



City of Fitchburg  
 Planning/Zoning Department  
 5520 Lacy Road  
 Fitchburg, WI 53711  
 (608-270-4200)

# ARCHITECTURAL & DESIGN REVIEW APPLICATION

**Applicant/Contact Person:** Pam Hegg

**Address:** \_\_\_\_\_ **Phone Number of Contact Person:** 608-628-0058

**City, State, Zip Code:** \_\_\_\_\_ **Email of Contact Person:** pam.hegg2@gmail.com

**Project Address:** 2747 S Seminole Highway **Lot:** \_\_\_\_\_ **Subdivision:** \_\_\_\_\_

**Project Type:** \_\_\_\_\_ **Multi-Family**     **Commercial**    \_\_\_\_\_ **Industrial**    \_\_\_\_\_ **Other**  
                   \_\_\_\_\_ **New**            \_\_\_\_\_ **Addition**

**Impervious Surface Ratio (ISR):** 52% (City Standard: maximum 65% ISR)

All items listed below must be included with the application to be considered complete. If an item is not included with the application, the applicant must provide in writing the basis for not including it. Building and site plans submitted to the Fitchburg Plan Commission for architectural and design review shall contain the following information:

**Site Data:**

- 1. Lot or property dimensions.
- 2. Orientation (to north).
- 3. Adjacent highways, roads, drive, etc.
- 4. Existing natural features (rivers, ponds, wetlands).
- 5. Existing buildings and/or improvements.
- 6. Existing and proposed site drainage.
- 7. Utility plans, including main/lateral sizes and existing fire hydrants on site or within 300 feet of the site
- 8. ISR shall be indicated on all plans.
- 9. Stormwater management plans and details, including grading plan.
- 10. Lighting plan in footcandles and light fixture cut sheets.

**Building:**

- 1. Building size, configuration and orientation.
- 2. Distance from lot lines.
- 3. Distance from other buildings, improvements and natural features.
- 4. Location of well, septic tank, drainfield, etc. (if applicable)
- 5. Additional proposed additions or new structures, including trash/recycling enclosure(s).
- 6. Construction type (wood frame, structural steel, etc.).
- 7. Foundation type (full basement, slab on grade, etc.).
- 8. Number of levels.
- 9. Siding/exterior covering type, color, texture, etc.
- 10. Roof type (gable, hip, shed, flat, etc.) and pitch.
- 11. Roofing material type, color, texture, etc.
- 12. Exterior door and window location, size, type, etc.
- 13. Fire protection sprinklers or fire alarm systems.

**Ingress, Egress, Parking:**

- 1. Location of highway and road access points.
- 2. Location, size, configuration of drivers and walks.
- 3. Number, size, location of parking spaces.
- 4. Location of handicapped parking and accessible building entrances.
- 5. Bicycle rack(s).

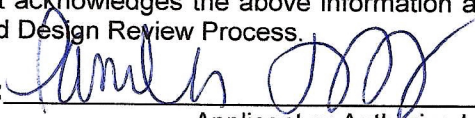
**Landscaping:**

- 1. Location, species, size of existing trees, shrubs, and plantings.
- 2. Location, species, size of proposed plantings.
- 3. Location and size of all paved, seeded/sodded and gravelled areas.
- 4. Location of all retaining walls, fences, berms and other landscape features.

**\*It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting an ADR application to identify any concerns or issues of surrounding residents.**

The preceding information is considered to be the minimum information for submission, and the City may require additional information for its review. Any interpretations provided by city officials as the result of submitting the attached information are based on the submitted plans, and any plan changes, may affect the interpretations.

It is the responsibility of the owner/applicant to insure compliance with all local and state requirements. The below signed applicant acknowledges the above information and hereby submits the attached information for the City's Architectural and Design Review Process.

Signed:  Date: 7/22/24  
Applicant or Authorized Agent

**\*\*\* Application shall be accompanied by one (1) sets of full-size plans, two (2) sets no larger than 11"x17", and one (1) pdf document of the complete submittal to [planning@fitchburgwi.gov](mailto:planning@fitchburgwi.gov). Applications are due at least 4 weeks prior to the desired Plan Commission Meeting. The time frame assumes a complete set of plans is provided, and if it is not provided the Plan Commission date will be adjusted.**

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**FOR CITY USE ONLY**

Date Received: \_\_\_\_\_ Plan Commission Date: \_\_\_\_\_

Comments:

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Letter of Intent  
June 18, 2024

New CSM and Zoning Change Proposal

Proposed and prepared by

Gus Newcomb  
999 Fourier Drive  
Madison, WI 53717

(608) 833 5220

Civil Engineer / Surveyor

Wyser Engineering  
300 E. Front St.  
Mount Horeb WI 53572



***Conditional Use Application***

***City of Fitchburg***

***June 25, 2024***

**ADDRESS:** 609 Prairie Grass Rd, Oregon, Wi. 53575

**PHONE:** 608-628-0058 | **E-MAIL:** [pam.hegg2@gmail.com](mailto:pam.hegg2@gmail.com)

## Company Overview

Court & Cork will be a premier pickleball facility in the Madison area. It will provide indoor pickleball courts, programming, and social experiences for the community. Court & Cork will offer memberships and drop-in pickleball court time for people of all ages and skill levels, from avid players looking for competition to casual players looking for a fun and social environment.

Leaning in on the social nature of pickleball, Court & Cork will also provide amenities like healthy(er) food options and beverages (alcoholic and non-alcoholic) in a fun and inviting lounge where you can watch play live or catch a game (of any sport) on TV with friends and family. Court & Cork will be the place to go because of the creative programming, fun events and tournaments, and clean, comfortable environment. There will also be space for wellness service offerings, providing members/customers access to the latest health and fitness trends.

Court & Cork will be more than just a place to play pickleball. It's the...

- **The connection between wellness and recreation**—paddle sports like pickleball are physically engaging but also promote overall wellness. They are a fun way to stay active, improve health, and enhance social interaction.
- **Space for socializing**—Players can enjoy the sports and socialize, connect, and build relationships; it's a great place to meet and have a glass of wine or beer on tap, snack, and relax while watching live play or a game on TV or conversing with others.
- **Commitment to the community**—Our focus is creating a space for the community to gather, host events, learn/develop new skills, and raise money for charity. We will bring people together through league play, member events, and youth after-school and summer camp programs.
- **Team Building** – an opportunity for local organizations such as Promega, Sub Zero, Tri-north and others to bring teams in and build camaraderie, teamwork, and support wellness.

Newcomb Builders has met with alders to share a brief overview of their plans, including the Court & Cork facility. Conversations between the Court & Cork owners and residents have resulted in excitement for this facility in the neighborhood.

## Indoor Recreation

We strive to provide a vibrant and inclusive space where individuals of all ages and skill levels can engage in active play, enhance their physical well-being, and foster meaningful connections with others. Court & Cork's core business will be renting pickleball courts, hosting open play, offering lessons/clinics, and hosting leagues and tournaments. The facility will be open and staffed from 7:00 a.m. to 10:00 p.m. to allow adequate access to the courts. Current plans include 10-12 courts for play, with one championship court that will be used for the final match of tournaments/competitions. There will be seating around the courts and on top of a mezzanine for viewing the courts/play. The facility is designed with uplighting, windows, and garage doors to keep the atmosphere bright and inviting.

## Food and Beverage

The sale of food and beverages is an essential amenity for the business and one of five revenue streams. The building design includes around 2,400 sq/ft of kitchen and dining space, referred to as “Uncorked,” Court & Cork’s lounge. The kitchen will make and serve flatbread pizzas, cheese bread, cheese boards, snack bento boxes (veggies, fruit, humus/dips, pita chips, crackers, etc.), and smoothies.

In other parts of the country, it is very common for pickleball facilities to provide food and beverage service, and it has been reported to account for up to 30% of the revenue by pickleball business owners. Based on this, the kitchen is being designed to enable the additional food menu options that can be cooked in a pizza oven or convection oven, which could include (but are not limited to) wings, chicken fingers, open-faced sandwiches, and other frozen foods. These food items would be added based on demand.

The kitchen will be open during core operating hours, 11:00 a.m. – 9:00 p.m., Tuesday – Sunday. There will be grab-and-go snack food and non-alcoholic drinks available for sale during regular business hours, 7:00 a.m. – 10:00 p.m. Offering this amenity sets Court & Cork apart from other pickleball facilities in the area.

## Alcohol Sales

The owners of Court & Cork intend to sell wine, beer, and canned/bottled alcoholic beverages during core operating hours, 11:00 a.m.—9:00 p.m., Sunday through Saturday. The sale of mixed drinks would be made available during events and peak hours (M-F 5:00-9:00; S-S 11:00-9:00).

Wine and beer will be sold in self-serve dispensers located within view of the bar and reception desk. Access to the dispensers is only made possible by using an electronic card (like a credit card), which customers will receive after showing an I.D. to a licensed bartender on staff and providing a credit card for payment. The sale of alcohol will only be allowed when the lounge is staffed with a licensed bartender to monitor consumption.

## Outdoor Patio

The outdoor patio will include furniture for dining and socializing, a fire pit, and yard games like bag toss. During tournaments or large events, the owners intend to contract one food truck.

## Traffic, Noise, Or Disturbance to The Residential Neighbors

To minimize traffic and noise disturbance, the owners of Court & Cork will stagger the scheduling of court times. This will reduce the sudden influx of players to the facility, which will help the business run more efficiently. The facility is planned to have 12 courts. With four players per court, there could be 48 people playing at once. During open play hours, when there can be six players per court, there could be 52 people playing at once (based on plans to limit to four courts for open play).

## Parking, Lighting and Security

Newcomb Builders has dedicated 60 parking stalls for Court & Cork in a shared parking lot with 80 stalls in their site plan. At peak times, as many as ten employees would be working, and the assumption is

that there could be 75-100 patrons (if court utilization is 100% and at least 50% of players stay to enjoy food and beverage before/after play). We anticipate the need for street parking or an agreement with other local businesses to share parking. A request has been made to Newcomb Builders to determine how they might increase the number of parking stalls for the shared parking lot.

The electrical subcontractor's proposed plan accounts for outdoor lighting, which includes fixtures around the building, entryway, patio, and parking lot. A security system and monitoring will be installed, including cameras and alarms

Revisions:

No.	Date:	Description:

Graphic Scale	0' 20' 40' 60'
Wyser Number	24-1243
Set Type	REVIEW
Date Issued	08/20/2024
Sheet Number	C100



**LEGEND (PROPOSED)**

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- 18" CURB AND GUTTER
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- STORMWATER TREATMENT FACILITY

- GENERAL NOTES**
- UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING ON JUNE 6, 2024. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
  - THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
  - CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE CITY'S LAND IF REQUIRED.
  - WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
  - IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
  - ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH CITY OF FITCHBURG STANDARD SPECIFICATIONS.

**SITE INFORMATION BLOCK (LOT 1):**  
 SITE ADDRESS: SEMINOLE HIGHWAY  
 SITE ACREAGE: 113,115 SQ.FT. (2.60 AC)  
 USE OF PROPERTY: INDOOR RECREATION  
 ZONING: GENERAL BUSINESS DISTRICT (B-G)

**SETBACKS:**  
 FRONT YARD: 20 FEET  
 REAR YARD: 10 FEET  
 SIDE YARD: 10 FEET

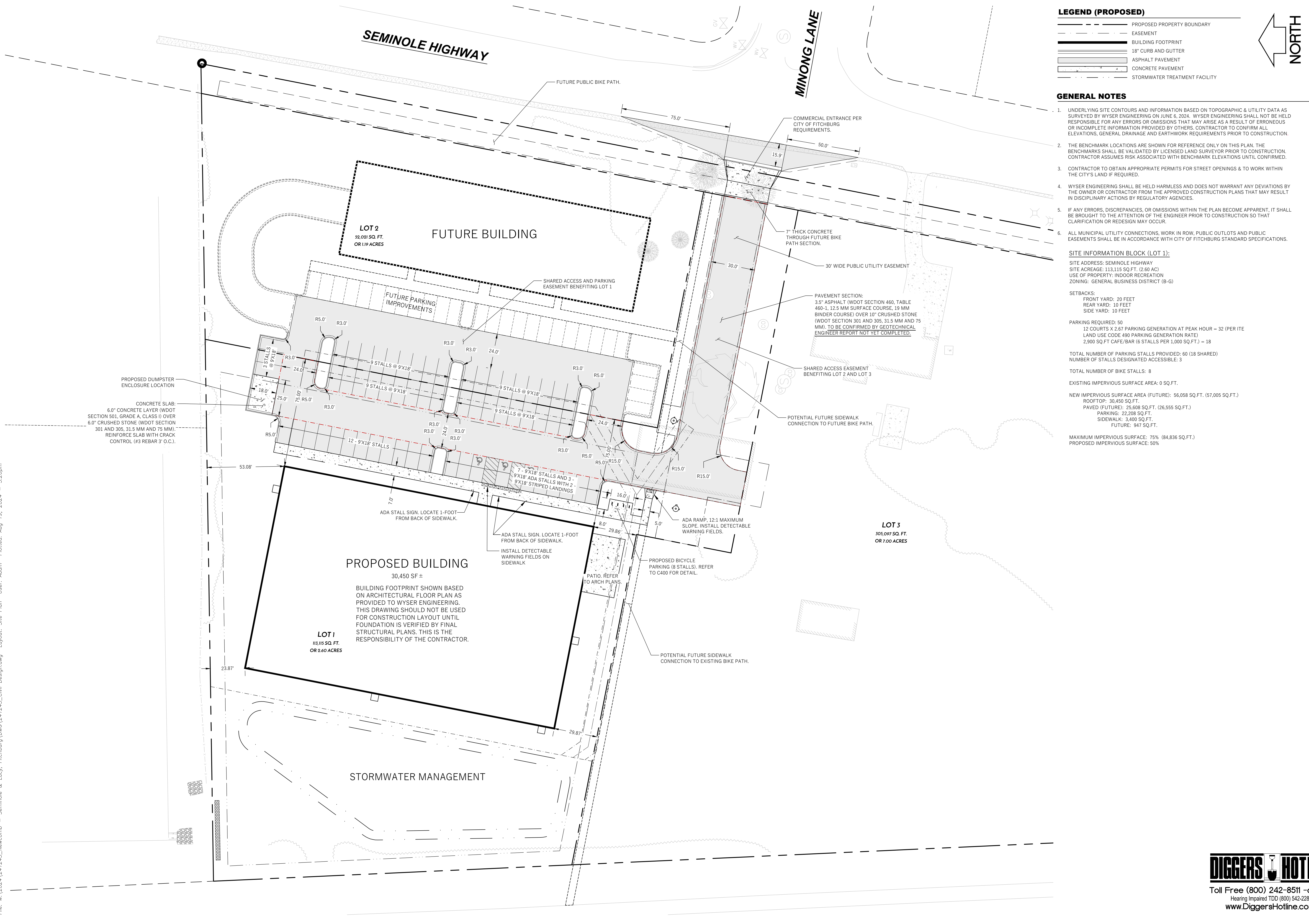
**PARKING REQUIRED: 50**  
 12 COURTS X 2.67 PARKING GENERATION AT PEAK HOUR = 32 (PER ITE LAND USE CODE 490 PARKING GENERATION RATE)  
 2,900 SQ.FT CAPE/BAR (6 STALLS PER 1,000 SQ.FT.) = 18

**TOTAL NUMBER OF PARKING STALLS PROVIDED: 60 (18 SHARED)**  
 NUMBER OF STALLS DESIGNATED ACCESSIBLE: 3

**TOTAL NUMBER OF BIKE STALLS: 8**

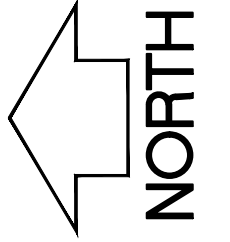
**EXISTING IMPERVIOUS SURFACE AREA: 0 SQ.FT.**  
**NEW IMPERVIOUS SURFACE AREA (FUTURE): 56,058 SQ.FT. (57,005 SQ.FT.)**  
 ROOFTOP: 30,450 SQ.FT.  
 PAVED (FUTURE): 25,608 SQ.FT. (26,555 SQ.FT.)  
 PARKING: 22,208 SQ.FT.  
 SIDEWALK: 3,400 SQ.FT.  
 FUTURE: 947 SQ.FT.

**MAXIMUM IMPERVIOUS SURFACE: 75% (84,836 SQ.FT.)**  
**PROPOSED IMPERVIOUS SURFACE: 50%**



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 User: Adam  
 Plotter: Aug 19, 2024 - 3:20pm

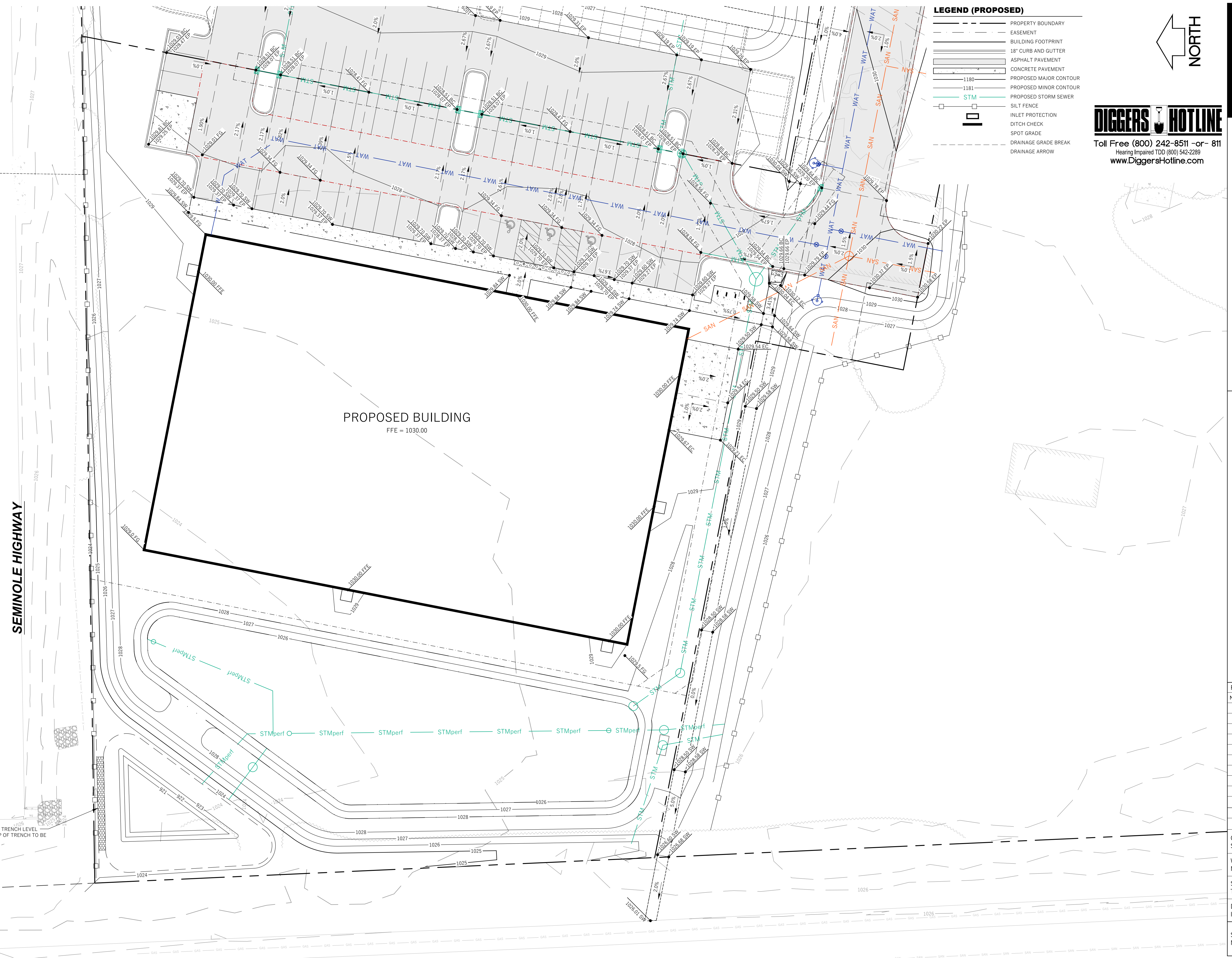




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**LEGEND (PROPOSED)**

- PROPERTY BOUNDARY
- - - EASEMENT
- ▭ BUILDING FOOTPRINT
- ▭ 18" CURB AND GUTTER
- ▭ ASPHALT PAVEMENT
- ▭ CONCRETE PAVEMENT
- PROPOSED MAJOR CONTOUR
- - - PROPOSED MINOR CONTOUR
- STM
- STMPERF
- ▭ SILT FENCE
- ▭ INLET PROTECTION
- ▭ DITCH CHECK
- ▭ SPOT GRADE
- - - DRAINAGE GRADE BREAK
- DRAINAGE ARROW



SEMINOLE HIGHWAY

PROPOSED BUILDING  
 FFE = 1030.00

COURT AND CORK PICKLEBALL

CITY OF FITCHBURG, DANE COUNTY, WI

SEMINOLE HIGHWAY  
 FITCHBURG, WI 53719

Sheet Title:  
 DETAIL GRADING PLAN

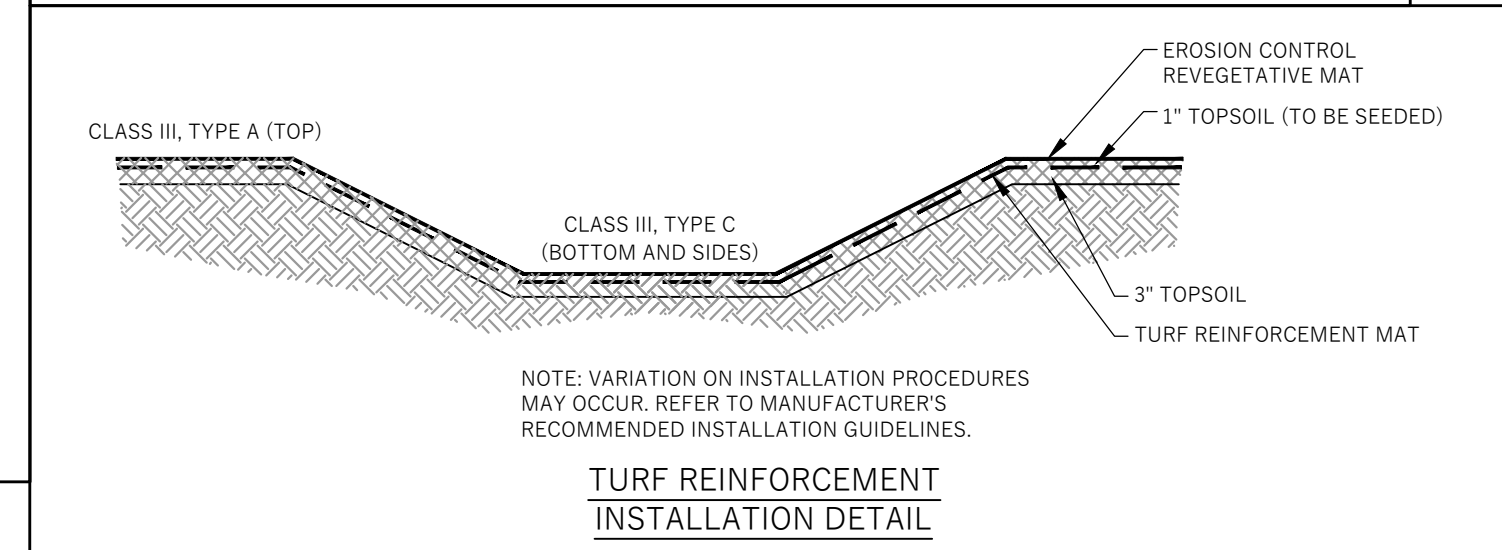
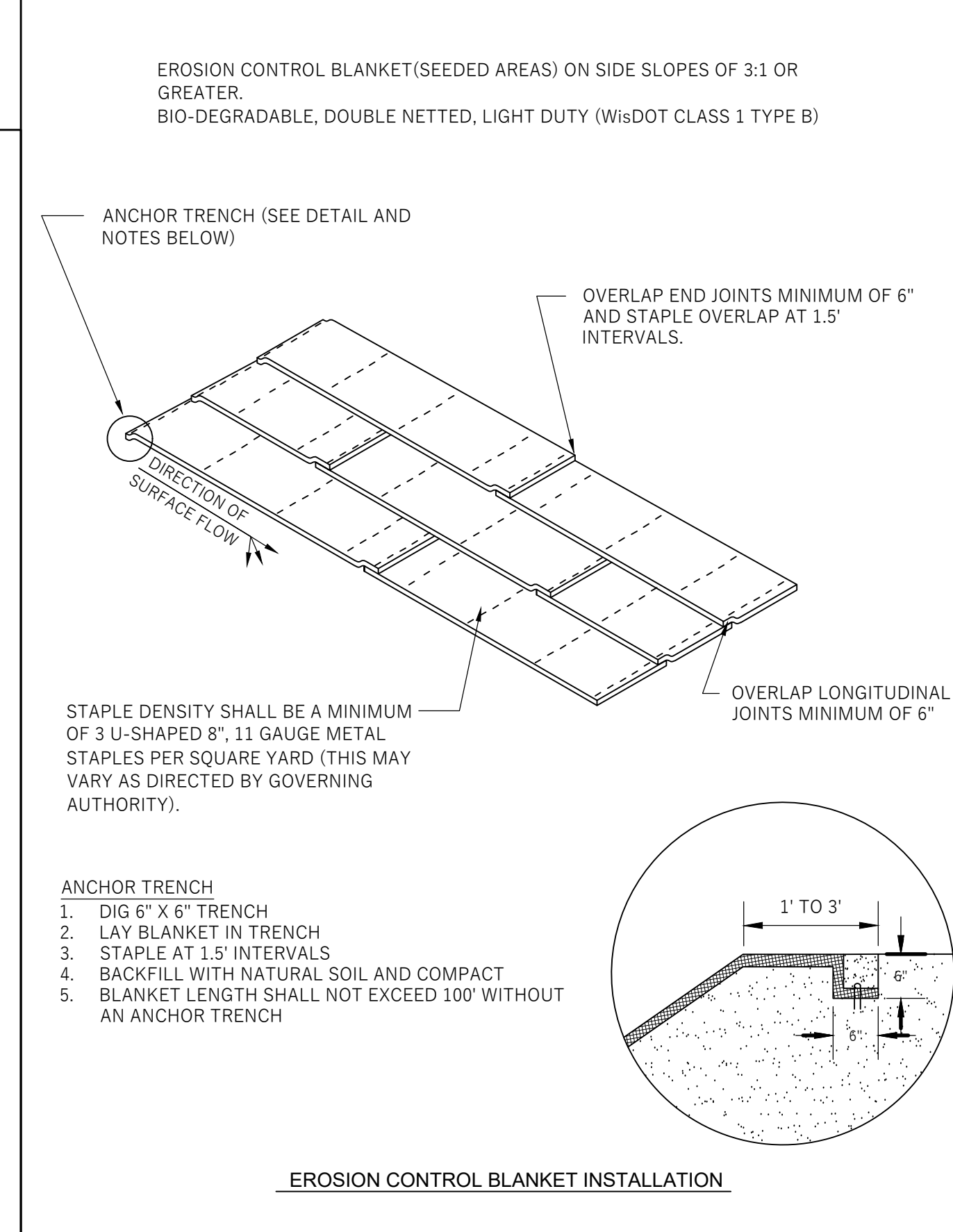
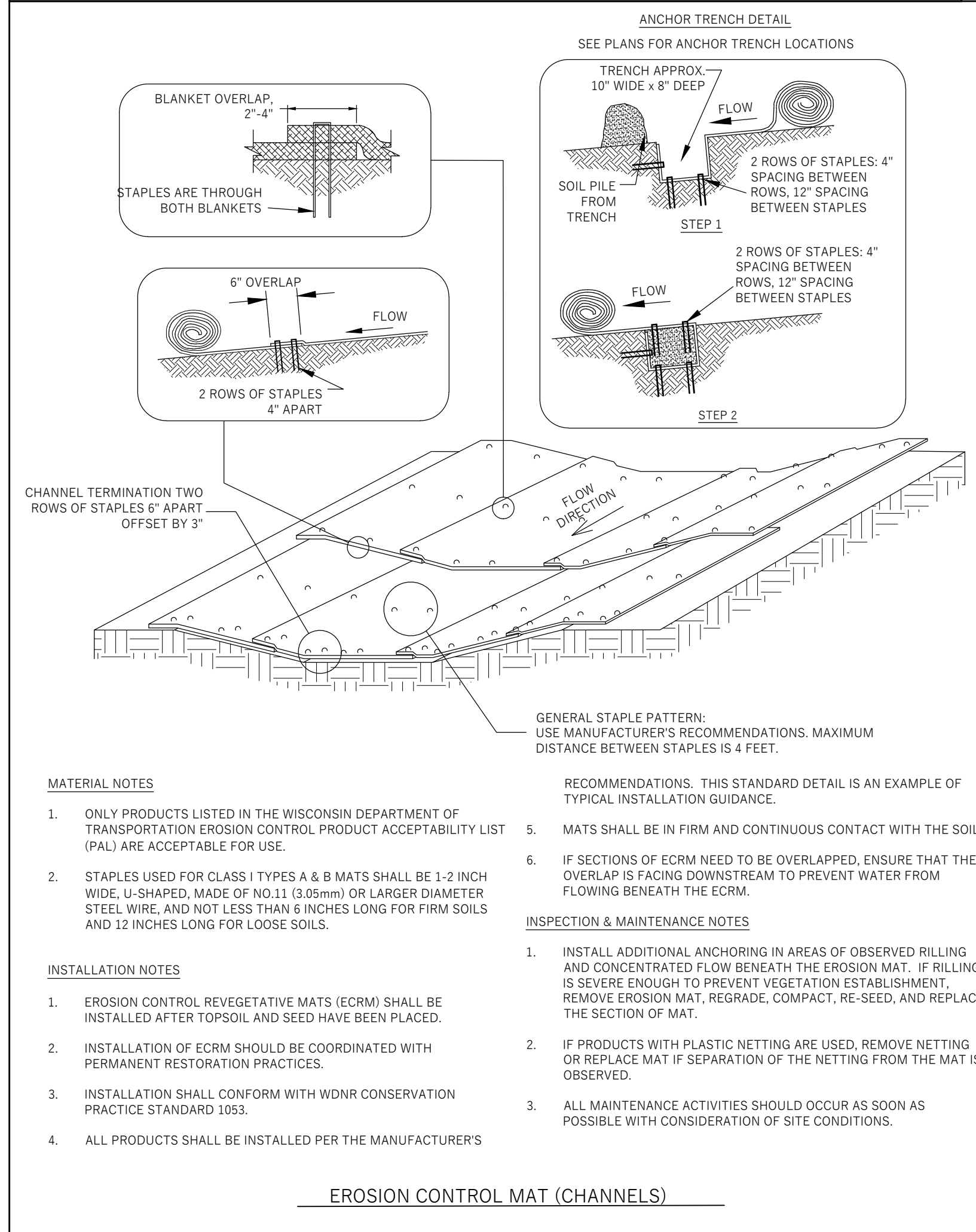
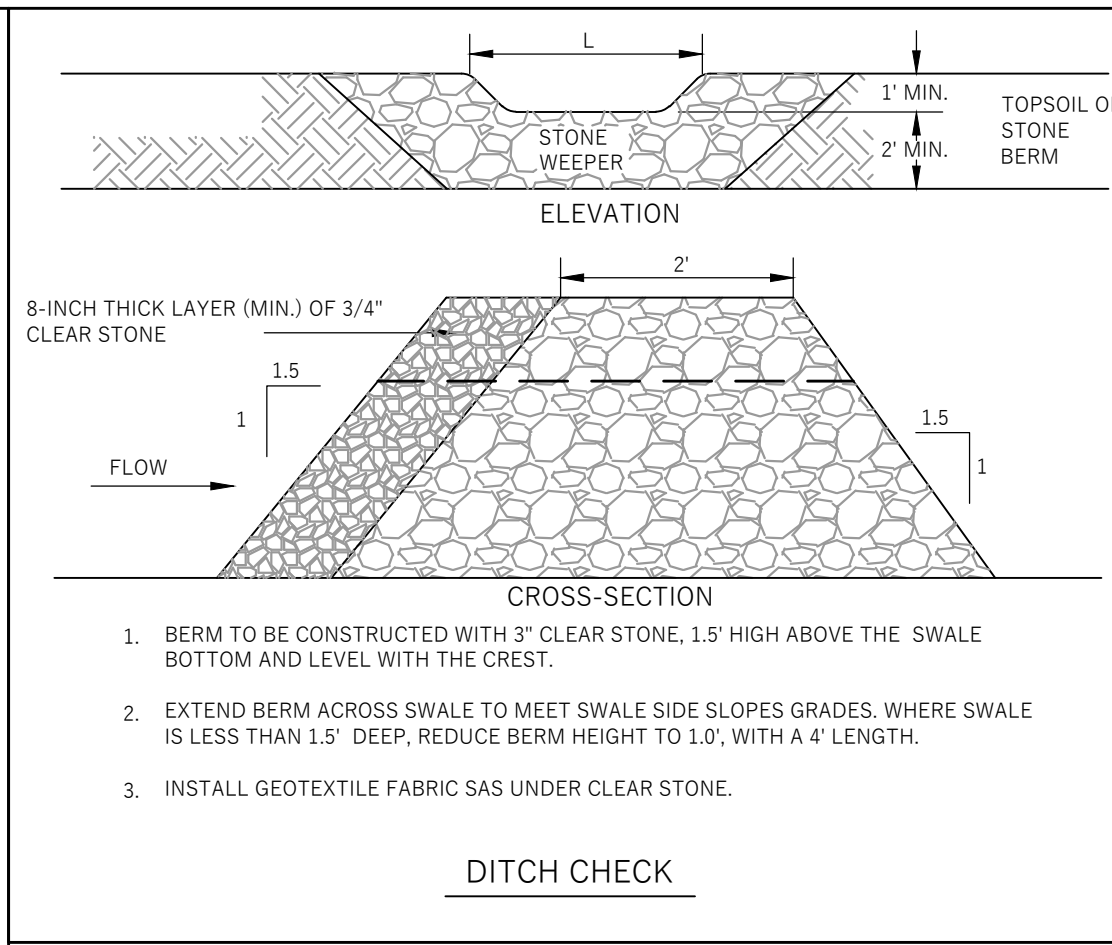
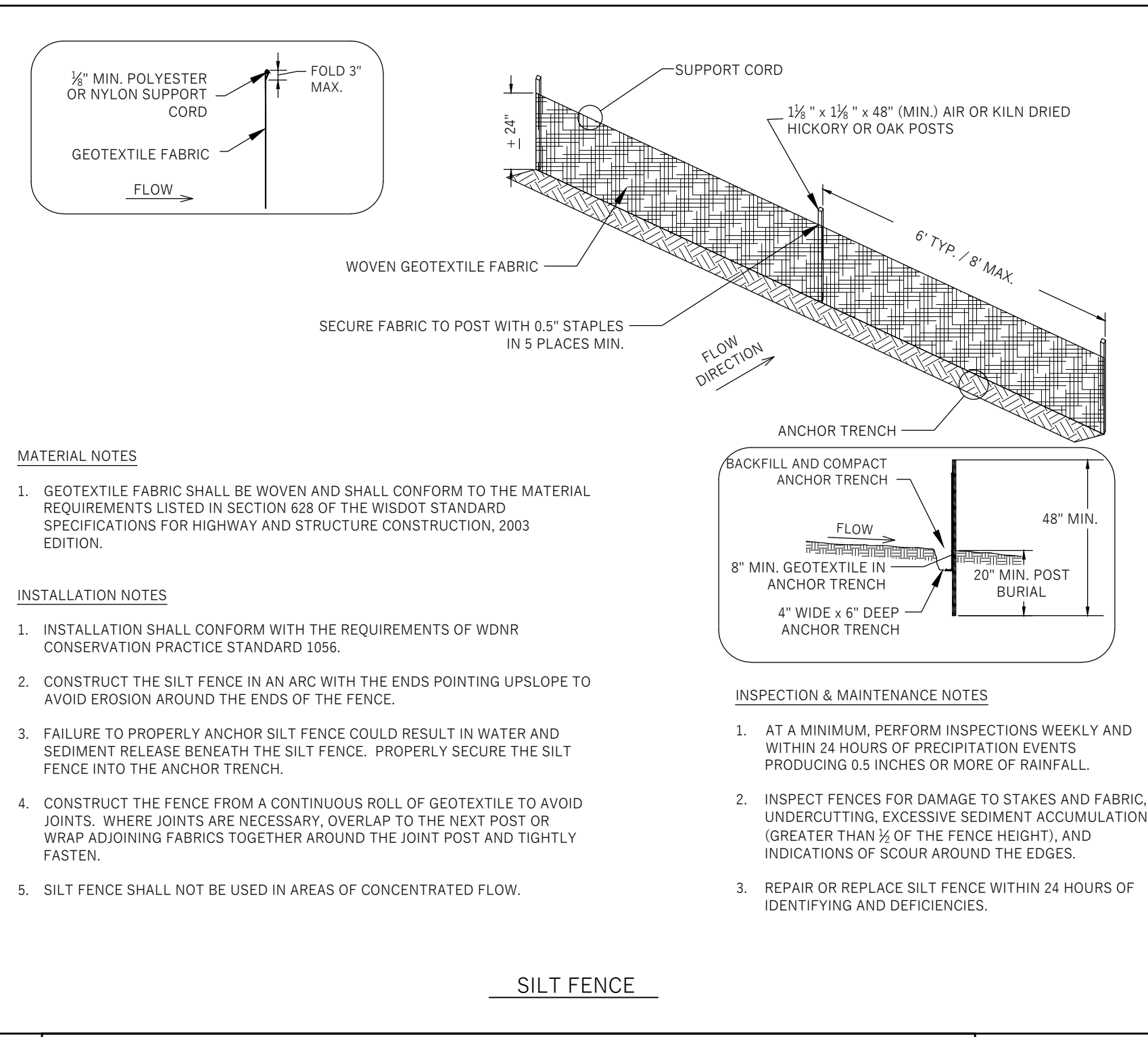
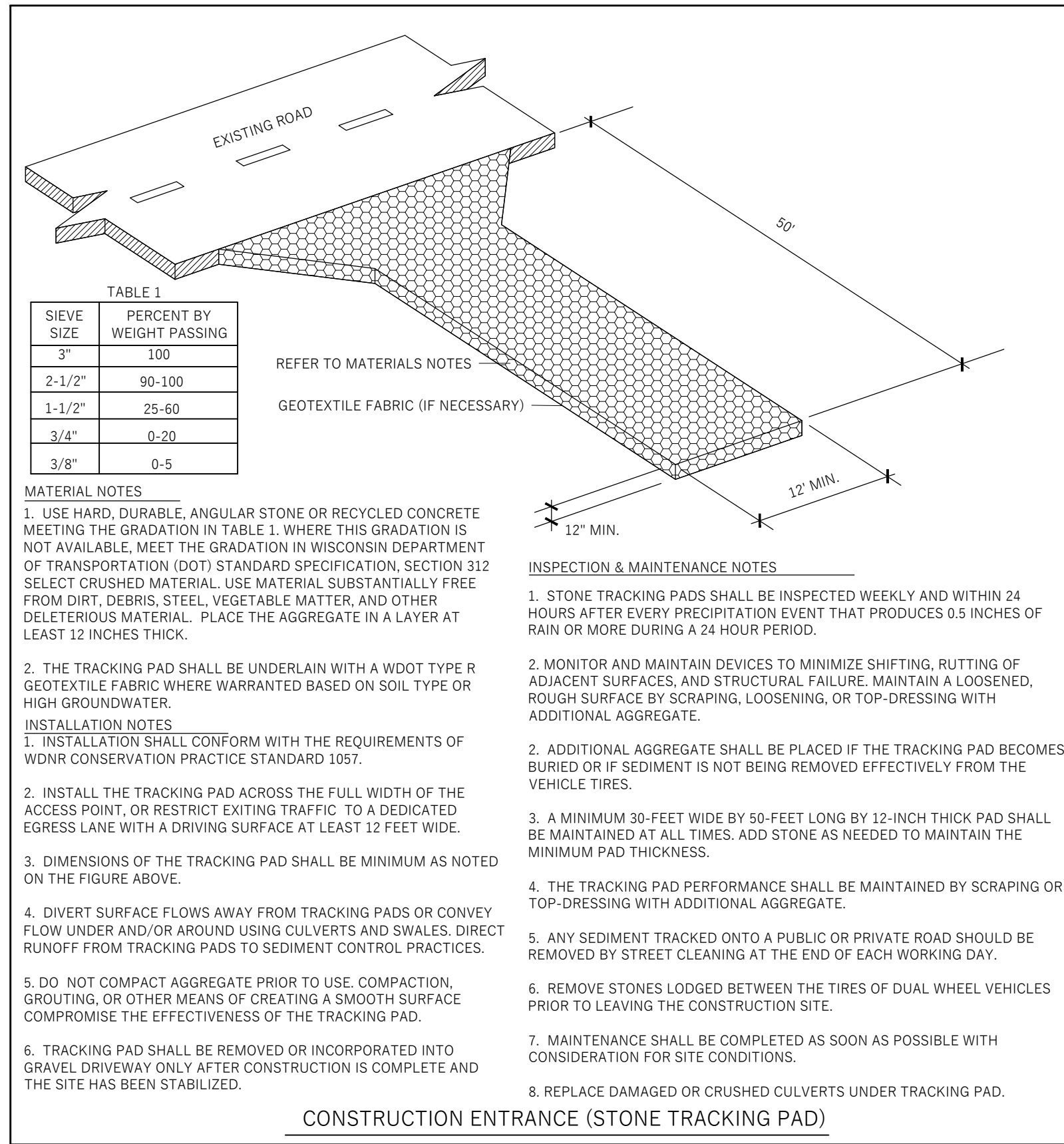
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No.	Date:	Description:

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Wyser Number	24-1243
Set Type	REVIEW
Date Issued	08/20/2024
Sheet Number	C201

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Revisions:

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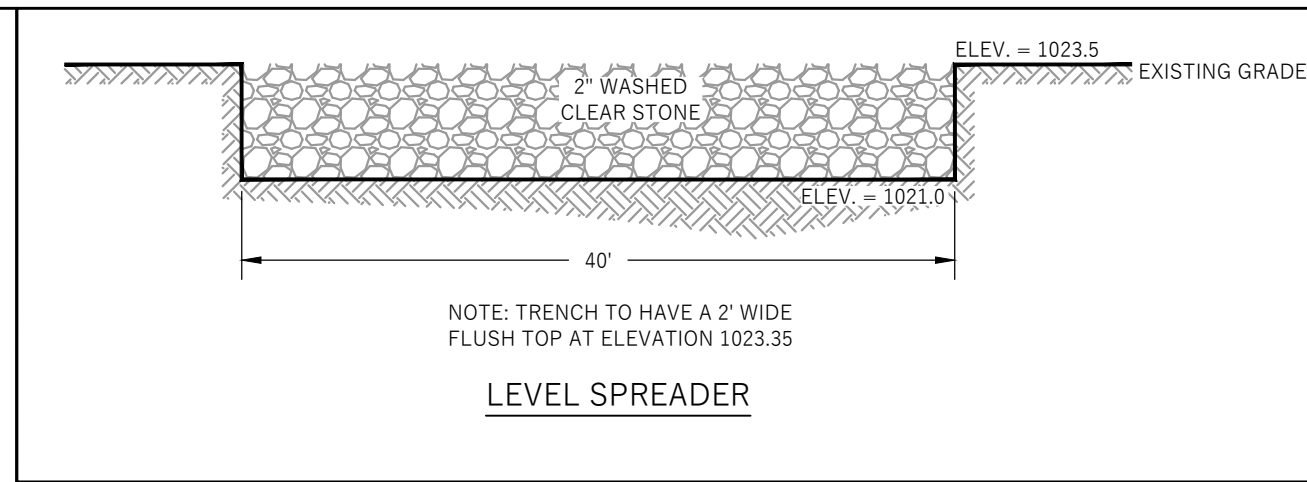
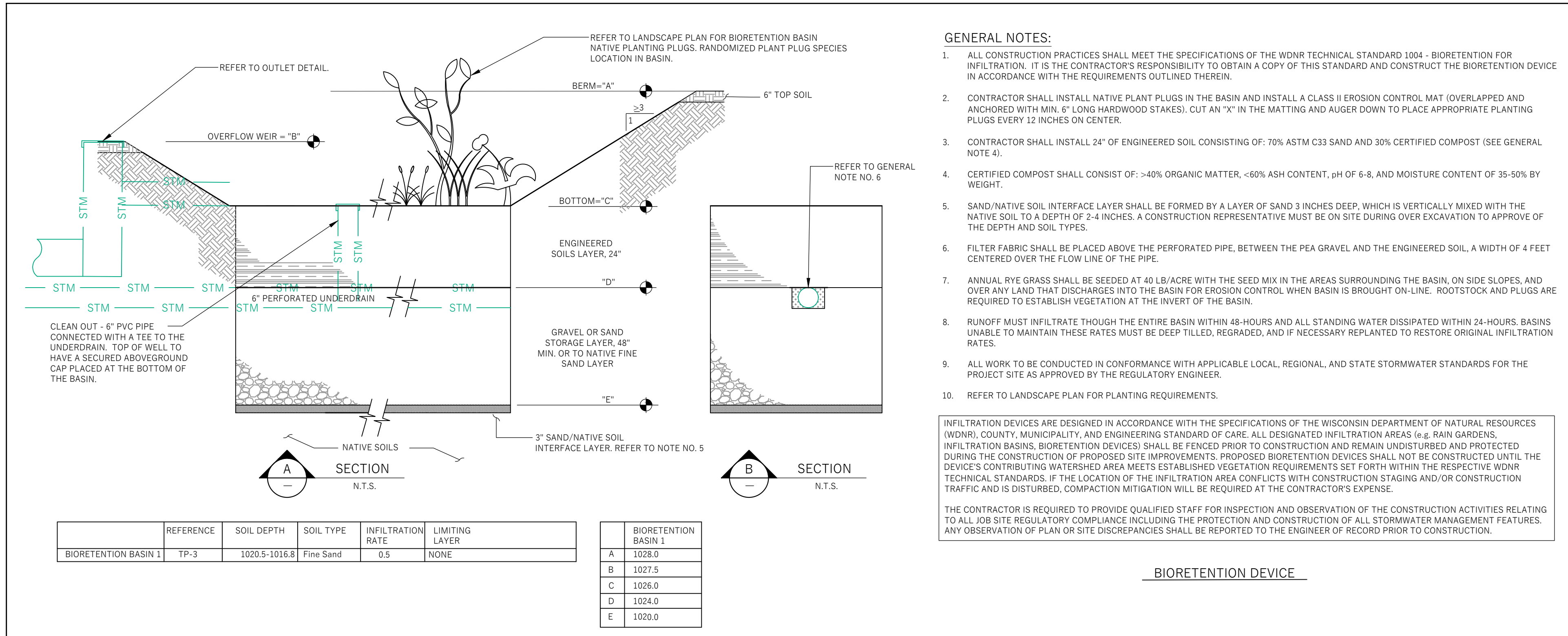
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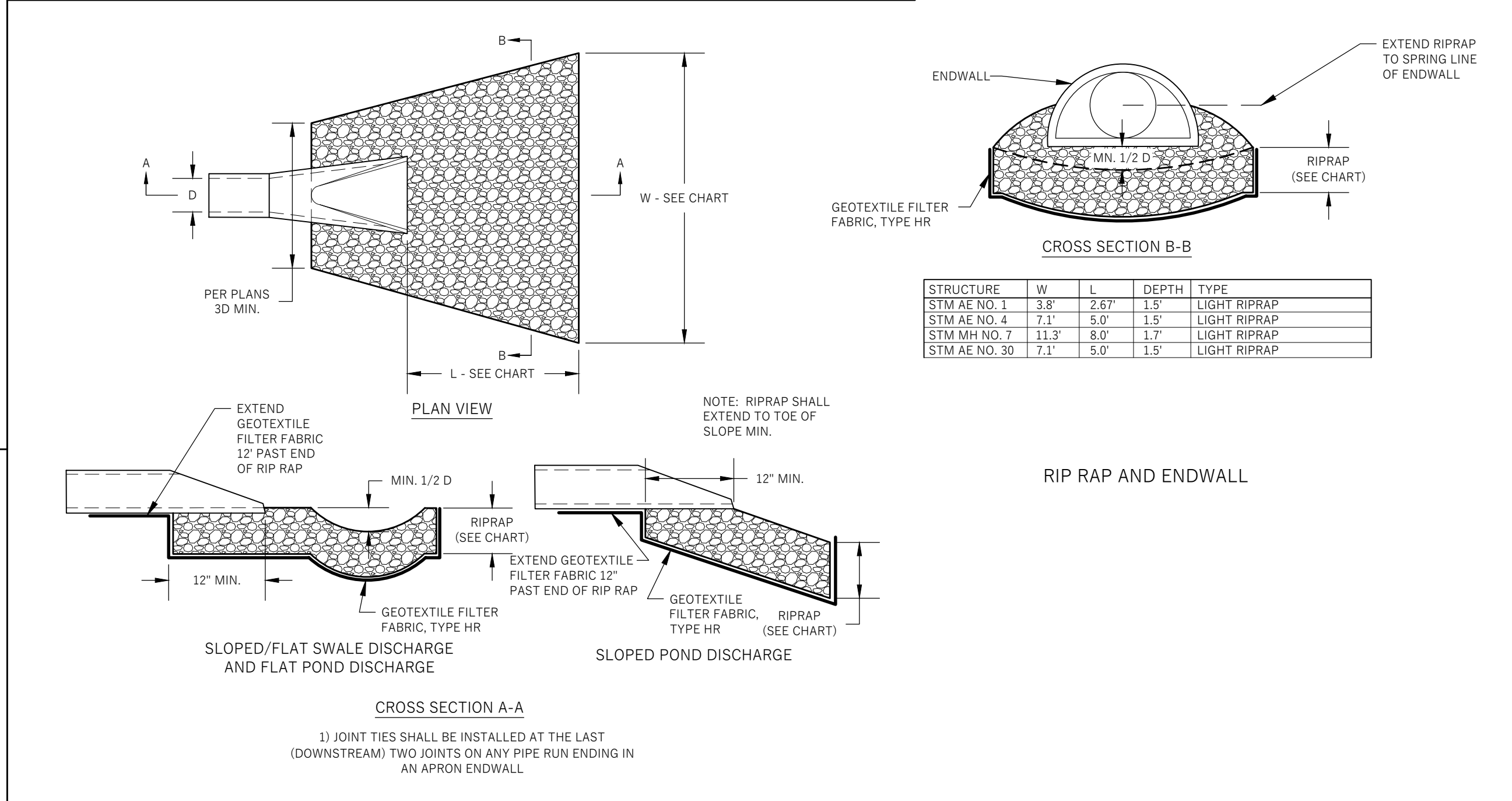
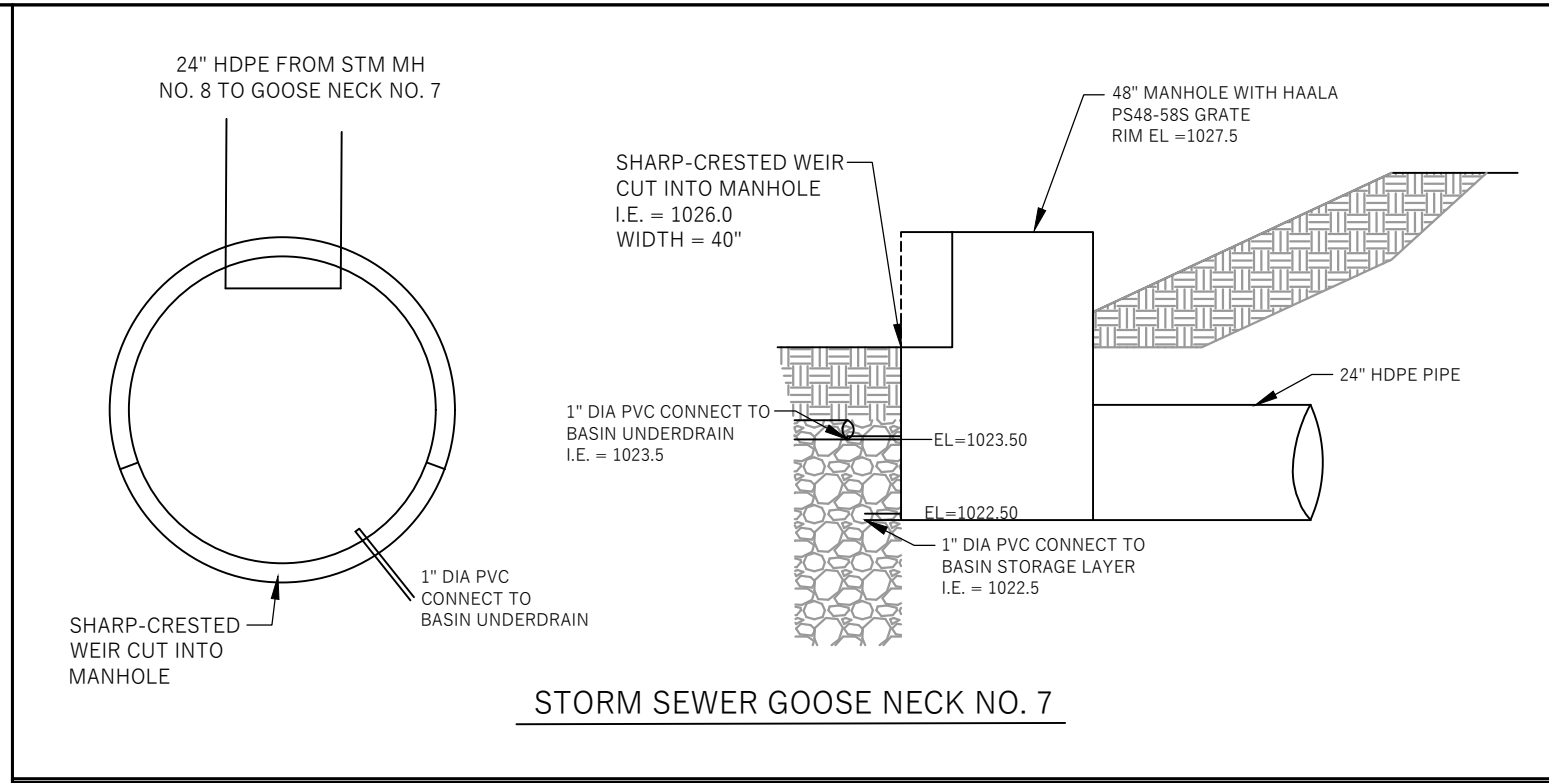
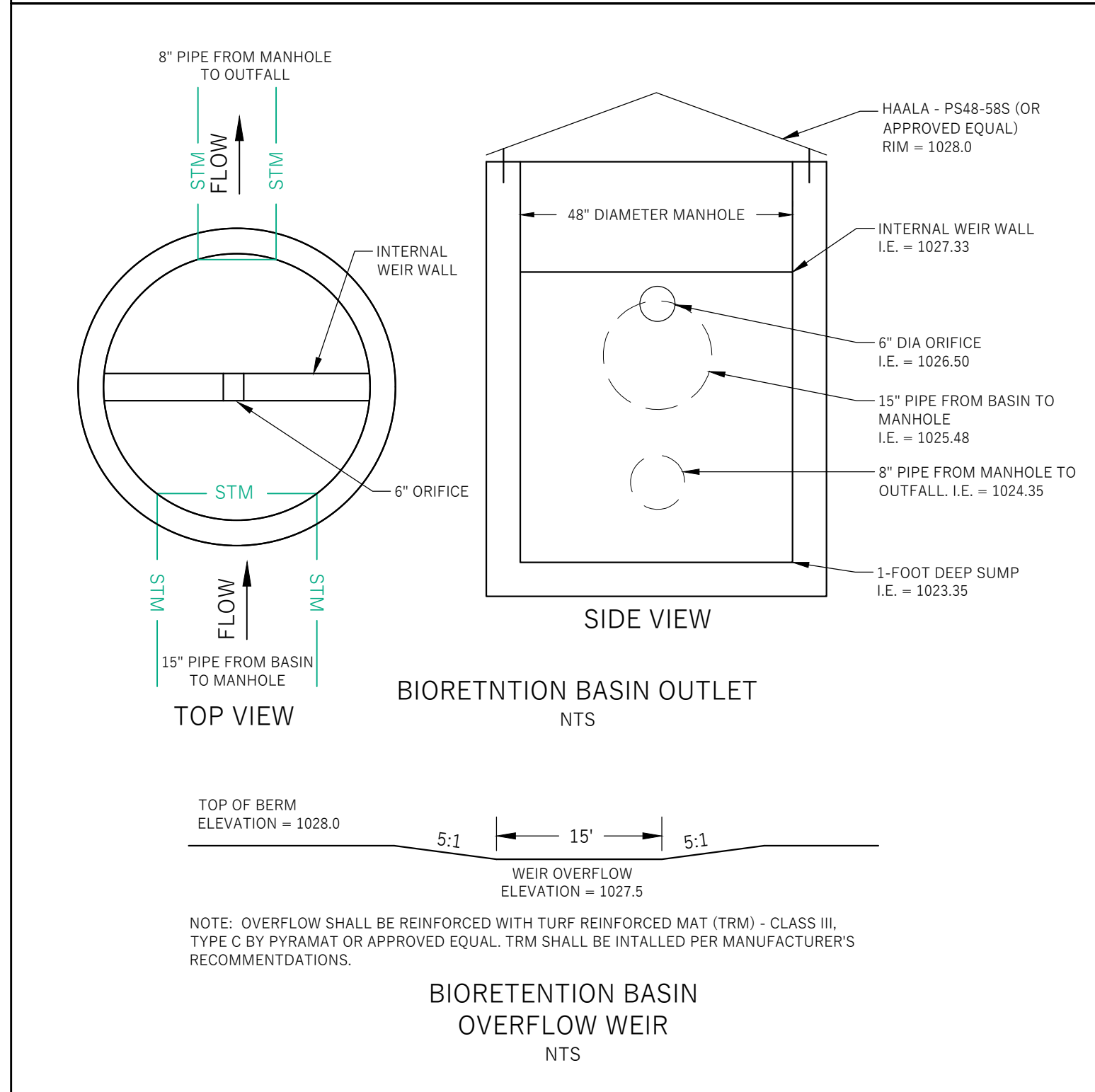
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BIORETENTION BASIN 1	REFERENCE	SOIL DEPTH	SOIL TYPE	INFILTRATION RATE	LIMITING LAYER
BIORETENTION BASIN 1	TP-3	1020.5-1016.8	Fine Sand	0.5	NONE

BIORETENTION BASIN 1	
A	1028.0
B	1027.5
C	1026.0
D	1024.0
E	1020.0

**BIORETENTION DEVICE**



**WYSER**  
ENGINEERING

**COURT AND CORK PICKLEBALL**

**CITY OF FITCHBURG, DANE COUNTY, WI**

SEMINOLE HIGHWAY  
FITCHBURG, WI 53719

Sheet Title:  
DETAILS

Revisions:		
No.	Date:	Description:

Graphic Scale:

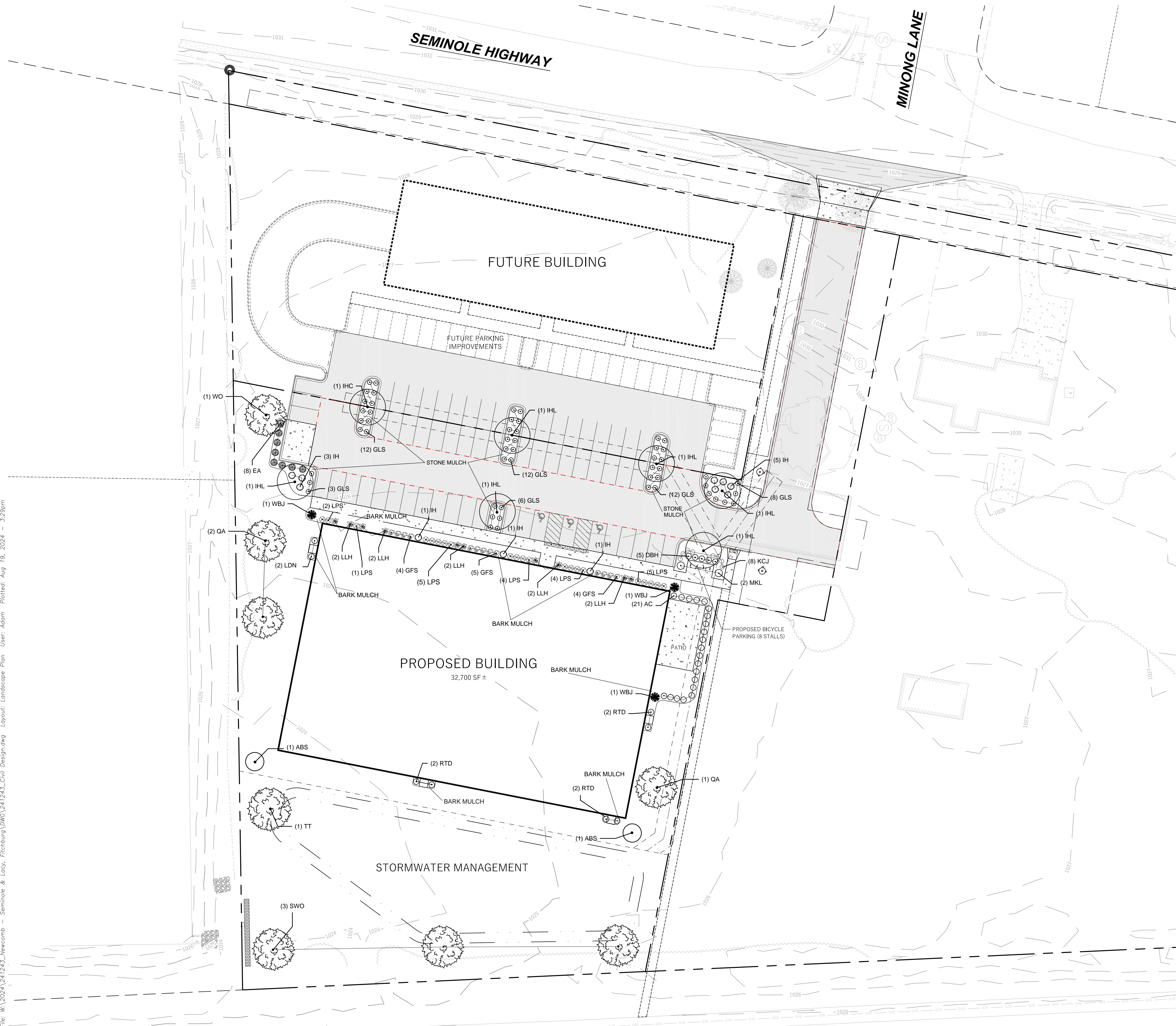
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Date Issued: 08/20/2024

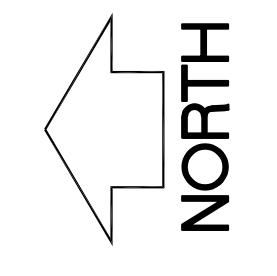
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**LEGEND (PROPOSED)**

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- 18" CURB AND GUTTER
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- STORMWATER TREATMENT FACILITY



- GENERAL NOTES**
- UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS SURVEYED BY WYSER ENGINEERING ON JUNE 6, 2024. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
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**SITE INFORMATION BLOCK:**  
 SITE ADDRESS: SEMINOLE HIGHWAY  
 SITE ACREAGE: 2.50 AC  
 USE OF PROPERTY: INDOOR RECREATION  
 ZONING: GENERAL BUSINESS DISTRICT (B-G)

**SETBACKS:**  
 FRONT YARD: 20 FEET  
 REAR YARD: 10 FEET  
 SIDE YARD: 10 FEET

**PARKING REQUIRED: 50**  
 12 COURTS X 2.67 PARKING GENERATION AT PEAK HOUR = 32  
 (PER ITE LAND USE CODE 490 PARKING GENERATION RATE)  
 2,500 SQ.FT CAFE/BAR (6 STALLS PER 1,000 SQ.FT.) = 18

**TOTAL NUMBER OF PARKING STALLS PROVIDED: 42**  
 NUMBER OF STALLS DESIGNATED ACCESSIBLE: 3

**TOTAL NUMBER OF BIKE STALLS: 8**  
 EXISTING IMPERVIOUS SURFACE AREA: 0 SQ.FT.

**NEW IMPERVIOUS SURFACE AREA:**  
 ROOFTOP: 15,500 SQ.FT.  
 FUTURE: 2,800 SQ.FT.  
 PAVED: 31,500 SQ.FT.  
 FUTURE: 2,950 SQ.FT.

**MAXIMUM IMPERVIOUS SURFACE: 75%**

**WYSER ENGINEERING**

SEMINOLE HIGHWAY  
 FITCHBURG, WI 53719

**COURT AND CORK PICKLEBALL**

**CITY OF FITCHBURG, DANE COUNTY, WI**

Sheet Title:  
 LANDSCAPE PLAN

Revisions:		
No.	Date:	Description:

Graphic Scale: 0' 20' 40' 60'

Wyser Number: 24-1243

Set Type: REVIEW

Date Issued: 08/20/2024

Sheet Number: **L100**

**DIGGERS HOTLINE**  
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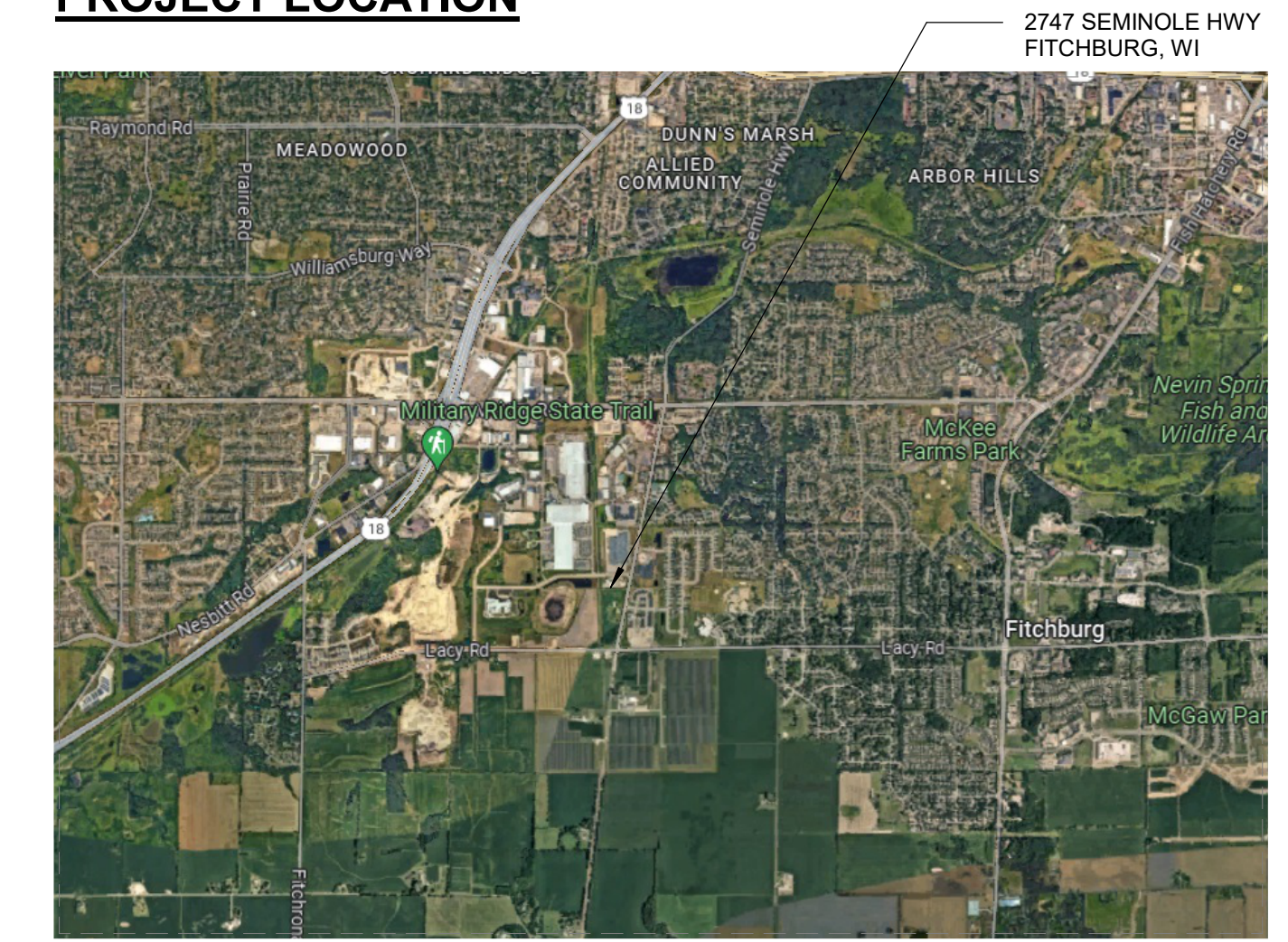
# COURT AND CORK PICKLEBALL

2747 SEMINOLE HWY  
FITCHBURG, WI

## SHEET INDEX

SHEET NUMBER	SHEET NAME	REVISIONS	
		MARK	DATE
GENERAL			
G001	COVER SHEET		
CIVIL			
C100	SITE PLAN		
C200	GRADING & EROSION CONTROL PLAN		
C201	DETAIL GRADING PLAN		
C202	DETAIL GRADING PLAN		
C300	UTILITY PLAN		
C400	DETAILS		
C401	DETAILS		
EXTERIOR ELECTRICAL			
ES101	SITE LIGHTING PLAN		
LANDSCAPE			
L100	LANDSCAPE PLAN		
ARCHITECTURAL			
A101	FIRST FLOOR PLAN		
A202	EXTERIOR COLOR ELEVATIONS		
PRESENTATION			
A921	EXTERIOR 3D VIEWS		

## PROJECT LOCATION



## BUILDING LOCATION



COURT AND CORK PICKLEBALL

NEW FACILITY  
2747 SEMINOLE HWY  
FITCHBURG, WI

## Project Status


PROJ. #: 24001-01

© SKETCHWORKS  
ARCHITECTURE 2024

COVER SHEET

G001

## PROJECT CONTACTS:

**OWNER:**  
BRAD HEGG  
PAM HEGG

**CONTACT:**  
PAM OWNER

**ARCHITECT:**  
SKETCHWORKS ARCHITECTURE, LLC  
2501 PARMENTER STREET, SUITE 300B  
MIDDLETON, WI 53562

**CONTACT:**  
STEVE SHULFER ARCHITECT  
MIGUEL REA DESIGNER  
608-836-7570

**GENERAL CONTRACTOR:**  
NEWCOMB CONSTRUCTION, INC.  
999 FOURIER DR. #102  
MADISON, WI 53517

**CONTACT:**  
BRET NEWCOMB PRESIDENT  
608-833-5220

DESIGN REVIEW

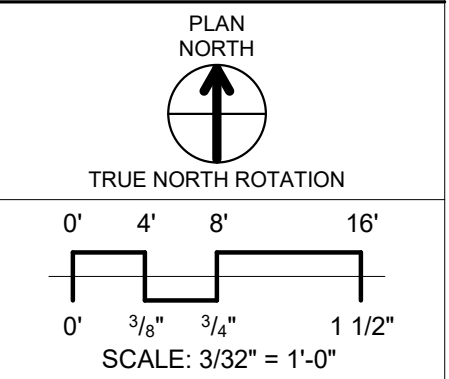


**COURT AND CORK PICKLEBALL**  
NEW FACILITY  
2747 SEMINOLE HWY  
FITCHBURG, WI

**Project Status**

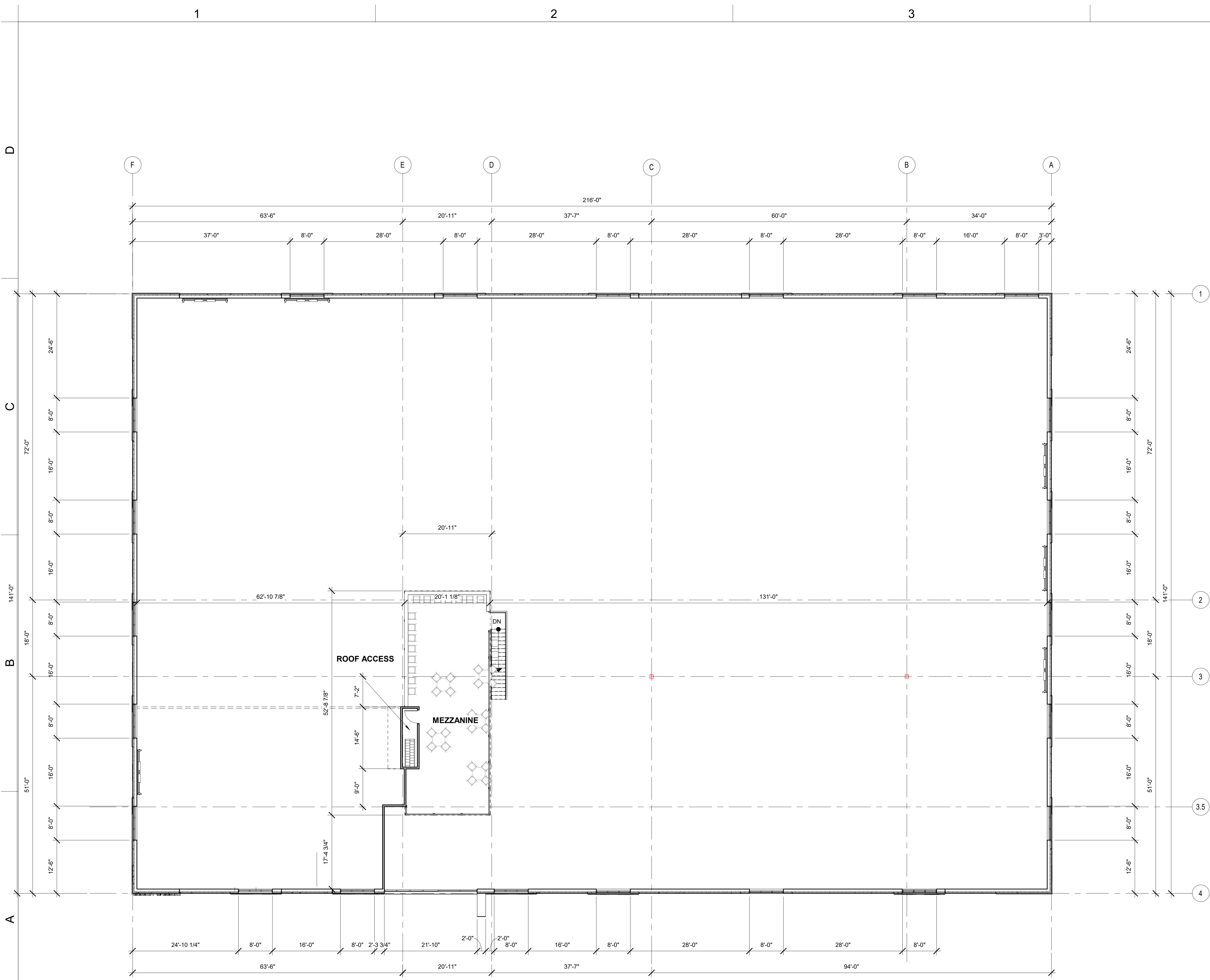

PROJ. # 24001-01

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ARCHITECTURE 2024



**MEZZANINE  
PLAN**

**A102**



**A1** MEZZANINE  
3/32" = 1'-0"

**DESIGN REVIEW**

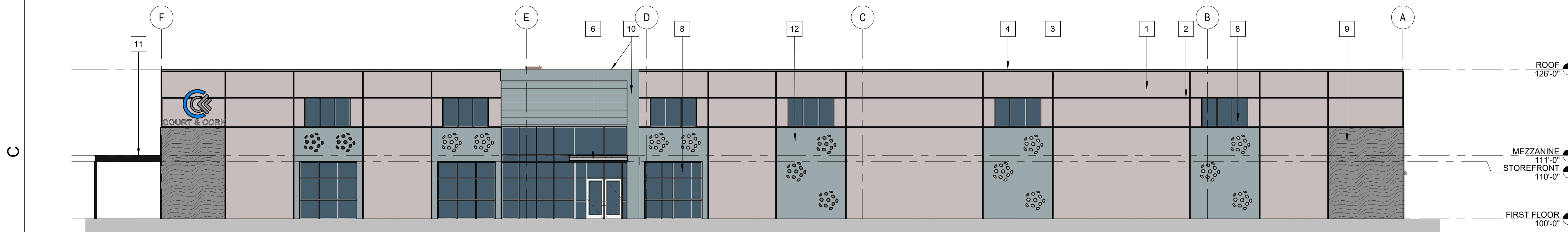
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EXTERIOR ELEVATIONS KEYNOTE SCHEDULE

#	DESCRIPTION	MANUFACTURER	TYPE/STYLE	COLOR	HEIGHT	WIDTH	COMMENTS
1	CONCRETE TILT-UP	TBD	PAINTED	-	-	-	USED MANUFACTURER RECOMMENDED APPLIED FINISH
2	DEEP REVEAL	TBD	-	-	-	-	
3	PANEL JOINT	TBD	-	-	-	-	
4	METAL ROOF EDGE	TBD	ALUMINUM	TBD			
5	OVERHEAD GLASS DOOR	TBD	ALUMINUM	BLACK			
6	METAL CANOPY	TBD	ALUMINUM	BLACK			
7	INSULATED EXTERIOR DOOR	TBD	ALUMINUM	BLACK FRAME			
8	ALUMINUM STOREFRONT SYSTEM	KAWNEER (OR EQUAL)	ALUMINUM	BLACK FRAME			
9	PRECAST CONCRETE FINISH TEXTURE	<varies>	<varies>	<varies>			
10	METAL PANEL BUMPOUT	TBD	TBD	TBD			
11	METAL PERGOLA	TBD	STEEL	BLACK			
12	DECORATIVE METAL PANEL	TBD	ALUMINUM	TBD			
13	COLOR PAINT - 1 BLUE	TBD	TBD	TBD			
14	COLOR PAINT - 2 GRAY	TBD	TBD	TBD			

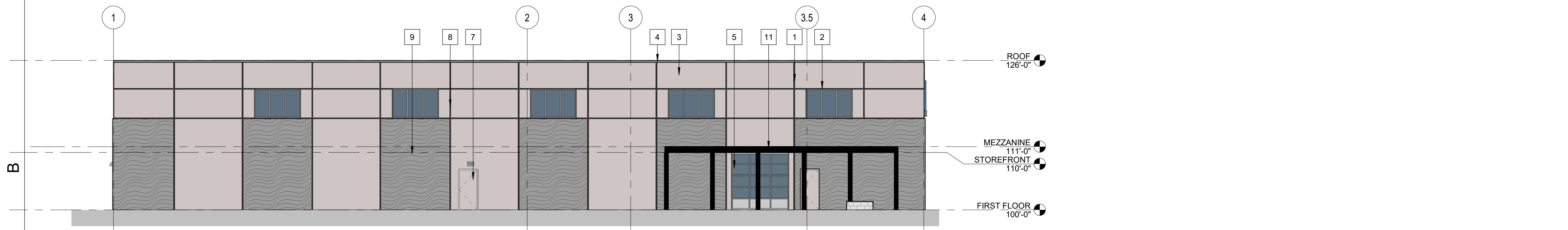
D1 COLOR NORTH ELEVATION

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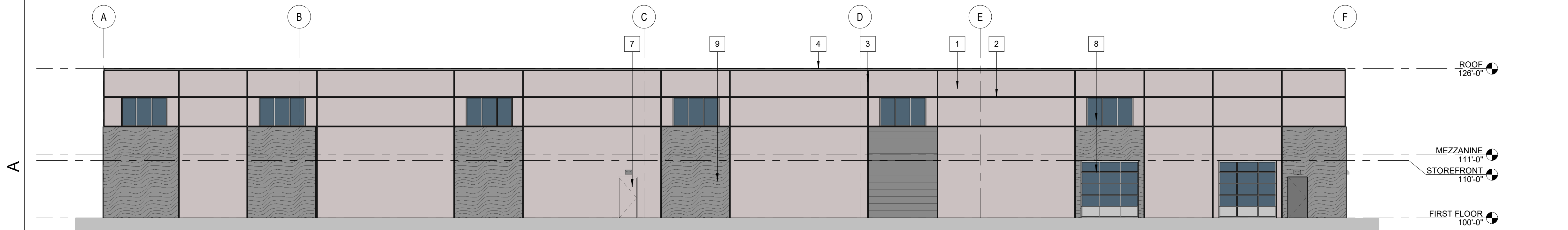
C1 COLOR EAST ELEVATION

3/32" = 1'-0"



B1 COLOR SOUTH ELEVATION

3/32" = 1'-0"



A1 COLOR WEST ELEVATION

3/32" = 1'-0"

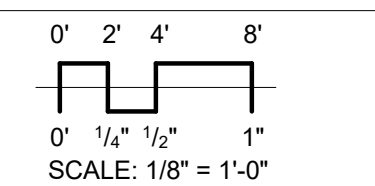


COURT AND CORK PICKLEBALL

NEW FACILITY  
2747 SEMINOLE HWY  
FITZBURG, WI

Project Status


PROJ. #: 24001-01  
© SKETCHWORKS ARCHITECTURE 2024



EXTERIOR  
COLOR  
ELEVATIONS

A202





NORTHEAST VIEW

NORTHWEST VIEW



SOUTHEAST VIEW

SOUTHWEST VIEW

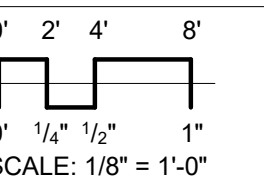
COURT AND CORK PICKLEBALL

NEW FACILITY  
2747 SEMINOLE HWY  
FITCHBURG, WI

Project Status


PROJ. #: 24001-01

© SKETCHWORKS ARCHITECTURE 2024

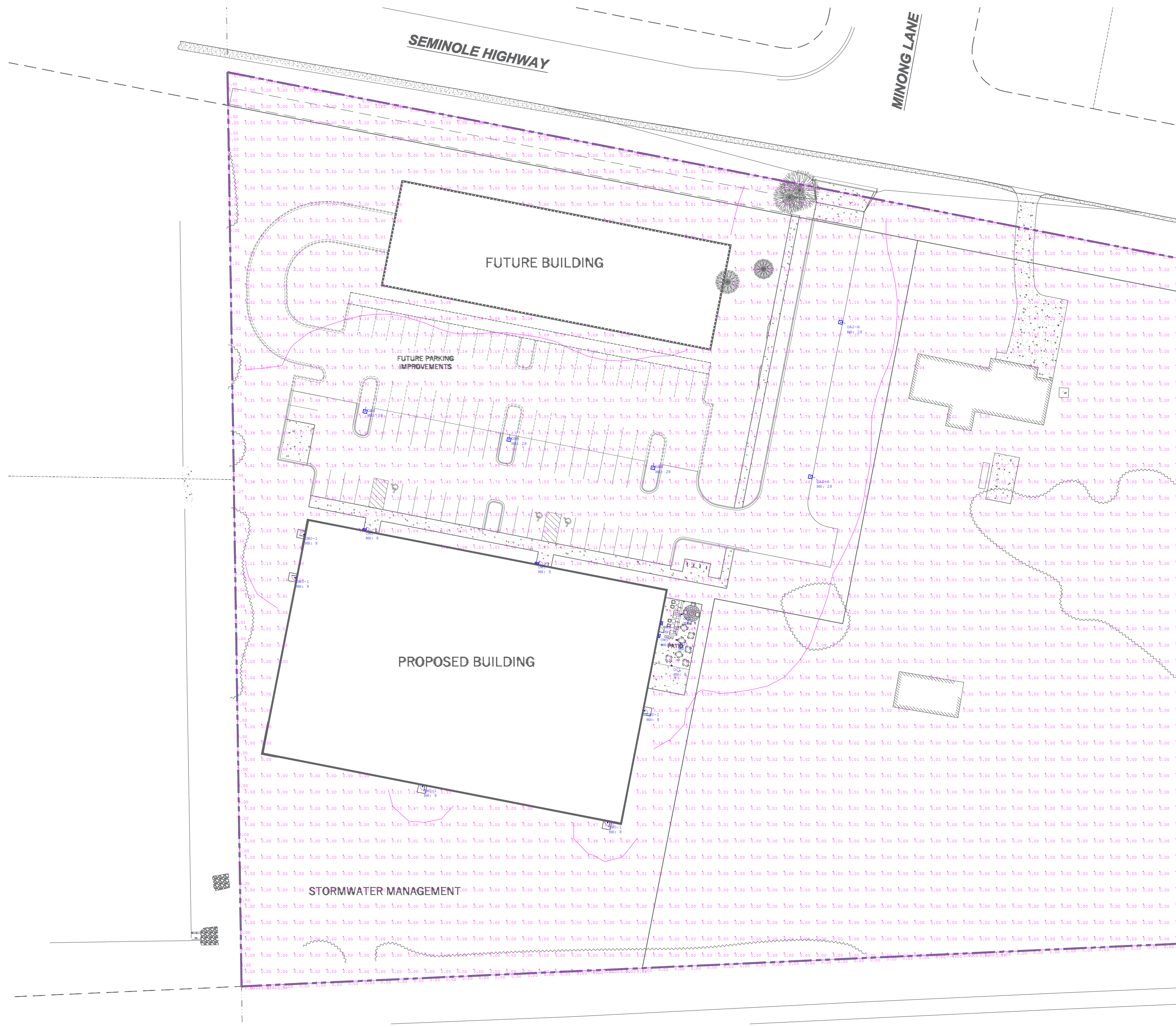


EXTERIOR 3D VIEWS

A921

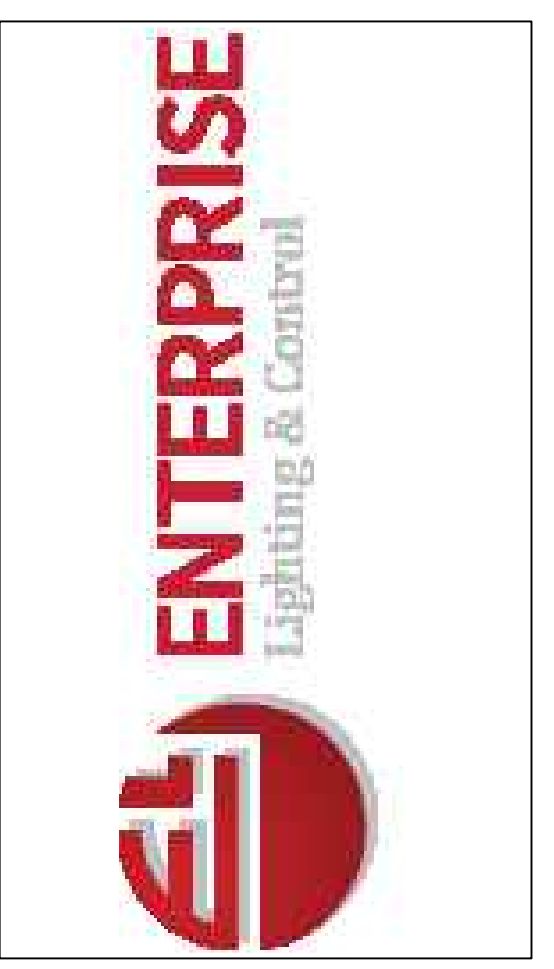
NOTES:

- Customers are responsible for confirming mounting heights, fixture suspension types/ lengths, color temperature, CRI, linear fixture lengths, pole lengths, and bollard heights/ lengths prior to ordering.
- Mounting height (MH) is measured from the bottom of the fixture to the floor.
- This Lighting layout assumes the following unless values are specified and must be confirmed by the customer prior to ordering.
  - Color Temperature is 4000K
  - Room reflectance of 80, 50, 20 for standard ceilings and 50, 50, 20 for exposed ceilings
  - Wall sconces are mounted at 7 feet for calculations.



Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PROPERTY LINE	Illuminance	Fc	0.03	0.37	0.00	N.A.	N.A.
SITE	Illuminance	Fc	0.26	9.83	0.00	N.A.	N.A.
DRIVES	Illuminance	Fc	1.45	1.9	0.6	2.42	3.17
PARKING LOT	Illuminance	Fc	1.36	1.9	0.6	2.27	3.17
PATIO	Illuminance	Fc	3.08	9.8	0.4	7.70	24.50

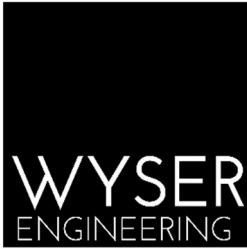
Qty	Label	Arrangement	LLF	MFR	Description	Lum. Watts	Total Watts	Lum. Lumens
2	OA2-H	SINGLE	0.950	LITHONIA	DSX1 LED P3 x4x 70CRI T2M (Voltage) (Mounting) HS (Finish) -25FT POLE -3FT BASE	102.17	204.34	11804
3	OA4	SINGLE	0.950	LITHONIA	DSX1 LED P3 x4x 70CRI T4M (Voltage) (Mounting) (Finish) -25FT POLE -3FT BASE	102.17	306.51	13967
3	OC1	SINGLE	0.950	FC OUTDOOR	FCC400-10-SF-90x-10L-(Finish)-72-LD	11.58	34.74	1035
5	OWD-1	SINGLE	0.950	LITHONIA	WPX0 LED ALO-1 SWW2 MV/OLT PE DDBXD	6.0096	30.048	829
4	OW5	SINGLE	0.950	G-LIGHTING	GL-6550-E4-(Finish)	13	78	489



#	DATE	COMMENTS
REVISIONS		

DRAWN BY : DC  
 DATE : JULY 23, 2024  
 SCALE : 1" = 40'-0"

COURT AND CORK PICKLEBALL  
 FITCHBURG, WISCONSIN  
 SITE LIGHTING PLAN



## **STORMWATER MANAGEMENT REPORT & EROSION CONTROL PLAN**

Court and Cork Pickleball

July 23, 2024

Prepared For: Newcomb

Wyser Engineering Project No.: 24-1243

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2.0	Existing Conditions
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4.0	Stormwater Management Analysis / Design
4.1	Stormwater Discharge Quality
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5.0	Erosion Control Analysis / Design
6.0	Conclusion

## APPENDICIES

Appendix A	Existing Conditions Map
Appendix B	Soils Information
Appendix C	Proposed Construction Plans
Appendix D	Pre-development Hydrologic Modeling
Appendix E	Post Development Hydrologic Modeling
Appendix F	Water Quality and Infiltration Modeling
Appendix G	Universal Soils Loss Equation Worksheet(s)
Appendix H	Declaration of Conditions, Covenants and Restrictions for Maintenance of Stormwater Management Measures
Appendix I	Stormwater Management and Erosion Control Best Management Practice Preliminary Opinion of Probable Construction Costs

Future questions and comments can be directed to:

Kate Meagher, P.E.  
Water Resource Engineer  
[kate.meagher@wyserengineering.com](mailto:kate.meagher@wyserengineering.com)  
(608) 437-1865

Wyser Engineering, LLC  
300 E. Front Street  
Mount Horeb, WI 53572

## 1.0 Introduction

New commercial developments are being proposed at the northwest corner of Lacy Road and Seminole Highway in the City of Fitchburg. A CSM is being proposed with the development to split the existing agricultural farmstead into 3 lots. This stormwater management report is intended to cover the development for the two most northern lots (Lot 1 and Lot 2). A pickleball complex is being proposed on Lot 1. The use for Lot 2 has not been finalized and will be developed in the future. The development of Lot 1 and 2 will create approximately 95,000 square feet of new impervious area. The project is required to meet new development standards for applicable City of Fitchburg and WDNR permitting.

A bioretention basin is proposed to meet new development standards. The bioretention basin provides water quality treatment, runoff rate control and infiltration. The basin will discharge to the northwest corner of the site to an existing swale between the property and Badger State Trail. The site ultimately drains to a wet pond to the northwest of the site, which is an internally draining watershed.

## 2.0 Existing Conditions

The existing conditions of the proposed development area is an agricultural farmstead. The entire existing parcel is bordered by Seminole Highway to the east, Lacy Road to the south, Badger State Trail to the west, and commercial developments to the north. The existing parcel is being split into three lots. Only the development of Lot 1 and 2 are included in this stormwater management report. Lots 1 and 2 are on the north and the existing site drains to the northwest corner. The commercial lot to the north was developed in 2020. A swale was created on the west side of the development to route offsite runoff around the site. A storm sewer headwall existing in the northwest corner of the lot to capture runoff from the swale and discharge to the public storm sewer along Sub-Zero Parkway. The public storm sewer discharges to a wet pond to the west. The wet pond is an internally draining watershed. Please refer to **Appendix A** for graphical representation of the site.

The original native onsite soils are classified as Plano silt loam (PoA and PoB). The PoA and PoB soils have a Hydrologic Soil Group (HSG) classification 'B'. HSG C soils have been assumed for post-development conditions. Test pits were completed June 14, 2024. The test pits on the northern half of the parcel indicated silty loam and silty clay loam over fine sand / loam fine sand. A design infiltration rate of 0.5 in/hr has been used for the infiltration facilities. Please refer to **Appendix B**.

## 3.0 Design Criteria

Wisconsin Administrative Code  
Department of Natural Resources (WDNR)  
Chapter NR 151 & NR 216

Fitchburg, WI – City Code of Ordinances  
Title III, Chapter 30, Article II

#### **4.0 Stormwater Management Analysis / Design**

The proposed improvements for Lot 1 and Lot 2 include two buildings, a shared parking lot, a driveway from Seminole Highway, and sidewalk around both buildings. The improvements include approximately 95,000 square feet of impervious area. Please refer to **Appendix C** for the proposed plan set. The site will be treated to meet new development standards.

A bioretention basin is proposed in the northwest corner of the site. The western building has a sloped roof to the west to drain towards the bioretention basin. Storm sewer is proposed to convey runoff the rest of the site to the bioretention basin. The bioretention basin will provide water quality, infiltration, and runoff rate control. The basin discharges to a sedimentation basin with level spreader to the northeast. The sedimentation basin and level spreader disperse the concentrated discharge from the bioretention basin before discharging to bypass swale on the west side of the property to the north.

The maintenance agreement for the site stormwater management features can be found within **Appendix H**. Specifically, please note the following:

*Stormwater Management Plan Requirements: Fitchburg, WI – City Code of Ordinances, Chapter 30 – 30-28(a)*

This plan was completed and sealed under the direction of Kathleen L Meagher, Professional Engineer E-101102. The preliminary opinion of probable construction costs for use in determining the financial security instrument for the project can be found within **Appendix I** but will be provided separately by the owner prior to construction.

#### **4.1 Water Quality**

*Sediment Control: Fitchburg, WI – City Code of Ordinances, Chapter 30 – 30-28(b)(1)a.i.*

WinSLAMM (Version 10.4.1) has been used to analyze the water quality for this site. WinSLAMM is an approved model to run a continuous average annual rainfall for Madison (MSN 1981) using the NURP partial distribution.

The required total suspended solids treatment is based on 80% reduction from the proposed development. The model predicts the proposed development will produce 890.37 pounds of suspended solids, which requires 712.30 pounds of treatment.

With the proposed treatment facility, the model predicts a TSS reduction of 874.72 pounds (98.24% reduction). Please refer to **Appendix F** for WinSLAMM modeling output and summary.



*Oil and Grease Control: Fitchburg, WI – City Code of Ordinances, Chapter 30 – 30-28(b)(2)*

The oil and grease control is provided by the bioretention basin. The basin captures the first 0.5 in rainfall and has engineered soil, which to provide oil and grease control.

**4.2 Storm Water Discharge Quantity**

*Runoff Rate Control; Hydrologic Calculations: Fitchburg, WI – City Code of Ordinances, Chapter 30 – 30-28(b)(3)*

The predevelopment site is was modeled as agricultural, HSG B, which has a curve number of 68. The existing shed and other impervious area has a curve number of 98. The soil classification has been increased to HSG C for post development conditions.

*Runoff Rate Control; Design Standards: Fitchburg, WI – City Code of Ordinances, Chapter 30 – 30-28(b)(4)*

HydroCAD model version 10.20-2g was used to analyze the existing and proposed runoff rate for the site. The bioretention basins have been designed to maintain predevelopment peak runoff rates for the 1-, 2-, 10-, 100-, and 200-year 24-hour storm events. Please refer to **Table 1** for the existing versus proposed predicted runoff rates and **Appendix D & E** for the HydroCAD output.

Table 1. Existing vs. Proposed peak runoff rates for select storm events.

	Weighted CN	Tc	Rainfall for 24-hour storm event (inches)				
			1-year	2-year	10-year	100-year	200-year
			2.49	2.84	4.09	6.66	7.53
<b>Existing-Development peak discharge rate (cfs)</b>	<b>69</b>	<b>12.1</b>	<b>1.25</b>	<b>1.92</b>	<b>4.88</b>	<b>12.40</b>	<b>15.17</b>
<b>Post-Development peak discharge rate (cfs)</b>							
Watershed A - N Basin	93	6.0	8.26	9.60	14.46	24.66	28.15
Watershed B - No Treatment	86	6.0	0.09	0.10	0.17	0.32	0.37
Post-Development peak discharge rate without detention(cfs)			8.35	9.70	14.63	24.99	28.52
<b>Post-Development peak discharge rate with detention (cfs)</b>			<b>0.96</b>	<b>1.09</b>	<b>1.57</b>	<b>10.18</b>	<b>15.16</b>
<b>Difference: Post-construction peak flow rates with detention vs. pre-existing peak flow rates (cfs)</b>			<b>-0.29</b>	<b>-0.83</b>	<b>-3.31</b>	<b>-2.22</b>	<b>-0.01</b>

*Outlets: Fitchburg, WI – City Code of Ordinances, Chapter 30 – 30-28(b)(5)*

The storm sewer system has been designed per the SPS ‘Area method’ as described within SPS 382.36(5)(a)1. Please refer to **Appendix E** for analysis results. The basin elevations are set by the elevation for free discharge of the underdrain in the northwest corner of the site. To reduce the amount of fill the site requires, a gooseneck outlet is required at the discharge of the site storm sewer into the bioretention basin. A sediment basin with a level spreader is located at the discharge of the bioretention basin to disperse the runoff from the basin before discharging north to the neighboring property. All discharge points will be protected with riprap. It is assumed that the downstream discharge points have protection from outlet erosion.

*Infiltration: Fitchburg, WI – City Code of Ordinances, Chapter 30 – 30-28(b)(6)*

The infiltration volume for the site was analyzed using WinSLAMM to determine pre- and post-development stay-on. Because the site is located in an internally drained watershed, the development is required to infiltrate as close to 100 percents as practicable of the average annual pre-development infiltration volume, regardless of the effective area of the infiltration system. The pre-development volume tool in WinSLAMM was used to estimate the pre-development runoff volume of 9,433 cubic feet, which is 310,838 cubic feet of stay-on. With the bioretention basin, the proposed development creates 5,903 cubic feet of runoff, which is 314,368 cubic feet of stay-on. Please refer to **Appendix F** for WinSLAMM output information.

*Thermal Control Reduction: Fitchburg, WI – City Code of Ordinances, Chapter 30 – 30-28(b)(7)*

The site is not located in a thermally sensitive watershed.

## 5.0 Erosion Control Analysis / Design

Erosion control measures proposed for the project site have been designed in accordance with the WDNR and City of Fitchburg requirements. Best Management Practices (BMP's) for the site include stone tracking pad, silt fencing, check dams, seeding, mulching, erosion mat, etc. Construction sequencing, as follows, has been documented in accordance with soil loss rate calculations for the construction period per the Universal Soil Loss Equation included as **Appendix G**:

10/01/2024	Pre-development construction meeting. Install Perimeter BMP's (silt fence, stone tracking pad, etc.)
10/01/2024	Mass Grading / Subgrade preparation (note all 4:1 or greater slopes must be stabilized as soon as practicable and, at a minimum, within 2 months (60 days) of finishing the grading). Basin and sediment basin to act as sediment trap.
05/15/2024	Temporary stabilization to be completed for areas that do not drain to the sediment trap with temporary seed with mulch or erosion mat.
07/10/2026	Final landscaping adjustments.
08/01/2026	Final site stabilization with seed, mulch and erosion matting where required.
08/15/2026	Install bioretention systems. Install Bioretention Vegetation Plan in accordance with WDNR Technical Standard 1004. Fix any landscaping issues including bioretention and areas.
10/01/2026	Provide City with a post-development as-built survey of all stormwater management facilities.

For additional information relative to erosion control, please refer to the Grading & Erosion Control Plan found in **Appendix C**.

## 6.0 Conclusion

Construction and Post Development BMP's for erosion control and stormwater management have been designed in accordance with applicable requirements of the City of Fitchburg Code of Ordinance and Wisconsin Administrative Code. A bioretention basin is proposed to meet applicable new development requirements. Erosion control practices have been designed to limit the soil loss rate to less than 5.0 tons per acre per year, regulating soil transportation within the boundaries of the project site.

**APPENDIX A**

Existing Conditions Survey

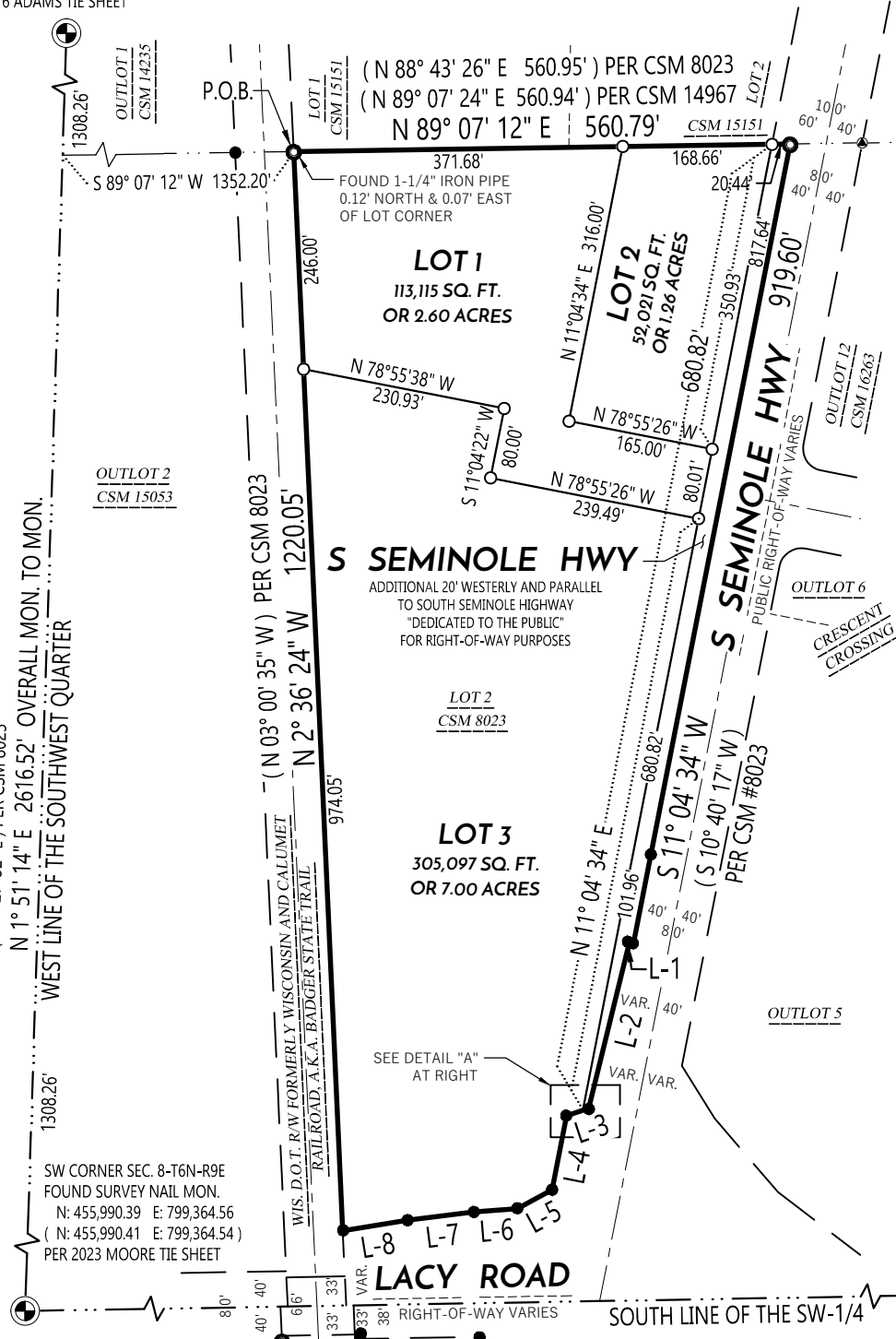




# CERTIFIED SURVEY MAP NO. \_\_\_\_\_

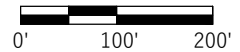
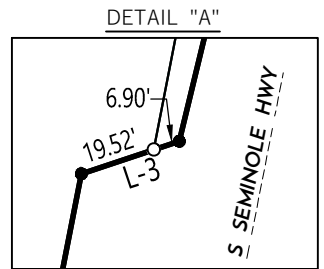
PART OF LOT 2 OF CERTIFIED SURVEY MAP NO. 8023 RECORDED IN VOLUME 42 OF CERTIFIED SURVEY MAPS OF DANE COUNTY ON PAGES 313-316 AS DOCUMENT NO. 2719369. LOCATED IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 08, TOWN 06 NORTH, RANGE 9 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

W-1/4 CORNER SEC. 8-T6N-R9E  
 FOUND BRASS CAP MONUMENT  
 N: 458,605.53 E: 799,449.20  
 ( N: 458,605.62 E: 799,449.18 )  
 PER 2016 ADAMS TIE SHEET



LINE TABLE		
LINE #	DIRECTION	LENGTH
L-1	N 78° 55' 26" W	5.01'
*	(N 78° 55' 45" W)	(5.00')
L-2	S 13° 44' 29" W	193.21'
*	(S 13° 44' 26" W)	-
L-3	S 71° 35' 45" W	26.42'
*	(S 71° 35' 42" W)	-
L-4	S 11° 04' 04" W	85.00'
*	(S 11° 04' 15" W)	-
L-5	S 61° 25' 02" W	44.78'
*	(S 61° 24' 52" W)	(44.79')
L-6	S 85° 30' 11" W	49.09'
*	(S 85° 30' 10" W)	-
L-7	S 82° 55' 05" W	75.43'
*	(S 82° 55' 04" W)	-
L-8	S 80° 47' 29" W	74.21'
*	(S 80° 47' 33" W)	(74.18')

\* PER TPP NO. 22-3495-4.01  
 AMENDMENT NO. 2, RECORDED AS  
 DOCUMENT NO. 5884824



- LEGEND**
- SECTION CORNER FOUND / RECOVERED
  - MAG NAIL FOUND
  - 3/4" REBAR FOUND
  - 1" IRON PIPE FOUND
  - 2" IRON PIPE FOUND
  - 3/4" REBAR SET 1.50 LB/FT
  - CSM BOUNDARY
  - RIGHT-OF-WAY LINE
  - CENTERLINE
  - SECTION/QUARTER LINE
  - QUARTER/QUARTER LINE
  - PLATTED LINE
  - RECORDED INFORMATION

**NOTES:**

- FIELD WORK PERFORMED BY WYSER ENGINEERING, LLC. ON THE WEEKS OF JUNE 5TH, AND 6TH, 2024.
- NORTH REFERENCE FOR THIS CERTIFIED SURVEY AND MAP ARE BASED ON THE WISCONSIN COORDINATE REFERENCE SYSTEM, WISCRS DANE, NAD 83 (2011), GRID NORTH. THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 8, T6N, R9E, BEARS N 01°51' 14" E
- THIS PARCEL IS SUBJECT TO ALL EASEMENTS AND AGREEMENTS, BOTH RECORDED AND UNRECORDED.
- SEE SHEETS 2 OF 4 FOR FURTHER DETAILS ON OVERALL CSM BOUNDARY, AND EASEMENTS.



File: W:\2024\241243\_Newcomb - Seminole & Lacy, Fitchburg\DWG\241243\_CSM.dwg Layout: CSM 1 OF 4 User: Zach Plotted: Jun 18, 2024 - 4:53pm



PREPARED BY:  
 WYSER ENGINEERING  
 300 EAST FRONT STREET  
 MOUNT HOREB, WI 53572  
 www.wyserengineering.com

PREPARED FOR:  
 NEWCOMB CONSTRUCTION  
 COMPANY, INC.  
 999 FOURIER DRIVE #102  
 MADISON, WI 53717

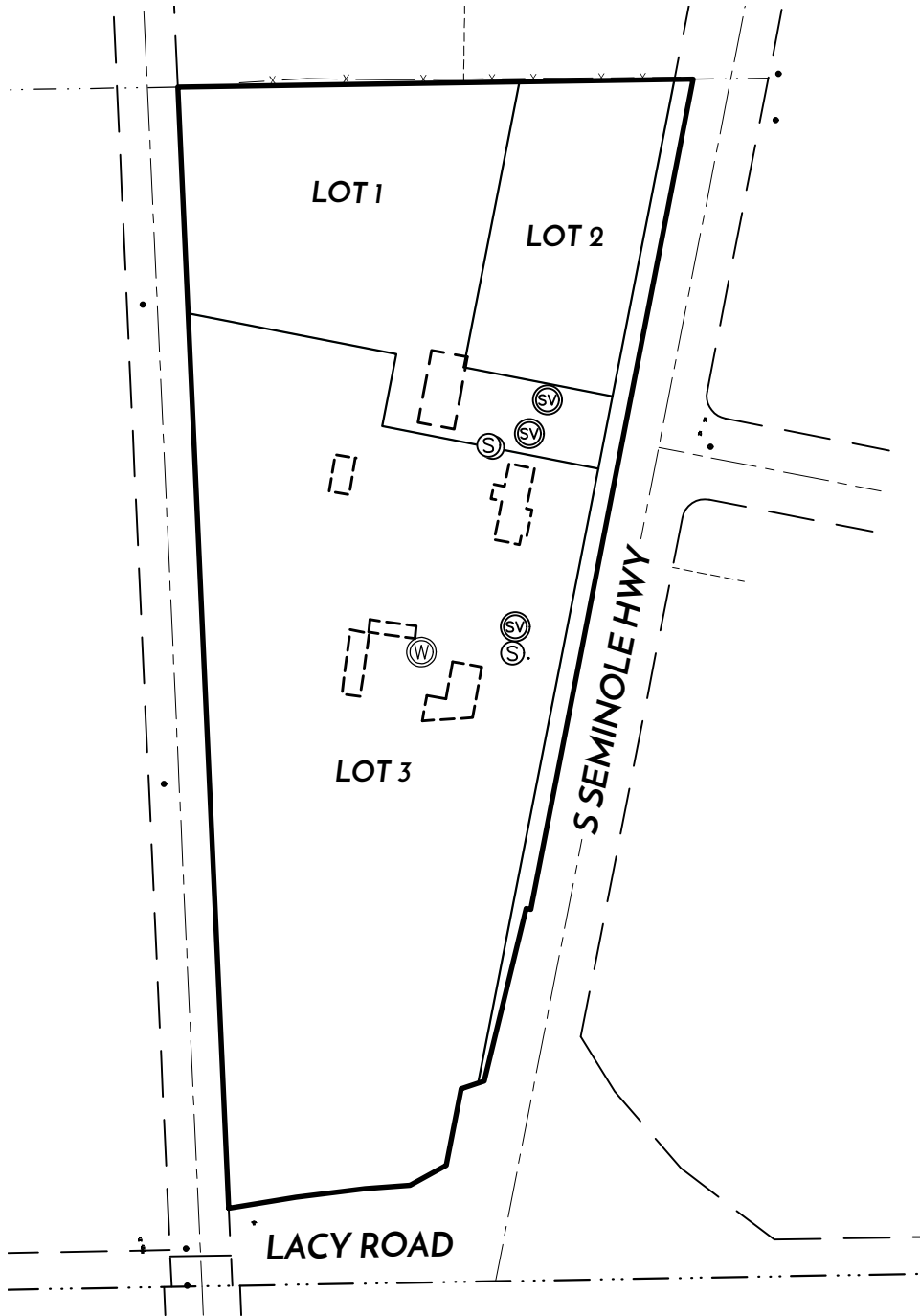
SURVEYED BY: MAL/DZ  
 DRAWN BY: AMS  
 CHECKED BY: ZMR  
 APPROVED BY: ZMR

PROJECT NO: 24-1243  
 SHEET NO: 1 of 4

VOL. \_\_\_\_\_ PAGE \_\_\_\_\_  
 DOC. NO. \_\_\_\_\_  
 C.S.M. NO. \_\_\_\_\_

**CERTIFIED SURVEY MAP NO. \_\_\_\_\_**

PART OF LOT 2 OF CERTIFIED SURVEY MAP NO. 8023 RECORDED IN VOLUME 42 OF CERTIFIED SURVEY MAPS OF DANE COUNTY ON PAGES 313-316 AS DOCUMENT NO. 2719369. LOCATED IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 08, TOWN 06 NORTH, RANGE 9 EAST, CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.



**LEGEND**

- CSM BOUNDARY
- RIGHT-OF-WAY LINE
- CENTERLINE
- SECTION/QUARTER LINE
- QUARTER/QUARTER LINE
- PLATTED LINE
- EXISTING EASEMENT
- EXISTING STRUCTURE
- FENCE LINE

**NOTES:**

1. FIELD WORK PERFORMED BY WYSER ENGINEERING, LLC. ON THE WEEKS OF JUNE 5TH, AND 6TH, 2024.
2. NORTH REFERENCE FOR THIS CERTIFIED SURVEY AND MAP ARE BASED ON THE WISCONSIN COORDINATE REFERENCE SYSTEM, WISCRS DANE, NAD 83 (2011). GRID NORTH. THE NORTH LINE OF THE SOUTHEAST QUARTER OF SECTION 6, T6N, R6E, BEARS S 89°38' 20" E
3. THIS PARCEL IS SUBJECT TO ALL EASEMENTS AND AGREEMENTS, BOTH RECORDED AND UNRECORDED.
4. SEE SHEETS 2 OF 4 FOR FURTHER DETAILS ON OVERALL CSM BOUNDARY, AND EASEMENTS.



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PREPARED BY:  
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MOUNT HOREB, WI 53572  
www.wyserengineering.com

PREPARED FOR:  
NEWCOMB CONSTRUCTION  
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999 FOURIER DRIVE #102  
MADISON, WI 53717

SURVEYED BY: MAL/DZ  
DRAWN BY: AMS  
CHECKED BY: ZMR  
APPROVED BY: ZMR

PROJECT NO: 24-1243  
SHEET NO: 2 of 4

VOL. \_\_\_\_\_ PAGE \_\_\_\_\_  
DOC. NO. \_\_\_\_\_  
C.S.M. NO. \_\_\_\_\_

**CERTIFIED SURVEY MAP NO. \_\_\_\_\_**

PART OF LOT 2 OF CERTIFIED SURVEY MAP NO. 8023 RECORDED IN VOLUME 42 OF CERTIFIED SURVEY MAPS OF DANE COUNTY ON PAGES 313-316 AS DOCUMENT NO. 2719369. LOCATED IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 08, TOWN 06 NORTH, RANGE 9 EAST, CITY OF FITCHBURG, DANE COUNTY , WISCONSIN.

**LEGAL DESCRIPTION**

PART OF LOT 2 OF CERTIFIED SURVEY MAP NO. 8023 RECORDED IN VOLUME 42 OF CERTIFIED SURVEY MAPS OF DANE COUNTY ON PAGES 313-316 AS DOCUMENT NO. 2719369 (CSM 8023), LOCATED IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 6 NORTH, RANGE 9 EAST, CITY OF FITCHBURG, DANE COUNTY , WISCONSIN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST QUARTER CORNER OF AFORESAID SECTION 8; THENCE, ALONG THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 8, SOUTH 01 DEGREES 51 MINUTES 14 SECONDS EAST, 1308.26 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 8; THENCE ALONG THE NORTH LINE OF SAID SOUTH HALF, NORTH 89 DEGREES 07 MINUTES 12 SECONDS EAST, 1352.20 FEET TO THE NORTHWEST CORNER OF AFORESAID LOT 2 OF CSM 8023, AND THE POINT OF BEGINNING; THENCE, CONTINUING ALONG SAID NORTH LINE OF THE SOUTH HALF, AND ALSO ALONG THE NORTH LINE OF SAID LOT 2, NORTH 89 DEGREES 07 MINUTES 12 SECONDS EAST, 560.79 FEET TO THE NORTHEAST CORNER OF SAID LOT 2, AND ALSO BEING A POINT ON THE WESTERLY RIGHT-OF-WAY OF SOUTH SEMINOLE HIGHWAY; THENCE, ALONG THE EAST LINE OF SAID LOT 2, AND ALONG SAID WESTERLY RIGHT-OF-WAY, SOUTH 11 DEGREES 04 MINUTES 34 SECONDS WEST, 919.60 FEET; THENCE, CONTINUING ALONG SAID WESTERLY RIGHT-OF-WAY, NORTH 78 DEGREES 55 MINUTES 25 SECONDS WEST, 5.01 FEET; THENCE, CONTINUING ALONG SAID WESTERLY RIGHT-OF-WAY, SOUTH 13 DEGREES 44 MINUTES 29 SECONDS WEST, 193.21 FEET; THENCE, CONTINUING ALONG SAID WESTERLY RIGHT-OF-WAY, SOUTH 71 DEGREES 35 MINUTES 42 SECONDS WEST, 26.42 FEET; THENCE, CONTINUING ALONG SAID WESTERLY RIGHT-OF-WAY, SOUTH 11 DEGREES 04 MINUTES 04 SECONDS WEST, 85.00 FEET TO A POINT ON THE NORTHERLY RIGHT-OF-WAY OF LACY ROAD; THENCE, CONTINUING ALONG SAID NORTHERLY RIGHT-OF-WAY, SOUTH 61 DEGREES 25 MINUTES 02 SECONDS 44.78 FEET; THENCE, CONTINUING ALONG SAID NORTHERLY RIGHT-OF-WAY, SOUTH 85 DEGREES 30 MINUTES 11 SECONDS WEST, 49.09 FEET; THENCE, CONTINUING ALONG SAID NORTHERLY RIGHT-OF-WAY, 82 DEGREES 55 MINUTES 05 SECONDS WEST, 75.43 FEET; THENCE, CONTINUING ALONG SAID NORTHERLY RIGHT-OF-WAY, SOUTH 80 DEGREES 47 MINUTES 29 SECONDS WEST, 74.21 FEET TO A POINT ON THE WESTERLY LINE OF AFORESAID LOT 2 OF CSM 8023; THENCE, ALONG SAID WESTERLY LINE, NORTH 02 DEGREES 36 MINUTES 24 SECONDS WEST, 1220.05 FEET BACK TO THE POINT OF BEGINNING.

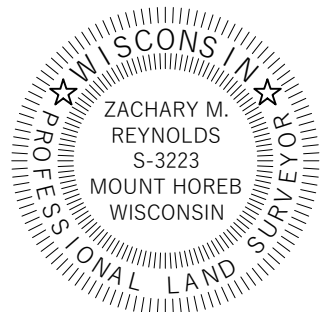
SAID PARCEL CONTAINS 493,619 SQUARE FEET OR 11.33 ACRES.

**SURVEYOR'S CERTIFICATE**

I, ZACHARY M. REYNOLDS, WISCONSIN PROFESSIONAL LAND SURVEYOR S-3223, DO HEREBY CERTIFY THAT BY DIRECTION OF NEWCOMB CONSTRUCTION COMPANY, INC. I HAVE SURVEYED, DIVIDED, AND MAPPED THE LANDS DESCRIBED HEREON AND THAT THE MAP IS A CORRECT REPRESENTATION IN ACCORDANCE WITH THE INFORMATION PROVIDED. I FURTHER CERTIFY THAT THIS CERTIFIED SURVEY MAP IS IN FULL COMPLIANCE WITH CHAPTER 236.34 OF THE WISCONSIN STATUTES AND THE SUBDIVISION REGULATIONS OF THE CITY OF FITCHBURG AND DANE COUNTY, WISCONSIN.

\_\_\_\_\_  
ZACHARY M. REYNOLDS, S-3223  
WISCONSIN PROFESSIONAL LAND SURVEYOR

\_\_\_\_\_  
DATE



File: W:\2024\241243\_Newcomb - Seminole & Lacy Fitchburg\DWG\241243\_CSM.dwg Layout: CSM\_3 OF 4 User: Zach Plotted: Jun 18, 2024 - 4:51pm



PREPARED BY:  
WYSER ENGINEERING  
300 EAST FRONT STREET  
MOUNT HOREB, WI 53572  
www.wyserengineering.com

PREPARED FOR:  
NEWCOMB CONSTRUCTION  
COMPANY, INC.  
999 FOURIER DRIVE #102  
MADISON, WI 53717

SURVEYED BY: MAL/DZ  
DRAWN BY: AMS  
CHECKED BY: ZMR  
APPROVED BY: ZMR

PROJECT NO: 24-1243  
SHEET NO: 3 of 4

VOL. \_\_\_\_\_ PAGE \_\_\_\_\_

DOC. NO. \_\_\_\_\_

C.S.M. NO. \_\_\_\_\_

**CERTIFIED SURVEY MAP NO. \_\_\_\_\_**

PART OF LOT 2 OF CERTIFIED SURVEY MAP NO. 8023 RECORDED IN VOLUME 42 OF CERTIFIED SURVEY MAPS OF DANE COUNTY ON PAGES 313-316 AS DOCUMENT NO. 2719369. LOCATED IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 08, TOWN 06 NORTH, RANGE 9 EAST, CITY OF FITCHBURG, DANE COUNTY , WISCONSIN.

**OWNER'S CERTIFICATE**

\_\_\_\_\_ LLC, AS OWNER, WE HEREBY CERTIFY THAT WE CAUSED THE LANDS DESCRIBED HEREON TO BE SURVEYED, DIVIDED MAPPED AND DEDICATED AS SHOWN. I ALSO CERTIFY THAT THIS CERTIFIED SURVEY MAP IS REQUIRED BY S. 236.34 OF THE WISCONSIN STATE STATUES TO BE SUBMITTED TO THE CITY OF MADISON FOR APPROVAL.

BY: \_\_\_\_\_  
GUS NEWCOMB, MANAGING MEMBER

\_\_\_\_\_ LLC

STATE OF WISCONSIN) SS  
DANE COUNTY ) SS

PERSONALLY CAME BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2024, THE ABOVE NAMED

MANAGING MEMBER FOR \_\_\_\_\_, LLC, GUS NEWCOMB, TO ME KNOWN TO BE THE PERSON WHO EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THE SAME.

\_\_\_\_\_  
NOTARY PUBLIC, STATE OF WISCONSIN MY COMMISSION EXPIRES \_\_\_\_\_

**CONSENT OF MORTGAGEE**

\_\_\_\_\_, A BANKING ASSOCIATION DULY ORGANIZED AND EXISTING UNDER AND BY VIRTUE OF THE LAWS OF THE STATE OF WISCONSIN , MORTAGAGEE OF THE ABOVE DESCRIBED LAND, DOES HEREBY CONSENT TO THE SURVEY, DIVIDING, MAPPING AND DEDICATION OF THE LAND DESCRIBED ON THIS CERTIFIED SURVEY MAP AND DOES HEREBY CONSENT TO THE OWNER'S CERTIFICATE.

BY: \_\_\_\_\_  
AUTHORIZED OFFICER

STATE OF WISCONSIN) SS  
DANE COUNTY ) SS

PERSONALLY CAME BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2024, THE ABOVE

NAMED BANKING ASSOCIATION, \_\_\_\_\_ AUTHORIZED OFFICER

\_\_\_\_\_ TO ME KNOWN TO BE THE PERSON WHO EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THE SAME.

\_\_\_\_\_  
NOTARY PUBLIC, STATE OF WISCONSIN MY COMMISSION EXPIRES \_\_\_\_\_

**CITY OF FITCHBURG APPROVAL**

THIS CERTIFIED SURVEY MAP, INCLUDING ANY DEDICATIONS SHOWN HEREON, HAS BEEN DULY FILED WITH AND APPROVED BY THE COMMON COUNCIL OF THE CITY OF FITCHBURG, DANE COUNTY, WISCONSIN.

DATED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2024.

\_\_\_\_\_  
TRACY OLDENBURG, CITY CLERK,  
CITY OF FITCHBURG



OFFICE OF THE REGISTER OF DEEDS  
\_\_\_\_\_  
COUNTY, WISCONSIN  
RECEIVED FOR RECORD \_\_\_\_\_,  
20 \_\_\_\_ AT \_\_\_\_\_ O'CLOCK \_\_\_\_ M AS  
DOCUMENT # \_\_\_\_\_  
IN VOL. \_\_\_\_\_ OF CERTIFIED SURVEY  
MAPS ON PAGE(S) \_\_\_\_\_  
\_\_\_\_\_  
KRISTI CHLEBOWSKI, REGISTER OF DEEDS



PREPARED BY:  
WYSER ENGINEERING  
300 EAST FRONT STREET  
MOUNT HOREB, WI 53572  
www.wyserengineering.com

PREPARED FOR:  
NEWCOMB CONSTRUCTION  
COMPANY, INC.  
999 FOURIER DRIVE #102  
MADISON, WI 53717

SURVEYED BY: MAL/DZ  
DRAWN BY: AMS  
CHECKED BY: ZMR  
APPROVED BY: ZMR

PROJECT NO: 24-1243  
SHEET NO: 3 of 4

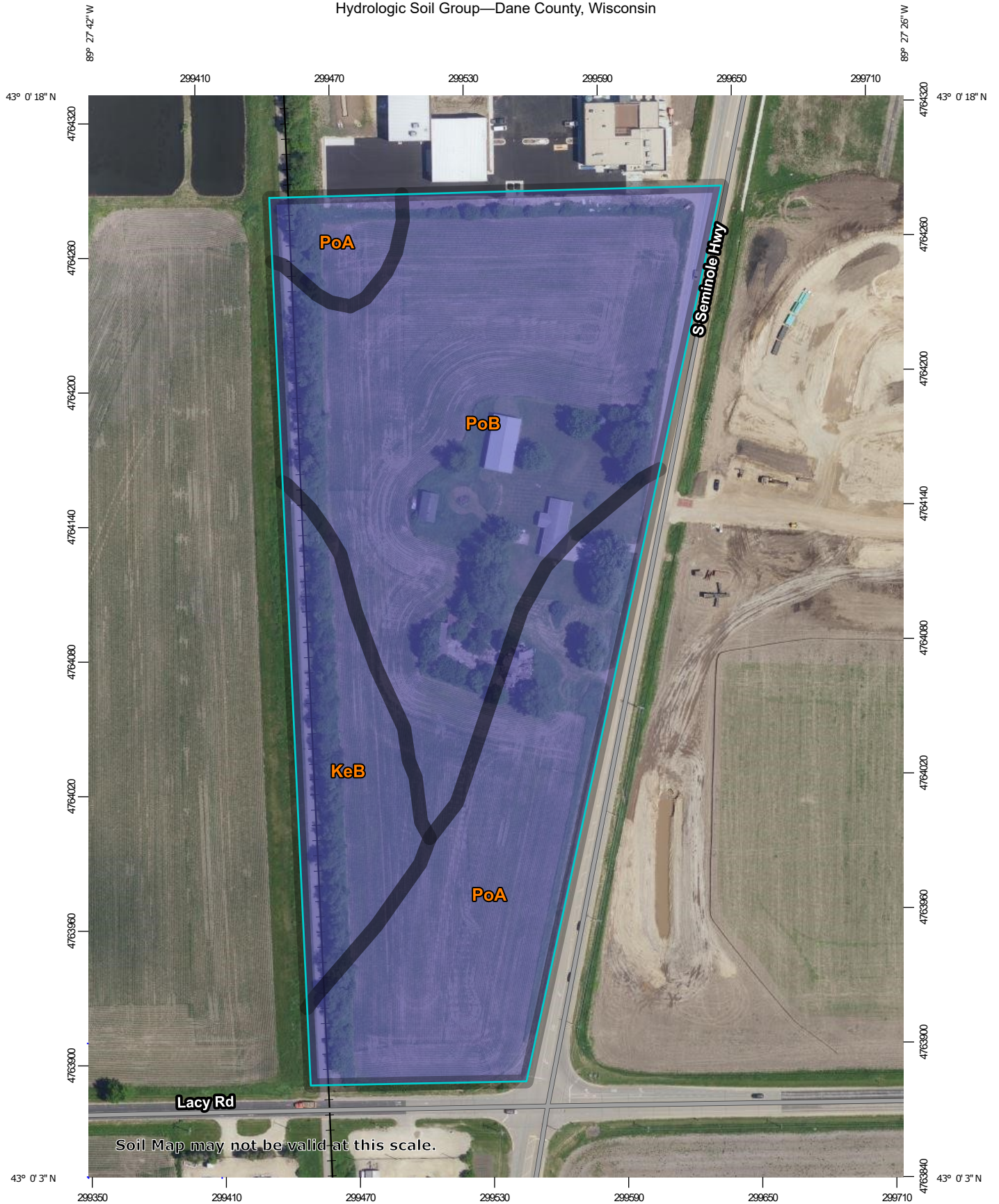
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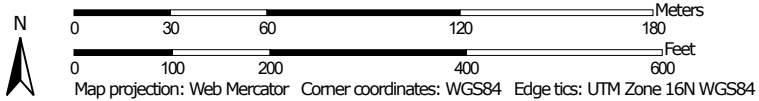
**APPENDIX B**

Soils Information

Hydrologic Soil Group—Dane County, Wisconsin




Map Scale: 1:2,350 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: Dane County, Wisconsin  
 Survey Area Data: Version 22, 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: Jun 13, 2020—Jul 31, 2020

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
KeB	Kegonsa silt loam, 2 to 6 percent slopes	B	2.0	13.8%
PoA	Plano silt loam, gravelly substratum, 0 to 2 percent slopes	B	4.8	32.8%
PoB	Plano silt loam, gravelly substratum, 2 to 6 percent slopes	B	7.8	53.4%
<b>Totals for Area of Interest</b>			<b>14.7</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

### SOIL EVALUATION - STORM

in accordance with SPS 382.365 and 385, Wis. Adm. Code

Attach complete site plan on paper not less than 8 1/2 x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road.

**Please print all information.**

Personal information you provide may be used for secondary purposes (Privacy Law, s. 15.04 (1) (m)).

County	<b>Dane</b>
Parcel I.D.	<b>0609-083-9570-4</b>
Reviewed by	Date

Property Owner <b>Newcomb Construction Company, Inc.</b>	Property Location Govt. Lot <b>SE</b> 1/4 <b>SW</b> 1/4 S <b>8</b> T <b>6</b> N R <b>9</b> E (or) W		
Property Owner's Mailing Address <b>999 Fourier Drive #102</b>	Lot # <b>2</b>	Block #	Subd. Name or CSM# <b>CSM 8023</b>
City <b>Madison,</b>	State <b>WI</b>	Zip Code <b>53717</b>	Phone Number ( )
<input checked="" type="checkbox"/> City <b>Fitchburg</b>		<input type="checkbox"/> Village	<input type="checkbox"/> Town
			Nearest Road <b>2747 S. Seminole Hwy</b>

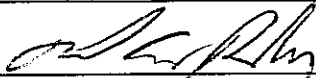
Drainage area _____ <input type="checkbox"/> sq. ft. <input type="checkbox"/> acres	Hydraulic Application Test Method:  <input checked="" type="checkbox"/> Morphological Evaluation  <input type="checkbox"/> Double-Ring Infiltrometer  <input type="checkbox"/> Other (specify) _____
Optional: Test Site Suitable for (check all that apply)	
<input type="checkbox"/> Irrigation <input type="checkbox"/> Bioretention trench <input type="checkbox"/> Trench(es)	
<input type="checkbox"/> Rain garden <input type="checkbox"/> Grassed swale <input type="checkbox"/> Reuse <input type="checkbox"/> Infiltration trench <input type="checkbox"/> SDS (> 15' wide) <input type="checkbox"/> Other _____	

TP-1 Obs. #  Boring       Pit      Ground surface elev. **1023.53** ft.      Depth to limiting factor **>72** in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr
A	0-13	10YR3/3	None	sil	1msbk	mfr	cs	0	0.13
B	13-57	10YR4/4	None	sicl	2msbk	mfr	cs	0	0.04
2C	57-72	10YR6/4	None	fs	0sg	ml		2	0.5

TP-2 Obs. #  Boring       Pit      Ground surface elev. **1025.19** ft.      Depth to limiting factor **>72** in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr
A	0-13	10YR3/2	None	sil	1msbk	mfr	cs	0	0.13
B	13-51	10YR4/4	None	sicl	2fsbk	mfr	cs	0	0.04
2C	51-72	10YR6/4	None	fs	0sg	ml		2	0.5

CST/PSS Name (Please Print) <b>Paul A. Hardy</b>	Signature 	CST/PSS Number <b>225394</b>
Address <b>7226 Timberwood Drive, Madison, WI 53719</b>	Date Evaluation Conducted <b>6-14-2024</b>	Telephone Number <b>608-848-4869</b>

**TP-3** Obs #  Boring  Pit **1025.38** Ground surface elev \_\_\_\_\_ ft Depth to limiting factor **>103** in

Horizon	Depth in	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr
A	0-8	10YR3/2	None	sil	2fsbk	mvfr	cs	0	0.13
B	8-58	10YR4/4	None	sicl	1msbk	mfi	gs	0	0.04
2C	58-103	10YR5/4	None	fs	0sg	ml		2	0.5

**TP-4** Obs #  Boring  Pit **1024.00** Ground surface elev \_\_\_\_\_ ft Depth to limiting factor **>102\*** in

Horizon	Depth in	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr
A	0-13	10YR3/2	None	sil	2fsbk	mvfr	cs	0	0.13
B	13-60	10YR4/3	m2d10YR5/8,6/2*	sicl	1msbk	mfi	cs	0	0.04
2C	60-102	10YR5/6	None	lfs	0sg	ml		1	0.5
		*Restricted drainage in B horizon; Free-draining below 60"							

**TP-5** Obs #  Boring  Pit **1026.29** Ground surface elev \_\_\_\_\_ ft Depth to limiting factor **>60** in

Horizon	Depth in	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr
A	0-13	10YR2/2	None	sil	2fsbk	mvfr	cs	0	0.13
B	13-48	10YR4/3	None	sicl	1msbk	mfi	cs	0	0.04
2C	48-60	10YR5/4	None	fs	0sg	ml		15	0.5

Test Results and/or Summary Comments

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Obs. # **TP-6**  Boring  Pit Ground surface elev. **1026.27** ft. Depth to limiting factor **>78\*** in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr
<b>A</b>	<b>0-14</b>	<b>10YR2/2</b>	<b>None</b>	<b>sil</b>	<b>2fsbk</b>	<b>mvfr</b>	<b>cs</b>	<b>0</b>	<b>0.13</b>
<b>B</b>	<b>14-58</b>	<b>10YR4/3</b>	<b>m2d10YR5/8,6/2*</b>	<b>sicl</b>	<b>1csbk</b>	<b>mfi</b>	<b>cs</b>	<b>0</b>	<b>0.04</b>
<b>2C</b>	<b>58-78</b>	<b>10YR6/4</b>	<b>None</b>	<b>fs</b>	<b>0sg</b>	<b>ml</b>		<b>10</b>	<b>0.5</b>
<b>*Restricted drainage in B horizon; Free-Draining below 58"</b>									

Obs. #  Boring  Pit Ground surface elev. \_\_\_\_\_ ft. Depth to limiting factor \_\_\_\_\_ in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr

Obs. #  Boring  Pit Ground surface elev. \_\_\_\_\_ ft. Depth to limiting factor \_\_\_\_\_ in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	Hydraulic App. Rate
									Inches/Hr

Test Results and/or Summary Comments

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**APPENDIX C**

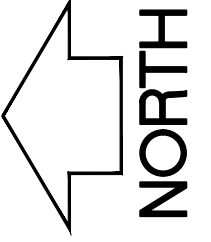
Proposed Construction Plans



## **APPENDIX D**

Pre Development Hydrologic Modeling

File: \\WYSESERVER2\Wysers\_Engineering\2024\241243\_Newcomb - Seminole & Lucy, Fitchburg\DWG\241243\_SWMP.dwg Layout: ex User: Kate Plotted: Jul 22, 2024 - 10:08pm



**WYSER**  
ENGINEERING



**COURT AND CORK PICKLEBALL**

**CITY OF FITCHBURG, DANE COUNTY, WI**

Sheet Title:  
PREDEVELOPMENT WATERSHED MAP  
2747 S SEMINOLE HWY  
FITCHBURG, WI 53711

Revisions:

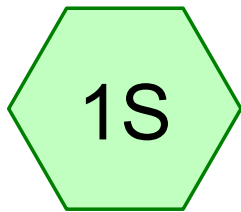
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Date Issued 07/23/2024

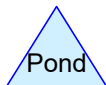
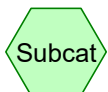
Sheet Number **EX D**



Existing



Pre-development



## 241243\_Seminole Lacy

Prepared by Wyser Engineering

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Printed 7/22/2024

Page 2

### Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
2.990	68	Cropland, HSG B (1S)
0.073	98	Impervious (1S)
<b>3.062</b>	<b>69</b>	<b>TOTAL AREA</b>

**241243\_Seminole Lacy**

Prepared by Wyser Engineering

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Page 3

**Soil Listing (selected nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
2.990	HSG B	1S
0.000	HSG C	
0.000	HSG D	
0.073	Other	1S
<b>3.062</b>		<b>TOTAL AREA</b>

## 241243\_Seminole Lacy

Prepared by Wyser Engineering

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Page 4

### Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	2.990	0.000	0.000	0.000	2.990	Cropland	1S
0.000	0.000	0.000	0.000	0.073	0.073	Impervious	1S
<b>0.000</b>	<b>2.990</b>	<b>0.000</b>	<b>0.000</b>	<b>0.073</b>	<b>3.062</b>	<b>TOTAL AREA</b>	

**241243\_Seminole Lacy**

MSE 24-hr 4 1-yr\_NRCS Rainfall=2.49"

Prepared by Wyser Engineering

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Page 5

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1S: Existing**

Runoff Area=133,400 sf 2.38% Impervious Runoff Depth=0.43"  
Flow Length=400' Tc=12.1 min CN=68/98 Runoff=1.25 cfs 0.109 af

**Link Pre: Pre-development**

Inflow=1.25 cfs 0.109 af  
Primary=1.25 cfs 0.109 af

**Total Runoff Area = 3.062 ac Runoff Volume = 0.109 af Average Runoff Depth = 0.43"**  
**97.62% Pervious = 2.990 ac 2.38% Impervious = 0.073 ac**

**Summary for Subcatchment 1S: Existing**

Runoff = 1.25 cfs @ 12.22 hrs, Volume= 0.109 af, Depth= 0.43"

Routed to Link Pre : Pre-development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 1-yr\_NRCS Rainfall=2.49"

	Area (sf)	CN	Description
*	3,175	98	Impervious
*	130,225	68	Cropland, HSG B
	133,400	69	Weighted Average
	130,225	68	97.62% Pervious Area
	3,175	98	2.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0120	0.25		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.49"
5.6	300	0.0100	0.90		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
12.1	400	Total			

**Summary for Link Pre: Pre-development**

Inflow Area = 3.062 ac, 2.38% Impervious, Inflow Depth = 0.43" for 1-yr\_NRCS event  
Inflow = 1.25 cfs @ 12.22 hrs, Volume= 0.109 af  
Primary = 1.25 cfs @ 12.22 hrs, Volume= 0.109 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

**241243\_Seminole Lacy**

*MSE 24-hr 4 2-yr\_NRCS Rainfall=2.84"*

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1S: Existing**

Runoff Area=133,400 sf 2.38% Impervious Runoff Depth=0.60"  
Flow Length=400' Tc=12.1 min CN=68/98 Runoff=1.92 cfs 0.152 af

**Link Pre: Pre-development**

Inflow=1.92 cfs 0.152 af  
Primary=1.92 cfs 0.152 af

**Total Runoff Area = 3.062 ac Runoff Volume = 0.152 af Average Runoff Depth = 0.60"**  
**97.62% Pervious = 2.990 ac 2.38% Impervious = 0.073 ac**

**Summary for Subcatchment 1S: Existing**

Runoff = 1.92 cfs @ 12.22 hrs, Volume= 0.152 af, Depth= 0.60"

Routed to Link Pre : Pre-development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 2-yr\_NRCS Rainfall=2.84"

	Area (sf)	CN	Description
*	3,175	98	Impervious
*	130,225	68	Cropland, HSG B
	133,400	69	Weighted Average
	130,225	68	97.62% Pervious Area
	3,175	98	2.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0120	0.25		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.49"
5.6	300	0.0100	0.90		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
12.1	400	Total			

**Summary for Link Pre: Pre-development**

Inflow Area = 3.062 ac, 2.38% Impervious, Inflow Depth = 0.60" for 2-yr\_NRCS event  
Inflow = 1.92 cfs @ 12.22 hrs, Volume= 0.152 af  
Primary = 1.92 cfs @ 12.22 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

**241243\_Seminole Lacy**

MSE 24-hr 4 10-yr\_NRCS Rainfall=4.09"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1S: Existing**

Runoff Area=133,400 sf 2.38% Impervious Runoff Depth=1.32"  
Flow Length=400' Tc=12.1 min CN=68/98 Runoff=4.88 cfs 0.338 af

**Link Pre: Pre-development**

Inflow=4.88 cfs 0.338 af  
Primary=4.88 cfs 0.338 af

**Total Runoff Area = 3.062 ac Runoff Volume = 0.338 af Average Runoff Depth = 1.32"**  
**97.62% Pervious = 2.990 ac 2.38% Impervious = 0.073 ac**

**Summary for Subcatchment 1S: Existing**

Runoff = 4.88 cfs @ 12.21 hrs, Volume= 0.338 af, Depth= 1.32"

Routed to Link Pre : Pre-development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 10-yr\_NRCS Rainfall=4.09"

	Area (sf)	CN	Description
*	3,175	98	Impervious
*	130,225	68	Cropland, HSG B
	133,400	69	Weighted Average
	130,225	68	97.62% Pervious Area
	3,175	98	2.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0120	0.25		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.49"
5.6	300	0.0100	0.90		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
12.1	400	Total			

**Summary for Link Pre: Pre-development**

Inflow Area = 3.062 ac, 2.38% Impervious, Inflow Depth = 1.32" for 10-yr\_NRCS event  
Inflow = 4.88 cfs @ 12.21 hrs, Volume= 0.338 af  
Primary = 4.88 cfs @ 12.21 hrs, Volume= 0.338 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

**241243\_Seminole Lacy**

MSE 24-hr 4 100-yr\_NRCS Rainfall=6.66"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1S: Existing**

Runoff Area=133,400 sf 2.38% Impervious Runoff Depth=3.22"  
Flow Length=400' Tc=12.1 min CN=68/98 Runoff=12.40 cfs 0.821 af

**Link Pre: Pre-development**

Inflow=12.40 cfs 0.821 af  
Primary=12.40 cfs 0.821 af

**Total Runoff Area = 3.062 ac Runoff Volume = 0.821 af Average Runoff Depth = 3.22"**  
**97.62% Pervious = 2.990 ac 2.38% Impervious = 0.073 ac**

**Summary for Subcatchment 1S: Existing**

Runoff = 12.40 cfs @ 12.20 hrs, Volume= 0.821 af, Depth= 3.22"

Routed to Link Pre : Pre-development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 100-yr\_NRCS Rainfall=6.66"

	Area (sf)	CN	Description
*	3,175	98	Impervious
*	130,225	68	Cropland, HSG B
	133,400	69	Weighted Average
	130,225	68	97.62% Pervious Area
	3,175	98	2.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0120	0.25		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.49"
5.6	300	0.0100	0.90		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
12.1	400	Total			

**Summary for Link Pre: Pre-development**

Inflow Area = 3.062 ac, 2.38% Impervious, Inflow Depth = 3.22" for 100-yr\_NRCS event  
Inflow = 12.40 cfs @ 12.20 hrs, Volume= 0.821 af  
Primary = 12.40 cfs @ 12.20 hrs, Volume= 0.821 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

**241243\_Seminole Lacy**

MSE 24-hr 4 200-yr\_NRCS Rainfall=7.53"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment 1S: Existing**

Runoff Area=133,400 sf 2.38% Impervious Runoff Depth=3.93"  
Flow Length=400' Tc=12.1 min CN=68/98 Runoff=15.17 cfs 1.002 af

**Link Pre: Pre-development**

Inflow=15.17 cfs 1.002 af  
Primary=15.17 cfs 1.002 af

**Total Runoff Area = 3.062 ac Runoff Volume = 1.002 af Average Runoff Depth = 3.93"**  
**97.62% Pervious = 2.990 ac 2.38% Impervious = 0.073 ac**

**Summary for Subcatchment 1S: Existing**

Runoff = 15.17 cfs @ 12.20 hrs, Volume= 1.002 af, Depth= 3.93"

Routed to Link Pre : Pre-development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
MSE 24-hr 4 200-yr\_NRCS Rainfall=7.53"

	Area (sf)	CN	Description
*	3,175	98	Impervious
*	130,225	68	Cropland, HSG B
	133,400	69	Weighted Average
	130,225	68	97.62% Pervious Area
	3,175	98	2.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0120	0.25		<b>Sheet Flow,</b> Cultivated: Residue<=20% n= 0.060 P2= 2.49"
5.6	300	0.0100	0.90		<b>Shallow Concentrated Flow,</b> Cultivated Straight Rows Kv= 9.0 fps
12.1	400	Total			

**Summary for Link Pre: Pre-development**

Inflow Area = 3.062 ac, 2.38% Impervious, Inflow Depth = 3.93" for 200-yr\_NRCS event  
Inflow = 15.17 cfs @ 12.20 hrs, Volume= 1.002 af  
Primary = 15.17 cfs @ 12.20 hrs, Volume= 1.002 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

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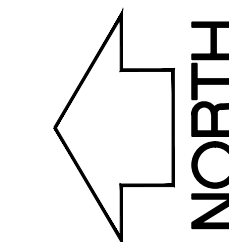
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## **APPENDIX E**

### Post Development Hydrologic Modeling

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**CITY OF FITCHBURG, DANE COUNTY, WI**

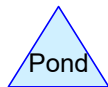
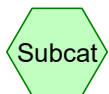
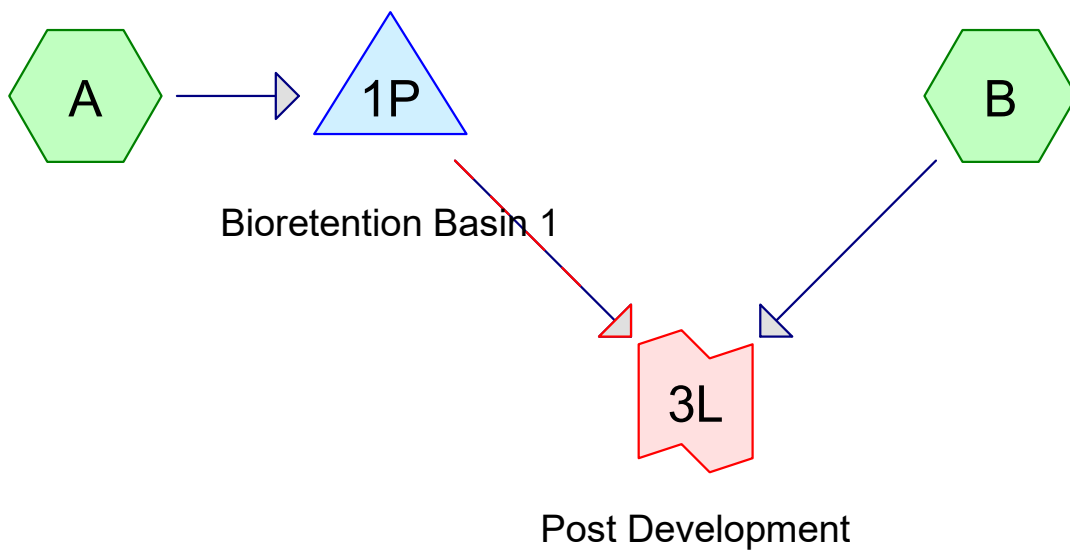
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FITCHBURG, WI 53711

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PROPOSED WATERSHED MAP

Revisions:		
No.	Date:	Description:

Graphic Scale	
Wyser Number	24-1243
Set Type	REVIEW
Date Issued	07/23/2024
Sheet Number	<b>EX E</b>



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### Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.614	74	>75% Grass cover, Good, HSG C (A)
0.027	78	>75% Grass cover, Good, HSG D (B)
0.941	98	Parking (A, B)
1.057	98	Roofs, HSG C (A)
0.183	98	Sidewalk (A, B)
0.241	100	Water Surface, HSG C (A)
<b>3.062</b>	<b>93</b>	<b>TOTAL AREA</b>

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## Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.912	HSG C	A
0.027	HSG D	B
1.124	Other	A, B
<b>3.062</b>		<b>TOTAL AREA</b>

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### Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.614	0.027	0.000	0.640	>75% Grass cover, Good	A, B
0.000	0.000	0.000	0.000	0.941	0.941	Parking	A, B
0.000	0.000	1.057	0.000	0.000	1.057	Roofs	A
0.000	0.000	0.000	0.000	0.183	0.183	Sidewalk	A, B
0.000	0.000	0.241	0.000	0.000	0.241	Water Surface	A
<b>0.000</b>	<b>0.000</b>	<b>1.912</b>	<b>0.027</b>	<b>1.124</b>	<b>3.062</b>	<b>TOTAL AREA</b>	

**241243\_Seminole Lacy**

MSE 24-hr 4 1-yr\_NRCS Rainfall=2.49"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment A:** Runoff Area=131,505 sf 79.68% Impervious Runoff Depth=1.92"  
Tc=6.0 min CN=74/98 Runoff=8.26 cfs 0.484 af

**Subcatchment B:** Runoff Area=1,895 sf 37.99% Impervious Runoff Depth=1.34"  
Tc=6.0 min CN=78/98 Runoff=0.09 cfs 0.005 af

**Pond 1P: Bioretention Basin 1** Peak Elev=1,026.65' Storage=7,137 cf Inflow=8.26 cfs 0.484 af  
Primary=0.94 cfs 0.484 af Secondary=0.00 cfs 0.000 af Outflow=0.94 cfs 0.484 af

**Link 3L: Post Development** Inflow=0.96 cfs 0.489 af  
Primary=0.96 cfs 0.489 af

**Total Runoff Area = 3.062 ac Runoff Volume = 0.489 af Average Runoff Depth = 1.92"**  
**20.91% Pervious = 0.640 ac 79.09% Impervious = 2.422 ac**

**Summary for Subcatchment A:**

Runoff = 8.26 cfs @ 12.13 hrs, Volume= 0.484 af, Depth= 1.92"  
 Routed to Pond 1P : Bioretention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 1-yr\_NRCS Rainfall=2.49"

Area (sf)	CN	Description
46,050	98	Roofs, HSG C
* 40,550	98	Parking
* 7,680	98	Sidewalk
* 10,500	100	Water Surface, HSG C
26,725	74	>75% Grass cover, Good, HSG C
131,505	93	Weighted Average
26,725	74	20.32% Pervious Area
104,780	98	79.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Subcatchment B:**

Runoff = 0.09 cfs @ 12.13 hrs, Volume= 0.005 af, Depth= 1.34"

Routed to Link 3L : Post Development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 1-yr\_NRCS Rainfall=2.49"

Area (sf)	CN	Description
0	98	Roofs, HSG C
* 450	98	Parking
* 270	98	Sidewalk
* 0	100	Water Surface, HSG C
* 1,175	78	>75% Grass cover, Good, HSG D
1,895	86	Weighted Average
1,175	78	62.01% Pervious Area
720	98	37.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: Bioretention Basin 1**

Inflow Area = 3.019 ac, 79.68% Impervious, Inflow Depth = 1.92" for 1-yr\_NRCS event  
 Inflow = 8.26 cfs @ 12.13 hrs, Volume= 0.484 af  
 Outflow = 0.94 cfs @ 12.60 hrs, Volume= 0.484 af, Atten= 89%, Lag= 28.5 min  
 Primary = 0.94 cfs @ 12.60 hrs, Volume= 0.484 af  
 Routed to Link 3L : Post Development  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to Link 3L : Post Development

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 1,026.65' @ 12.60 hrs Surf.Area= 11,474 sf Storage= 7,137 cf

Plug-Flow detention time= 52.9 min calculated for 0.484 af (100% of inflow)  
 Center-of-Mass det. time= 52.8 min ( 818.0 - 765.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,026.00'	24,000 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,026.00	10,500	0	0
1,027.00	12,000	11,250	11,250
1,028.00	13,500	12,750	24,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,024.00' / 1,023.80' S= 0.0200 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Primary	1,023.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 2	1,026.00'	<b>3.600 in/hr Exfiltration over Surface area from 1,023.50' - 1,026.00'</b> Excluded Surface area = 0 sf Phase-In= 0.01'
#4	Device 1	1,026.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	1,027.33'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#6	Secondary	1,027.50'	<b>15.0' long x 6.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

**Primary OutFlow** Max=0.94 cfs @ 12.60 hrs HW=1,026.65' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.06 cfs of 2.02 cfs potential flow)
- 4=Orifice/Grate (Orifice Controls 0.06 cfs @ 1.32 fps)
- 5=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)
- 2=Orifice/Grate (Passes 0.87 cfs of 1.61 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.87 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=1,026.00' TW=0.00' (Dynamic Tailwater)

- 6=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Link 3L: Post Development**

Inflow Area = 3.062 ac, 79.09% Impervious, Inflow Depth = 1.92" for 1-yr\_NRCS event  
Inflow = 0.96 cfs @ 12.13 hrs, Volume= 0.489 af  
Primary = 0.96 cfs @ 12.13 hrs, Volume= 0.489 af, Atten= 0%, Lag= 0.0 min  
Routed to nonexistent node Post

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

**241243\_Seminole Lacy**

MSE 24-hr 4 2-yr\_NRCS Rainfall=2.84"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment A:** Runoff Area=131,505 sf 79.68% Impervious Runoff Depth=2.24"  
Tc=6.0 min CN=74/98 Runoff=9.60 cfs 0.564 af

**Subcatchment B:** Runoff Area=1,895 sf 37.99% Impervious Runoff Depth=1.62"  
Tc=6.0 min CN=78/98 Runoff=0.10 cfs 0.006 af

**Pond 1P: Bioretention Basin 1** Peak Elev=1,026.78' Storage=8,655 cf Inflow=9.60 cfs 0.564 af  
Primary=1.08 cfs 0.564 af Secondary=0.00 cfs 0.000 af Outflow=1.08 cfs 0.564 af

**Link 3L: Post Development** Inflow=1.09 cfs 0.570 af  
Primary=1.09 cfs 0.570 af

**Total Runoff Area = 3.062 ac Runoff Volume = 0.570 af Average Runoff Depth = 2.23"**  
**20.91% Pervious = 0.640 ac 79.09% Impervious = 2.422 ac**

**Summary for Subcatchment A:**

Runoff = 9.60 cfs @ 12.13 hrs, Volume= 0.564 af, Depth= 2.24"  
 Routed to Pond 1P : Bioretention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 2-yr\_NRCS Rainfall=2.84"

Area (sf)	CN	Description
46,050	98	Roofs, HSG C
* 40,550	98	Parking
* 7,680	98	Sidewalk
* 10,500	100	Water Surface, HSG C
26,725	74	>75% Grass cover, Good, HSG C
131,505	93	Weighted Average
26,725	74	20.32% Pervious Area
104,780	98	79.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Subcatchment B:**

Runoff = 0.10 cfs @ 12.13 hrs, Volume= 0.006 af, Depth= 1.62"

Routed to Link 3L : Post Development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 2-yr\_NRCS Rainfall=2.84"

Area (sf)	CN	Description
0	98	Roofs, HSG C
* 450	98	Parking
* 270	98	Sidewalk
* 0	100	Water Surface, HSG C
* 1,175	78	>75% Grass cover, Good, HSG D
1,895	86	Weighted Average
1,175	78	62.01% Pervious Area
720	98	37.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: Bioretention Basin 1**

Inflow Area = 3.019 ac, 79.68% Impervious, Inflow Depth = 2.24" for 2-yr\_NRCS event  
 Inflow = 9.60 cfs @ 12.13 hrs, Volume= 0.564 af  
 Outflow = 1.08 cfs @ 12.61 hrs, Volume= 0.564 af, Atten= 89%, Lag= 28.7 min  
 Primary = 1.08 cfs @ 12.61 hrs, Volume= 0.564 af  
 Routed to Link 3L : Post Development  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to Link 3L : Post Development

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 1,026.78' @ 12.61 hrs Surf.Area= 11,671 sf Storage= 8,655 cf

Plug-Flow detention time= 61.7 min calculated for 0.564 af (100% of inflow)  
 Center-of-Mass det. time= 61.7 min ( 824.7 - 763.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,026.00'	24,000 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,026.00	10,500	0	0
1,027.00	12,000	11,250	11,250
1,028.00	13,500	12,750	24,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,024.00' / 1,023.80' S= 0.0200 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Primary	1,023.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 2	1,026.00'	<b>3.600 in/hr Exfiltration over Surface area from 1,023.50' - 1,026.00'</b> Excluded Surface area = 0 sf Phase-In= 0.01'
#4	Device 1	1,026.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	1,027.33'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#6	Secondary	1,027.50'	<b>15.0' long x 6.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

**Primary OutFlow** Max=1.08 cfs @ 12.61 hrs HW=1,026.78' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.20 cfs of 2.08 cfs potential flow)
- 4=Orifice/Grate (Orifice Controls 0.20 cfs @ 1.80 fps)
- 5=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)
- 2=Orifice/Grate (Passes 0.87 cfs of 1.65 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.87 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=1,026.00' TW=0.00' (Dynamic Tailwater)

- 6=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Link 3L: Post Development**

Inflow Area = 3.062 ac, 79.09% Impervious, Inflow Depth = 2.23" for 2-yr\_NRCS event  
Inflow = 1.09 cfs @ 12.57 hrs, Volume= 0.570 af  
Primary = 1.09 cfs @ 12.57 hrs, Volume= 0.570 af, Atten= 0%, Lag= 0.0 min  
Routed to nonexistent node Post

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

**241243\_Seminole Lacy**

MSE 24-hr 4 10-yr\_NRCS Rainfall=4.09"

Prepared by Wyser Engineering

Printed 7/22/2024

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment A:** Runoff Area=131,505 sf 79.68% Impervious Runoff Depth=3.41"  
Tc=6.0 min CN=74/98 Runoff=14.46 cfs 0.858 af

**Subcatchment B:** Runoff Area=1,895 sf 37.99% Impervious Runoff Depth=2.68"  
Tc=6.0 min CN=78/98 Runoff=0.17 cfs 0.010 af

**Pond 1P: Bioretention Basin 1** Peak Elev=1,027.26' Storage=14,389 cf Inflow=14.46 cfs 0.858 af  
Primary=1.55 cfs 0.858 af Secondary=0.00 cfs 0.000 af Outflow=1.55 cfs 0.858 af

**Link 3L: Post Development** Inflow=1.57 cfs 0.867 af  
Primary=1.57 cfs 0.867 af

**Total Runoff Area = 3.062 ac Runoff Volume = 0.867 af Average Runoff Depth = 3.40"**  
**20.91% Pervious = 0.640 ac 79.09% Impervious = 2.422 ac**

**Summary for Subcatchment A:**

Runoff = 14.46 cfs @ 12.13 hrs, Volume= 0.858 af, Depth= 3.41"  
 Routed to Pond 1P : Bioretention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 10-yr\_NRCS Rainfall=4.09"

Area (sf)	CN	Description
46,050	98	Roofs, HSG C
* 40,550	98	Parking
* 7,680	98	Sidewalk
* 10,500	100	Water Surface, HSG C
26,725	74	>75% Grass cover, Good, HSG C
131,505	93	Weighted Average
26,725	74	20.32% Pervious Area
104,780	98	79.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Subcatchment B:**

Runoff = 0.17 cfs @ 12.13 hrs, Volume= 0.010 af, Depth= 2.68"

Routed to Link 3L : Post Development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 10-yr\_NRCS Rainfall=4.09"

Area (sf)	CN	Description
0	98	Roofs, HSG C
* 450	98	Parking
* 270	98	Sidewalk
* 0	100	Water Surface, HSG C
* 1,175	78	>75% Grass cover, Good, HSG D
1,895	86	Weighted Average
1,175	78	62.01% Pervious Area
720	98	37.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: Bioretention Basin 1**

Inflow Area = 3.019 ac, 79.68% Impervious, Inflow Depth = 3.41" for 10-yr\_NRCS event  
 Inflow = 14.46 cfs @ 12.13 hrs, Volume= 0.858 af  
 Outflow = 1.55 cfs @ 12.62 hrs, Volume= 0.858 af, Atten= 89%, Lag= 29.7 min  
 Primary = 1.55 cfs @ 12.62 hrs, Volume= 0.858 af  
 Routed to Link 3L : Post Development  
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af  
 Routed to Link 3L : Post Development

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 1,027.26' @ 12.62 hrs Surf.Area= 12,386 sf Storage= 14,389 cf

Plug-Flow detention time= 83.5 min calculated for 0.858 af (100% of inflow)  
 Center-of-Mass det. time= 83.5 min ( 841.2 - 757.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,026.00'	24,000 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,026.00	10,500	0	0
1,027.00	12,000	11,250	11,250
1,028.00	13,500	12,750	24,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,024.00' / 1,023.80' S= 0.0200 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Primary	1,023.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 2	1,026.00'	<b>3.600 in/hr Exfiltration over Surface area from 1,023.50' - 1,026.00'</b> Excluded Surface area = 0 sf Phase-In= 0.01'
#4	Device 1	1,026.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	1,027.33'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#6	Secondary	1,027.50'	<b>15.0' long x 6.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

**Primary OutFlow** Max=1.55 cfs @ 12.62 hrs HW=1,027.26' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 0.67 cfs of 2.27 cfs potential flow)
- 4=Orifice/Grate (Orifice Controls 0.67 cfs @ 3.43 fps)
- 5=Sharp-Crested Rectangular Weir ( Controls 0.00 cfs)
- 2=Orifice/Grate (Passes 0.87 cfs of 1.77 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.87 cfs)

**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=1,026.00' TW=0.00' (Dynamic Tailwater)

- 6=Broad-Crested Rectangular Weir ( Controls 0.00 cfs)

**Summary for Link 3L: Post Development**

Inflow Area = 3.062 ac, 79.09% Impervious, Inflow Depth = 3.40" for 10-yr\_NRCS event  
Inflow = 1.57 cfs @ 12.55 hrs, Volume= 0.867 af  
Primary = 1.57 cfs @ 12.55 hrs, Volume= 0.867 af, Atten= 0%, Lag= 0.0 min  
Routed to nonexistent node Post

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

**241243\_Seminole Lacy**

MSE 24-hr 4 100-yr\_NRCS Rainfall=6.66"

Prepared by Wyser Engineering

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment A:** Runoff Area=131,505 sf 79.68% Impervious Runoff Depth=5.88"  
Tc=6.0 min CN=74/98 Runoff=24.66 cfs 1.479 af

**Subcatchment B:** Runoff Area=1,895 sf 37.99% Impervious Runoff Depth=5.02"  
Tc=6.0 min CN=78/98 Runoff=0.32 cfs 0.018 af

**Pond 1P: Bioretention Basin 1** Peak Elev=1,027.82' Storage=21,606 cf Inflow=24.66 cfs 1.479 af  
Primary=3.35 cfs 1.306 af Secondary=6.69 cfs 0.172 af Outflow=10.05 cfs 1.479 af

**Link 3L: Post Development** Inflow=10.18 cfs 1.497 af  
Primary=10.18 cfs 1.497 af

**Total Runoff Area = 3.062 ac Runoff Volume = 1.497 af Average Runoff Depth = 5.87"**  
**20.91% Pervious = 0.640 ac 79.09% Impervious = 2.422 ac**

**Summary for Subcatchment A:**

Runoff = 24.66 cfs @ 12.13 hrs, Volume= 1.479 af, Depth= 5.88"  
 Routed to Pond 1P : Bioretention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 100-yr\_NRCS Rainfall=6.66"

Area (sf)	CN	Description
46,050	98	Roofs, HSG C
* 40,550	98	Parking
* 7,680	98	Sidewalk
* 10,500	100	Water Surface, HSG C
26,725	74	>75% Grass cover, Good, HSG C
131,505	93	Weighted Average
26,725	74	20.32% Pervious Area
104,780	98	79.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Subcatchment B:**

Runoff = 0.32 cfs @ 12.13 hrs, Volume= 0.018 af, Depth= 5.02"

Routed to Link 3L : Post Development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 100-yr\_NRCS Rainfall=6.66"

Area (sf)	CN	Description
0	98	Roofs, HSG C
* 450	98	Parking
* 270	98	Sidewalk
* 0	100	Water Surface, HSG C
* 1,175	78	>75% Grass cover, Good, HSG D
1,895	86	Weighted Average
1,175	78	62.01% Pervious Area
720	98	37.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: Bioretention Basin 1**

Inflow Area = 3.019 ac, 79.68% Impervious, Inflow Depth = 5.88" for 100-yr\_NRCS event  
 Inflow = 24.66 cfs @ 12.13 hrs, Volume= 1.479 af  
 Outflow = 10.05 cfs @ 12.25 hrs, Volume= 1.479 af, Atten= 59%, Lag= 7.2 min  
 Primary = 3.35 cfs @ 12.25 hrs, Volume= 1.306 af  
 Routed to Link 3L : Post Development  
 Secondary = 6.69 cfs @ 12.25 hrs, Volume= 0.172 af  
 Routed to Link 3L : Post Development

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 1,027.82' @ 12.25 hrs Surf.Area= 13,231 sf Storage= 21,606 cf

Plug-Flow detention time= 76.3 min calculated for 1.479 af (100% of inflow)  
 Center-of-Mass det. time= 76.3 min ( 827.8 - 751.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,026.00'	24,000 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,026.00	10,500	0	0
1,027.00	12,000	11,250	11,250
1,028.00	13,500	12,750	24,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,024.00' / 1,023.80' S= 0.0200 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Primary	1,023.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 2	1,026.00'	<b>3.600 in/hr Exfiltration over Surface area from 1,023.50' - 1,026.00'</b> Excluded Surface area = 0 sf Phase-In= 0.01'
#4	Device 1	1,026.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	1,027.33'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#6	Secondary	1,027.50'	<b>15.0' long x 6.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

**Primary OutFlow** Max=3.35 cfs @ 12.25 hrs HW=1,027.82' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Inlet Controls 2.48 cfs @ 7.10 fps)
- 4=Orifice/Grate (Passes < 0.98 cfs potential flow)
- 5=Sharp-Crested Rectangular Weir (Passes < 4.39 cfs potential flow)
- 2=Orifice/Grate (Passes 0.87 cfs of 1.91 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.87 cfs)

**Secondary OutFlow** Max=6.69 cfs @ 12.25 hrs HW=1,027.82' TW=0.00' (Dynamic Tailwater)

- 6=Broad-Crested Rectangular Weir (Weir Controls 6.69 cfs @ 1.39 fps)

**Summary for Link 3L: Post Development**

Inflow Area = 3.062 ac, 79.09% Impervious, Inflow Depth = 5.87" for 100-yr\_NRCS event  
Inflow = 10.18 cfs @ 12.25 hrs, Volume= 1.497 af  
Primary = 10.18 cfs @ 12.25 hrs, Volume= 1.497 af, Atten= 0%, Lag= 0.0 min  
Routed to nonexistent node Post

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

**241243\_Seminole Lacy**

MSE 24-hr 4 200-yr\_NRCS Rainfall=7.53"

Prepared by Wyser Engineering

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points x 2  
Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv.  
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

**Subcatchment A:** Runoff Area=131,505 sf 79.68% Impervious Runoff Depth=6.72"  
Tc=6.0 min CN=74/98 Runoff=28.15 cfs 1.692 af

**Subcatchment B:** Runoff Area=1,895 sf 37.99% Impervious Runoff Depth=5.84"  
Tc=6.0 min CN=78/98 Runoff=0.37 cfs 0.021 af

**Pond 1P: Bioretention Basin 1** Peak Elev=1,027.95' Storage=23,321 cf Inflow=28.15 cfs 1.692 af  
Primary=3.40 cfs 1.407 af Secondary=11.56 cfs 0.284 af Outflow=14.96 cfs 1.692 af

**Link 3L: Post Development** Inflow=15.16 cfs 1.713 af  
Primary=15.16 cfs 1.713 af

**Total Runoff Area = 3.062 ac Runoff Volume = 1.713 af Average Runoff Depth = 6.71"**  
**20.91% Pervious = 0.640 ac 79.09% Impervious = 2.422 ac**

**Summary for Subcatchment A:**

Runoff = 28.15 cfs @ 12.13 hrs, Volume= 1.692 af, Depth= 6.72"  
 Routed to Pond 1P : Bioretention Basin 1

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 200-yr\_NRCS Rainfall=7.53"

Area (sf)	CN	Description
46,050	98	Roofs, HSG C
* 40,550	98	Parking
* 7,680	98	Sidewalk
* 10,500	100	Water Surface, HSG C
26,725	74	>75% Grass cover, Good, HSG C
131,505	93	Weighted Average
26,725	74	20.32% Pervious Area
104,780	98	79.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Subcatchment B:**

Runoff = 0.37 cfs @ 12.13 hrs, Volume= 0.021 af, Depth= 5.84"

Routed to Link 3L : Post Development

Runoff by SCS TR-20 method, UH=SCS, Split Pervious/Imperv., Time Span= 0.00-60.00 hrs, dt= 0.01 hrs  
 MSE 24-hr 4 200-yr\_NRCS Rainfall=7.53"

Area (sf)	CN	Description
0	98	Roofs, HSG C
* 450	98	Parking
* 270	98	Sidewalk
* 0	100	Water Surface, HSG C
* 1,175	78	>75% Grass cover, Good, HSG D
1,895	86	Weighted Average
1,175	78	62.01% Pervious Area
720	98	37.99% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					<b>Direct Entry,</b>

**Summary for Pond 1P: Bioretention Basin 1**

Inflow Area = 3.019 ac, 79.68% Impervious, Inflow Depth = 6.72" for 200-yr\_NRCS event  
 Inflow = 28.15 cfs @ 12.13 hrs, Volume= 1.692 af  
 Outflow = 14.96 cfs @ 12.21 hrs, Volume= 1.692 af, Atten= 47%, Lag= 5.0 min  
 Primary = 3.40 cfs @ 12.21 hrs, Volume= 1.407 af  
 Routed to Link 3L : Post Development  
 Secondary = 11.56 cfs @ 12.21 hrs, Volume= 0.284 af  
 Routed to Link 3L : Post Development

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs / 2  
 Peak Elev= 1,027.95' @ 12.21 hrs Surf.Area= 13,424 sf Storage= 23,321 cf

Plug-Flow detention time= 72.3 min calculated for 1.692 af (100% of inflow)  
 Center-of-Mass det. time= 72.3 min ( 822.4 - 750.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,026.00'	24,000 cf	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,026.00	10,500	0	0
1,027.00	12,000	11,250	11,250
1,028.00	13,500	12,750	24,000

Device	Routing	Invert	Outlet Devices
#1	Primary	1,024.00'	<b>8.0" Round Culvert</b> L= 10.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,024.00' / 1,023.80' S= 0.0200 '/ Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.35 sf
#2	Primary	1,023.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 2	1,026.00'	<b>3.600 in/hr Exfiltration over Surface area from 1,023.50' - 1,026.00'</b> Excluded Surface area = 0 sf Phase-In= 0.01'
#4	Device 1	1,026.50'	<b>6.0" Vert. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#5	Device 1	1,027.33'	<b>4.0' long Sharp-Crested Rectangular Weir</b> 2 End Contraction(s)
#6	Secondary	1,027.50'	<b>15.0' long x 6.0' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.37 2.51 2.70 2.68 2.68 2.67 2.65 2.65 2.65 2.65 2.66 2.66 2.67 2.69 2.72 2.76 2.83

**Primary OutFlow** Max=3.40 cfs @ 12.21 hrs HW=1,027.95' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Inlet Controls 2.52 cfs @ 7.23 fps)
- 4=Orifice/Grate (Passes < 1.04 cfs potential flow)
- 5=Sharp-Crested Rectangular Weir (Passes < 6.18 cfs potential flow)
- 2=Orifice/Grate (Passes 0.87 cfs of 1.94 cfs potential flow)
- 3=Exfiltration (Exfiltration Controls 0.87 cfs)

**Secondary OutFlow** Max=11.54 cfs @ 12.21 hrs HW=1,027.95' TW=0.00' (Dynamic Tailwater)

- 6=Broad-Crested Rectangular Weir (Weir Controls 11.54 cfs @ 1.71 fps)

**Summary for Link 3L: Post Development**

Inflow Area = 3.062 ac, 79.09% Impervious, Inflow Depth = 6.71" for 200-yr\_NRCS event  
Inflow = 15.16 cfs @ 12.21 hrs, Volume= 1.713 af  
Primary = 15.16 cfs @ 12.21 hrs, Volume= 1.713 af, Atten= 0%, Lag= 0.0 min  
Routed to nonexistent node Post

Primary outflow = Inflow, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

## TABLE OF CONTENTS

### **Project Reports**

- 1 Routing Diagram
- 2 Area Listing (selected nodes)
- 3 Soil Listing (selected nodes)
- 4 Ground Covers (selected nodes)

### **1-yr NRCS Event**

- 5 Node Listing
- 6 Subcat A:
- 7 Subcat B:
- 8 Pond 1P: Bioretention Basin 1
- 9 Link 3L: Post Development

### **2-yr NRCS Event**

- 10 Node Listing
- 11 Subcat A:
- 12 Subcat B:
- 13 Pond 1P: Bioretention Basin 1
- 14 Link 3L: Post Development

### **10-yr NRCS Event**

- 15 Node Listing
- 16 Subcat A:
- 17 Subcat B:
- 18 Pond 1P: Bioretention Basin 1
- 19 Link 3L: Post Development

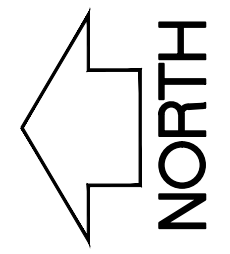
### **100-yr NRCS Event**

- 20 Node Listing
- 21 Subcat A:
- 22 Subcat B:
- 23 Pond 1P: Bioretention Basin 1
- 24 Link 3L: Post Development

### **200-yr NRCS Event**

- 25 Node Listing
- 26 Subcat A:
- 27 Subcat B:
- 28 Pond 1P: Bioretention Basin 1
- 29 Link 3L: Post Development

File: \\WYSESERVER2\Wyer\_Engineering\2024\241243\_Newcomb - Seminole & Lucy, Fitchburg\DWG\241243\_SWMP.dwg Layout: stm User: Kate Plotter: Jul 22, 2024 - 10:22pm



**COURT AND CORK PICKLEBALL**

**CITY OF FITCHBURG, DANE COUNTY, WI**

Sheet Title:  
STORM SEWER WATERSHED MAP

Revisions:

No.	Date:	Description:

Graphic Scale: 0' 20' 40' 60'

Wyer Number: 24-1243

Set Type: REVIEW

Date Issued: 07/23/2024

Sheet Number: **EX E.2**





# ENDWALL RIPRAP SIZING

Project: Court and Cork Pickleball  
 Wyser Project #: 18-24-1243  
 Designed By: KLM  
 Date: 07/22/2024

**Table 10.1. Example Riprap Classes and Apron Dimensions**

Class	D <sub>50</sub> (mm)	D <sub>50</sub> (in)	Apron Length <sup>1</sup>	Apron Depth
1	125	5	4D	3.5D <sub>50</sub>
2	150	6	4D	3.3D <sub>50</sub>
3	250	10	5D	2.4D <sub>50</sub>
4	350	14	6D	2.2D <sub>50</sub>
5	500	20	7D	2.0D <sub>50</sub>
6	550	22	8D	2.0D <sub>50</sub>

<sup>1</sup>D is the culvert rise.

HEC14 - EQUATION 10.4  
 $D_{50} = 0.2D \{ Q / (Vg * D^{2.5}) \}^{4/3} * (D / TW)$   
 g acceleration due to gravity 32.2 ft/sec<sup>2</sup>  
 TW Tailwater Depth (Assumed) 0.4\*D ft  
 \* Assumed Full Pipe Capacity  
 STA Structure

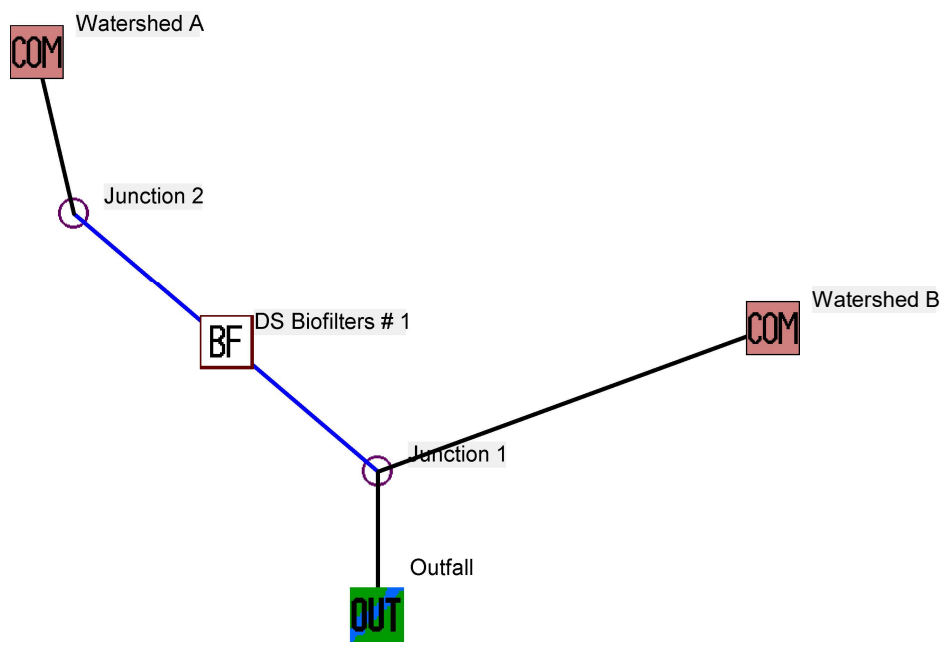
AES NO.	Pipe Diameter	Capacity Flow	Tailwater Depth	Riprap size	Riprap class			Apron Dimensions		Width	Width
	D (ft)	Q (cfs)	TW (ft)	D50 (in)	(See Table 10.1) Type	D <sub>50</sub>	WisDOT*	(See Table 10.1) Length	Depth	@ End	@ Pipe
AES NO. 1	0.67	1.85	0.27	3.47	2	2	5 Light Riprap	2.67	1.5	3.8	2.0
AES NO. 4	1.25	4.95	0.50	2.97	2	2	5 Light Riprap	5.00	1.5	7.1	3.8
STM MH NO. 7	2.00	17.33	0.80	5.28	3	3	6 Light Riprap	8.00	1.7	11.3	6.0
AES NO. 30	1.25	3.23	0.50	1.68	2	2	5 Light Riprap	5.00	1.5	7.1	3.8

\*Refer to Section 606 and 312 for material type.  
 Select Crushed Material and Light Riprap require Type R geotextile Fabric  
 Medium, Heavy and Extra-Heavy Riprap require Type HR geotextile Fabric



## **APPENDIX F**

### Water Quality and Infiltration Modeling



Data file name: \\WYSERSERVER2\Wyser Engineering\2024\241243\_Newcomb - Seminole & Lacy, Fitchburg\SWMP\WinSLAMM\241243\_Seminole Lacy.mdb  
WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI\_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI\_SL06 Dec06.rsvx

Residential Street Delivery file name: C:\WinSLAMM Files\WI\_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\WinSLAMM Files\WI\_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\WinSLAMM Files\WI\_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\WinSLAMM Files\WI\_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\WinSLAMM Files\WI\_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std

Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI\_GEO03.ppdx

Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv

Cost Data file name:

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: 01/01/81

Study period ending date: 12/31/81

Start of Winter Season: 12/02

End of Winter Season: 03/12

Date: 07-22-2024

Time: 22:01:05

Site information:

LU# 1 - Commercial: Watershed A Total area (ac): 3.019

1 - Roofs 1: 1.057 ac. Flat Connected PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 0.931 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.176 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.614 ac. Normal Clayey Low Density PSD File: C:\WinSLAMM Files\NURP.cpz

70 - Water Body Areas: 0.241 ac. PSD File:

LU# 2 - Commercial: Watershed B Total area (ac): 0.043

13 - Paved Parking 1: 0.010 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.006 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 0.027 ac. Normal Clayey Low Density PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Biofilter CP# 1 (DS) - DS Biofilters # 1

1. Top area (square feet) = 13500

2. Bottom area (square feet) = 10500

3. Depth (ft): 8

4. Biofilter width (ft) - for Cost Purposes Only: 10

5. Infiltration rate (in/hr) = 0.5

6. Random infiltration rate generation? No

7. Infiltration rate fraction (side): 1

8. Infiltration rate fraction (bottom): 1

9. Depth of biofilter that is rock filled (ft) 4

10. Porosity of rock filled volume = 0.33

11. Engineered soil infiltration rate: 3.6

12. Engineered soil depth (ft) = 2

13. Engineered soil porosity = 0.27

14. Percent solids reduction due to flow through engineered soil = 80

15. Biofilter peak to average flow ratio = 3.8

16. Number of biofiltration control devices = 1

17. Particle size distribution file: Not needed - calculated by program

18. Initial water surface elevation (ft): 0

Soil Data Soil Type Fraction in Eng. Soil

User-Defined Soil Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Sharp Crested Weir

1. Weir length (ft): 4

2. Invert elevation above datum (ft): 7.33

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10

2. Weir crest width (ft): 6

3. Height of datum to bottom of weir opening: 7.5

Outlet type: Surface Discharge Pipe

1. Surface discharge pipe outlet diameter (ft): 0.5

2. Pipe invert elevation above datum (ft): 6.5

3. Number of surface pipe outlets: 1

Outlet type: Drain Tile/Underdrain

1. Underdrain outlet diameter (ft): 0.5

2. Invert elevation above datum (ft): 3.5

3. Number of underdrain outlets: 1

Data file name: \\WYSERSERVER2\Wyser Engineering\2024\241243\_Newcomb - Seminole & Lacy, Fitchburg\SWMP\WinSLAMM\241243\_Seminole Lacy.mdb  
WinSLAMM Version 10.4.1

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.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.ppd  
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

Study period starting date: 01/01/81 Study period ending date: 12/31/81

Start of Winter Season: 12/02 End of Winter Season: 03/12

Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81

Date of run: 07-22-2024 Time of run: 22:02:00

Total Area Modeled (acres): 3.062

Years in Model Run: 1.00

	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:	200271	-	71.21	890.4	-
Outfall Total with Controls:	5904	97.05%	42.45	15.64	98.24%
Annualized Total After Outfall Controls:	5920			15.69	

Data File: \\WYSERSERVER2\Wyser Engineering\2024\241243\_Newcomb - Seminole & Lacy, Fitchburg\SWMP\WinSLAMM\241243\_Seminole Lacy.mdb

Rain File: WisReq - Madison WI 1981.RAN

Date: 07-22-24 Time: 11:17:16 AM

Site Description:

Col. #: 2 3 4 5 6 7 8 9 10 11 12 13 14 15 18 19 27 28 29 30 31 32 33 34 35 39 54 61

Control Practice No.	Control Practice Type	Control Practice Name or Location	Total Inflow Volume (cf)	Total Outflow Volume (cf)	Percent Volume Reduction	Total Influent Load (lbs)	Total Effluent Load (lbs)	Percent Load Reduction	Influent Conc (mg/L)	Flow Weighted Effluent Conc (mg/L)	Effluent Conc (mg/L)	Percent Conc. Reduction	Influent Median Part. Size (microns)	Effluent Median Part. Size (microns)	Notes	Maximum Stage (ft)	Hydraulic Volume Out (cf)	Ponding Time (hrs)	Maximum Surface Subsurface Ponding Time (hrs)	Volume Infiltrated (cf)	Underdrain Discharge Vol. (cf)	Evapo-Transpir. Vol. (cf)	Minimum Soil Moist. (frac)	Surface Discharge Bypass Vol. (cf)	Evap. Vol. (cf)	Volume Supplemental Irrig. (cf)	Surface Ponding Events >72 hrs (Cont)	Residence Time in Media (hrs)	Runoff Production Events / Ttl. Rains
1	Biofilter	DS Biofilters # 1	198845	4477	97.75	879.1	4.349	99.51	70.81	15.56	78.029	7.8	1.67	No Biofilter Overflows	6.45	4478	4.9	29.1	194903	4478				0			0	1.8	Jan-90

Data File: \\WYSESERVER2\Wyser Engineering\2024\241243\_Newcomb - Seminole & Lacy, Fitchburg\SWMP\WinSLAMM\241243\_Seminole Lacy.mdb  
 Rain File: WisReg - Madison WI 1981.RAN  
 Date: 07-22-24 Time: 11:17:17 AM  
 Site Description:

Runoff Volume Total (cf) at the Outfall

Rain Number	Start Date	Rain Total	Outfall Tot Rv	Total Losses	Calculated Event	Peal Pre-Dev	Runoff Vol. (cf)
Minimum:		0	0	0	0.01	53.5	0
Maximum:		2.59	4666	0.162	2.17	99.5	0.606
Average:		0.26	54.16	0.004	0.26	68.7	0.481
Total:		28.81	5904		28.33		9433

\* Note: NRCS does not recommend using CN method for rains < 0.5 in.  
 See 'PreDevelopment Areas and CN' Help for more info.

# TSS Calculations - WinSLAMM

Project: Court and Cork Pickleball

Modeled By: KLM

Date: 7/22/24



300 E. Front Street  
Mt. Horeb, Wisconsin 53572  
Ph: (608) 437-1980

Watershed	WinSLAMM Node	Area (Acres)	Particulate Solids Yield (lbs)	Treatment Required (%)	Post Development		Particulate Solids Treatment Provided (lbs)	Percent Reduction (%)
					Particulate Solids Treatment Required (lbs)	Particulate Solid Yield After Controls (lbs)		
<b>Watershed A - N Basin</b>	<b>Watershed A</b>	3.02	879.07	-	-	-	-	-
-	<b>Basin 1</b>	-	-	-	-	4.35	874.72	99.51%
<b>Watershed B - No Treatment</b>	<b>Watershed B</b>	0.04	11.30	-	-	11.30	0.00	0.00%
		3.06	890.37	80.00%	712.30	15.65	874.72	98.24%

# Infiltration Calculations - WinSLAMM

Project: Court and Cork Pickleball

Modeled By: KLM

Date: 7/22/24



Watershed	WinSLAMM Node	Area (Acres) <b>A</b>	Postdevelopment Stay-on No Controls		Post Development Infiltration		Postdevelopment Stay-on with Controls		Runoff (cf) <b>J</b> (From SLAMM)
			(in) <b>E</b> = F / A	(cf) <b>F</b> = (28.81 * A) - G	(cf) <b>G</b> (From SLAMM)	(in) <b>H</b> = I / A	(cf) <b>I</b> = (28.12 * A) - J		
<b>Watershed A - N Basin</b>	<b>Watershed A Basin 1</b>	3.02	10.67	116,878	198,844	-	-	-	-
-	-	-	-	-	-	-	311,245	4,477	-
<b>Watershed B - No Treatment</b>	<b>Watershed B</b>	0.04	19.78	3,124	1,426	-	3,124	1,426	1,426
		3.06	10.79	120,001	200,270	28.28	314,368	5,903	

Predevelopment Stay-on - New Development - Infiltration Area (from WinSLAMM)					Post-Development Stay-on Provided (Entire Development)	
Predevelopment Stay-on	Runoff	Stay-on Required (100% Predevelopment Stay-on)				
<b>K</b> = L / A (in)	<b>L</b> = (28.81 * A) - M (cf)	<b>M</b> (From SLAMM) (cf)	<b>N</b> = K * 100% (in)	<b>O</b> = L * 100% (cf)	<b>S</b> = I (cf)	
27.96	310,838	9,433	27.96	310,838	314,368	

**APPENDIX G**

Universal Soils Loss Equation Worksheet(s)





# Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)



## YEAR 1

Developer: Newcomb  
 Project: Court and Cork Pickleball  
 Date: 07/23/24  
 County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	10/01/24	04/01/25	12.9%	150	Silt Loam	0.43	1.2%	445	0.22	1.00	1.9	1.215	Silt Fence	1.4
Bare Ground	04/01/25	09/30/25	86.9%	150	Silt Loam	0.43	2.6%	74	0.23	1.00	12.8	1.004	Sediment Trap	2.6
End	09/30/25	-----	-----	-----	-----	-----	2.6%	74	0.23	-----	-----	0.000	Sediment Trap	0.0
		-----	-----	-----	-----	-----	2.6%	74	0.23	-----	-----	0.000	Sediment Trap	0.0
		-----	-----	-----	-----	-----	2.6%	0	-----	-----	-----	0.000		0.0
		-----	-----	-----	-----	-----	0.0%	0	-----	-----	-----	0.000		0.0
<b>TOTAL</b>											<b>14.7</b>		<b>TOTAL</b>	<b>3.9</b>
													<b>% Reduction Required</b>	<b>NONE</b>

**Notes:**

See Help Page for further descriptions of variables and items in drop-down boxes.  
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.  
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

**Recommended Permanent Seeding Dates:**

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes  
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	KLM
Date	7/23/2024



# Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin



WDNR Version 2.0 (06-29-2017)

**YEAR 2**

Developer: Newcomb  
 Project: Court and Cork Pickleball  
 Date: 7/23/2024  
 County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	10/01/25	07/01/26	47.8%	150	Silt Loam	0.43	2.6%	74	0.23	1.00	7.1	1.004	Sediment Trap	1.4
Bare Ground	07/01/26	08/01/26	24.0%	150	Silt Loam	0.43	6.5%	15	0.29	1.00	4.5	0.923	Sediment Trap	0.8
Seed with Mulch or Er	08/01/26	09/30/26	27.8%	150	Silt Loam	0.43	6.5%	15	0.29	0.10	0.5	0.923	Sediment Trap	0.1
End	09/30/26	----	----	----	-----	----	6.5%	15	0.29	-----	----	0.000		0.0
		----	----	----	-----	----	6.5%	0	-----	-----	----	0.000		0.0
		----	----	----	-----	----	0.0%	0	-----	-----	----	0.000		0.0
<b>TOTAL</b>											<b>12.1</b>		<b>TOTAL</b>	<b>2.3</b>
													<b>% Reduction Required</b>	<b>NONE</b>

**Notes:**  
 See Help Page for further descriptions of variables and items in drop-down boxes.  
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.  
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

**Recommended Permanent Seeding Dates:**

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes  
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	KLM
Date	7/23/2024



# Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Version 2.0 (06-29-2017)



YEAR 1

Developer: Newcomb

Project: Court and Cork Pickleball

Date: 07/23/24

County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Bare Ground	10/01/24	04/01/25	12.9%	150	Silt Loam	0.43	1.2%	445	0.22	1.00	1.9	1.215	Silt Fence	1.4
Bare Ground	04/01/25	05/15/25	10.2%	150	Silt Loam	0.43	10.0%	30	0.76	1.00	5.0	0.645	Silt Fence	1.9
Seed with Mulch or Er	05/15/25	09/30/25	76.6%	150	Silt Loam	0.43	10.0%	30	0.76	0.10	3.7	0.645	Silt Fence	1.4
End	09/30/25	-----	-----	-----	-----	-----	10.0%	30	0.76	-----	-----	0.000	Silt Fence	0.0
		-----	-----	-----	-----	-----	10.0%	0	-----	-----	-----	0.000		0.0
		-----	-----	-----	-----	-----	0.0%	0	-----	-----	-----	0.000		0.0
<b>TOTAL</b>											<b>10.6</b>		<b>TOTAL</b>	<b>4.7</b>
													<b>% Reduction Required</b>	<b>NONE</b>

**Notes:**

See Help Page for further descriptions of variables and items in drop-down boxes.  
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.  
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

**Recommended Permanent Seeding Dates:**

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes  
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	KLM
Date	7/23/2024



# Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin



WDNR Version 2.0 (06-29-2017)

**YEAR 2**

Developer: Newcomb  
 Project: Court and Cork Pickleball  
 Date: 7/23/2024  
 County: Dane

Version 1.0

Activity (1)	Begin Date (2)	End Date (3)	Period % R (4)	Annual R Factor (5)	Sub Soil Texture (6)	Soil Erodibility K Factor (7)	Slope (%) (8)	Slope Length (ft) (9)	LS Factor (10)	Land Cover C Factor (11)	Soil loss A (tons/acre) (12)	SDF (13)	Sediment Control Practice (14)	Sediment Discharge (t/ac) (15)
Seed with Mulch or Er	10/01/25	07/10/26	56.1%	150	Silt Loam	0.43	10.0%	30	0.76	0.10	2.7	0.645	Silt Fence	1.1
Bare Ground	07/10/26	08/01/26	15.6%	150	Silt Loam	0.43	10.0%	30	0.76	1.00	7.6	0.645	Silt Fence	2.9
Seed with Mulch or Er	08/01/26	09/30/26	27.8%	150	Silt Loam	0.43	10.0%	30	0.76	0.10	1.4	0.645	Silt Fence	0.5
End	09/30/26	----	----	----	-----	----	10.0%	30	0.76	-----	----	0.000		0.0
		----	----	----	-----	----	10.0%	0	-----	-----	----	0.000		0.0
		----	----	----	-----	----	0.0%	0	-----	-----	----	0.000		0.0
<b>TOTAL</b>											<b>11.7</b>		<b>TOTAL</b>	<b>4.5</b>
													<b>% Reduction Required</b>	<b>NONE</b>

**Notes:**

See Help Page for further descriptions of variables and items in drop-down boxes.  
 The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.  
 For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

NOTE: THIS TOOL ONLY ADDRESSED SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

**Recommended Permanent Seeding Dates:**

4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes  
 Thaw-6/30 Native Grasses, forbs, and legumes

Designed By:	KLM
Date	7/23/2024



## **APPENDIX H**

Declaration of Conditions, Covenants and Restrictions for  
Maintenance of Stormwater Management Measures

DECLARATION OF CONDITIONS AND RESTRICTIONS FOR MAINTENANCE OF STORMWATER MANAGEMENT MEASURES

RECITALS:

- A. \_\_\_\_\_ (“Owner”) is the owner of \_\_\_\_\_ more particularly described on Exhibit A attached hereto (the “Property”).
- B. Owner desires to construct stormwater management measures on the Property in accordance with certain plans and specifications approved by the City of Fitchburg (the “City”).
- C. The City requires Owner to record this Declaration of Conditions and Restrictions for Maintenance of Stormwater Management Measures (this “Declaration”) regarding maintenance of certain stormwater management measures (“Stormwater Management Measures”) to be located on the Property all as more particularly described in Exhibit A and shown on Exhibit B. Owner agrees to maintain the Stormwater Management Measures and to grant to the City the rights set forth below.

NOW, THEREFORE, in consideration of the declarations herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the owner agrees as follows:

- 1. Maintenance. Owner and its successors and assigns shall be responsible to repair and maintain the Stormwater Management Measures located on the Property in good condition and in working order and such that the measures comply with approved plans on file with the City. Said maintenance shall be at the Owner’s sole cost and expense. Owner will conduct such maintenance or repair work in accordance with all applicable laws, codes, regulations, and similar requirements. *Specific maintenance tasks and their schedules shall be conducted in accordance with Exhibit A.*
- 2. Easement to City. If Owner fails to maintain the Stormwater Management Measures as required in Section 1, then the City shall have the right, after providing Owner with written notice of the maintenance issue (each, a “Maintenance Notice”) and thirty (30) days to comply with the City’s Maintenance Notice, to enter the Property in order to conduct the maintenance specified in the Maintenance Notice. The City will conduct such maintenance work in accordance with all applicable laws, codes, regulations, and similar requirements and will not unreasonably interfere with Owner’s use of Property. All costs and expenses incurred by the City in conducting such maintenance may be charged to Owner by placing the amount on the tax roll for the Property as a special assessment in accordance with Section 66.0703, Wis. Stats.
- 3. Term/Termination. The term of this Declaration shall commence on the date that this Declaration is filed of record with the Register of Deeds Office for Dane County, Wisconsin, and except as otherwise herein specifically provided, shall continue in perpetuity. Notwithstanding the foregoing, this Declaration may be terminated by recording with the Register of Deeds Office for Dane County, Wisconsin, a written instrument of termination signed by the City and all of the then-owners of the Property.
- 4. Miscellaneous.
  - (a) Notices. Any notice, request or demand required or permitted under this Declaration shall be in writing and shall be deemed given when personally served or three (3) days after the same has been deposited with the United States Post Office, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

If to Owner: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

If to the City: City Engineering Division  
5520 Lacy Road  
Fitchburg, WI 53711  
Attn: City Engineer

This space reserved for recording data

Return to:  
City of Fitchburg  
5520 Lacy Road  
Fitchburg, WI 53711

PIN#:



**EXHIBIT A**  
**Stormwater Management Maintenance Measures**

Legal Description of Property:  
Lot 1 and Lot 2 CSM \_\_\_\_\_

Tax Parcel Numbers: \_\_\_\_\_

**Stormwater Management Measures Included in this Agreement (as shown on the attached Erosion Control Plan, Grading Plan, and Utility Plan, hereby made a part of Exhibit B):**

- All site storm sewer pipes and structures
- Bioretention Basin

**Specific Maintenance Requirements:**

*Short Term Maintenance (during construction and/or restoration):*

- The building construction contractor at the owner's expense or as agreed to by the owner and contractor shall perform inspection of all facilities during construction and until site stabilization.
- Inspections during construction shall be weekly and/or after a rainfall event of 0.5" or more.
- Repairs necessary to restore the facility to design performance will be made within 48 hours of the inspection.
- Deficiencies include, but are not limited to, rill erosion, sediment deposition in the infiltration pond or behind perimeter control, and deposition of sediment on the tracking pad.
- Tracking on the public right-of-way shall be inspected regularly during days that construction traffic is leaving the construction site. Any excessive sediment tracked onto the public right-of-way shall be scraped immediately. Thorough sweeping, with appropriate equipment that physically picks up and removes the sediment (vs. pushing it to other locations within the public right-of-way) shall be conducted at the end of each working day during construction activities.

*Long Term Maintenance:*

- Inspector qualifications for Long Term Maintenance: Inspectors under this item shall maintain a current Registered Professional Engineer License in the State of Wisconsin or possess an alternate certification approved by the **City of Fitchburg's** Public Works Department.
- All stormwater provisions constructed as part of this project are permanent in location and function over time. The constructed stormwater provisions such as infiltration ponds, inlet filters, and storm structures shall not be removed or significantly altered without written permission from the **City of Fitchburg's** Public Works Department. Owner shall maintain records of inspections and maintenance as described below in accordance with Chapter 30 – Article II of the **City of Fitchburg** Municipal Code of Ordinances. Inspections and maintenance reports shall be submitted to the **City of Fitchburg's** Public Works Department on an annual basis.
- An operation and maintenance plan shall be developed that is consistent with the purposes of the infiltration device, its intended life, safety requirements and the criteria for its design. The plan shall be developed for inspection, operation and maintenance of the device. The plan shall assign responsibility for activities and the qualifications of the personnel performing the work.

## **STORM SEWER**

- Visual inspection of components shall be performed and debris removed from inlets and storm sewer manholes.
- Repair inlet/outlet areas that are damaged or show signs of erosion.
- Rip-rap shall be replaced as necessary.
- Repairs must restore the component to the specifications of the original plan.

## **BIORETENTION BASIN**

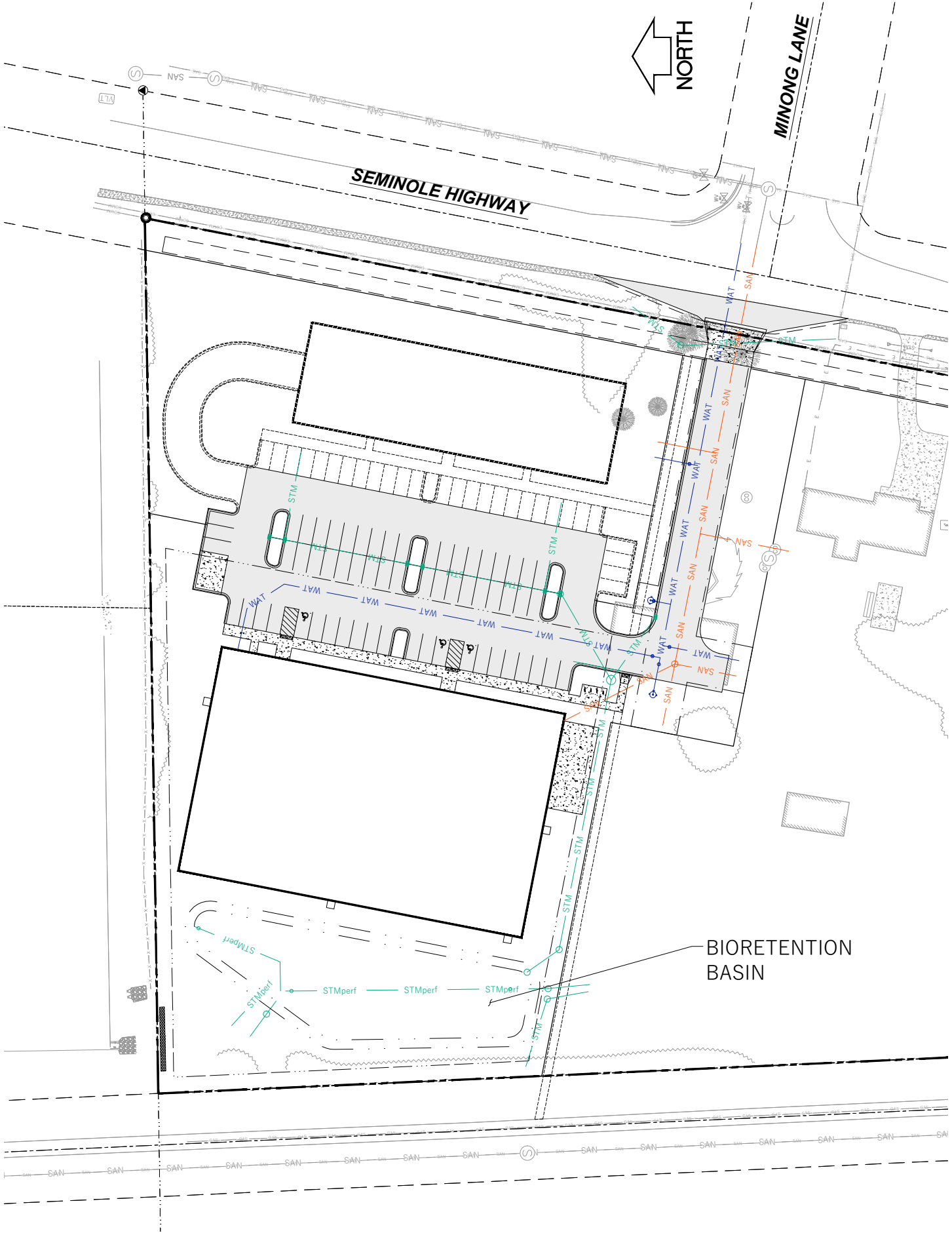
- The Owner is responsible for carrying out typical maintenance activities for bioretention areas and shall include details on these activities that are consistent with the following standards:
  - Inspect soil and repair eroded areas on a monthly basis;
  - Remove litter and debris on a monthly basis;
  - Add additional mulch on an annual basis;
  - Water plants accordingly during first growing season and as necessary during dry periods after first growing season;
  - Re-mulch void areas as needed;
  - Treat diseased trees and shrubs as needed.
- Snow shall not be dumped directly onto the conditioned planting bed.
- If the bioretention device receives runoff only from residential land uses other than streets, the mulch layer can be discontinued at maturity provided that a dense vegetation layer is formed.
- Visual Inspection of the bioretention basins shall be performed, at a minimum, monthly.
- Major maintenance shall be required when system shows standing water beyond 24 hours of rain event.
  - Cleaning shall consist of removal of sediment, one (1) foot undercut, undercut replacement with material as specified in WDNR Conservation Practice Standard #1004 and restoration in-kind.
  - Restoration of plant material shall be by plugging, not seeding alone.
  - Any repairs shall return the facility to the specifications in the approved plan.

**EXHIBIT B**  
**Figure(s) of Stormwater Management Maintenance Measures**



MINONG LANE

SEMINOLE HIGHWAY



BIORETENTION  
BASIN



**APPENDIX I**

Stormwater Management and Erosion Control Best Management Practice

Preliminary Opinion of Probable Construction Costs



**Stormwater Management and Erosion  
Control Best Management Practice  
Preliminary Opinion of Probable  
Construction Costs**

<b>Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total</b>
Tracking Control Pad	1	EA	\$ 1,200.00	\$ 1,200.00
Silt Fence	1,335	LF	\$ 2.50	\$ 3,337.50
Erosion Mat	5,155	SY	\$ 1.75	\$ 9,021.25
Fertilizer, Seed & Mulch	11,300	SY	\$ 2.50	\$ 28,250.00
Ditch Checks	6	EA	\$ 500.00	\$ 3,000.00
Sediment Basin and Level Spreader	1	EA	\$ 2,000.00	\$ 2,000.00
RipRap Outfall	5	EA	\$ 500.00	\$ 2,500.00
Bioretention System	10,500	SF	\$ 12.00	\$ 126,000.00
Outlet Structures	1	EA	\$ 1,500.00	\$ 1,500.00
				\$ 176,808.75



## Conditional Use - Owner or Authorized Agent Acknowledgement

\*\* It is highly recommended that an applicant hold at least one neighborhood meeting prior to submitting a CUP application to identify any concerns or issues of surrounding residents.

PLEASE NOTE - Applicants shall be responsible for legal or outside consultant costs incurred by the City. Submissions shall be made at least four (4) weeks prior to desired plan commission meeting.

By signing below, I certify that the information included with this Conditional Use application is true and correct, to the best of my knowledge. Any agent signing below verifies that he/she has the consent of the owner to file the application.

Owner's or Authorized Agent's Signature

Date (DD/MM/YYYY)