

The proposed detention pond has been designed to meet peak runoff release rates in accordance with Village of Germantown and MMSD regulations for the 2-year and 100-year storm events. The post-development 2-year peak release rate must be reduced to 0.15 cfs/acre or less. The 100-year peak release rate must be reduced to 0.5 cfs/acre or less. Table 3 presents the proposed drainage area characteristics and Table 4 illustrates the proposed stormwater management facility characteristics. Table 5 summarizes the allowable and proposed peak release rates determined using HydroCAD®. Please refer to **Appendix 3** for additional details of the peak runoff rate calculations.

**Table 3 – Proposed Drainage Area Hydrologic Characteristics**

Drainage Area (HydroCAD® Node)	Area (Acres)	Curve Number	Peak Runoff Rate (cfs)	
			2-year	100-year
<b>1S Detained</b>	9.375	95	32.84	85.03
<b>2S Undetained</b>	3.315	83	4.43	16.78

**Table 4 – Proposed Wet Detention Pond Characteristics**

		<b>2-year</b>	<b>100-year</b>
<b>1P</b>	Peak Inflow (cfs)	32.84	85.03
	Peak Outflow (cfs)	1.22	4.12
	Peak Water Surface Elevation	937.19	939.01
	Normal Water Surface Elevation	936.00	
	Spillway Elevation	941.00	
	Top of Berm Elevation	942.00	

**Table 5 – Peak Release Rates (cfs)**

<b>Acres</b>	<b>2-year</b>		<b>100-year</b>	
	Allowable (0.15 cfs/ac)	Proposed	Allowable (0.5 cfs/ac)	Proposed
9.375	1.40	1.22	4.68	4.12

\*Peak release rates apply to developed area contributing to the proposed detention pond.

**5.2 Water Quality – Total Suspended Solids Treatment**

Water quality treatment for the Truck Country redevelopment will be achieved through the settling of suspended solids in the proposed detention pond. The detention pond has been designed in accordance with the parameters set forth in WDNR Technical Standard 1001 and features a permanent pool depth of at least 5 feet to allow for sediment settling and storage. To maintain the permanent pool depth, a clay liner has been specified in accordance with Appendix D of WDNR Technical Standard 1001.

Calculation of TSS reduction using WinSLAMM® software was determined based on the solids yield from paved surfaces multiplied by the removal efficiency of the treatment device. Table 6 summarizes the TSS reduction as calculated using WinSLAMM®. Refer to **Appendix 4** for input and output data used in the water quality model.

**Table 6 – Total Suspended Solids Reduction**

<b>Drainage Area</b>	<b>Solids Yield from Pavement (lbs.)</b>	<b>Treatment Device</b>	<b>Removal Efficiency</b>	<b>Solids Removed (lbs.)</b>
1S Detained	3814	Detention Pond	0.88	3355
2S Undetained	372	None	0.00	0.00
<b>Total</b>	<b>4186</b>	--	--	<b>3355</b>

WDNR and Village of Germantown ordinance require a minimum of 40% of total suspended solids to be removed from paved parking and drive aisles. Since the total solids yield from paved surfaces is 4,186 lbs., a minimum of 1,675 lbs. must be removed to meet the 40% requirement. As Table 6 demonstrates, the proposed wet detention pond will actually remove 3,355 lbs., satisfying the 40% requirement.

---

### 5.3 Storm Sewer

Storm sewer will be constructed within the proposed site to convey stormwater to the detention pond. The storm sewers have been sized to collect runoff from building roof, pavement, and greenspace areas. All storm sewers have been designed in accordance with the rational method and have been sized to accommodate runoff from the 10-year, 24-hour storm event. Complete storm sewer design computations have been included in **Appendix 5**.

## 6.0 CONCLUSION

---

The stormwater management facilities for Truck Country have been designed to meet or exceed Village of Germantown ordinance, MMSD Chapter 13 guidelines, and WDNR Technical Standards NR151 and NR216. The post-development stormwater peak runoff release rates during the 2-year and 100-year storm events have been reduced below the allowable unit release rates in accordance with Village of Germantown and MMSD ordinance for the 2-year and 100-year storm events. The proposed detention pond will provide TSS reduction in excess of 40% for paved parking lots and drives as required by Village of Germantown and WDNR for a redevelopment site. As a redevelopment, the site is exempt from Village of Germantown and WDNR infiltration requirements.

*(Appendices Follow)*

# **APPENDIX 1**

## **Location Map**



## Truck Country



### Location Map

**Village of Germantown, Washington County, WI**

(NW 1/4 of the NW 1/4 of Section 18,  
Township 9 North, Range 20 East)

## **APPENDIX 2**

### **Soil Data**

- USDA Soil Map

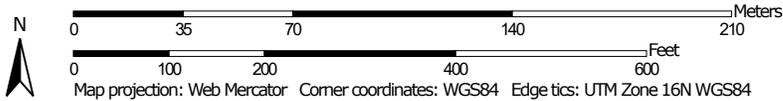


Hydrologic Soil Group—Washington County, Wisconsin



Soil Map may not be valid at this scale.

Map Scale: 1:2,400 if printed on A portrait (8.5" x 11") sheet.



## 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
AzB	Aztalan loam, 2 to 6 percent slopes	C/D	2.1	13.4%
BsA	Brookston silt loam, 0 to 2 percent slopes	C/D	5.0	31.4%
HmB2	Hochheim loam, 2 to 6 percent slopes, eroded	D	4.4	28.0%
LmA	Lamartine silt loam, 0 to 3 percent slopes	B/D	0.5	3.5%
MoB	Mayville silt loam, 2 to 6 percent slopes	C	3.7	23.6%
Ph	Pella silt loam, 0 to 2 percent slopes	B/D	0.0	0.0%
<b>Totals for Area of Interest</b>			<b>15.8</b>	<b>100.0%</b>

## 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

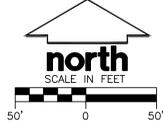
*Tie-break Rule:* Higher

## **APPENDIX 3**

### **Proposed Site Hydrology**

- Proposed Conditions Hydrology Exhibit
- Proposed Conditions HydroCAD Output





UNDETAINED  
3.315 AC. CN=83  
Tc = 18.8 min

DETAINED  
9.375 AC. CN=95  
Tc = 6.0 min

1P  
DETENTION  
POND

THIS DRAWING SHALL BE USED AS A WATERSHED REFERENCE ONLY



N128W21795  
Holy Hill Road  
Village of Germantown  
Washington Co., WI

ISSUANCE AND REVISIONS

DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

PROGRESS DOCUMENTS  
NOT FOR CONSTRUCTION

PROJECT MANAGER CJ  
PROJECT NUMBER 23351

PROPOSED  
HYDROLOGY  
EXHIBIT

H-100



MILWAUKEE REGIONAL OFFICE  
W238 N1610 BLUSSE ROAD, SUITE 100  
WALKESHA, WISCONSIN 53188  
P. 262.513.0666  
JSD PROJ. NO.: 23-13480A  
JSD PROJ. MGR.: APM



Call 811 or (800) 242-8511  
Milwaukee Area (262) 432-7910  
Hearing Impaired TDD (800) 542-2289  
www.DiggersHotline.com

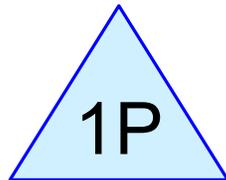
# Peak Release Rate Calculations



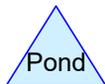
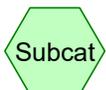
Detained



Undetained



Detention Pond



**Routing Diagram for 23-13460**

Prepared by JSD Professional Services Inc, Printed 11/9/2023  
HydroCAD® 10.20-3c s/n 01985 © 2023 HydroCAD Software Solutions LLC

### Summary for Subcatchment 1S: Detained

Runoff = 32.84 cfs @ 12.13 hrs, Volume= 1.647 af, Depth> 2.11"  
 Routed to Pond 1P : Detention Pond

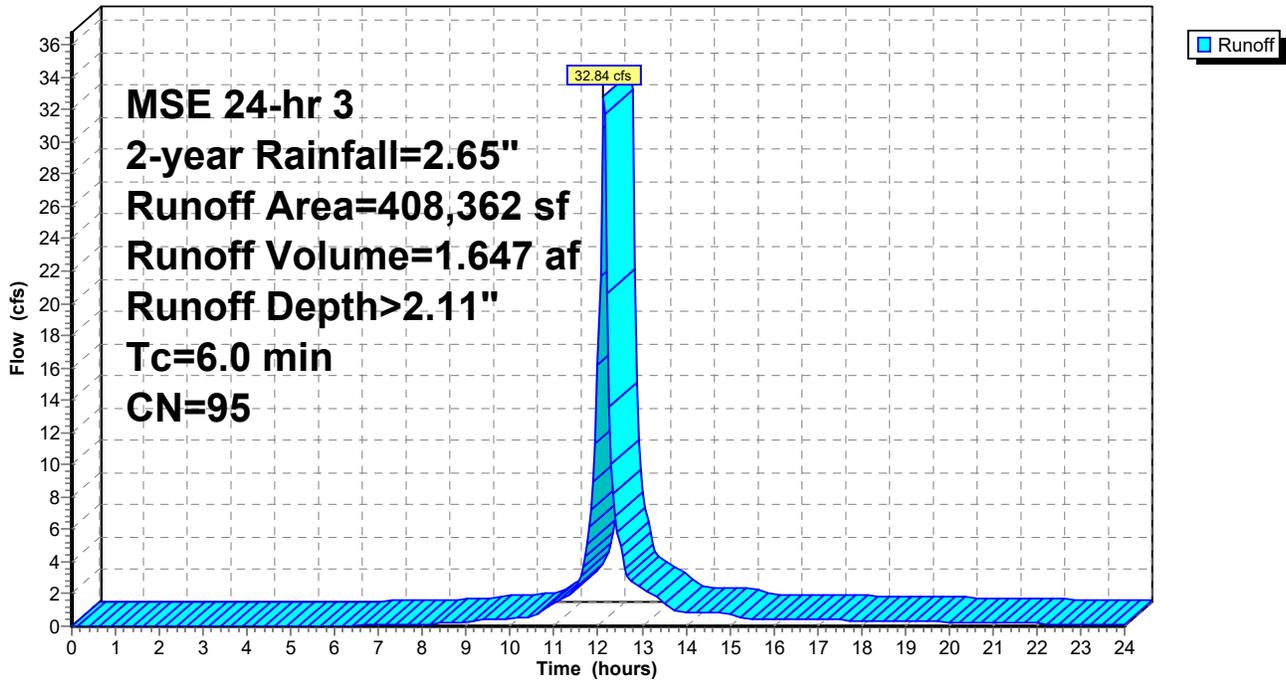
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 MSE 24-hr 3 2-year Rainfall=2.65"

Area (sf)	CN	Description
38,605	98	Roofs, HSG D
266,520	98	Paved parking, HSG D
62,226	80	>75% Grass cover, Good, HSG D
41,011	98	Water Surface, 0% imp, HSG D
408,362	95	Weighted Average
103,237		25.28% Pervious Area
305,125		74.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, TR-55 Minimum

### Subcatchment 1S: Detained

Hydrograph



### Summary for Subcatchment 2S: Undetained

Runoff = 4.43 cfs @ 12.29 hrs, Volume= 0.323 af, Depth> 1.17"

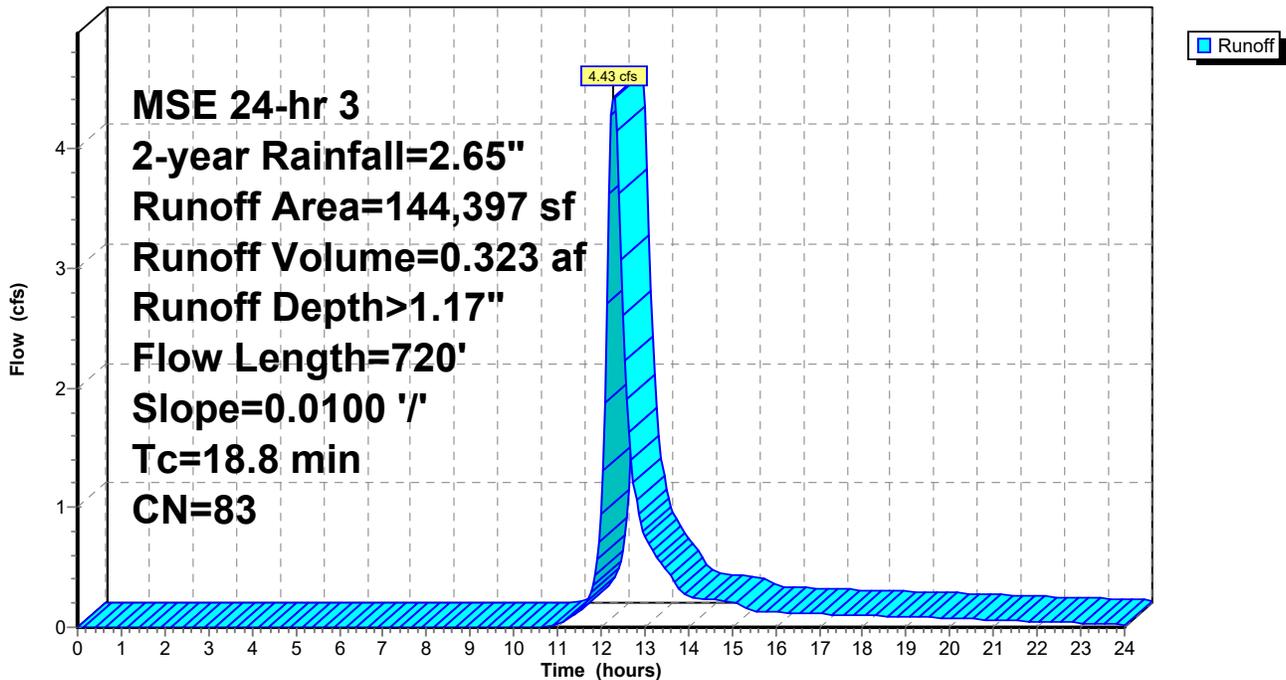
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 MSE 24-hr 3 2-year Rainfall=2.65"

Area (sf)	CN	Description
21,910	98	Paved parking, HSG D
122,487	80	>75% Grass cover, Good, HSG D
144,397	83	Weighted Average
122,487		84.83% Pervious Area
21,910		15.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	33	0.0100	0.06		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.65"
10.3	687	0.0100	1.12	0.75	<b>Trap/Vee/Rect Channel Flow,</b> Bot.W=4.00' D=0.15' Z= 3.0 '/' Top.W=4.90' n= 0.035 Earth, dense weeds
18.8	720	Total			

### Subcatchment 2S: Undetained

Hydrograph



### Summary for Pond 1P: Detention Pond

Inflow Area = 9.375 ac, 74.72% Impervious, Inflow Depth > 2.11" for 2-year event  
 Inflow = 32.84 cfs @ 12.13 hrs, Volume= 1.647 af  
 Outflow = 1.22 cfs @ 13.57 hrs, Volume= 1.044 af, Atten= 96%, Lag= 86.8 min  
 Primary = 1.22 cfs @ 13.57 hrs, Volume= 1.044 af  
 Routed to nonexistent node T  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to nonexistent node T

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 937.19' @ 13.57 hrs Surf.Area= 44,362 sf Storage= 50,876 cf

Plug-Flow detention time= 345.6 min calculated for 1.041 af (63% of inflow)  
 Center-of-Mass det. time= 274.2 min ( 1,048.9 - 774.7 )

Volume	Invert	Avail.Storage	Storage Description			
#1	936.00'	298,117 cf	<b>Custom Stage Data (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
936.00	41,011	926.0	0	0	41,011	
937.00	43,819	945.0	42,407	42,407	43,991	
938.00	46,683	964.0	45,243	87,651	47,031	
939.00	49,604	983.0	48,136	135,787	50,131	
940.00	52,581	1,002.0	51,085	186,872	53,292	
941.00	55,615	1,021.0	54,091	240,963	56,514	
942.00	58,706	1,040.0	57,154	298,117	59,796	

Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>10.0" Round Culvert</b> L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0192 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#2	Device 1	936.00'	<b>7.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#4	Secondary	941.00'	<b>10.0' long x 16.0' breadth Broad-Crested Rectangular Weir</b> 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=1.22 cfs @ 13.57 hrs HW=937.19' (Free Discharge)

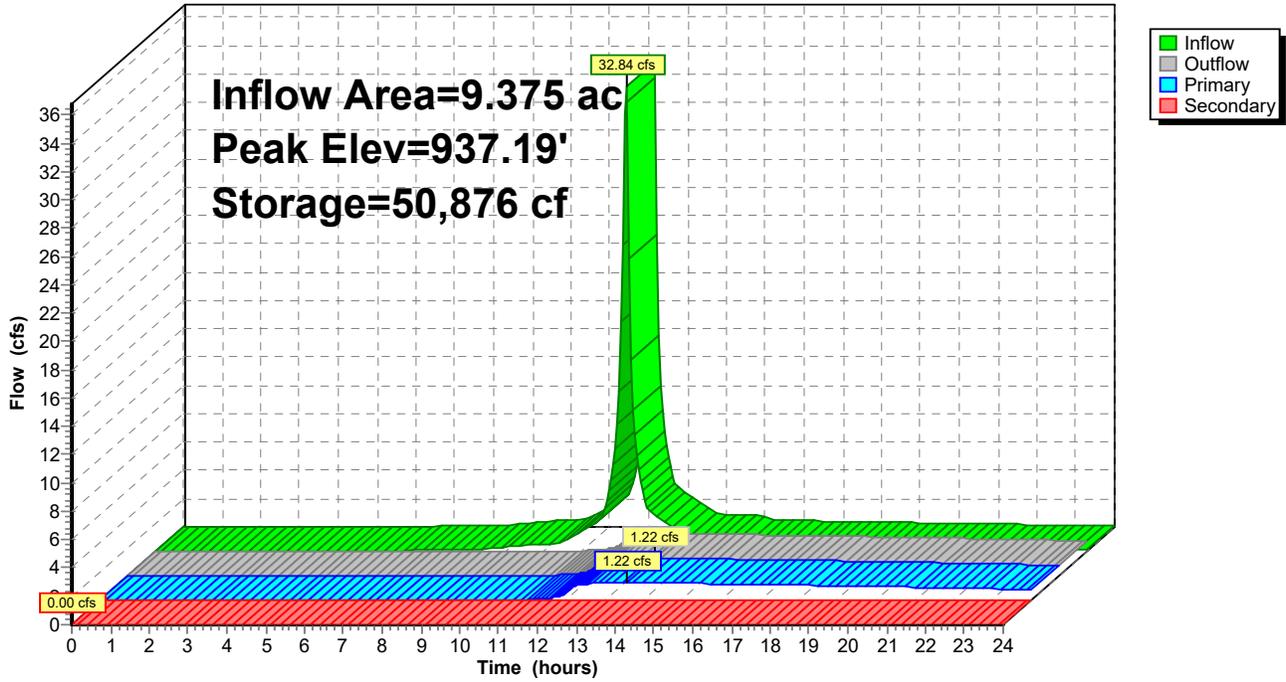
- ↑ 1=Culvert (Passes 1.22 cfs of 2.31 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 1.22 cfs @ 4.57 fps)
- ↑ 3=Orifice/Grate ( Controls 0.00 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=936.00' (Free Discharge)

- ↑ 4=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond 1P: Detention Pond

Hydrograph



### Summary for Subcatchment 1S: Detained

Runoff = 85.03 cfs @ 12.13 hrs, Volume= 4.545 af, Depth> 5.82"  
 Routed to Pond 1P : Detention Pond

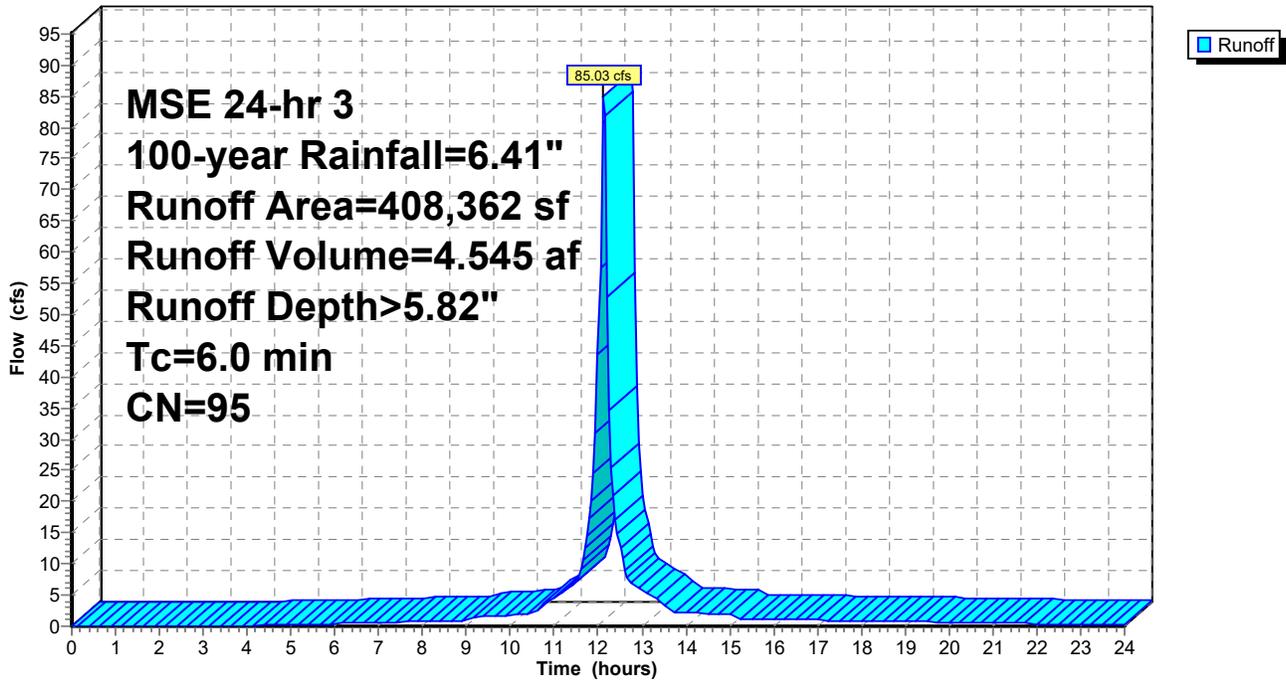
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 MSE 24-hr 3 100-year Rainfall=6.41"

Area (sf)	CN	Description
38,605	98	Roofs, HSG D
266,520	98	Paved parking, HSG D
62,226	80	>75% Grass cover, Good, HSG D
41,011	98	Water Surface, 0% imp, HSG D
408,362	95	Weighted Average
103,237		25.28% Pervious Area
305,125		74.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, TR-55 Minimum

### Subcatchment 1S: Detained

Hydrograph



### Summary for Subcatchment 2S: Undetained

Runoff = 16.78 cfs @ 12.28 hrs, Volume= 1.234 af, Depth> 4.47"

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=6.41"

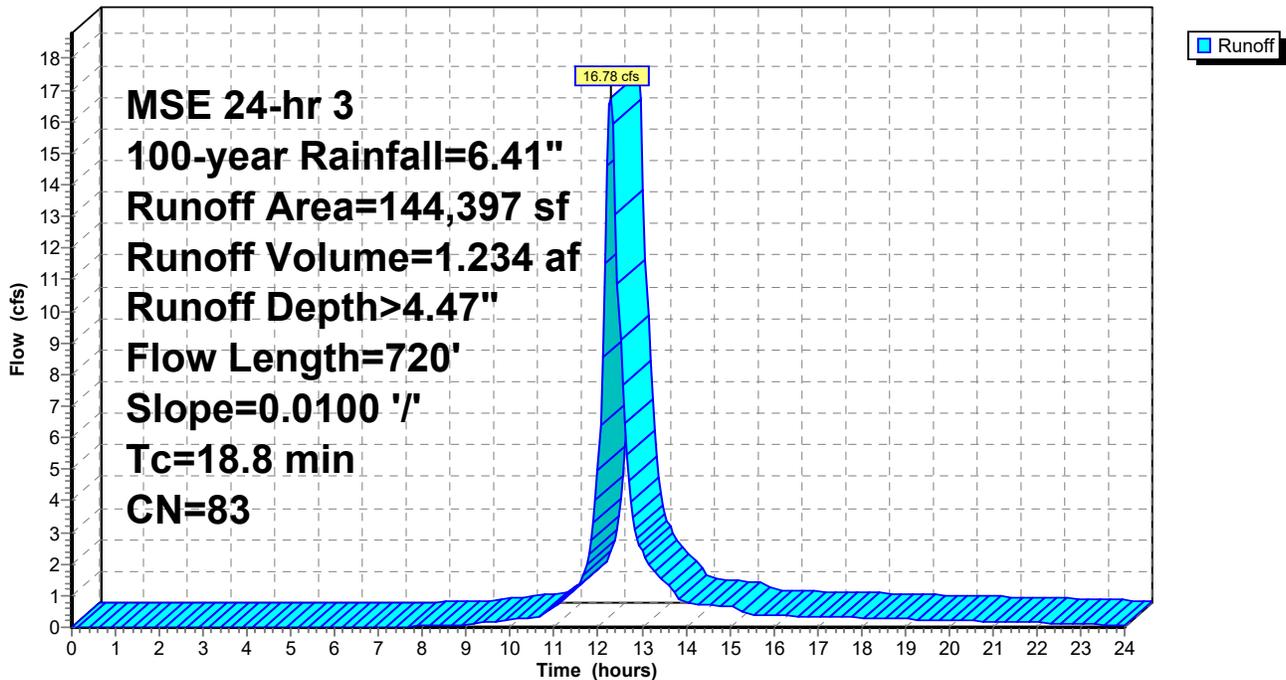
Area (sf)	CN	Description
21,910	98	Paved parking, HSG D
122,487	80	>75% Grass cover, Good, HSG D
144,397	83	Weighted Average
122,487		84.83% Pervious Area
21,910		15.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.5	33	0.0100	0.06		<b>Sheet Flow,</b> Grass: Dense n= 0.240 P2= 2.65"
10.3	687	0.0100	1.12	0.75	<b>Trap/Vee/Rect Channel Flow,</b> Bot.W=4.00' D=0.15' Z= 3.0 '/' Top.W=4.90' n= 0.035 Earth, dense weeds
18.8	720	Total			

### Subcatchment 2S: Undetained

Hydrograph



**Summary for Pond 1P: Detention Pond**

Inflow Area = 9.375 ac, 74.72% Impervious, Inflow Depth > 5.82" for 100-year event  
 Inflow = 85.03 cfs @ 12.13 hrs, Volume= 4.545 af  
 Outflow = 4.12 cfs @ 13.40 hrs, Volume= 2.947 af, Atten= 95%, Lag= 76.2 min  
 Primary = 4.12 cfs @ 13.40 hrs, Volume= 2.947 af  
 Routed to nonexistent node T  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to nonexistent node T

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 939.01' @ 13.40 hrs Surf.Area= 49,638 sf Storage= 136,361 cf

Plug-Flow detention time= 305.9 min calculated for 2.941 af (65% of inflow)  
 Center-of-Mass det. time= 234.3 min ( 990.4 - 756.1 )

Volume	Invert	Avail.Storage	Storage Description		
#1	936.00'	298,117 cf	<b>Custom Stage Data (Irregular)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
936.00	41,011	926.0	0	0	41,011
937.00	43,819	945.0	42,407	42,407	43,991
938.00	46,683	964.0	45,243	87,651	47,031
939.00	49,604	983.0	48,136	135,787	50,131
940.00	52,581	1,002.0	51,085	186,872	53,292
941.00	55,615	1,021.0	54,091	240,963	56,514
942.00	58,706	1,040.0	57,154	298,117	59,796

Device	Routing	Invert	Outlet Devices
#1	Primary	936.00'	<b>10.0" Round Culvert</b> L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 936.00' / 935.00' S= 0.0192 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf
#2	Device 1	936.00'	<b>7.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	938.00'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#4	Secondary	941.00'	<b>10.0' long x 16.0' breadth Broad-Crested Rectangular Weir</b> 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=4.12 cfs @ 13.40 hrs HW=939.01' (Free Discharge)

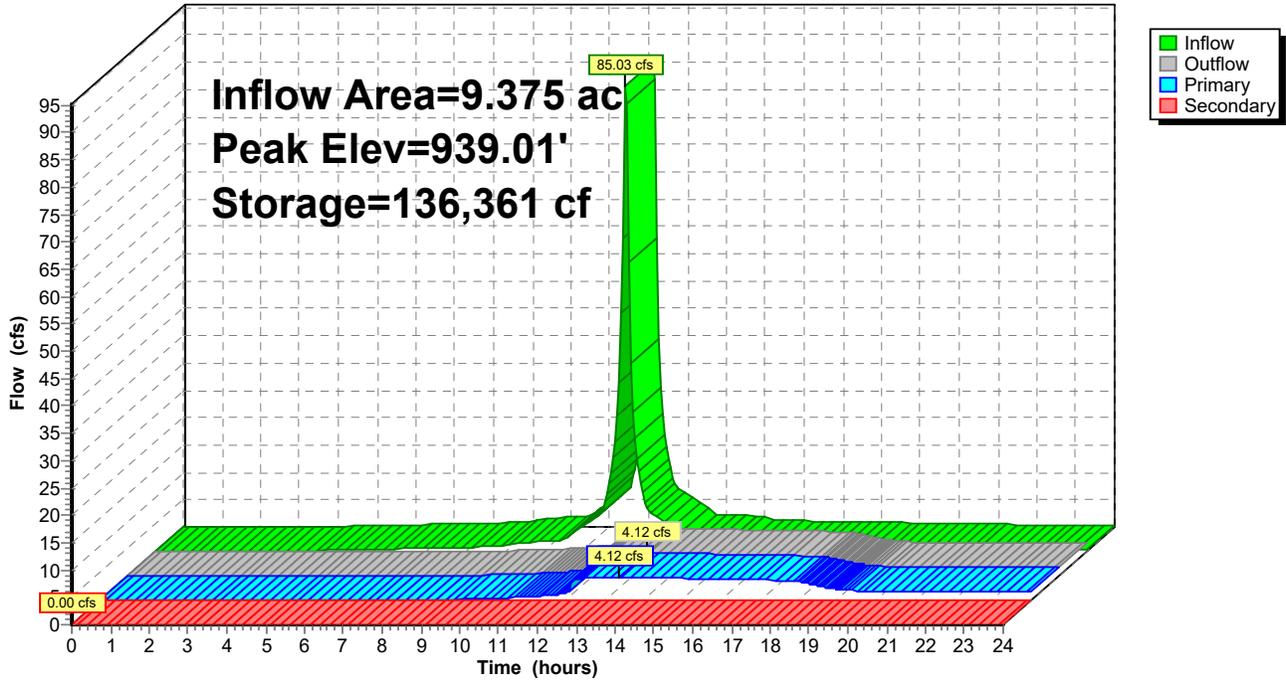
- ↑ 1=Culvert (Barrel Controls 4.12 cfs @ 7.56 fps)
- ↑ 2=Orifice/Grate (Passes < 2.12 cfs potential flow)
- ↑ 3=Orifice/Grate (Passes < 15.21 cfs potential flow)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=936.00' (Free Discharge)

- ↑ 4=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

### Pond 1P: Detention Pond

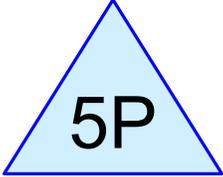
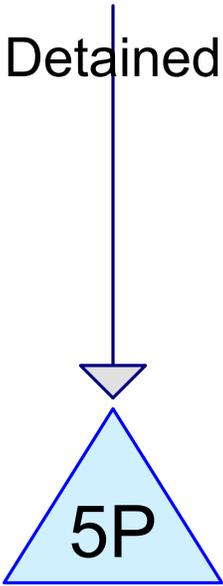
Hydrograph



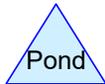
# Plugged Conditions



Detained



Detention Pond



**Routing Diagram for 23-13460**

Prepared by JSD Professional Services Inc, Printed 11/9/2023  
HydroCAD® 10.20-3c s/n 01985 © 2023 HydroCAD Software Solutions LLC

### Summary for Subcatchment 4S: Detained

Runoff = 85.03 cfs @ 12.13 hrs, Volume= 4.545 af, Depth> 5.82"  
 Routed to Pond 5P : Detention Pond

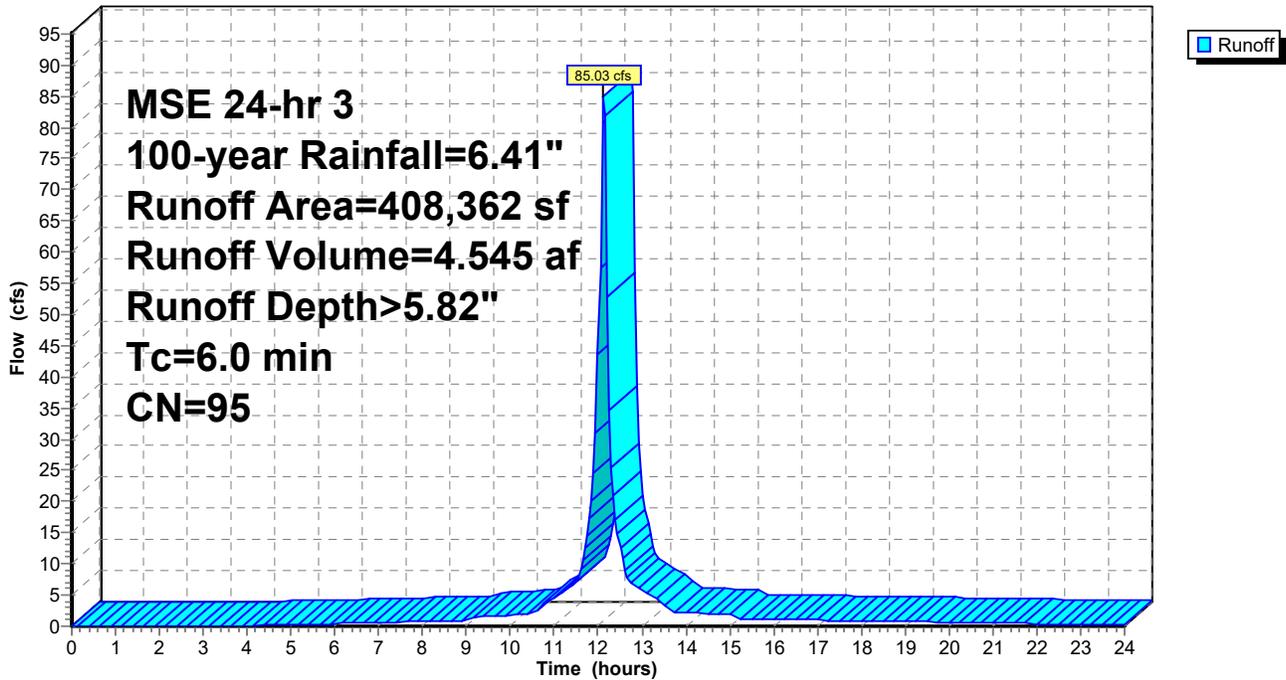
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 MSE 24-hr 3 100-year Rainfall=6.41"

Area (sf)	CN	Description
38,605	98	Roofs, HSG D
266,520	98	Paved parking, HSG D
62,226	80	>75% Grass cover, Good, HSG D
41,011	98	Water Surface, 0% imp, HSG D
408,362	95	Weighted Average
103,237		25.28% Pervious Area
305,125		74.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, TR-55 Minimum

### Subcatchment 4S: Detained

Hydrograph



**Summary for Pond 5P: Detention Pond**

Inflow Area = 9.375 ac, 74.72% Impervious, Inflow Depth > 5.82" for 100-year event  
 Inflow = 85.03 cfs @ 12.13 hrs, Volume= 4.545 af  
 Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 940.21' @ 24.00 hrs Surf.Area= 53,210 sf Storage= 197,965 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)  
 Center-of-Mass det. time= (not calculated: no outflow)

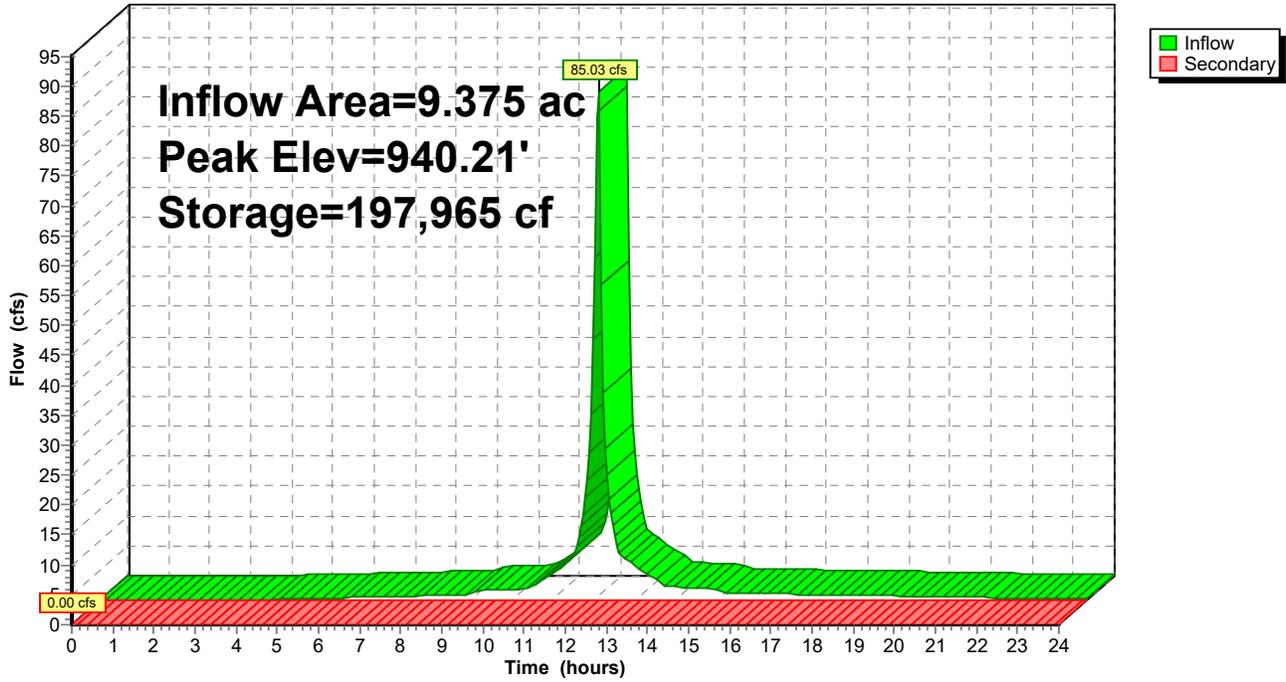
Volume	Invert	Avail.Storage	Storage Description			
#1	936.00'	298,117 cf	<b>Custom Stage Data (Irregular)</b> Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
936.00	41,011	926.0	0	0	41,011	
937.00	43,819	945.0	42,407	42,407	43,991	
938.00	46,683	964.0	45,243	87,651	47,031	
939.00	49,604	983.0	48,136	135,787	50,131	
940.00	52,581	1,002.0	51,085	186,872	53,292	
941.00	55,615	1,021.0	54,091	240,963	56,514	
942.00	58,706	1,040.0	57,154	298,117	59,796	

Device	Routing	Invert	Outlet Devices									
#1	Secondary	941.00'	<b>10.0' long x 16.0' breadth Broad-Crested Rectangular Weir</b>									
			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									

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=936.00' (Free Discharge)  
 ↑1=**Broad-Crested Rectangular Weir**( Controls 0.00 cfs)

### Pond 5P: Detention Pond

Hydrograph

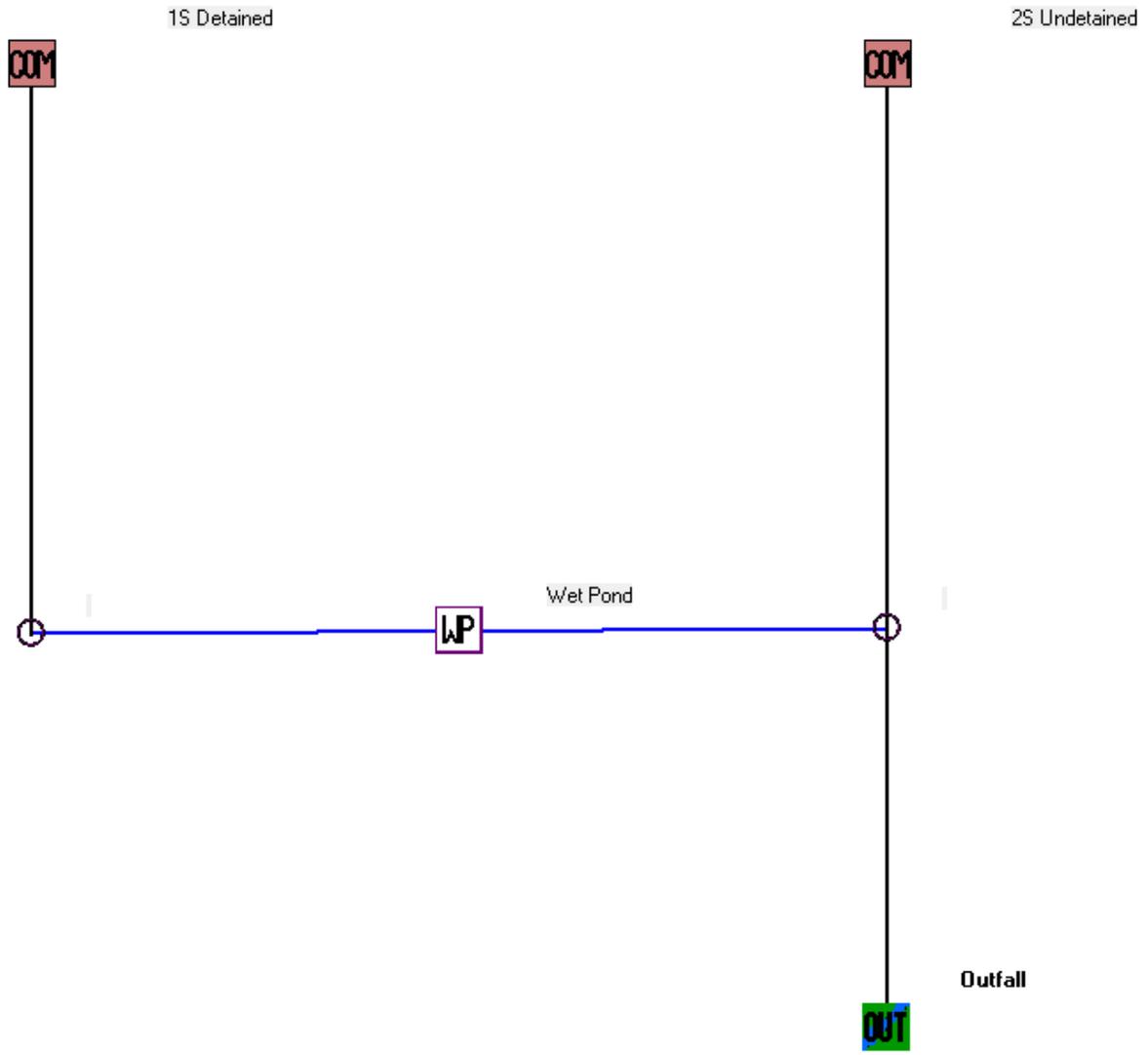


## **APPENDIX 4**

### **Water Quality Calculations**

- SLAMM Input
- SLAMM Output





Data file name: R:\2023\2313460\04 Civil\SWMP\Modeling\SLAMM.mdb  
WinSLAMM Version 10.5.0  
Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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.ppd  
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: 11-09-2023 Time: 16:55:37  
Site information:  
Truck Country  
LU# 1 - Commercial: 1S Detained Total area (ac): 9.374  
    1 - Roofs 1: 0.886 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz  
    13 - Paved Parking 1: 6.118 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz  
    45 - Large Landscaped Areas 1: 1.429 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz  
    70 - Water Body Areas: 0.941 ac. Source Area PSD File:  
  
LU# 2 - Commercial: 2S Undetained Total area (ac): 3.315  
    25 - Driveways 1: 0.503 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz  
    45 - Large Landscaped Areas 1: 2.812 ac. Normal Silty Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - Wet Pond  
 Particle Size Distribution file name: Not needed - calculated by program  
 Initial stage elevation (ft): 5  
 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): 0.58
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 16
3. Height from datum to bottom of weir opening: 10

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 7

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	0.5820	0.00	0.00
2	1.00	0.6200	0.00	0.00
3	2.00	0.6580	0.00	0.00
4	3.00	0.6970	0.00	0.00
5	4.00	0.7360	0.00	0.00
6	5.00	0.9410	0.00	0.00
7	6.00	1.0060	0.00	0.00
8	7.00	1.0720	0.00	0.00
9	8.00	1.1390	0.00	0.00
10	9.00	1.2070	0.00	0.00
11	10.00	1.2770	0.00	0.00
12	11.00	1.3480	0.00	0.00

SLAMM for Windows Version 10.5.0

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Data file name: R:\2023\2313460\04 Civil\SWMP\Modeling\SLAMM.mdb

Data file description: Truck Country

Rain file name: C:\WinSLAMM Files\Rain Files\WI Milwaukee 69.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:

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: 11-09-2023 Time of run: 16:55:57

Total Area Modeled (acres): 12.689

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:	702193	-	106.1	4650	-
Outfall Total with Controls:	702924	-0.10%	24.38	1070	76.99%
Annualized Total After Outfall Controls:	712687			1085	

Data File: R:\2023\2313460\04 Civil\SWMP\Modeling\SLAMM.mdb

Rain File: WI Milwaukee 69.RAN

Date: 11-09-23 Time: 4:55:44 PM

Site Description: Truck Country

Commercial: 1S Detained Areas - Particulate Solids Yield (lbs)

	Land Use Totals	Roofs 1	<b>Paved Parking 1</b>	Large Landscaped Areas 1	Water Body Areas
Total:	4069.4	148.7	<b>3814.0</b>	106.2	0.0

Commercial: 2S Undetained Areas - Particulate Solids Yield (lbs)

	Land Use Totals	<b>Driveways 1</b>	Large Landscaped Areas 1
Total:	580.5	<b>371.5</b>	209.0

Data File: R:\2023\2313460\04 Civil\SWMP\Modeling\SLAMM.mdb

Rain File: WI Milwaukee 69.RAN

Date: 11-09-23 Time: 4:55:45 PM

Site Description: Truck Country

Control Practice Type	Total Influent Load (lbs)	Total Effluent Load (lbs)	<b>Percent Load Reduction</b>
Wet Detention Pond	4069	489.6	<b>87.97</b>

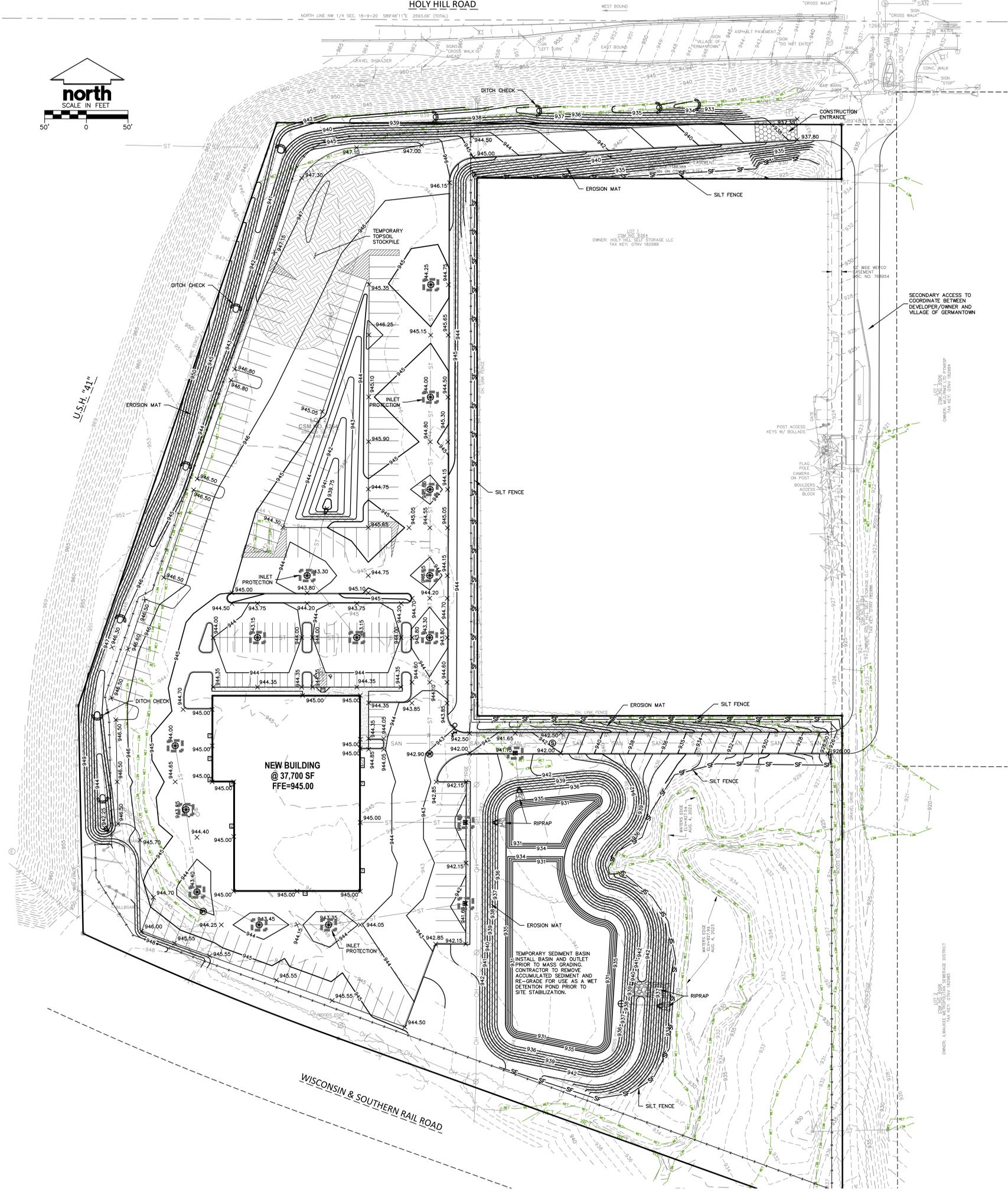
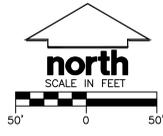
## **APPENDIX 5**

### **Design Details**

- Proposed Grading & Erosion Control Plan
- Proposed Storm Sewer Plan
- Proposed Detention Pond Details
- Storm Sewer Sizing Calculations



HOLY HILL ROAD



EROSION CONTROL NOTES

- CONTRACTOR IS RESPONSIBLE TO NOTIFY ENGINEER OF RECORD AND OFFICIALS OF ANY CHANGES TO THE EROSION CONTROL PLAN, ENGINEER OF RECORD AND APPROPRIATE VILLAGE OF GERMANTOWN OFFICIALS MUST APPROVE ANY CHANGES TO THE PLAN PRIOR TO CONSTRUCTION.
- INSTALL PERIMETER EROSION CONTROL MEASURES (SUCH AS CONSTRUCTION ENTRANCES, SILT FENCE AND EXISTING INLET PROTECTION) PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE COVER, AS SHOWN ON PLAN.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR IN ACCORDANCE WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) TECHNICAL STANDARDS (REFERRED TO AS BMP'S) AND VILLAGE OF GERMANTOWN ORDINANCE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF THESE STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS OR ADDITIONAL EROSION CONTROL MEASURES WHICH MAY BE NECESSARY TO MEET UNFORESEEN FIELD CONDITIONS. MODIFICATIONS TO THE APPROVED EROSION CONTROL DESIGN IS ALLOWED IF MODIFICATIONS CONFORM TO BMP'S. ALL DESIGN MODIFICATIONS MUST BE APPROVED BY THE VILLAGE OF GERMANTOWN PRIOR TO DEVIATION OF THE APPROVED PLAN.
- ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED BY STATE INSPECTORS, LOCAL INSPECTORS, COUNTY INSPECTORS AND/OR ENGINEER OF RECORD SHALL BE INSTALLED WITHIN 24 HOURS OF REQUEST.
- INSPECTIONS AND MAINTENANCE OF ALL EROSION CONTROL MEASURES SHALL BE ROUTINE (ONCE PER WEEK MINIMUM) TO ENSURE PROPER FUNCTION OF EROSION CONTROLS AT ALL TIMES. EROSION CONTROL MEASURES ARE TO BE IN WORKING ORDER AT THE END OF EACH WORK DAY.
- ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE INSPECTED WITHIN 24 HOURS OF ALL RAIN EVENTS EXCEEDING 0.5 INCHES. ANY DAMAGED EROSION CONTROL MEASURES SHALL BE REPAIRED OR REPLACED IMMEDIATELY UPON INSPECTION.
- CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL LOCATIONS OF VEHICLE INGRESS/EGRESS POINTS. ADDITIONAL LOCATIONS OTHER THAN AS SHOWN ON THE PLANS MUST BE PRIOR APPROVED BY THE MUNICIPALITY. CONSTRUCTION ENTRANCES SHALL BE 50' LONG AND NO LESS THAN 12" THICK BY USE OF 3" CLEAR STONE. CONSTRUCTION ENTRANCES SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION WHICH WILL PREVENT THE TRACKING OF MUD OR DRY SEDIMENT ONTO ADJACENT PUBLIC STREETS AFTER EACH WORKING DAY OR MORE FREQUENTLY AS REQUIRED.
- PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEEP AND/OR SCRAPPED TO REMOVE ACCUMULATED SOIL, DIRT AND/OR DUST AFTER THE END OF EACH WORK DAY AND AS REQUESTED BY THE VILLAGE OF GERMANTOWN.
- INLET PROTECTION SHALL BE IMMEDIATELY FITTED AT THE INLET OF ALL INSTALLED STORM SEWER TO PREVENT SEDIMENT DEPOSITION WITHIN STORM SEWER SYSTEMS.
- INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES. IF STOCKPILE REMAINS UNDISTURBED FOR MORE THAN SEVEN (7) DAYS, TEMPORARY SEEDING AND STABILIZATION IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES IS REQUIRED. IF DISTURBANCE OCCURS BETWEEN NOVEMBER 15TH AND MAY 15TH, THE MULCHING SHALL BE PERFORMED BY HYDRO-MULCHING WITH A TACKIFIER.
- DITCH CHECKS AND APPLICABLE EROSION NETTING/MATTING SHALL BE INSTALLED IMMEDIATELY AFTER COMPLETION OF GRADING EFFORTS WITHIN DITCHES/SWALES TO PREVENT SOIL TRANSPORTATION.
- EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.):
  - PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
  - BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
  - DISCHARGE TRENCH WATER INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH THE DEWATERING TECHNICAL STANDARD NO. 1051 PRIOR TO RELEASE INTO THE STORM SEWER, RECEIVING STREAM, OR DRAINAGE DITCH.
- ALL SLOPES 4:1 OR GREATER SHALL BE STABILIZED WITH CLASS I, TYPE B EROSION MATTING OR APPLICATION OF A WISCONSIN DEPARTMENT OF TRANSPORTATION (WISDOT) APPROVED POLYMER SOIL STABILIZATION TREATMENT OR A COMBINATION THEREOF, AS REQUIRED WITHIN 7 DAYS OF REACHING FINAL GRADE AND/OR AS SOON AS CONDITIONS ALLOW. DRAINAGE SWALES SHALL BE STABILIZED WITH CLASS II, TYPE B EROSION MATTING. EROSION MATTING AND/OR NETTING USED ON SITE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES AND WDNR TECHNICAL STANDARDS 1052 AND 1053.
- CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO CONTROL DUST ARISING FROM CONSTRUCTION OPERATIONS. REFER TO WDNR TECHNICAL STANDARD 1068.
- EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL LAND DISTURBING CONSTRUCTION ACTIVITY AT THE SITE HAS BEEN COMPLETED AND THAT A UNIFORM PERENNIAL VEGETATIVE COVER HAS BEEN ESTABLISHED WITH A DENSITY OF AT LEAST 70% FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES OR THAT EMPLOY EQUIVALENT PERMANENT STABILIZATION MEASURES.
- AREAS USED FOR TEMPORARY SEDIMENT BASINS SHALL BE REMOVED IN THEIR ENTIRETY AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN FULLY STABILIZED OR 70% VEGETATIVE COVER IS ESTABLISHED.
- CONTRACTOR/OWNER SHALL FILE A NOTICE OF TERMINATION UPON COMPLETION OF THE PROJECT IN ACCORDANCE WITH WDNR REQUIREMENTS AND/OR PROPERTY SALE IN ACCORDANCE WITH WDNR REQUIREMENTS.

STABILIZATION PRACTICES

- STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. NO MORE THAN SEVEN (7) DAYS SHALL PASS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS CEASED UNLESS:
  - THE INITIATION STABILIZATION MEASURES BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY HAS CEASED IS PRECLUDED BY SNOW COVER. IN THAT EVENT, STABILIZATION SHALL BE INITIATED AS SOON AS PRACTICABLE.
  - CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN FOURTEEN (14) DAYS FROM WHEN ACTIVITY CEASED. (I.E. THE TOTAL TIME PERIOD THAT THE CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN FOURTEEN (14) DAYS. IN THAT EVENT, STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
  - STABILIZATION MEASURES SHALL BE DETERMINED BASED ON SITE CONDITIONS AT THE TIME OF CONSTRUCTION ACTIVITY HAS CEASED, INCLUDING BUT NOT LIMITED TO WEATHER CONDITIONS AND LENGTH OF TIME MEASURE MUST BE EFFECTIVE. THE FOLLOWING ARE ACCEPTABLE STABILIZATION MEASURES:
    - PERMANENT SEEDING; IN ACCORDANCE WITH APPROVED CONSTRUCTION SPECIFICATION
    - TEMPORARY SEEDING, MAY CONSIST OF SPRING OATS(100LBS/ACRE) AND/OR WHEAT OR CEREAL RYE (150LBS/ACRE)
    - HYDRO-MULCHING WITH A TACKIFIER
    - GEOTEXTILE EROSION MATTING
    - SOODING

LEGEND

⊙	SANITARY SEWER MANHOLE	— SAN —	SANITARY SEWER
⊕	STORM MANHOLE	— W —	WATER MAIN
⊕	CATCH BASIN ROUND	— ST —	STORM SEWER
⊕	CATCH BASIN SQUARE	— RD —	ROOF DRAIN
⊕	FIRE HYDRANT	— G —	UNDERGROUND GAS
⊕	WATER VALVE	— E —	UNDERGROUND ELECTRIC
⊕	GAS VALVE	— T —	UNDERGROUND TELEPHONE
⊕	LIGHT POLE	— FIB —	UNDERGROUND FIBER OPTICS
⊕	TELEPHONE PEDESTAL	— OH —	OVERHEAD UTILITY
⊕	ELECTRICAL MANHOLE	— SF —	SILT FENCE
—	SIGN	—	18" STANDARD CURB AND GUTTER
—	POWER POLE	—	18" HIGH SIDE CURB AND GUTTER
—	GUY WIRE	—	CONIFEROUS TREE
—		—	DECIDUOUS TREE

SEDIMENT BASIN SIZING

BASIN SURFACE AREA	41,011 S.F.
PARTICLE SETTLING VELOCITY (SOIL CLASS 2)	0.000073 FPS
ALLOWABLE 1-YR STORM EVENT DISCHARGE RATE	2.49 CFS
ACTUAL 1-YR STORM EVENT DISCHARGE RATE	1.10 CFS

NOTES:

- CONSTRUCT TEMPORARY SEDIMENT BASIN IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1064.
- OUTLET STRUCTURE SHALL BE CONSTRUCTED AS SHOWN ON DETENTION POND OUTLET DETAIL.
- PRIOR TO FINAL SITE STABILIZATION, SEDIMENT BASIN SHALL BE DREDGED AND RE-GRADED TO ESTABLISH FINISHED WET DETENTION POND GRADES AS SHOWN.



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PROJECT INFORMATION



N128W21795  
Holy Hill Road  
Village of Germantown  
Washington Co., WI

ISSUANCE AND REVISIONS

DATE	DESCRIPTION

KEY PLAN

SHEET INFORMATION

**PROGRESS DOCUMENTS NOT FOR CONSTRUCTION**  
These documents reflect progress and intent and may be subject to change, including additional detail. These are not final construction documents and shall not be used for final bidding or construction-related purposes.

PROJECT MANAGER CJ  
PROJECT NUMBER 23351

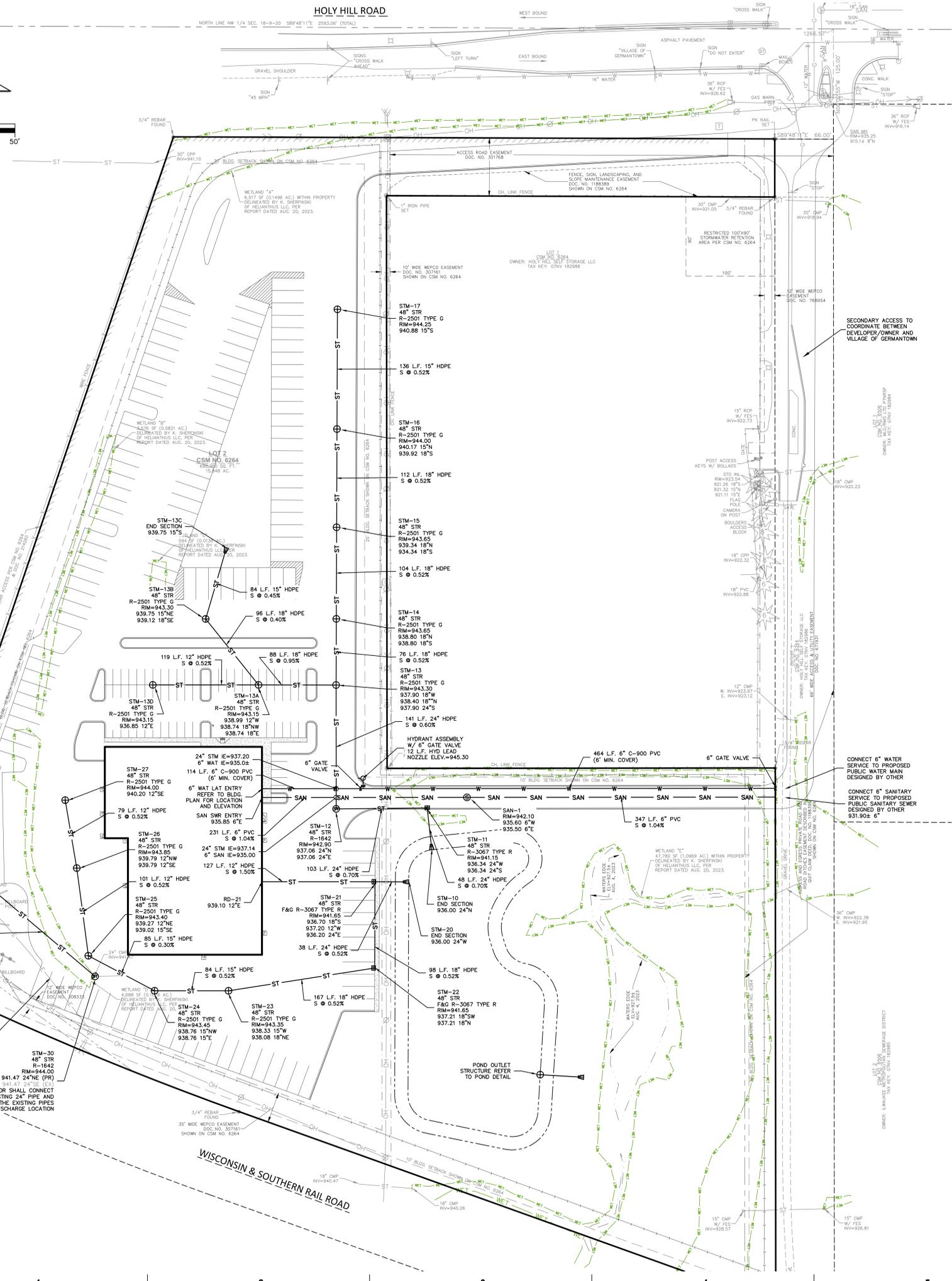
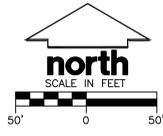
SITE EROSION CONTROL PLAN

**C-103**

**JSD**  
MILWAUKEE REGIONAL OFFICE  
W2381610 BLISSIE ROAD, SUITE 100  
WAUKESHA, WISCONSIN 53188  
P. 262.513.0666  
JSD PROJ. NO.: 23-13460A  
JSD PROJ. MGR.: APM

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UTILITY NOTES

- 1. ALL EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE...
2. PRIOR TO CONSTRUCTION, THE PRIME CONTRACTOR IS RESPONSIBLE FOR:
3. ALL UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN...
4. SPECIFICATIONS SHALL COMPLY WITH THE VILLAGE OF GERMANTOWN SPECIAL PROVISIONS.
5. LENGTHS OF ALL UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN...
6. CONTRACTOR SHALL INSTALL A PEDESTRIAN FENCE AROUND ALL EXCAVATIONS TO BE LEFT OPEN OVER NIGHT AS REQUIRED...
7. CONTRACTOR SHALL ADJUST AND/OR RECONSTRUCT ALL UTILITY COVERS (SUCH AS MANHOLE COVERS, VALVE BOX COVERS, ETC.) TO MATCH THE FINISHED GRADES OF THE AREAS EFFECTED BY THE CONSTRUCTION.
8. THE PRIME CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CONSTRUCTION WITH OTHER CONTRACTORS INVOLVED WITH CONSTRUCTION OF THE PROPOSED DEVELOPMENT AND FOR REPORTING ANY ERRORS OR DISCREPANCIES BETWEEN THESE PLANS AND PLANS PREPARED BY OTHERS.
9. ANY UTILITIES, WHICH ARE DAMAGED BY THE CONTRACTORS, SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH AS-BUILT CONDITIONS OF THE DESIGNATED IMPROVEMENTS IN ORDER THAT THE APPROPRIATE DRAWINGS CAN BE PREPARED, IF REQUIRED. ANY CHANGES TO THE DRAWINGS OR ADDITIONAL ITEMS MUST BE REPORTED TO THE ENGINEER AS WORK PROGRESSES.
11. STORM SEWER SPECIFICATIONS -
PIPE - HIGH DENSITY DUAL-WALL POLYETHYLENE CORRUGATED PIPE SHALL BE AS MANUFACTURED BY ADS OR EQUAL WITH WATER TIGHT JOINTS, AND SHALL MEET THE REQUIREMENTS OF ASHTO DESIGNATION M-294 TYPE "S".
INLETS - INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FILE NO. 28 OF THE "STANDARD SPECIFICATIONS", OR APPROVED EQUAL WITH A 1'-8" X 2'-6" MAXIMUM OPENING, FRAME & GRATE SHALL BE NEEHAH R-2501 WITH TYPE G GRATE, OR EQUAL. INLETS LOCATED IN LANDSCAPED AREAS SHALL USE NEEHAH R-2501-G BEEHIVE FRAME & GRATE, OR EQUAL. CURB FRAME & GRATE SHALL BE NEEHAH R-3067 WITH TYPE R GRATE, OR EQUAL.
MANHOLE FRAMES AND COVERS - MANHOLE FRAMES AND COVERS SHALL BE NEEHAH R-1642 WITH TYPE "B" SELF SEALING LIDS, NON-ROCKING OR EQUAL.
BACKFILL AND BEDDING - STORM SEWER SHALL BE CONSTRUCTED WITH GRAVEL BACKFILL AND CLASS "B" BEDDING IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT, TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.4.3.5 OF THE "STANDARD SPECIFICATIONS".
FIELD TILE CONNECTION - ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE(S) FOR STORM SEWER. TILE LINES CROSSED BY THE TRENCH SHALL BE REPLACED WITH THE SAME MATERIAL AS THE STORM SEWER.
12. WATER MAIN SPECIFICATIONS -
PIPE - POLYVINYL CHLORIDE (PVC) PIPE SHALL MEET THE REQUIREMENTS OF AWWA STANDARD C-900, CLASS 150, DR-18, WITH CAST IRON O.D. AND INTEGRAL ELASTOMERIC BELL AND SPIGOT JOINTS. NON-METALLIC WATER MAINS SHALL BE INSTALLED WITH BLUE INSULATION TRACER WIRE AND CONFORM WITH SPS 382.30(1)(h).
VALVES AND VALVE BOXES - GATE VALVES SHALL BE AWWA GATE VALVES MEETING THE REQUIREMENTS OF AWWA C-500 AND CHAPTER 8.27.2 OF THE "STANDARD SPECIFICATIONS". GATE VALVES AND VALVE BOXES SHALL CONFORM TO LOCAL PLUMBING ORDINANCES.
HYDRANTS - HYDRANTS SHALL CONFORM TO THE SPECIFICATIONS OF THE VILLAGE OF GERMANTOWN. THE DISTANCE FROM THE GROUND LINE TO THE CENTERLINE OF THE LOWEST NOZZLE AND THE LOWEST CONNECTION OF THE FIRE DEPARTMENT SHALL BE NO LESS THAN 18-INCHES AND NO GREATER THAN 23-INCHES (SEE DETAIL).
BEDDING AND COVER MATERIAL - PIPE BEDDING AND COVER MATERIAL SHALL BE SAND, CRUSHED STONE CHIPS OR CRUSHED STONE SCREENINGS CONFORMING TO CHAPTER 8.4.3.2 OF THE "STANDARD SPECIFICATIONS".
BACKFILL - BACKFILL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH CHAPTER 2.6.0 OF THE "STANDARD SPECIFICATIONS". GRAVEL BACKFILL IS REQUIRED IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.4.3.5 OF THE "STANDARD SPECIFICATIONS".
13. SANITARY SEWER SPECIFICATIONS -
PIPE - SANITARY SEWER PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) MEETING REQUIREMENTS OF ASTM D 3034, SDR-35, WITH INTEGRAL BELL TYPE FLEXIBLE ELASTOMERIC JOINTS, MEETING THE REQUIREMENTS OF ASTM D-5212.
BEDDING AND COVER MATERIAL - BEDDING AND COVER MATERIAL SHALL CONFORM TO THE APPROPRIATE SECTIONS OF THE "STANDARD SPECIFICATION" WITH THE FOLLOWING MODIFICATION: COVER MATERIAL SHALL BE THE SAME AS USED FOR BEDDING AND SHALL CONFORM TO SECTION 8.4.3.2 (A). BEDDING AND COVER MATERIALS SHALL BE PLACED IN A MINIMUM OF THREE SEPARATE LIFTS, OR AS REQUIRED TO INSURE ADEQUATE COMPACTING OF THESE MATERIALS, WITH ONE LIFT OF BEDDING MATERIAL ENDING AT OR NEAR THE SPRINGLINE OF THE PIPE, THE CONTRACTOR SHALL TAKE CARE TO COMPLETELY WORK BEDDING MATERIAL UNDER THE HAUNCH OF THE PIPE TO PROVIDE ADEQUATE SIDE SUPPORT.
BACKFILL - BACKFILL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH CHAPTER 2.6.0 OF THE "STANDARD SPECIFICATIONS". GRAVEL BACKFILL IS REQUIRED IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.4.3.5 OF THE "STANDARD SPECIFICATIONS".
14. WATERMAIN AND SANITARY SEWER SHALL BE INSULATED WHEREVER THE DEPTH OF COVER IS LESS THAN 6 FEET. INSULATION AND INSTALLATION OF INSULATION SHALL BE CONFORMING WITH CHAPTER 4.17.0 "INSULATION" OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN 6TH EDITION UPDATED WITH ITS LATEST ADDENDUM (TYP.).
15. TRACER WIRE SHALL BE INSTALLED ALONG THE SANITARY SEWER SERVICE. THE TRACER WIRE SHALL BE CONTINUOUS AND SHALL BE EXTENDED ABOVE GRADE VIA A 4-INCH PVC PIPE WITH SCREW-ON CAP ADJACENT TO THE PROPOSED TERMINATION POINT OF THE LATERAL. THE PROPOSED BUILDING.
16. ALL NEW ON-SITE SANITARY, STORM AND WATER UTILITIES SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE PROPERTY OWNER.



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N128W21795
Holy Hill Road
Village of Germantown
Washington Co., WI

ISSUANCE AND REVISIONS

Table with 2 columns: DATE, DESCRIPTION

KEY PLAN

SHEET INFORMATION

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PROJECT MANAGER CJ
PROJECT NUMBER 23351



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WAUKESHA, WISCONSIN 53188
P. 262.513.0666
JSD PROJ. NO.: 23-13460A
JSD PROJ. MGR.: APM



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SITE UTILITY PLAN

C-104

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# Anti-Seep Collar Design

Project: TRUCK COUNTRY  
 Project Location: Germantown, WI  
 JSD Project #: 23-13460



MILWAUKEE REGIONAL OFFICE  
 W238 N1610 Busse Rd., Suite 100  
 Waukesha, Wisconsin 53188  
 Ph: (262) 513-0666 Fax: (262) 513-1232

Performed By: JJS

Date: 11/13/2023

## WET DETENTION POND

Discharge Pipe Diameter = 0.83 ft  
 Discharge Pipe Slope = 0.0192 ft/ft  
 100yr Pond Water Surface Elev. = 939.01  
 Pond Discharge Pipe Elev. = 936.00  
 Embankment Side Slope (H:1) = 3.00

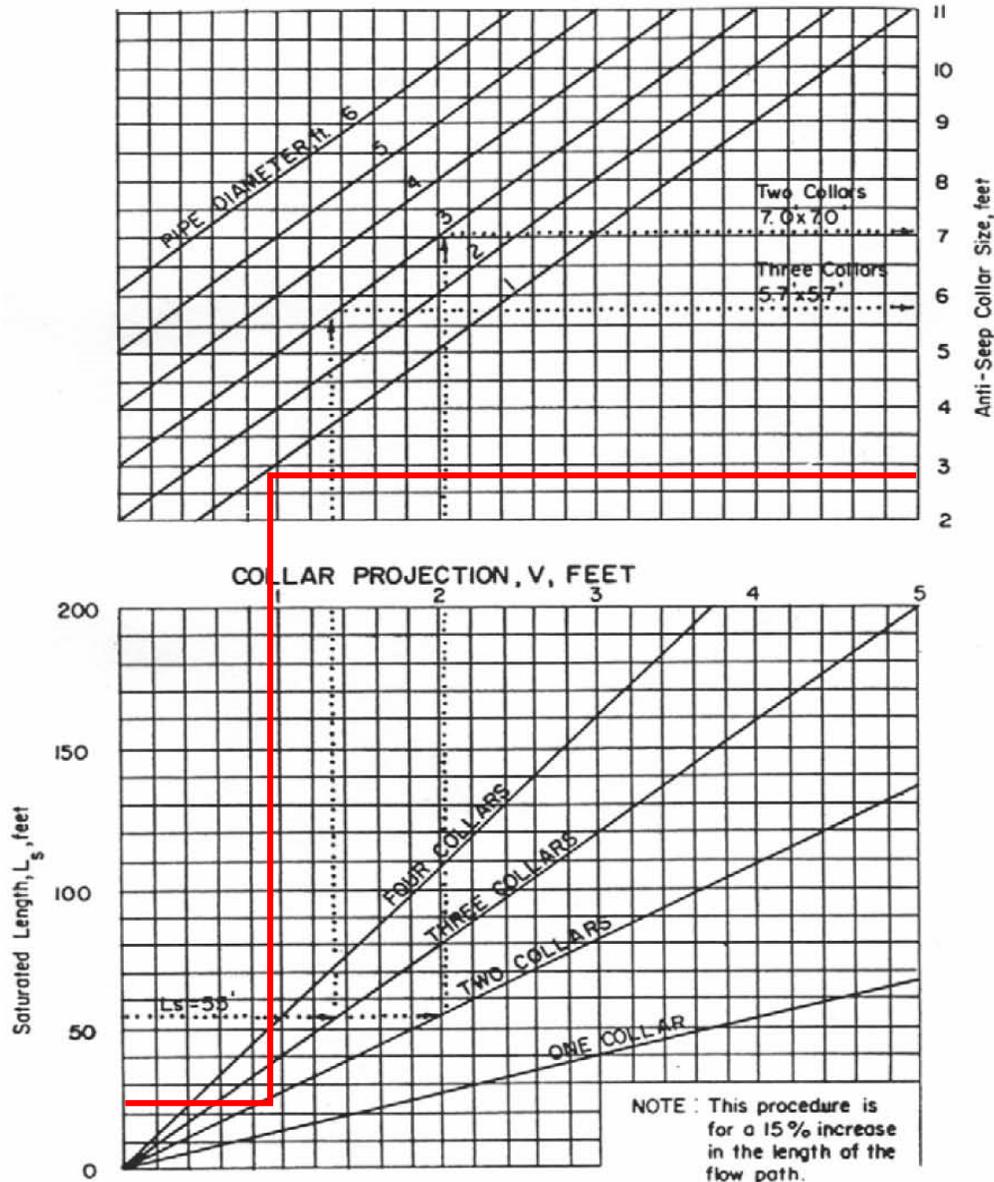
Notes:

$L_s$  - Length of Discharge Pipe in Saturated Zone  
 $y$  - Headwater Acting on Discharge Pipe  
 $z$  - Embankment Side Slope

$$L_s = y(z + 4) \left[ 1 + \frac{\text{PipeSlope}}{0.25 - \text{PipeSlope}} \right]$$

$$L_s = (939.01 - 936.00) (3.00 + 4) \left[ 1 + \frac{0.0192}{(0.25 - 0.0192)} \right] \quad L_s = 22.82 \text{ ft}$$

Figure 5A.31(2)  
 Anti-Seep Collar Design Charts (USDA - NRCS)



# RATIONAL METHOD STORM SEWER CALCULATIONS

Project Name: **TRUCK COUNTRY**

Project Location: Germantown, WI  
JSD Project Number: 23-13460

Performed by: APM  
Date: 11/10/2023

MILWAUKEE REGIONAL OFFICE  
W238 N1610 Busse Road, Suite 100  
Waukesha, Wisconsin 53188  
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Structure abbreviations are as follows: ES - End Section, MH - Manhole, FI - Field Inlet, TD - Trench Drain, BC - Building Connection, RD - Roof Drain, STB - Stub

PIPE LOCATION		STRUCTURE CONTRIBUTING AREA					PIPE FLOW				PIPE DATA			PIPE CAPACITY INFORMATION							ELEVATIONS			COVER TO CROWN (FT)		
UP STRUCT	DOWN STRUCT	ROOF C = 0.95 (SQ FT)	PAVED C = 0.95 (SQ FT)	GRASS C = 0.20 (SQ FT)	INDIVID AREA (ACRES)	INDIV COMP C VALUE (UNITLESS)	STORM EVENT 2,5,10,25,50,100	INTENSITY I (IN/HR)	INDIV RUNOFF (CFS)	TOTAL FLOW (CFS)	LENGTH (FT)	DIA. (IN)	SLOPE (FT/FT)	Manning's n RCP=0.013 HDPE=0.012 PVC=0.011	REQD DROP	ACTUAL DROP	PARTS FULL	VEL (FPS)	FULL FLOW (CFS)	TIME TO STRUCT. (MIN)	TIME IN SEWER (MIN)	DROP THRU STRUCT (FT)	RIM/(F/L) UP		INVERT UP	INVERT DOWN
STM-13D	STM-13A	0	23,725	5,100	0.66	0.82	10	5.14	2.78	2.78	119.0	12	0.0052	0.012	0.62	0.62	0.88	4.04	2.78	10.00	10.49	0.50	943.15	939.86	939.24	2.19
STM-13C	STM-13B	0	34,415	17,975	1.20	0.69	10	5.14	4.29	4.29	84.0	15	0.0045	0.012	0.31	0.38	0.81	4.34	4.69	10.00	10.32	0.25		939.75	939.37	
STM-13B	STM-13A	0	21,805	1,565	0.54	0.90	10	5.08	2.45	6.74	96.0	18	0.0040	0.012	0.34	0.38	0.83	4.63	7.19	10.32	10.67	0.00	943.30	939.12	938.74	2.53
STM-13A	STM-13	0	12,570	1,740	0.33	0.86	10	5.02	1.42	10.94	88.0	18	0.0095	0.012	0.81	0.84	0.87	7.16	11.09	10.67	10.87	0.00	943.15	938.74	937.90	2.76
STM-17	STM-16	0	34,565	930	0.81	0.93	10	5.14	3.90	3.90	136.0	15	0.0052	0.012	0.42	0.71	0.71	4.56	5.04	10.00	10.50	0.25	944.25	940.88	940.17	2.00
STM-16	STM-15	0	12,450	0	0.29	0.95	10	5.05	1.37	5.27	112.0	18	0.0052	0.012	0.24	0.58	0.61	4.94	8.20	10.50	10.87	0.00	944.00	939.92	939.34	2.43
STM-15	STM-14	0	10,030	0	0.23	0.95	10	4.99	1.09	6.36	104.0	18	0.0052	0.012	0.33	0.54	0.71	5.14	8.20	10.87	11.21	0.00	943.65	939.34	938.80	2.66
STM-14	STM-13	0	7,960	0	0.18	0.95	10	4.93	0.86	7.22	76.0	18	0.0052	0.012	0.31	0.40	0.79	5.25	8.20	11.21	11.45	0.50	943.65	938.80	938.40	3.20
STM-13	STM-12	0	4,905	295	0.12	0.91	10	4.89	0.53	18.69	141.0	24	0.0060	0.012	0.82	0.85	0.87	6.89	18.98	11.45	11.79	0.00	943.30	937.90	937.06	3.20
STM-12	STM-11	0	0	0	0.00	0.00	10	4.83	0.00	18.69	103.0	24	0.0070	0.012	0.60	0.72	0.80	7.40	20.50	11.79	12.03	0.00	942.90	937.06	936.34	3.64
STM-11	STM-10	0	14,980	600	0.36	0.92	10	4.79	1.58	20.27	48.0	24	0.0070	0.012	0.33	0.34	0.87	7.44	20.50	12.03	12.13		941.15	936.34	936.00	2.61
RD-21	STM-21	38,605	0	0	0.89	0.95	10	5.14	4.33	4.33	127.0	12	0.0150	0.012	1.60	1.91	0.82	6.83	4.73	10.00	10.31	1.00	945.00	939.10	937.20	4.80
STM-27	STM-26	0	9,750	890	0.24	0.89	10	5.14	1.11	1.11	79.0	12	0.0052	0.012	0.07	0.41	0.45	3.42	2.78	10.00	10.39	0.00	944.00	940.20	939.79	2.70
STM-26	STM-25	0	9,000	900	0.23	0.88	10	5.07	1.02	2.13	101.0	12	0.0052	0.012	0.31	0.53	0.70	3.91	2.78	10.39	10.82	0.25	943.85	939.79	939.27	2.96
STM-25	STM-24	0	13,060	6,860	0.46	0.69	10	5.00	1.58	3.71	85.0	15	0.0030	0.012	0.24	0.26	0.86	3.56	3.83	10.82	11.21	0.00	943.40	939.02	938.76	3.01
STM-24	STM-23	0	8,135	685	0.20	0.89	10	4.93	0.89	4.60	84.0	15	0.0052	0.012	0.36	0.44	0.81	4.66	5.04	11.21	11.51	0.25	943.45	938.76	938.33	3.31
STM-23	STM-22	0	9,090	560	0.22	0.91	10	4.88	0.98	5.58	167.0	18	0.0052	0.012	0.40	0.87	0.64	5.02	8.20	11.51	12.07	0.00	943.35	938.08	937.21	3.62
STM-22	STM-21	0	21,390	750	0.51	0.92	10	4.79	2.25	7.83	98.0	18	0.0052	0.012	0.46	0.51	0.84	5.29	8.20	12.07	12.38	0.50	941.65	937.21	936.70	2.79
STM-21	STM-20	0	12,940	0	0.30	0.95	10	4.74	1.34	13.50	38.0	24	0.0052	0.012	0.12	0.20	0.70	6.21	17.67	12.38	12.48		941.65	936.20	936.00	3.25

# **APPENDIX 6**

## **Storm Water Maintenance & Operation Plan**



# **STORMWATER MAINTENANCE PLAN**

## **TRUCK COUNTRY**

**Village of Germantown, Wisconsin**

### **Wet Detention Pond:**

1. The outlet structure shall be checked regularly for clogging during active construction on the site until all soil surfaces have an established vegetative cover, then inspect at least quarterly and after extreme storm events. Immediately address any required corrective measures. This maintenance typically includes removal of sediment and floatable debris from the outlet structure and end sections.
2. Check banks and spillway of pond for erosion at least quarterly and after each extreme storm event. Correct as necessary.
3. The pond shall be checked for and cleaned of accumulated debris at least quarterly and after each extreme storm event.
4. Remove nuisance wetland species and take appropriate measures to control mosquitoes.
5. Perform structural repairs to inlets and outfalls as needed.
6. Pond vegetation needs to be trimmed or harvested as appropriate. Grass should be mowed at a frequency that prevents vegetation from reaching 6 inches in height.
7. Dredging of the pond will become necessary when sediment accumulation reaches a depth of 24 inches or if re-suspension is observed or probable.
8. If there is any uncertainty about what the sediment contains or it is known to contain contaminants, then the City shall be consulted and their disposal recommendations followed. Generally, special attention or sampling should be given to sediment accumulated in facilities serving industrial, manufacturing, heavy commercial sites, fueling centers, automotive maintenance areas, large parking areas, or other areas where pollutants (other than clean soil) are suspected to accumulate and be conveyed by storm runoff.
9. Some sediment collected may be innocuous (free of pollutants) and can be used as fill material, cover or land spreading. It is important that this material not be placed in any way that will promote or allow re-suspension in storm runoff.

### **Grass Swale:**

1. The facility should be checked annually for signs of erosion, vegetation loss, and channelization of the flow.
2. The grass should be mowed when it reaches a height of 8 inches and mowed no shorter than 3 inches. Allowing the grass to grow taller may cause it to thin and become less effective.
3. The clippings should be bagged and removed. Dispose of properly (preferably through composting).
4. Remove sediment by hand with a flat-bottomed shovel during dry periods.
5. Remove only the amount of sediment necessary to restore hydraulic capacity, leaving as much of the vegetation in place as possible. Re-seed or plug any damaged turf or vegetation.

**Inspection Schedule:**

A copy of the inspection record performed according to the following schedule and the maintenance agreement of the stormwater management facility, that has been completed, notarized and recorded in the Land Records, will be kept on site with this document (Note: extreme storm events or heavy rains may significantly increase the frequency of inspections and maintenance requirement).

PERMANENT MAINTENANCE TASKS AND SCHEDULE								
Tasks	Storm Sewer System	Storm Inlet Castings	Ditches and Swales	Outlet Control Structure	Rip Rap	Detention Pond	Emergency Spillway	Minimum Schedule
Inspect for Sediment Accumulation	X		X	X		X		Annually
Removal of Sediment Accumulation	X		X	X		X		Every 2 Years as Needed
Inspect for Floatables and Debris		X	X	X	X	X	X	Annually
Cleaning of Floatables and Debris		X	X	X	X	X	X	Annually
Inspection for Erosion			X		X	X	X	Annually
Re-establish Permanent Vegetation on Eroded Slopes			X			X		As Needed
Replacement of Stone					X		X	Every 3-5 Years as Needed
Mowing			X			X		0 – 2 Times per Year

**Inspection Records:**

1. Inspector: \_\_\_\_\_  
Date (month/year): \_\_\_\_\_  
Inspected Items, \_\_\_\_\_  
Comments, Notes \_\_\_\_\_  
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2. Inspector: \_\_\_\_\_  
Date (month/year): \_\_\_\_\_  
Inspected Items, \_\_\_\_\_  
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3. Inspector: \_\_\_\_\_  
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5. Inspector: \_\_\_\_\_  
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**Inspection Records:**

6. Inspector: \_\_\_\_\_  
Date (month/year): \_\_\_\_\_  
Inspected Items, \_\_\_\_\_  
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7. Inspector: \_\_\_\_\_  
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8. Inspector: \_\_\_\_\_  
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9. Inspector: \_\_\_\_\_  
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Inspected Items, \_\_\_\_\_  
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10. Inspector: \_\_\_\_\_  
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**Inspection Records:**

11. Inspector: \_\_\_\_\_  
Date (month/year): \_\_\_\_\_  
Inspected Items, \_\_\_\_\_  
Comments, Notes \_\_\_\_\_  
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12. Inspector: \_\_\_\_\_  
Date (month/year): \_\_\_\_\_  
Inspected Items, \_\_\_\_\_  
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13. Inspector: \_\_\_\_\_  
Date (month/year): \_\_\_\_\_  
Inspected Items, \_\_\_\_\_  
Comments, Notes \_\_\_\_\_  
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14. Inspector: \_\_\_\_\_  
Date (month/year): \_\_\_\_\_  
Inspected Items, \_\_\_\_\_  
Comments, Notes \_\_\_\_\_  
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15. Inspector: \_\_\_\_\_  
Date (month/year): \_\_\_\_\_  
Inspected Items, \_\_\_\_\_  
Comments, Notes \_\_\_\_\_  
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