

Village of Mukwonago
Notice of Meeting and Agenda

REGULAR VILLAGE BOARD MEETING
Wednesday, August 21, 2024

Time: **6:30 pm**

Place: **Mukwonago Municipal Building/ Board Room, 440 River Crest Court,
Mukwonago, WI 53149**

- 1. Call to Order**
- 2. Roll Call**
- 3. Pledge of Allegiance**

4. Comments from the Public

The Public Comment Session shall last no longer than fifteen (15) minutes and individual presentations are limited to three (3) minutes per speaker. These time limits may be extended at the discretion of the Chief Presiding Officer. The Village Board may have limited discussion on the information received, however, no action will be taken on issues raised during the Public Comment Session unless they are otherwise on the Agenda for that meeting. Public comments should be addressed to the Village Board as a body. Presentations shall not deal in personalities personal attacks on members of the Village Board, the applicant for any project or Village employees. Comments, questions and concerns should be presented in a respectful professional manner. Any questions to an individual member of the Commission or Staff will be deemed out of order by the Presiding Officer.

5. Consent Agenda

All items listed are considered routine and/or have been unanimously recommended by the Committee of the Whole and will be enacted by one motion. There will be no separate discussion of these items unless a Board member so requests, in which event the item will be removed from the Consent agenda and be considered on the regular agenda.

- 5.1 Minutes of Village Board Meeting of July 17, 2024
[2024-07-17 VB Minutes](#)

- 5.2 Approve Accounts Payable Vouchers in the amount of \$1,041,615.00.
[080724 VB AP Packet.pdf](#)

- 5.3 Approve a Letter of Intent to purchase a Van-Con combination Sewer Cleaning Truck budgeted in the 2025 Capital Improvement Program.
[Letter of Intent to Purchase_Vac-Con Combination Truck.pdf](#)
[Vaccon Proposal 072924-1FIN.pdf](#)
[Camel Maxx_Quote # 2024-9837 ejector.pdf](#)
[Vactor2100i QUOTE 6.10.24.pdf](#)

- 5.4 Approve a Temporary Class "B"/ "Class B" Retailer's License from Son's of the American Legion Post #375, for Mukwonago Chamber of Commerce Fall Fest on September 21, 2024.
[Chamber Fall Fest AM Legion_Redacted.pdf](#)

- 5.5 Approve a Special Event Application and a Temporary "Class B" Wine and Class "B" Beer alcohol beverage application from Mukwonago Area Chamber of Commerce for a Wine Walk on Saturday October 12, 2024 from 4pm to 7pm.

[Chamber wine walk 2024_Redacted](#)

- 5.6 Approve the Development Agreement for Cardinal Ridge Subdivision contingent upon legal review, Plan Commission approval of GDP, SWMA, and PUD, and Village of Vernon approval.

[Cardinal Ridge Developer Agreement Approval.pdf](#)

[Developer's Agreement Draft 6_25_24 - updated redline 7_30_24.docx](#)

[CIVIL PLANS_CARDINAL RIDGE PH1_2024-07-17.pdf](#)

6. Planning Commission Recommendations

Discussion and possible action on the following Plan Commission Recommendations

- 6.1 Discussion and possible action to approve **Resolution 2024-41** Conditional Use Permit for a Mama Bear Catering, a Catering Service, located at 225 Bay View Road, Suite 100 (MUKV 2014-988), applicant (Dana Kohlmann)

[Staff Report-20240805-Mama Bear Catering-CU](#)

[RESOLUTION 2024-41 - Mama Bear Catering CU](#)

- 6.2 Discussion and possible action to approve **Resolution 2024-42** for a Planned Unit Development Overlay/Final Development Plan for Phase 1 Cardinal Ridge Subdivision located at Edgewood Avenue (MUKV 2091-995), applicant (Neumann Developments, Inc.,)

[1 Staff Report-20240806-Cardinal Ridge PUD Final Development Plan - Phase 1](#)

[2 Mukwonago FDP Submittal 7.10.24](#)

[3 CIVIL PLANS_CARDINAL RIDGE PH1_2024-07-17](#)

[4 SWMP_Cardinal Ridge_Phase I_2024-07-19](#)

[5 maintenance-agreement-Cardinal Ridge](#)

[RESOLUTION 2024-42 Cardinal Ridge Final Development Plan - Phase 1](#)

7. Health and Recreation Committee, Trustee John Meiners

Discussion and possible action on the following items

- 7.1 Discussion and possible action to approve a Special Event Permit Application from Mukwonago Area Chamber of Commerce for Fall Fest held on September 21, 2024.

[Fall Fest Application_Redacted.pdf](#)

8. Finance Committee, Trustee Darlene Johnson

Discussion and possible action on the following items

- 8.1 Discussion and possible action to approve Accounts Payable Vouchers in the amount of \$82,869.71.

[08212024 VB AP Packet.pdf](#)

- 8.2 Discussion and possible action to approve the Purchase Requisition for the 2024 Mill & Fill Paving Project.

[2024 Mill & Fill Agenda Cover Report.docx](#)

1. Johnson and Sons Paving - Village of Mukwonago Street Patching 2024 - 8-2-24.pdf

2. PLM.pdf

3. Poblocki Paving.pdf

- 8.3 Discussion and review of preliminary 2025 Budget figures and possible recommendations in preparation of scheduling workshops.

9. **Protective Services, Trustee Scott Reeves**

Discussion and possible action on the following items

- 9.1 Monthly Police Report *(For Information Only, No Action Required)*

[Monthly Report July 2024.pdf](#)

- 9.2 Discussion and possible action to approve the MASD School Resource Officer Memorandum of Understanding.

[Agenda Cover Report - MASD SRO MOU.pdf](#)

[MASD MOU FY25-FY27 unsigned.pdf](#)

10. **Village President**

- 10.1 Discussion and possible action to approve **Resolution 2024-44** a Resolution to support the request to reduce the speed limit on CTH ES East from Village of Mukwonago to Ridge Way Road in the Village of Vernon from 45 Miles per hour to 35 Miles per hour.

[RESOLUTION 2024-44 Support Speed Limit Reduction ES.docx](#)

- 10.2 Discussion and possible action on the Appointment of Wesley Willoughby to the Historical Preservation Committee.

[Willoughby HPC Appointment_Redacted.pdf](#)

11. **Closed Session**

Closed session pursuant to **Wis. Stats. § 19.85(1)(e)** (Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session) for negotiation with the Mukwonago Professional Police Association, St. James Property, and pursuant to **Wis. Stats. § 19.85(1)(c)** (Compensation and Evaluation. Considering employment, promotion, compensation or performance evaluation data of any public employee subject to the jurisdiction or authority of governing body.) concerning the position of Village Administrator.

12. **Reconvene into Open Session**

Motion to reconvene into open session pursuant to Wis. Stats. §19.85(2) for possible discussion and/or action concerning any matter discussed in closed session

13. Adjournment

It is possible that a quorum of, members of other governmental bodies of the municipality may be in attendance at the above stated meeting to gather information. No action will be taken by any governmental body at the above stated meeting other than the governmental body specifically referred to above in this notice. Please note, upon reasonable notice, efforts will be made to accommodate the needs of individuals with disabilities through appropriate aids and services. For additional information or to request this service, contact the Municipal Clerk's Office, (262) 363-6420.

MINUTES OF THE VILLAGE BOARD OF TRUSTEES MEETING

Wednesday, July 17, 2024

Time: **6:30 pm**

Place: **Mukwonago Municipal Building/ Board Room, 440 River Crest Court,
Mukwonago, WI 53149**

Call to Order

President Winchowky called the meeting to order at 6:30pm.

Roll Call

Board Members Present

Darlene Johnson
Ken Johnson
John Meiners
Dale Porter
Scott Reeves
Fred Winchowky

Also Present

Diana Dykstra, Village Clerk-Treasurer
Diana Doherty, Finance Director
Dan Streit, Police Chief
Michael Michalski, Ruekert-Mielke
Wayne Castle, Utilities Director
Ron Bittner, Public Works Director
Lisa Barkow, Fire Department

Excused:

Eric Brill

Pledge of Allegiance

Comments from the Public

None.

Consent Agenda

All items listed are considered routine and/or have been unanimously recommended by the Committee of the Whole and will be enacted by one motion. There will be no separate discussion of these items unless a Board member so requests, in which event the item will be removed from the Consent agenda and be considered on the regular agenda.

5.1 Approve Minutes of Regular Village Board Meeting of June 19, 2024 and Special Joint Village/Town Board Meeting of June 19, 2024

5.2 Approve Accounts Payable Vouchers in the amount of \$639,562.06.

5.3 Approve the purchase requisition to Merit Painting in the amount of \$14,878 for the exterior painting of Fire Station #1.

5.4 Approve the purchase requisition to Fahrner Asphalt Sealers in the amount of \$23,961 for GSB 88 and installation.

5.5 Approve a Reserve Original Class "B"/"Class B" combination Liquor and Fermented Malt Beverage License Application from Perseverance Corp d/b/a The Porch Bar at 204 S. Rochester Street.,

Mukwonago, contingent upon obtaining proper permits necessary for occupancy and payment of any outstanding liabilities.

5.6 Approve a Temporary Class "B"/"Class B" Retailer's License to Mukwonago Lions Club, Inc for Phantom Junction Stage Concert on September 7, 2024 at Indianhead Park.

5.7 Approve an early grading agreement with Cardinal Ridge.

5.8 Approve **Resolution 2024-39** A Resolution to approve a Storm Water Management Agreement with Bielinski Homes Edgewood Avenue/Grey Fox Trail.

5.9 Approve **Resolution 2024-38** a Resolution to reduce the Letter of Credit for Chapman Farms Residential Phase 2

5.10 Approve **Resolution 2024-37** to approve a Easement Vacation Agreement for MUKV2091989002 to vacate the public utility easement and transfer full ownership and future maintenance responsibilities to Bielinski Homes.

5.11 Approve to award the 2024 Crack Sealing Project to Thunder Road in the amount of \$122,305.

5.12 Approve to award the Village Hall reroof contract for a standing seam metal including the mandatory alternate for metal clad siding with Midwest Roofing.

5.13 Discussion and possible recommendation on a Petition to Rename Empire Drive (private street) to Milwaukee Tool Way, and authorize staff to draft appropriate resolution to execute such change.

Meiners/D. Johnson motion to approve Consent Agent Items 5.1-5.13. Unanimously carried.

Finance Committee, Trustee Darlene Johnson

Discussion and possible action to approve Accounts Payable Vouchers in the amount of \$930,730.93.

D. Johnson/Meiners motion to approve. Unanimously carried.

Public Works Committee, Trustee Eric Brill

Discussion and possible action on Indianhead message center signage.

DPW Director Bittner noted that originally the signs had followed the PD and FD and we didn't have the branding completed yet. Now that branding is completed he was confirming whether the Board would like to stay course or incorporate the branding. They may have to rebid, but they will reach out to the second bidder. The Village Board agreed to move with the branding design and if it has to be rebid they will.

Protective Services, Trustee Scott Reeves

Police Report for the month of June

No action required.

Announcement National Night Out is Tuesday, August 6, 2024 at Field Park

Closed Session

Meiners/Reeves motion to go into Closed Session pursuant to Wis. Stats. § 19.85(1)(e) (Deliberating or negotiating the purchasing of public properties, the investing of public funds, or conducting other specified public business, whenever competitive or bargaining reasons require a closed session) for negotiation with the Kiwanis Barn, St. James Property, and negotiation on TIA with DOT at CTH NN and CTH83, and negotiation with Waukesha County and Village of Vernon at 6:38pm.

On the motion: Unanimously carried.

Roll Call: Trustee D. Johnson, K. Johnson, Meiners, Porter, Reeves, and Winchowky.

Also present: Diana Dykstra, Village Clerk-Treasurer, Diana Doherty, Finance Director, Dan Streit, Police Chief, Michael Michalski, Ruekert-Mielke, Wayne Castle, Utilities Director, Ron Bittner, Public Works Director, Lisa Barkow, Fire Department

Reconvene in Open Session

Meiners/Reeves motion to Reconvene into Open Session Motion to reconvene into open session pursuant to Wis. Stats. §19.85(2) at 7:24pm.

On Motion: Unanimously carried.

Roll Call: Trustee D. Johnson, K. Johnson, Meiners, Porter, Reeves, and Winchowky.

Also present: Diana Dykstra, Village Clerk-Treasurer, Diana Doherty, Finance Director, Dan Streit, Police Chief, Michael Michalski, Ruekert-Mielke, Wayne Castle, Utilities Director, Ron Bittner, Public Works Director, Lisa Barkow, Fire Department

Adjournment

Meeting adjourned at 7:25pm.

Respectfully Submitted,
Diana Dykstra, MMC

Accounts Payable Cover Sheet

Report:	Period or corresponding report date		
Village Accounts Payable	8/1/2024	\$	591,877.68
Check Disbursement - Concert Series	7/2/2024	\$	1,200.00
Check Disbursement - EBIX Refund	7/2/2024	\$	95.00
Check Disbursement - Payroll Related	7/2/2024	\$	8,841.31
Charter Spectrum (ACH Withdrawal)	7/3/2024	\$	1,025.92
Check Disbursement - WI DOR QTRLY Tax	7/3/2024	\$	381.09
Check Disbursement - Invoice Cloud	7/3/2024	\$	418.95
Check Disbursement - Court	7/11/2024	\$	6,326.64
Check Disbursement - National Night Out	7/12/2024	\$	250.00
Check Disbursement - We Energies	7/12/2024	\$	44,628.86
Library Accounts Payable	7/12/2024	\$	19,750.61
Check Disbursement - Prohealth EBIX	7/16/2024	\$	172,877.76
Check Disbursement - Payroll Related	7/18/2024	\$	180,900.85
Check Disbursement - Concert Series	7/22/2024	\$	3,100.00
Check Disbursement - Payroll Related	7/22/2024	\$	1,750.07
US Bank (ACH Withdrawal)	7/23/2024	\$	8,190.26
Total for Approval:		\$	<u>1,041,615.00</u>

The preceding list of bills payable was approved for payment

Date: _____

Approved by: _____

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT	POST DATE
VENDOR NAME: AC SERVICE INC						
42557	VILLAGE HALL AC REPAIRS	100-5160-539500	1,055.80	1,055.80	DPW	08/08/2024
TOTAL VENDOR AC SERVICE INC				1,055.80		
VENDOR NAME: ALSCO						
IMIL2033694	VILLAGE HALL WALK OFF MATS	100-5160-521900	63.37	63.37	DPW	08/08/2024
TOTAL VENDOR ALSCO				63.37		
VENDOR NAME: AMAZON CAPITOL SERVICES						
1WJH77WVTT37	BUCKET TRUCK HOOD LATCHES	100-5324-539500	18.61	18.61	DPW	08/08/2024
1NWH4JFWTMJW	SCALER NEDLES	100-5323-531100	16.00	16.00	DPW	08/08/2024
1NNLRMKQN7FL	SPRAYER SEALS	100-5323-531100	20.78	20.78	DPW	08/08/2024
1LDQ6H6C7L33	COMPCT TRACTOR PTO SWITCH	100-5324-539500	13.29	13.29	DPW	08/08/2024
1MHXFNPKEFN7	JOHN DEERE TRACTOR STARTER	100-5324-539500	124.85	124.85	DPW	08/08/2024
1CJLKWKVRK93	FINANC HANGING FILE DRAWER INSERTS	100-5145-531100	26.68	26.68	FINANCE	08/08/2024
1CJLKWKVRK93	CLERK ELECTION PENS	100-5144-531100	13.99	13.99	CLERK	08/08/2024
TOTAL VENDOR AMAZON CAPITOL SERVICES				234.20		
VENDOR NAME: AQUA-DOC INTERNATIONAL, LTD						
36788	PATROL TRUCK #12 RUST PREVENTION PROGRAM	100-5324-539500	650.00	650.00	DPW	08/08/2024
TOTAL VENDOR AQUA-DOC INTERNATIONAL, LTD				650.00		
VENDOR NAME: ASSOCIATED APPRAISAL CONSULTANT INC						
175647	AUGUST 2024 ASSESSMENT SVS	100-5153-521900	2,989.20	2,989.20	CLERK	08/08/2024
TOTAL VENDOR ASSOCIATED APPRAISAL CONSULTANT INC				2,989.20		
VENDOR NAME: AT & T MOBILITY						
287291370101071520	AT&T PD CELL PHONES AND CRADELPOINTS	100-5211-522500	539.48	539.48	POLICE	08/08/2024
TOTAL VENDOR AT & T MOBILITY				539.48		
VENDOR NAME: BAKER TILLY US, LLP						
BT2848044	2023 AUDIT PROGRESS BILL	100-5151-521900	737.02	3,346.63	FINANCE	08/08/2024
		150-5221-521900	311.02			
		200-5141-521900	92.51			
		410-5363-521900	79.71			
		430-5141-521900	80.52			
		440-5511-521900	142.16			
		480-5151-521900	225.92			
		500-5344-521900	4.46			
		220-5151-521900	209.16			
		240-5151-521900	209.16			
		250-5151-521900	209.16			
		610-6920-692300	522.91			
		620-8400-852000	522.92			
TOTAL VENDOR BAKER TILLY US, LLP				3,346.63		
VENDOR NAME: BARCO PRODUCTS						
INVRCO29618	VH OUTDOOR TRASH RECEPTICAL	100-5160-582100	583.08	583.08	DPW	08/08/2024

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PENDING VILLAGE BOARD REVIEW FOR MUKWONAGO

EXP CHECK RUN DATES 08/08/2024 - 08/08/2024

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INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT	POST DATE
VENDOR NAME: BARCO PRODUCTS						
INVRCO29577	DONATED AND PARK BENCHES. PATH BOLLARDS	340-5890-580601	1,337.70	6,334.01	DPW	08/08/2024
		430-5700-571200	4,538.61			
		100-5521-531100	457.70			
TOTAL VENDOR BARCO PRODUCTS				6,917.09		
VENDOR NAME: BASSETT MECHANICAL						
6513165	BOILER MAINTENANCE/DIGESTER HVAC REPAIR	620-8010-833000	1,007.00	1,007.00	UTILITIES	08/08/2024
TOTAL VENDOR BASSETT MECHANICAL				1,007.00		
VENDOR NAME: BAYCOM, INC						
EQUIPINV_050288	PORTABLE BATTERIES	150-5222-531100	1,007.70	1,007.70	FIRE	08/08/2024
TOTAL VENDOR BAYCOM, INC				1,007.70		
VENDOR NAME: BAYSIDE PRINTING LLC						
144676	2ND QUARTER 2024 CCR REPORT	610-6920-692300	346.39	346.39	UTILITIES	08/08/2024
144659	2ND QTR 2024 UTILITY BILLING	100-5141-521900	15.45	602.54	ALLOCATE	08/08/2024
		440-5511-531200	15.45			
		620-8400-852000	7.72			
		610-6920-692300	7.72			
		410-5363-531200	55.62			
		610-6920-692300	250.29			
		620-8400-852000	250.29			
TOTAL VENDOR BAYSIDE PRINTING LLC				2,496.49		
VENDOR NAME: BEAR GRAPHICS						
0942523	SVD ENVELOPES	100-5144-531200	251.18	251.18	CLERK	08/08/2024
TOTAL VENDOR BEAR GRAPHICS				251.18		
VENDOR NAME: BOONIES BIKES						
2577	NNO HELMETS AND BIKES	340-5890-580602	1,909.79	1,909.79	POLICE	08/08/2024
TOTAL VENDOR BOONIES BIKES				1,909.79		
VENDOR NAME: BRIGHTSPEED						
JULY 2024	JULY 2024 PHONE SERVICE	100-5142-522500	77.98	465.72	ALLOCATE	08/08/2024
		100-5211-522500	55.15			
		100-5323-522500	67.59			
		440-5511-522500	196.06			
		620-8400-851000	68.94			

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INVOICE					APPROVAL	POST
NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	DEPARTMENT	DATE
VENDOR NAME: BRIGHTSPEED						
	TOTAL VENDOR BRIGHTSPEED			465.72		
VENDOR NAME: BS&A						
155846	BSA SOFTWARE ANNUAL MAINT	100-5241-522900	1,204.00	1,204.00	BUILDING	08/08/2024
	TOTAL VENDOR BS&A			1,204.00		
VENDOR NAME: C & M AUTO PARTS INC						
6079-385735	SQUAD 30 BRAKE REPAIR	100-5212-539500	188.91	188.91	POLICE	08/08/2024
6079-385660	SHOP TOOLS	100-5323-531100	38.40	38.40	DPW	08/08/2024
6079-385487	2017 AMBULANCE BRAKES	150-5231-539500	79.88	79.88	FIRE	08/08/2024
6079-385335	GRINDING WHEEL FLAP STILE	100-5323-531100	7.59	7.59	DPW	08/08/2024
6079-385234	TORO SEALS	100-5324-539500	37.64	37.64	DPW	08/08/2024
	TOTAL VENDOR C & M AUTO PARTS INC			352.42		
VENDOR NAME: CARLSON RACINE ROOFING & SHEET						
32978	STATION #1 ROOF REPAIRS	100-5220-539400	1,418.00	1,418.00	DPW	08/08/2024
	TOTAL VENDOR CARLSON RACINE ROOFING & SHEET			1,418.00		
VENDOR NAME: CENTRAL OFFICE SYSTEMS						
587992604	COPIER INVOICE	150-5221-531100	92.00	92.00	FIRE	08/08/2024
	TOTAL VENDOR CENTRAL OFFICE SYSTEMS			92.00		
VENDOR NAME: CINTAS						
4200165713	STAFF UNIFORMS AND SHOP SUPPLIES	100-5323-531100	123.09	123.09	DPW	08/08/2024
4200165756	UNIFORM SERVICE	610-6920-693000	66.16	132.31	UTILITIES	08/08/2024
		620-8400-856000	66.15			
4198747874	STAFF UNIFORMS AND SHOP SUPPLIES	100-5323-531100	123.09	123.09	DPW	08/08/2024
4198747958	UNIFORM SERVICE	610-6920-693000	57.36	114.71	UTILITIES	08/08/2024
		620-8400-856000	57.35			
4199453719	STAFF UNIFORMS AND SHOP SUPPLIES	100-5323-531100	123.09	123.09	DPW	08/08/2024
4199453785	UNIFORM SERVICE	620-8400-856000	85.41	170.81	UTILITIES	08/08/2024
		610-6920-693000	85.40			
	TOTAL VENDOR CINTAS			787.10		
VENDOR NAME: CLASSIC CONCRETE & MASONRY						
072424 - 1	SIDEWALK REPLACEMENT PROGRAM	480-5700-586300	5,504.00	5,504.00	DPW	08/08/2024
072424 - 2	SIDEWALK REPLACEMENT PROGRAM	480-5700-586300	5,160.00	5,160.00	DPW	08/08/2024
	TOTAL VENDOR CLASSIC CONCRETE & MASONRY			10,664.00		
VENDOR NAME: CORE & MAIN LP						
V185565	SOFTWARE SUPPORT-METER READING	610-6920-692300	3,700.00	3,700.00	UTILITIES	08/08/2024
	TOTAL VENDOR CORE & MAIN LP			3,700.00		
VENDOR NAME: COREY OIL, LTD						
559601 - DPW	MOTOR OIL	100-5324-535100	372.00	372.00	DPW	08/08/2024

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INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		APPROVAL AMOUNT DEPARTMENT	POST DATE	
VENDOR NAME: COREY OIL, LTD						
559601 - FIRE	COREY OIL INVOICE	150-5222-539500	186.00	372.00 FIRE	08/08/2024	
		150-5231-539500	186.00			
TOTAL VENDOR COREY OIL, LTD				744.00		
VENDOR NAME: COUNTY MATERIALS CORPORATION						
4074229-00	BIN BLOCKS	100-5341-539500	1,272.00	1,272.00 DPW	08/08/2024	
4060769-00	DEPOSIT RETURN FOR PALLETS	620-8010-827000	(300.00)	(300.00) UTILITIES	08/08/2024	
TOTAL VENDOR COUNTY MATERIALS CORPORATION				972.00		
VENDOR NAME: CP2 CONSULTING, INC.						
206	STRATEGIC PLANNING CONTRACT	100-5141-521900	6,125.00	6,125.00 CLERK	08/08/2024	
TOTAL VENDOR CP2 CONSULTING, INC.				6,125.00		
VENDOR NAME: CRIVELLO CARLSON S.C.						
5331-206991	JUNE LEGAL SERVICES	100-5130-521900	3,840.00	4,620.00 FINANCE	08/08/2024	
		610-6920-692300	600.00			
		810-5140-521900	180.00			
TOTAL VENDOR CRIVELLO CARLSON S.C.				4,620.00		
VENDOR NAME: DE LAGE LANDEN FINANCIAL						
82701990 PD	PD COPIER LEASE	100-5211-531200	108.00	108.00 POLICE	08/08/2024	
82701990	LEASE 06/15/2024 - 07/14/24 KONICA 450I	100-5142-531200	19.98	160.00 ALLOCATE	08/08/2024	
		100-5300-539900	18.83			
		100-5120-531100	7.97			
		100-5141-531100	4.96			
		100-5145-531100	9.32			
		100-5241-531200	3.73			
		100-5632-531200	4.59			
		100-5211-531200	19.65			
		150-5221-531100	19.84			
		410-5363-531200	1.60			
		440-5511-531200	18.24			
		500-5344-531200	2.22			
		610-6902-690300	15.41			
		620-8300-840000	13.66			
TOTAL VENDOR DE LAGE LANDEN FINANCIAL				268.00		
VENDOR NAME: DEPARTMENT OF ADMINISTRATION						

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PENDING VILLAGE BOARD REVIEW FOR MUKWONAGO

EXP CHECK RUN DATES 08/08/2024 - 08/08/2024

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INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		APPROVAL AMOUNT DEPARTMENT	POST DATE
VENDOR NAME: DEPARTMENT OF ADMINISTRATION					
505-000092690	EMAIL FILTER JULY 2024	100-5111-522900	3.17	50.76 ALLOCATE	08/08/2024
		100-5120-522900	0.91		
		100-5141-522900	0.45		
		100-5142-522900	1.36		
		100-5211-522900	16.32		
		100-5241-522900	1.36		
		100-5300-522900	3.63		
		100-5512-522900	0.45		
		100-5632-522900	0.45		
		150-5221-522900	18.58		
		610-6920-692100	1.36		
		620-8400-851000	1.36		
		100-5145-522900	1.36		
TOTAL VENDOR DEPARTMENT OF ADMINISTRATION				50.76	
VENDOR NAME: DOMINION VOTING SYSTEMS					
DVS155514	THERMAL PAPER AND INK	100-5144-531100	100.84	100.84 CLERK	08/08/2024
TOTAL VENDOR DOMINION VOTING SYSTEMS				100.84	
VENDOR NAME: DORNER COMPANY					
511808	WELL 5 IRON PLANT-CLA VAL REPAIR/MAINTEN	610-6310-663500	2,391.00	2,391.00 UTILITIES	08/08/2024
TOTAL VENDOR DORNER COMPANY				2,391.00	
VENDOR NAME: DYNAMIC AWARDS					
23115	PLANTER PLAQUES	340-5890-580600	30.00	30.00 DPW	08/08/2024
23180	T RAYMOND NAME PLATE	100-5241-539900	10.00	10.00 CLERK	08/08/2024
TOTAL VENDOR DYNAMIC AWARDS				40.00	
VENDOR NAME: EBIX					
13393	EBIX INVOICE	150-5231-521900	14,469.71	14,469.71 FIRE	08/08/2024
TOTAL VENDOR EBIX				14,469.71	
VENDOR NAME: ENVIRONMENT CONTROL					
33018-613	VILLAGE HALL CLEANING	100-5160-521900	698.00	698.00 DPW	08/08/2024
TOTAL VENDOR ENVIRONMENT CONTROL				698.00	
VENDOR NAME: ENVIROTECH EQUIPMENT					
24-0023896	SEWER CLEANING NOZZLE TOOL	620-8030-828000	89.37	89.37 UTILITIES	08/08/2024
TOTAL VENDOR ENVIROTECH EQUIPMENT				89.37	
VENDOR NAME: ETNA SUPPLY					
S105752601.001	FIELD PARK SEWER REPAIR	100-5521-531100	70.50	70.50 DPW	08/08/2024
S105752615.001	SEWER COLLECTION SYSTEM REPAIR PARTS	620-8030-831000	528.75	528.75 UTILITIES	08/08/2024
TOTAL VENDOR ETNA SUPPLY				599.25	
VENDOR NAME: EVOQUA WATER TECHNOLOGIES					
906568625	DIGESTER BOILER-SPARE GAS VALVE	620-8010-827000	9,995.00	9,995.00 UTILITIES	08/08/2024
TOTAL VENDOR EVOQUA WATER TECHNOLOGIES				9,995.00	

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VENDOR NAME: EXCEL BUILDING SERVICES LLC						
4253	PD BUILDING CLEANING SERVICE	100-5211-539400	975.00	975.00	POLICE	08/08/2024
TOTAL VENDOR EXCEL BUILDING SERVICES LLC				975.00		
VENDOR NAME: FASTENAL COMPANY						
WIMUK102125	VILLAGE HALL/STATION #1 FURNACE FILTERS	100-5160-531100	158.84	451.23	DPW	08/08/2024
		100-5220-539400	292.39			
WIMUK102133	MARKING PAINT	100-5341-539500	45.98	45.98	DPW	08/08/2024
WIMUK102241	PPE-SAFTETY GLASSES	610-6920-693000	63.29	126.58	UTILITIES	08/08/2024
		620-8400-856000	63.29			
TOTAL VENDOR FASTENAL COMPANY				623.79		
VENDOR NAME: GENESEE AGGREGATE CORP						
22173	WASHED STONE	610-6452-665200	191.02	191.02	UTILITIES	08/08/2024
TOTAL VENDOR GENESEE AGGREGATE CORP				191.02		
VENDOR NAME: GENESEE AGGREGATE TRUCKING						
T22173	WASHED STONE-HAULING CHARGE	610-6452-665200	104.38	104.38	UTILITIES	08/08/2024
TOTAL VENDOR GENESEE AGGREGATE TRUCKING				104.38		
VENDOR NAME: GORDON FLESCH CO						
IN14769684	CANON COPIER JUNE 2024 COPIES	100-5142-531200	11.99	95.97	ALLOCATE	08/08/2024
		100-5300-539900	11.30			
		100-5120-531100	4.78			
		100-5141-531100	2.98			
		100-5145-531100	5.57			
		100-5241-531200	2.24			
		100-5632-531200	2.75			
		100-5211-531200	11.79			
		150-5221-531100	11.90			
		410-5363-531200	0.96			
		440-5511-531200	10.94			
		500-5344-531200	1.33			
		610-6902-690300	9.24			
		620-8400-851000	8.20			
TOTAL VENDOR GORDON FLESCH CO				95.97		
VENDOR NAME: GRAINGER						
9184120518	GRIT TANK-REPLACEMENT SOLENOIDS	620-8010-833000	571.40	571.40	UTILITIES	08/08/2024
TOTAL VENDOR GRAINGER				571.40		
VENDOR NAME: HAWKINS WATER TREATMENT						
6807424	CHEMICALS-WATER TREATMENT	610-6300-663100	50.00	50.00	UTILITIES	08/08/2024
6813843	CHEMICALS-WATER TREATMENT	610-6300-663100	3,116.91	3,116.91	UTILITIES	08/08/2024
6813127	SLUDGE-POLYMER	620-8010-825000	1,345.05	1,345.05	UTILITIES	08/08/2024
TOTAL VENDOR HAWKINS WATER TREATMENT				4,511.96		

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VENDOR NAME: HIPPENMEYER, REILLY, BLUM, 56600 PROSECUTIONS					
		100-5130-521900	810.00	810.00 FINANCE	08/08/2024
TOTAL VENDOR HIPPENMEYER, REILLY, BLUM,				810.00	
VENDOR NAME: HOME DEPOT JUNE 2024 SHOP TOOLS AND PARK REPAIR SUPPLIES					
		100-5323-531100	483.97	749.74 DPW	08/08/2024
		100-5521-531100	265.77		
TOTAL VENDOR HOME DEPOT				749.74	
VENDOR NAME: HOOPSTER PERFORMANCE INC 6691 NEW SQUAD GRAPHICS					
		430-5700-571100	1,060.00	1,060.00 POLICE	08/08/2024
TOTAL VENDOR HOOPSTER PERFORMANCE INC				1,060.00	
VENDOR NAME: HYDROCORP CI-01059 COMMERCIAL CROSS CONNECTION SURVEY PROGR					
		610-6920-692300	1,413.00	1,413.00 UTILITIES	08/08/2024
TOTAL VENDOR HYDROCORP				1,413.00	
VENDOR NAME: JAYME SUKOWATY 073024 DNR EXAM FEE					
		620-8400-854100	50.00	50.00 UTILITIES	08/08/2024
TOTAL VENDOR JAYME SUKOWATY				50.00	
VENDOR NAME: JEFFERSON FIRE & SAFETY					
		IN316835 BAUER COMPRESSOR MAINTENANCE	150-5222-539500	395.00 FIRE	08/08/2024
		IN316413 E34 CAMERA SYSTEM	150-5222-539500	559.55 FIRE	08/08/2024
		IN316842 TRUCK34 REPAIR	150-5222-539500	83.24 FIRE	08/08/2024
TOTAL VENDOR JEFFERSON FIRE & SAFETY				1,037.79	
VENDOR NAME: JOHNS DISPOSAL SVC. INC. 1408390 JULY GARBAGE AND RECYCLING					
		410-5362-531000	27,919.48	48,744.00 DPW	08/08/2024
		410-5363-522000	20,824.52		
TOTAL VENDOR JOHNS DISPOSAL SVC. INC.				48,744.00	
VENDOR NAME: LAKESIDE INTERNATIONAL					
		1426151P PATROL TRUCK OIL PAN	100-5324-539500	1,056.87 DPW	08/08/2024
		1426148P PATROL TRUCK #10 OIL PAN	100-5324-539500	1,056.87 DPW	08/08/2024
		1426149P PATROL TRUCK # 7 OIL PAN	100-5324-539500	1,040.21 DPW	08/08/2024
TOTAL VENDOR LAKESIDE INTERNATIONAL				3,153.95	
VENDOR NAME: LANGE ENTERPRISES INC 88216 STREET SIGNS					
		100-5348-531100	574.60	574.60 DPW	08/08/2024
TOTAL VENDOR LANGE ENTERPRISES INC				574.60	
VENDOR NAME: LIFE-ASSIST, INC.					
		1493628 EMS SUPPLIES	150-5231-531100	217.60 FIRE	08/08/2024
		1494031 EMS SUPPLIES	150-5231-531100	218.61 FIRE	08/08/2024
		1455362 EMS SUPPLIES SAPPHIRE PUMP REFUND	150-5231-531100	(242.23) FIRE	08/08/2024
TOTAL VENDOR LIFE-ASSIST, INC.				193.98	

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VENDOR NAME: LYNCH CHEVROLET						
4116355	FLEET MAINTENANCE	620-8010-828000	131.88	131.88	UTILITIES	08/08/2024
4120033	FLEET MAINTENANCE	620-8010-828000	379.68	379.68	UTILITIES	08/08/2024
4117495	TRUCK #1 SPRAY IN BEDLINER	100-5324-539500	600.00	600.00	DPW	08/08/2024
4120353	FLEET MAINTENANCE	610-6920-693300	74.99	74.99	UTILITIES	08/08/2024
TOTAL VENDOR LYNCH CHEVROLET				1,186.55		
VENDOR NAME: LYNCH CHRYSLER DODGE						
149209	RUNNING BOARD INSTALL	610-6920-693300	557.84	557.84	UTILITIES	08/08/2024
TOTAL VENDOR LYNCH CHRYSLER DODGE				557.84		
VENDOR NAME: MARTENS PLBG & HTG INC						
69490	RED BRICK MUSEUM AC REPAIRS	100-5512-582100	194.00	194.00	DPW	08/08/2024
TOTAL VENDOR MARTENS PLBG & HTG INC				194.00		
VENDOR NAME: MCDONOUGH SEPTIC						
I12922	PORTABLE RESTROOMS	100-5521-531100	95.00	95.00	DPW	08/08/2024
I12923	PORTABLE RESTROOMS	100-5521-531100	95.00	95.00	DPW	08/08/2024
I12924	PORTABLE RESTROOMS	100-5521-531100	190.00	190.00	DPW	08/08/2024
I12931	PORTABLE RESTROOMS	100-5521-531100	95.00	95.00	DPW	08/08/2024
I12704	PORTABLE RESTROOMS	100-5521-531100	285.00	285.00	DPW	08/08/2024
I12780	PORTABLE RESTROOM	100-5521-531100	135.00	135.00	DPW	08/08/2024
I12773	PORTA POT-HAULER STATION	620-8010-827000	95.00	95.00	UTILITIES	08/08/2024
TOTAL VENDOR MCDONOUGH SEPTIC				990.00		
VENDOR NAME: MINUTEMAN PRESS OF BURLINGTON						
57036	BUSINESS CARDS	100-5241-531100	95.32	95.32	CLERK	08/08/2024
57035	CARDS	150-5221-531100	74.83	74.83	FIRE	08/08/2024
TOTAL VENDOR MINUTEMAN PRESS OF BURLINGTON				170.15		
VENDOR NAME: MUKWONAGO AREA CHAMBER OF COMM						
JUNE 2024 ROOM TAX	JUNE 2024 AGODA ROOM TAX DUE TO CHAMBER	100-0000-244000	56.38	56.38	CLERK	08/08/2024
SEPT 2023/APRIL 2024	AGODA/EXPEDIA SEPT 2023 ROOM TAX / 945 G	100-0000-244000	3,141.94	4,554.00	CLERK	08/08/2024
		100-0000-244000	1,353.77			
		100-0000-244000	58.29			
JUNE 2024 EXPEDIA	JUNE 2024 EXPEDIA ROOM TAX DUE TO CHAMBER	100-0000-244000	920.29	920.29	CLERK	08/08/2024
TOTAL VENDOR MUKWONAGO AREA CHAMBER OF COMM				5,530.67		
VENDOR NAME: MUKWONAGO DOOR LLC						
072524	DONATED MINIWAUKAN SHED GARAGE DOOR INST	340-5890-580601	1,225.00	1,225.00	DPW	08/08/2024
TOTAL VENDOR MUKWONAGO DOOR LLC				1,225.00		
VENDOR NAME: MUNICIPAL LAW & LITIGATION						
12653	GFLP 20CV1292 22AP284	100-5130-521900	90.00	90.00	FINANCE	08/08/2024
TOTAL VENDOR MUNICIPAL LAW & LITIGATION				90.00		
VENDOR NAME: NAPA AUTO PARTS - SP018						
228214	TORO HYDRAULIC HOSE	100-5324-539500	152.92	152.92	DPW	08/08/2024
229478	LIGHT REPLACEMENT	610-6920-693300	10.99	10.99	UTILITIES	08/08/2024
229439	DIGESTER-COMPRESSOR BELT	620-8010-827000	123.22	123.22	UTILITIES	08/08/2024

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VENDOR NAME: NAPA AUTO PARTS - SP018					
	TOTAL VENDOR NAPA AUTO PARTS - SP018			287.13	
VENDOR NAME: NORTHERN LAKE SERVICE INC					
2410863	COMPLIANCE SAMPLING-PFAS	610-6300-663200	460.00	460.00 UTILITIES	08/08/2024
2410899	COMPLIANCE SAMPLING-BACTI	610-6300-663200	137.50	137.50 UTILITIES	08/08/2024
2411777	COMPLIANCE SAMPLING-BACTI	610-6300-663200	110.00	110.00 UTILITIES	08/08/2024
2411841	RIVER SAMPLING	620-8400-852100	343.80	343.80 UTILITIES	08/08/2024
	TOTAL VENDOR NORTHERN LAKE SERVICE INC			1,051.30	
VENDOR NAME: POMPS TIRE SERVICE, INC					
60342293	2017 AMBULANCE TIRES	150-5231-539500	747.20	747.20 FIRE	08/08/2024
	TOTAL VENDOR POMPS TIRE SERVICE, INC			747.20	
VENDOR NAME: PROHEALTH MEDICAL GROUP					
322887	ENTRY PHYSICAL EXAM	150-5221-521900	135.00	135.00 FIRE	08/08/2024
	TOTAL VENDOR PROHEALTH MEDICAL GROUP			135.00	
VENDOR NAME: PROPHOENIX CORPORATION					
2024359	PHOENIX CONFERENCE REGISTRATION - KREISE	100-5213-533500	795.00	795.00 POLICE	08/08/2024
2024358	PHOENIX CONFERENCE REGISTRATION - WILSON	100-5215-533500	795.00	795.00 POLICE	08/08/2024
	TOTAL VENDOR PROPHOENIX CORPORATION			1,590.00	
VENDOR NAME: RENEW BIOMEDICAL					
24665	HAMILTON T1 VENTILATOR PM	150-5231-539500	800.00	800.00 FIRE	08/08/2024
	TOTAL VENDOR RENEW BIOMEDICAL			800.00	
VENDOR NAME: RICHARD ROGERS					
2024 UNIFORM ALLOW	2024 UNIFORM ALLOWANCE - ROGERS	100-5212-534600	308.03	308.03 POLICE	08/08/2024
2024 UNIFORM ALLOW	2024 UNIFORM ALLOWANCE - ROGERS	100-5212-534600	86.10	86.10 POLICE	08/08/2024
	TOTAL VENDOR RICHARD ROGERS			394.13	
VENDOR NAME: RJ THOMAS MFG CO					
269744	PICNIC TABLES	430-5700-571200	15,183.00	15,183.00 DPW	08/08/2024
	TOTAL VENDOR RJ THOMAS MFG CO			15,183.00	
VENDOR NAME: RUEKERT & MIELKE, INC.					
152385	12-00000.100 General Services	100-5300-521900	533.00	6,959.50 FINANCE	08/08/2024
		100-5335-521900	1,584.75		
		100-5670-521900	3,921.75		
		250-5335-521900	330.00		
		610-6920-692300	590.00		
152383	12-00000.300 Water Utility Services	610-6920-692300	51.25	51.25 FINANCE	08/08/2024
152384	12-00000.400 Sewer Utility Services	620-8400-852000	717.50	717.50 FINANCE	08/08/2024
152386	12-10096.300 Deback Drive Infrastructure	200-5335-521900	3,719.23	3,719.23 FINANCE	08/08/2024
152388	12-10131.300 Atkinson Pump Station Capac	620-0000-000104	507.75	507.75 FINANCE	08/08/2024
152387	12-10131.310 Atkinson Pump Station Capac	620-0000-000104	1,211.50	1,211.50 FINANCE	08/08/2024
152390	12-10159.201 Rochester Street Reconstruc	610-6920-692300	1,707.35	3,414.70 FINANCE	08/08/2024
		620-8400-852000	1,707.35		

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VENDOR NAME: RUEKERT & MIELKE, INC.						
152391	12-10167.100 WWTF Biosolids Handling & S	620-8400-852000	4,700.00	4,700.00	FINANCE	08/08/2024
152392	12-10169.200 Wells 3 and 4 Radium Remova	610-0000-000109	39,759.49	39,759.49	FINANCE	08/08/2024
152396	12-10199.310 Two Rivers Phase 1 Rehabili	480-5700-586100	25,692.71	25,692.71	FINANCE	08/08/2024
152399	12-10215.124 Village Planning Services	100-5632-521900	7,008.94	7,008.94	FINANCE	08/08/2024
152401	12-10221.100 Dunkin Donuts / Review	100-5335-521900	1,743.25	1,743.25	FINANCE	08/08/2024
152389	12-10149.310 EDGEWOOD CONDOS / EROSION C	100-0000-211425	366.28	366.28	FINANCE	08/08/2024
152393	12-10185.100 GS GLOBAL EXPANSION / REVIE	100-0000-211425	95.00	95.00	FINANCE	08/08/2024
152394	12-10185.100 GS GLOBAL EXPANSION / REVIE	100-0000-211425	163.50	163.50	FINANCE	08/08/2024
152395	12-10196.100 ADELHELM LUBRICOAT EXPANSIO	100-0000-211425	355.40	355.40	FINANCE	08/08/2024
152398	12-10210.100 CARDINAL RIDGE HEIN DEVELOP	100-0000-211425	409.48	409.48	FINANCE	08/08/2024
152400	12-10216.100 AZURA SENIOR LIVING / REVIE	100-0000-211425	1,140.00	1,140.00	FINANCE	08/08/2024
TOTAL VENDOR RUEKERT & MIELKE, INC.				98,015.48		
VENDOR NAME: RUNDLE-SPENCE						
S3195510.001	METER HORN REPAIR	610-6453-664100	160.95	160.95	UTILITIES	08/08/2024
TOTAL VENDOR RUNDLE-SPENCE				160.95		
VENDOR NAME: SAN-A-CARE						
627319	FOAMING GUNS	100-5521-531100	200.79	200.79	DPW	08/08/2024
TOTAL VENDOR SAN-A-CARE				200.79		
VENDOR NAME: SCOTT REEVES						
JULY 2024 MILEAGE	JULY 2024 MILEAGE REIMBURSEMENT	100-5111-533500	96.48	96.48	CLERK	08/08/2024
TOTAL VENDOR SCOTT REEVES				96.48		
VENDOR NAME: SHI INTERNATIONAL CORP						
B18587425	VILLAGE-WIDE NETWORK	100-5150-531100	929.08	929.08	FINANCE	08/08/2024
TOTAL VENDOR SHI INTERNATIONAL CORP				929.08		
VENDOR NAME: SOMAR ENTERPRISES						
103342	NEW DISPATCHER NAME TAG	100-5211-534700	18.60	18.60	POLICE	08/08/2024
103333	CHAPLAIN BADGES	100-5212-534700	282.96	282.96	POLICE	08/08/2024
TOTAL VENDOR SOMAR ENTERPRISES				301.56		
VENDOR NAME: SOUTHERN LAKES NEWSPAPERS						
073124 CREDIT	CREDIT ON ACCOUNT FOR INVOICES PAID TWIC	100-5142-531200	(205.50)	(205.50)	CLERK	08/08/2024
073124 DPW	JOB ADVERTIZMENT	100-5300-521901	648.00	648.00	DPW	08/08/2024
TOTAL VENDOR SOUTHERN LAKES NEWSPAPERS				442.50		
VENDOR NAME: STERICYCLE						
8007870548	PD SHRED SERVICE	100-5211-521900	89.28	89.28	POLICE	08/08/2024
8007777538	2024 JUNE VH SHREDDING SERVICES	100-5141-531100	52.65	105.31	ALLOCATE	08/08/2024
		100-5142-531100	26.33			
		100-5632-531100	26.33			
TOTAL VENDOR STERICYCLE				194.59		
VENDOR NAME: STRYKER SALES, LLC						
9206637170	LP 35 CARDIAC MONITORS	430-5700-571400	200,689.36	200,689.36	FIRE	08/08/2024
9206637174	LP35 MODEM INVOICE	430-5700-571400	5,692.48	5,692.48	FIRE	08/08/2024
9206637177	LP35 OPTIONS INVOICE	430-5700-571400	21,871.80	21,871.80	FIRE	08/08/2024

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VENDOR NAME: STRYKER SALES, LLC						
9206697035	LP35 SERVICE CONTRACT 07-09-2024 TO 07-0	430-5700-571400	47,466.30	47,466.30	FIRE	08/08/2024
9206756729	EMS SUPPLIES	150-5231-531100	137.45	137.45	FIRE	08/08/2024
TOTAL VENDOR STRYKER SALES, LLC				275,857.39		
VENDOR NAME: SUPERIOR CHEMICAL LLC						
387621	SHOP SOAP DISPENSER PARTS	100-5323-531100	49.85	49.85	DPW	08/08/2024
TOTAL VENDOR SUPERIOR CHEMICAL LLC				49.85		
VENDOR NAME: TERMINAL ANDRAE INC.						
66057	LIGHT REPLACEMENT/UPGRADES	620-8010-834000	2,675.00	2,675.00	UTILITIES	08/08/2024
TOTAL VENDOR TERMINAL ANDRAE INC.				2,675.00		
VENDOR NAME: THE EXPEDITERS INC						
3941	SANITARY SEWER TELEVISIONING	620-8030-531000	10,056.75	10,056.75	UTILITIES	08/08/2024
TOTAL VENDOR THE EXPEDITERS INC				10,056.75		
VENDOR NAME: THERMA-STOR LLC						
3166028 RI	WELL 7-DEHUMIDIFIER PARTS	610-6210-662500	509.58	509.58	UTILITIES	08/08/2024
TOTAL VENDOR THERMA-STOR LLC				509.58		
VENDOR NAME: THOMAS GREENHOUSE & GARDENS						
113530	VILLAGE HALL PLANTS, PLANTAERS AND GROWI	100-5160-531100	108.23	218.59	DPW	08/08/2024
		100-5521-531100	18.38			
		340-5890-580601	24.51			
		340-5890-580600	67.47			
TOTAL VENDOR THOMAS GREENHOUSE & GARDENS				218.59		
VENDOR NAME: T-MOBILE						
JULY 2024	T-MOBILE INVOICE	150-5221-522500	429.84	429.84	FIRE	08/08/2024
TOTAL VENDOR T-MOBILE				429.84		
VENDOR NAME: TRIPLE CROWN PRODUCTS						
356196	CLASS 3 SAFETY SHIRTS	610-6920-693000	605.32	1,210.64	UTILITIES	08/08/2024
		620-8400-856000	605.32			
TOTAL VENDOR TRIPLE CROWN PRODUCTS				1,210.64		
VENDOR NAME: ULINE						
180340756	LAB SUPPLIES	620-8010-826000	457.72	457.72	UTILITIES	08/08/2024
TOTAL VENDOR ULINE				457.72		
VENDOR NAME: USA BLUEBOOK						
INV00417314	LAB SUPPLIES	620-8010-826000	161.42	161.42	UTILITIES	08/08/2024
INV00425161	PLUMBING-2' VALVES	620-8010-827000	666.18	666.18	UTILITIES	08/08/2024
TOTAL VENDOR USA BLUEBOOK				827.60		
VENDOR NAME: VERIZON WIRELESS						

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PENDING VILLAGE BOARD REVIEW FOR MUKWONAGO

EXP CHECK RUN DATES 08/08/2024 - 08/08/2024

UNJOURNALIZED OPEN

BANK CODE: GEN

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INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT	POST DATE
VENDOR NAME: VERIZON WIRELESS						
9968189801	VERIZON INVOICE	150-5221-522500	50.12	50.12	FIRE	08/08/2024
9968941453	2024 JULY CELL BILL ACCT# 885503900-0000	610-6920-692100	127.91	255.83	ALLOCATE	08/08/2024
		620-8400-851000	127.92			
TOTAL VENDOR VERIZON WIRELESS				305.95		
VENDOR NAME: VILLAGE OF VERNON						
2024 SPRING ELECTIC	ELECTION SHARED LEGAL NOTICE	100-5144-531200	22.69	22.69	CLERK	08/08/2024
TOTAL VENDOR VILLAGE OF VERNON				22.69		
VENDOR NAME: WANASEK CORP						
15447	WATER SERVICE REPAIR	610-6452-665200	13,699.79	13,699.79	UTILITIES	08/08/2024
TOTAL VENDOR WANASEK CORP				13,699.79		
VENDOR NAME: WAUKESHA COUNTY REGISTER OF DEEDS						
4770726	RECORDING OF CONDITIONAL USE AZURA	100-0000-211425	30.00	30.00	FINANCE	08/08/2024
TOTAL VENDOR WAUKESHA COUNTY REGISTER OF DEEDS				30.00		
VENDOR NAME: WI DEPT OF AGRICULTURE, TRADE						
115-0000033821	WEIGHTS MEASURES CONTRACT WITH DEPT AG	100-0000-211500	4,500.00	4,500.00	CLERK	08/08/2024
TOTAL VENDOR WI DEPT OF AGRICULTURE, TRADE				4,500.00		
VENDOR NAME: WI DEPT OF JUSTICE-TIME						
455TIME-0000016485	WI DOJ CIB BADGERNET AND TIME 3RD QUARTE	100-5211-522900	2,218.50	2,218.50	POLICE	08/08/2024
TOTAL VENDOR WI DEPT OF JUSTICE-TIME				2,218.50		
VENDOR NAME: YOUNG SLINKO						
MFD 17364	EBIX PATIENT REFUND MFD 17364	150-0000-130450	625.00	625.00	FINANCE	08/08/2024
TOTAL VENDOR YOUNG SLINKO				625.00		
VENDOR NAME: ZERFAS, SHAY						
2024 CONFERENCE	MEALS FOR INSTITUTE	100-5142-533500	77.14	77.14	CLERK	08/08/2024
TOTAL VENDOR ZERFAS, SHAY				77.14		
VENDOR NAME: ZORN COMPRESSOR & EQUIPMENT						
423955-00	DIGESTER-COMPRESSOR WATER SEPERATOR FILT	620-8010-827000	457.57	457.57	UTILITIES	08/08/2024
TOTAL VENDOR ZORN COMPRESSOR & EQUIPMENT				457.57		
GRAND TOTAL:				591,877.68		

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User: MROCKLEY				CHECK NUMBER 38918				
DB: Mukwonago				Banks: GEN				
Check Date	Bank	Check #	Payee	Description	GL #	Amount		
07/02/2024	GEN	38918	JESSIE STEINBERG	07/03/24 CONCERT SERIES - MANNISH	340-5890-580603	1,200.00		
TOTAL - ALL FUNDS				TOTAL OF 1 CHECKS		1,200.00		

Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/02/2024	GEN	38919	VERENE H CIRILLO	EBIX PATIENT REFUND MFD 17462	150-0000-130450	95.00
			TOTAL - ALL FUNDS	TOTAL OF 1 CHECKS		95.00

Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/02/2024	GEN	38920	SECURIAN FINANCIAL GROUP INC	JULY 2024 ACCIDENTAL INS	100-0000-215305	49.70
		38920		JULY 2024 ACCIDENTAL INS	150-0000-215305	10.88
		38920		JULY 2024 ACCIDENTAL INS	440-0000-215305	3.84
						64.42
07/02/2024	GEN	835 (E)	GREAT WEST RETIREMENT SERVICES	RETIREMENT GW PR 07/05/24	100-0000-215250	643.78
		835 (E)		RETIREMENT GW PR 07/05/24	150-0000-215250	2,479.74
						3,123.52
07/02/2024	GEN	836 (E)	MISSION SQUARE	RETIREMENT MS/ICMA PR 07/05/24 ID	100-0000-215250	4,028.03
		836 (E)		RETIREMENT MS/ICMA PR 07/05/24 ID	150-0000-215250	50.00
		836 (E)		RETIREMENT MS/ICMA PR 07/05/24 ID	440-0000-215250	945.48
		836 (E)		RETIREMENT MS/ICMA PR 07/05/24 ID	610-0000-215250	197.02
		836 (E)		RETIREMENT MS/ICMA PR 07/05/24 ID	620-0000-215250	432.84
						5,653.37
TOTAL - ALL FUNDS				TOTAL OF 3 CHECKS		8,841.31

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User: MROCKLEY			CHECK NUMBER 837					
DB: Mukwonago			Banks: GEN					
Check Date	Bank	Check #	Payee	Description	GL #	Amount		
07/03/2024	GEN	837 (E)	CHARTER COMMUNICATIONS	JULY 2024 MONTHLY BILL	100-5120-522500	19.47		
		837 (E)		JULY 2024 MONTHLY BILL	100-5141-522500	8.24		
		837 (E)		JULY 2024 MONTHLY BILL	100-5142-522500	67.93		
		837 (E)		JULY 2024 MONTHLY BILL	100-5145-522900	32.96		
		837 (E)		JULY 2024 MONTHLY BILL	100-5160-522500	26.95		
		837 (E)		JULY 2024 MONTHLY BILL	100-5211-522500	290.49		
		837 (E)		JULY 2024 MONTHLY BILL	100-5241-522500	19.47		
		837 (E)		JULY 2024 MONTHLY BILL	100-5323-522500	38.20		
		837 (E)		JULY 2024 MONTHLY BILL	100-5512-522500	139.99		
		837 (E)		JULY 2024 MONTHLY BILL	150-5221-522500	190.25		
		837 (E)		JULY 2024 MONTHLY BILL	410-5363-522500	2.16		
		837 (E)		JULY 2024 MONTHLY BILL	440-5511-522500	152.05		
		837 (E)		JULY 2024 MONTHLY BILL	500-5344-522500	1.08		
		837 (E)		JULY 2024 MONTHLY BILL	610-6920-692100	18.34		
		837 (E)		JULY 2024 MONTHLY BILL	620-8400-851000	18.34		
						1,025.92		
TOTAL - ALL FUNDS				TOTAL OF 1 CHECKS		1,025.92		

Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/03/2024	GEN	838 (E)	WI DEPT OF REVENUE QTRLY TAX	WI DEPT OF REVENUE QTRLY TAX	100-5160-539900	63.83
		838 (E)		WI DEPT OF REVENUE QTRLY TAX	100-5521-539900	151.67
		838 (E)		WI DEPT OF REVENUE QTRLY TAX	440-5511-539900	165.59
						381.09
			TOTAL - ALL FUNDS	TOTAL OF 1 CHECKS		381.09

Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/03/2024	GEN	839 (E)	INVOICE CLOUD	INVOICE CLOUD MONTHLY FEES - JUNE	100-5142-539900	18.37
		839 (E)		INVOICE CLOUD MONTHLY FEES - JUNE	100-5241-539900	111.73
		839 (E)		INVOICE CLOUD MONTHLY FEES - JUNE	410-5363-539900	96.28
		839 (E)		INVOICE CLOUD MONTHLY FEES - JUNE	610-6920-692100	96.29
		839 (E)		INVOICE CLOUD MONTHLY FEES - JUNE	620-8300-840000	96.28
						418.95
TOTAL - ALL FUNDS				TOTAL OF 1 CHECKS		418.95

Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/11/2024	GEN	38976	DAWN HOOK	JUNE 2024 COURT FINES & FEES	100-0000-233000	247.00
07/11/2024	GEN	38977	SAMUEL M FOGLE	JULY 2024 COURT FINES & FEES	100-0000-233000	376.00
07/11/2024	GEN	38978	TREASURER STATE OF WI	JUNE 2024 COURT FINES & FEES	100-0000-242400	4,056.84
07/11/2024	GEN	38979	TREASURER WAUKESHA COUNTY	JUNE 2024 COURT FINES & FEES	100-0000-243240	1,646.80
			TOTAL - ALL FUNDS	TOTAL OF 4 CHECKS		6,326.64

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CHECK NUMBER 38980
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Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/12/2024	GEN	38980	MUSTAFA SAKERWALA	2024 NNO HENNA ARTIST	340-5890-580602	250.00
			TOTAL - ALL FUNDS	TOTAL OF 1 CHECKS		250.00

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INVOICE REGISTER REPORT FOR MUKWONAGO
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Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized Post Date
5084649901 65557	WE ENERGIES 0700126680-00001 Digester Gas 620-8010-821200	06/28/2024 MROCKLEY 0700126680-00001 Digester Gas	07/11/2024	11.41 11.41	0.00	Paid	Y 07/11/2024
5084649901 65558	WE ENERGIES 0700126680-00002 Well #3 Elec 610-6200-662200	06/28/2024 MROCKLEY 0700126680-00002 Well #3 Elec	07/11/2024	1,335.17 1,335.17	0.00	Paid	Y 07/11/2024
5084649901 65559	WE ENERGIES 0700126680-00003 Street Lights 100-5342-522200	06/28/2024 MROCKLEY 0700126680-00003 Street Lights	07/11/2024	3,991.52 3,991.52	0.00	Paid	Y 07/11/2024
5084649901 65560	WE ENERGIES 0700126680-00004 Greenwald 610-6200-662200	06/28/2024 MROCKLEY 0700126680-00004 Greenwald	07/11/2024	199.13 199.13	0.00	Paid	Y 07/11/2024
5084649901 65561	WE ENERGIES 0700126680-00005 Booster Station 610-6200-662200	06/28/2024 MROCKLEY 0700126680-00005 Booster Station	07/11/2024	380.82 380.82	0.00	Paid	Y 07/11/2024
5084649901 65562	WE ENERGIES 0700126680-00006 Field Park 100-5521-522200	06/28/2024 MROCKLEY 0700126680-00006 Field Park	07/11/2024	65.88 65.88	0.00	Paid	Y 07/11/2024
5084649901 65563	WE ENERGIES 0700126680-00007 1240 N. Rochester 620-8020-821000	06/28/2024 MROCKLEY 0700126680-00007 1240 N. Rochester	07/11/2024	102.80 102.80	0.00	Paid	Y 07/11/2024
5084649901 65564	WE ENERGIES 0700126680-00008 Police Garage 100-5211-522200	06/28/2024 MROCKLEY 0700126680-00008 Police Garage	07/11/2024	51.12 51.12	0.00	Paid	Y 07/11/2024
5084649901 65565	WE ENERGIES 0700126680-00009 Fld Prk Baseball 100-5521-522200	06/28/2024 MROCKLEY 0700126680-00009 Fld Prk Baseball Lights	07/11/2024	186.10 186.10	0.00	Paid	Y 07/11/2024
5084649901 65566	WE ENERGIES 0700126680-000010 Fox River View 620-8020-821000	06/28/2024 MROCKLEY 0700126680-000010 Fox River View	07/11/2024	171.76 171.76	0.00	Paid	Y 07/11/2024

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INVOICE REGISTER REPORT FOR MUKWONAGO
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Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized Post Date
5084649901 65567	WE ENERGIES 0700126680-000011 DPW Elec 100-5323-522200	06/28/2024 MROCKLEY 0700126680-000011 DPW Elec	07/11/2024	430.96 430.96	0.00	Paid	Y 07/11/2024
5084649901 65568	WE ENERGIES 0700126680-000012 Fire 150-5221-522200	06/28/2024 MROCKLEY 0700126680-000012 Fire	07/11/2024	1,348.43 1,348.43	0.00	Paid	Y 07/11/2024
5084649901 65569	WE ENERGIES 0700126680-000013 police-CTH E N of 100-5211-522200	06/28/2024 MROCKLEY 0700126680-000013 police-CTH E N of Sugd	07/11/2024	22.12 22.12	0.00	Paid	Y 07/11/2024
5084649901 65570	WE ENERGIES 0700126680-000014 Hall 100-5160-522200	06/28/2024 MROCKLEY 0700126680-000014 Hall	07/11/2024	1,069.63 1,069.63	0.00	Paid	Y 07/11/2024
5084649901 65571	WE ENERGIES 0700126680-000014 Hall Gas 100-5160-522400	06/28/2024 MROCKLEY 0700126680-000014 Hall Gas	07/11/2024	14.84 14.84	0.00	Paid	Y 07/11/2024
5084649901 65572	WE ENERGIES 0700126680-000016 Miniwauken Park 100-5521-522200	06/28/2024 MROCKLEY 0700126680-000016 Miniwauken Park	07/11/2024	52.10 52.10	0.00	Paid	Y 07/11/2024
5084649901 65573	WE ENERGIES 0700126680-000017 Holz Elec 620-8010-821100	06/28/2024 MROCKLEY 0700126680-000017 Holz Elec	07/11/2024	9,847.66 9,847.66	0.00	Paid	Y 07/11/2024
5084649901 65574	WE ENERGIES 0700126680-000018 Parks 100-5521-522200	06/28/2024 MROCKLEY 0700126680-000018 Parks	07/11/2024	34.66 34.66	0.00	Paid	Y 07/11/2024
5084649901 65575	WE ENERGIES 0700126680-000019 Atkinson Pump 620-8020-821000	06/28/2024 MROCKLEY 0700126680-000019 Atkinson Pump	07/11/2024	681.34 681.34	0.00	Paid	Y 07/11/2024
5084649901 65576	WE ENERGIES 0700126680-000020 Well #6 610-6200-662200	06/28/2024 MROCKLEY 0700126680-000020 Well #6	07/11/2024	865.89 865.89	0.00	Paid	Y 07/11/2024

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INVOICE REGISTER REPORT FOR MUKWONAGO
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5084649901 65577	WE ENERGIES 0700126680-000021 DPW Gas 100-5323-522400	06/28/2024 MROCKLEY 0700126680-000021 DPW Gas	07/11/2024	28.50 28.50	0.00	Paid	Y 07/11/2024
5084649901 65578	WE ENERGIES 0700126680-000022 Concession 100-5521-522200	06/28/2024 MROCKLEY 0700126680-000022 Concession Building	07/11/2024	861.27 861.27	0.00	Paid	Y 07/11/2024
5084649901 65579	WE ENERGIES 0700126680-000023 Well #3 Gas 610-6200-662200	06/28/2024 MROCKLEY 0700126680-000023 Well #3 Gas	07/11/2024	10.89 10.89	0.00	Paid	Y 07/11/2024
5084649901 65580	WE ENERGIES 0700126680-000024 Parks-200 S 100-5342-522200	06/28/2024 MROCKLEY 0700126680-000024 Parks-200 S Rochester	07/11/2024	23.93 23.93	0.00	Paid	Y 07/11/2024
5084649901 65581	WE ENERGIES 0700126680-000025 Tower 610-6200-662200	06/28/2024 MROCKLEY 0700126680-000025 Tower	07/11/2024	27.59 27.59	0.00	Paid	Y 07/11/2024
5084649901 65582	WE ENERGIES 0700126680-000027 Police 100-5211-522200	06/28/2024 MROCKLEY 0700126680-000027 Police	07/11/2024	1,448.05 1,448.05	0.00	Paid	Y 07/11/2024
5084649901 65583	WE ENERGIES 0700126680-000028 Miniwaukan 100-5521-522200	06/28/2024 MROCKLEY 0700126680-000028 Miniwaukan Pavilion	07/11/2024	23.43 23.43	0.00	Paid	Y 07/11/2024
5084649901 65584	WE ENERGIES 0700126680-000029 F. Park Sump Pump 100-5521-522200	06/28/2024 MROCKLEY 0700126680-000029 F. Park Sump Pump	07/11/2024	21.15 21.15	0.00	Paid	Y 07/11/2024
5084649901 65585	WE ENERGIES 0700126680-00030 Andrews Street 100-5521-522200	06/28/2024 MROCKLEY 0700126680-00030 Andrews Street	07/11/2024	115.65 115.65	0.00	Paid	Y 07/11/2024
5084649901 65586	WE ENERGIES 0700126680-000031 Holz Gas 620-8010-821200	06/28/2024 MROCKLEY 0700126680-000031 Holz Gas	07/11/2024	144.52 144.52	0.00	Paid	Y 07/11/2024

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INVOICE REGISTER REPORT FOR MUKWONAGO
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Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnlized Post Date
5084649901 65587	WE ENERGIES 0700126680-000032 Well #4 Elec 610-6200-662200	06/28/2024 MROCKLEY 0700126680-000032 Well #4 Elec	07/11/2024	4,144.28 4,144.28	0.00	Paid	Y 07/11/2024
5084649901 65588	WE ENERGIES 0700126680-000033 Parks 100-5521-522200	06/28/2024 MROCKLEY 0700126680-000033 Parks	07/11/2024	116.57 116.57	0.00	Paid	Y 07/11/2024
5084649901 65589	WE ENERGIES 0700126680-000034 Street Lights 100-5342-522200	06/28/2024 MROCKLEY 0700126680-000034 Street Lights	07/11/2024	60.40 60.40	0.00	Paid	Y 07/11/2024
5084649901 65590	WE ENERGIES 0700126680-000036 Flashers 100-5211-522200	06/28/2024 MROCKLEY 0700126680-000036 Flashers	07/11/2024	11.18 11.18	0.00	Paid	Y 07/11/2024
5084649901 65591	WE ENERGIES 0700126680-000037 Well #4 Gas 610-6200-662200	06/28/2024 MROCKLEY 0700126680-000037 Well #4 Gas	07/11/2024	12.41 12.41	0.00	Paid	Y 07/11/2024
5084649901 65592	WE ENERGIES 0700126680-000038 Museum 100-5512-522200	06/28/2024 MROCKLEY 0700126680-000038 Museum	07/11/2024	265.22 265.22	0.00	Paid	Y 07/11/2024
5084649901 65593	WE ENERGIES 0700126680-000039 Well #5 610-6200-662200	06/28/2024 MROCKLEY 0700126680-000039 Well #5	07/11/2024	2,075.08 2,075.08	0.00	Paid	Y 07/11/2024
5084649901 65594	WE ENERGIES 0700126680-00043 Outdoor Stage 100-5521-522200	06/28/2024 MROCKLEY 0700126680-00043 Outdoor Stage	07/11/2024	25.55 25.55	0.00	Paid	Y 07/11/2024
5084649901 65595	WE ENERGIES 0700126680-00048 Miniwauken Park 100-5521-522200	06/28/2024 MROCKLEY 0700126680-00048 Miniwauken Park	07/11/2024	32.05 32.05	0.00	Paid	Y 07/11/2024
5084649901 65596	WE ENERGIES 0709449777-00001 Library Gas 440-5511-522400	06/28/2024 MROCKLEY 0709449777-00001 Library Gas	07/11/2024	3,199.46 3,199.46	0.00	Paid	Y 07/11/2024

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5084649901 65598	WE ENERGIES 0712697628-00001 Tower Radio Bldg 100-5211-522200	06/28/2024 MROCKLEY 0712697628-00001 Tower Radio Bldg	07/11/2024	31.90 31.90	0.00	Paid	Y 07/11/2024
5084649901 65599	WE ENERGIES 0712697628-00002 Mukw Dam 100-5254-522200	06/28/2024 MROCKLEY 0712697628-00002 Mukw Dam	07/11/2024	25.07 25.07	0.00	Paid	Y 07/11/2024
5084649901 65600	WE ENERGIES 0712697628-00003 PD Tower meter 100-5211-522200	06/28/2024 MROCKLEY 0712697628-00003 PD Tower meter #05662	07/11/2024	24.74 24.74	0.00	Paid	Y 07/11/2024
5084649901 65601	WE ENERGIES 0712697628-00004 1224 Riverton 620-8020-821000	06/28/2024 MROCKLEY 0712697628-00004 1224 Riverton	07/11/2024	100.68 100.68	0.00	Paid	Y 07/11/2024
5084649901 65602	WE ENERGIES 0712697628-00006 Well #7 610-6200-662200	06/28/2024 MROCKLEY 0712697628-00006 Well #7	07/11/2024	400.86 400.86	0.00	Paid	Y 07/11/2024
5084649901 65603	WE ENERGIES 0712697628-00007 School Crossing 100-5342-522200	06/28/2024 MROCKLEY 0712697628-00007 School Crossing Lights	07/11/2024	16.76 16.76	0.00	Paid	Y 07/11/2024
5084649901 65604	WE ENERGIES 0712697628-00008 Field Park Signage 100-5521-522200	06/28/2024 MROCKLEY 0712697628-00008 Field Park Signage	07/11/2024	54.36 54.36	0.00	Paid	Y 07/11/2024
5080957477 65605	WE ENERGIES 0700126680-00015 STREET LIGHTS 100-5342-522200	06/28/2024 MROCKLEY 0700126680-00015 STREET LIGHTS	07/11/2024	10,463.97 10,463.97	0.00	Paid	Y 07/11/2024

Inv Num	Vendor	Inv Date	Due Date	Inv Amt	Amt Due	Status	Jrnalized
Inv Ref#	Description	Entered By					Post Date
	GL Distribution						
# of Invoices:	48	# Due:	0	Totals:	44,628.86	0.00	
# of Credit Memos:	0	# Due:	0	Totals:	0.00	0.00	
Net of Invoices and Credit Memos:				44,628.86	0.00		

--- TOTALS BY GL DISTRIBUTION ---

100-5160-522200	ELECTRIC	1,069.63	
100-5160-522400	GAS	14.84	
100-5211-522200	ELECTRIC	1,589.11	
100-5254-522200	ELECTRIC	25.07	
100-5323-522200	ELECTRIC	430.96	
100-5323-522400	GAS	28.50	
100-5342-522200	ELECTRIC	14,556.58	
100-5512-522200	ELECTRIC	265.22	
100-5521-522200	ELECTRIC	1,588.77	
150-5221-522200	ELECTRIC	1,348.43	
440-5511-522400	GAS	3,199.46	
610-6200-662200	FUEL OR POWER PURCHASED	9,452.12	
620-8010-821100	WWTP ELECTRIC POWER	9,847.66	
620-8010-821200	NAT GAS/ADMIN BLDG/HEAT EXCH	155.93	
620-8020-821000	PUMPING POWER & FUEL	1,056.58	

--- TOTALS BY FUND ---

100 - GENERAL FUND	19,568.68	0.00
150 - FIRE/AMBULANCE FUND	1,348.43	0.00
440 - LIBRARY FUND	3,199.46	0.00
610 - WATER UTILITY FUND	9,452.12	0.00
620 - SEWER UTILITY FUND	11,060.17	0.00

--- TOTALS BY DEPT/ACTIVITY ---

5160 - VILLAGE HALL	1,084.47	0.00
5211 - POLICE ADMINISTRATION	1,589.11	0.00
5221 - FIRE ADMINISTRATION	1,348.43	0.00
5254 - DAMS	25.07	0.00
5323 - GARAGE	459.46	0.00
5342 - STREET LIGHTING	14,556.58	0.00
5511 - LIBRARY SERVICES	3,199.46	0.00
5512 - MUSEUM	265.22	0.00
5521 - PARKS	1,588.77	0.00
6200 - PUMPING OPERATIONS	9,452.12	0.00
8010 - WWTP-TREATMENT/DISPOSAL/GP	10,003.59	0.00
8020 - LIFT STATIONS/PUMPING EQUIP	1,056.58	0.00

Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 440 LIBRARY FUND								
07/12/2024	GEN	38982	IMIL2023606	ALSCO	OUTSIDE SERVICES	531000	5511	35.37
07/12/2024	GEN	38983#	13LP-XVLX-6LC6	AMAZON CAPITOL SERVICES	OPERATIONAL SUPPLIES	531100	5511	416.86
			1P66-XX63-CFLX		COLLECTION MAINTENANCE & REPAIR	531600	5511	506.89
			1CGC-PWJ9-7NKG		METASPACE MAINTENANCE	531700	5511	532.60
			1CX9-H31D-63L4		THINGERY COLLECTION	533000	5511	219.56
			13LP-XVLX-6QQ1		PROGRAMMING	533100	5511	38.40
			1G4Q-4YNX-7TGL		PROGRAMMING	533100	5511	220.03
			1C4M-XVDQ-6QX7		PROGRAMMING	533100	5511	25.97
			171Y-JKT9-63QW		PROGRAMMING	533100	5511	21.24
			1HMF-1FVG-976T		OUTREACH	533300	5511	118.23
			1611-TNQ7-94JM		BOOKS	532800	5700	126.81
			17ND-7Y4H-6PLF		AV MATERIAL	532900	5700	650.01
			1NCL-9Y6L-6QVK		DONATED FUND EXPENDITURES	580600	5890	65.69
			1KYT-T6L3-3W3T		DONATED FUND EXPENDITURES	580600	5890	1,146.17
			CHECK GEN 38983 TOTAL FOR FUN					
07/12/2024	GEN	38984	54084	AMERICA AQUARIA	OUTSIDE SERVICES	531000	5511	85.00
07/12/2024	GEN	38985	2038269722	BAKER & TAYLOR INC.	BOOKS	532800	5700	83.23
			2038269723		BOOKS	532800	5700	450.68
			2038359769		BOOKS	532800	5700	346.39
			2038359770		BOOKS	532800	5700	150.00
			2038363159		BOOKS	532800	5700	41.81
			2038363160		BOOKS	532800	5700	415.37
			2038367990		BOOKS	532800	5700	86.25
			2038367991		BOOKS	532800	5700	457.44
			2038381850		BOOKS	532800	5700	154.71
			2038381851		BOOKS	532800	5700	157.24
			2038398214		BOOKS	532800	5700	241.32
			CHECK GEN 38985 TOTAL FOR FUN					
07/12/2024	GEN	38986	77770	BAYSCAN TECHNOLOGIES	COLLECTION MAINTENANCE & REPAIR	531600	5511	124.23
07/12/2024	GEN	38987	2670	BERNSTEIN & ASSOCIATES, LLC	DONATED FUND EXPENDITURES	580600	5890	600.00
07/12/2024	GEN	38988	2157907	BLACKSTONE PUBLISHING	AV MATERIAL	532900	5700	38.95
07/12/2024	GEN	38989	B6803541	BRODART	BOOKS	532800	5700	669.71
			B6803580		BOOKS	532800	5700	391.83
			B6812324		BOOKS	532800	5700	679.73

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CHECK DISBURSEMENT REPORT FOR MUKWONAGO
CHECK NUMBER 38982 - 39002

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Check Date	Bank	Check #	Invoice	Payee	Description	Account	Dept	Amount
Fund: 440 LIBRARY FUND								
				CHECK GEN 38989 TOTAL FOR FUN				1,741.29
07/12/2024	GEN	38990	2102793	CENTER POINT LARGE PRINT	BOOKS	532800	5700	14.99
07/12/2024	GEN	38991	06192024	CLASSIC CONCRETE & MASONRY	REPAIRS & MAINTENANCE	539500	5511	1,841.25
07/12/2024	GEN	38992	730251	COMPLETE OFFICE OF WISCONSIN	OPERATIONAL SUPPLIES	531100	5511	141.85
			727886		OPERATIONAL SUPPLIES	531100	5511	153.42
			CHECK GEN 38992 TOTAL FOR FUN				295.27	
07/12/2024	GEN	38993	7500648	DEMCO INC	COLLECTION MAINTENANCE & REPAIR	531600	5511	219.50
07/12/2024	GEN	38994	36875894	GREAT AMERICAN FINANCIAL SVCS	CONTRACTUAL SERVICES	522000	5511	353.14
07/12/2024	GEN	38995	07312024	HALE O MALO PRODUCTIONS, LLC	PROGRAMMING	533100	5511	450.00
07/12/2024	GEN	38996	18313	INTERSTATE ROOF SYSTEMS	REPAIRS & MAINTENANCE	539500	5511	1,044.37
07/12/2024	GEN	38997	8142024	JENNIFER WIDOWSKI	PROGRAMMING	533100	5511	255.00
07/12/2024	GEN	38998	24-328995-1	K-LOG, INC.	DONATED FUND EXPENDITURES	580600	5890	2,004.42
07/12/2024	GEN	38999	937	KLASSY KLEANERS	OUTSIDE SERVICES	531000	5511	2,360.00
07/12/2024	GEN	39000	505702294	MIDWEST TAPE	DIGITAL COLLECTIONS	534900	5511	864.93
07/12/2024	GEN	39001	7232024	THE ENCHANTED STORYBOOK CO.	PROGRAMMING	533100	5511	150.00
07/12/2024	GEN	39002	505-0000091564	WISC DEPT OF ADMINISTRATION	DATA LINES	534300	5511	600.00
Total for fund 440 LIBRARY FUND								19,750.61

'#'-INDICATES CHECK DISTRIBUTED TO MORE THAN ONE DEPARTMENT

Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/16/2024	GEN	39003	PROHEALTH CARE INC.	REFUND INCORRECT AMOUNT ENTERED	150-0000-130450	172,877.76
			TOTAL - ALL FUNDS	TOTAL OF 1 CHECKS		172,877.76

Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/18/2024	GEN	39082	AFLAC	ACCOUNT# V1553 JULY 2024	100-0000-215302	231.08
		39082		ACCOUNT# V1553 JULY 2024	150-0000-215302	338.66
		39082		ACCOUNT# V1553 JULY 2024	610-0000-215302	19.28
		39082		ACCOUNT# V1553 JULY 2024	620-0000-215302	214.10
						803.12
07/18/2024	GEN	39083	MUKWONAGO PROFESSIONAL	JULY 2024 FIRE UNION DUES	150-0000-215500	900.00
07/18/2024	GEN	39084	MUKWONAGO PROFESSIONAL POLICE	JULY 2024 POLICE UNION DUES	100-0000-215500	550.00
07/18/2024	GEN	39085	SECURIAN FINANCIAL GROUP INC	AUGUST 2024 LIFE INSURANCE	100-0000-215301	1,278.31
		39085		AUGUST 2024 LIFE INSURANCE	150-0000-215301	239.69
		39085		AUGUST 2024 LIFE INSURANCE	440-0000-215301	100.76
		39085		AUGUST 2024 LIFE INSURANCE	610-0000-215301	70.05
		39085		AUGUST 2024 LIFE INSURANCE	620-0000-215301	183.71
						1,872.52
07/18/2024	GEN	39086	VILLAGE OF MUKWONAGO MRA	JULY 2024 FSA	100-0000-215350	2,311.72
		39086		JULY 2024 FSA	150-0000-215350	972.38
		39086		JULY 2024 FSA	440-0000-215350	60.00
		39086		JULY 2024 FSA	610-0000-215350	10.11
		39086		JULY 2024 FSA	620-0000-215350	197.59
						3,551.80
07/18/2024	GEN	840 (E)	DELTA DENTAL OF WISCONSIN	AUGUST 2024 DENTAL PREMIUMS	100-0000-215304	2,683.97
		840 (E)		AUGUST 2024 DENTAL PREMIUMS	150-0000-215304	400.74
		840 (E)		AUGUST 2024 DENTAL PREMIUMS	440-0000-215304	211.21
		840 (E)		AUGUST 2024 DENTAL PREMIUMS	500-0000-215304	1.32
		840 (E)		AUGUST 2024 DENTAL PREMIUMS	610-0000-215304	35.47
		840 (E)		AUGUST 2024 DENTAL PREMIUMS	620-0000-215304	90.91
						3,423.62
07/18/2024	GEN	841 (E)	DELTA DENTAL OF WISCONSIN	AUGUST 2024 VISION PREMIUMS	100-0000-215303	113.23
		841 (E)		AUGUST 2024 VISION PREMIUMS	150-0000-215303	30.00

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CHECK DISBURSEMENT REPORT FOR MUKWONAGO
CHECK DATE FROM 07/18/2024 - 07/18/2024
Banks: GEN

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Check Date	Bank	Check #	Payee	Description	GL #	Amount
		841 (E)		AUGUST 2024 VISION PREMIUMS	440-0000-215303	30.25
						173.50
07/18/2024	GEN	842 (E)	EMPLOYEE TRUST FUNDS	AUGUST 2024 HEALTH INSURANCE	100-0000-215300	61,773.71
		842 (E)		AUGUST 2024 HEALTH INSURANCE	150-0000-215300	18,209.90
		842 (E)		AUGUST 2024 HEALTH INSURANCE	440-0000-215300	5,259.21
		842 (E)		AUGUST 2024 HEALTH INSURANCE	500-0000-215300	34.44
		842 (E)		AUGUST 2024 HEALTH INSURANCE	610-0000-215300	3,862.85
		842 (E)		AUGUST 2024 HEALTH INSURANCE	620-0000-215300	6,365.43
						95,505.54
07/18/2024	GEN	843 (E)	GREAT WEST RETIREMENT SERVICES	RETIREMENT GW PR 07/19/24	100-0000-215250	634.18
		843 (E)		RETIREMENT GW PR 07/19/24	150-0000-215250	2,377.50
						3,011.68
07/18/2024	GEN	844 (E)	MISSION SQUARE	RETIREMENT MS/ICMA PR 07/19/24 ID	100-0000-215250	3,810.37
		844 (E)		RETIREMENT MS/ICMA PR 07/19/24 ID	150-0000-215250	50.00
		844 (E)		RETIREMENT MS/ICMA PR 07/19/24 ID	440-0000-215250	938.38
		844 (E)		RETIREMENT MS/ICMA PR 07/19/24 ID	500-0000-215250	4.61
		844 (E)		RETIREMENT MS/ICMA PR 07/19/24 ID	610-0000-215250	191.49
		844 (E)		RETIREMENT MS/ICMA PR 07/19/24 ID	620-0000-215250	459.55
						5,454.40
07/18/2024	GEN	845 (E)	WI RETIREMENT SYSTEM	WISCONSIN RETIREMENT CONTRIBUTIONS - JUNE 2024	100-0000-215200	35,919.93
		845 (E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	150-0000-215200	18,379.68
		845 (E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	440-0000-215200	5,193.96
		845 (E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	500-0000-215200	13.52
		845 (E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	610-0000-215200	2,604.42
		845 (E)		WISCONSIN RETIREMENT CONTRIBUTIONS -	620-0000-215200	3,543.16
						65,654.67
			TOTAL - ALL FUNDS	TOTAL OF 11 CHECKS		180,900.85

Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/22/2024	GEN	39087	HALE O MALO PRODUCTIONS, LLC	OCEAN RUSH CANCELLATION - 06/01/24	340-5890-580603	700.00
07/22/2024	GEN	39088	HALE O MALO PRODUCTIONS, LLC	2024 CONCERT SERIES - OCEAN RUSH 07/25/24	340-5890-580603	2,400.00
			TOTAL - ALL FUNDS	TOTAL OF 2 CHECKS		3,100.00

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Banks: GEN

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Check Date	Bank	Check #	Payee	Description	GL #	Amount
07/22/2024	GEN	846 (E)	UKG INC.	PAYROLL PROCESSING FEES JUNE 2024	100-5111-539900	96.46
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5120-539900	27.56
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5142-539900	27.56
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5145-539900	41.35
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5211-539900	151.58
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5212-539900	192.92
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5213-521900	27.56
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5241-539900	27.56
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5300-539900	137.80
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	100-5670-521900	13.78
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	150-5221-539900	440.96
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	150-5233-531100	82.68
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	440-5511-534000	372.06
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	610-6902-690300	68.90
		846 (E)		PAYROLL PROCESSING FEES JUNE 2024	620-8300-840000	41.34
						1,750.07
TOTAL - ALL FUNDS				TOTAL OF 1 CHECKS		1,750.07

INVOICE REGISTER REPORT FOR MUKWONAGO
 EXP CHECK RUN DATES 07/22/2024 - 07/22/2024
 JOURNALIZED PAID
 BANK CODE: GEN - CHECK TYPE: EFT
 CREDIT CARD TRANSACTIONS FOR BOARD
 SORTED BY CARDHOLDER

Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnalized Post Date
Purchase Card Vendor: 0002 US BANK							
ARMOUR ABBY 65607	CANVA* I04193-72523250 MCL THANK YOU CARDS 440-5511-531100	06/25/2024 MROCKLEY	07/22/2024	56.25 56.25	0.00	Paid	Y 07/22/2024
	OPERATIONAL SUPPLIES						
BITTNER RONALD 65608	WWW.UI.COM PARKS REPLACEMENT CAMERA AMD WIFI 100-5521-531100	06/18/2024 MROCKLEY	07/22/2024	347.00 347.00	0.00	Paid	Y 07/22/2024
	OPERATIONAL SUPPLIES						
BITTNER RONALD 65609	ZORO TOOLS INC TOILET BOWEL BRUSHES 100-5521-531100	07/01/2024 MROCKLEY	07/22/2024	34.88 34.88	0.00	Paid	Y 07/22/2024
	OPERATIONAL SUPPLIES						
CEITHAMER EMILY 65610	SQ *SMV ENTERPRISES LLC BOOK 440-5700-532800	06/18/2024 MROCKLEY	07/22/2024	25.00 25.00	0.00	Paid	Y 07/22/2024
	BOOKS						
CEITHAMER EMILY 65611	DISNEYPLUS MONTHLY FEE 440-5511-531800	06/20/2024 MROCKLEY	07/22/2024	15.81 15.81	0.00	Paid	Y 07/22/2024
	THINGERY MAINTENANCE						
CEITHAMER EMILY 65612	MOBILE BEACON HOTSPOT RENEWAL 440-5511-531800	06/28/2024 MROCKLEY	07/22/2024	240.00 240.00	0.00	Paid	Y 07/22/2024
	THINGERY MAINTENANCE						
CEITHAMER EMILY 65613	HOTELCOM72056773807753 WLA CONFERENCE 440-5511-533500	07/13/2024 MROCKLEY	07/22/2024	351.48 351.48	0.00	Paid	Y 07/22/2024
	TRAINING & TRAVEL						
CEITHAMER EMILY 65614	AMERLIBASSOC ECOMMERCE ALA MEMBERSHIP 440-5511-533500	07/13/2024 MROCKLEY	07/22/2024	46.00 46.00	0.00	Paid	Y 07/22/2024
	TRAINING & TRAVEL						
DOHERTY DIANA 65615	MUNICIPAL* INV-5409 MTAW ANNUAL DUES 100-5145-532400	07/02/2024 MROCKLEY	07/22/2024	60.00 60.00	0.00	Paid	Y 07/22/2024
	MEMBERSHIP DUES						

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INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 07/22/2024 - 07/22/2024
JOURNALIZED PAID
BANK CODE: GEN - CHECK TYPE: EFT
CREDIT CARD TRANSACTIONS FOR BOARD
SORTED BY CARDHOLDER

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Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnalized Post Date
Purchase Card Vendor: 0002 US BANK							
DOHERTY DIANA 65616	VBS*VONAGE BUSINESS JULY 2024 VONAGE PHONE BILL 100-5141-522500 TELEPHONE 100-5142-522500 TELEPHONE 100-5145-522900 SOFTWARE SUPPORT/MAINTENANCE 100-5241-522500 TELEPHONE 100-5323-522500 TELEPHONE 100-5512-522500 TELEPHONE 100-5120-522500 TELEPHONE 100-5211-522500 TELEPHONE 150-5221-522500 TELEPHONE 440-5511-522500 TELEPHONE 610-6920-692100 OFFICE SUPPLIES & EXPENSES 620-8400-851000 OFFICE SUPPLIES & EXPENSES	07/12/2024 MROCKLEY	07/22/2024	1,580.34 19.58 88.36 88.10 58.74 58.99 19.58 19.58 366.64 357.67 399.96 51.57 51.57	0.00	Paid	Y 07/22/2024
DYKSTRA DIANA 65617	THE LISMORE BY DBLTREE WCMA CONFERENCE HOTEL 100-5141-533500 WCMA CONFERENCE HOTEL	06/25/2024 MROCKLEY	07/22/2024	174.60 174.60	0.00	Paid	Y 07/22/2024
DYKSTRA DIANA 65618	SP ELECTIONSOURCE ELECTION PAPER ROLLS AND SIGN 100-5144-531100 ELECTION PAPER ROLLS AND SIGN	07/02/2024 MROCKLEY	07/22/2024	123.03 123.03	0.00	Paid	Y 07/22/2024
DYKSTRA DIANA 65619	AAME.ORG - AMERICAN AS AAME MEMBERSHIP 100-5141-532400 MEMBERSHIP DUES	07/08/2024 MROCKLEY	07/22/2024	300.00 300.00	0.00	Paid	Y 07/22/2024
DYKSTRA DIANA 65620	FACEBK *KRU437U4R2 FACEBOOK AD PJS CONCERT 100-5670-521900 FACEBOOK AD PJS CONCERT	07/10/2024 MROCKLEY	07/22/2024	6.00 6.00	0.00	Paid	Y 07/22/2024
KIM CATHRYN 65621	DOLLARTREE BINGO PRIZES 440-5511-533100 PROGRAMMING	06/18/2024 MROCKLEY	07/22/2024	47.50 47.50	0.00	Paid	Y 07/22/2024
KIM CATHRYN 65622	WAL-MART #1571 OFFICE SUPPLIES 440-5511-531100 OPERATIONAL SUPPLIES	06/19/2024 MROCKLEY	07/22/2024	20.21 20.21	0.00	Paid	Y 07/22/2024

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INVOICE REGISTER REPORT FOR MUKWONAGO
EXP CHECK RUN DATES 07/22/2024 - 07/22/2024
JOURNALIZED PAID
BANK CODE: GEN - CHECK TYPE: EFT
CREDIT CARD TRANSACTIONS FOR BOARD
SORTED BY CARDHOLDER

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Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnalized Post Date
Purchase Card Vendor: 0002 US BANK							
KIM CATHRYN 65623	WAL-MART #1571 CLEANING SUPPLIES 440-5511-531100	06/26/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	54.51 54.51	0.00	Paid	Y 07/22/2024
KIM CATHRYN 65624	DISPLAYS2GO ACRYLIC SIGN HOLDERS 440-5511-531100	06/26/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	152.68 152.68	0.00	Paid	Y 07/22/2024
KIM CATHRYN 65625	WM SUPERCENTER #1571 PROGRAM SUPPLIES 440-5511-533100	07/01/2024 MROCKLEY PROGRAMMING	07/22/2024	36.31 36.31	0.00	Paid	Y 07/22/2024
KIM CATHRYN 65626	NETFLIX.COM 7/1/24-7/31/24 SERVICE 440-5511-531800	07/01/2024 MROCKLEY THINGERY MAINTENANCE	07/22/2024	22.99 22.99	0.00	Paid	Y 07/22/2024
KIM CATHRYN 65627	SHERWIN WILLIAMS 703278 PAINT 440-5511-531100	07/03/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	25.87 25.87	0.00	Paid	Y 07/22/2024
KIM CATHRYN 65628	THE HOME DEPOT #4921 HOSE 440-5511-531100	07/12/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	29.98 29.98	0.00	Paid	Y 07/22/2024
KUBIAK MICHAEL 65629	AMZN MKTP US*1T2E58NV3 SHOTGUN TUBE EXTENSION 100-5212-531100	06/21/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	14.73 14.73	0.00	Paid	Y 07/22/2024
KUBIAK MICHAEL 65630	AMAZON MKTPL*RG2Z03BM2 SHOTGUN SLING AND SIDE SADDLE 100-5212-531100	06/23/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	46.44 46.44	0.00	Paid	Y 07/22/2024
KUBIAK MICHAEL 65631	AMAZON MKTPL*RC2T67HL2 NNO SUPPLIES 340-5890-580602	06/29/2024 MROCKLEY POLICE DESIGNATED FUND EXPENDITURES	07/22/2024	46.98 46.98	0.00	Paid	Y 07/22/2024

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Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnalized Post Date
Purchase Card Vendor: 0002 US BANK							
KUBIAK MICHAEL 65632	AMAZON.COM*RC6HT2DY2 NNO SUPPLIES 340-5890-580602	06/30/2024 MROCKLEY	07/22/2024	76.99	0.00	Paid	Y 07/22/2024
		POLICE DESIGNATED FUND EXPENDITURES		76.99			
KUBIAK MICHAEL 65633	AMZN MKTP US*RC91A6R92 NNO SUPPLIES 340-5890-580602	07/01/2024 MROCKLEY	07/22/2024	285.00	0.00	Paid	Y 07/22/2024
		POLICE DESIGNATED FUND EXPENDITURES		285.00			
KUBIAK MICHAEL 65634	AMAZON MKTPL*RY40I3151 SHOTGUN AMMO CASE 100-5212-531100	07/11/2024 MROCKLEY	07/22/2024	14.75	0.00	Paid	Y 07/22/2024
		OPERATIONAL SUPPLIES		14.75			
MILLER KENNETH 65635	AMAZON MKTPL*R79XA0460 TOOLS 620-8010-827000	06/30/2024 MROCKLEY	07/22/2024	59.99	0.00	Paid	Y 07/22/2024
		OPERATION SUPPLY/EXPENSE		59.99			
MILLER KENNETH 65636	AMAZON MKTPL*RY1U10CE1 TOOLS 620-8010-827000	07/09/2024 MROCKLEY	07/22/2024	76.83	0.00	Paid	Y 07/22/2024
		OPERATION SUPPLY/EXPENSE		76.83			
MILLER KENNETH 65637	DNR WS2 EM1 EPAY DEM SRVF WATER LICENSE RENEWAL 610-6920-693000	07/11/2024 MROCKLEY	07/22/2024	0.90	0.00	Paid	Y 07/22/2024
		MISC GENERAL EXPENSES		0.90			
MILLER KENNETH 65638	DNR WS2 EM1 EPAY DEM SALE WATER LICENSE RENWAL 610-6920-693000	07/11/2024 MROCKLEY	07/22/2024	45.00	0.00	Paid	Y 07/22/2024
		MISC GENERAL EXPENSES		45.00			
PRIDE JAMES 65639	WWW.BESTOFSIGNS.COM MCL TABLECLOTH 440-5511-533300	07/12/2024 MROCKLEY	07/22/2024	137.25	0.00	Paid	Y 07/22/2024
		OUTREACH		137.25			
STIEN JEFFREY R 65640	DRAGONFLY * MUKWONAGO ENDRES CLOTHING 150-5222-534600	06/18/2024 MROCKLEY	07/22/2024	139.82	0.00	Paid	Y 07/22/2024
		CLOTHING ALLOWANCE		139.82			

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Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnalized Post Date
Purchase Card Vendor: 0002 US BANK							
STIEN JEFFREY R 65641	CMS MEDICARE APPLIC FEE MEDICARE APPLICATION FEE 150-5221-521900	06/24/2024 MROCKLEY PROFESSIONAL SERVICES	07/22/2024	709.00 709.00	0.00	Paid	Y 07/22/2024
STIEN JEFFREY R 65642	WAL-MART #1571 STATION SUPPLIES 150-5221-531100	06/24/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	24.85 24.85	0.00	Paid	Y 07/22/2024
STIEN JEFFREY R 65643	METRO MARKET #384 STATION SUPPLIES 150-5221-531100	06/28/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	20.95 20.95	0.00	Paid	Y 07/22/2024
STIEN JEFFREY R 65644	AMAZON MKTPL*RY0822ZE0 REPLACEMENT KEYBOARDS 150-5231-531100	07/08/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	175.44 175.44	0.00	Paid	Y 07/22/2024
STIEN JEFFREY R 65645	AMAZON MKTPL*RY5M22291 EMS SUPPLIES 150-5231-531100	07/14/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	46.95 46.95	0.00	Paid	Y 07/22/2024
STREIT DANIEL 65646	VISTAPRINT NEW OFICER BUSINESS CARDS 100-5212-531200	06/24/2024 MROCKLEY PRINTING	07/22/2024	40.93 40.93	0.00	Paid	Y 07/22/2024
STREIT DANIEL 65647	GANSON ENGINEERING THERMAL PAPER FOR TRACS 100-5211-531100	06/26/2024 MROCKLEY OPERATIONAL SUPPLIES	07/22/2024	204.10 204.10	0.00	Paid	Y 07/22/2024
STREIT DANIEL 65648	USPS PO 5657100149 CERTIFIED MAIL POSTAGE 100-5211-531500	07/03/2024 MROCKLEY POSTAGE	07/22/2024	17.46 17.46	0.00	Paid	Y 07/22/2024
SUKOWATY JAYME 65649	DSPS E SERVICE FEE REN CROSS CONNECTION CONTROL TESTER 610-6920-693000	07/11/2024 MROCKLEY MISC GENERAL EXPENSES	07/22/2024	4.39 4.39	0.00	Paid	Y 07/22/2024

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Inv Num Inv Ref#	Vendor Description GL Distribution	Inv Date Entered By	Due Date	Inv Amt	Amt Due	Status	Jrnalized Post Date
Purchase Card Vendor: 0002 US BANK							
SUKOWATY JAYME 65650	WI DSPS LICENSURE CROSS CONNECTION CONTROL TESTER 610-6920-693000	07/11/2024 MROCKLEY	07/22/2024	195.00	0.00	Paid	Y 07/22/2024
	MISC GENERAL EXPENSES			195.00			
SUKOWATY JAYME 65651	USPS PO 5657100149 COMPLIANCE SAMPLING- FLUORIDE 610-6300-663200	07/12/2024 MROCKLEY	07/22/2024	5.10	0.00	Paid	Y 07/22/2024
	OPERATION SUPPLY/EXP-TREATMENT			5.10			
SURA MATTHEW J 65652	SCUBA.COM ROUSH CLOTHING ALLOWANCE 150-5233-534600	06/24/2024 MROCKLEY	07/22/2024	292.95	0.00	Paid	Y 07/22/2024
	CLOTHING ALLOWANCE			292.95			
SURA MATTHEW J 65653	THE HOME DEPOT #4921 FIRE SUPPLIES 150-5222-531100	06/30/2024 MROCKLEY	07/22/2024	9.97	0.00	Paid	Y 07/22/2024
	OPERATIONAL SUPPLIES			9.97			
SURA MATTHEW J 65654	APPLE.COM/BILL APPLE STORAGE 150-5231-531100	07/08/2024 MROCKLEY	07/22/2024	0.99	0.00	Paid	Y 07/22/2024
	OPERATIONAL SUPPLIES			0.99			
SURA MATTHEW J 65655	VERATHON INC EMS SUPPLIES 150-5231-531100	07/11/2024 MROCKLEY	07/22/2024	584.25	0.00	Paid	Y 07/22/2024
	OPERATIONAL SUPPLIES			584.25			
SURA MATTHEW J 65656	IN *RENEW BIOMEDICAL SERV VENTILATOR MAINTENANCE 150-5231-539500	07/12/2024 MROCKLEY	07/22/2024	800.00	0.00	Paid	Y 07/22/2024
	REPAIRS & MAINTENANCE			800.00			
ZAESKE DEBBIE 65657	SKY WORLD LEAP CONFERENCE DINNER 100-5211-533500	06/19/2024 MROCKLEY	07/22/2024	14.77	0.00	Paid	Y 07/22/2024
	TRAINING & TRAVEL			14.77			
ZAESKE DEBBIE 65658	DUCK CREEK KITCHEN & B LEAP CONFERENCE DINNER 100-5211-533500	06/20/2024 MROCKLEY	07/22/2024	39.04	0.00	Paid	Y 07/22/2024
	TRAINING & TRAVEL			39.04			

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Inv Ref#	Description	Entered By					Post Date
	GL Distribution						

Purchase Card Vendor: 0002 US BANK

ZAESKE DEBBIE							
65659	BP#6255236ARROWHEAD BP	06/21/2024	07/22/2024	45.00	0.00	Paid	Y
	LEAP CONFERENCE FUEL	MROCKLEY					07/22/2024
	100-5211-533500	TRAINING & TRAVEL		45.00			

ZAESKE DEBBIE							
65660	THE ONEIDA HOTEL	06/21/2024	07/22/2024	214.00	0.00	Paid	Y
	LEAP CONFERENCE HOTEL	MROCKLEY					07/22/2024
	100-5211-533500	TRAINING & TRAVEL		214.00			

ZERFAS SHAY							
65661	WMCA	06/20/2024	07/22/2024	50.00	0.00	Paid	Y
	D CLERK WMCA MEMBERSHIP	MROCKLEY					07/22/2024
	100-5142-532400	MEMBERSHIP DUES		50.00			

Total Purchase Card Vendor: 0002 US BANK				8,190.26	0.00		
# of Invoices:	55	# Due:	0	Totals:	8,190.26	0.00	
# of Credit Memos:	0	# Due:	0	Totals:	0.00	0.00	
Net of Invoices and Credit Memos:				8,190.26	0.00		

--- TOTALS BY GL DISTRIBUTION ---

100-5120-522500	TELEPHONE	19.58
100-5141-522500	TELEPHONE	19.58
100-5141-532400	MEMBERSHIP DUES	300.00
100-5141-533500	TRAINING & TRAVEL	174.60
100-5142-522500	TELEPHONE	88.36
100-5142-532400	MEMBERSHIP DUES	50.00
100-5144-531100	OPERATIONAL SUPPLIES	123.03
100-5145-522900	SOFTWARE SUPPORT/MAINTENANCE	88.10
100-5145-532400	MEMBERSHIP DUES	60.00
100-5211-522500	TELEPHONE	366.64
100-5211-531100	OPERATIONAL SUPPLIES	204.10
100-5211-531500	POSTAGE	17.46
100-5211-533500	TRAINING & TRAVEL	312.81
100-5212-531100	OPERATIONAL SUPPLIES	75.92
100-5212-531200	PRINTING	40.93
100-5241-522500	TELEPHONE	58.74
100-5323-522500	TELEPHONE	58.99
100-5512-522500	TELEPHONE	19.58
100-5521-531100	OPERATIONAL SUPPLIES	381.88
100-5670-521900	PROFESSIONAL SERVICES	6.00

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	GL Distribution						
	150-5221-521900	PROFESSIONAL SERVICES		709.00			
	150-5221-522500	TELEPHONE		357.67			
	150-5221-531100	OPERATIONAL SUPPLIES		45.80			
	150-5222-531100	OPERATIONAL SUPPLIES		9.97			
	150-5222-534600	CLOTHING ALLOWANCE		139.82			
	150-5231-531100	OPERATIONAL SUPPLIES		807.63			
	150-5231-539500	REPAIRS & MAINTENANCE		800.00			
	150-5233-534600	CLOTHING ALLOWANCE		292.95			
	340-5890-580602	POLICE DESIGNATED FUND EXPENDITURES		408.97			
	440-5511-522500	TELEPHONE		399.96			
	440-5511-531100	OPERATIONAL SUPPLIES		339.50			
	440-5511-531800	THINGERY MAINTENANCE		278.80			
	440-5511-533100	PROGRAMMING		83.81			
	440-5511-533300	OUTREACH		137.25			
	440-5511-533500	TRAINING & TRAVEL		397.48			
	440-5700-532800	BOOKS		25.00			
	610-6300-663200	OPERATION SUPPLY/EXP-TREATMENT		5.10			
	610-6920-692100	OFFICE SUPPLIES & EXPENSES		51.57			
	610-6920-693000	MISC GENERAL EXPENSES		245.29			
	620-8010-827000	OPERATION SUPPLY/EXPENSE		136.82			
	620-8400-851000	OFFICE SUPPLIES & EXPENSES		51.57			

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GL Distribution							
--- TOTALS BY FUND ---							
	100 - GENERAL FUND			2,466.30	0.00		
	150 - FIRE/AMBULANCE FUND			3,162.84	0.00		
	340 - VILLAGE DESIGNATED FUND			408.97	0.00		
	440 - LIBRARY FUND			1,661.80	0.00		
	610 - WATER UTILITY FUND			301.96	0.00		
	620 - SEWER UTILITY FUND			188.39	0.00		
--- TOTALS BY DEPT/ACTIVITY ---							
	5120 - MUNICIPAL COURT			19.58	0.00		
	5141 - VILLAGE ADMINISTRATOR			494.18	0.00		
	5142 - CLERK-TREASURER			138.36	0.00		
	5144 - ELECTIONS			123.03	0.00		
	5145 - FINANCE DEPARTMENT			148.10	0.00		
	5211 - POLICE ADMINISTRATION			901.01	0.00		
	5212 - POLICE PATROL			116.85	0.00		
	5221 - FIRE ADMINISTRATION			1,112.47	0.00		
	5222 - FIRE SUPPRESSION			149.79	0.00		
	5231 - AMBULANCE			1,607.63	0.00		
	5233 - REFERENDUM FUNDED STAFFING			292.95	0.00		
	5241 - BUILDING INSPECTOR			58.74	0.00		
	5323 - GARAGE			58.99	0.00		
	5511 - LIBRARY SERVICES			1,636.80	0.00		
	5512 - MUSEUM			19.58	0.00		
	5521 - PARKS			381.88	0.00		
	5670 - ECONOMIC DEVELOPMENT			6.00	0.00		
	5700 - CAPITAL OUTLAY EXPENDITURES			25.00	0.00		
	5890 - USE OF DESIGNATED FUNDS			408.97	0.00		
	6300 - WATER TREATMENT OPERATIONS			5.10	0.00		
	6920 - ADMINISTRATIVE & GENERAL EX			296.86	0.00		
	8010 - WWTP-TREATMENT/DISPOSAL/GP			136.82	0.00		
	8400 - ADMINISTRATIVE & GENERAL			51.57	0.00		
--- TOTALS BY PAYMENT CARD ACCOUNT ---							
	0366			1,640.34			
	0707			390.05			
	1128			312.81			
	1552			678.29			
	3049			204.49			
	4589			50.00			
	5177			603.63			

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	GL Distribution						
--- TOTALS BY PAYMENT CARD ACCOUNT ---							
	5197			137.25			
	5311			56.25			
	5538			262.49			
	5724			1,688.16			
	6370			1,117.01			
	6721			484.89			
	8389			182.72			
	9708			381.88			



Village of Mukwonago

Office of the Water and Sewer Utilities

440 River Crest Court, Mukwonago, Wisconsin 53149
Tel. (262) 363-6416 | Fax: (262)363-0552

July 31, 2024

David Bogie, President
Envirotech Equipment Co.
19750 W Edgewood Dr.
Lannon, WI 53046

Mr. Bogie,

This letter of intent serves as notification that the Village of Mukwonago intends to purchase the Vac-Con combination truck provided in quote number 072924-1FIN for a sum of \$622,173.00 delivered in early 2025. The purpose of this letter of intention is to give Envirotech Equipment Co. the ability to place the new chassis on hold due to limited allocation while the Village's 2025 capital budget is being formally adopted. This letter of intent will also hold the current price and protect the Village against any price increases. The Village of Mukwonago has the right to cancel the order before January 1, 2025. This letter shall be considered solely as a letter of intent, and it does not represent a binding contractual commitment to purchase said Vac-Con combination truck.

Sincerely,
Wayne Castle, Utilities Director

Fred Winchowky, Village President



Quote No. 072924-1F...

19750 W. Edgewood Drive
Lannon WI 53046
Phone # 800-381-9134

Quotation

Customer

Village of Mukwonago
Attn: Wayne Castle
440 Rivercrest Crt.
Mukwonago, WI 53149

Date: 7/29/2024

Terms: Net 30

Delivery 2025

FOB Customer

Item	Qty	Description	Unit Price	Total
.	1	Vac-Con's Latest Combination Unit with the Following Highlights: Auxiliary Industrial Grade 6.0 Gasoline Engine with Auxiliary Hydraulics for Operating the Unit with Chassis Engine Off 1,500 Gallon Water Capacity 12 Yard Debris Tank with Flush Out System Industrial Grade Flat Style Debris Tank Door with Wedge Style Locks Splash Shield Mounted to Rear Debris Tank Automatic Vacuum Breaker When Debris Tank is Full or When Operator Activates 10' Aluminum True Extending Boom Pro Reel Configuration with Omni Precision Operator Control System Pro Reel Power Auto Level Wind System with Toggle Controls While Running the Unit Additional Auxiliary Hydraulic Pump If Chassis Fails Digital Active Water and Debris Tank Level Gauges at Operator Monitoring Station 700' of 1" High Pressure Hose Mounted on Enclosed	622,173.00	622,173.00

***Providing Customer Satisfaction
Through Trusted Partnerships***

Subtotal

Sales Tax ()

Total

Note: Any and all shipping and sales tax will be added to this invoice.



Quote No. 072924-1F...

19750 W. Edgewood Drive
Lannon WI 53046
Phone # 800-381-9134

Quotation

Customer

Village of Mukwonago
Attn: Wayne Castle
440 Rivercrest Crt.
Mukwonago, WI 53149

Date: 7/29/2024

Terms: Net 30

Delivery 2025

FOB Customer

Item	Qty	Description	Unit Price	Total
		Hose Reel		
		Continuos Rated Water Pump Rated for 60 GPM @ 3,000 PSI		
		Hydraulic Pump Off System Rated for 575 GPM for Pumping of While Vacuuming - Includes Gate Valve Between Rear Door and Pump Off System		
		Arctic Winter Recirculating System for High Pressure and Low Pressure Systems		
		Air Purge System for Winterizing Entire Unit		
		Hydro Excavating System Including Unloader Valve with Digging Lance and Washdown Tool		
		Behind Cab Boom Support		
		6,000 CFM (3) Stage Centrifugal Fan Blower with Clean Out		
		Blower Stainless Steel Silencer		
		(2) Safety Cone Storage Racks with (1) Mounted Towards Front Street Side and the Other Mounted Towards the Rear		
		Remote Boom and Debris Tank Lubrication Assembly		
		Green and Amber Strobes for the Following: Front and Rear Bumper Mounted; Mid Body Mounted; (2) Rear Mounted At Back of Debris Tank; Mirror Mounted		

*Providing Customer Satisfaction
Through Trusted Partnerships*

Subtotal

Sales Tax ()

Total

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19750 W. Edgewood Drive
Lannon WI 53046
Phone # 800-381-9134

Quotation

Customer

Village of Mukwonago
Attn: Wayne Castle
440 Rivercrest Crt.
Mukwonago, WI 53149

Date: 7/29/2024

Terms: Net 30

Delivery 2025

FOB Customer

Item	Qty	Description	Unit Price	Total
		LED Flood Lights Mounted on Boom		
		LED Lights Mounted In Tool Box Behind Cab		
		LED Rear Mount Full Arrow Board		
		Front and Rear Mounted Color Camera		
		Remote Wireless Controller That Operates Entire Unit With Charging Station		
		(2) Folding Pipe Racks , Electrically Activated, Qty (1) Mounted on Each Side of Debris Tank with Total Capacity of (6) Pipes. NOTE: Bottom Rack on Passenger Side To Be for 6" Tube		
		(2) Additional Static Pipe Racks; (1) for 8" Pipe and (1) for 6" Pipe Diameter		
		30' of 8" Vacuum Aluminum Tubes		
		6" Hydro Excavating Tube with 8" Flange and Delrin Cuff		
		Powder Coated Tool Boxes		
		Slide Out Shelves Included In Tool Boxes Directly Mounted Behind Cab		
		8" Air Gap For Vacuuming Lift Stations Under Water		
		Bracket for "Pail for Garbage"		
		Vac-Con Body Module Painted "Coca-Cola" Red with		

*Providing Customer Satisfaction
Through Trusted Partnerships*

Subtotal

Sales Tax ()

Total

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19750 W. Edgewood Drive
Lannon WI 53046
Phone # 800-381-9134

Quotation

Customer

Village of Mukwonago
Attn: Wayne Castle
440 Rivercrest Crt.
Mukwonago, WI 53149

Date: 7/29/2024

Terms: Net 30

Delivery 2025

FOB Customer

Item	Qty	Description	Unit Price	Total
		Black Stripes		
		Unit Mounted On 2025 Western Star, Model 47X, Painted Bright Red, Rated for 66K GVW with 6 x 4 LS370 and RDS3000 Transmission		
		Note: Proposal Includes Delivery and Operator Training Whenever Needed		
		Vac-Con Warranties Include:		
		Lifetime Warranty on Water Tanks		
		5 Year on Water Pump Drive System		
		5 Year On Centrifugal Fan Blower		
		2 Year on Water Pump		
		2 Year On Vac-Con Module		

***Providing Customer Satisfaction
Through Trusted Partnerships***

Subtotal	\$622,173.00
Sales Tax ()	\$0.00
Total	\$622,173.00

Note: Any and all shipping and sales tax will be
added to this invoice.



R.N.O.W., Inc.
8636R West National Avenue
West Allis, WI 53227

QUOTATION

Quote Number: 2024-9837
Quote Date: May 9, 2024
Page: 2

Voice: 414-541-5700
Fax: 414-543-9797

Quoted To:

VILLAGE OF MUKWONAGO
1200 HOLZ PARKWAY
MUKWONAGO, WI 53149
U.S.A.

Accepted By: _____
Sign above to accept quotation and place order

Customer Fax:

Customer ID	Good Thru	Payment Terms	Sales Rep
MUKWONAGO WI	6/8/24	DUE ON DELIVERY	JAS

Quantity	Item	Description	Unit Price	Amount
		BODY CONFIGURATION		
1.00		- Camel Body 12yd (9.2m) Ejector Blade		
1.00		- Paint finish - White to Match Cab		
		VACUUM SYSTEM BLOWER		
1.00		- 8" vacuum system, "Roots type PD Model 824, 18" hg. and 4500 cfm		
1.00		- Vacuum pump high temperature relief system		
1.00		- Vacuum booster valve		
1.00		- Pleated final filter assembly		
		DEBRIS BODY OPTIONS		
1.00		- Rear splash shield		
1.00		- Acculevel debris level indicator		
		FRONT/REAR DRAIN OPTIONS		
1.00		- Front body drain, 6", knife valve, 35' x 6" fabric drain hose, camlock cap		

Thank you for the opportunity to quote

SUBMITTED BY 
Steven D. Krall
President

Subtotal	Continued
Sales Tax	Continued
Freight	
TOTAL	Continued



R.N.O.W., Inc.
8636R West National Avenue
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Customer Fax:

Customer ID	Good Thru	Payment Terms	Sales Rep
MUKWONAGO WI	6/8/24	DUE ON DELIVERY	JAS

Quantity	Item	Description	Unit Price	Amount
1.00		- Trash Pump 420 GPM front body, plumbed to front bumper WATER PUMP OPTIONS		
1.00		- Water Pump 80 GPM @ 2500 PSI WATER SYSTEM OPTIONS		
1.00		- Winter recirculation - Retractable Hose reel with live center with 50' x 1/2" hose		
1.00		- Low water warning light and alarm with water capacity digital display REMOTE CONTROL BOOM OPTIONS		
1.00		- Wireless remote HOSE OPTIONS		
1.00		- 800' of 1" hose		
1.00		- Leader Hose 1" x 10'		

Thank you for the opportunity to quote

SUBMITTED BY 
Steven D. Krall
President

Subtotal	Continued
Sales Tax	Continued
Freight	
TOTAL	Continued



R.N.O.W., Inc.
8636R West National Avenue
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Quote Number: 2024-9837
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MUKWONAGO, WI 53149
U.S.A.

Accepted By: _____
Sign above to accept quotation and place order

Customer Fax:

Customer ID	Good Thru	Payment Terms	Sales Rep
MUKWONAGO WI	6/8/24	DUE ON DELIVERY	JAS

Quantity	Item	Description	Unit Price	Amount
		HOSE REEL OPTIONS		
1.00		- Fully Automatic Level Wind		
1.00		- Hose reel tensioning system		
1.00		- Hose reel digital counter (Automatic)		
		LIGHTING OPTIONS		
1.00		- LED boom work lights		
1.00		- LED Flood light package, tailgate area, power unit area		
1.00		- Cordless rechargeable hand held worklight		
1.00		- LED Package 2 - (2) Tailgate and (2) Boom beacon omni-directional strobes (GREEN / ORANGE COLOR)		
1.00		- LED Package 3 - Front, Mid-ship, and Rear bumper directional strobes (GREEN / ORANGE COLOR)		
1.00		- Cab mounted forward facing light bar		
		STORAGE, TOOL BOXES, & MISC OPTIONS		

Thank you for the opportunity to quote

SUBMITTED BY 
Steven D. Krall
President

Subtotal	Continued
Sales Tax	Continued
Freight	
TOTAL	Continued



R.N.O.W., Inc.
8636R West National Avenue
West Allis, WI 53227

QUOTATION

Quote Number: 2024-9837
Quote Date: May 9, 2024
Page: 5

Voice: 414-541-5700
Fax: 414-543-9797

Quoted To:

VILLAGE OF MUKWONAGO
1200 HOLZ PARKWAY
MUKWONAGO, WI 53149
U.S.A.

Accepted By: _____
Sign above to accept quotation and place order

Customer Fax:

Customer ID	Good Thru	Payment Terms	Sales Rep
MUKWONAGO WI	6/8/24	DUE ON DELIVERY	JAS

Quantity	Item	Description	Unit Price	Amount
1.00		- Toolbox, 48", Lower, Curb		
1.00		- Toolbox, 48", Mid, Curb		
1.00		- Toolbox, 48" Upper, Curb, Top Hinge		
1.00		- Toolbox, 52" drivers side		
1.00		- Tailgate 3 Tube fold down rack		
1.00		- Front / Rear Tow Hooks		
1.00		- Single Rear Vision Camera System - Color Rear		
1.00		- Additional Front View Camera (Manhole)		
1.00		- Wheel chocks (1) set		
1.00		- Driver's side wheel chock holder		
		HYDRO EXCAVATION OPTIONS		
1.00		- Hydro-X Kit, Bandlock Style (SP Style)		
		- Includes 6" x 60" hydro excavating tube		
		- 8" to 6" reducer band lock		
		SEWER ACCESSORIES		
1.00		1" standard nozzle extension		
1.00		- 50' Fill Hose - Cotton Single Jacket Filler		

Thank you for the opportunity to quote

SUBMITTED BY 
Steven D. Krall
President

Subtotal	Continued
Sales Tax	Continued
Freight	
TOTAL	Continued



R.N.O.W., Inc.
8636R West National Avenue
West Allis, WI 53227

QUOTATION

Quote Number: 2024-9837
Quote Date: May 9, 2024
Page: 6

Voice: 414-541-5700
Fax: 414-543-9797

Quoted To:

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1200 HOLZ PARKWAY
MUKWONAGO, WI 53149
U.S.A.

Accepted By: _____
Sign above to accept quotation and place order

Customer Fax:

Customer ID	Good Thru	Payment Terms	Sales Rep
MUKWONAGO WI	6/8/24	DUE ON DELIVERY	JAS

Quantity	Item	Description	Unit Price	Amount
1.00		Hose		
1.00		- Washdown handgun assembly		
1.00		- Portable lateral cleaning kit, 150' x 1/2" with live center		
1.00		- Mount for lateral cleaning kit		

		EXTENSION TUBE OPTIONS		

1.00		- Fluidizing suction tube nozzle 6" x 24"		
1.00		- Fluidizing suction tube nozzle 8" x 24"		
2.00		- Supertube Lock ring 6"		
6.00		- Supertube Lock ring 8"		
2.00		- Gaskets for Supertube O-ring, Gasket 6"		
6.00		- Gaskets for Supertube O-ring, Gasket 8"		
1.00		- 8" x 60" Supertube - Aluminum with crown		
5.00		- 8" x 60" Supertube - Aluminum Extensions		

		SPECIAL ORDER OPTIONS		

1.00		- 4" x 8" x 60" hydro excavation dig tube		
1.00		- 16" x 42" x 96" Behind the cab toolbox with inside lighting		
1.00		- Green & Orange Strobes Add to LED		

Thank you for the opportunity to quote

SUBMITTED BY 
Steven D. Krall
President

Subtotal	Continued
Sales Tax	Continued
Freight	
TOTAL	Continued



R.N.O.W., Inc.
8636R West National Avenue
West Allis, WI 53227

QUOTATION

Quote Number: 2024-9837
Quote Date: May 9, 2024
Page: 7

Voice: 414-541-5700
Fax: 414-543-9797

Quoted To:

VILLAGE OF MUKWONAGO
1200 HOLZ PARKWAY
MUKWONAGO, WI 53149
U.S.A.

Accepted By: _____
Sign above to accept quotation and place order

Customer Fax:

Customer ID		Good Thru	Payment Terms	Sales Rep	
MUKWONAGO WI		6/8/24	DUE ON DELIVERY	JAS	

Quantity	Item	Description	Unit Price	Amount
1.00		Package #2 - Green & Orange Strobes Add to LED Package #3		
		DISCOUNTING		
1.00	DISCOUNT	Demonstrator Discount provided - RNOW will use demo unit for no more than 3 months. Customer will receive unit with full factory warranty	20,000.00	-20,000.00
		WISCONSIN TITLE FEES		
1.00	TITLE FEE	Wisconsin Municipal Title and Plates	169.50	169.50
				

Thank you for the opportunity to quote

SUBMITTED BY 
Steven D. Krall
President

Subtotal	529,989.71
Sales Tax	
Freight	
TOTAL	529,989.71



Village of Mukwonago, WI - Utilities

Wayne Castle
1200 Holz Parkway
Mukwonago, WI 53149

Date: 6/10/2024



****VACTOR COMBINATION SEWER TRUCK QUOTE****

Per our discussion I have generated a quote on a new 2025 VACTOR 2100i COMBINATION SEWER CLEANING TRUCK as described below. The enhancements below have been deemed necessary, after demonstration and application by Village of Mukwonago Utilities, to be the most productive and safe truck available.

NEW VACTOR 2100i – COMBINATION SEWER CLEANER

STANDARD EQUIPMENT INCLUDES*****

- | | |
|--|--|
| - Vactor Single Piston Jet Rodder Pump, 80GPM/2500PSI | - Low Water Alarm with Water Pump Flow Indicator |
| - Color Coded Sealed Electric System | - Digital Water Pressure Gauge |
| - Intuitouch Electronics Package | - Joystick Boom Control |
| - Chassis Engine Cooling Package | - Rodder System Accumulator - Jackhammer On/Off |
| - Double Acting Hoist Cylinder | - Midship High-Pressure Coupling |
| - Handgun Assembly w/35'x1/2" Hose w/Quick Disconnects | - Side Mounted Water Pump |
| - Ex-Ten Steel Cylindrical Debris Tank | - Digital Hose Footage Counter |
| - (3) Nozzles with Carbide Inserts w/Rack | - Hose Reel Hydraulic Extend/Retract |
| - Suction Tube Storage - 4 pipe | - Hydraulic Oil Temp Alarm |
| - 1" x 600' Piranha Rodder Hose | - LED Lights, clearance, Back-Up, Stop/Turn/Tail |
| - 10' Leader Hose | - 7" Vacuum Pipe Package - 25' of 7" Vacuum Tube |
| - Flat Rear Door with Hydraulic Locks | - Hydraulic Extending 15" Rotating Hose Reel |
| - Dual Stainless Steel Float Shut-Off System | |
| - Debris Body Vacuum Relief System | |

OPTIONAL ENHANCEMENTS INCLUDED IN BUDGET QUOTE*****

- | | |
|--|--|
| DEBRIS BODY----- | |
| - 12YD Debris Body | - 6" Decant System w/Air Actuated Knife Valve – Curbside |
| - Debris Body Washout | - Centrifugal Separators (Cyclones) – 4 |
| - 6" Rear Door Knife Valve w/Camloc – 3:00 Position | - Folding Pipe Rack – Streetside - 8" |
| - 6" Rear Door Knife Valve w/Camloc w/Port – 6:00 Position | - Folding Pipe Rack – Curbside – 8" |
| - Full Rear Door Swinging Screen | - Rear Door Splash Shield |
| | - Lube Manifold w/Lube Chart |
| | - MODULE PAINT COLOR: WHITE |
| WATER SYSTEM/HOSE REEL----- | |
| - 80GPM @ 2500PSI Vactor Single Piston Jet Rodder Pump | - Air Purge for Water System |
| | - Additional Water – 1500Gal Total |



- 304 Stainless Steel Water Tanks ILO Aluminum
- Cold Weather Recirc – PTO Driven, 25GPM
- Hydro Excavation Kit – Includes Lances, Nozzles, Storage Tray and Dig Tube
- Chassis Engine Cooling Package
- Extra Capacity Hose Reel – 1" x 1000' Capacity, 15" Extending
- 800' x 1" Piranha Sewer Hose – 2500psi

- Rodder Hose Pinch Roller
- High Pressure Hose Reel (1) Midship
- Rodder System Accumulator – Jack Hammer on/off at Hose Reel
- Handgun Couplers – Front and Rear
- Rodder Pump Drain Valves
- Hose Wind Guide (Dual Roller) – Auto – Indexing
- Front Hose Reel Tool Storage
- Corded Handlight w/Retractable Reel

VACUUM-----

- ROOTS 824 RCS 16" Blower
- Front Hose Reel Blower Controls
- Blower High Temp Safety Shutdown

- Digital Water Level Indicator
- Digital Debris Body Level Indicator Tied to Vac Relief

BOOM-----

- Rotatable Boom Inlet Hose
- 180 Degree - 10' Telescoping Boom

- Anti-Splash Valve – Body Inlet

SAFETY-----

- Backpack Wireless Controls with Hose Reel Controls and LCD Display
- Rear Directional Control – LED Arrowboard
- Federal Signal 14 Light Strobe Package – LED – Amber/Green

- LED Mid-Ship Turn Signals
- Work Lights – Boom (2) Self-Leveling
- Work Lights - Hose Reel Manhole
- Work Lights – Curbside Mid Ship
- Work Lights - Streetside Mid Ship
- Camera System – Front and Rear

TOOL/STORAGE-----

- Operators Station Curbside toolbox – w/LED Lighting
- Behind Cab Toolbox 16W x 30H x 96D – w/LED Lighting
- Toolbox – Front Bumpers w/LED Markers

- Toolbox – Driver Side Subframe 18W x 24H x 24D - w/LED Lighting
- Toolbox – Driver Side Frame 24W x 24H x 24D - w/LED Lighting
- Safety Cone Storage – Post (3)
- Long Handle Tool Storage

CHASSIS-----

- 2025 Kenworth T880 SBA 6x4
- Paccar MX-13 Big Block-455HP
- Allison 4000RDS Transmission – 6spd
- Aluminum Wheels
- 90gal Fuel Tank
- Dual Air Ride Seats

- Integrated Radio
- Cruise Control
- 15" Digital Dash Display
- USB Charging Ports
- Power Windows / Doors / LED Lighting

Continued....



PRICING SUMMARY-----

NEW VACTOR 2100i - 16" PD, 12YD COMBO TRUCK w/Options Described
INCLUDES 2025 KENWORTH T880 CHASSIS w/OPTIONS DESCRIBED

COMBINED KENWORTH T880 CHASSIS w/VACTOR 2100i BODY PRICE..... \$583,579.00

ADDITIONAL OPTIONS TO CONSIDER:

- RAPID DEPLOYMENT BOOM – 10' Telescoping w/15' Rubber Vac Tube Deployment.....Add \$8,535
- Curbside Hydraulic Body Pump Off System.....Add \$15,085
- Addtl Accumulator – (Minimize Rodder Pulsation at lower PSI).....Add \$3,410
- Lateral Cleaning Kit - Side of Truck: 150' of ½" HP Hose, 25GPM @ 2500PSI, Manual Wind, Includes Nozzle.....Add \$5,486
- Cold Weather Recirc – 25PGM, PTO Driven.....Add \$2,354
- Curbside and Street Side Camera's - In addition to Front and Rear.....Add \$1,078
- INTERNATIONAL HV513 SFA – 450HP ILO Kenworth T880.....Subtract \$11,592

**International Chassis is a MacQueen Stock build slot and is first come first served. No changes can be made to chassis. If this is a preferred option, this would need to be approved and order signed by 8/1/2024 in order to make Vactor body option changes per Mukwonago spec. Truck would be available Q1 2025.

Terms and Training, Availability, and Warranty:

Training: MacQueen Equipment will provide up to 2 Days of operator/maintenance training for city employees upon delivery of the unit on-site. Vactor/Dealer will also provide for all city employees, a Mechanics training course (3-4 day) factory led class at Vactor Mfg. at no course cost to the city, not including travel.

Warranty: Vactor Warranty- 1 Year on Complete Unit- 2 Year Water Pump, 5 Year on Debris Body, 10 Year Warranty on Water Tanks beginning from in-service date.

Availability: Dependent on chassis arrival to Vactor Factory. Once order has been placed and a VIN has been generated for a chassis, scheduling of build can start.

Terms of Sale: Invoice Due 30 Days after delivery. Proposed prices are based on current costs and therefore subject to change with written notice to account for changes in pricing beyond the seller's control.

Proposal Pricing Expires: 30 Days from Issuance.

****DUE TO UNKNOWN CHASSIS ALLOCATIONS AT THE TIME OF THIS QUOTE, CHASSIS MODEL YEAR AND PRICE ARE AN ESIMATE. THE FOLLOWING IS SUBJECT TO CHANGE: 1) CHASSIS AVAILABILITY 2) CHASSIS MODEL YEAR 3) CHASSIS SPECIFICATION 4) CHASSIS PRICE ONCE THE NEW YEAR MODEL CHASSIS SPECIFICATIONS ARE RELEASED, IT WILL BE CHECKED TO CONFIRM IT STILL MEETS THE REGIONAL REGULATORY REQUIREMENTS FOR THIS ORDER. ONCE CONFIRMED, THE QUOTE/ORDER WILL BE REVISED WITH THE APPROPRIATE CHASSIS MODEL YEAR AND PRICING. ADDITIONAL SPECIALS FOR SOME OF THE OPTION CONTENT WILL BE CREATED AT THE TIME OF ORDER.**

APPROVAL SIGNATURE:

NAME – TITLE

DATE

THANK YOU FOR THE OPPORTUNITY QUOTE!

Grant Wegner | Territory Manager

MacQueen Equipment – Wisconsin/UP Michigan

920-327-9777 | grant.wegner@macqueengroup.com

Application for Temporary Class "B" / "Class B" Retailer's License

See Additional Information on reverse side. Contact the municipal clerk if you have questions.

FEE \$ 10.00

Application Date: 07/16/2024

☐ Town ☒ Village ☐ City of Mukwonago

County of Waukesha

The named organization applies for: (check appropriate box(es).)

☒ A Temporary Class "B" license to sell fermented malt beverages at picnics or similar gatherings under s. 125.26(6), Wis. Stats.

☒ A Temporary "Class B" license to sell wine at picnics or similar gatherings under s. 125.51(10), Wis. Stats.

at the premises described below during a special event beginning 09/21/2024 and ending 09/21/2024 and agrees to comply with all laws, resolutions, ordinances and regulations (state, federal or local) affecting the sale of fermented malt beverages and/or wine if the license is granted.

1. Organization (check appropriate box) →

☐ Bona fide Club

☐ Church

☐ Lodge/Society

☒ Veteran's Organization

☐ Fair Association or Agricultural Society

☐ Chamber of Commerce or similar Civic or Trade Organization organized under ch. 181, Wis. Stats.

(a) Name Son's of the American Legion Post #375

(b) Address 627 E. Veterans Way, Mukwonago, WI 53149

(Street)

☐ Town

☒ Village

☐ City

(c) Date organized

(d) If corporation, give date of incorporation

(e) If the named organization is not required to hold a Wisconsin seller's permit pursuant to s. 77.54 (7m), Wis. Stats., check this box: ☐

(f) Names and addresses of all officers:

President Mike Pook

Vice President Tim Spersted

Secretary Chris Flury

Treasurer

(g) Name and address of manager or person in charge of affair: Tim Spersted, Mukwonago, WI 53149

2. Location of Premises Where Beer and/or Wine Will Be Sold, Served, Consumed, or Stored, and Areas Where Alcohol Beverage Records Will be Stored:

(a) Street number

(b) Lot Block 100 Block of Main St, Fox St, & Atkinson St.

(c) Do premises occupy all or part of building? No, it is an outdoor event

(d) If part of building, describe fully all premises covered under this application, which floor or floors, or room or rooms, license is to cover:

3. Name of Event

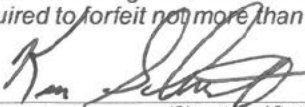
(a) List name of the event Mukwonago Chamber of Commerce FallFest

(b) Dates of event 09/21/2024

DECLARATION

An officer of the organization, declares under penalties of law that the information provided in this application is true and correct to the best of his/her knowledge and belief. Any person who knowingly provides materially false information in an application for a license may be required to forfeit not more than \$1,000.

Officer

 7/25/24
(Signature / Date)

Son's of the American Legion Post #375

(Name of Organization)

Date Filed with Clerk

7/25/24

Date Reported to Council or Board

Now 8/7/24

Date Granted by Council

License No.

Village of Mukwonago
440 River Crest Court
Mukwonago, WI 53149
Phone: (262) 363-6420
Fax: (262) 363-6425
www.villageofmukwonago.gov

7/17/2024 W+BW

VILLAGE OF MUKWONAGO

SPECIAL EVENT PERMIT APPLICATION

Application Fee: See fee sheet

Date Submitted: 7/17/24

Total Fees Paid: \$10-



Application must be received a minimum of 90 days prior to the special event. Fees are non-refundable.

ORGANIZATION INFORMATION

Name of Organization: Mukwonago Area Chamber of Commerce
Mailing Address: 100 Atkinson St City: Muk State: WI Zip: 53149
Phone Number: 2) 363-7758 Is the organization a 501(c)3 organization? ☐ YES ☒ NO
Website Address: www.mukwonagochamber.org

3. ☒ Event Contact Person: April Reszka
Mailing Address: Same as above City: _____ State: _____ Zip: _____
Home Phone: _____ Work Phone: 2) 363-7758 Cell Phone: [REDACTED]
Email Address: director@mukwonagochamber.org

EVENT INFORMATION

Name of the Event: MACC Poor Mukwonago Wine + Beer Walk Date(s) of the Event: 10/12/2024
Event Start Time: 4pm Event End Time: 7pm
Location of the Event: Downtown Mukwonago

A. Will your event take place in a residential neighborhood? *If yes, you will be required to notify all adjacent property owners when the event will occur.* ☐ YES ☒ NO

B. ☒ Please provide your COVID-19 Action Plan.

C. You MUST attach a detailed map/sketch of your event indicating the specific location, layout of your event, and the direction of the route, including all turns and the number of traffic lanes to be used.

D. If you are using a Village park, you must reserve the park through the Village Clerk-Treasurer's Office prior to getting your special event permit approved by the Village Board. Call 262-363-6420, Option 4.

E. Generally describe your event and its purpose. See plan of operation
The Wine + Beer Walk is to create an opportunity for the community and visitors to the area to go into businesses they have not gone into previously with the hope they will come back to shop/eat/play there again in the future

F. Based on the class definitions found in the manual, what class is your event? ☐ CLASS I ☐ CLASS II

G. Estimated # of participants: 300 Spectators: _____ Vendors: 20

OTHER INFORMATION

- A. Is there an outdoor bar that will serve alcohol? *If yes, temporary Class B beer and/or wine (picnic) and operator (bartender) licenses are necessary under separate application.* ☒ YES ☐ NO
- B. Please list the number of Village of Mukwonago licensed bartenders that will be on site: _____
- C. Will you be selling/serving food? *If yes, you will need to contact Waukesha County Health Department (262-896-8300) for proper permits.* ☒ YES ☐ NO
- D. Will your event need electricity? *If yes, the Fire Department and Building Inspection Department will need to inspect prior to being energized.* ☒ YES ☐ NO
- E. Will you be setting up any lighting? *If yes, the Fire Department and Building Inspection Department will need to inspect prior to being energized.* ☒ YES ☐ NO
- F. Will your event require any fencing? *If yes, please provide plans for the fencing location and the gates.* ☐ YES ☒ NO
- G. Does your event involve fireworks? *If yes, you will need to contact the Fire Department (262-363-6426) for proper permits.* ☐ YES ☒ NO
- H. Does your event involve amplified music? ☒ YES ☐ NO
** Maybe*
 If yes, will the amplified music be a: ☐ Band ☒ DJ ☐ Other
 Hours of amplified music: 4-7 pm
- I. Please list the number of security staff you will be providing for the event: One reserve officer
- J. Will you need barricades provided by the Village for your event? ☐ YES ☒ NO
 If yes, how many? _____
- K. Will you be erecting any tents, canopies, or other temporary structure(s)? *If yes, please provide a plan for their proposed locations. The Fire Department and Building Inspection Department will need to inspect these structures prior to the start of your event.* ☒ YES ☐ NO
- L. Will you be providing portable restrooms and wash stations? *If yes, please provide a description of how many restrooms/wash stations will be provided, their locations, and the plan for how solid waste will be disposed of.* ☒ YES ☒ NO
- M. Will you provide parking for your participants? *If yes, please provide a plan describing where parking will be available.* ☒ YES ☐ NO
- N. Will you provide dumpster/clean-up services? *If yes, please provide a clean-up and refuse collection plan.* ☐ YES ☒ NO
- O. What other assistance do you foresee needing from the Village (personnel, materials, equipment, etc.)?
See plan of operation

- P. Have you reviewed and do you have a copy of the Village of Mukwonago Special Events Manual and the Village of Mukwonago Ordinance? ☐ YES ☐ NO

INSURANCE REQUIREMENTS

The Special Event Sponsor will provide evidence of liability insurance in a form acceptable to the Village Attorney, with limits of not less than \$1 Million per occurrence and \$2 Million in the aggregate, which coverage names the Village of Mukwonago, its officers, agents, employees and contractors as Additional Insured on a primary and non-contributory basis. Evidence of this coverage must be provided by a Policy Endorsement received by the Village not less than 20 days prior to the event. A Certificate of Insurance must evidence this coverage throughout the duration of the event. Applicant further agrees to indemnify and hold harmless the Village of Mukwonago, its officers, agents, employees, contractors and assigns, as and against any and all claims, demands, actions and causes of action, including actual attorney fees, arising from the Applicant's use of Village property and the issuance of this Permit.

Are you able to provide these insurance documents, if required? ☒ YES ☐ NO

PROCEDURAL CHECKLIST FOR SPECIAL EVENT PERMIT REVIEW AND APPROVAL

This form is designed to be a guide for submitting a complete application for a special event.

Application:

- ☐ Completed application form including the procedural checklist.
- ☐ Application fee: see fee sheet.

Other Documents:

- ☐ Plan of operation/proposal.
- ☐ Overview of the site to be used for the event (layout of the event site).
- ☐ Any additional information as determined by Village staff.

DEPOSIT REQUIREMENTS

The applicant may be required to submit to the Village Clerk-Treasurer's Office a cleaning/damage deposit of \$200 for each scheduled day of the event (or portion thereof) two weeks prior to the starting date of the event. That deposit shall be refunded to the applicant, if, upon inspection, all is in order, or a prorated portion thereof as may be necessary to reimburse the Village for loss or cleaning costs. The Village reserves the right to retain the entire deposit if cleanup is not completed satisfactorily in the time frame as specified in the permit. Unless otherwise stated in the permit, the applicant shall be fully responsible for all necessary cleanup associated with the permitted event to be completed within 12 hours after the conclusion of the event. (This deposit is separate from any deposit required for rental of Village parks).

TERMINATION OF AN EVENT

The Village reserves the right to shut down a special event that is in progress if it is deemed to be a public safety hazard by the Police Department, Fire Department, and/or there is a violation of Village Ordinances, State Statutes or the terms of the applicant's permit. The Village Administrator and/or his/her designee may revoke an approved Special Events Permit if the applicant fails to comply in good faith with the provisions of the permit prior to the event date.

CERTIFICATION

By signing this form, the applicant certifies authorization to act on behalf of their organization, and hereby agrees to hold the Village, its officers, agents, employees, and contractors harmless against all claims, liability, loss, damage or expense (including but not limited to actual attorney fees) incurred by the Village for any damage or injury to person or property caused by or resulting directly or indirectly from the activities for which the permit is granted. Any change to coverage requires Village approval.

(The applicant's signature must be from a Managing Member if the business/organization is an LLC, or from the President or Vice President if the business/organization is a corporation. A signed applicant's authorization letter may be provided in lieu of the applicant's signature below.)

Signature - Applicant

Name & Title (PRINT)

Date

Signature - Applicant

Name & Title (PRINT)

Date

FOR OFFICE USE ONLY			
Date Fees Paid	Receipt #	Date Deposit Paid	Deposit Returned?
7/24/24	88151		
Police Department:	Approved ☒ Denied ☐	Comments: No issues	
Fire Department:	Approved ☒ Denied ☐	Comments: May need tent inspection if large enough	
Public Works Department:	Approved ☒ Denied ☐	Comments:	
Village Clerk:	Approved ☒ Denied ☐	Comments:	
Village Board Approval Date	Village President Signature	Permit #	Issue Date

Special Events Permit Application (Rev 1/23)



Pour Mukwonago Wine & Beer Walk Plan of Operation/Downtown
Saturday, October 12th, 2024
4pm - 7pm

Mukwonago Area of Chamber of Commerce & Tourism Center's Mission Statement:

The Mukwonago Area Chamber of Commerce & Tourism Center is an organization of community focused leaders dedicated to promoting a positive business environment by supporting economic development through networking, educating and promoting our local businesses, as a voice and resource for business, education, agriculture, civic and community organizations throughout the Mukwonago Area.

PLAN:

- Pour Mukwonago to be held downtown - Area/Tasting Location map to follow after registration
- No Road Closures
- Set-up 8am (Erect tent), cleanup 7:01pm
- Chamber Staff on premise from 3pm - 8pm
- Expecting: 250 patrons, 15 tasting locations, 30+ chamber member businesses to participate
- Electricity for lights in Registration Tent on "Square" in front of Crush Wine & Social
- Have requested police coverage (1 reserve officer)
- Chamber Staff has been trained as crossing guards if necessary
- Parking for volunteers and patrons will be included on the Event Map, such as closed businesses who have given us permission & the Municipal Lot

DPW:

- N/A

Please call April Reszka at the chamber office with any questions

Office: (262) 363-7758 Cell: [REDACTED]

M: [REDACTED]

License(s) Requested	Fees	
☒ Temporary "Class B" Wine	License Fees	\$ 10.00
☒ Temporary Class "B" Beer	Background Check	\$
	Total Fees	\$

Part A: Organization Information				
1. Organization Name Mukwonago Area Chamber of Commerce				
2. Organization Permanent Address 100 Atkinson Street				
3. City Mukwonago		4. State WI	5. Zip Code 53149	
6. Mailing Address (if different from permanent address) Same				
7. FEIN 39-1606342		8. Date of Organization/Incorporation 2/15/1956		9. State of Organization/Incorporation WI
10. Phone (262) 363-7758		11. Email director@mukwonagochamber.org		
12. Organization type (check one) ☒ Bona Fide Club ☐ Church ☐ Fair Association/Agricultural Society ☐ Veteran's Organization ☐ Lodge/Society ☐ Chamber of Commerce or similar Civic or Trade Organization under ch. 181, Wis. Stats.				
13. Is this organization required to hold a Wisconsin Seller's permit? ☐ Yes ☒ No				
14. Wisconsin Seller's Permit Number (if applicable) N/A				

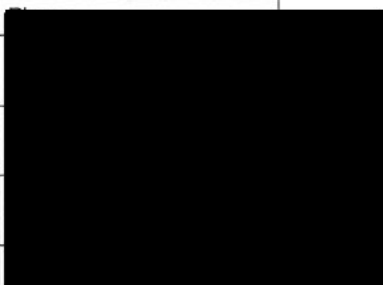
Part B: Individual Information			
List the name, title, and phone number for all officers, directors, and agent of the organization. Include an Individual Questionnaire (Form AB-100) for each person listed below. Attach additional sheets if necessary. Corporations must also include Alcohol Beverage Appointment of Agent (Form AB-101).			
Last Name	First Name	Title	Phone
Reszka	April	Executive Director	
Genrich	Candice	Assistant	
Ewert	Lynn	President	
Weinstock	Matt	Vice President	
Schroeder	Charlene	Secretary	

Temporary Alcohol Beverage License

Municipality

License(s) Requested	Fees	
☒ Temporary "Class B" Wine	License Fees	\$ 10.00
☒ Temporary Class "B" Beer	Background Check	\$
	Total Fees	\$

Part A: Organization Information				
1. Organization Name Mukwonago Area Chamber of Commerce				
2. Organization Permanent Address 100 Atkinson Street				
3. City Mukwonago	4. State WI	5. Zip Code 53149		
6. Mailing Address (if different from permanent address) Same				
7. FEIN	8. Date of Organization/Incorporation		9. State of Organization/Incorporation	
10. Phone (262) 363-7758	11. Email director@mukwonagochamber.org			
12. Organization type (check one) ☒ Bona Fide Club ☐ Church ☐ Fair Association/Agricultural Society ☐ Veteran's Organization ☐ Lodge/Society ☐ Chamber of Commerce or similar Civic or Trade Organization under ch. 181, Wis. Stats.				
13. Is this organization required to hold a Wisconsin Seller's permit? ☐ Yes ☒ No				
14. Wisconsin Seller's Permit Number (if applicable) N/A				

Part B: Individual Information			
List the name, title, and phone number for all officers, directors, and agent of the organization. Include an Individual Questionnaire (Form AB-100) for each person listed below. Attach additional sheets if necessary.			
Corporations must also include Alcohol Beverage Appointment of Agent (Form AB-101).			
Last Name	First Name	Title	
Mill	Jim	Treasurer	
Luecht	Kerry	Director	
Magistro	Becky	Director	

Continued →

Part C: Event Information

1. Name of Event (if applicable) <i>Pour Mukwonago Wine + Beer Walk</i>			
2. Dates of Operation <i>Saturday, October 12 2024</i>		3. Hours of Operation <i>4-7 pm</i>	
4. Premises Address <i>Host #100 Atkinson Street upto 15 tasting locations to follow</i>			
5. City <i>Mukwonago</i>		6. State <i>WI</i>	7. Zip Code <i>53149</i>
8. County <i>Waukesha</i>	9. Governing Municipality ☐ City ☐ Town ☒ Village of: <i>Mukwonago</i>		10. Aldermanic District
11. Organizer of Event (if not the named applicant) <i>April D Reszka</i>		12. Email and/or Phone Number for Organizer of Event <i>director@mukwonagochamber.org 262-363-7758</i>	
13. Organizer Website <i>www.mukwonagochamber.org</i>		14. Event Website <i>Same</i>	
15. Premises Description - Describe the building or buildings and any outside areas where alcohol beverages and records are sold, stored, or consumed, and related records are kept. Describe all rooms within the building, including living quarters. Authorized alcohol beverage activities and storage of records may occur only on the premises described in this application. Attach a map or diagram and additional sheets if necessary.			

Part D: Attestation

Who must sign this application?

- one officer or director of the nonprofit organization

READ CAREFULLY BEFORE SIGNING: Under penalty of law, I have answered each of the above questions completely and truthfully. I agree that I am acting solely on behalf of the applicant organization and not on behalf of any other individual or entity seeking the license. Further, I agree that the rights and responsibilities conferred by the license(s), if granted, will not be assigned to another individual or entity. I agree to operate according to the law, including but not limited to, purchasing alcohol beverages from Wisconsin-permitted wholesalers. I understand that lack of access to any portion of a licensed premises during inspection will be deemed a refusal to allow inspection. Such refusal is a misdemeanor and grounds for revocation of this license. I understand that any license issued contrary to Wis. Stat. Chapter 125 shall be void under penalty of state law. I further understand that I may be prosecuted for submitting false statements and affidavits in connection with this application, and that any person who knowingly provides materially false information on this application may be required to forfeit not more than \$1,000 if convicted.

Last Name <i>Reszka</i>		First Name <i>April</i>		M.I. <i>D</i>
Title <i>Executive Director</i>	Email <i>director@mukwonagochamber.org</i>	Phone <i>262-363-7758</i>		
Signature <i>April D Reszka</i>		Date <i>7/17/2024</i>		

Part E: For Clerk Use Only

Date Application Was Filed With Clerk	License Number
Date License Granted	Date License Issued
Signature of Clerk/Deputy Clerk	

August 1, 2024

Mr. Fred Winchowky
Village President
Village of Mukwonago
440 River Crest Court
Mukwonago, WI 53149

Re: Developer Agreement Approval
Cardinal Ridge Subdivision

Dear President Winchowky:

Village Staff have worked with Neumann Developments and the Village of Vernon to draft a Developer Agreement. The red-lined developer agreement is attached and includes all of the changes requested by all parties.

The Developer Agreement encompasses all phases of the development and is a joint agreement between Neumann Developments, the Village of Mukwonago, and the Village of Vernon. The agreement gives the authority to the Village of Mukwonago for approvals related to infrastructure that will be dedicated to the Village of Mukwonago.

The Village of Mukwonago Attorney and the Village of Vernon are finalizing their reviews of the document, but no major changes are anticipated. The Village of Vernon intends to approve the document at their August 15th Meeting. Final dates of plans and other pertinent development documents will be filled in prior to execution.

The Final Development Plan for the PUD will be presented at the August 12th Plan Commission and August 21st Village Board Meeting for final approval.

Staff recommends the Village Board approve the Developer Agreement contingent on approval by the Village of Vernon and contingent on including any minor comments from the Village Attorney.

If you or any staff or board member should have any questions regarding this, please feel free to contact me at (262) 542-5733.

Respectfully,

RUEKERT & MIELKE, INC.



Peter W. Gesch, P.E. (WI)
Municipal Services Team Leader
pgesch@ruekert-mielke.com

PWG:pwg
Enclosure

cc: Diana Dykstra, Village of Mukwonago

Document Number

Developer's Agreement for Cardinal Ridge]

See the attached Developer's Agreement.

Recording Area

Name and Return Address

Village of Mukwonago

440 River Crest Ct.

Mukwonago, WI 53149

VNT 2091-999-009, VNT 2091-991-003 & MUKV 2091-995

Parcel Identification Number (PIN)

Drafted by:

DEVELOPER

Cardinal Ridge, LLC

N27 W24025 Paul Ct.

Ste. 100

Pewaukee, WI 53072

CAUTION: Use of this model form is not appropriate for every circumstance. Consult your legal advisor.

MODEL DEVELOPER'S AGREEMENT
FOR
(Cardinal Ridge)

MUNICIPALITIES OF Mukwonago & Vernon, Waukesha COUNTY, WISCONSIN

THIS AGREEMENT (hereinafter called "AGREEMENT") made this _____ day of _____, _____, between _____ (Cardinal Ridge, LLC), a _____ (Wisconsin Limited Liability Company), _____ (N27 W24025 Paul Court, Suite 100, Pewaukee, WI 53072), hereinafter called "DEVELOPER", and the MUNICIPALITIES of Mukwonago and Vernon in the County of Waukesha and the State of Wisconsin, hereinafter called the "" "Mukwonago and Vernon respectively".

WITNESSETH:

WHEREAS, the DEVELOPER is the owner of land in Mukwonago and Vernon, said land being described on EXHIBIT _____ attached hereto and incorporated herein, hereinafter called "SUBJECT PROPERTY"; and

WHEREAS, the DEVELOPER intends to construct 94 single-family residential homes on the SUBJECT PROPERTY (the "PROJECT") as further described in the plans on file dated July 17, 2024 in the office of the Village Clerk, hereinafter referred to as ("PROJECT PLANS"); and

WHEREAS, the DEVELOPER has all necessary property rights to perform the PROJECT on the SUBJECT PROPERTY; and

WHEREAS, the Developer intends to develop the project in Phases. The 1st phase will be 23 lots which will all be contained in the Village of Mukwonago. Future phases will be located in Mukwonago and Vernon to include a total of 94 lots.

WHEREAS, this development agreement has been executed to describe the terms and requirements of the entire project, inclusive of all phases.

WHEREAS, the surety requirement will be determined based on each individual phase.

WHEREAS, the DEVELOPER desires to divide and develop the SUBJECT PROPERTY into a single-family development by use of the standard regulations as set forth in Chapter 236 of the Wisconsin Statutes and the municipal ordinance regulating land division and development; and

WHEREAS, Section 236.13 of the Wisconsin Statutes provides that as a condition of approval, the municipal authority of a municipality within which the SUBJECT PROPERTY lies may require that the DEVELOPER make and install any public improvements reasonably necessary and/or that the DEVELOPER provide financial security to ensure that the DEVELOPER will make these improvements within a reasonable time; and

WHEREAS, the DEVELOPER may be required to grant additional easements over a part of the SUBJECT PROPERTY for sanitary sewer, storm sewer, and water; and

WHEREAS, the DEVELOPER and Mukwonago and Vernon desire to enter into this AGREEMENT (hereinafter called "AGREEMENT") in order to ensure that the DEVELOPER will make and install all public improvements which are reasonably necessary and further that the DEVELOPER shall dedicate the sanitary sewer and water to Mukwonago, regardless of its

location in either municipality and shall dedicate the public streets to Mukwonago and Vernon dependent on municipal location.

WHEREAS, all public improvements should be constructed to Mukwonago specifications, all applicable government regulations, this AGREEMENT and as required by both Engineers, without cost to either municipality; and

WHEREAS, the DEVELOPER agrees to develop the SUBJECT PROPERTY as herein described in accordance with this AGREEMENT, conditions approved by Mukwonago and Vernon plan commission, governing body, staff, and contracted staff (hereinafter called "MUNICIPAL AUTHORITY"), certain authorized agencies and individuals in the county government, all municipal ordinances and all laws and authorized regulations governing said development; and

WHEREAS, the Plan Commission of the MUNICIPALITY has given conditional Preliminary Plat approval to the development, as shown on the document marked "Preliminary Plat" on file in Mukwonago and Vernon Clerk offices, conditioned in part upon the DEVELOPER and the MUNICIPALITY entering into a Developer's Agreement, as well as other conditions as approved by the MUNICIPAL AUTHORITY; and

(Note: This model assumes the land is divided by plat. If the land is divided by certified survey map (CSM), different terms apply. Note that the financial guarantee limitations of Wisconsin Statutes Section 236.13(2) apply only to plats.)

WHEREAS, the DEVELOPER is now seeking from the MUNICIPAL AUTHORITY of Mukwonago and Vernon approval for the development; and

WHEREAS, the DEVELOPER has chosen to construct the PROJECT prior to Mukwonago and Vernon approval of the final plat, and has offered to provide a financial guarantee (hereinafter called "FINANCIAL GUARANTEE") in the form of a letter of credit or cash deposit, or surety bond, which Mukwonago and Vernon has accepted, and this consideration forms an integral part of this AGREEMENT.

WHEREAS, the Project has been designated such that surface and stormwater drainage within Mukwonago and Vernon is to be contained within the municipal boundaries of each municipality and Waukesha County shall oversee the installation of surface and stormwater drainage within Vernon's municipal boundary hereinafter referred to as the "County".

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the DEVELOPER does hereby agree to develop the SUBJECT PROPERTY as follows and as otherwise regulated by Mukwonago and Vernon ordinances and all laws and regulations governing said PROJECT, and the parties hereto agree as follows:

SECTION I: REQUIREMENTS PRIOR TO COMMENCING CONSTRUCTION: The DEVELOPER shall entirely at its expense do the following prior to commencing construction of any improvement, whether public or private, or site development :

- A. Execute this AGREEMENT and cause this AGREEMENT to be recorded in the Office of the Register of Deeds, and provide Mukwonago and Vernon with evidence of recording.
- B. Deliver the DEVELOPER's FINANCIAL GUARANTEE in the amount required in Section XI for the construction of improvements required by this AGREEMENT.

CAUTION: Use of this model form is not appropriate for every circumstance. Consult your legal advisor.

- C. Provide Mukwonago and Vernon with title evidence showing that upon recording the final plat, Mukwonago and Vernon will have good, indefeasible title to all interests in land to be dedicated or conveyed to Mukwonago and Vernon by the final plat.
- D. Apply, pay for, and be granted all necessary permits for the construction of the PROJECT.

DEVELOPER'S COVENANTS

SECTION II: IMPROVEMENTS:

A. **PUBLIC STREETS:** The DEVELOPER hereby agrees that:

- i. Prior to the start of construction of improvements, the DEVELOPER shall provide Mukwonago and Vernon written certification from the DEVELOPER's Engineer or Surveyor that all public street plans are in conformance with all federal, state, county, and Mukwonago specifications, regulations and ordinances, and written proof from Mukwonago's Engineer evidencing review and approval of said plans dated July 17, 2024.
- ii. The DEVELOPER shall construct, grade, furnish, provide, and install without cost to Mukwonago and Vernon, all planned public streets in accordance with the preliminary plat, approved development plan of said development or subdivision, as the case may be and the plans and specifications on file dated July 17, 2024 in Mukwonago and Vernon Clerk's offices.
- iii. Construction of the public streets providing access to and fronting a specific lot will be completed, presented and accepted by the MUNICIPAL AUTHORITY through the first lifts of asphalt before any building permits are issued for said lot.
- iv. The first lifts of the public streets will be completed and presented to the MUNICIPAL AUTHORITY no later than December 31, 2024, or as extended by the MUNICIPAL AUTHORITY. The "first lifts" include the "binder course" as defined in Wisconsin Statutes Section 236.13(2)(ad)1.
- v. The final lift of asphalt shall be placed on all public streets after at least one winter season, but not later than twelve (12) months after completion of the first lifts of asphalt, unless extended by the MUNICIPAL AUTHORITY and the DEVELOPER and the POST-SUBSTANTIAL SECURITY (as defined in Section (VIII)(A)) is extended by the same period of time.

(Note: The financial guarantee can continue only for 14 months after the first lifts are complete, per Wisconsin Statutes Section 236.13 (2)(am)c. Therefore, the final lift must be completed within 12 months of the completion of the first lifts, leaving at least 2 months to consider whether it is necessary to draw on the financial guarantee before it expires.)

(Note: All references to phasing are removed, because Wisconsin Statute Section 236.13(2)(am)1.b. prohibits requiring a guarantee for any subsequent phase; therefore, a new agreement is needed for each phase.)

- vi. Mukwonago's Engineer shall furnish record drawing plans showing changes from the construction plans, pursuant to specifications approved by the MUNICIPALITY Engineer. Said record drawings shall be provided in digital

drawing file and pdf format and shall include any notable deviations in horizontal or vertical alignment. A subgrade verification exhibit shall be provided to the MUNICIPALITY Engineer prior to stone placement.

Contractors working on the SUBJECT PROPERTY or on individual lots are required to clean up all mud, dirt, stone, or debris on the streets no later than the end of each working day. In addition, the DEVELOPER shall have ultimate responsibility for cleaning up any and all mud, dirt, stone, or debris on the streets until such time as the final lift of asphalt has been installed by the DEVELOPER and accepted by the MUNICIPAL AUTHORITY. Mukwonago and Vernon shall make a reasonable effort to require the contractor, who is responsible for placing the mud, dirt, stone, or debris on the street, to clean up the same or to hold the who hired the contractor responsible. The DEVELOPER and/or lot owner shall clean up the streets within twenty-four (24) hours after receiving a notice from Mukwonago and Vernon. If said mud, dirt, stone, or debris are not cleaned up after notification, Mukwonago and Vernon will do so at the DEVELOPER's and/or lot owner's expense, at the option of Mukwonago and Vernon.

B. SANITARY SEWER: The DEVELOPER hereby agrees that:

- i. Prior to the start of construction of improvements, the DEVELOPER shall provide to Mukwonago and Vernon written certification from the DEVELOPER's Engineer that the sanitary sewer plans dated July 17, 2024 are in conformance with all Federal, State, and Mukwonago specifications, regulations, ordinances and guidelines and written proof that Mukwonago's Engineer has approved said plans dated July 17, 2024.
- ii. To construct, furnish, furnish, provide, and install without cost to Mukwonago and Vernon, a complete sewerage system for the SUBJECT PROPERTY, all in accordance with the plans, specifications, and drawings on file dated July 17, 2024 in Mukwonago and Vernon Clerk's offices and all applicable Federal, State, and Mukwonago ordinances, specifications, regulations and guidelines for the construction of sewerage systems in Mukwonago and as approved by Mukwonago's Engineer.
- iii. The DEVELOPER, at the DEVELOPER's cost and expense, shall obtain approval of the plans and specifications dated July 17, 2024 for the design, construction, and installation of the water supply and distribution facilities from the Wisconsin Department of Natural Resources (WDNR). The DEVELOPER shall provide copies of all WDNR approvals to UTILITY within ten (10) business days of receipt
- iv. To clean all sanitary sewers in the SUBJECT PROPERTY prior to acceptance of the improvements and issuance of building permits by Mukwonago and Vernon.
- v. To furnish record drawings of the sanitary sewage system for the SUBJECT PROPERTY, including locations of manholes, lateral connections to the mains, laterals to lot lines, tracer wire access locations, and cleanouts, pursuant to plans and specifications dated July 17, 2024 approved by Mukwonago's Engineer prior to acceptance.
- vi. To televise the sanitary sewer system for the SUBJECT PROPERTY, repair any defects as determined by Mukwonago's Engineer, supply the video tape to

Mukwonago and clean all sewer lines prior to the issuance of building and occupancy permits and acceptance of the improvements by Mukwonago.

- vii. That no building permits shall be issued until the sanitary sewer system for the SUBJECT PROPERTY has been dedicated to Mukwonago.
- viii. The Developer has reviewed the Inter Municipal Agreement between Mukwonago and Vernon (hereinafter "The IMA") and agrees to comply and support the terms herein.

C. WATER: The DEVELOPER hereby agrees that:

- i. Prior to the start of construction of improvements, the DEVELOPER shall provide Mukwonago and Vernon written certification from the DEVELOPER's Engineer that the water system plans are in conformance with all Federal, State, and Mukwonago specifications, regulations, ordinances, and guidelines and written proof that Mukwonago's Engineer has approved said PROJECT PLANS dated July 17, 2024.
- ii. The DEVELOPER, at the DEVELOPER's cost and expense, shall obtain approval of plans and specifications dated July 17, 2024 for the design, construction, and installation of water supply and distribution facilities from Mukwonago's Engineer, which approval shall not be unreasonably withheld. The DEVELOPER, at the DEVELOPER's cost and expense, shall obtain approval of the plans and specifications dated July 17, 2024 for the design, construction, and installation of the water supply and distribution facilities from the Wisconsin Department of Natural Resources (WDNR). The DEVELOPER shall provide copies of all WDNR approvals to UTILITY within ten (10) business days of receipt.
- iii. To design, construct, furnish, provide, and install without cost to Mukwonago and Vernon and provide a complete water system for the SUBJECT PROPERTY, all in accordance with the plans, specifications, and drawings on file dated July 17, 2024 in Mukwonago and Vernon's Clerk's offices and all applicable Federal, State and Mukwonago ordinances, specifications, regulations and guidelines for the construction of water systems in Mukwonago and as approved by the Mukwonago Engineer.
- iv. The DEVELOPER shall furnish record drawings showing changes from the construction plans dated July 17, 2024, pursuant to specifications approved by Mukwonago's Engineer. Subject to intellectual property rights, said record drawings shall be provided in digital drawing and pdf format, and shall include field locations of hydrants, valves, buried fittings, service connection locations, services to the property line, curb stops, and traer wire access locations.
- v. That no building permits shall be issued until the water system for the SUBJECT PROPERTY has been dedicated to and accepted by Mukwonago.
- vi. The DEVELOPER, at the DEVELOPER's cost and expense, shall be responsible for the maintenance and operation of the water supply and distribution facilities required by this AGREEMENT, including locate requests, unless and until water supply and distribution facilities are accepted by Mukwonago. Upon dedication and acceptance of the water supply and distribution facilities as described in Sections V and VI, Mukwonago shall have full jurisdiction and ownership of the

water supply and distribution facilities located in the public rights-of-way or in any easement located within the SUBJECT PROPERTY and be responsible for maintenance and operation subject to the GUARANTEE of the DEVELOPER provided in this AGREEMENT.

- vii. The Developer has reviewed the Inter Municipal Agreement between Mukwonago and Vernon (hereinafter "The IMA") and agrees to comply and support the terms herein.

D. SURFACE AND STORM WATER DRAINAGE: The DEVELOPER hereby agrees that:

- i. Depending on the location of stormwater facility, where the surface and stormwater will drain to and prior to the start of construction of improvements, the DEVELOPER shall provide to Mukwonago and the County written certification from the DEVELOPER's Engineer or Surveyor that all surface and storm water drainage facilities and erosion control plans dated July 17, 2024 are in conformance with all Federal, State, County, and MUNICIPAL regulations, guidelines, specifications, laws, and ordinances, and written proof that Mukwonago and the County Engineer if applicable, have reviewed and approved said PROJECT PLANS dated July 17, 2024.
- ii. The DEVELOPER shall construct, furnish, provide, and install without cost to the Mukwonago, Vernon or the County, adequate facilities for surface and storm water drainage throughout the PROJECT with adequate capacity to transmit the anticipated flow from the PROJECT and adjacent property, in accordance with all plans and specifications on file dated July 17, 2024 in Mukwonago or Vernon Clerk's offices, and all applicable Federal, State, County, and municipal regulations, guidelines, specifications, laws, and ordinances, and as reviewed and approved by Mukwonago and The County Engineer if applicable, including where necessary as determined by Mukwonago and the County Engineer, curb, gutter, storm sewers, catch basins, and infiltration/retention/detention basins.
- iii. The DEVELOPER agrees that the site grading and construction of surface and storm water drainage facilities shall be completed and accepted by the MUNICIPAL AUTHORITY before any building or occupancy permits are issued.
- iv. To maintain roads free from mud and dirt from construction of the PROJECT.
- v. The MUNICIPAL AUTHORITY will not accept the surface and storm water drainage system until the entire system is installed and landscaped in accordance with PROJECT PLANS and specifications dated July 17, 2024 to the satisfaction of Mukwonago and the County Engineer.
- vi. The DEVELOPER shall clean all storm sewers, if any, prior to acceptance of improvements by the MUNICIPAL AUTHORITY.
- vii. Mukwonago and the County retain the right to require the DEVELOPER to install additional surface and storm water drainage measures if it is determined by the Mukwonago and the County Engineer that the original surface and storm water drainage plan as designed and/or constructed does not provide reasonable stormwater drainage within the PROJECT and surrounding area.

- viii. To furnish record drawings of the entire drainage system, pursuant to specifications approved by Mukwonago and the County Engineer prior to the issuance of occupancy permits, if required by Mukwonago and the County Engineer. Record drawings shall include site grading, ponds, pond outlet structures, manholes, inlets, catch basins, yard drains, sump line connections, and any tracer wire access locations.

E. GRADING, EROSION AND SILT CONTROL: The DEVELOPER hereby agrees that:

- i. Prior to commencing site grading and excavation, the DEVELOPER shall provide to Mukwonago and Vernon written certification from the DEVELOPER's Engineer or Surveyor that said PROJECT PLAN, once implemented, shall meet all Federal, State, County and local regulations, guidelines, specifications, laws, and ordinances, including proof of notification of land disturbances to the State of Wisconsin Department of Natural Resources, if applicable, and written proof that Mukwonago and Vernon's Engineer and Waukesha County if applicable, have approved said plans dated July 17, 2024.
- ii. The DEVELOPER shall construct, grade, furnish, provide, and install without cost to Mukwonago and Vernon, all grading, excavation, open cuts, side slopes, and other land surface disturbances to be so seeded and mulched, sodded, or otherwise protected that erosion, siltation, sedimentation, and washing are prevented in accordance with the plans and specifications dated July 17, 2024 reviewed and approved by Mukwonago and Vernon Engineer Waukesha County if applicable, and Army Corps of Engineers, if applicable.
- iii. All disturbed areas shall be restored to the satisfaction of the Mukwonago and Vernon Engineer within seven (7) days of disturbance. Any cash or letter of credit, or surety bond posted with Mukwonago and Vernon will not be released until the Mukwonago and Vernon Engineer is satisfied that no further erosion measures are required.
- iv. If any erosion control facilities (including but not limited to bails, silt fence, and berms) are washed out or otherwise rendered ineffective as determined by the Mukwonago and Vernon Engineer/Director of Public Works, the DEVELOPER shall replace said facilities within forty-eight (48) hours of being so notified in writing by the Mukwonago and Vernon Engineer/Director of Public Works. If the DEVELOPER fails to reinstall said facilities within forty-eight (48) hours of being so notified by the Mukwonago and Vernon Engineer/Director of Public Works, Mukwonago and Vernon may (but is not required to) reinstall said facilities and charge 125 percent (125%) of all costs incurred by Mukwonago and Vernon in so reinstalling said facilities to the DEVELOPER. Mukwonago and Vernon may collect this amount from the FINANCIAL GUARANTEE.
- v. Topsoil or grading soils are not permitted to remain on the site longer than (1) one year from the signing of this AGREEMENT.
- vi. To furnish record drawing of the site grading in the development, pursuant to the plans and specifications dated July 17, 2024 approved by the MUNICIPALITY Engineer prior to acceptance, if required by Mukwonago or Vernon's Engineer. Record drawings shall detail the site grading performed on the site.

F. LANDSCAPING AND SITE WORK: The DEVELOPER hereby agrees that:

- i. The DEVELOPER shall preserve to the maximum extent possible existing trees, shrubbery, vines, and grasses not actually lying on the public streets, drainageways, building foundation sites, private driveways, soil absorption waste disposal areas, paths, and trails by use of sound conservation practices.

(Note: If the development includes required landscaping, the following terms may be required.)

1. The DEVELOPER shall construct, install, furnish and provide, without cost to Mukwonago and Vernon, completed landscaping and site work in specified areas of the PROJECT, in accordance with PROJECT PLANS dated July 17, 2024 and ordinances.
2. The DEVELOPER shall install all landscaping consistent with industry-accepted standards. Installation shall occur prior to the issuance of a certificate of occupancy for the related building on the SUBJECT PROPERTY unless such occupancy is granted after October 31st of any year, in which case the landscaping shall be completed by June 30th, of the following year (SPECIFY SEASON).
3. Street Trees. The DEVELOPER shall cause a minimum of one (1) tree to be planted every fifty (50) feet, between the street and the sidewalk within six (6) months after the issuance of the occupancy permit or at an earlier time as determined at the sole discretion of the DEVELOPER.
4. Landscaping required by this section is intended to be a permanent site improvement just as any other building, structure, or infrastructure that is necessary to facilitate the intended use of the SUBJECT PROPERTY. As such, all landscaping shall be continually maintained in a live state. Maintenance shall include periodic and timely watering, fertilizing, pruning, and any other such normally required horticulture activity necessary to keep all landscaping in a healthy, safe, and aesthetically pleasing state.
5. Recognizing that over time plants may mature and die or otherwise expire because of natural or unnatural causes, maintenance shall include the removal and replacement of dead or dying plants. Such replacement shall occur within the same year in which a plant dies or in the spring planting season of the following year. Replacement landscaping shall meet or exceed the minimum standards of this AGREEMENT for initial landscaping.
6. The DEVELOPER, as required by Mukwonago and Vernon, shall remove and lawfully dispose of buildings, destroyed trees, brush, tree trunks, shrubs, and other natural growth and all rubbish.
7. Landscaping and removal of unwanted items, including buildings, will be completed and certified as complete by the Mukwonago and Vernon Engineer prior to the issuance of any building permits.
8. The DEVELOPER shall delineate all wetlands that are on or adjacent to private lots by means of cedar posts, as approved by the MUNICIPAL AUTHORITY.

9. Mukwonago and Vernon have the right to trim and remove any features which would interfere with safe operation and maintenance of Mukwonago and Vernon rights-of-way and drainageways.

G. STREET SIGNS AND TRAFFIC CONTROL SIGNS: The DEVELOPER hereby agrees that:

- i. Street signs, traffic control signs, culverts, posts, and guard rails as required by Mukwonago and Vernon shall be obtained and placed by Mukwonago and Vernon, or by the DEVELOPER with approval of Mukwonago and Vernon, and the cost thereof shall be paid by the DEVELOPER.
- ii. All traffic control signs and street signs, as required by Mukwonago and Vernon will be installed within five (5) working days of the placement of the first lifts of asphalt.

H. STREET LIGHTS: The DEVELOPER hereby agrees that:

- i. The DEVELOPER shall install a street lighting system in the PROJECT according to a plan prepared by the Wisconsin Electric Power Company and on file with the Mukwonago and Vernon Clerks and approved by Mukwonago and Vernon. The DEVELOPER shall construct, install, furnish, and provide without cost to Mukwonago and Vernon, all street lights.

(Note: Other specific required improvements should be listed as separate lettered categories, as may be necessary with regard to specific developments. Not all of the foregoing improvements apply to every project.)

- I. ADDITIONAL IMPROVEMENTS: The DEVELOPER hereby agrees that if, at any time after plan approval and during construction, the Mukwonago or Vernon Engineer determines that modifications to the plans including additional improvements such as additional drainage ways, erosion control measures, and surface and storm water management measures are necessary in the interest of public safety, are necessary in order to comply with current laws or are necessary for implementation of the original intent of the improvement plans, Mukwonago and Vernon are authorized to order the DEVELOPER, at the DEVELOPER's expense, to implement the same. If the DEVELOPER fails to construct the additional improvement within a reasonable time under the circumstances, Mukwonago or Vernon may cause such work to be carried out and shall charge against the FINANCIAL GUARANTEE held by the MUNICIPALITY pursuant to this AGREEMENT.

SECTION III: TIME OF COMPLETION OF IMPROVEMENTS: The improvements set forth in Section II above shall be completed by the DEVELOPER in total within twelve (12) months of the date of this AGREEMENT being signed except as otherwise provided for in this AGREEMENT. In every case, regardless of circumstances, all work contemplated by this AGREEMENT must be completed no later than July 31, 2026, unless this ultimate deadline is extended in writing by the MUNICIPAL AUTHORITY.

SECTION IV: FINAL ACCEPTANCE: Throughout this AGREEMENT, various stages of the PROJECT will require approval by Mukwonago and Vernon. "Final Acceptance" as used herein, however, shall be the ultimate acceptance of all of the improvements in the completed PROJECT as a whole, and shall be granted specifically by separate resolution of the MUNICIPAL AUTHORITY. Granting Final Acceptance for each phase does not relieve the

DEVELOPER of any obligations of this AGREEMENT for uncompleted improvements, and does not constitute a waiver, in particular, of the DEVELOPER's obligation to complete any other improvements or obligations that may be outstanding at the time that Final Acceptance is granted. The two-year (2) GUARANTEE PERIOD provided for in this AGREEMENT shall not commence to run until Final Acceptance (such two-year (2) period referred to herein as the "GUARANTEE PERIOD"). The issuance of building permits and approval of various items of development shall not commence the two-year (2) GUARANTEE PERIOD.

SECTION V: DEDICATION OF IMPROVEMENTS: Subject to all of the other provisions of this AGREEMENT, the DEVELOPER shall, without charge to Mukwonago and Vernon, upon completion of the above described improvements, unconditionally give, grant, convey, and fully dedicate the public improvements to Mukwonago and Vernon, its successors and assigns, forever, free and clear of all encumbrances whatever, together with and including, without limitation because of enumeration, any and all land, buildings, structures, mains, conduits, pipes, lines, plant machinery, equipment, appurtenances, and hereditaments which may in any way be a part of or pertain to such improvements and together with any and all necessary easements for access thereto. After such dedication, Mukwonago and Vernon shall have the right to connect or integrate other improvements as Mukwonago and Vernon decides, with no payment or award to, or consent required of, the DEVELOPER. Mukwonago and Vernon shall have no obligation, however, to accept any dedication not constructed to Mukwonago and Vernon's specifications.

Dedication shall not constitute acceptance of any improvement by the MUNICIPAL AUTHORITY. All improvements will be accepted by the MUNICIPAL AUTHORITY by separate resolution at such time as such improvements are in acceptable form and according to Mukwonago and Vernon specifications. Said resolution shall be recorded, if needed, with the County Register of Deeds. The DEVELOPER will furnish proof to Mukwonago and Vernon, prior to the dedication required, that the public land and improvements proposed for dedication are free of all liens, claims, and encumbrances, including mortgages.

SECTION VI: ACCEPTANCE OF WORK AND DEDICATION: When the DEVELOPER shall have completed the improvements herein required and shall have dedicated the same to Mukwonago and Vernon as set forth herein, the same shall be accepted by the MUNICIPAL AUTHORITY if said improvements have been completed as required by this AGREEMENT and as required by all Federal, State, County, or Mukwonago and Vernon guidelines, specifications, regulations, laws, and ordinances and approved by the Mukwonago and Vernon Engineer.

SECTION VII: APPROVAL BY MUNICIPALITY NOT TO BE DEEMED A WAIVER: The ultimate responsibility for the proper design and installation of streets, water facilities, drainage facilities, ditches, landscaping, and all other improvements are upon the DEVELOPER. The fact that Mukwonago and Vernon or its engineer, or its attorney, or its MUNICIPAL AUTHORITY may approve a specific project shall not constitute a waiver, or relieve the DEVELOPER from the ultimate responsibility for the design, performance, and function of the development and related infrastructure.

SECTION VIII: GUARANTEES OF IMPROVEMENTS:

- A. **GUARANTEES:** The DEVELOPER shall guarantee after Final Acceptance, the public improvements and all other improvements described in Section II hereof, against defects due to faulty materials or workmanship, provided that such defects appear within a period of two (2) years from the date of Final Acceptance. The DEVELOPER shall pay for any damages to Mukwonago and Vernon property and/or improvements resulting from such faulty materials or workmanship or other defective

conditions arising during the GUARANTEE PERIOD. This guarantee shall not be a bar to any action that Mukwonago and Vernon might have for negligent workmanship or materials. Wisconsin law on negligence shall govern such situations.

Once the improvements are substantially complete, as defined in Wisconsin Statutes Section 236.13(2)(am)2., the DEVELOPER shall provide financial security in a form permitted by Wisconsin Statutes Section 236.13(2)(am)1m, and as acceptable to the MUNICIPAL AUTHORITY, in an amount equal to the total cost to complete any uncompleted public improvements plus ten percent (10%) of the total cost of the completed public improvements. Such security shall remain in effect, as financial security for the GUARANTEE for fourteen (14) months after the date of substantial completion, unless extended (such fourteen-month (14) period, as extended if applicable, referred to herein as the "POST-SUBSTANTIAL SECURITY PERIOD"; and the security provided by this Section is referred to herein as the "POST-SUBSTANTIAL SECURITY"). If the DEVELOPER fails to pay for any damages or defects to Mukwonago and Vernon property and/or improvements, and Mukwonago and Vernon are required to draw against the POST-SUBSTANTIAL SECURITY, the DEVELOPER is required to replenish said monies up to the aggregate amount of the total cost to complete any uncompleted public improvements plus ten percent (10%) of the total cost of the completed public improvements.

Expiration of the POST-SUBSTANTIAL SECURITY PERIOD shall not reduce or impact upon the GUARANTEE PERIOD hereby provided. Following the expiration of the POST-SUBSTANTIAL SECURITY, the DEVELOPER and the DEVELOPER's successors and assigns shall be solely responsible to correct all defective conditions, whether they were known or unknown during the POST-SUBSTANTIAL SECURITY PERIOD. The term of the POST-SUBSTANTIAL SECURITY PERIOD may be extended by the DEVELOPER. In the event the POST-SUBSTANTIAL SECURITY, by its terms, remains in effect beyond what would otherwise be the end of the POST-SUBSTANTIAL SECURITY PERIOD, the POST-SUBSTANTIAL SECURITY PERIOD is automatically extended to include all such time the POST-SUBSTANTIAL SECURITY remains in effect.

The DEVELOPER shall give written notice to Mukwonago and Vernon no fewer than eleven (11) and no more than twelve (12) months after the date of substantial completion, indicating the date that the POST-SUBSTANTIAL SECURITY PERIOD shall expire. Upon receipt of such notice, in addition to such other remedies as Mukwonago and Vernon may have with or without such notice, Mukwonago and Vernon may draw any remaining funds from the POST-SUBSTANTIAL SECURITY as Mukwonago and Vernon deems necessary to complete or to correct any work that is not satisfactorily completed at that time. Failure of the DEVELOPER to provide the notice required by this paragraph shall constitute the Developer's Agreement to extend the term of the POST-SUBSTANTIAL SECURITY PERIOD indefinitely, to a date that is two (2) months beyond the date that the DEVELOPER eventually provides such written notice.

- B. OBLIGATION TO REPAIR: The DEVELOPER shall make or cause to be made, at its own expense, any and all repairs which may become necessary under and by virtue of the DEVELOPER's GUARANTEE and shall leave the improvements in good and sound condition, satisfactory to the MUNICIPAL AUTHORITY at the expiration of the GUARANTEE PERIOD.

- C. NOTICE OF REPAIR: If during said GUARANTEE PERIOD, the improvements shall, in the reasonable opinion of the MUNICIPAL AUTHORITY, require any repair or replacement which, in their judgment, is necessitated by reason of settlement of foundation, structure of backfill, or other defective materials or workmanship, the DEVELOPER shall, upon notification by Mukwonago or Vernon of the necessity for such repair or replacement, make such repair or replacement, at its own cost and expense. Should the DEVELOPER fail to make such repair or replacement within the time specified by Mukwonago or Vernon in the aforementioned notification, after notice has been sent as provided herein, the MUNICIPAL AUTHORITY may cause such work to be done, but has no obligation to do so, either by contract or otherwise. The MUNICIPAL AUTHORITY may draw upon the POST-SUBSTANTIAL SECURITY to pay any costs or expenses incurred in connection with such repairs or replacements, if it is available. Should the costs or expenses incurred by the MUNICIPAL AUTHORITY in repairing or replacing any portion of the improvements covered by this guarantee exceed the amount of the POST-SUBSTANTIAL SECURITY, or should the Post-substantial Security not be available for any reason, then the DEVELOPER shall immediately pay to Mukwonago or Vernon all cost or expense incurred in the correction process. Any such charge not paid by the DEVELOPER within thirty (30) days of being invoiced may be imposed against the PROJECT land as a special charge pursuant to Section 66.0627, Wisconsin Statutes, or assessed. Any such charges or assessments may be imposed on the SUBJECT PROPERTY, or any portion thereof then owned by the DEVELOPER, or then owned by any successor or assign of the DEVELOPER including lot owners.

D. MAINTENANCE PRIOR TO ACCEPTANCE:

- i. All improvements shall be maintained by the DEVELOPER so they conform to the PROJECT PLANS and specifications at the time of their Final Acceptance by the MUNICIPAL AUTHORITY. This maintenance shall include routine maintenance, such as crack filling, roadway patching, and the like. In cases where emergency maintenance is required, the MUNICIPAL AUTHORITY retains the right to complete the required emergency maintenance in a timely fashion and bill the DEVELOPER for all such associated costs. Said bill shall be paid immediately by the DEVELOPER. The DEVELOPER's obligation to maintain all improvements shall expire at the expiration of the GUARANTEE PERIOD.
- ii. Street sweeping and dust suppression shall be done by the DEVELOPER upon a regular basis as needed to ensure a reasonably clean and safe roadway until Final Acceptance by the MUNICIPAL AUTHORITY. Should the DEVELOPER fail to meet this requirement, the MUNICIPAL AUTHORITY will cause the work to be done and will bill the DEVELOPER on a time and material basis. Said bill shall be paid immediately by the DEVELOPER.
- iii. In the event drainage problems arise within the SUBJECT PROPERTY or related activities on the SUBJECT PROPERTY, the DEVELOPER shall correct such problems to the satisfaction of the MUNICIPAL AUTHORITY. Such correction measures shall include, without limitation because of enumeration, cleaning of soil, loose aggregate, and construction debris from culverts, drainage ditches, and streets; dredging and reshaping of siltation or retention ponds; replacing of siltation fences; sodding and seeding; construction of diversion ditches, ponds, and siltation traps; and restoration of all disturbed areas. This responsibility shall continue until such time as the roads, ditches, and other disturbed areas have become adequately vegetated and the MUNICIPAL AUTHORITY is satisfied that

the DEVELOPER has restored all areas which were disturbed because of this development.

(Note: This paragraph may need to be modified depending upon the required public improvements in for specific developments.)

SECTION IX: MUNICIPALITY RESPONSIBILITY FOR IMPROVEMENTS: Mukwonago and Vernon shall not be responsible to perform repair, maintenance, or snow plowing, unless otherwise approved by the MUNICIPAL AUTHORITY, on any improvements until Final Acceptance is granted by the MUNICIPAL AUTHORITY.

SECTION X: RISK OF PROCEEDING WITH IMPROVEMENTS PRIOR TO APPROVALS OF FINAL PLAT: DEVELOPER proceeds with the installation of public improvements or other work on the SUBJECT PROPERTY at its own risk as to whether or not the final plat will receive all necessary approvals. Additionally, the DEVELOPER shall make arrangements to have any public improvements and/or other work on site inspected by the MUNICIPALITY Engineer.

SECTION XI: FINANCIAL GUARANTEE: Prior to the execution of this AGREEMENT by the MUNICIPAL AUTHORITY, the DEVELOPER shall file with the MUNICIPALITY cash deposit, a letter of credit, or a surety bond setting forth terms and conditions in a form approved by the MUNICIPALITY Attorney in the amount as approved by the MUNICIPALITY Engineer as a guarantee that the DEVELOPER will perform all terms of this AGREEMENT no later than one (1) year from the signing of this AGREEMENT except as otherwise set forth in this AGREEMENT (hereinafter called "SUBSTANTIAL SECURITY"). If at any time:

- A. The DEVELOPER is in default of any aspect of this AGREEMENT, or;
- B. The DEVELOPER does not complete the installation of the improvements within one (1) year from the signing of this AGREEMENT unless otherwise extended by this AGREEMENT or by action of the MUNICIPAL AUTHORITY, or;
- C. The letter of credit or surety bond on file with Mukwonago and Vernon is dated to expire sixty (60) days prior to the expiration of the same if the same has not been extended, renewed or replaced, or;
- D. The DEVELOPER fails to maintain a cash deposit, letter of credit, or surety bond in an amount approved by Mukwonago and Vernon Engineer, and in a form approved by the MUNICIPALITY Attorney, to pay the costs of improvements in the development, the DEVELOPER shall be deemed in violation of this AGREEMENT and the MUNICIPAL AUTHORITY shall have the authority to draw upon the cash deposit or letter of credit or surety bond.

The amount of the cash deposit or letter of credit may be reduced from time to time as and to the extent that the portion of work required under this AGREEMENT is completed and paid for, provided that the remaining cash deposit or letter of credit is sufficient to secure payment for any remaining improvements and also provided that no reduction shall occur until it is approved in writing by the MUNICIPAL AUTHORITY.

The SUBSTANTIAL SECURITY may be replaced with the POST-SUBSTANTIAL SECURITY described in Section (VIII)(A) upon substantial completion of the improvements as and to the extent required by Wisconsin Statutes Section 236.13(2)(am)2., upon the written request of the DEVELOPER and written approval of the MUNICIPAL AUTHORITY. The SUBSTANTIAL SECURITY is not reduced or

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terminated by the fact of substantial completion alone, but may be reduced or terminated upon request and approval as described above.

The lending institution or surety providing the irrevocable letter of credit or surety bond shall pay to the MUNICIPAL AUTHORITY all sums available for payment under the irrevocable letter of credit or surety bond upon demand, subject to the terms and conditions of the irrevocable letter of credit or surety bond, and upon its failure to do so, in whole or in part, the MUNICIPALITY shall be empowered in addition to its other remedies, without notice or hearing, to impose a special charge for the amount of said completion costs, upon each and every lot in the PROJECT payable with the next succeeding tax roll.

SECTION XII: BUILDING AND OCCUPANCY PERMITS: It is expressly understood and agreed that no building or occupancy permits shall be issued for any homes, including model homes, until the Mukwonago or Vernon Engineer has determined that the following requirements which are deemed to be related to public safety, are met:

- A. The installation of the first lifts of asphalt of the public street(s) providing access to and fronting a specific lot for which a building permit is requested has been completed and accepted by the MUNICIPAL AUTHORITY.
- B. The site grading and construction of surface and storm water drainage facilities required to serve such homes are completed, are connected with an operating system as required herein, are cleaned as needed, and are accepted by the MUNICIPAL AUTHORITY.
- C. All landscaping and removal of unwanted items, including buildings, has been certified as complete by the Mukwonago and Vernon Engineer.
- D. All required grading plans dated July 17, 2024 have been submitted to, reviewed by, and approved by the Mukwonago and Vernon Engineer.
- E. The DEVELOPER has paid in full all permit fees and reimbursement of administrative costs as required by this AGREEMENT.
- F. The DEVELOPER has prepared appropriate deed restrictions which are approved by Mukwonago and Vernon, filed with the County and recorded with the Register of Deeds.
- G. All destroyed trees, brush, tree trunks, shrubs, and other natural growth and all rubbish are removed from the PROJECT and disposed of lawfully.
- H. All public and private utilities have been installed in the SUBJECT PROPERTY, the sanitary sewer system, and the water system.
- I. The DEVELOPER is not in default of any aspect of this AGREEMENT.
- J. There is no default of any aspect of this AGREEMENT as determined by the MUNICIPAL AUTHORITY.
- K. The DEVELOPER has delineated the wetlands that are on or adjacent to private lots by means of cedar posts, as approved by the MUNICIPAL AUTHORITY prior to the issuance of building and occupancy permits.

SECTION XIII: RESERVATION OF RIGHTS AS TO ISSUANCE OF BUILDING PERMITS: This AGREEMENT is necessary to ensure public safety. No permit to commence construction of a foundation or any other noncombustible structure shall be granted before substantial completion of all public improvements, unless the MUNICIPAL AUTHORITY determines that all public improvements related to public safety are complete. Any violation by the DEVELOPER of the terms of this AGREEMENT concerning completion of public improvements, or timing of completion, or lack of completion regardless of violation, exposes Mukwonago and Vernon to safety risks associated with construction sites, and therefore is related to public safety. Mukwonago and Vernon reserve the right to withhold issuance of any and all building permits if the DEVELOPER is in violation of this AGREEMENT, to the full extent permitted by law. In the event Mukwonago or Vernon issues a permit pursuant for a foundation or other noncombustible structure, per Wisconsin Statute Section 236.13(2)(am)3.c., the DEVELOPER assumes the risk that no further construction, nor future building permit to complete such structure, will be permitted.

SECTION XIV: VACANT LOT MAINTENANCE EASEMENT: The DEVELOPER hereby grants a vacant lot maintenance easement to Mukwonago and Vernon. The easement grants Mukwonago and Vernon the right (but not the obligation) to enter upon any vacant lot in the SUBJECT PROPERTY in order to inspect, repair, or restore the property so that it is in compliance with all applicable provisions of Mukwonago and Vernon of _____ Municipal Code. A vacant lot shall include any lot that does not have an occupied principal structure that is used for single family purposes at the time of inspection, repair, or restoration. All costs incurred by the MUNICIPALITY in exercising its right to inspect, repair or restore the lot shall be borne by the owner of the lot necessitating such inspection, repair or restoration and if not paid for by such lot owner within forty-five (45) days of receipt of any invoice therefore, may be placed against the tax roll for the lot and collected as a special charge by the MUNICIPALITY.

SECTION XV: MISCELLANEOUS REQUIREMENTS: The DEVELOPER shall:

- A. **EASEMENTS:** Provide any easements including vision easements on the SUBJECT PROPERTY deemed necessary by Mukwonago and Vernon Engineer before the final plat is signed or on the final plat and such easements shall be along lot lines if at all possible.
- B. **MANNER OF PERFORMANCE:** Cause all construction called for by this AGREEMENT to be carried out and performed in a good and workerlike manner.
- C. **SURVEY MONUMENTS:** Properly place and install any lot, block, or other monuments required by State Statute, Mukwonago and Vernon ordinance, or the Mukwonago and Vernon Engineer.
- D. **DEED RESTRICTIONS:** Execute and record deed restrictions in a form that is subject to the approval of the MUNICIPAL AUTHORITY and MUNICIPALITY Attorney, and provide proof of recording prior to sale of lots for the SUBJECT PROPERTY. The deed restrictions shall contain language to require the lot owners and/or homeowner's association within the subdivision to maintain all stormwater management facilities in accordance with the specifications on file with Mukwonago and Vernon including such amendments as may be made thereto from time to time by the Mukwonago and Vernon Engineer. The deed restrictions shall also contain the following language:

(Use this language if there will be a master lot grading plan:)

"Each lot owner must strictly adhere to and finish grade its lot in accordance with the Master Lot Grading Plan or any amendment thereto approved by the MUNICIPALITY Engineer on file in the office of the MUNICIPALITY Clerk. The DEVELOPER and/or the MUNICIPALITY and/or their agents, employees or independent contractors shall have the right to enter upon any lot, at any time, for the purpose of inspection, maintenance, correction of any drainage condition, and the lot owner is responsible for cost of the same."

- E. GRADES: Prior to the issuance of a building permit for a specific lot, the DEVELOPER and/or lot owner and/or their agent shall furnish to the Building Inspector of the MUNICIPALITY a copy of the stake out survey showing the street grade in front of the lot, the finished yard grade, the grade of all four corners of the lot, and the lot corner grades of the buildings on adjoining lots where applicable, as existing and as proposed.
- F. IMPACT FEES - SANITARY SEWER: As provided in the Mukwonago Land Division Ordinance, the DEVELOPER agrees to pay, at time of issuance of build permits, an impact fee to be used for the costs created by Mukwonago in Mukwonago's sanitary sewerage collection and treatment facilities for the benefit of the DEVELOPER. Mukwonago shall levy such assessments in conformity with this AGREEMENT, pursuant to Chapter 66 Subchapter VII, Wisconsin Statutes. The impact fees against the above-described property shall be in an amount established by Mukwonago's Land Division Ordinance and including annual increases.

The DEVELOPER hereby waives, pursuant to Section 66.0703(7)(b), Wisconsin Statutes, any and all requirements of the Wisconsin Statutes which must be met prior to impact fees [including, but not limited to, the notice and hearing requirements of Chapter 66 Subchapter VII] and agrees that Mukwonago may proceed immediately to levy impact fees as outlined herein.

The DEVELOPER further waives its right to appeal from impact fees and stipulates that the amount levied against its property has been determined on a reasonable basis and that the benefits to its property from the proposed improvements exceed the amount of the special assessment against such property. In addition, the DEVELOPER waives its right under Wisconsin Statutes Section 66.0627 and agrees to promptly pay any special charges which may be levied against its property. Mukwonago shall levy such impact fees in conformity with this AGREEMENT, pursuant to Chapter 66 Subchapter VII and Section 66.0627, Wisconsin Statutes.

(Note: The foregoing applies only if the development includes sewer facilities, and only if the MUNICIPALITY imposes such fees by RCA. Some municipalities with sewer facilities impose Impact Fees, rather than RCA, in which case changes are necessary.)

- G. IMPACT FEES - WATER: The DEVELOPER agrees to pay impact fees as required in Section 22.23(2)(b) and other relevant sections of the Mukwonago code, to be used for the costs of reserve capacity created by Mukwonago in Mukwonago's water system for the benefit of the DEVELOPER. Mukwonago shall levy such impact fees in conformity with this AGREEMENT, pursuant to Chapter 66 Subchapter VII, Wisconsin Statutes. The impact fees against the above-described property shall be an amount established in Mukwonago's Land Division Ordinance and is subject to annual increases.

The DEVELOPER hereby waives, pursuant to Section 66.0703(7)(b), Wisconsin Statutes, any and all requirements of the Wisconsin Statutes which must be met prior to the imposition of impact fees [including, but not limited to, the notice and hearing requirements of Chapter 66 Subchapter VII] and agrees that Mukwonago may proceed immediately to levy impact fees as outlined herein. The DEVELOPER further waives its right to appeal and stipulates that the amount of the impact fees levied against its property has been determined on a reasonable basis and that the benefits to its property from the proposed improvements exceed the amount of the special assessment against such property.

In addition, the DEVELOPER waives its rights under Wisconsin Section 66.0627 and agrees to promptly pay any impact fees which may be levied against its property. Mukwonago shall levy such impact fees in conformity with this AGREEMENT, pursuant to Chapter 66 Subchapter VII and Section 66.0627, Wisconsin Statutes.

(Note: The foregoing applies only if the development includes water facilities, and only if the MUNICIPALITY imposes such fees by RCA. Some municipalities with water facilities impose Impact Fees, rather than RCA, in which case changes are necessary.)

- H. UNDERGROUND UTILITIES: Install all electrical, telephone, cable, and gas utilities underground. Coordination of installation and all costs shall be the responsibility of the DEVELOPER.

(Note: This paragraph will change if underground utilities are not required in specific situations.)

- I. PERMITS: Provide and submit to Mukwonago and Vernon requesting the same, valid copies of any and all governmental agency permits.
- J. REMOVAL OF TOPSOIL: The DEVELOPER agrees that no topsoil shall be removed from the SUBJECT PROPERTY without approval from Mukwonago or Vernon's Engineer.
- K. PARK AND PUBLIC SITE DEDICATION IMPACT FEES: To pay as provided in Mukwonago and Vernon's ordinances, a fee per lot developed in lieu of dedication of lands for park and public sites upon issuance of building permits.
- L. SUBDIVISION PARK: The DEVELOPER agrees to install a neighborhood tot lot to be enjoyed by the residents of Cardinal Ridge. The tot lot shall be dedicated to a Homeowners Association which shall be solely responsible for maintenance and upkeep.
- M. NOISE: Make every effort to minimize noise, dust and similar disturbances, recognizing that the SUBJECT PROPERTY is located near existing residences. Construction of improvements shall not begin before 7:00 a.m. during weekdays and Saturdays, and 9:00 a.m. on Sundays. Construction of improvements shall comply with the ordinances currently in effect in Mukwonago and Vernon.
- N. DEBRIS: The Developer shall have ultimate responsibility for cleaning up debris that has blown from buildings under construction within the SUBJECT PROPERTY until such time as all improvements have been installed and accepted by the MUNICIPAL AUTHORITY. Mukwonago and Vernon shall make a reasonable effort to require the contractor, who is responsible for the debris, to clean up the same or to hold the

SUBJECT PROPERTY OWNER who hired the contractor responsible. The DEVELOPER and/or SUBJECT PROPERTY OWNER shall clean up the debris within forty-eight (48) hours after receiving a notice from the Mukwonago or Vernon Engineer. If said debris is not cleaned up after notification, Mukwonago or Vernon will do so at the DEVELOPER's and/or SUBJECT PROPERTY OWNER's expense.

- O. PUBLIC CONSTRUCTION PROJECTS: If any aspect of the development involves a public construction project subject to the State law, all requirements of the State Public Construction Bidding Law must be satisfied, including but not limited to, providing a performance bond.
- P. ZONING CODE: The DEVELOPER acknowledges that the lands to be developed are subject to the MUNICIPALITY of _____ Zoning Code.
- Q. DIGGERS HOTLINE: The DEVELOPER shall become a member of Diggers Hotline and provide evidence of such membership to the MUNICIPALITY Clerk before commencing any land disturbing activities on the SUBJECT PROPERTY. The DEVELOPER shall maintain said membership until all subsurface improvements required under Section II have received Final Acceptance from the MUNICIPALITY as provided in Section V.

(Note: Additional miscellaneous requirements may apply in specific situations, which may then be added to this section. Such additional items may include sight distances, sump pump connections, wetland regulations, impact fees, etc.)

SECTION XVI: PAYMENT OF COSTS, INSPECTION, & ADMINISTRATIVE FEES: The DEVELOPER shall pay and reimburse Mukwonago and Vernon promptly upon billing for all fees, expenses, costs and disbursements which shall be incurred by Mukwonago and Vernon in connection with this development or relative to the construction, installation, dedication, and acceptance of the development improvements covered by this AGREEMENT, including without limitation by reason of enumeration, design, engineering, review, supervision, inspection, and legal, administrative and fiscal work. Mukwonago and Vernon employee costs shall be based on regular Mukwonago and Vernon pay rates (or engineering and administrative overtime, if applicable) plus forty percent (40%) on the hourly rate for overhead and fringe benefits for any time actually spent on the project. Any costs for outside consultants shall be charged at the rate the consultant charges Mukwonago and Vernon. Any such charge not paid by the DEVELOPER within thirty (30) days of being invoiced may be charged against the FINANCIAL GUARANTEE held by Mukwonago and Vernon pursuant to this AGREEMENT, or assessed against the development land as a special charge pursuant to Section 66.0627, Wisconsin Statutes. Any such charges or assessments may be imposed on the SUBJECT PROPERTY, or any portion thereof then owned by the DEVELOPER, or then owned by any successor, or assign of the DEVELOPER including PROPERTY OWNERS.

SECTION XVII: GENERAL INDEMNITY: In addition to, and not to the exclusion or prejudice of, any provisions of this AGREEMENT or documents incorporated herein by reference, the DEVELOPER shall indemnify and save harmless and agrees to accept tender of defense and to defend and pay any and all legal, accounting, consulting, engineering, and other expenses relating to the defense of any claim asserted or imposed upon Mukwonago and Vernon, its officers, agents, employees, and independent contractors growing out of this AGREEMENT by any party or parties. The DEVELOPER shall also name as additional insureds on its general liability insurance Mukwonago and Vernon, its officers, agents, employees, and any independent contractors hired by Mukwonago and Vernon to perform services as to this development and give Mukwonago and Vernon evidence of the same upon request by

Mukwonago and Vernon. All agreements, representations, or warranties made herein shall survive the completion of the work contemplated under this AGREEMENT and the making of the grants hereunder.

SECTION XVIII: MUNICIPALITY RESPONSIBILITY:

- A. Mukwonago and Vernon agrees to pay for the following oversizing costs, if it is determined by Mukwonago and Vernon that the oversizing is necessary. The oversizing costs shall be calculated by viewing bids for similar improvements to determine the cost differences between the stated sizes. Mukwonago and Vernon reserve the right to determine the bid amounts to be used in this calculation.
- B. Cost of increasing the size of the water main from eight (8) inches to a larger size, including the cost of larger gate valves.
- C. Cost of increasing the size of the sewer main from eight (8) inches to a larger size.
- D. Mukwonago and Vernon agree to allow the DEVELOPER to connect to Mukwonago and Vernon of _____'s Mukwonago and Vernon water system and sewerage system at such time as the water system and sanitary sewer system required herein has been dedicated to and accepted by the MUNICIPALITY of _____.

SECTION XIX: REMEDIES ON DEFAULT:

- A. Upon the occurrence of any default, Mukwonago and Vernon at its option, may pursue any or all of the rights and remedies available to it at law and/or in equity and/or under this AGREEMENT and/or under any of the other agreements contemplated herein. Upon the occurrence of any default, any amounts due to Mukwonago and Vernon shall accrue interest at the rate of one percent (1%) per month.
- B. Mukwonago and Vernon's use of one remedy does not preclude it from using another remedy. All remedies provided herein shall not be dependent on each other and the exercise of one remedy shall not preclude the use of any other or all of said remedies.

SECTION XX: INSURANCE: The DEVELOPER, its contractors, suppliers and any other individual working on the SUBJECT PROPERTY the performance of this AGREEMENT shall maintain at all times until the expiration of the GUARANTEE PERIOD, insurance coverage in the forms and in the amounts as required by Mukwonago and Vernon.

SECTION XXI: EXCULPATION OF MUNICIPALITY CORPORATE AUTHORITIES: The parties mutually agree that Mukwonago and Vernon's Presidents of the MUNICIPAL AUTHORITY, and/or the Mukwonago and Vernon Clerks, entered into and are signatory to this AGREEMENT solely in their official capacity and not individually, and shall have no personal liability or responsibility hereunder; and personal liability as may otherwise exist, being expressly released and/or waived.

SECTION XXII: GENERAL CONDITIONS AND REGULATIONS: All provisions of Mukwonago and Vernon ordinances are incorporated herein by reference, and all such provisions shall bind the parties hereto and be a part of this AGREEMENT as fully as if set forth at length herein. This AGREEMENT and all work and improvements required hereunder shall be performed and carried out in strict accordance with and subject to the provisions of said ordinances.

SECTION XXIII: ZONING: Mukwonago and Vernon do not guarantee or warrant that the SUBJECT PROPERTY will not at some later date be rezoned, nor does Mukwonago and Vernon herewith agree to rezone the lands into a different zoning district. It is further understood that any rezoning that may take place shall not void this AGREEMENT.

SECTION XXIV: COMPLIANCE WITH CODES AND STATUTES: The DEVELOPER shall comply with all current and future applicable codes of Mukwonago and Vernon, County, State, and government and, further, the DEVELOPER shall follow all current and future lawful orders of any and all duly authorized employees and/or representatives of Mukwonago and Vernon, County, State, or Federal government.

SECTION XXV: PRELIMINARY PLAT AND FINAL PLAT CONDITIONS: The DEVELOPER acknowledges that the SUBJECT PROPERTY is subject to a conditional preliminary plat approval and a conditional final plat approval by Mukwonago and Vernon. The DEVELOPER further agrees that it is bound by these conditions. A copy of the conditional preliminary plat approval for the SUBJECT PROPERTY is attached hereto and incorporated herein as **EXHIBIT** _____, and the conditional final plat approval for the SUBJECT PROPERTY will be incorporated herein when it is approved, as **EXHIBIT** _____. If there is a conflict between the conditions as forth in said conditional approvals and the Developer's Agreement, the more restrictive shall apply.

(Note: Additional conditions may also apply, and if so, should be added; e.g., conditions of rezoning, or conditional use permit, etc.)

SECTION XXVI: AGREEMENT FOR BENEFIT OF PURCHASERS: The DEVELOPER agrees that in addition to Mukwonago and Vernon's rights herein, the provisions of this AGREEMENT shall be for the benefit of the purchaser of any lot or any interest in any lot or parcel of land in the SUBJECT PROPERTY.

SECTION XXVII: ASSIGNMENT: The DEVELOPER shall not assign this AGREEMENT without the written consent of Mukwonago and Vernon. If required by Mukwonago and Vernon, the assignee must agree to all terms and conditions of this document in writing.

SECTION XXVIII: PARTIES BOUND: The DEVELOPER or its assignees shall be bound by the terms of this AGREEMENT.

SECTION XXIX: HEIRS & ASSIGNS: This AGREEMENT is binding upon the DEVELOPER, owners, their successors and assigns, and any and all future owners of the SUBJECT PROPERTY (hereinafter called "SUCCESSORS"). This section allows for Mukwonago and Vernon enforcement of the terms and conditions of this AGREEMENT against all such successors, as though such SUCCESSORS were the DEVELOPER. This section does not, however, grant rights to such successors absent Mukwonago and Vernon's written consent, as described in Section XXVIII.

SECTION XXX: INTEGRATION: This AGREEMENT and the other documents incorporated by reference herein embody the entire AGREEMENT and understanding between the parties and supersede all prior agreements and understandings relating to the subject matter hereof.

SECTION XXXI: SALES OF LOTS: No lots in the SUBJECT PROPERTY may be sold until Final Acceptance has been granted by Mukwonago and Vernon, unless otherwise expressly approved in writing by the MUNICIPAL AUTHORITY.

SECTION XXXII: MORTGAGEE CONSENT: The undersigned mortgagee of the property identified in **Exhibit** _____, consents to this Developer's Agreement, and agrees that its lien of

mortgage shall be subordinate to the rights of Mukwonago and Vernon granted by this Developer's Agreement.

SECTION XXXIII: RECORDING: This AGREEMENT shall be recorded against the SUBJECT PROPERTY, and shall run with the land.

SECTION XXXIV: STORMWATER AGREEMENT: Prior to the sale of any lot in the subdivision, the property owner and DEVELOPER shall enter a Stormwater Agreement in a form approved by Mukwonago and Vernon's Attorney and Mukwonago and Vernon's Engineer to ensure the proper maintenance of all stormwater facilities within the SUBJECT PROPERTY, and such Stormwater Agreement shall be recorded against the SUBJECT PROPERTY.

SECTION XXXV: ASSURANCE OF VALIDITY: The DEVELOPER has (or each entity comprising the DEVELOPER, if more than one) has approved the accepted terms and conditions of this AGREEMENT and has authorized the signatories shown below to execute this AGREEMENT on its behalf under the laws of the State of Wisconsin.

SECTION XXXVI: AMENDMENTS: The MUNICIPALITY and the DEVELOPER, by mutual consent, may amend this Developer's Agreement at any meeting of the MUNICIPAL AUTHORITY. Mukwonago and Vernon shall not, however, consent to an amendment until after first having received a recommendation from Mukwonago and Vernon's Plan Commission.

SECTION XXXVII: NOTICE: All notices, requests, demands, and determinations (individually a "Notice") required under this AGREEMENT (other than routine operational communications or as otherwise expressly set forth herein), must be in writing and provided by one or more of the following methods of delivery: personal delivery, Registered or Certified Mail (with return receipt requested and postage prepaid), nationally recognized overnight courier (with all fees prepaid and proof of delivery provided by courier), facsimile or email. Notices shall be provided to the appropriate person at the receiving party at the address listed below or to such address as a party may designate by a notice given in compliance with this section. Notice shall have been deemed to have been given (i) upon delivery if hand delivered, or (ii) upon deposit in the United States mail, certified mail, postage prepaid, or deposit with a nationally recognized overnight carrier, or (iii) upon transmission by facsimile or email, and each such notice shall be addressed as follows:

To Client: MUNICIPALITY [ADDRESS BELOW]

To Contractor: NAME [ADDRESS BELOW]

IN WITNESS WHEREOF, the DEVELOPER and the MUNICIPALITY have caused this AGREEMENT to be signed by their appropriate officers and their corporate seals (if any) to be hereunto affixed in three original counterparts the day and year first above written.

(Developer's Name)

By: _____

By: _____

Authorized Signatory

STATE OF WISCONSIN)
)ss.
COUNTY OF (County))

CAUTION: Use of this model form is not appropriate for every circumstance. Consult your legal advisor.

Personally came before me this _____ day of _____, _____, the above named _____, Authorized Signatory of _____, to me known to be the person who executed the foregoing instrument and acknowledged the same.

NOTARY PUBLIC, STATE OF WI
Print Name: _____
commission expires: _____

MUNICIPALITY OF _____
_____ COUNTY, WISCONSIN

MUNICIPALITY President

Attest:

MUNICIPALITY Clerk

STATE OF WISCONSIN)
)ss.
COUNTY OF _____)

Personally came before me this _____ day of _____, _____, the above-named _____, the MUNICIPALITY President, and _____, the MUNICIPALITY Clerk, of the above-named municipal corporation, to me known to be the persons who executed the foregoing instrument and to me known to be such MUNICIPALITY President and MUNICIPALITY Clerk of said municipal corporation and acknowledged that they executed the foregoing instrument as such officers as the deed of said municipal corporation by its authority and pursuant to the authorization by the MUNICIPAL AUTHORITY from their meeting on the _____ day of _____, _____.

NOTARY PUBLIC, STATE OF WI
Print Name: _____
commission expires: _____

Dated this _____ day of _____, 20_____.

MORTGAGEE:

By: _____

Name: _____

Title: _____

STATE OF WISCONSIN)
)ss.
COUNTY OF (County))

Personally came before me this _____ day of _____, _____, the above
named _____, Authorized Signatory of _____, to me
known to be the person who executed the foregoing instrument and acknowledged the same.

NOTARY PUBLIC, STATE OF WI
Print Name: _____
commission expires: _____

MUNICIPALITY OF _____
_____ COUNTY, WISCONSIN

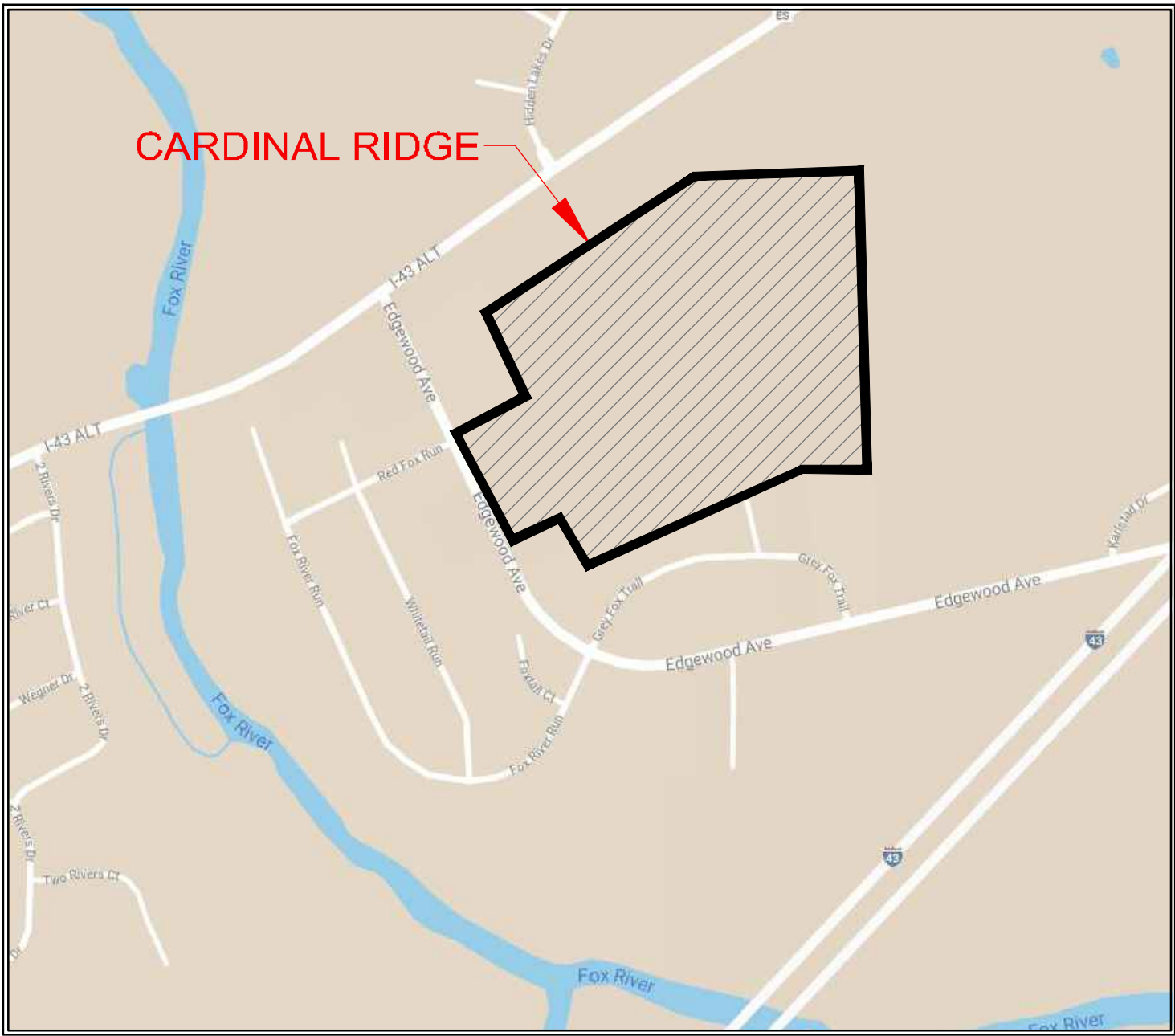
APPROVED AS TO FORM:

MUNICIPALITY Attorney

As Revised August 10, 2024

GENERAL NOTES

1. THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED.
- STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, 6TH EDITION (SSSWCW)
 - THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
 - WDNR STORMWATER RUNOFF TECHNICAL STANDARDS.
 - WISDOT PAL APPROVED EROSION CONTROL MEASURES LIST, LATEST EDITION.
 - VILLAGE OF MUKWONAGO STANDARDS & REQUIREMENTS FOR DEVELOPMENT, LATEST EDITION.
 - VILLAGE OF VERNON DEVELOPMENT STANDARDS & REQUIREMENTS FOR DEVELOPMENT, LATEST ADDITION
2. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
3. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, AN APPROVED EROSION CONTROL PLAN WILL BE PROVIDED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY IMPLEMENTING THE APPROVED PLAN.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES, AND VERIFY FLOOR, CURB OR PAVEMENT ELEVATIONS WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.
5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (CALL DIGGERS HOTLINE AT 800-242-8511). COST OF REPLACEMENT OR REPAIR OF EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY
6. EXISTING UTILITY INFORMATION IS SHOWN FROM SURVEY WORK, FIELD OBSERVATIONS, AVAILABLE PUBLIC RECORDS, AND AS-BUILT DRAWINGS. EXACT LOCATIONS AND ELEVATIONS OF UTILITIES SHALL BE DETERMINED PRIOR TO INSTALLING NEW WORK. EXCAVATE TEST PITS AS REQUIRED.
7. PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
8. ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION.
9. ALL TRENCHING SHALL BE PERFORMED ACCORDING TO OSHA STANDARDS.
10. ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
11. THE CONTRACTOR SHALL CLEAN ALL ADJACENT STREETS OF ANY SEDIMENT OR DEBRIS AS REQUIRED BY MUNICIPAL ORDINANCE.
12. NOTIFY ENGINEER IF DRAIN TILE ARE ENCOUNTERED DURING SITE CONSTRUCTION. RECONNECT ANY BROKEN OR DAMAGED DRAIN TILE DURING CONSTRUCTION.



LOCATION MAP
NOT TO SCALE

 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
CALL DIGGERS HOTLINE 1-800-242-8511

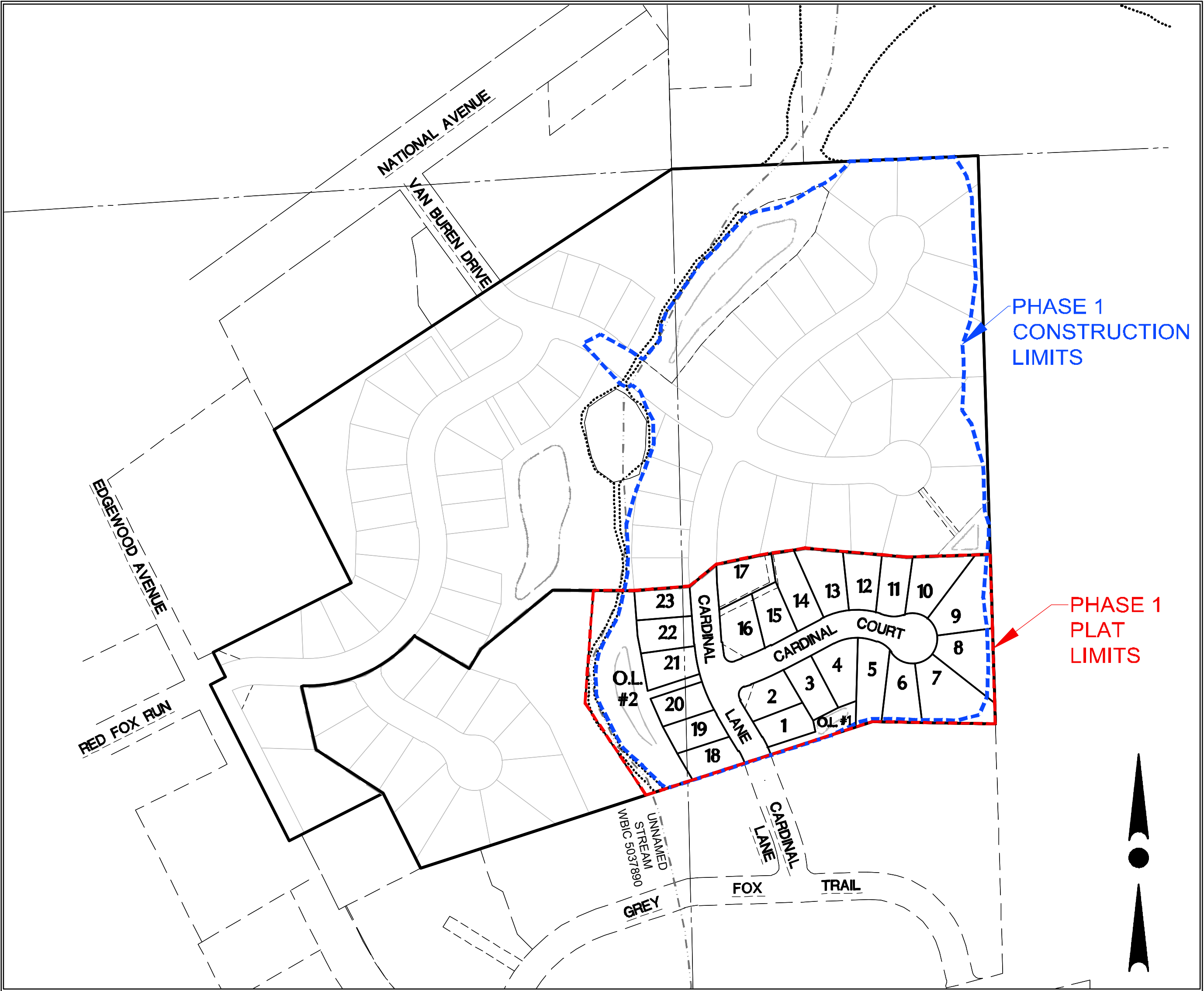
NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

CARDINAL RIDGE

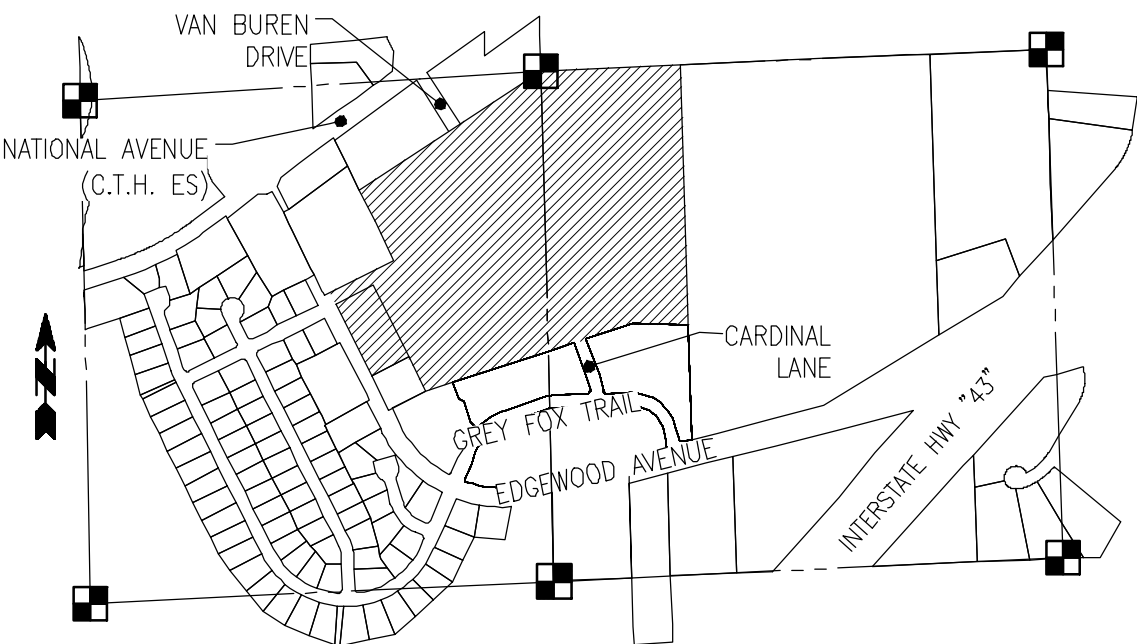
SINGLE FAMILY RESIDENTIAL SUBDIVISION

PHASE 1 – SITE DEVELOPMENT PLANS

VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN



SITE PLAN
SCALE: 1" = 200'



LOCALITY MAP:
S. 1/2, SEC. 19, T. 5 N., R. 19 E.
SCALE: 1"=1000'

OWNER / DEVELOPER:
CARDINAL RIDGE, LLC
N27W24025 PAUL COURT, STE. 100
PEWAUKEE, WI 53072
CONTACT: ERIC OBARSKI
PHONE: (262) 542-9200
EMAIL: eobarski@neumanncompanies.com

ENGINEER / SURVEYOR:
TRIO ENGINEERING, LLC
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
CONTACT: JOSH PUDELKO, P.E., M.S.
PHONE: (262) 790-1480
EMAIL: jpudelko@trioeng.com

SHEET INDEX

CIVIL	
T1	- COVER SHEET
C0.1	- EXISTING SITE PLAN
C0.2	- OVERALL PROPOSED SITE PLAN
C0.3	- PHASE 1 SITE PLAN
C1.0	- OVERALL GRADING PLAN
C1.1-C1.3	- GRADING AND DRAINAGE PLAN
C1.1M	- MASTER GRADING PLAN
C1.4-1.6	- POND PLANS & DETAILS
C2.0	- EROSION CONTROL PLAN
C2.1	- LATE SEASON STABILIZATION REQUIREMENTS
C3.0	- OVERALL SANITARY SEWER & WATER MAIN SYSTEM PLAN
C3.1-C3.2	- SANITARY SEWER & WATER MAIN PLAN & PROFILES
C4.0	- OVERALL STORM SEWER SYSTEM PLAN
C4.1-C4.2	- ROADWAY & STORM SEWER PLAN & PROFILES
C4.3	- STORM SEWER PLAN & PROFILES
C5.0	- CUL-DE-SAC & INTERSECTION DETAILS PLAN
C5.1	- CURB RAMP DETAILS PLAN
C6.0-C6.1	- CONSTRUCTION NOTES & DETAILS



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

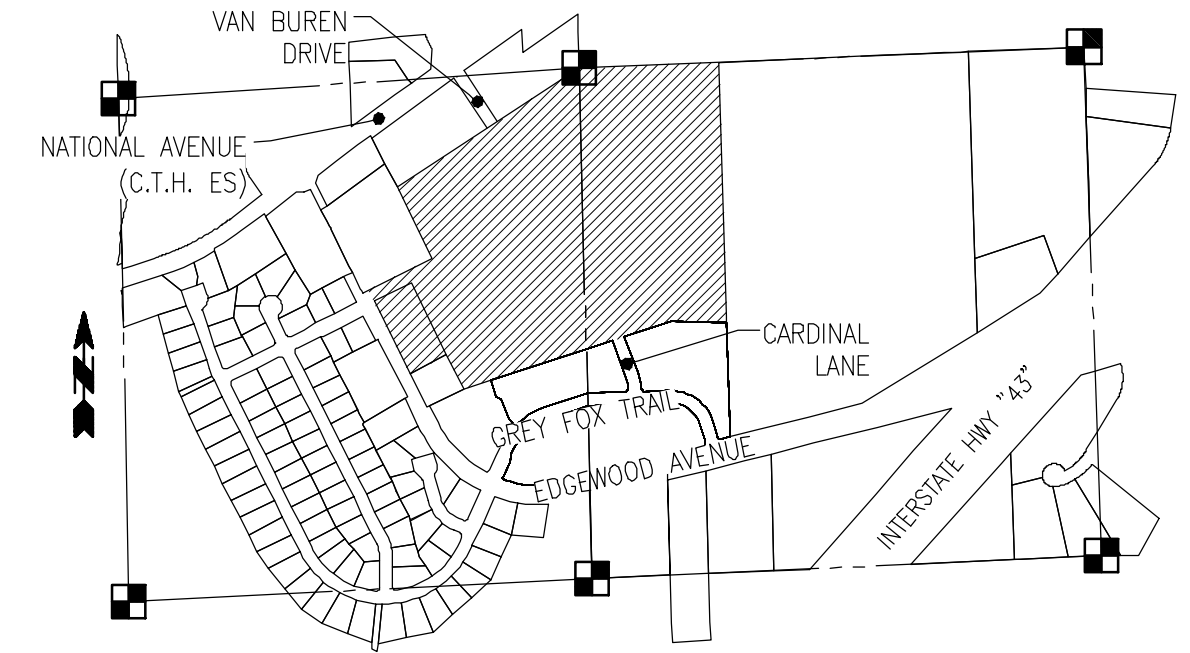
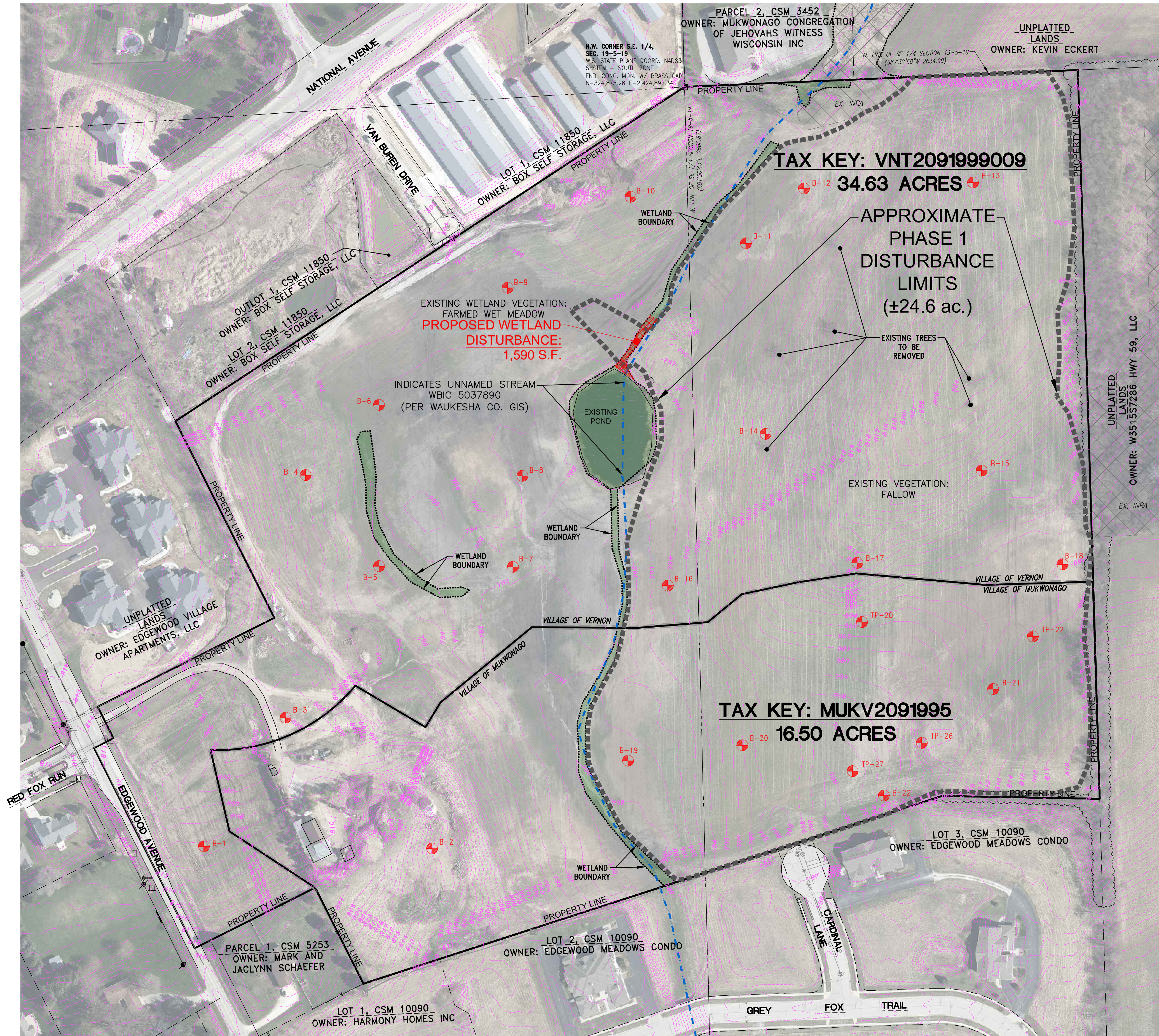
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21-040-953

DESCRIPTION:
COVER SHEET

SHEET

T1

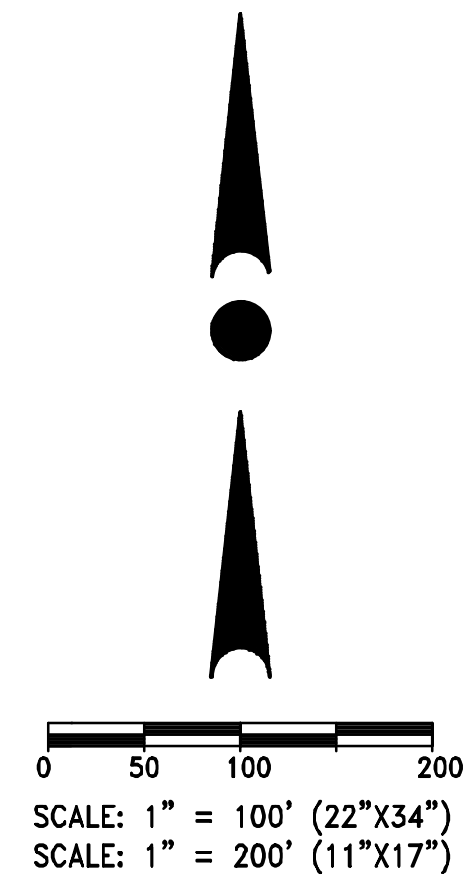
X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1_COVER & DETAILS_22X34.DWG



BEING ALL OF LOT 1 OF CERTIFIED SURVEY
MAP NUMBER 8142 LOCATED IN A PART OF
THE NORTHWEST 1/4 AND THE SOUTHWEST
1/4 SOUTHEAST 1/4 AND THE NORTHEAST
1/4 AND THE SOUTHEAST 1/4 OF THE
SOUTHWEST 1/4 OF SECTION 19, TOWN 5
NORTH, RANGE 19 EAST, IN THE VILLAGE
OF MUKWONAGO AND VILLAGE OF VERNON,
WAUKESHA COUNTY, WISCONSIN.

WETLAND DELINEATION NOTE:

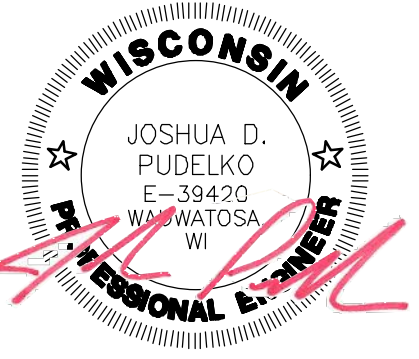
Wetland boundaries shown herein are based on a field delineation and Wetland Delineation Report prepared by Dave Meyer of Wetland & Waterway Consulting, LLC conducted in October of 2020.



 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS
HOTLINE TOLL FREE TO OBTAIN LOCATION OF
UNDERGROUND UTILITIES PRIOR TO COMMENCING THE
WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN-
OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

NOTE: CALL DIGGERS HOTLINE 1-800-242-8511

EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM
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THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE
SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES,
WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS
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4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1

VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
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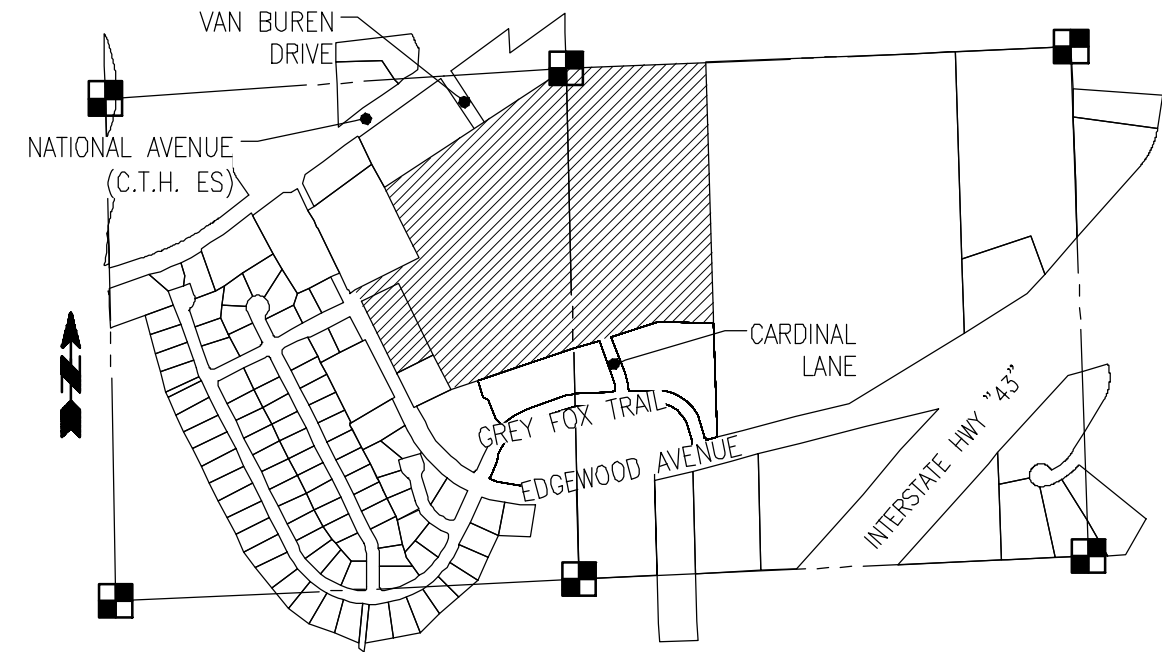
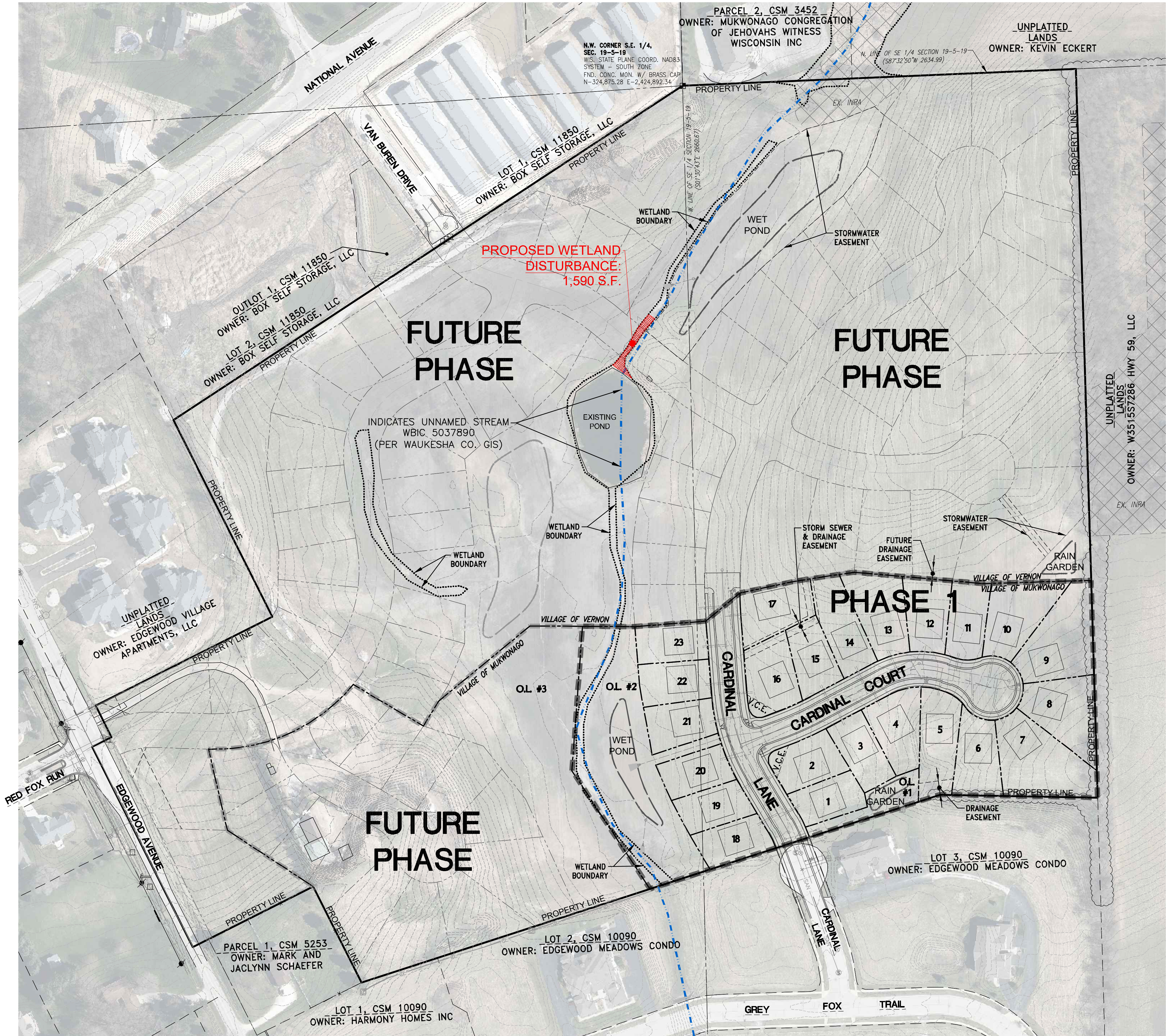
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EXISTING SITE PLAN

SHEET

CO.1

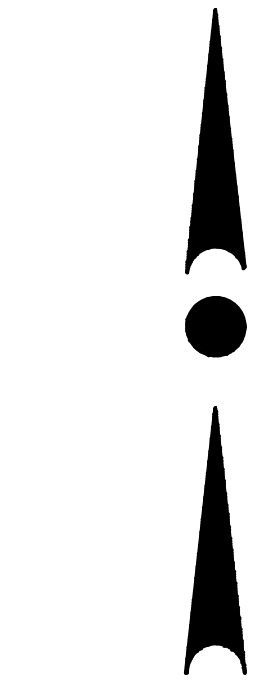
X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1\PROPOSED SITE PLAN_22X34.DWG



LOCALITY MAP:
S. 1/2, SEC. 19, T. 5 N., R. 19 E.
SCALE: 1"=1000'

WETLAND DELINEATION NOTE:

Wetland boundaries shown herein are based on a field delineation and Wetland Delineation Report prepared by Dave Meyer of Wetland & Waterway Consulting, LLC conducted in October of 2020.



0 50 100 200
SCALE: 1" = 100' (22"x34")
SCALE: 1" = 200' (11"x17")



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N27W24025 PAUL COURT, SUITE 100
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07/17/2024	PER VILLAGE REVIEW

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21-040-953

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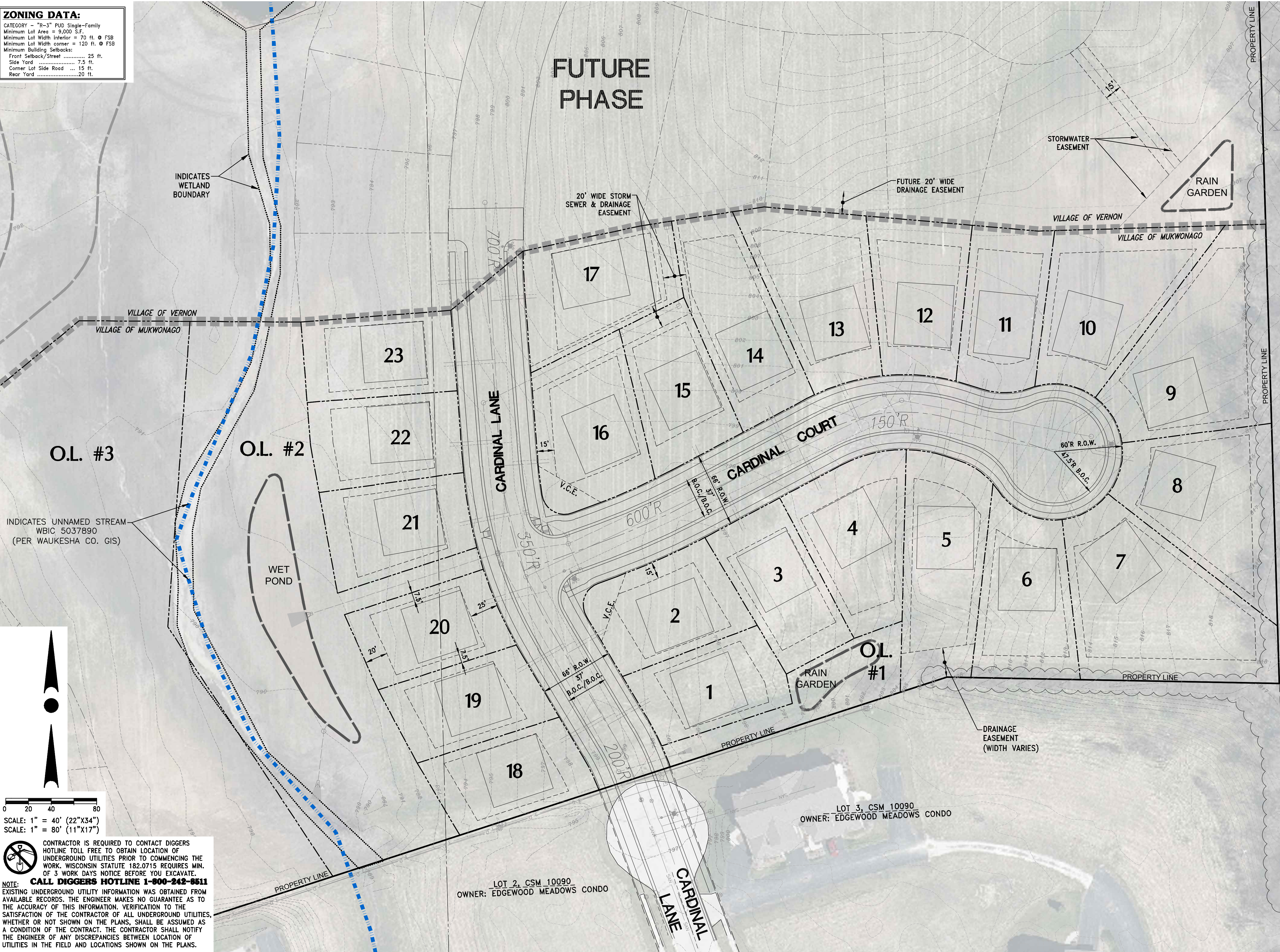
**OVERALL
PROPOSED SITE
PLAN**

SHEET

C0.2

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ZONING DATA:
CATEGORY - "R-3" PUD Single-Family
Minimum Lot Area = 9,000 S.F.
Minimum Lot Width Interior = 70 ft. ● FSB
Minimum Lot Width corner = 120 ft. ● FSB
Minimum Building Setbacks:
Front Setback/Street 25 ft.
Side Yard 7.5 ft.
Corner Lot Side Road 15 ft.
Rear Yard 20 ft.



WISCONSIN
JOSHUA D. PUDELKO
E-39420
WATATOSA, WI
PERSONAL LICENSE
TRIO
DESIGN • LAND SURVEYING
CIVIL ENGINEERING
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
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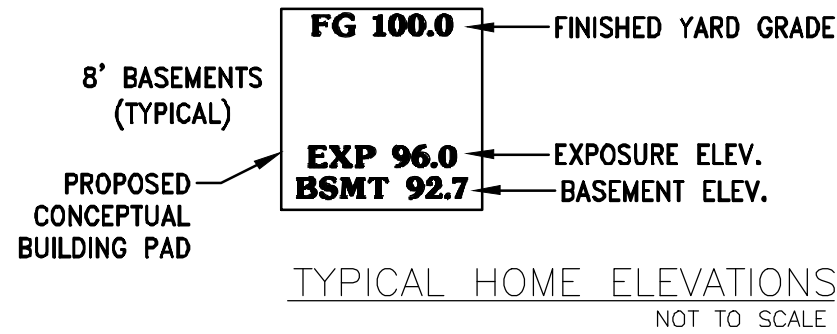
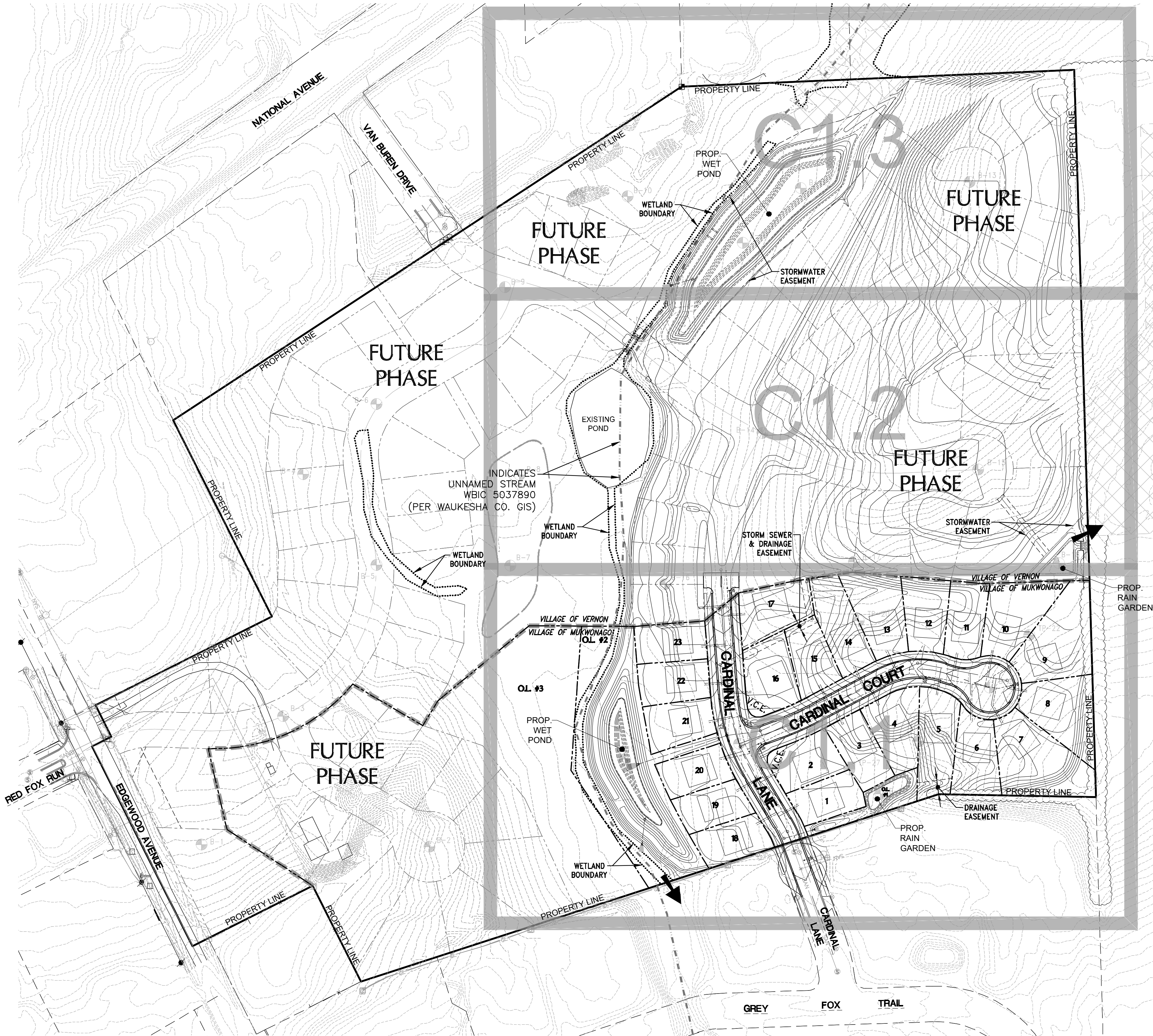
JOB NUMBER:
21-040-953

DESCRIPTION:
PHASE 1
SITE PLAN

SHEET
C0.3

UNPLATTED LANDS
OWNER: W351557286 HWY 59, LLC

X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1_GRADING_22X34.DWG



VISION CORNER EASEMENT NOTE:
PER VILLAGE ORDINANCE (SECTION 100-406), LANDSCAPING, MONUMENTS AND OTHER OBSTRUCTIONS MUST NOT BE LOCATED WITHIN VISION CORNER EASEMENT.

LEGEND:	
--- 85.0 ---	- EXISTING CONTOUR
— 85.0 —	- PROPOSED CONTOUR
x 850.5	- PROPOSED SPOT ELEVATION
←	- PROPOSED FLOW ARROW
FG 850.0	- PROPOSED YARD GRADE
EXP 842.0	- PROPOSED EXPOSURE GRADE
⊗	- SOIL BORING LOCATION



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4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
06/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

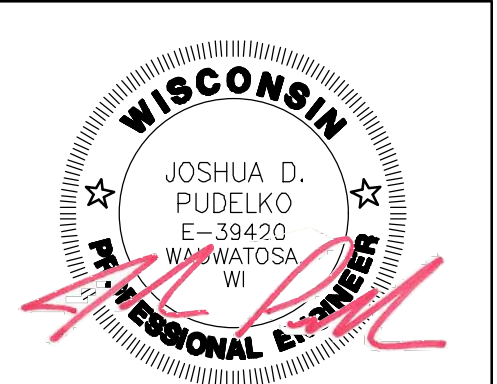
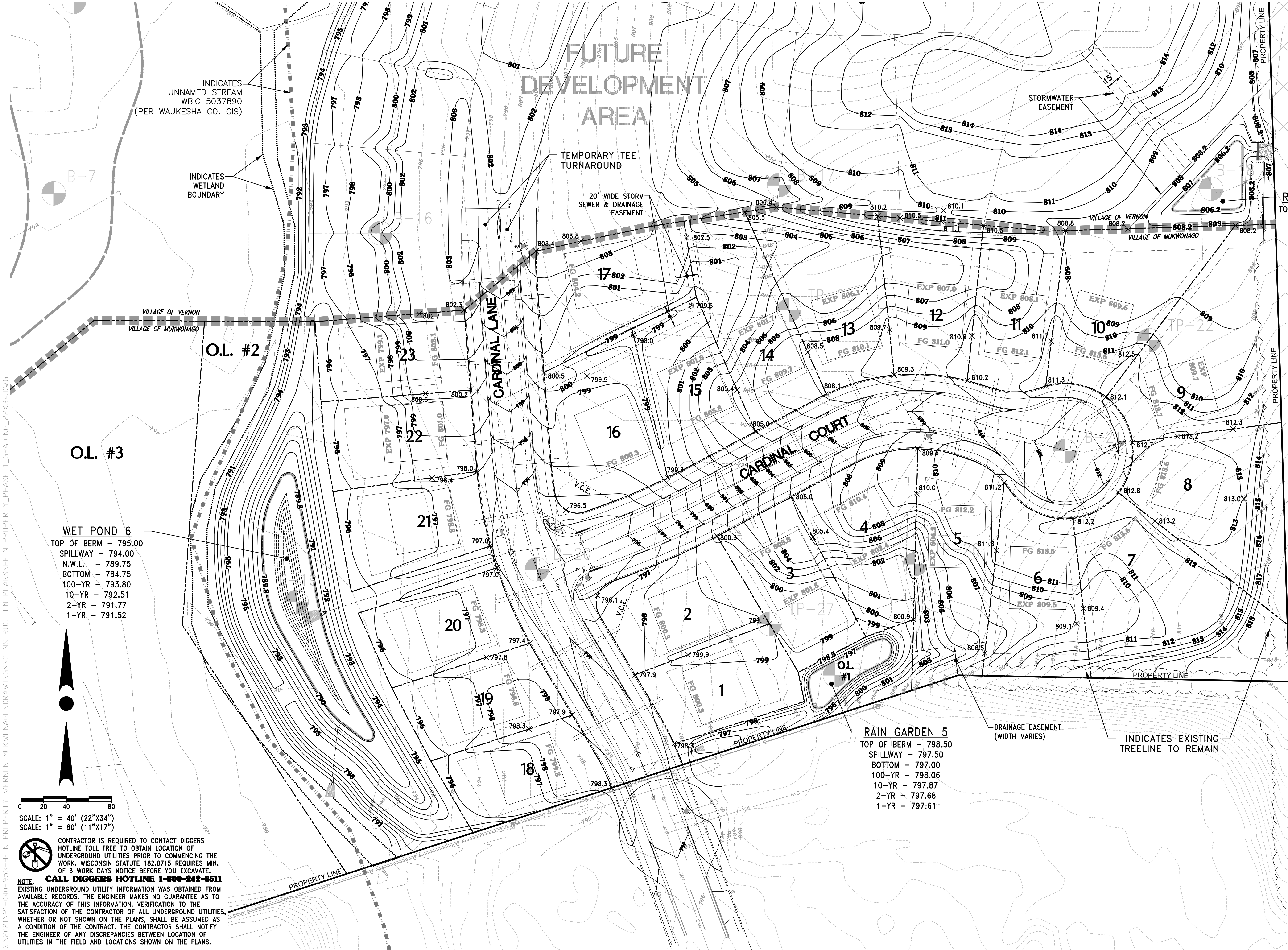
JOB NUMBER:
21-040-953

DESCRIPTION:

**OVERALL GRADING
& DRAINAGE PLAN**

SHEET

C1.0



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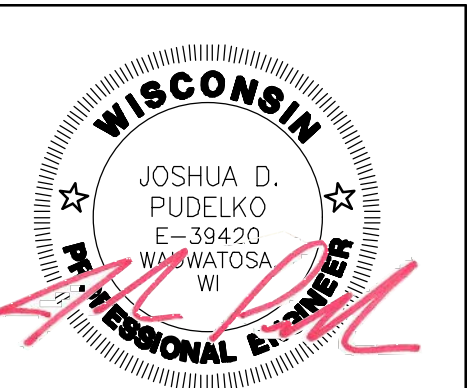
DATE:
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JOB NUMBER:
21-040-953

DESCRIPTION:
GRADING &
DRAINAGE PLAN

SHEET

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PROJECT:
CARDINAL RIDGE - PHASE 1
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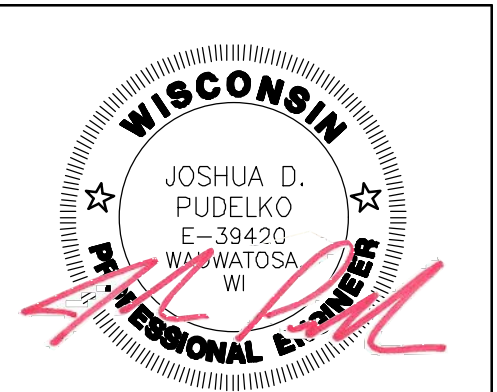
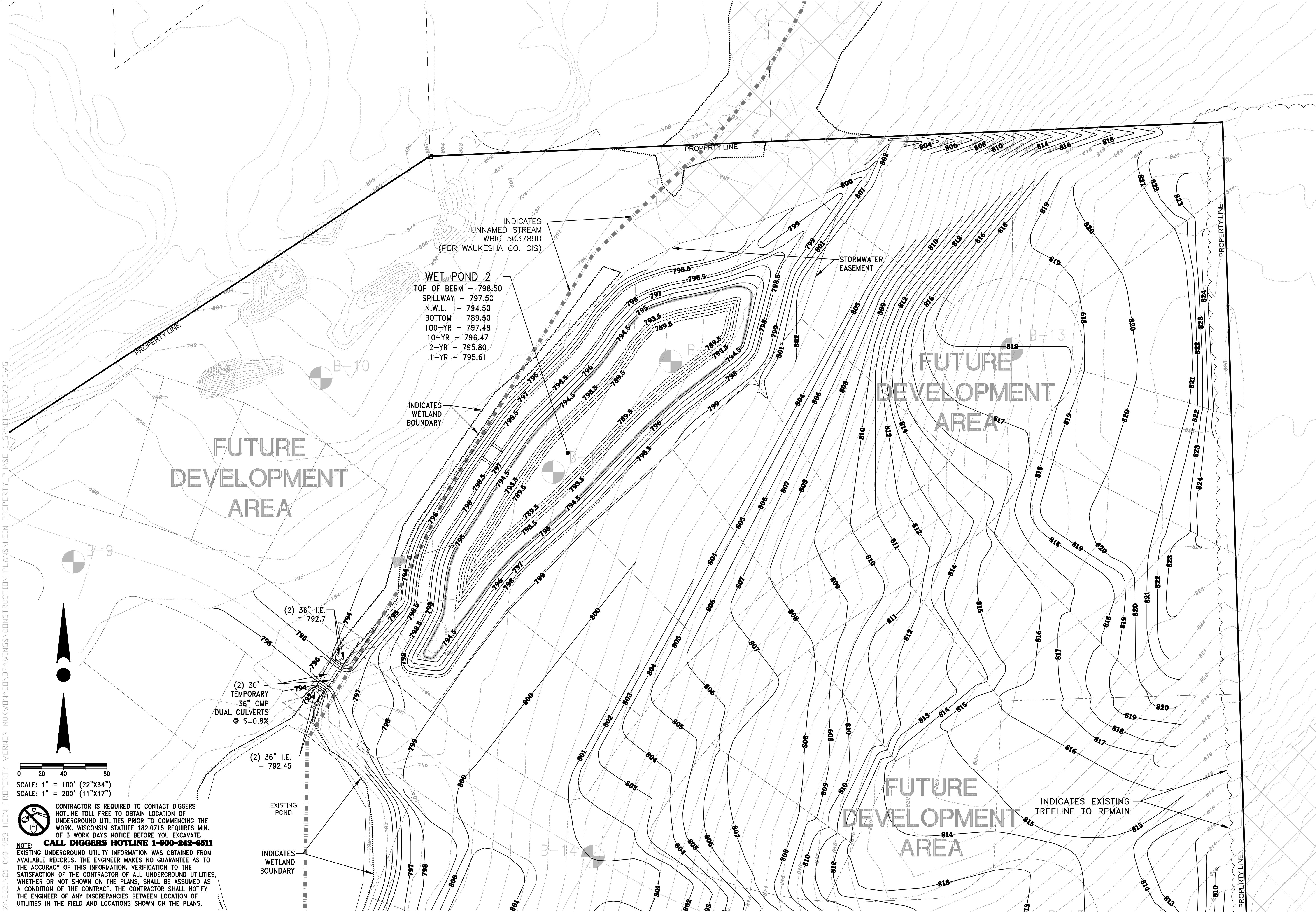
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DESCRIPTION:
MASTER
GRADING &
DRAINAGE PLAN

SHEET
C1.1M



PROJECT:
CARDINAL RIDGE - PHASE 1
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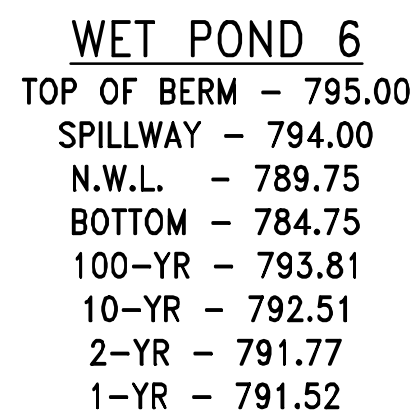
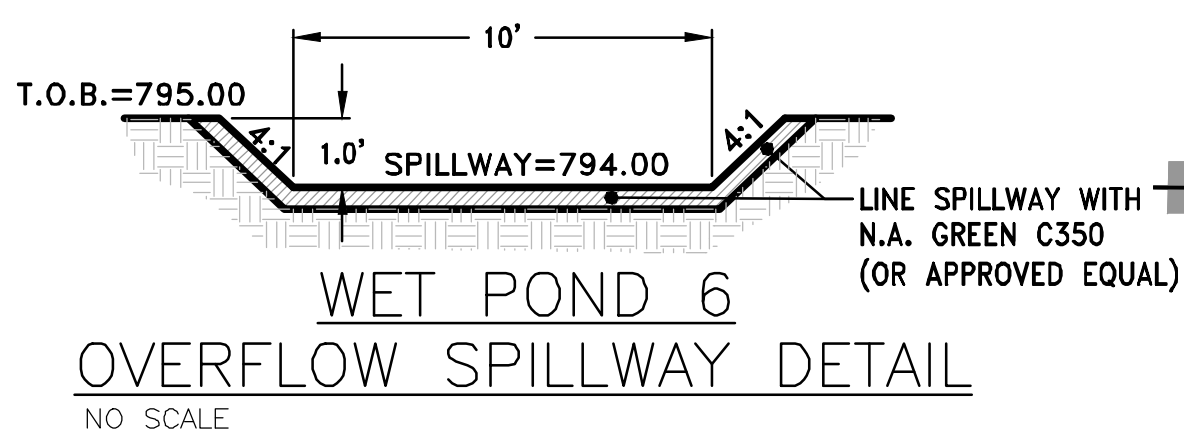
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JULY 17, 2024

JOB NUMBER:
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DESCRIPTION:
GRADING & DRAINAGE PLAN

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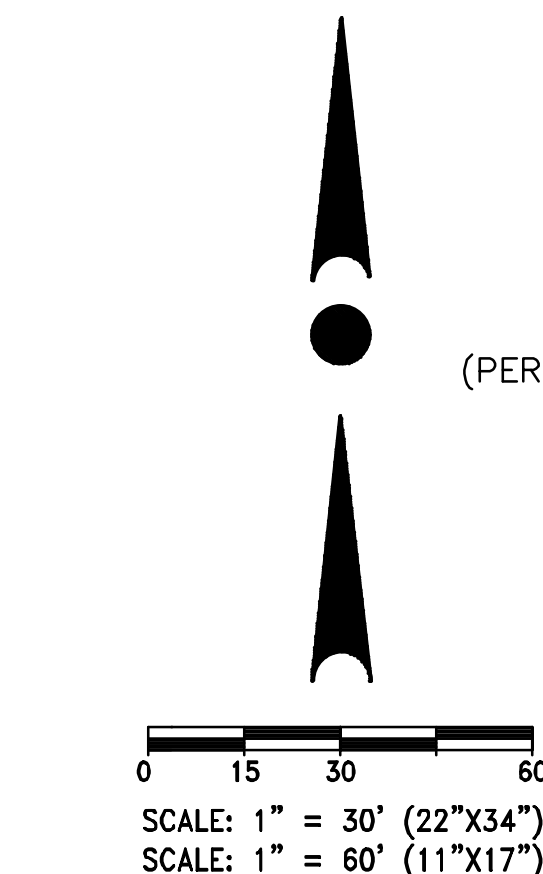
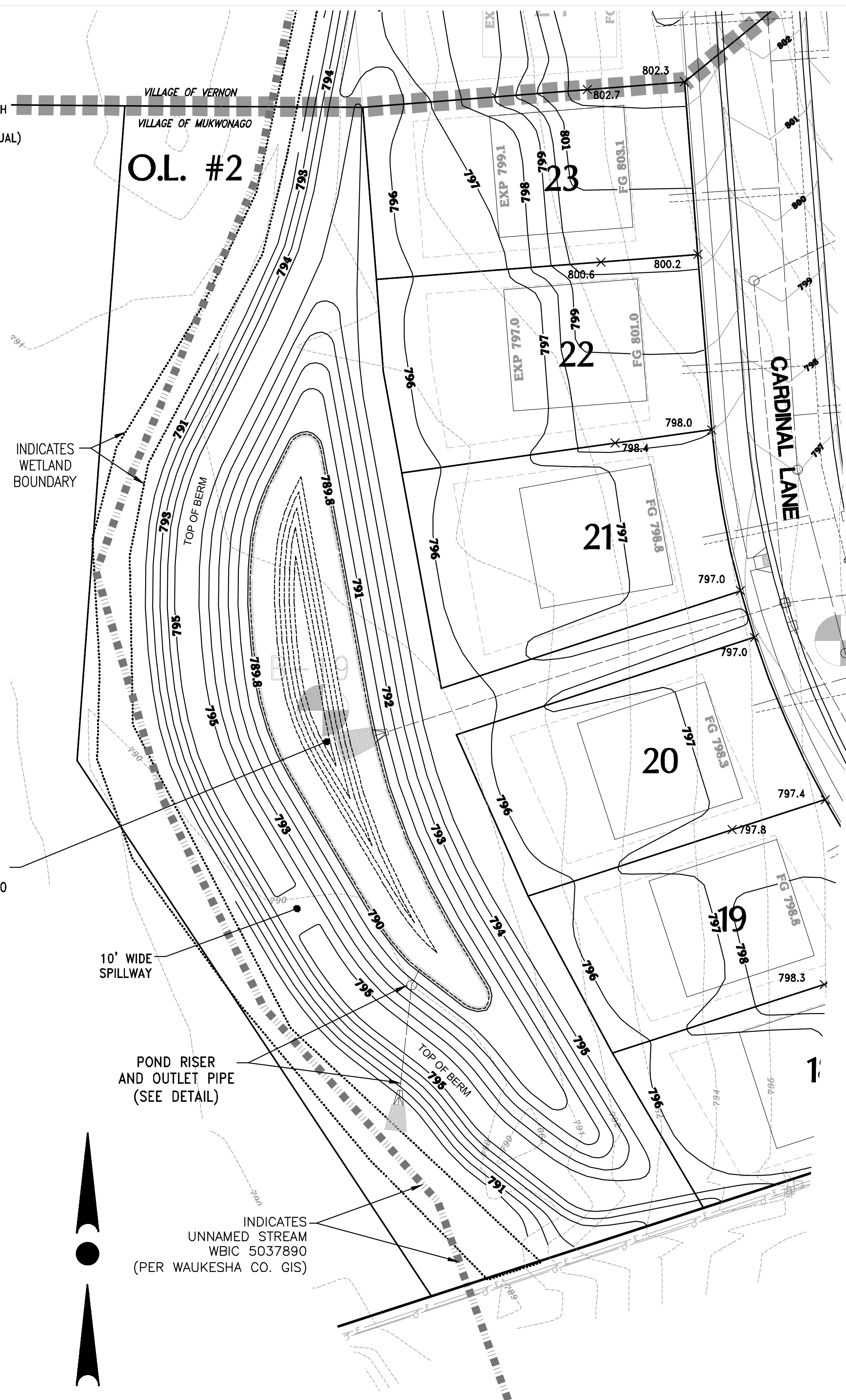
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RIP-RAP NOTE:
RIP-RAP IS TO EXTEND FROM ALL STORM SEWER OUTFALLS
TO THE DOWNSLOPE EDGE OF THE WET POND SAFETY SHELF.

TWO-PIECE ANTI-SEEP COLLAR NOTES:

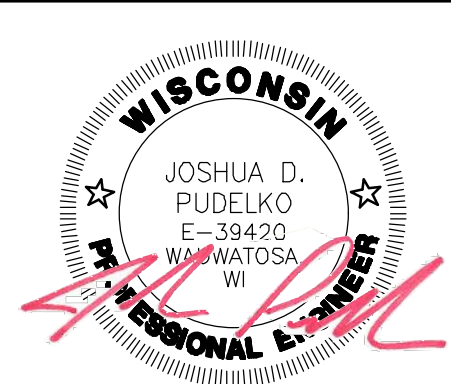
- ANTI-SEEP COLLARS SHALL INCLUDE 1/4" POLYETHYLENE SHEETS WITH COLLAR FOR PIPE; DIMENSIONS SHALL BE AS NOTED ON THE DETAIL.
- INSTALL ANTI-SEEP COLLARS PER MANUFACTURER SPECIFICATIONS.



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**PROJECT:
CARDINAL RIDGE - PHASE 1**

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VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN

**BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072**

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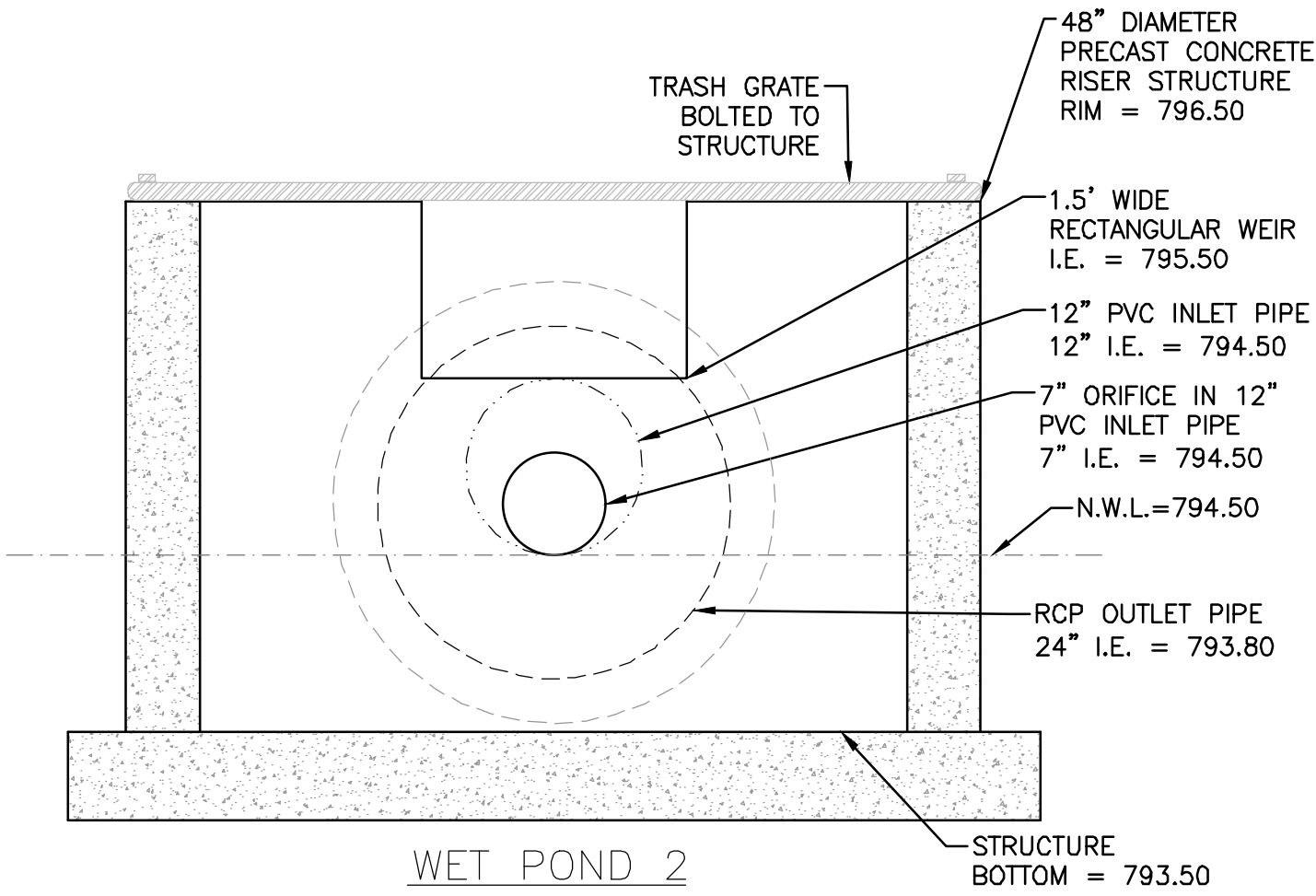
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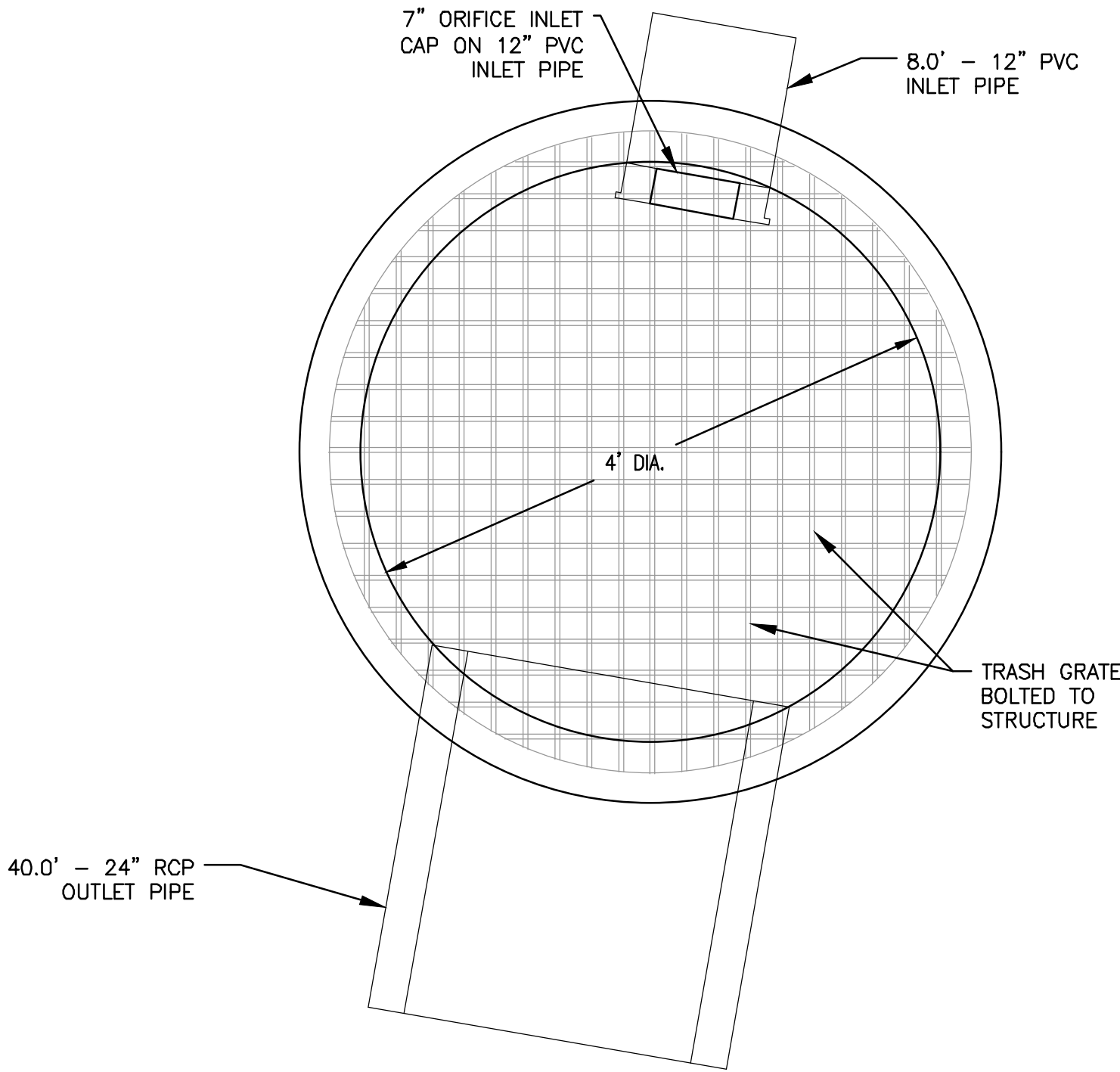


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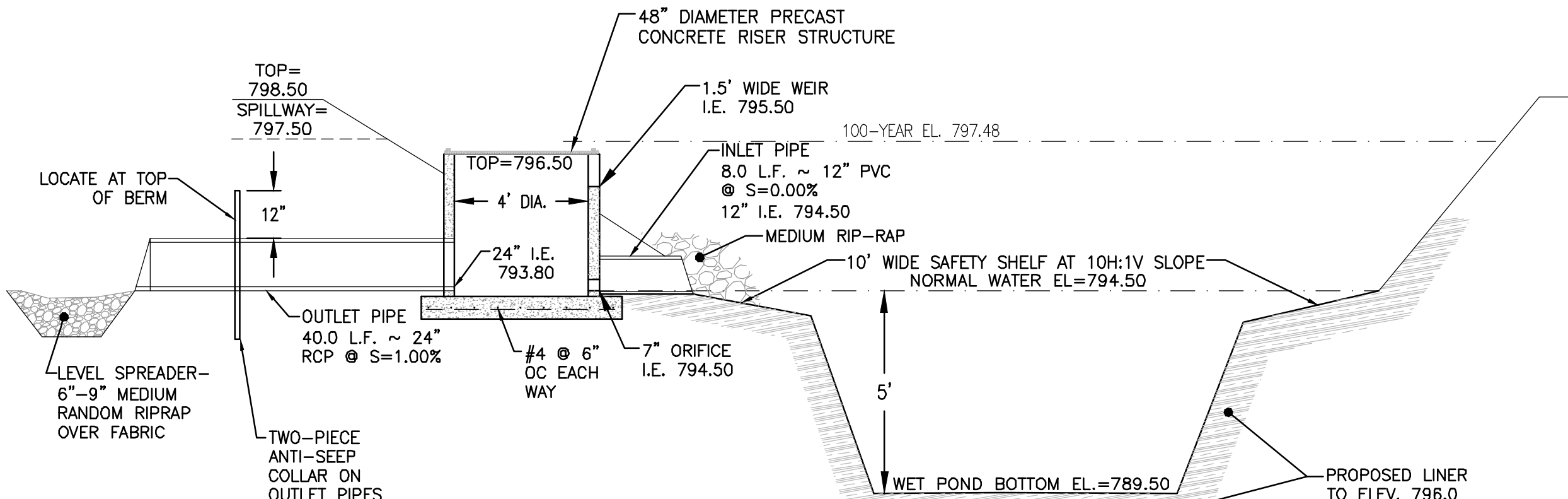
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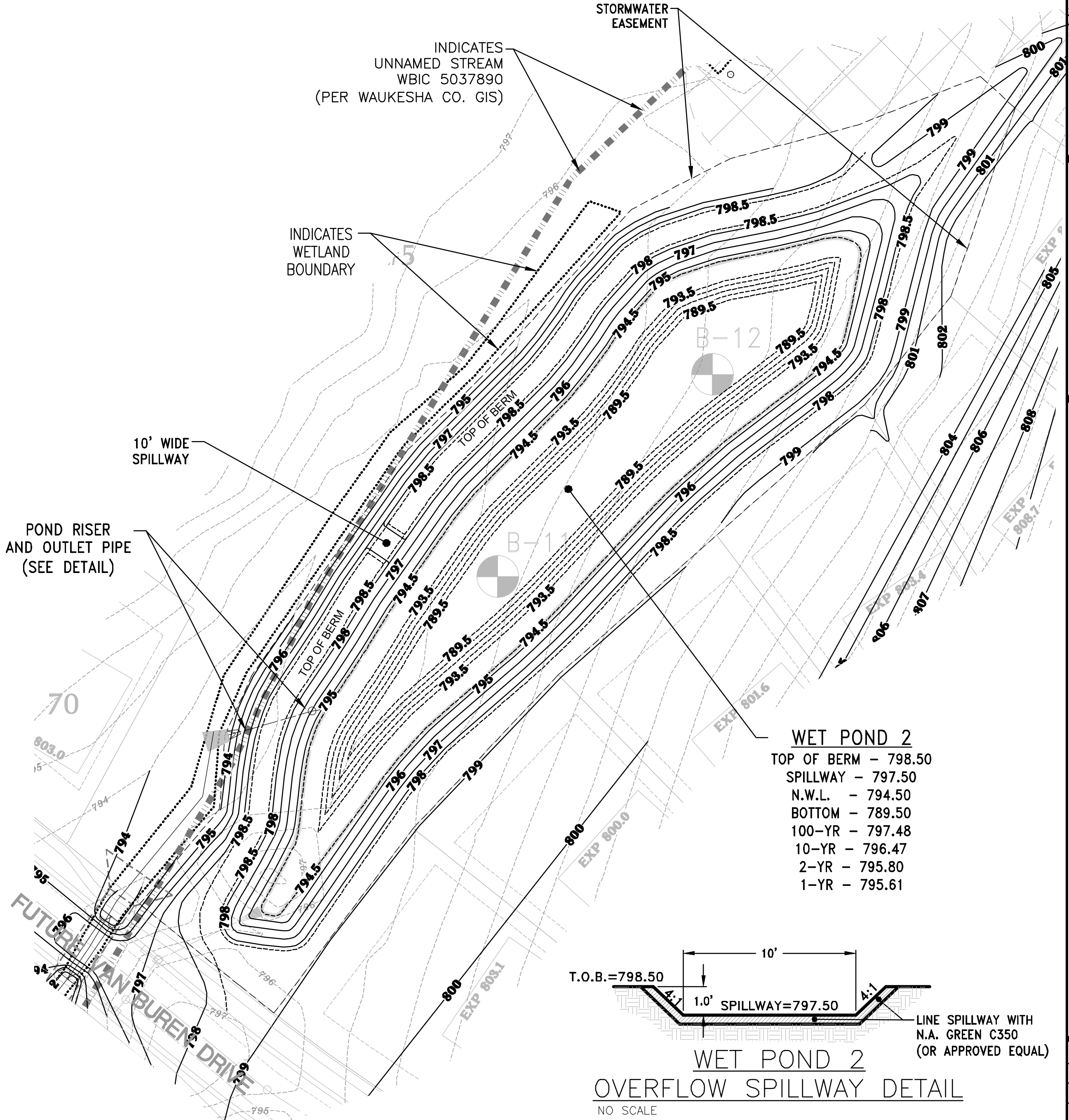
WET POND 2
OUTLET STRUCTURE FRONT VIEW
NOT TO SCALE



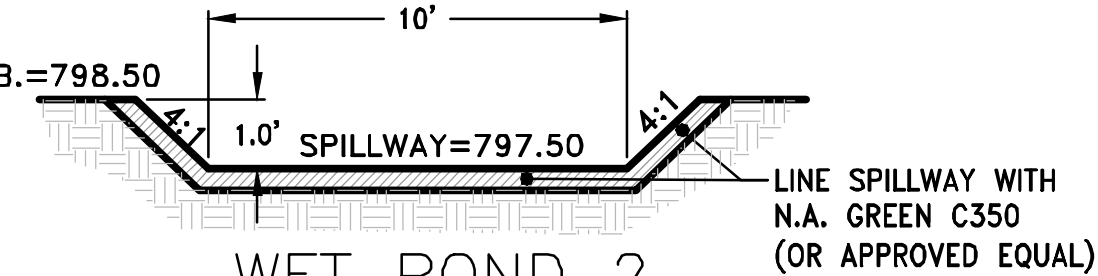
WET POND 2
OUTLET STRUCTURE TOP VIEW
NOT TO SCALE



WET POND 2 & OUTLET STRUCTURE DETAIL
NO SCALE



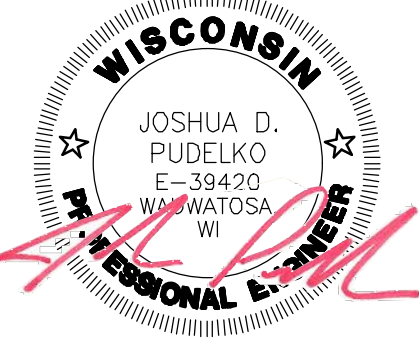
WET POND 2	
TOP OF BERM	- 798.50
SPILLWAY	- 797.50
N.W.L.	- 794.50
BOTTOM	- 789.50
100-YR	- 797.48
10-YR	- 796.47
2-YR	- 795.80
1-YR	- 795.61



CLAY LINER NOTE:
- 2" THICK CLAY LINER IN ACCORDANCE WITH WDNR TECH. STD. 1001 TYPE A, AND SOILS REPORT.
- GEOSYNTHETIC CLAY LINER (GCL) OR HDPE LINER, IN ACCORDANCE WITH WDNR TECH. STD. 1001 TYPE A, MAY BE USED IN LIEU OF CLAY LINERS.
- LINER SHALL BE PLACED TO THE 2-YEAR PEAK PONDING ELEVATION OR A MIN. 1' ABOVE THE SEASONAL HIGH GROUND WATER ELEVATION, WHICHEVER IS HIGHER.
- CLAY LINER MATERIALS SHOULD BE COMPACTED TO A MINIMUM OF 90 TO 92% DRY DENSITY AS DETERMINED BY MODIFIED PROCTOR (ASTM D1557).
- IF PREDOMINANTLY GRANULAR TEXTURE SOILS AND/OR GROUNDWATER INFLOW IS ENCOUNTERED AT OR BELOW THE BOTTOM ELEVATION OF THE POND, A "SACRIFICIAL" LIFT OF CLAYEY FILL MAY BE REQUIRED TO BE PLACED ALONG THE SIDEWALLS AND BASE PRIOR TO COMMENCING WITH ACTUAL LINER PLACEMENT/CONSTRUCTION TO AID IN ATTAINING A SATISFACTORILY COMPACTED LINER SECTION. THE PLACEMENT OF A "SACRIFICIAL" LAYER IS PARTICULARLY BENEFICIAL IN CREATING A STABLE SUBBASE IN THE EVENT SLIGHT GROUNDWATER SEEPAGE OCCURS.
- GEOTECHNICAL TESTING SHALL BE PERFORMED ON POTENTIAL CLAY LINER MATERIAL TO CONFIRM THAT SPECIFICATIONS ARE MET.
- WET POND SHALL BE FILLED TO NORMAL WATER LEVEL IMMEDIATELY AFTER PLACING LINER TO PREVENT CRACKING.

RIP-RAP NOTE:
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TWO-PIECE ANTI-SEEP COLLAR NOTES:
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N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

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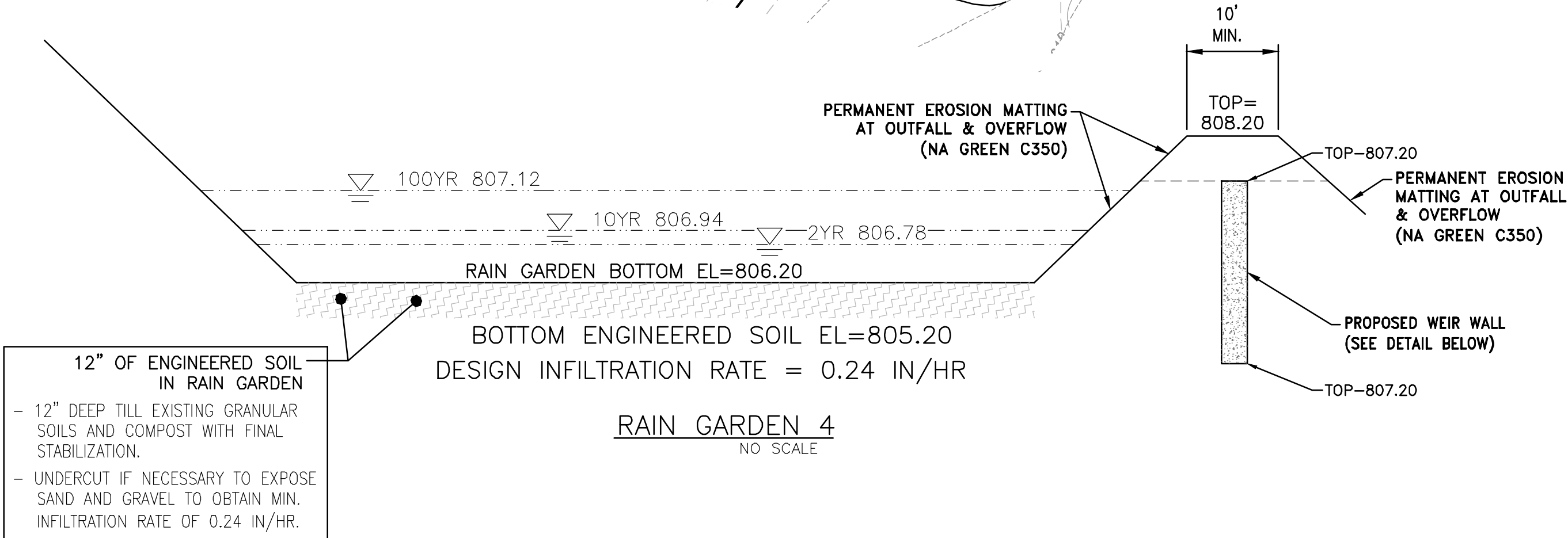
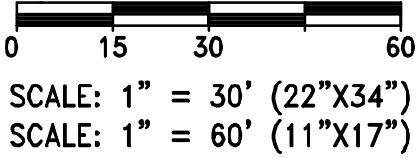
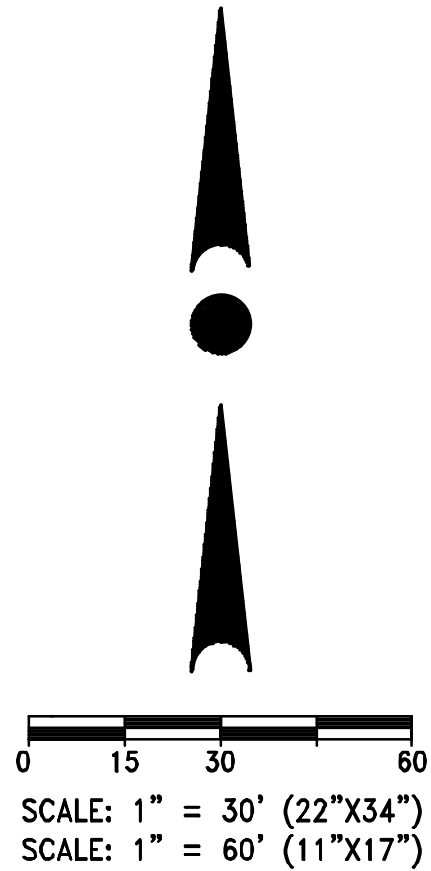
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SHEET

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RAIN GARDEN CONSTRUCTION NOTES

1. RAIN GARDEN FOOTPRINT SHALL BE (OVER)EXCAVATED WITH ROUGH GRADING.
2. FINAL RAIN GARDEN WORK SHALL NOT BE INSTALLED UNTIL THE SITE IS SUBSTANTIALLY STABILIZED.
3. DURING ALL PHASES OF CONSTRUCTION, THE BASIN AREAS SHALL BE PROTECTED FROM HEAVY EQUIPMENT COMPACTION.
4. REMOVE ACCUMULATED SEDIMENT PRIOR TO PLACEMENT OF ENGINEERED SOIL.
5. ENGINEERED SOIL SHALL BE PLACED IN 6" INCH LIFTS TO AVOID COMPACTION.
6. ENGINEERED SOIL PLACED IN THE RAIN GARDEN AREAS SHALL NOT BE COMPACTED.
7. PLACEMENT OF ENGINEERED SOILS SHALL BE SUSPENDED IN PERIODS OF RAINFALL AND SNOWMELT AND SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT.

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C1.6

X:\2021\2021-040-953-HEIN PROPERTY MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1_EROSION CONTROL_22X34.DWG

- EROSION CONTROL NOTES:
1. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
 2. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN, DETAILING SPECIFIC MEASURES THAT WILL BE USED IN THE VARIOUS STAGES OF CONSTRUCTION FOR APPROVAL BY THE ENGINEER.
 3. IMPLEMENTATION: THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL AFTER INITIAL EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER.
 4. EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - A. DIVERT UPSTREAM RUNOFF FROM FLOWING THROUGH THE CONSTRUCTION SITE.
 - B. PROTECT DOWNSTREAM OR ADJACENT WATERWAYS AND WETLANDS WITH SILT FENCE.
 - C. DELAY STRIPPING TOPSOIL UNTIL REQUIRED FOR CONSTRUCTION.
 - D. PLACE SILT FENCE OR EROSION CONTROL BALES IN DITCHES AND OTHER DRAINAGE WAYS TO COLLECT SEDIMENT AND TO SLOW THE VELOCITY OF RUNOFF.
 - E. MAINTAIN EXISTING SEDIMENT BASIN AS DICTATED BY SITE CONDITIONS.
 - F. PROTECT STORM SEWER INLETS AND THE UPSTREAM END OF CULVERTS WITH SILT FENCE OR EROSION CONTROL BALES.
 - G. PROMPT REMOVAL OF EXCAVATED MATERIAL.
 - H. PROPER STORAGE OF BACKFILL AND BEDDING MATERIALS INCLUDING PLACING SILT FENCE OR EROSION CONTROL BALES ON THE DOWNSLOPE SIDES OF SPOIL PILES.
 - I. CONSTRUCTION OF TRACKING PAD TO CONSTRUCTION SITE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
 - J. PROMPT (SAME DAY) CLEANUP OF MATERIAL TRACKED ONTO ADJACENT STREETS.
 - K. TIMELY RESTORATION OF DAMAGE SURFACE AREAS.
 - L. ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15, MUST BE TEMPORARY SEEDED AS OF THAT DATE.
 5. TEMPORARY EROSION CONTROL MEASURES:
 - A. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES, WHERE EROSION IS LIKELY TO BE A PROBLEM, PRIOR TO BEGINNING WORK ON THOSE SECTION(S) OF THE PROJECT. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL AFTER PERMANENT EROSION CONTROL, SUCH AS SEEDING OR SODDING, HAS BEEN ESTABLISHED.
 - B. IN THE EVENT THE PERMANENT EROSION CONTROL MEASURES ARE NOT FULLY IMPLEMENTED IN CURRENT CONSTRUCTION SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL AFTER PERMANENT MEASURES HAVE BEEN COMPLETED IN THE FOLLOWING YEAR.
 6. ALL DISTURBANCE AREAS THAT REMAIN INACTIVE FOR SEVEN DAYS OR LONGER SHALL RECEIVE TEMPORARY SEEDING.
 7. TRENCH DEWATERING SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS.
 8. INSTALL SILT FENCE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DETAILS
 9. ALL RIP RAP AT PIPE OUTLETS SHALL BE 3'x5' MEDIUM RIP RAP OVER TYPE R FABRIC PER WDOT SPECIFICATIONS UNLESS OTHERWISE DESIGNATED.
 10. EROSION CONTROL INSPECTION AND MAINTENANCE
 - A. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER SITE RECEIVES 0.5" OF RAIN IN A 24-HOUR PERIOD DURING CONSTRUCTION.
 - B. REPAIR OR REPLACE EROSION CONTROLS THAT ARE DAMAGED OR FAILING.
 11. ALL AREAS TO BE SEEDDED AND MULCHED SHALL USE WDOT SEED MIXTURE NO. 20. MULCH SHALL APPLIED PER WDOT SPECIFICATIONS USING METHOD B FOR PLACEMENT.

CONSTRUCTION SEQUENCE PLAN

1. INSTALL TRACKING PAD. MAIN STREET IS THE ONLY ENTRANCE TO BE USED FOR CONSTRUCTION ACTIVITIES.
2. INSTALL SILT FENCE AROUND THE PERIMETER OF THE SITE.
3. CLEAR AND GRUB CONSTRUCTION AREAS AS REQUIRED.
4. STRIP TOPSOIL FROM THE TEMPORARY SEDIMENT BASIN AREA (INCLUDING ASSOCIATED/ADJACENT FILL PLACEMENT AREAS) AND STOCKPILE. SEED AND STABILIZE STOCKPILES IMMEDIATELY UPON COMPLETION OF STOCKPILING.
5. CONSTRUCT TEMPORARY DIVERSION BERMS AND SWALES (WITH DITCH CHECKS) TO DIRECT RUNOFF TO THE TEMPORARY SEDIMENT BASINS, AS INDICATED ON THE PLAN.
6. BEGIN STRIPPING TOPSOIL, IMPORTING OF CLEAN STRUCTURAL FILL, AND ROUGH GRADING OF THE SITE. NOTE THAT ROUGH GRADING MAY OCCUR CONCURRENT WITH CONSTRUCTION OF THE TEMPORARY DIVERSIONS.
7. INSTALL SANITARY SEWER AND WATER MAIN. COMPLETE ALL TESTING AND CONTACT VILLAGE PRIOR TO CONNECTING TO EXISTING MAINS. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH ROUGH GRADING ONCE THE UTILITY AREAS HAVE BEEN GRADED TO SUBGRADE.
8. INSTALL STORM SEWER AND ASSOCIATED EROSION CONTROL MEASURES PER EROSION CONTROL PLAN. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH SANITARY SEWER AND WATER MAIN INSTALLATION.
9. FINISH GRADE THE SITE. NOTE THAT THIS STEP MAY OCCUR CONCURRENT WITH STORM SEWER INSTALLATION.
10. INSTALL STONE BASE COURSE, CONSTRUCT CURB AND SIDEWALK, AND PLACE BINDER COURSE PAVEMENT. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING.
11. REMOVE TRACKING PAD ONCE ROADS ARE COMPLETED. RESTORE DISTURBED AREA.
12. RESPREAD TOPSOIL AND PLACE SEED, MULCH, MATTING AND OTHER SITE STABILIZERS AS NEEDED. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING AND ROAD CONSTRUCTION. ALSO NOTE THAT ANY AREAS, SUCH AS POND SLOPES, THAT ARE FINISH GRADED AND TOPSOILED SHALL BE SEEDDED, MULCHED AND/OR MATTED IMMEDIATELY AFTER TOPSOIL IS PLACED.
13. LATE SEASON (AFTER OCTOBER 15) STABILIZATION NOTES:
 - 13.1. ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15 MUST BE TEMPORARY SEEDDED AS OF THAT DATE.
 - 13.2. ANY FINAL SITE STABILIZATION THAT OCCURS AFTER OCTOBER 15 MAY REQUIRE CONTRACTOR TO COVER DISTURBED AREAS WITH THE ANIONIC FORM OF POLYACRYLAMIDE (PAM), PER WDNR TECHNICAL STANDARD 1050 AND WISDOT PAL LIST. CONTRACTOR SHALL COORDINATE WITH VILLAGE ENGINEER AND WDNR FOR LATE SEASON STABILIZATION REQUIREMENTS.
14. REMOVE CONSTRUCTION EROSION CONTROL MEASURES AFTER SITE IS STABILIZED (SUBSTANTIALLY VEGETATED) AND ALL PHASE 4 CONSTRUCTION IS COMPLETE.

TEMPORARY DEWATERING GEOTEXTILE BAG

1. IF DEWATERING IS REQUIRED, A GEOTEXTILE DEWATERING BAG MEETING THE SPECIFICATIONS IN THE TABLE TO THE RIGHT SHALL BE UTILIZED AS STATED ON THE EROSION CONTROL PLAN.
2. REFER TO WDNR TECHNICAL STANDARDS 1061 AND MANUFACTURERS REQUIREMENTS FOR INSTALLATION AND MAINTENANCE REQUIREMENTS.
3. CONTRACTOR MAY USE THRACE-LING, INC 275EX GEOTEXTILE BAG, OR FUNCTIONAL EQUIVALENT TO MEET TECHNICAL STANDARD REQUIREMENTS.
4. CONTRACTOR MAY INSTALL HAY BALES AROUND DEWATERING BAG FOR STABILIZATION AS DICTATED BY SITE CONDITIONS.
5. MAX FLOW RATE SHALL NOT EXCEED 100GPM

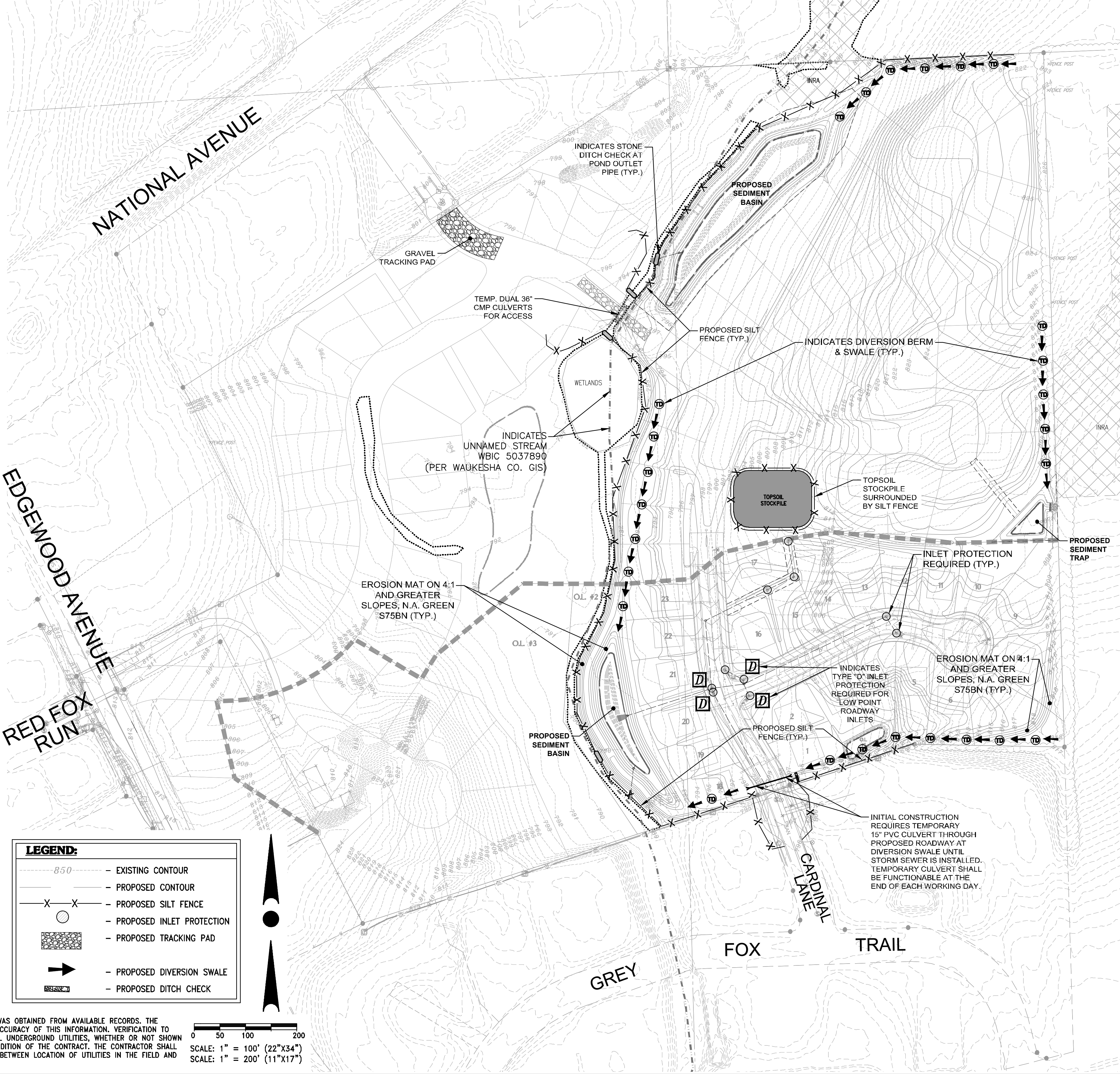
Property	Test Method	Type I Value
Maximum Apparent Opening Sizes	ASTM D-4751	0.212 mm
Grab Tensile Strength	ASTM D-4632	200 lbs.
Mullen Burst	ASTM D-3786	350 psi
Permeability	ASTM D-4491	0.28 cm/sec
Fabric	Nominal Representative Weight	8 oz

LEGEND:

- 850 — EXISTING CONTOUR
- PROPOSED CONTOUR
- X X — PROPOSED SILT FENCE
- — PROPOSED INLET PROTECTION
- ▢ — PROPOSED TRACKING PAD
- — PROPOSED DIVERSION SWALE
- PROPOSED DITCH CHECK

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0 50 100 200
SCALE: 1" = 100' (22"x34")
SCALE: 1" = 200' (11"x17")



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
EROSION CONTROL PLAN

SHEET

C2.0



CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
CALL DIGGERS HOTLINE 1-800-242-8511

X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1\EROSION CONTROL_22X34.DWG

LATE SEASON STABILIZATION REQUIREMENTS FOR SITES >1 ACRE

1. Vegetated Channels (roadside swales and other stormwater conveyances):

All planned vegetated channels shall be stabilized with BMPs (erosion control matting, sod, etc.) by no later than November 15 in accordance with DNR technical standards and the criteria listed below. Ditch checks, sediment traps and other sediment control BMPs are only for use *during* channel grading work, and must be replaced with final site stabilization BMPs per the approved plans ASAP. None of these are suitable for controlling erosion/sedimentation of open channels over winter.

2. Timing Determines Requirements and BMPs:

The stabilization BMPs that must be implemented depend on the timing of the seeding (cool season grasses), and are organized in three risk categories, as listed below. The later the timing, the lower the success rates are for timely vegetative cover - and therefore the higher the risks of erosion and off-site sediment discharges.

a. Risk Level 1: Permanent Vegetation (before September 15):

To ensure successful fall seed germination, topsoil, seed and fertilize all disturbed areas by September 15 in accordance with the following:

- Seeding.** Prepare seedbed and sow seeds per the rates and mixes of Wisconsin Department of Transportation (WisDOT) Roadway Standard Section 630.
- Erosion Control:** Immediately apply mulch, erosion control matting, or other permanent stabilization BMPs as specified in the approved erosion control plans. Application of all erosion control measures shall follow DNR technical standards.
- Maintenance:** Inspect all seeded areas weekly. Ensure adequate water is provided until full vegetative cover is obtained, and repair any erosion problems, wash outs, etc.

b. Risk Level 2: Temporary Vegetation (before October 15):

Due to the cooler soil temperatures and the likelihood of overnight frost conditions, perennial cool season plant growth is slow and survival is at risk from September 15 - October 15. To offer more protection from soil erosion during this period, topsoil, seed and fertilize all disturbed areas by October 15 in accordance with the following:

- Seeding:** The above noted seeding mix must include a minimum of 2 lbs. per 1,000 sq. ft. of a temporary cover (i.e. winter wheat or annual rye grass for fall plantings) per Section 630.
- Erosion Control:** Immediately apply mulch, erosion control matting, or other stabilization BMPs as specified in the approved plan, following DNR technical standards. The following are minimum requirements for stabilizing sites during this period. Approved plans may be more restrictive due to site conditions:
 - Channel Flow (roadside swales, etc.) and Backslopes:** Stake erosion matting over all the entire channel cross-section and all backslopes using a minimum WisDOT Erosion Control Product Acceptability (PAL) Class 3 Type A matting, unless otherwise called for in the approved plan.
 - Other disturbed areas:** Apply Type B Soil Stabilizer, mulch and tackifier from the PAL to all disturbed areas that remain exposed.
 - Infalls/Outfalls:** Install sod pads (2 rolls) at all culvert outfalls, and other high-erosion locations in accordance with County standards.
- Maintenance:** Inspect all seeded areas weekly. Ensure adequate water is provided until full temporary cover is obtained, and repair any erosion problems, wash outs, etc.

c. Risk Level 3: Dormant Seeding (before November 15):

For areas not stabilized by October 15, erosion risks are high and additional erosion control measures and oversight are required, as described below. Temporary seeding must still be done, but fall germination and survival may be very limited. For perennial plants, dormant seeding should be done between October 20 and November 15. This means seed germination is planned for the following spring. To offer more protection from soil erosion during this period, topsoil, seed and fertilize all disturbed areas by November 15 in accordance with the following:

- Seeding Rate:** Same seed mix as Risk Level 2 (including temporary cover crop) except the rates for perennial species must applied at 1.5 x WisDOT section 630 rates (apply rates of 3-5 lbs./1000 sq.ft.). Rates are increased to allow for poor germination rates associated with dormant seeding due to frozen conditions.

- Erosion Control:** In addition to applying topsoil, the above noted seed mix and starter fertilizer, the following are minimum requirements for stabilizing sites during this period. Approved erosion control plans may be more restrictive:

- Channel Flow (roadside swales, etc.) and Backslopes:** Apply Type A soil stabilizer and staked PAL Class 3 Type A erosion matting over the entire channel and all backslopes.
- Other Areas:** Apply Type A Soil Stabilizer from the PAL to all other disturbed areas that remain exposed.
- Infalls/Outfalls:** Install sod pads (2 rolls) at all culvert outfalls, and other high-erosion locations in accordance with County standards.

- Maintenance:** Inspect all seeded areas weekly. Ensure adequate water is provided until full temporary cover is obtained, and repair any erosion problems, wash outs, etc.

- Reports:** The Project Engineer shall be responsible for emailing a report to the LRD by 4:30 pm every Wednesday after October 15, which shall include the following information:

- Detailed status of all land disturbing and stabilization activities as of the day of the report.
- Results of erosion control site inspections since October 15 or the previous report, whichever is shorter.
- Any erosion control failures encountered and actions taken to rectify.
- Projections for completion of all stabilization activities, including a 10- day plan based on the latest weather predictions.



PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
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BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
06/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
LATE SEASON
STABILIZATION
REQUIREMENTS

SHEET

C2.1

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BACKFILL NOTES

TRENCH BACKFILL

- SPOIL BACKFILL MAY BE USED FOR UTILITY TRENCHES CONTINGENT ON TESTING AND APPROVAL BY THE VILLAGE OF MUKWONAGO. ALL SPOIL BACKFILL TO BE USED MUST MEET THE STATE OF WISCONSIN SPECIFICATIONS FOR UTILITY BACKFILL.

NOTE:

ALL MATERIALS SHALL BE APPROVED BY THE VILLAGE OF MUKWONAGO PUBLIC WORKS DEPARTMENT PRIOR TO INSTALLATION.

MANHOLE AND VALVE NOTE

- ALL MANHOLES AND VALVES TO BE SET TO BINDER GRADE. MANHOLES TO BE SET TO FINAL GRADE WITH CAST IRON ADJUSTING RINGS AND VALVE BOXES SHALL BE ADJUSTED TO FINAL GRADE AT TIME OF SURFACE COURSE PAVING.

SANITARY SEWER NOTES

SANITARY SEWER

- ALL 8" PVC SEWER PIPE SHALL MEET THE REQUIREMENTS SET FORTH IN SECTION 8.10.0 (SSSWCW).
- ALL SANITARY MANHOLES SHALL BE 48" DIA. AND MEET THE REQUIREMENTS SET FORTH IN SSSWCW.
- SDR-35 PVC PIPE SHALL BE USED FOR SANITARY SEWERS LESS THAN 16 FEET DEEP.
- C-900 PVC PRESSURE PIPE SHALL BE USED FOR SANITARY SEWERS DEEPER THAN 16 FEET.
- ALL SANITARY SEWER LATERALS FOR SINGLE FAMILY LOTS SHALL BE 6" DIA. SDR-35 PVC & MADE OF GASKETED PVC FITTINGS MEETING ASTM D-3034.
- SANITARY LATERAL STUBS SHALL EXTEND 10' BEYOND THE R.O.W.
- SANITARY CASTINGS SHALL BE SEALED WITH AN EXTERNAL BOOT AS SHOWN IN THE DETAILS.

WATER MAIN NOTES

WATERMAIN

- ALL 6" & 8" WATERMAIN CONSTRUCTED AS PART OF THIS PLAN SHALL BE PVC, C-900, CLASS 150 (DR-18).
- PVC PIPE SHALL HAVE PUSH-ON JOINTS WITH RUBBER GASKET.
- WATER SERVICES FOR SINGLE FAMILY LOTS SHALL BE 1 1/4" POLYETHYLENE TUBING.
- WATER SERVICES SHALL EXTEND 10' BEYOND THE R.O.W.
- HYDRANTS SHALL BE SET AT 3 FT. BEHIND THE BACK OF CURB, WITH THE NOZZLE ELEVATION 21 INCHES ABOVE TOP OF CURB.
- ANCHOR TEES SHALL BE USED FOR EACH HYDRANT BRANCH.
- ALL WATERMAINS (AND SERVICES) CALLED FOR ON THESE PLANS ARE TO BE INSTALLED WITH CLASS "B" BEDDING AS SPECIFIED IN CH. 4.3.0, LAYING OF WATERMAIN, AND FILE NO. 36, PART VII (SSSWCW).

TRACER WIRE NOTE

- CONTRACTOR SHALL INSTALL PLASTIC COATED TRACER WIRE (10 GAUGE SOLID COPPER) PER COMM 82.30(1)(H). PLASTIC WIRE MAY BE TAPED TO PLASTIC PIPE. IF ATTACHED, THE TRACER SHALL BE SECURED EVERY 5 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.

LEGEND:

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EXISTING CONTOUR

EXISTING SANITARY SEWER

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EXISTING SANITARY MANHOLE

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EXISTING WATER MAIN

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EXISTING HYDRANT

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EXISTING STORM SEWER

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EXISTING STORM MANHOLE

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EXISTING STORM INLET

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EXISTING TRANSFORMER

⊕

EXISTING ELECTRIC PEDESTAL

⊙

EXISTING TELEPHONE PEDESTAL

⊗

EXISTING CATV PEDESTAL

⊕

EXISTING POWER POLE

○

PROPOSED SANITARY SEWER

○

PROPOSED SANITARY MANHOLE

PROPOSED WATER MAIN

⊗

PROPOSED HYDRANT

⊕

PROPOSED WATER VALVE

PROPOSED STORM SEWER

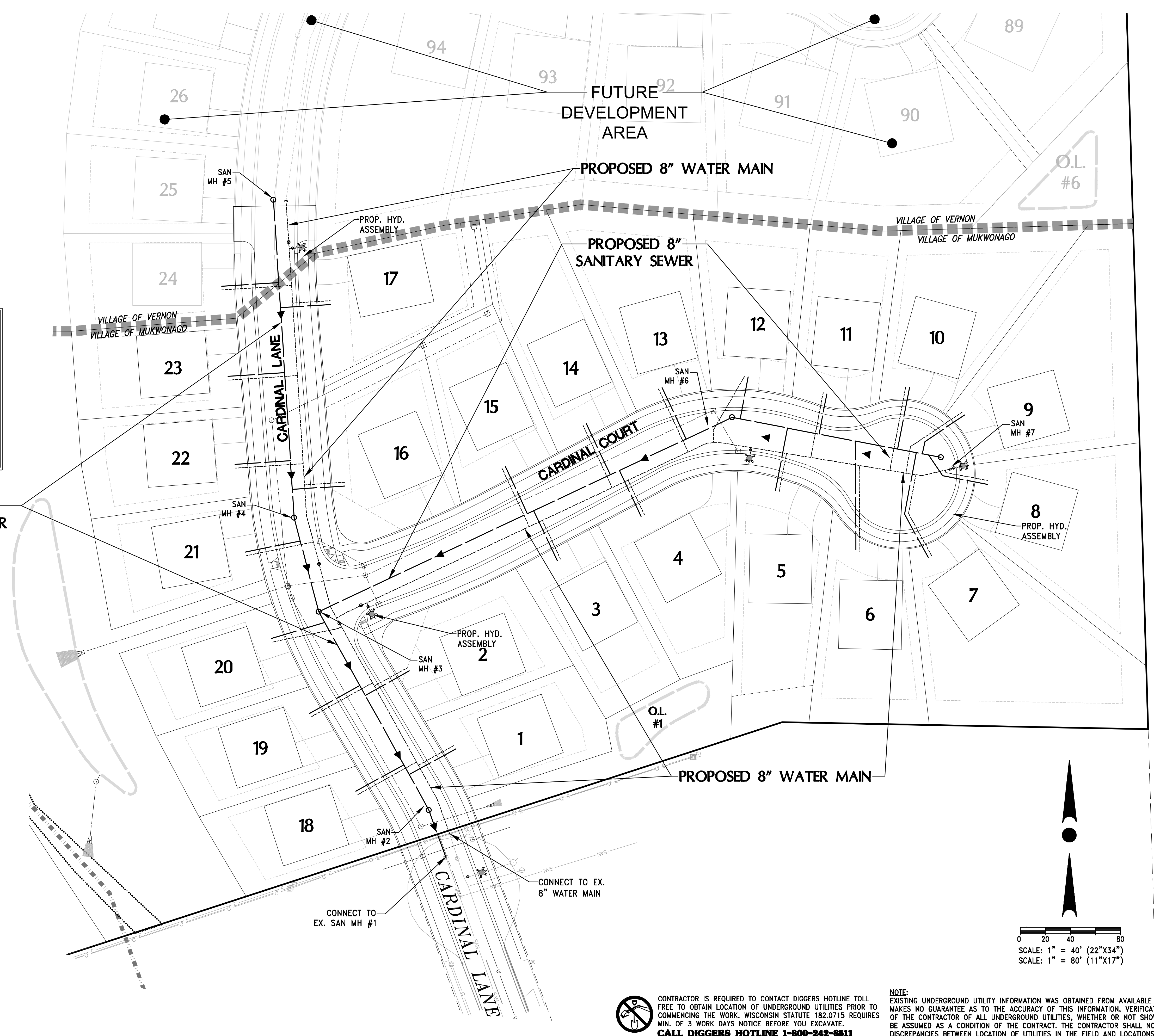
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PROPOSED STORM MANHOLE

□

PROPOSED STORM INLET

PROPOSED STORM END SECTION



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WISCONSIN

JOSHUA D. PUDELKO

E-39420

WATKINS

WI

PROFESSIONAL ENGINEER

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4100 N. CALHOUN RD., SUITE 300

BROOKFIELD, WI 53005

PHONE: (262) 790-1480

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EMAIL: info@trioinc.com

PROJECT:

CARDINAL RIDGE - PHASE 1

SINGLE FAMILY DEVELOPMENT

VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN

BY: NEUMANN DEVELOPMENTS, INC.

N27W24025 PAUL COURT, SUITE 100

PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
06/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:

JULY 17, 2024

JOB NUMBER:

21-040-953

DESCRIPTION:

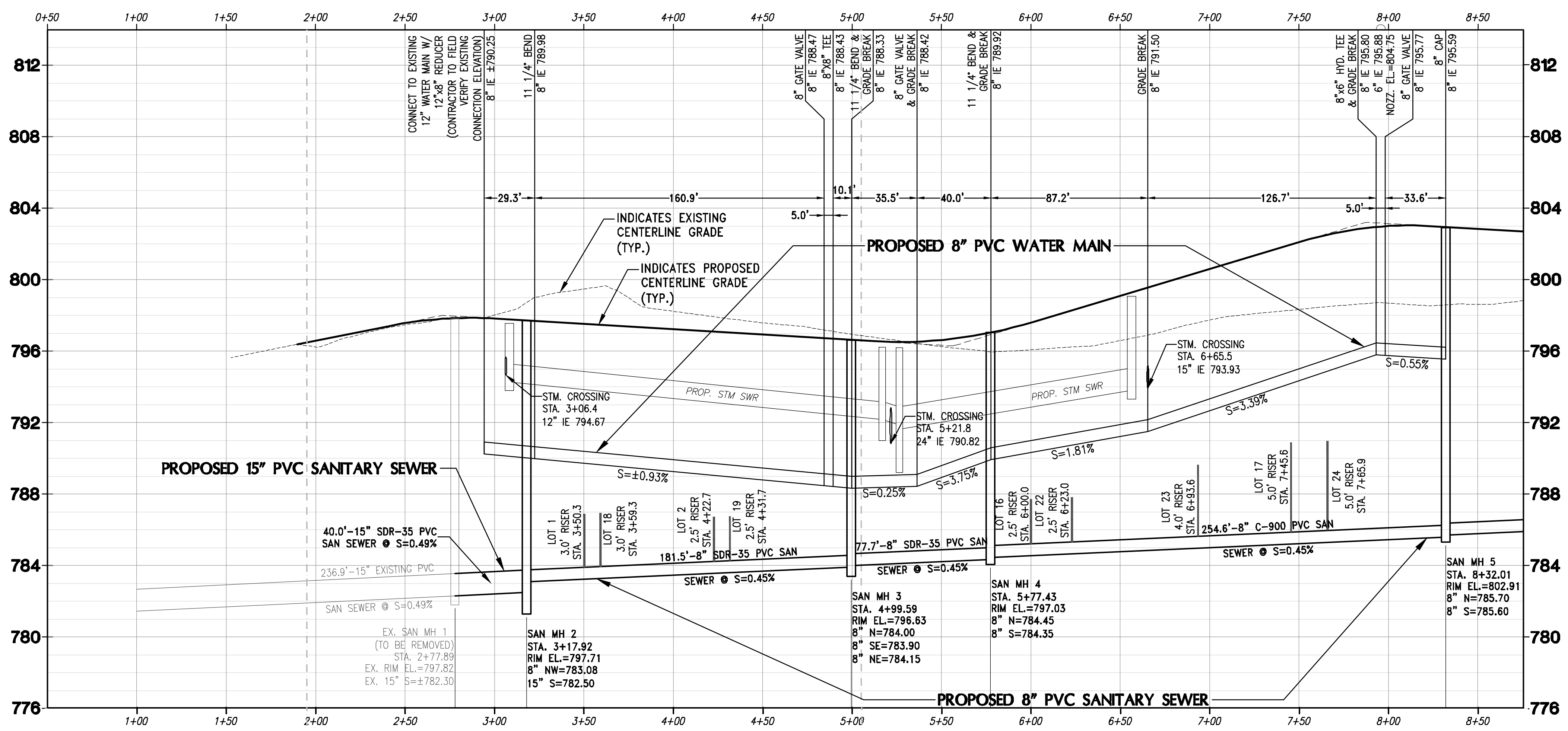
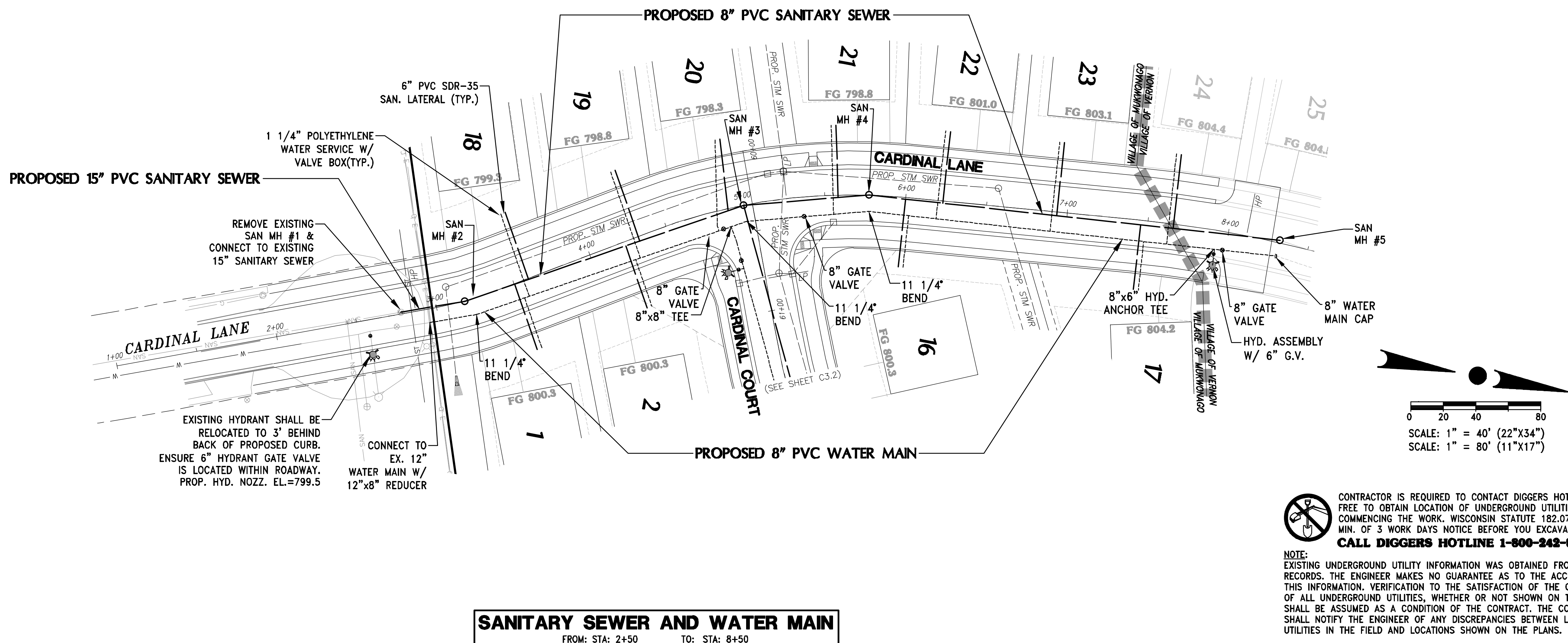
OVERALL

SANITARY SEWER & WATER MAIN

SYSTEM PLAN

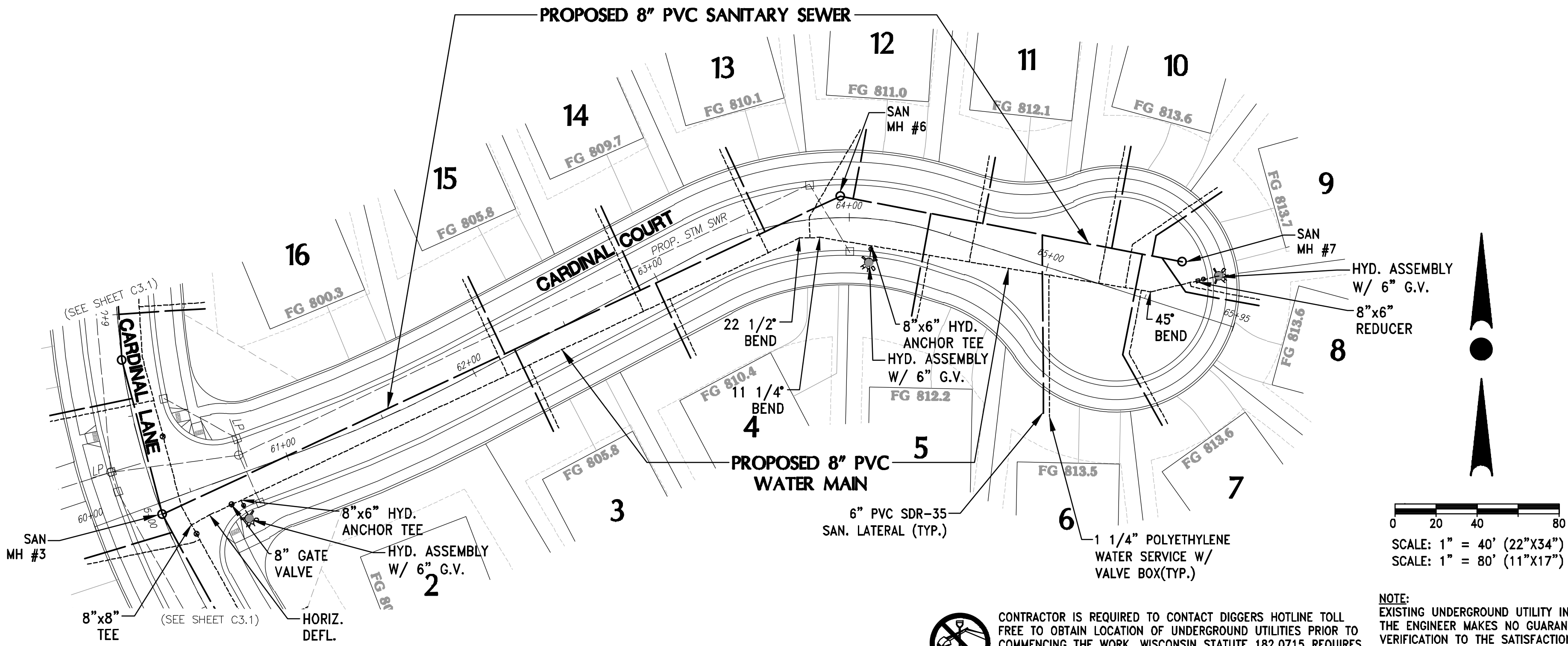
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C3.0



REVISION HISTORY	
DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

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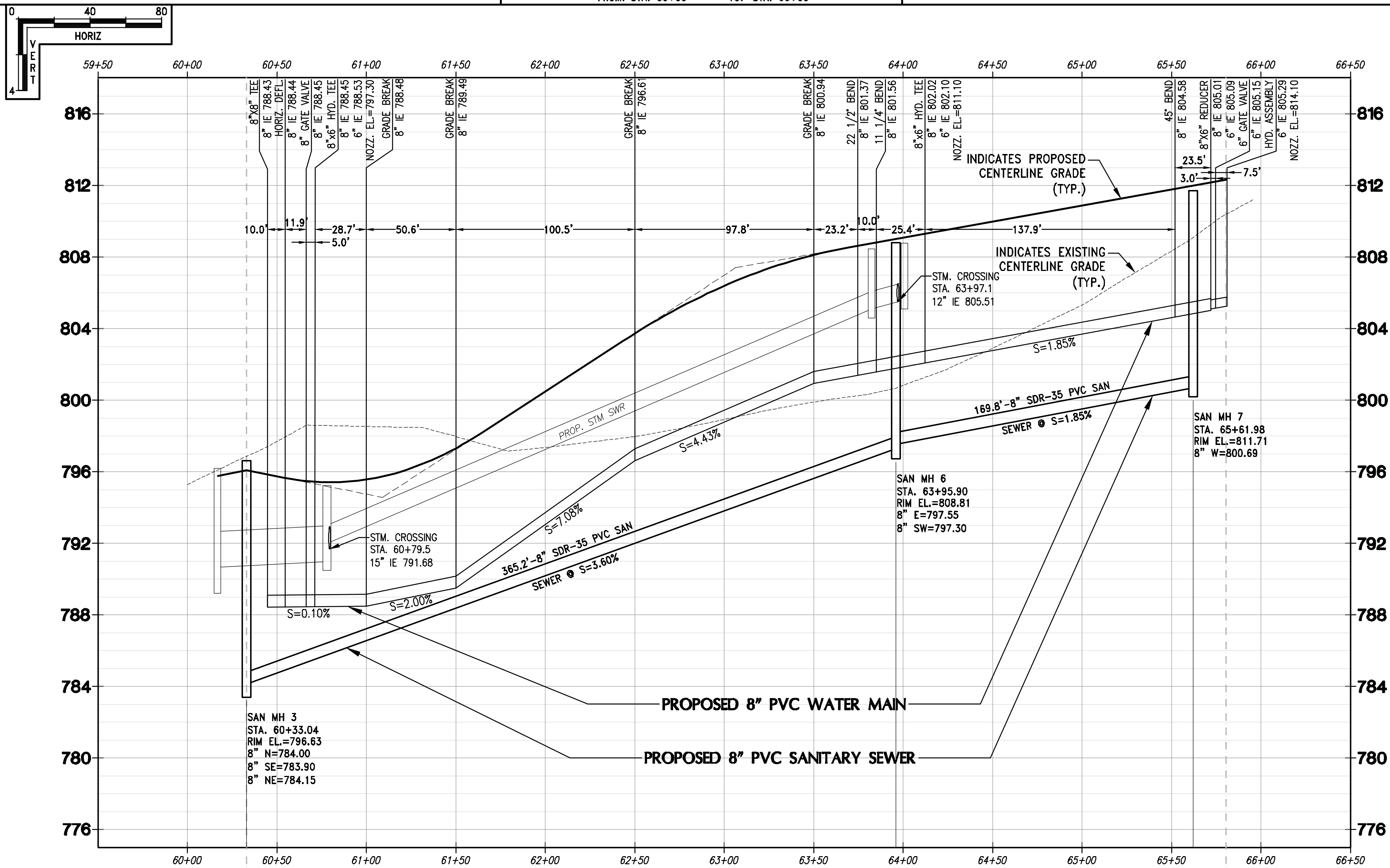


SANITARY SEWER AND WATER MAIN
FROM: STA: 60+00 TO: STA: 66+00



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CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
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BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

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DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
**SANITARY SEWER
& WATER MAIN
PLAN & PROFILE**

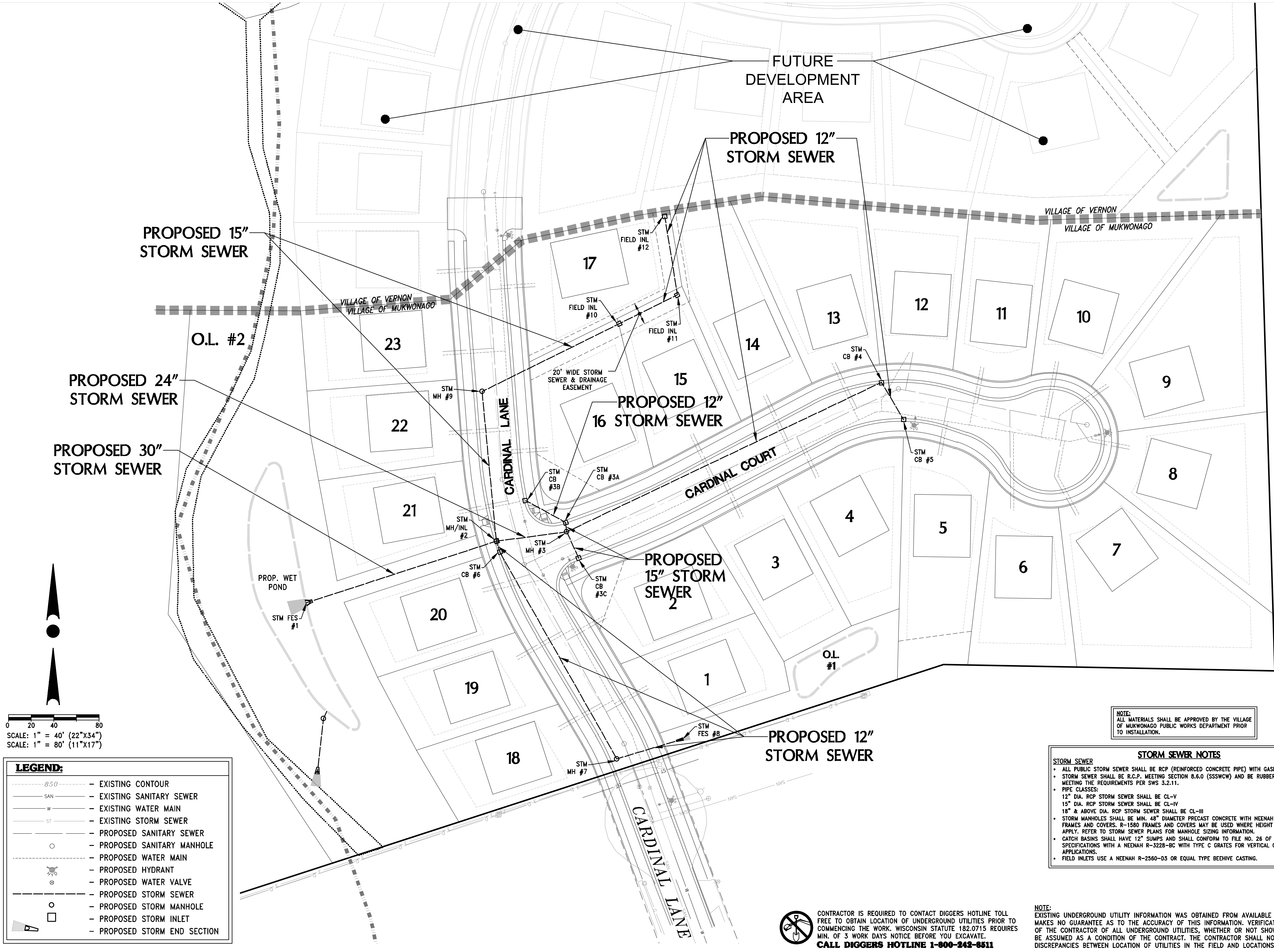
SHEET

C3.2



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
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EMAIL: info@trioeng.com

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LEGEND:

850	EXISTING CONTOUR
SAN	EXISTING SANITARY SEWER
W	EXISTING WATER MAIN
ST	EXISTING STORM SEWER
	PROPOSED SANITARY SEWER
	PROPOSED SANITARY MANHOLE
	PROPOSED WATER MAIN
	PROPOSED HYDRANT
	PROPOSED WATER VALVE
	PROPOSED STORM SEWER
	PROPOSED STORM MANHOLE
	PROPOSED STORM INLET
	PROPOSED STORM END SECTION

STORM SEWER NOTES

STORM SEWER

- ALL PUBLIC STORM SEWER SHALL BE RCP (REINFORCED CONCRETE PIPE) WITH GASKETED JOINTS.
- STORM SEWER SHALL BE R.C.P. MEETING SECTION 8.6.0 (SSSWCW) AND BE RUBBER GASKETED MEETING THE REQUIREMENTS PER SWS 3.2.11.
- PIPE CLASSES:
 - 12" DIA. RCP STORM SEWER SHALL BE CL-V
 - 15" DIA. RCP STORM SEWER SHALL BE CL-IV
 - 18" & ABOVE DIA. RCP STORM SEWER SHALL BE CL-III
- STORM MANHOLES SHALL BE MIN. 48" DIAMETER PRECAST CONCRETE WITH NEENAH R-1710 FRAMES AND COVERS. R-1500 FRAMES AND COVERS MAY BE USED WHERE HEIGHT RESTRICTIONS APPLY. REFER TO STORM SEWER PLANS FOR MANHOLE SIZING INFORMATION.
- CATCH BASINS SHALL HAVE 12" SUMPS AND SHALL CONFORM TO FILE NO. 26 OF THE STANDARD SPECIFICATIONS WITH A NEENAH R-3228-BC WITH TYPE C GRATES FOR VERTICAL CURB APPLICATIONS.
- FIELD INLETS USE A NEENAH R-2580-D3 OR EQUAL TYPE BEEHIVE CASTING.



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CARDINAL RIDGE - PHASE 1
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VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
06/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

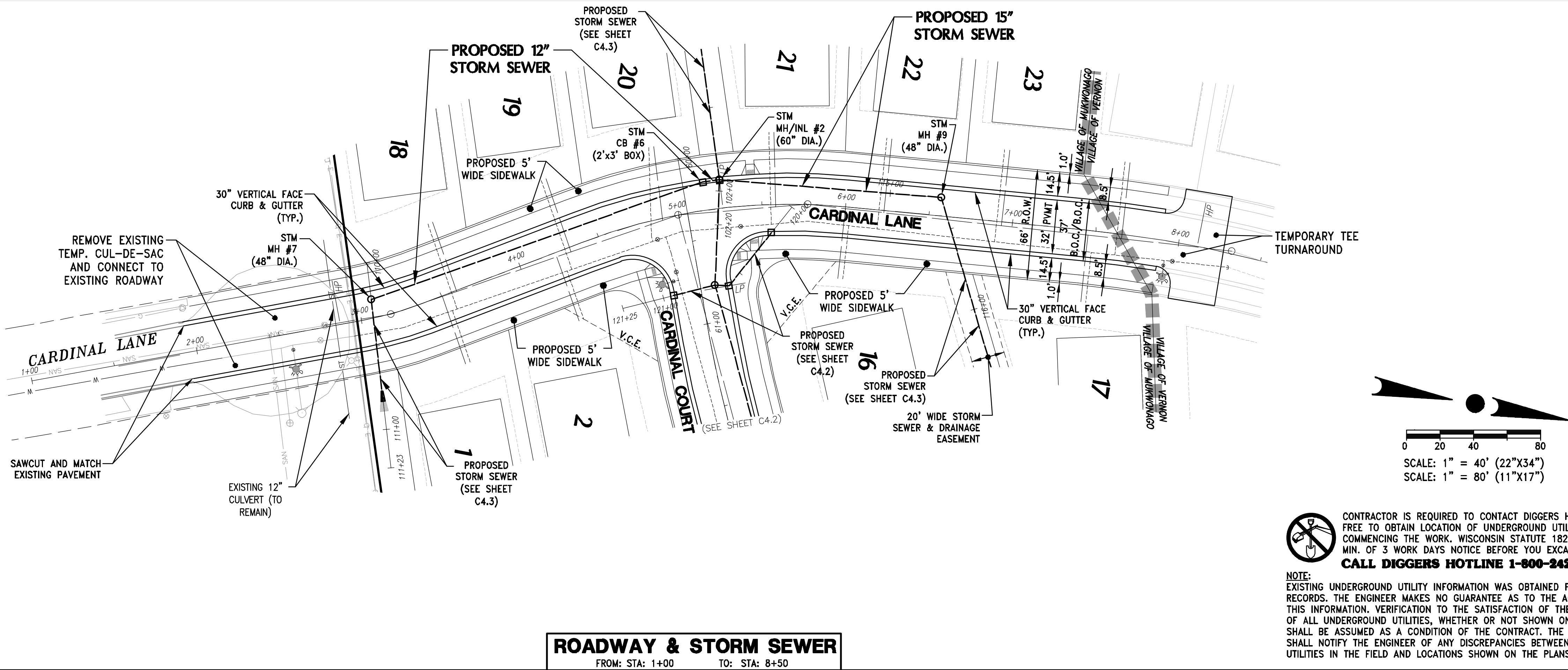
DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
OVERALL STORM SEWER SYSTEM PLAN

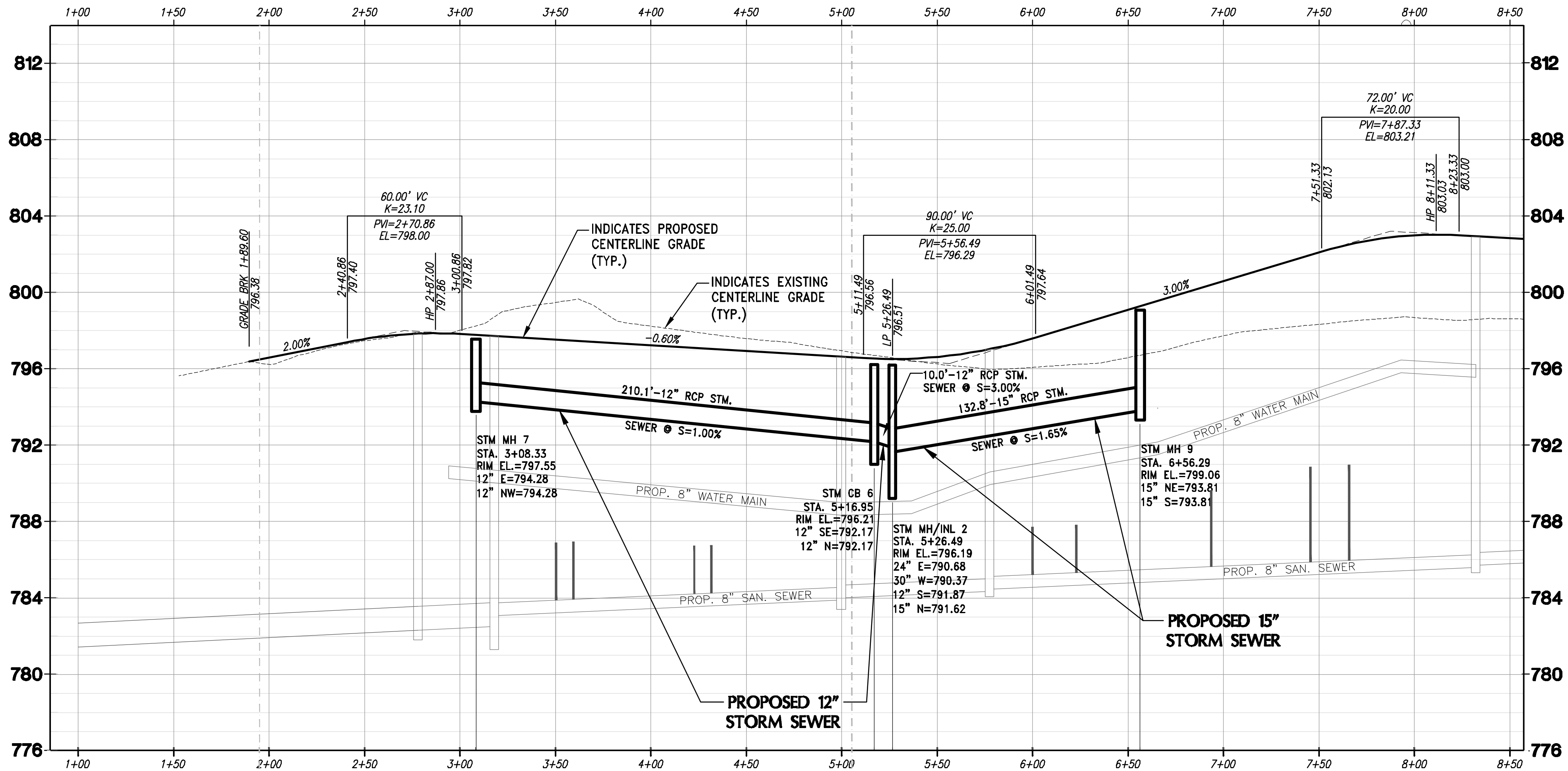
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X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1\RD&STM P&P_22X34.DWG



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WISCONSIN
JOSHUA D. PUDELKO
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WATATOSA, WI
PROFESSIONAL ENGINEER

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BROOKFIELD, WI 53005
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PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
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N27W24025 PAUL COURT, SUITE 100
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DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
**ROADWAY & STORM SEWER
PLAN & PROFILE**

SHEET

C4.1

X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1.RD&STM P&P_22X34.DWG



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PROPOSED 24" RCP STORM SEWER

PROPOSED 12" RCP STORM SEWER

PROPOSED 15" RCP STORM SEWER

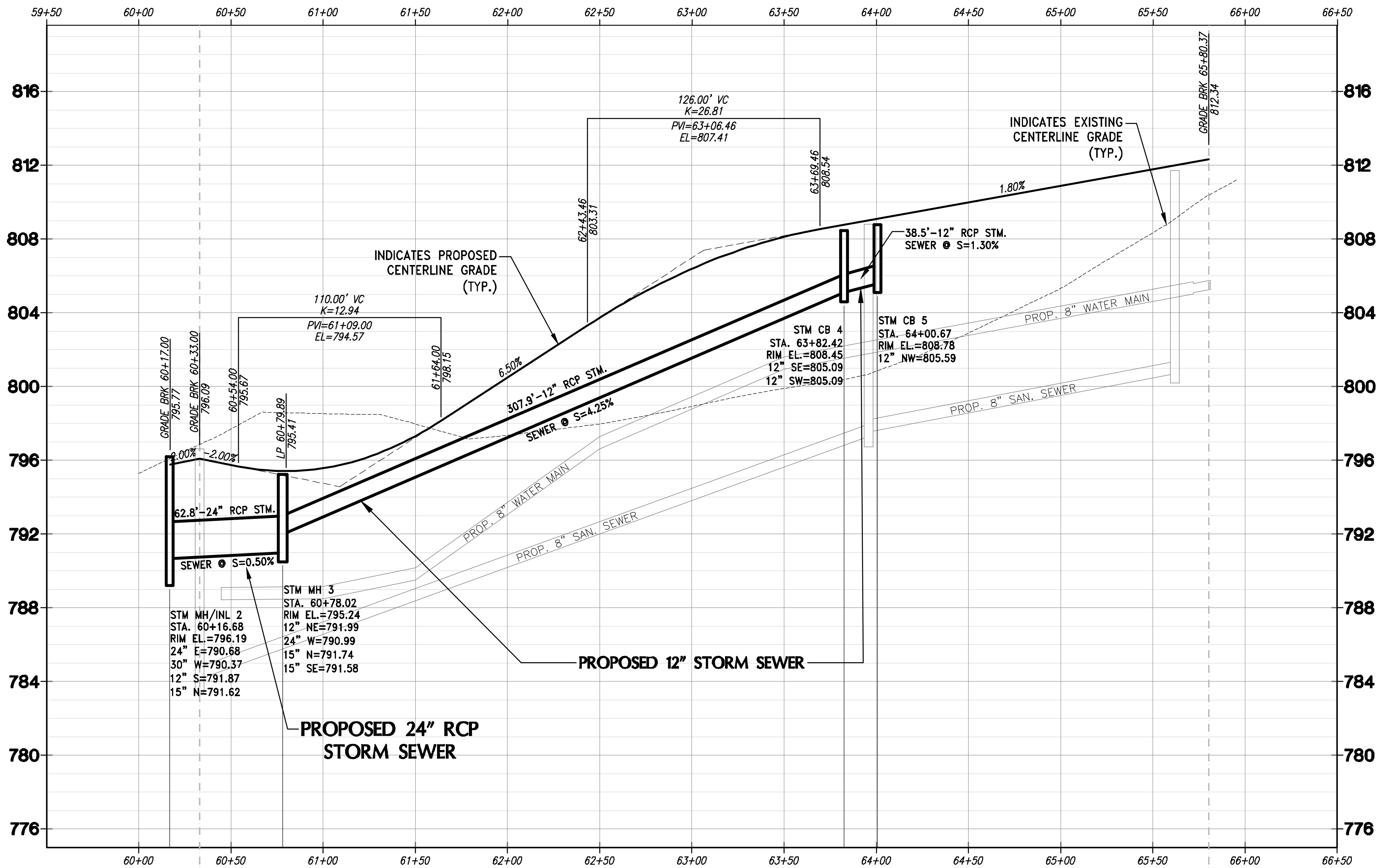
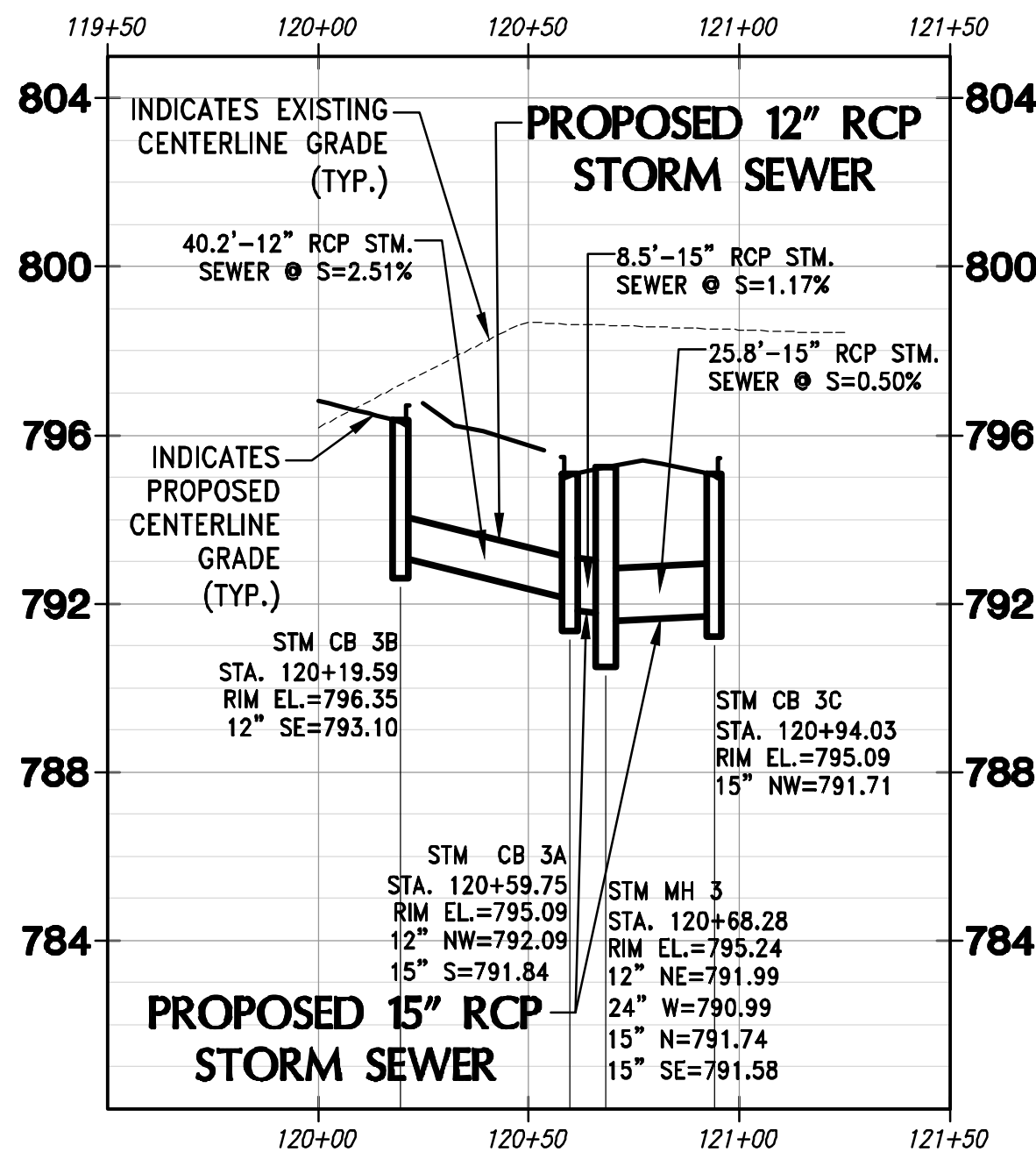
PROPOSED 12" RCP STORM SEWER

STORM SEWER

FROM: STA: 120+00 TO: STA: 121+00

ROADWAY & STORM SEWER

FROM: STA: 60+00 TO: STA: 66+00



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BROOKFIELD, WI 53005
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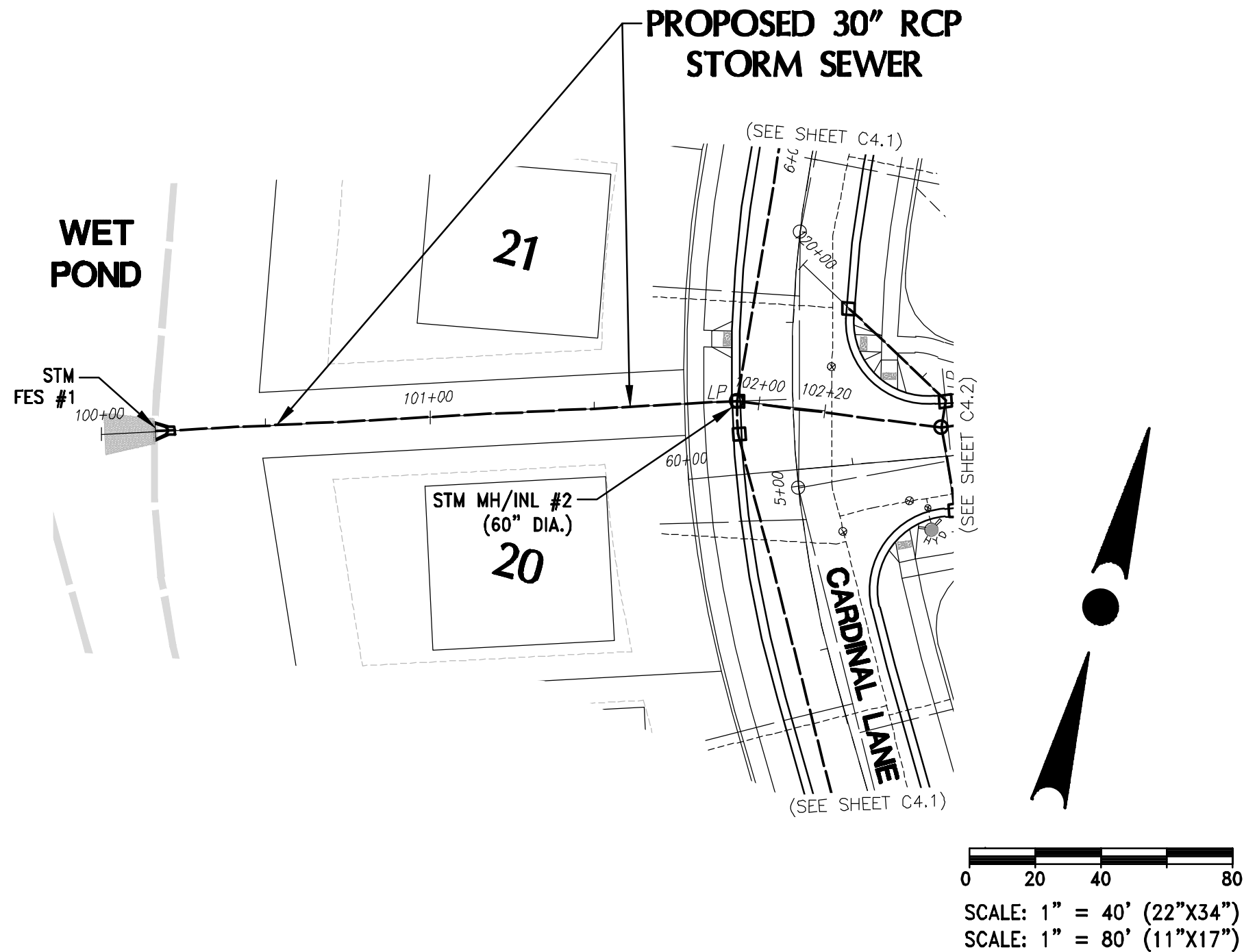
DESCRIPTION:

**ROADWAY & STORM SEWER
PLAN & PROFILE**

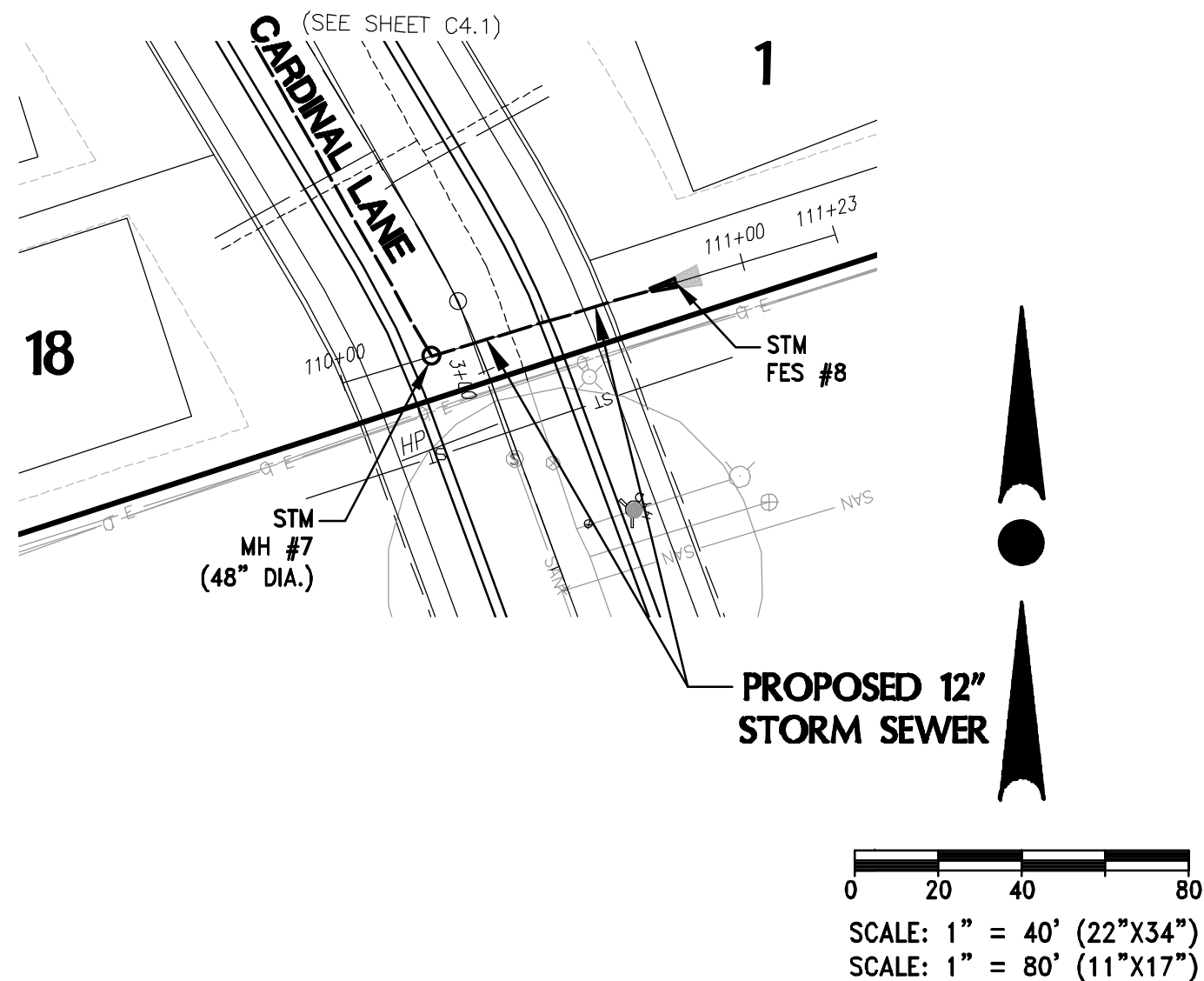
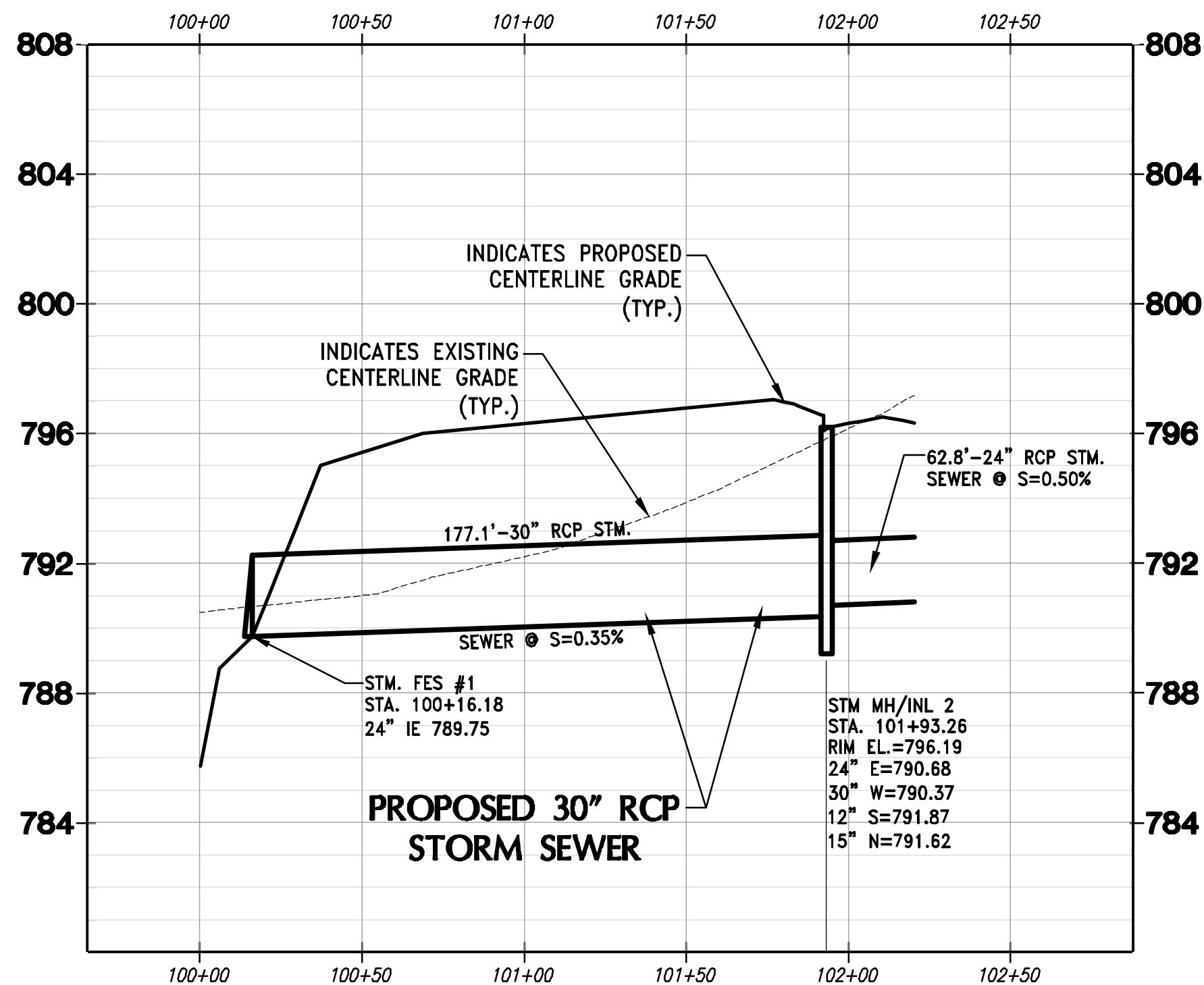
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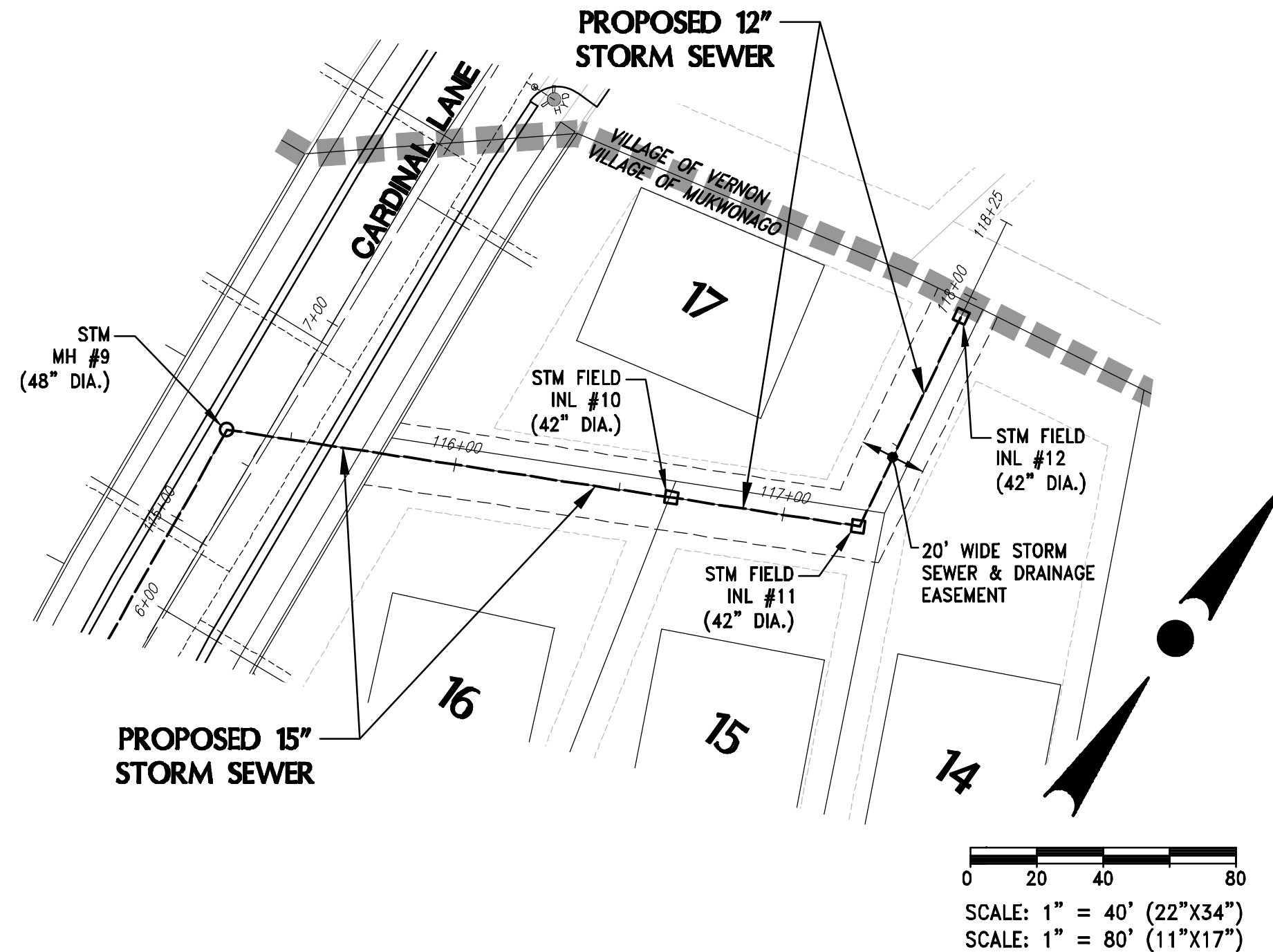
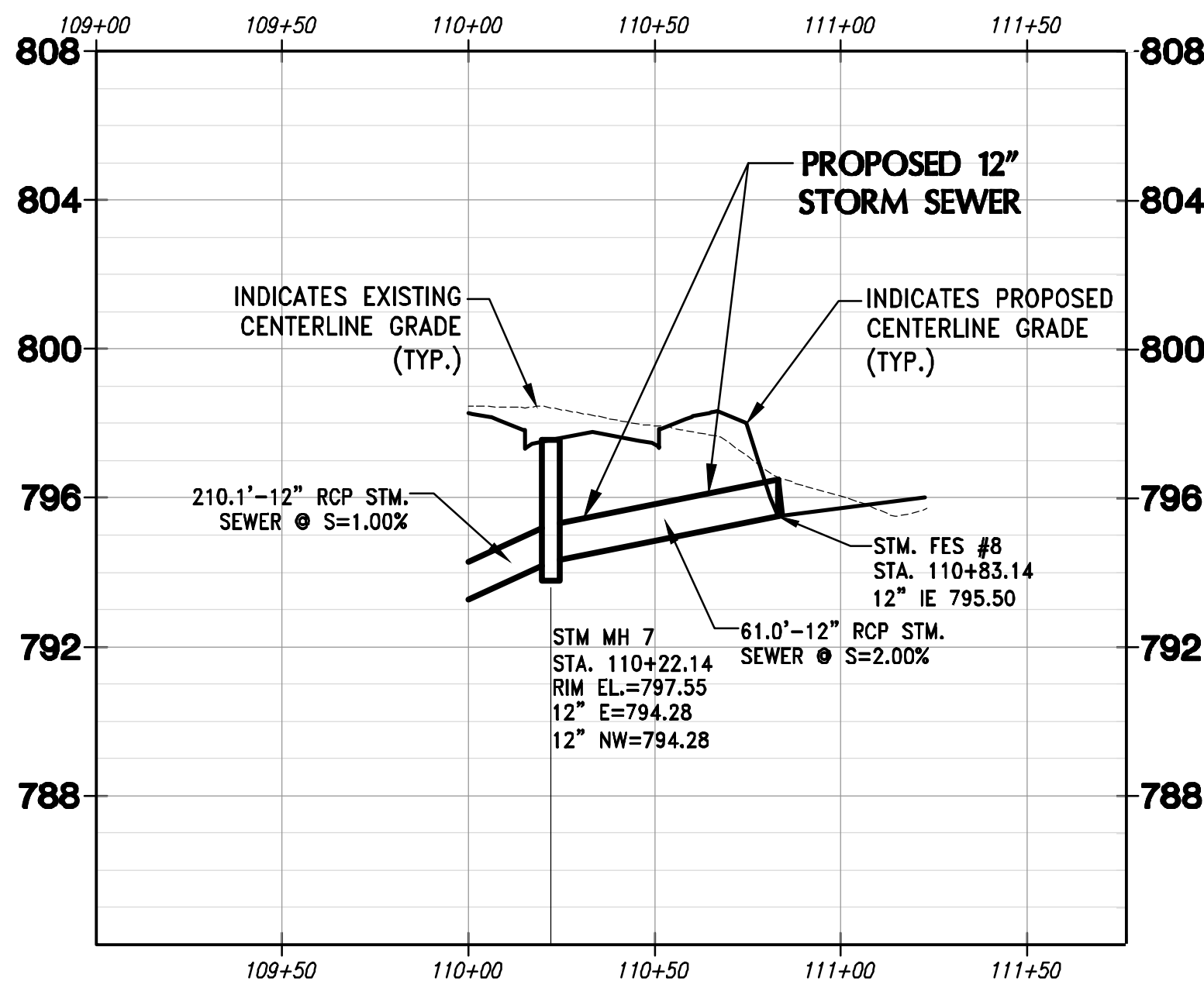
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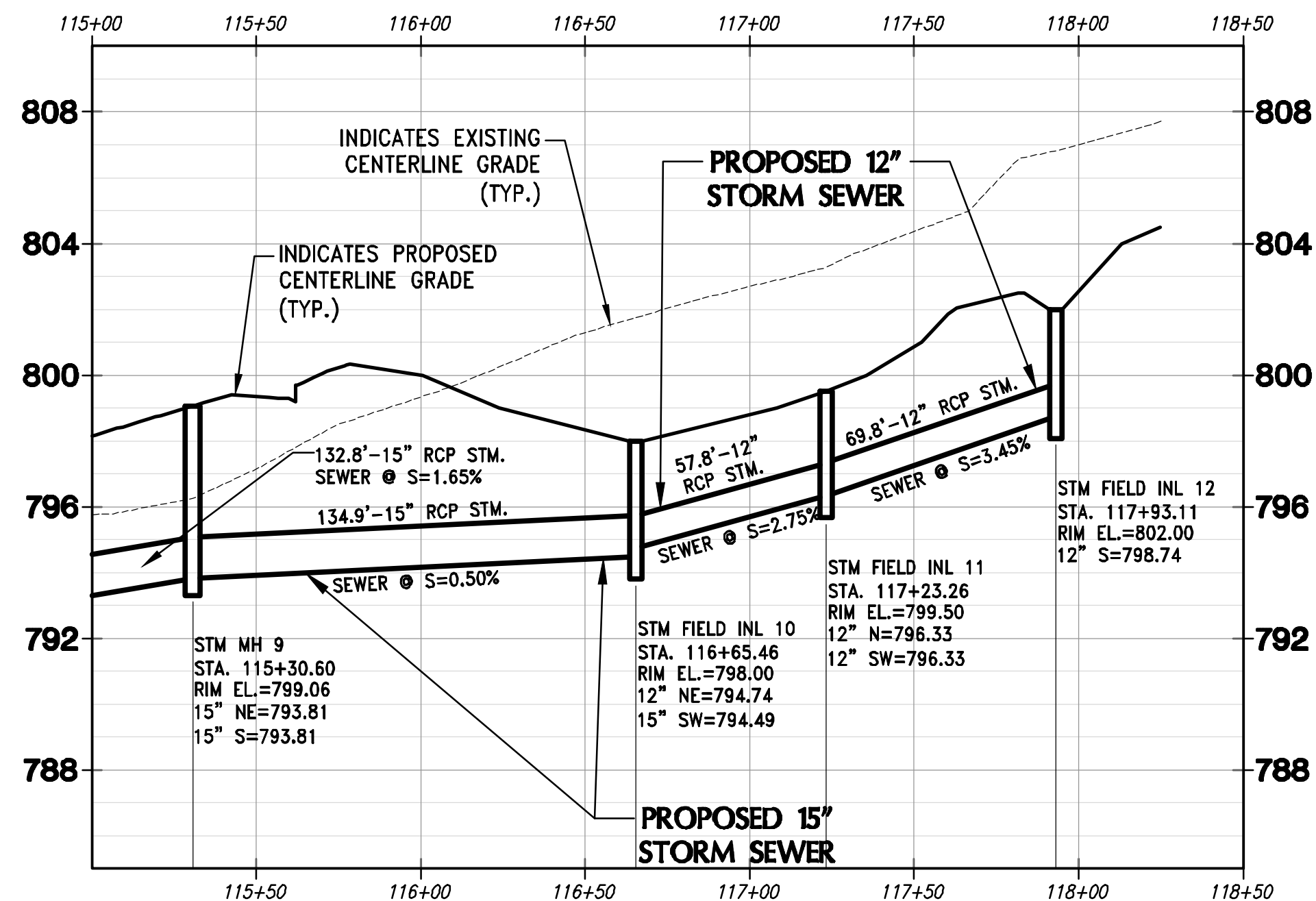
STORM SEWER
FROM: STA: 100+00 TO: STA: 102+00



STORM SEWER
FROM: STA: 110+00 TO: STA: 111+00



STORM SEWER
FROM: STA: 115+00 TO: STA: 118+00



CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
CALL DIGGERS HOTLINE 1-800-242-8511

NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
STORM SEWER
PLAN & PROFILE

SHEET

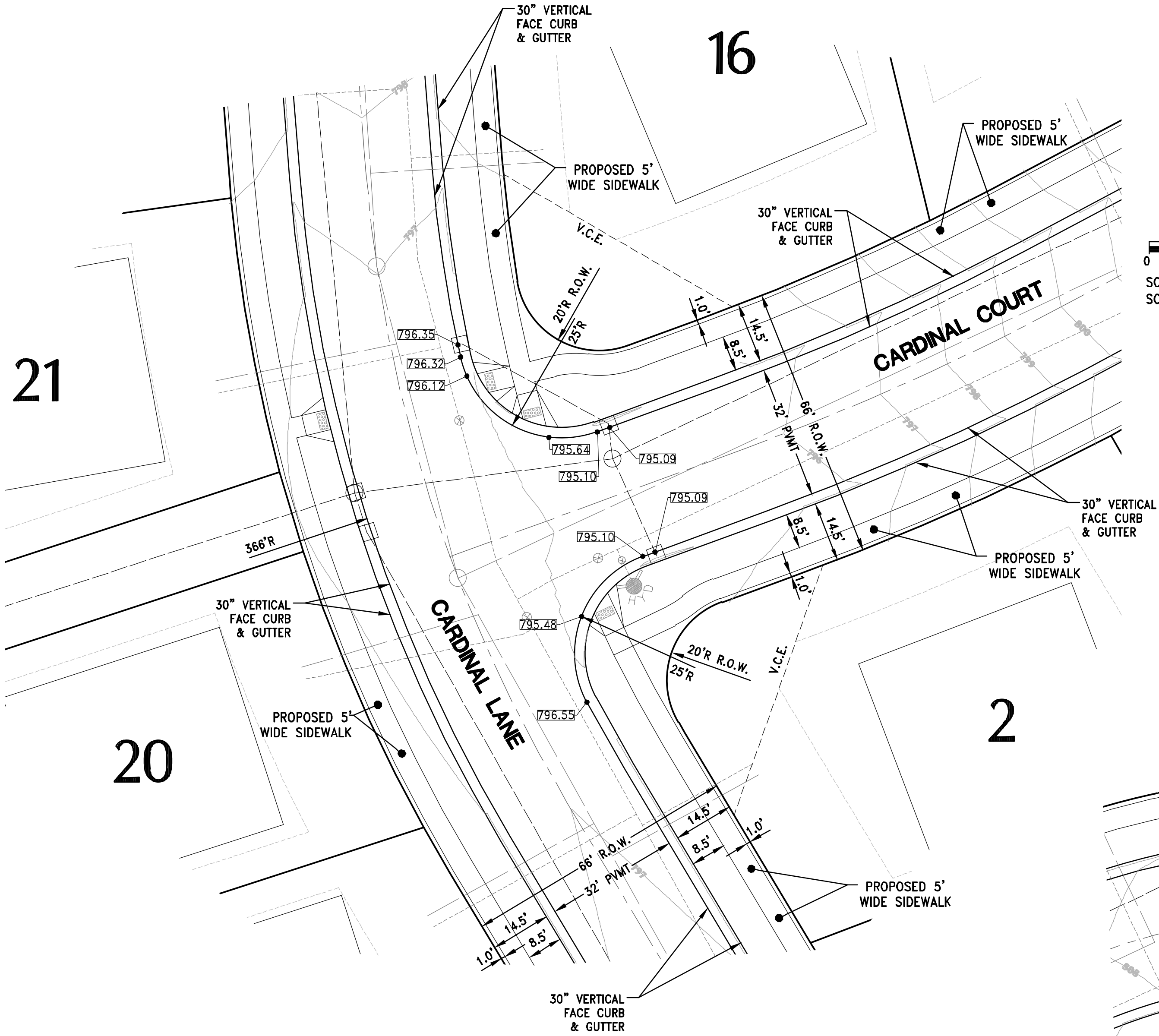
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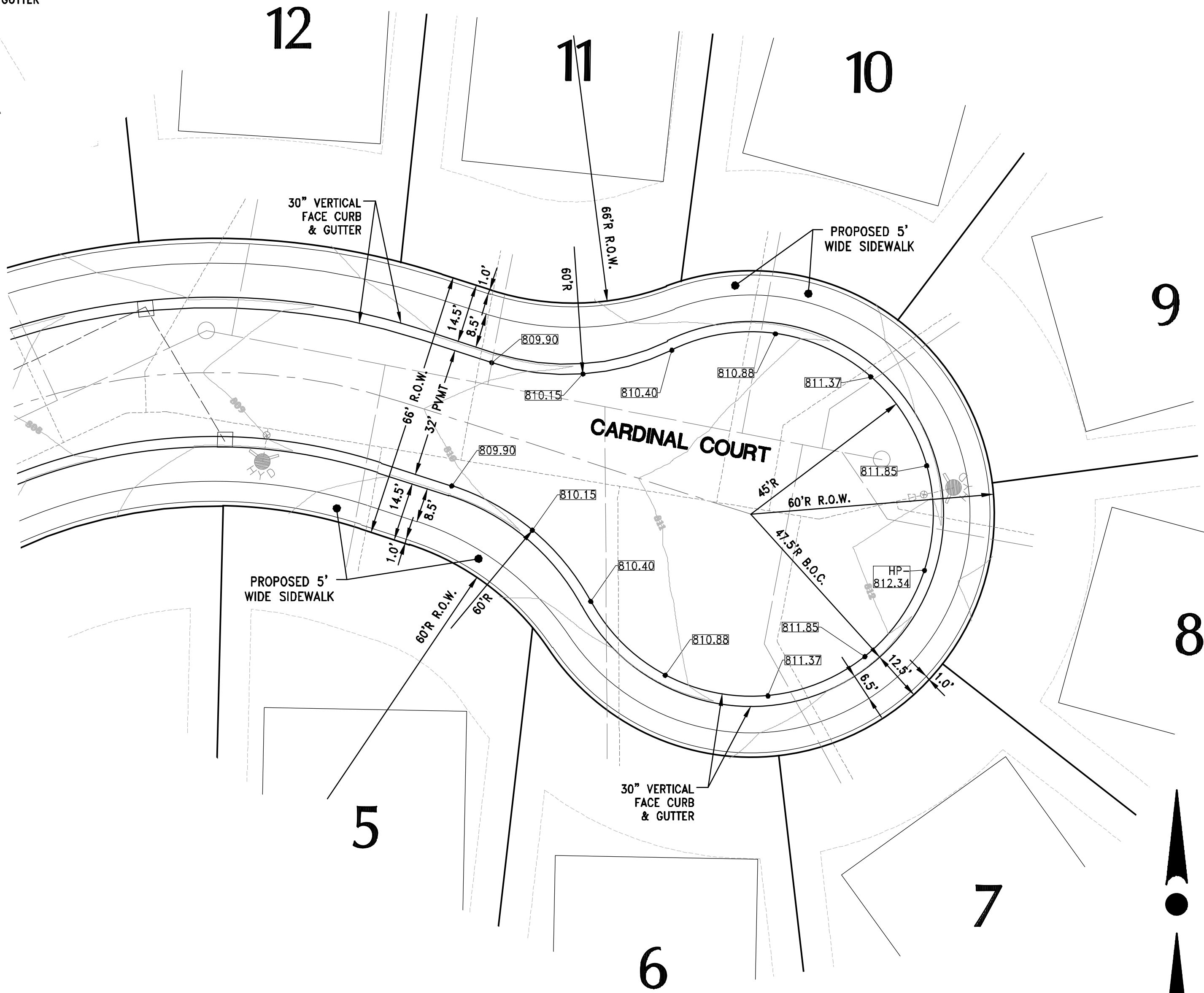


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SCALE: 1" = 40' (11"X17")



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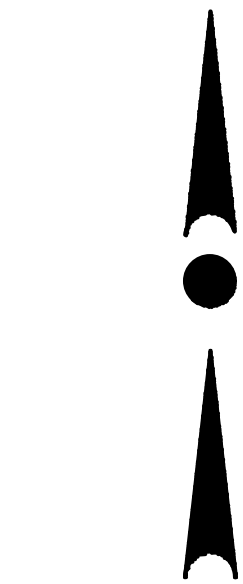
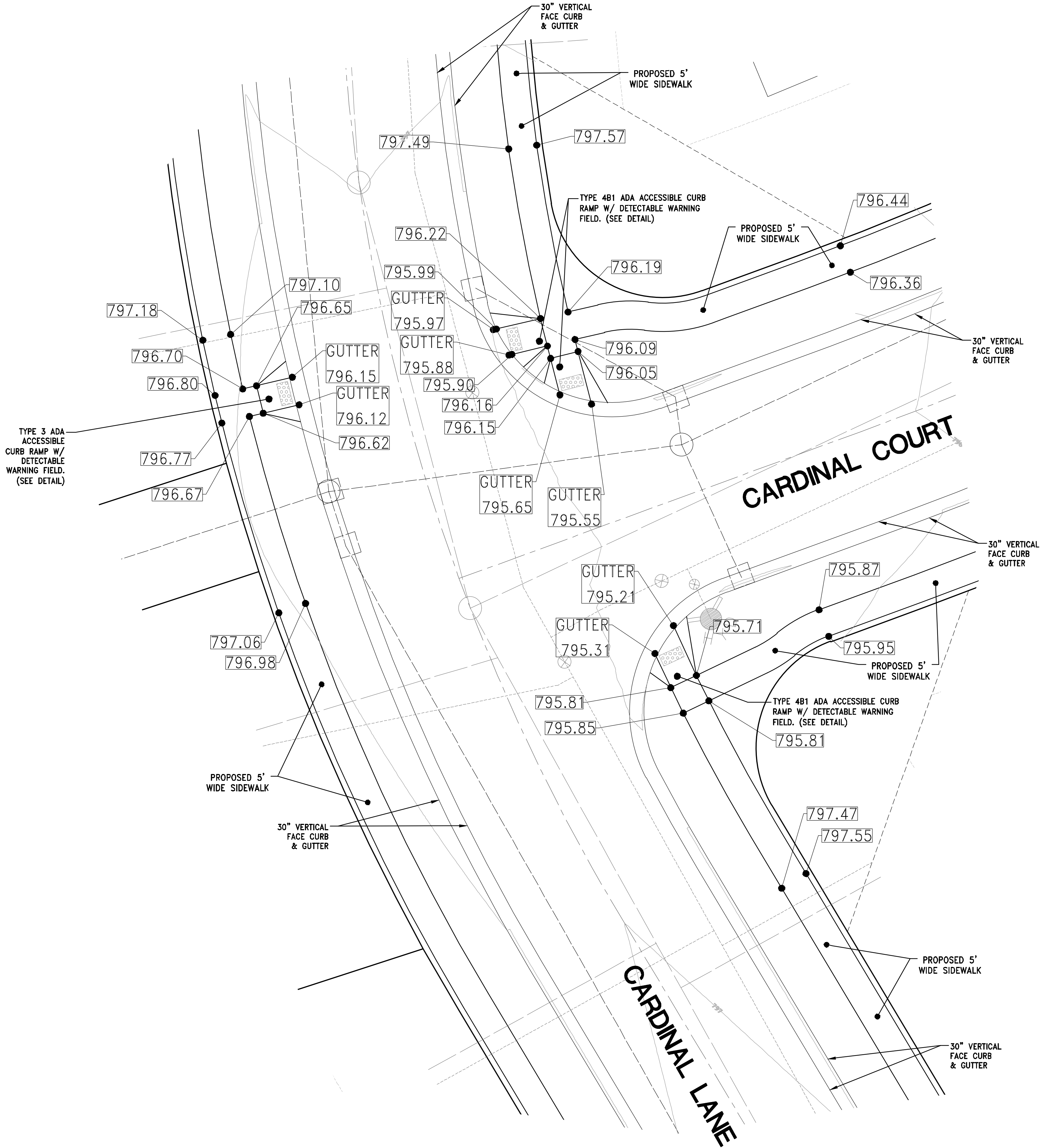
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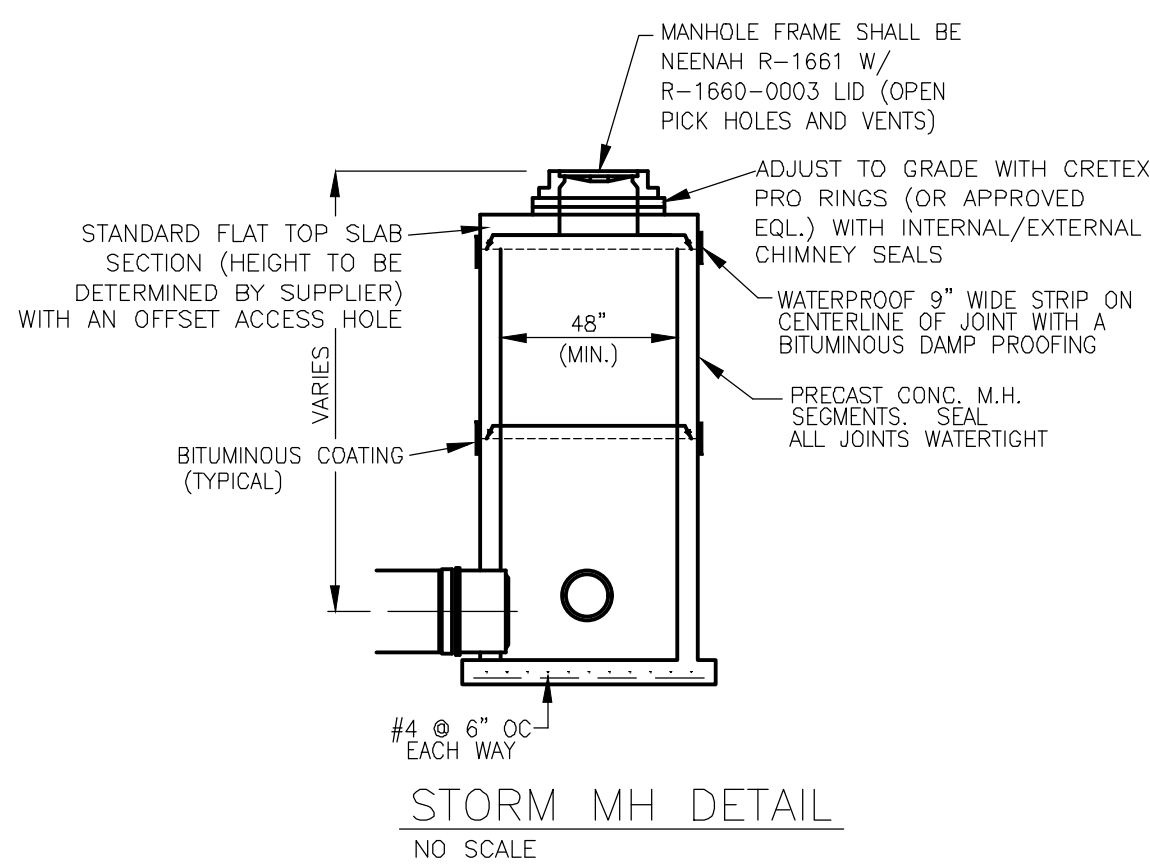
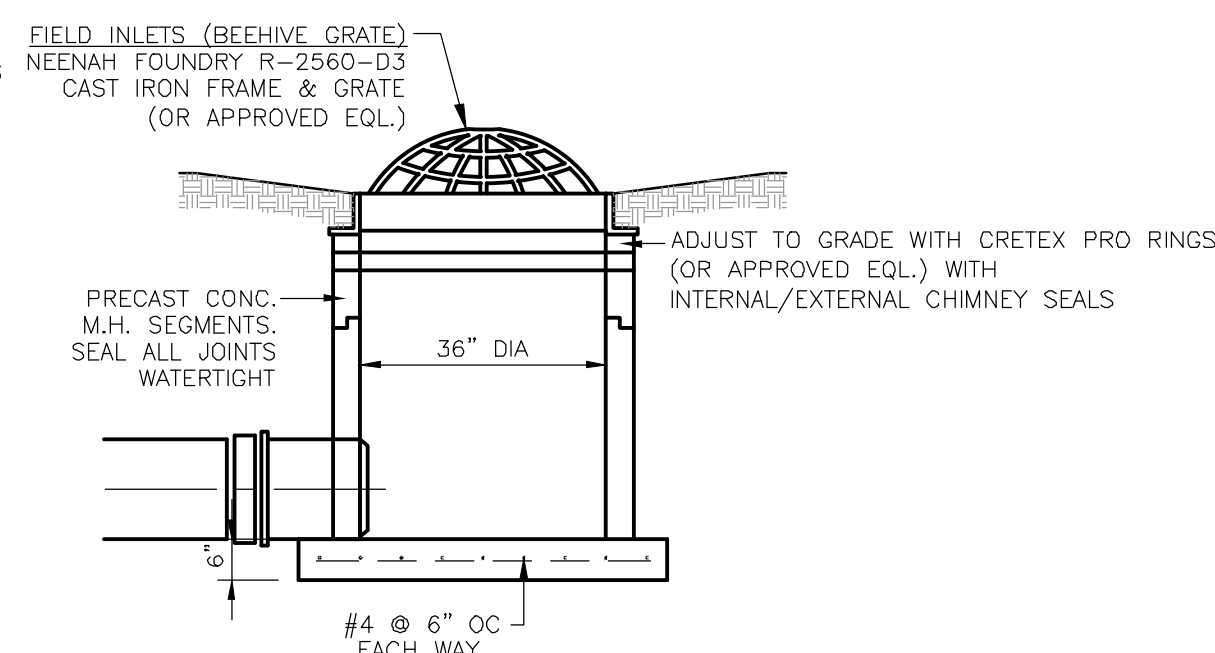
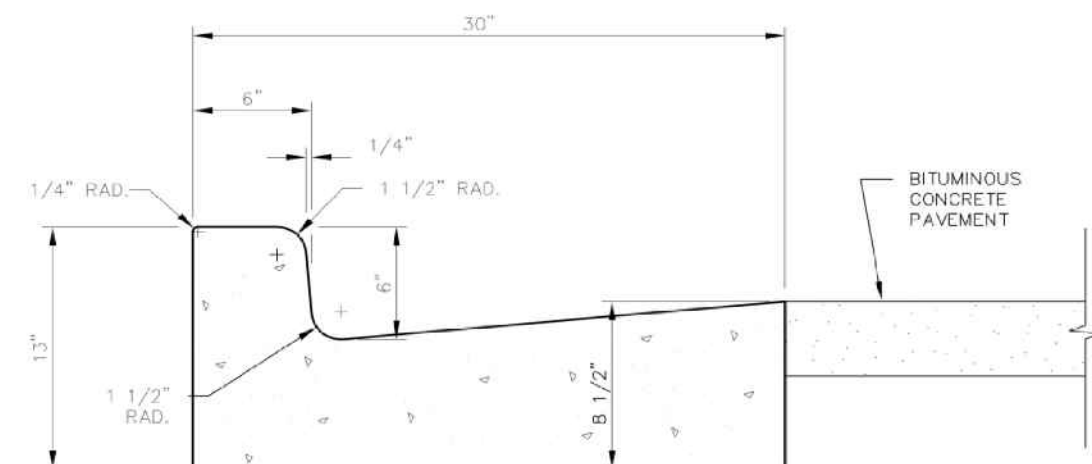
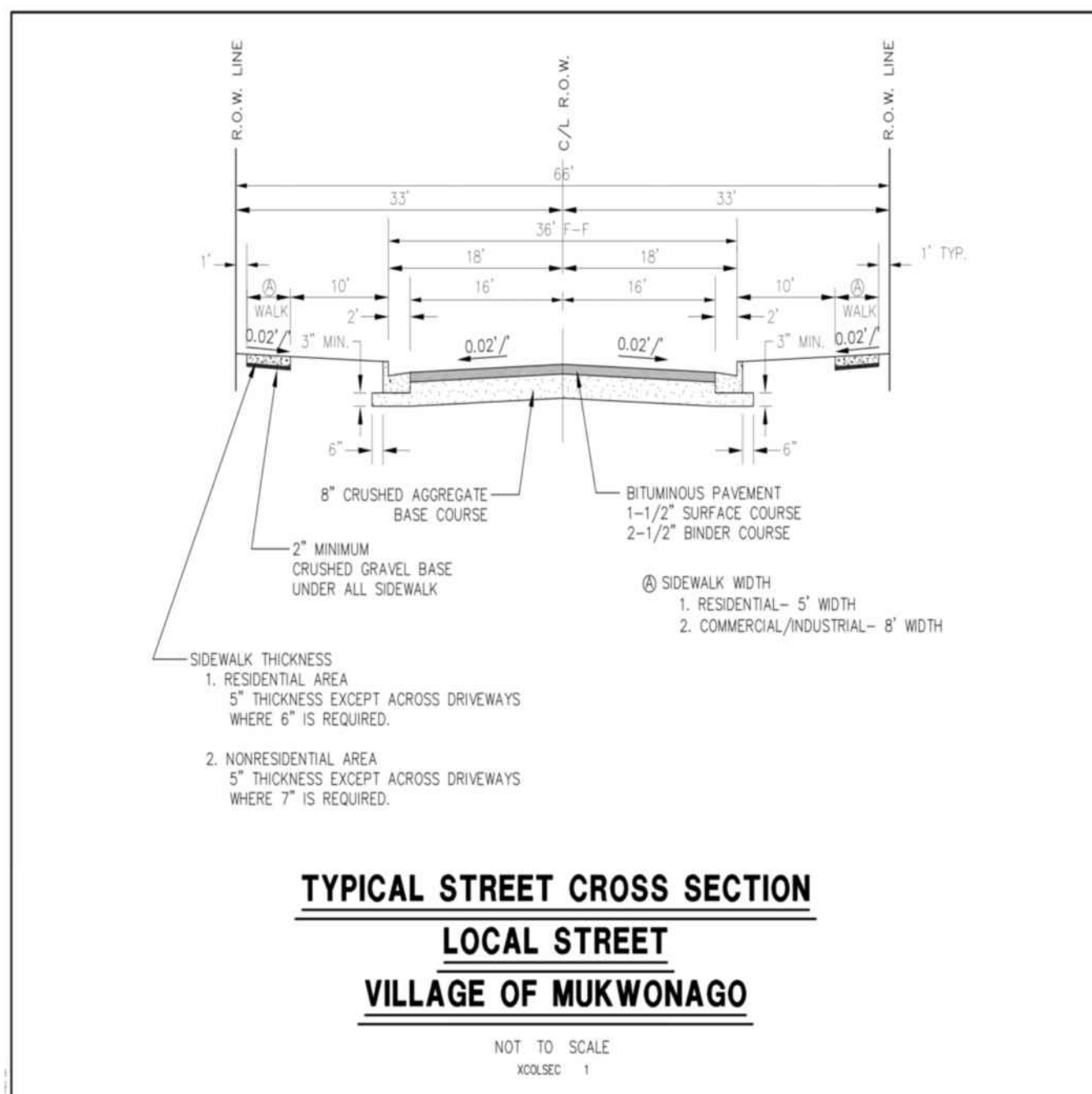
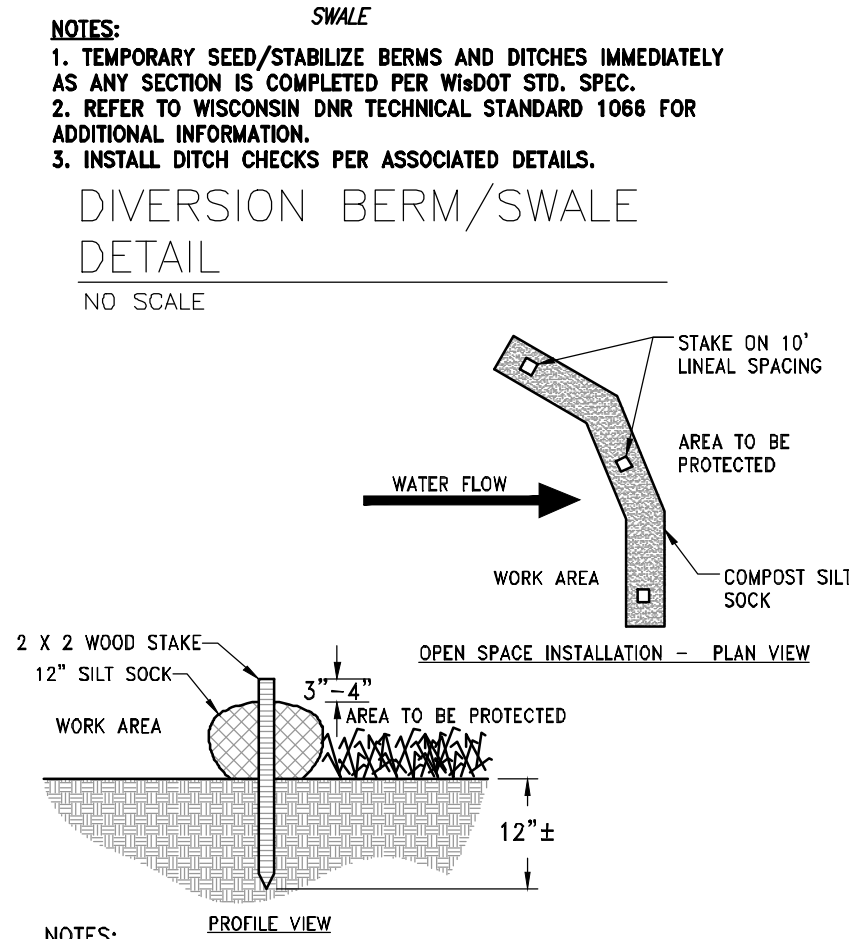
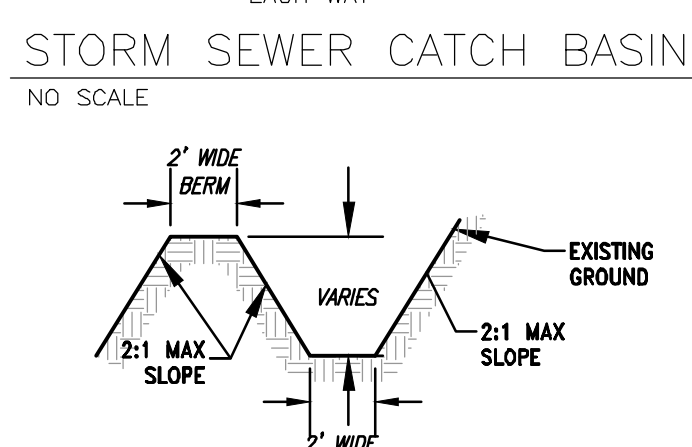
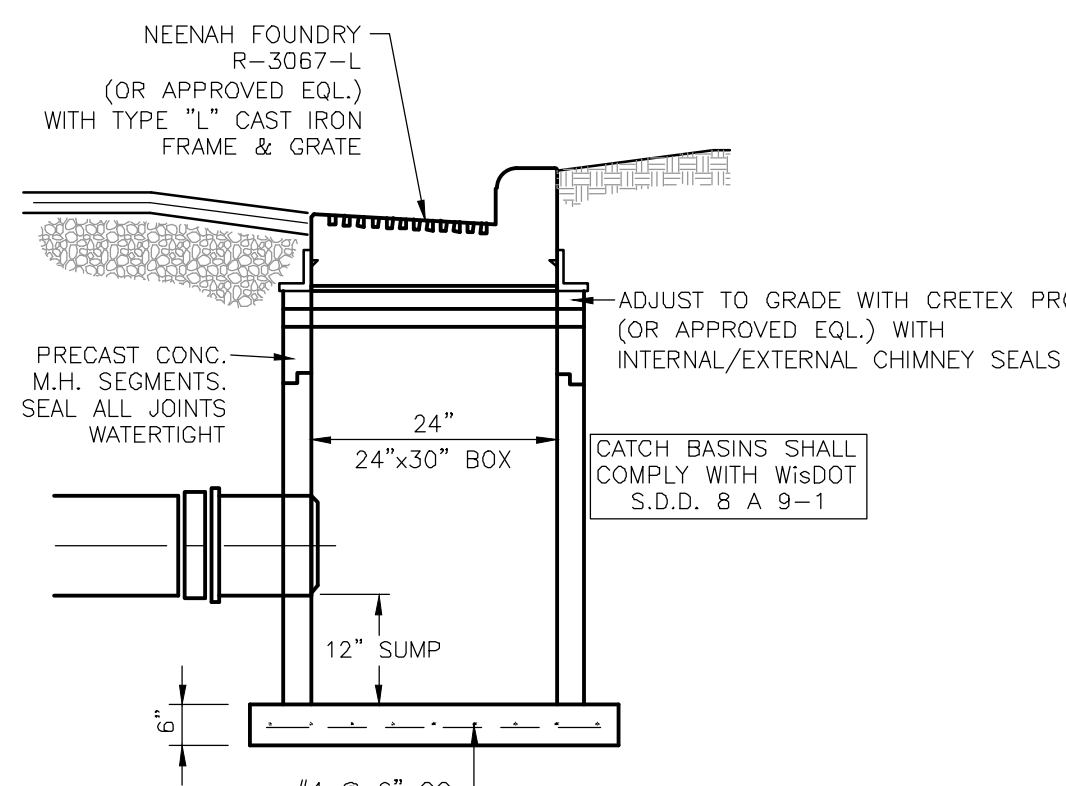
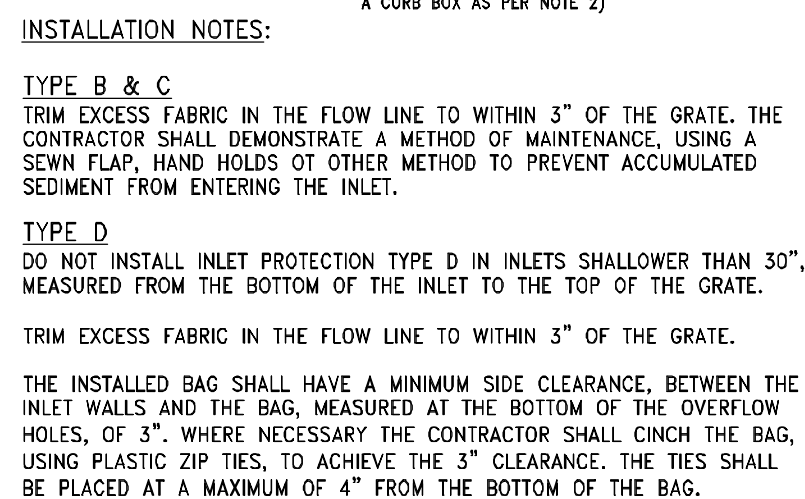
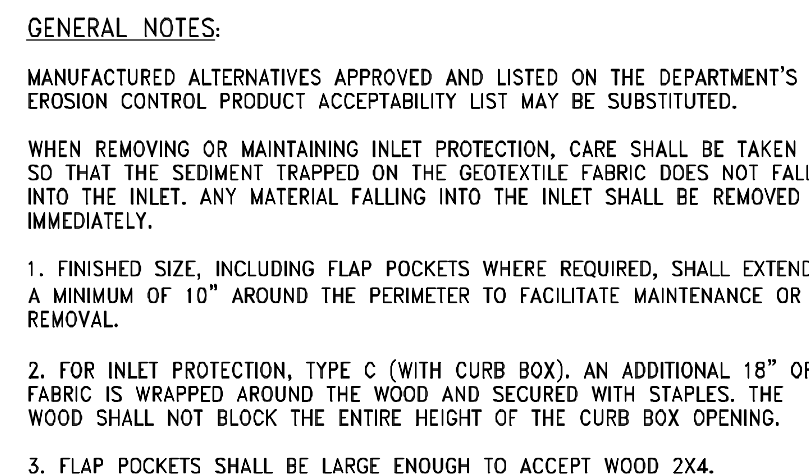
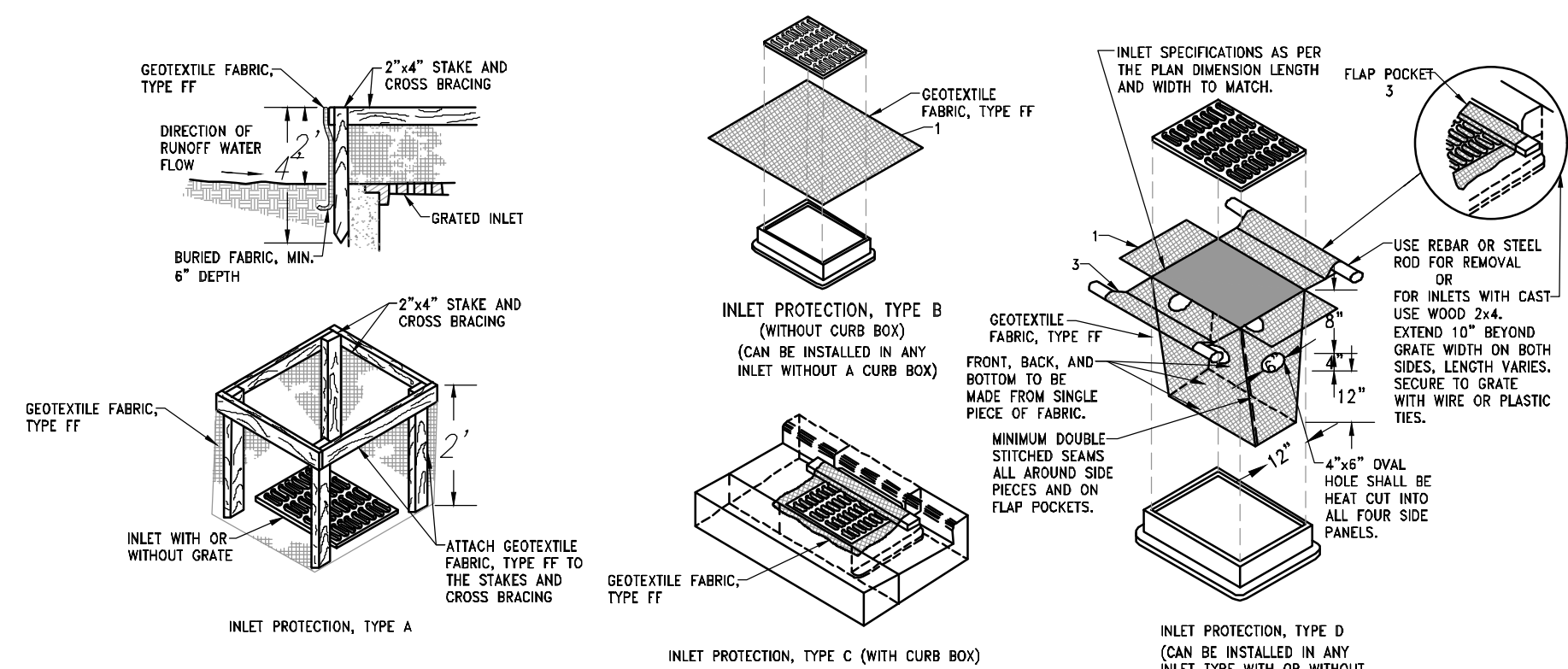
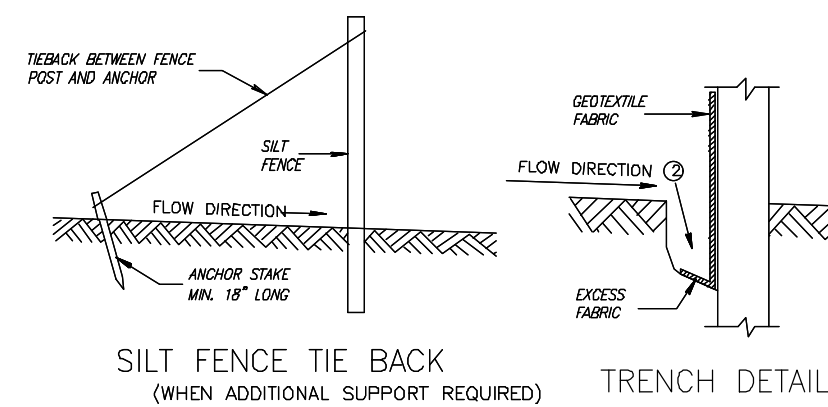
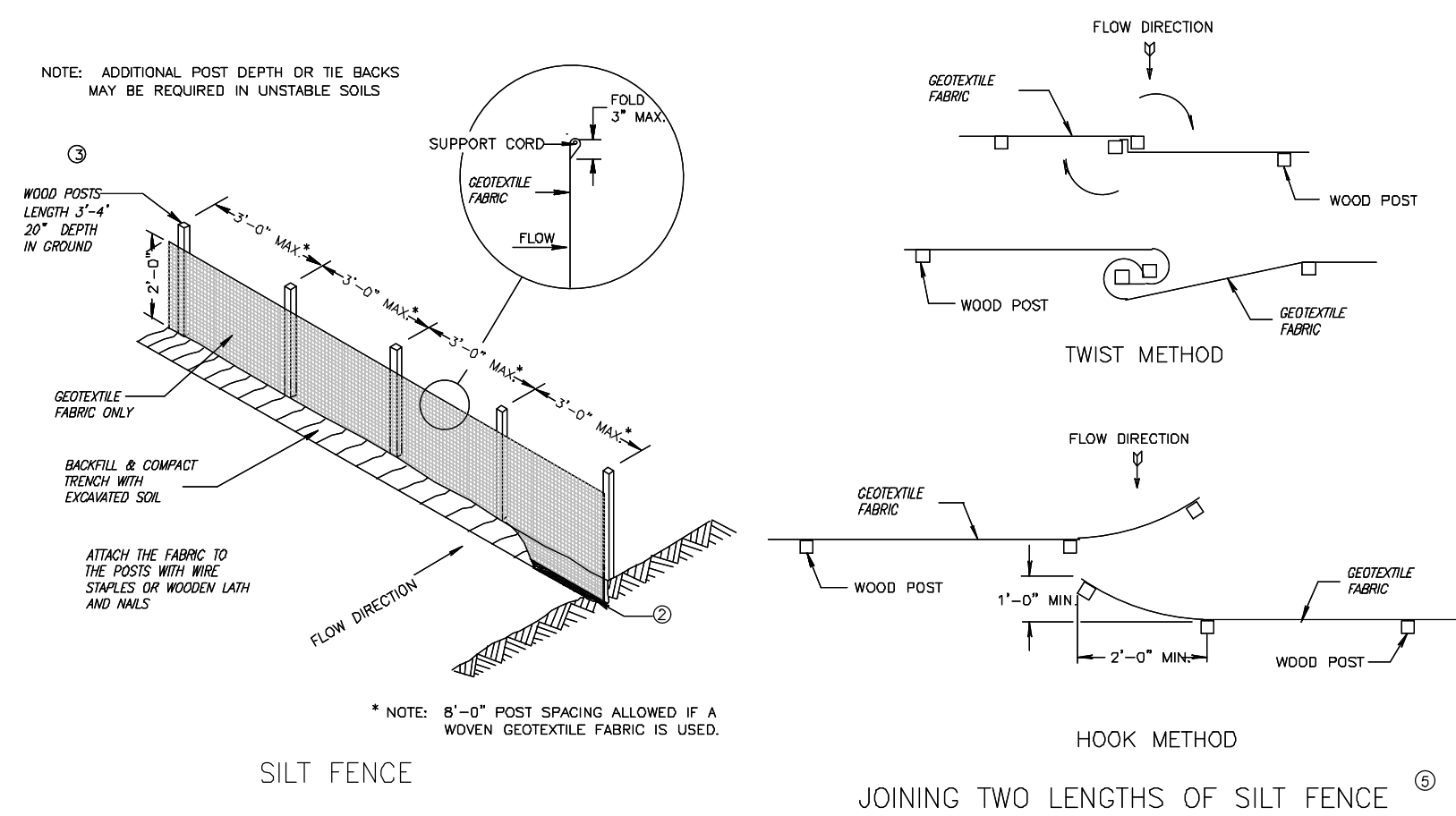
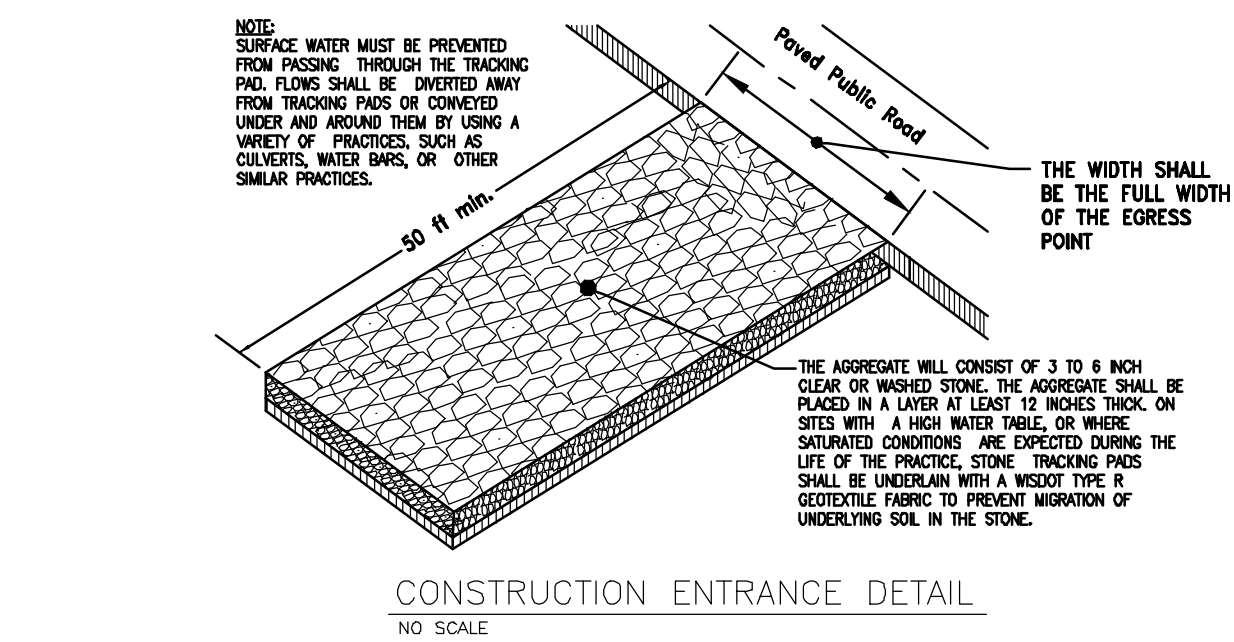
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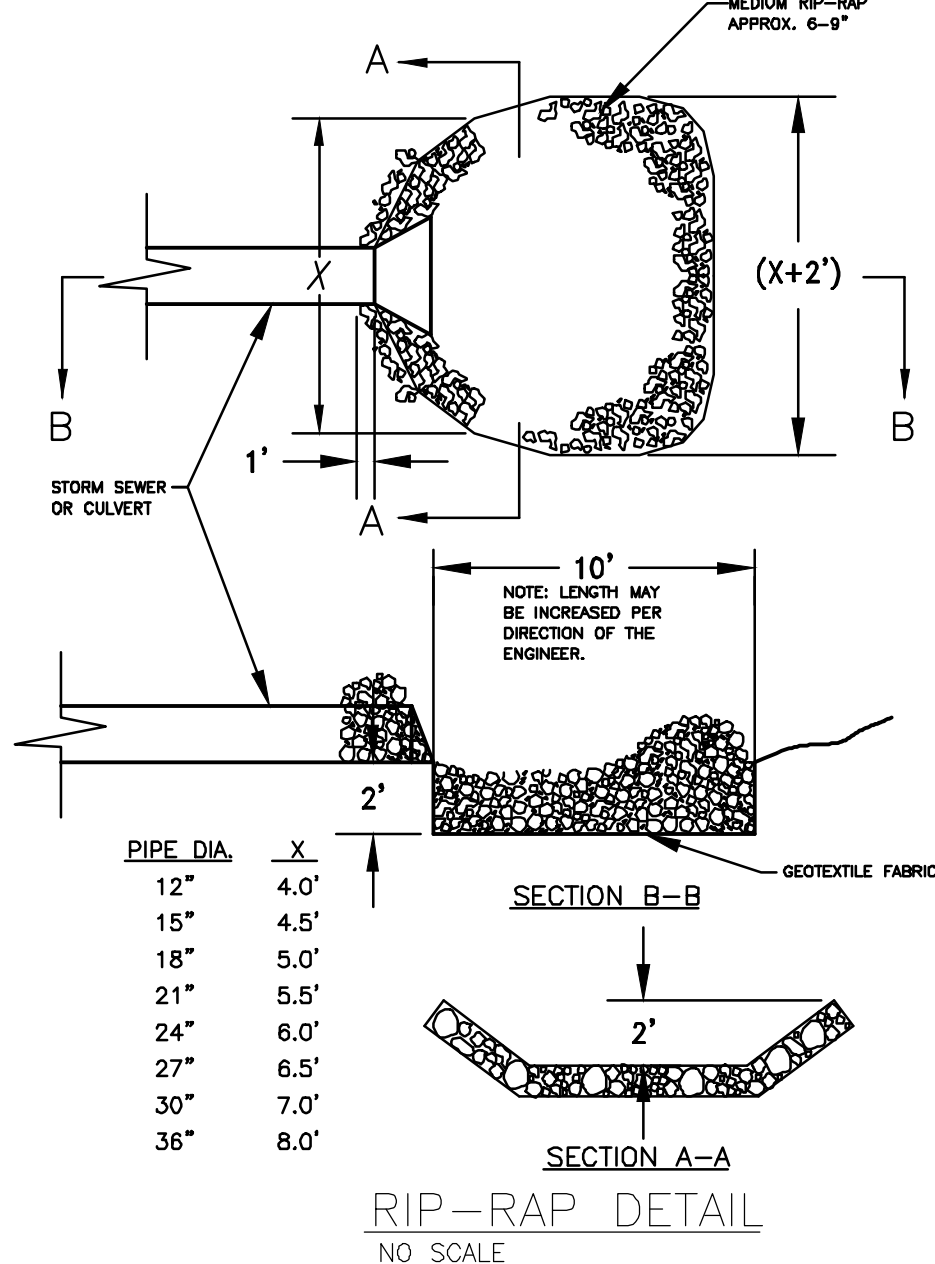
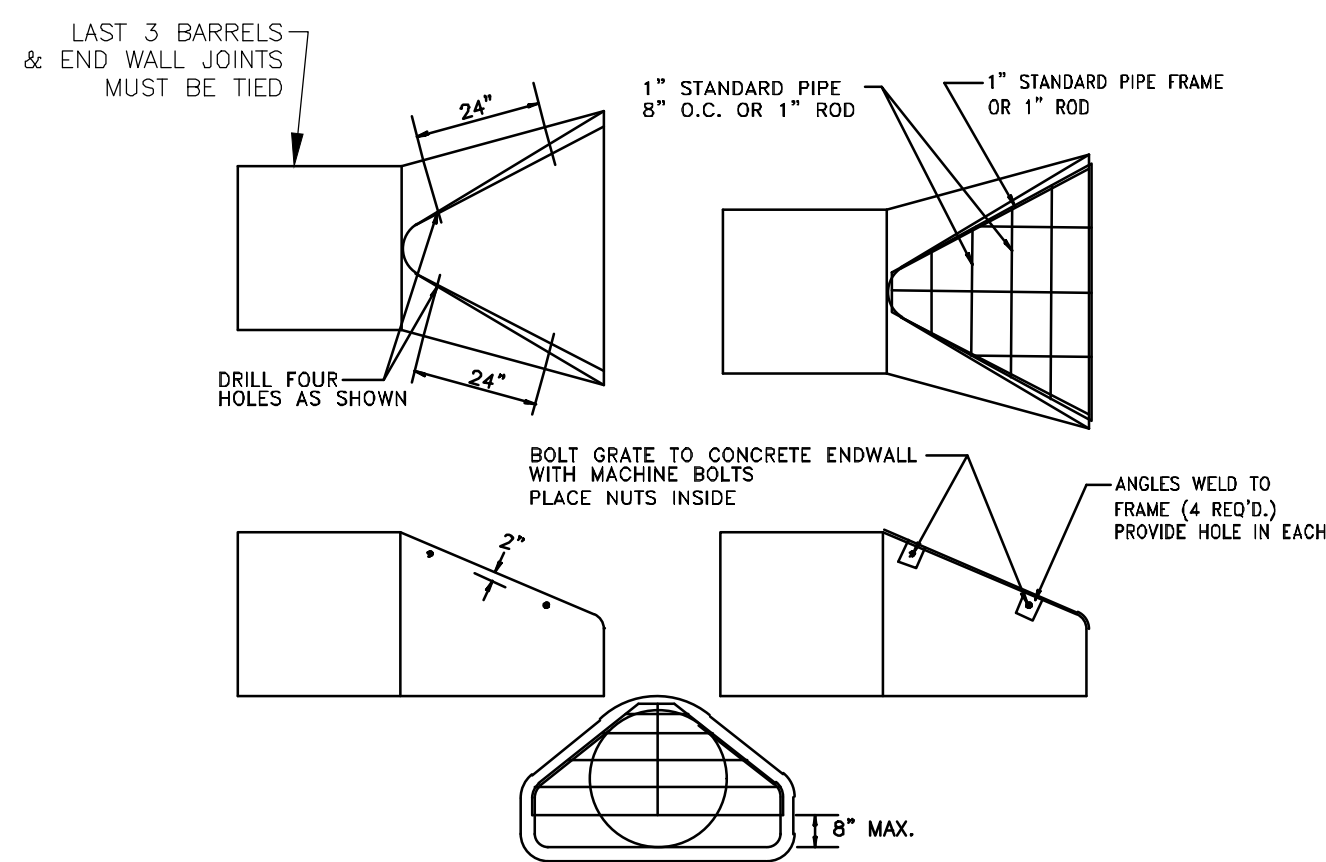
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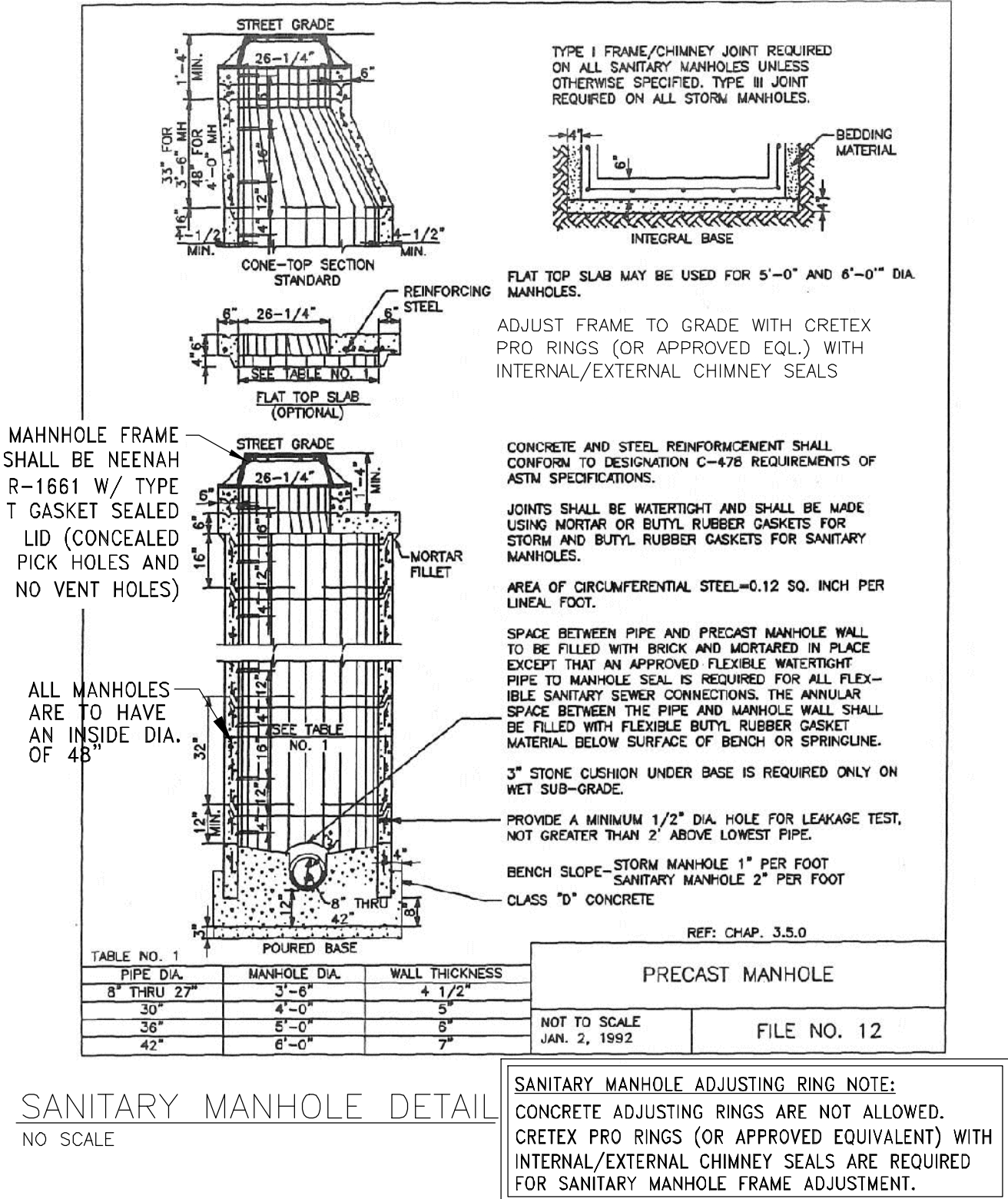
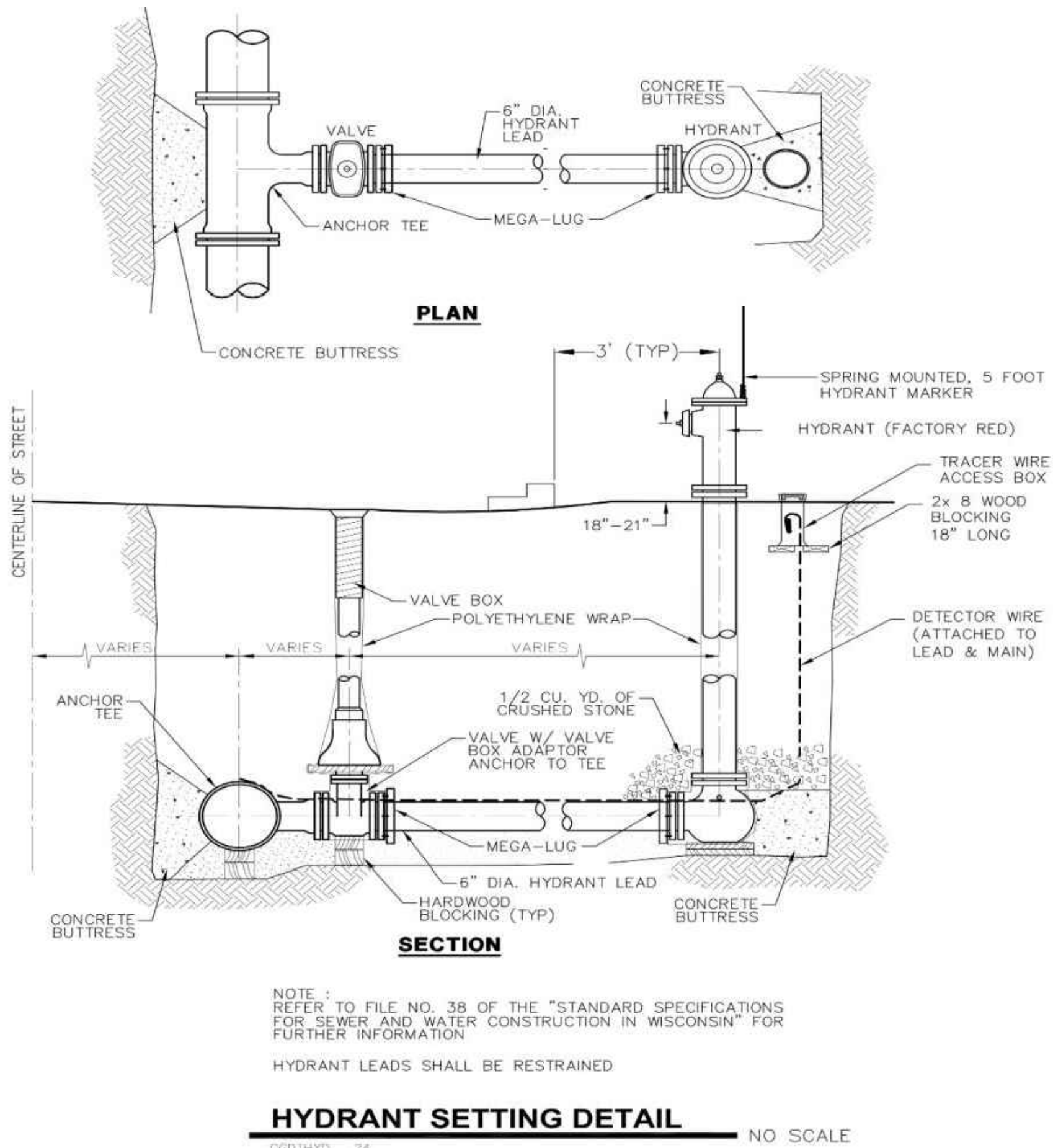
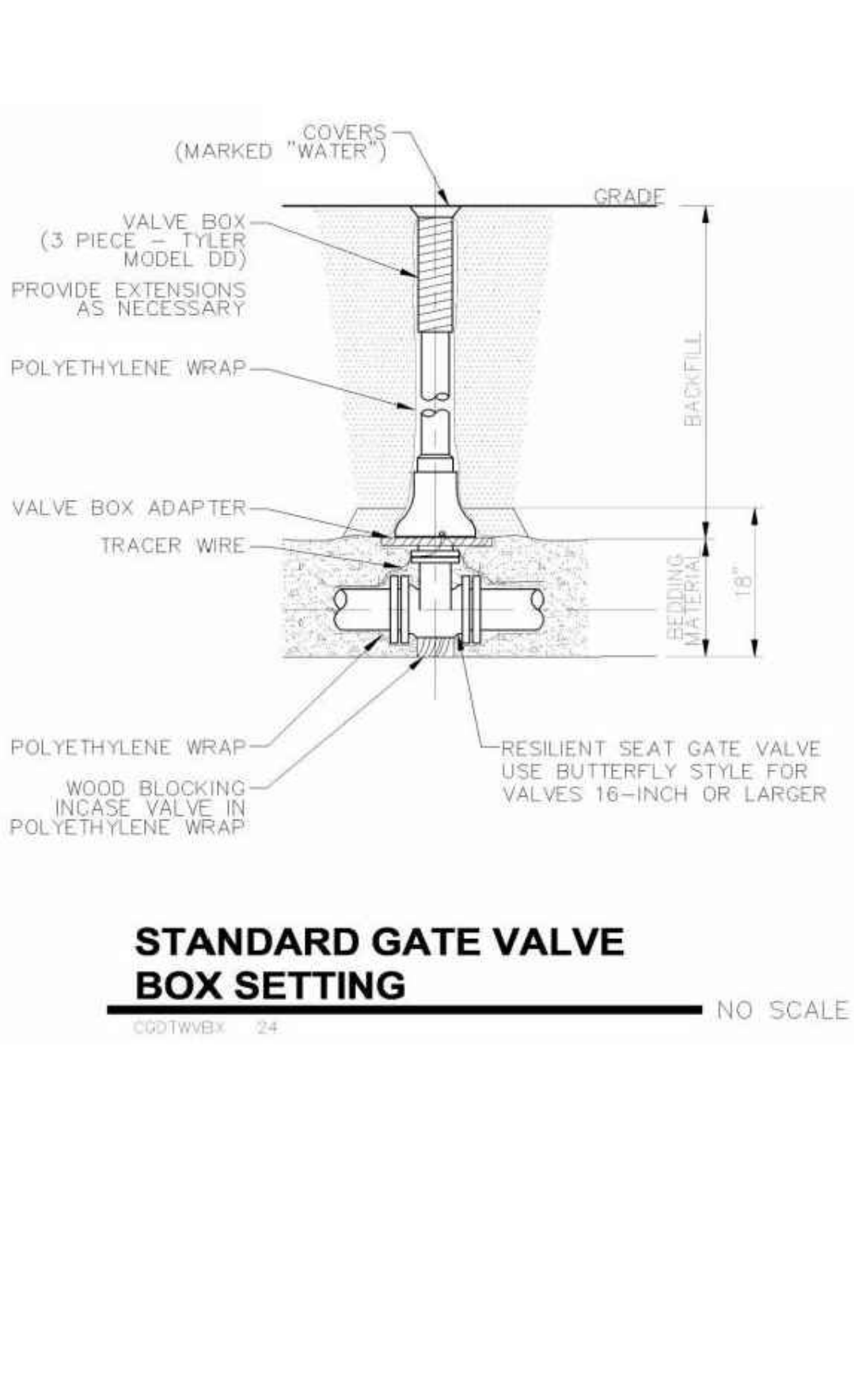
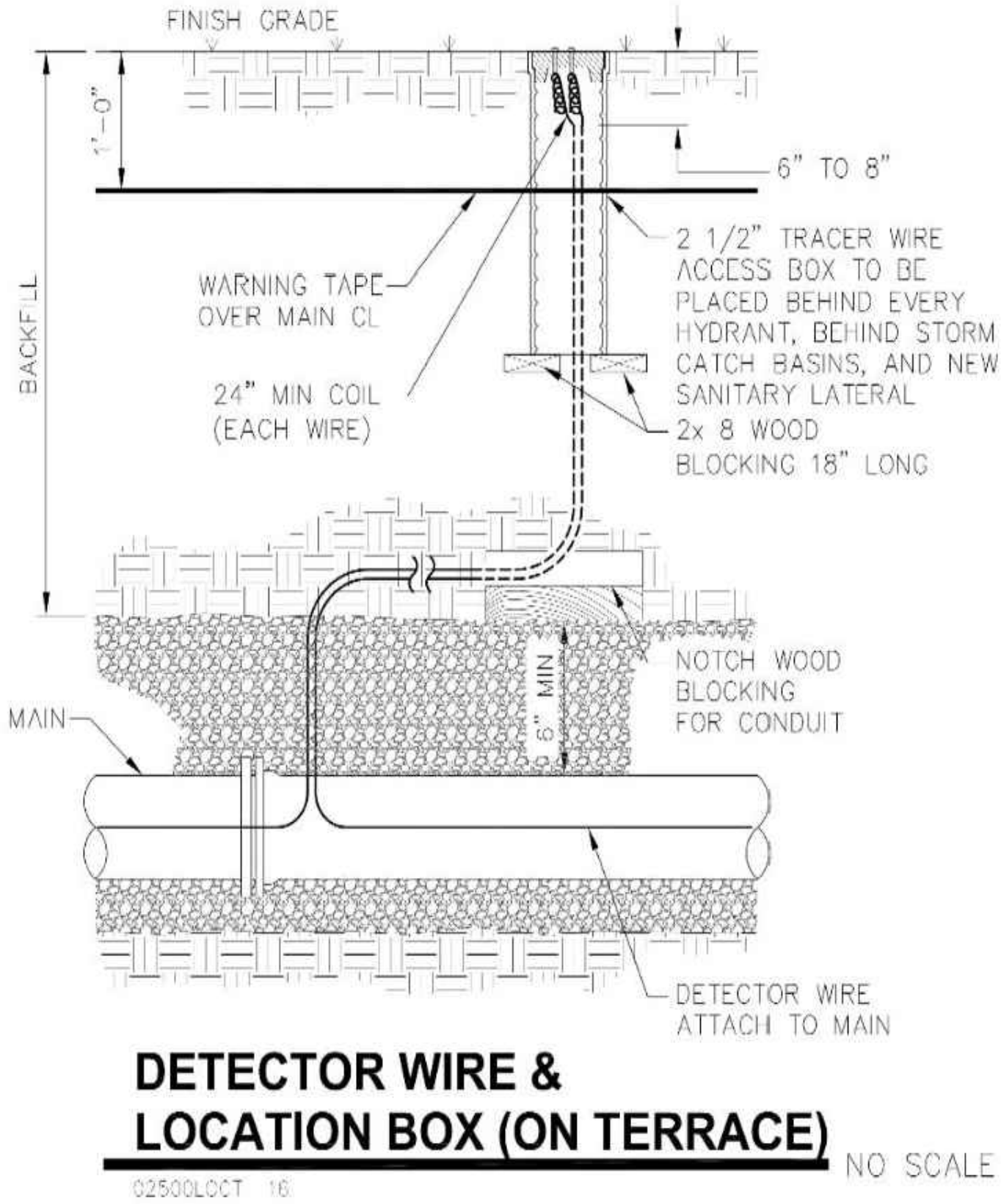


STORM STRUCTURE ADJUSTING RING NOTE:
CONCRETE ADJUSTING RINGS ARE NOT ALLOWED.
CRETEX PRO RINGS (OR APPROVED EQUIVALENT) ARE REQUIRED
FOR STORM SEWER MANHOLE & INLET FRAME ADJUSTMENT.



	
	
4100 N. CALHOUN RD., SUITE 300 BROOKFIELD, WI 53005 PHONE: (262) 790-1480 FAX: (262) 790-1481 EMAIL: info@trioeng.com	
PROJECT: CARDINAL RIDGE - PHASE 1 SINGLE FAMILY DEVELOPMENT VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN BY: NEUMANN DEVELOPMENTS, INC. N27W24025 PAUL COURT, SUITE 100 PEWAUKEE, WI 53072	
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DESCRIPTION: CONSTRUCTION NOTES & DETAILS	
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WATER MAIN CONSTRUCTION

ALL COMPONENTS IN THE WATER MAIN DESIGN AND CONSTRUCTION SHALL BE LEAD FREE.
ALL COMPONENTS SHALL BE AMERICAN MADE.

FOLLOW SWS PART IV AND DR 501, 505, 506, 510, 530, 540, 550, AND EXCEPT THAT BEDDING AND COVER MATERIAL SHALL BE CRUSHED STONE CHIPS.

PIPE

- ALL 6 THROUGH 12 INCH PVC PIPE FOR WATER MAIN SHALL BE AWWA C900, CLASS 150 PVC PRESSURE PIPE, DR 18 OR LESS.
- ALL PVC PIPE SHALL HAVE INTEGRAL ELASTOMERIC BELL AND SPIGOT JOINTS.
- STANDARD OR COMPACT MECHANICAL JOINT CAST IRON FITTINGS SHALL BE USED.
- ALL WATER MAIN WILL HAVE DETECTOR WIRE ATTACHED TO PIPE.

PIPE-WATERWAY CROSSINGS

- POLYETHYLENE PIPE MAY BE USED FOR WATERWAY CROSSINGS WITH NO TAPS WHEN APPROVED BY THE VILLAGE.
- WATER MAIN FITTINGS SHALL CONFORM TO SWS 8.22.0.
- BURIED JOINTS SHALL BE MECHANICALLY FASTENED, WHILE JOINTS IN STRUCTURES SHALL BE FLANGED.
- FULL BODY FITTINGS SHALL HAVE A PRESSURE RATING OF 250 PSI, AND COMPACT FITTINGS SHALL HAVE A RATING OF 350 PSI.
- DUCTILE IRON FITTINGS SHALL HAVE A CLASS 52 WALL THICKNESS WITH A BITUMINOUS EXTERIOR COATING PER ANSI/AWWA C110/A21.10.
- INTERIOR OF FITTINGS SHALL BE CEMENT LINED AND BITUMINOUS COATED PER ANSI/AWWA C104/A21.4.
- USE STANDARD STEEL BOLTS FOR FASTENING.
- REMOVE BEVELED PIPE END AT CONNECTIONS TO MECHANICAL JOINT OR FLANGED FITTINGS.
- BUTTRESS CONCRETE SHALL BE CLASS F, SWS 8.35.3, READY-MIXED.

TAPPING SLEEVE

- USE TAPPING SLEEVES WITH GATE VALVES 24-INCHES AND UNDER. USE SMITH BLAIR 662 OR FORD FAST-TAP WITH STAINLESS STEEL BOLTS AND A CARBON STEEL FLANGE.

VALVES

RESILIENT-SEATED GATE VALVES

- FOLLOW AWWA C-509 AND SWS 8.27.0. ALL VALVES LESS THAN 16 INCHES SHALL BE MUELLER OR WATEROUS RESILIENT SEAT GATE VALVES. VALVES SHALL HAVE NON-RIISING STEMS, ORING STEM SEALS, EPOXY COATING PER ANSI/AWWA C850, STAINLESS STEEL BOLTS, MECHANICAL JOINT ENDS, TURN COUNTERCLOCKWISE TO OPEN, AND A 2' SQUARE OPERATING NUT.

AIR RELEASE ASSEMBLIES

- NEED VERIFICATION FROM DNR, TO ALLOW BELOW-GRADE VENT(S) FOR OUR LOCATION(S).
- FOR ASSEMBLIES PLACED IN VALVE BOXES, FOLLOW SWS 4.12.0.
- FOR ASSEMBLIES PLACED IN VALVE VAULTS, FOLLOW SWS 4.11.0, EXCEPT PROVIDE HS20 LOAD-RATED FLAT TOP SLAB.

VALVE BOXES

- FOLLOW SWS 8.29.0. VALVE BOXES SHALL BE TYLER, MODEL 686DS, MODEL DD, WITH A COVER MARKED "WATER".
- EXTENSION SECTIONS SHALL BE FURNISHED IF VALVE IS GREATER THAN 8 FEET IN DEPTH.
- ALL WATER VALVES AND VALVE BOX (S) SHALL BE POLYWRAPPED.
- VALVE BOXES SHALL BE FURNISHED FOR THE DEPTH OF TRENCH SHOWN ON THE DRAWINGS WITH THE COVER PLACED AT THE PROPOSED GRADE OR TO THE ELEVATION SHOWN ON THE DRAWINGS. WATER VALVE BOXES SHALL BE SET 1/2" TO 3/4" BELOW ASPHALTIC BINDER COURSE GRADE UPON INITIAL INSTALLATION.
- VALVE STEM EXTENDER SHALL BE FURNISHED IF VALVE DEPTH IS GREATER THAN 8 FEET, EXTEND TO 4 FEET (PLUS OR MINUS 3 INCHES) BELOW FINISH GRADE. STEM EXTENDER SHALL BE STAINLESS STEEL OR EPOXY COATED IRON. STEM EXTENDERS 6 FEET OR LONGER SHALL BE A SOLID SHAFT. STEM SHALL HAVE A SPACER RING AT 3 INCHES BELOW OPERATING NUT AND BE FURNISHED WITH STAINLESS STEEL PINS AND BOLTS.
- ALL VALVE BOXES SHALL BE INSTALLED USING A VALVE BOX ADAPTOR. ADAPTORS SHALL BE THOSE MANUFACTURED BY ADAPTORS, INC. OR EQUAL.

- AT THE TIME OF ASPHALTIC SURFACE COURSE PLACEMENT, THE VALVE BOXES SHALL BE TURNED UP TO 1/4" TO 3/4" BELOW THE SURFACE COURSE ELEVATION. IF THE VALVES CANNOT BE TURNED UP, A RITE HITE OR RISER RINGS WILL BE ALLOWED TO MAKE THE ADJUSTMENT.
- VALVE BOXES SHALL NOT BE ASPHALT RAMPED.

HYDRANTS

STANDARD HYDRANT

- MUELLER CENTURION 4-423.
- SHALL BE NEW, MANUFACTURED WITHIN 24 MONTHS OF CONSTRUCTION AND STORED PROPERLY.
- SHALL HAVE A MECHANICAL JOINT CONNECTION, TURN LEFT TO OPEN, AND HAVE A 6 FOOT 6 INCH TRENCH DEPTH.
- SHALL BE BREAK-FLANGE TYPE, 5 1/4 INCH MAIN VALVE OPENING. SHALL HAVE 2 NATIONAL STANDARD 2 1/4 INCH HOSE NOZZLES.
- SHALL HAVE 5 INCH STORZ PUMPER NOZZLE.
- PUBLIC** HYDRANTS SHALL BE PAINTED FACTORY RED.
- PRIVATE** HYDRANT SHALL BE PAINTED FACTORY YELLOW.
- ALL HYDRANTS SHALL HAVE HYDRANT MARKERS. MARKERS SHALL BE SPRING MOUNTED 5 FOOT REINFORCED FIBERGLASS SHAFTS WITH ALTERNATING RED AND WHITE REFLECTORIZED COLORING.

BARREL EXTENSIONS

- SHALL BE USED WHERE NECESSARY TO SET THE HYDRANT TO THE REQUIRED ELEVATION.
- ONLY ONE (1) HYDRANT EXTENSION PER HYDRANT.
- SHALL BE COMPATIBLE WITH HYDRANT BARREL AND STEM EXTENSIONS.
- THE DISTANCE FROM FINISH GRADE TO THE CENTERLINE OF THE LOWEST NOZZLE SHALL BE FROM 18 TO 23 INCHES.

HYDRANT LEADS AND ANCHORING TEE

- LEADS SHALL BE SIX (6) INCH PVC AWWA C900 PRESSURE CLASS 150.
- HYDRANT LEADS SHALL USE TWO (2) MEGA-LUGS, ONE ON THE HYDRANT AND ONE ON THE HYDRANT VALVE.
- MEGA-LUGS SHALL BE OF THE TYPE CORRESPONDING TO THE PIPE. ABAA IRON, INC.
- PROVIDE CLOW F1217 OR TYLER C-153 ANCHORING TEE WHICH SHALL BE SECURED TO THE HYDRANT.
- AT LEAST ONE (1) CONTINUOUS LENGTH OF PIPE SHALL BE USED BETWEEN HYDRANT AND VALVE. IF LENGTH BETWEEN VALVE AND HYDRANT IS GREATER THAN 20 FEET, ALL JOINTS SHALL BE RESTRAINED IN MANNER APPROVED BY THE VILLAGE OF MUKWONAGO UTILITIES DEPARTMENT.
- ALL BARRELS SHALL BE POLYETHYLENE WRAPPED WITH TAPE.

HYDRANT PLACEMENT

- SHALL BE LOCATED A MINIMUM DISTANCE AWAY FROM BUILDINGS OF 1.5 TIMES THE HEIGHT OF NEAREST BUILDING WALL.
- SHALL BE LOCATED 350 FEET APART (RESIDENTIAL DISTRICTS) AND 300 FEET APART IN (COMMERCIAL, INDUSTRIAL AND MULTI-FAMILY DISTRICTS) OR OTHER APPROVED DISTANCES BY THE UTILITY.
- SHALL BE LOCATED A MINIMUM HORIZONTAL DISTANCE OF 10 FEET FROM ALL DRIVEWAY APPROACHES AND STREET LIGHTS, UTILITY POLES, AND PEDESTALS.
- IF HYDRANT SHOE IS BELOW WATER TABLE, PROVIDE HYDRANT WITH PLUGGED WEEP HOLES.
- HYDRANT'S SHALL BE SUPPORTED UPON A PRECAST CONCRETE OR HARDWOOD BLOCK.
- EACH HYDRANT SHALL BE BRACED AGAINST THE FAR END OF THE TRENCH BY A POURED CONCRETE BUTTRESS. DO NOT BLOCK/COVER WEEP HOLE.
- WHERE A HYDRANT IS SET IN SOIL THAT ALLOWS DRAINAGE, DRAINAGE SHALL BE PROVIDED AT THE BASES OF THE HYDRANT BY PLACING CRUSHED STONE FROM THE BOTTOM OF THE TRENCH TO AT LEAST SIX (6) INCHES ABOVE WASTE OPENING IN THE HYDRANT AND TO A DISTANCE OF ONE (1) FOOT AROUND THE BASE ELBOW.
- WHERE A HYDRANT IS SET IN CLAY, ROCK, OR OTHER IMPERVIOUS SOIL, A DRAINAGE PIT TWO (2) FEET IN DIAMETER AND THREE (3) FEET DEEP SHALL BE EXCAVATED BELOW EACH HYDRANT BASE AND FILLED WITH COMPACTED CRUSHED STONE. STONE SHALL BE PLACED UNDER AND AROUND THE ELBOW AND CONCRETE BASE TO A LEVEL OF SIX (6) INCHES ABOVE THE WASTE OPENING. NO DRAINAGE SYSTEM SHALL BE CONNECTED TO A SANITARY SEWER.

HYDRANT ASSEMBLY COST

- THE COST OF HYDRANT ASSEMBLIES SHALL INCLUDE THE COST OF FURNISHING AND INSTALLING HYDRANT, BARREL EXTENSION, GATE VALVE, VALVE BOX, FITTINGS, RESTRAINT, SIX (6) INCH LEAD, STORZ NOZZLE, AND LOWERING OF HYDRANT, IF REQUIRED.

WATER SERVICES

- ALL SERVICES TWO (2) INCH OR SMALLER SHALL BE DR9 HDPE (CTS) WITH A MINIMUM INSIDE DIAMETER OF 1 1/4 INCH.
- CORPORATION STOPS. USE MUELLER B-25008 OR FORD FB1001. SHALL WITHSTAND A 150 PSI PRESSURE TEST.
- CURB VALVES. USE MUELLER H15155 OR FORD B44M. SHALL WITHSTAND A 150 PSI PRESSURE TEST.
- COMPRESSION FITTINGS WITH STAINLESS STEEL STIFFENERS SHALL BE USED FOR CORPORATION STOPS AND CURB VALVES.
- FOR 2 1/4 INCH AND LARGER SERVICES, FOLLOW SWS PART IV AND V. PROVIDE TEE CONNECTION WITH ANCHOR VALVE MEGA LUGGED TO IT. PROVIDE PLUG AND BUTTRESS.
- USE TEFLON TAPE OF TEFLON PASTE ON THREADED JOINTS.

CURB BOXES

- SHALL BE TYLER 101F WITH FOUR (4) FOOT HEAVY-DUTY ROD WITH GUIDE RING AND STAINLESS STEEL BOLTS
- SHALL BE SCREW-ON STYLE.
- USE VALVE STEM EXTENDERS.
- SHALL BE PLACED ON THE RIGHT OF WAY LINE IN LAWN AREA, NOT IN AN EXISTING OR PROPOSED DRIVEWAY APPROACH.
- ALL CURB STOPS, LATERALS, AND HYDRANTS SHALL BE A MINIMUM OF 10 FEET FROM THE APPROACH.

INSTALLATION AND PLACEMENT

- NO WATER SERVICE SHALL BE LAID THROUGH ANY TRENCH HAVING CINDERS, RUBBISH, ROCK, OR ANY OTHER MATERIAL WHICH MAY CAUSE INJURY TO OR DISINTEGRATION OF THE SERVICE PIPE, UNLESS ADEQUATE MEANS OF PROTECTION ARE PROVIDED BY SAND FILLING OR SUCH OTHER INSULATION AS MAY BE APPROVED BY THE VILLAGE.
- SERVICE PIPES PASSING THROUGH CURB OR RETAINING WALLS SHALL BE ADEQUATELY SAFEGUARDED BY PROVISION OF CHANNEL SPACE OR PIPE CASING, NOT LESS THAN TWICE THE DIAMETER OF THE SERVICE CONNECTION. THE SPACE BETWEEN THE SERVICE PIPE AND CHANNEL OR PIPE CASING, SHALL BE FILLED AND LIGHTLY CAULKED WITH OAKUM, MASTIC CEMENT, OR OTHER RESILIENT MATERIAL, AND MADE IMPERVIOUS TO MOISTURE.
- PRESSURE TEST WATER MAIN SECTIONS BEFORE INSTALLING SERVICES TWO (2) INCH AND SMALLER, FOLLOWING SWS 4.15.0
- ALL WATER SERVICES SHALL BE WET TAPPED UNDER NORMAL OPERATING SYSTEM PRESSURE. USE DOUBLE-STRAP PVC TAPPING SADDLE FOR SERVICE LINES TWO (2) INCH AND SMALLER. USE FORD FS202 OR 303, OR SMITH-BLAIR 377 OR 372.
- ALL SERVICES SHALL BE INSTALLED A MINIMUM OF TEN (10) FEET FROM EXISTING OR FUTURE DRIVEWAY LOCATIONS.
- ALL NEW SERVICES SHALL EXTEND TEN (10) FEET BEYOND RIGHT OF WAY LINE.
- ALL WATER SERVICES ARE TO BE CENTERED ON THE LOT AS CLOSE AS PRACTICAL (WITHIN FIVE (5) FEET OF CENTER).
- ALL SERVICES SHALL BE STAKED PRIOR TO CONSTRUCTION.
- PROVIDE A TWO (2) BY SIX (6) INCH HARDWOOD MARKER AT END OF SERVICE FROM INVERT OF SERVICE TO TWO (2) FEET ABOVE FINISHED GRADE.
- ALL UNUSED WATER SERVICES SHALL HAVE THE CORPORATION STOP TURNED OFF AND THE SERVICE (AND ALL APPURTENANCES) REMOVED TO THE CORPORATION STOP.
- TEST SERVICES FOLLOWING SWS 5.5.18.

COVER DEPTH

- THE MINIMUM DEPTH OF COVER BETWEEN FINISH GRAD AND THE TOP OF THE WATER MAIN PIPE SHALL BE 6 FEET.
- NO WATER MAIN SHALL BE INSTALLED WITH MORE THAN 8 FEET OF COVER BELOW FINISH GRADE.

BEDDING AND COVER MATERIAL

- NO WATER SERVICE OR WATER MAIN SHALL BE LAID THROUGH ANY TRENCH HAVING CINDERS, RUBBISH, ROCK, OR ANY OTHER MATERIAL WHICH MAY CAUSE INJURY OR DISINTEGRATION OF THE PIPE.
- WATER MAIN BEDDING AND COVER MATERIAL SHALL BE CRUSHED STONE OR SAND. WATER VALVE BONNETS SHALL BE SET IN STONE ON WOOD BLOCKING.
- IF A WET TRENCH CONDITION EXISTS, THE WATER MAIN BEDDING AND COVER MATERIAL SHALL BE SUPPORTED BY 3' OF CRUSHED LIMESTONE CHIPS OR CRUSHED LIMESTONE SCREENINGS, CONFORMING TO CHAPTER 8.43.0, TABLES 32 AND 33 OF THE "SWS" AND PLACED AS SHOWN ON FILE NO. 36 OF THE "STANDARD SPECIFICATIONS".

TESTING

- HYDROSTATIC TESTING SHALL BE PERFORMED AS SPECIFIED IN CHAPTER 4.15.0 OF THE "SWS".....A VILLAGE REPRESENTATIVE MUST BE PRESENT AT ALL TIMES DURING THE TESTING PROCESS.
- IN A NEW DEVELOPMENT THE CONTRACTOR HAS THE OPTION TO TEST THE ENTIRE NEW WATER MAIN, INCLUDING



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
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PROJECT: CARDINAL RIDGE - PHASE 1

SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24-025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:

JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:

CONSTRUCTION
NOTES & DETAILS

SHEET

C6.1

PLAN COMMISSION STAFF REPORT

TO: Village of Mukwonago Plan Commission

FROM: Peter Gesch, P.E., Ruekert & Mielke, Inc.

REPORT DATE: August 5, 2024

MEETING DATE: August 12, 2024, 6:30 P.M.

SUBJECT: Mama Bear Catering – Conditional Use

BASIC INFORMATION	
Project:	Mama Bear Catering
Applicant:	Dana Kohlmann
Consulting Engineer:	N/A
Consulting Architect:	N/A
Request:	Conditional Use Permit
Staff Recommendation:	Approve with Conditions

PARCEL DATA/CHARACTERISTICS	
Tax Key:	MUKV2014988
Site Address:	225 Bay View Road, Suite 100
Acreage:	2.00 Acres
Current Use:	Vacant/For Lease
Proposed Use:	Catering Service
Reason for Request:	Opening a Catering Service
Land Use Classification:	Business
Zoning Classification:	B-2 – General Business

Project Summary & Overview

Mama Bear Catering plans to lease the 2,000 square foot area in Suite 100 at the above address. The space will be utilized as a commercial kitchen to support Mama Bear Catering's normal operations. The kitchen may be rented out to other catering cooks or food truck operators to prepare food and take off-site. No on-site food trucks will be serving food and no food service will occur out of the building. The applicant may also utilize the space for cooking classes in the future however exact plans have not yet been established.

The applicant will need to coordinate with the Fire Department and Building Inspection for proper fire protection.

~Mukwonago, Village of > 12-10215 > Mama Bear Catering > Staff Report-20240805-Mama Bear Catering-Conditional Use~

Conditional Use Request

Attached to this staff report is the justification questions for a Conditional Use Permit that have been answered by the applicant. The Planning Commission shall take these into consideration when making their decisions.

Conditional Use Process / Findings

The established review procedures are that the Plan Commission shall hold a public hearing and make a recommendation to the Village Board whom makes the final decision.

Following the close of the public hearing, the Plan Commission may recommend (1) approval, (2) approval with conditions, or (3) denial.

If approval is recommended, the Plan Commission can recommend conditions deemed necessary to protect public health, safety, and welfare. The Plan Commission, in passing on the matter, will need to make the following determinations consistent with Section 100-354 of Mukwonago's Zoning Regulations:

1. The establishment, maintenance or operation of the conditional use will not be detrimental to or endanger the public health, safety or welfare of the Village.
2. The uses, values and enjoyment of other property in the surrounding neighborhood that are already permitted shall be, in no foreseeable manner, substantially impaired or diminished by the establishment, maintenance or operation of the conditional use.
3. The establishment, maintenance or operation of the conditional use is compatible with surrounding properties, whether in the same or different zoning districts. In making this determination, the Plan Commission and Village Board must determine whether the petitioner has demonstrated there are no adverse effects on surrounding properties or that potentially adverse effects have been eliminated or reduced to an acceptable level. Approaches that could be employed to mitigate potentially adverse effects will depend on the particular circumstances but may include:
 - a. Adjusting the location of the use, or parts thereof, on the subject property;
 - b. Limiting hours of operation;
 - c. Limiting the size or scope of the use, or parts thereof;
 - d. Controlling how the use is managed on an ongoing basis;
 - e. Providing additional landscaping;
 - f. Providing additional screening; and
 - g. Limiting operations conducted out-of-doors, if otherwise allowed
4. The establishment of the conditional use will not impede the normal and ordinary development and improvement of the surrounding property for uses permitted within the district and/or which are consistent with the standards in the Comprehensive Plan.
5. Adequate utilities, access roads, drainage and other necessary site improvements have been or are being made to accommodate the use.
6. Adequate measures have been taken or will be taken providing ingress and egress to minimize traffic congestion on public streets so as not to diminish the level of service of any intersection which is impacted by traffic arising from the conditional use.

In addition, the property owner / tenant has shown compliance with the requirements set forth in the Village's zoning regulations for specified use.

~Mukwonago, Village of > 12-10215 > Mama Bear Catering > Staff Report-20240805-Mama Bear Catering-Conditional Use~

The Village Board will carefully review the recommendation of the Plan Commission and concurs with the Plan Commission's findings set forth above, provided the conditional use is operated pursuant to the conditions of approval set forth in this order.

These findings are incorporated into the draft conditional use order which is attached.

The Plan Commission shall approve a conditional use application if the terms and conditions of the zoning regulations are met. However, in the event the terms and conditions of the ordinance are not consented to and complied with by the applicant, the Commission may deny the application. In addition, the Commission may deny the application or place conditions on it if substantial evidence, as defined in §62.23(7) Wis. Stats. is presented. That evidence must demonstrate the inability of the applicant to comply with or meet the conditions of the zoning regulations or that the conditions to be applied by the Plan Commission are necessary to protect the public health, safety or welfare of the community based upon the presentation of substantial evidence. Potential motion for approval to Recommend to the Village Board approval of the project as a conditional use as set forth in the attached conditional use order as drafted, provided the Village Attorney approves the final form of the conditional use order.

Staff Review

Engineering:	No Comments
Public Works	No Comments
Utilities	No Comments
Police	No comments
Fire:	Will coordinate with applicant for fire protection and detection needs.
Building Inspection	Will coordinate with applicant as needed through the application process.
Planning	No comments

Recommended Action

Conditional Use Permit

Staff recommends the Planning Commission recommend to the Village Board approval of a conditional use permit as set forth in the provided resolution.

To – Grant a Conditional Use Permit for a drive-thru facility with the following on-going conditions deemed necessary to protect the health, safety, and welfare:

1. Ongoing conditions of approval. The following conditions shall constitute an ongoing obligation:
 - a. Any modifications to the site, buildings, site improvements, shall require the conditional use application being updated.
2. The following conditions are also true and are consistent with Section 100-354 of Mukwonago's zoning regulations:

- a. The establishment, maintenance or operation of the conditional use will not be detrimental to or endanger the public health, safety or welfare of the Village.
- b. The uses, values and enjoyment of other property in the surrounding neighborhood that are already permitted shall be, in no foreseeable manner, substantially impaired or diminished by the establishment, maintenance or operation of the conditional use.
- c. The establishment, maintenance or operation of the conditional use is compatible with surrounding properties, whether in the same or different zoning districts.
- d. The establishment of the conditional use will not impede the normal and ordinary development and improvement of the surrounding property for uses permitted within the district and/or which are consistent with the standards in the Comprehensive Plan.
- e. Adequate utilities, access roads, drainage and other necessary site improvements have been or are being made to accommodate the use.
- f. Adequate measures have been taken or will be taken providing ingress and egress to minimize traffic congestion on public streets so as not to diminish the level of service of any intersection which is impacted by traffic arising from the conditional use.

Attachments

1. Application and Development Information

Process Details: PZ24-0021

Property Address: 225 BAY VIEW RD 100 | Parcel: [MUKV2014988](#)

Property Owner: GREENWALD FAMILY LIMITED PARTNERSHIP

Summary Information

> 13 Process Step(s) Found

> 0 Inspection(s) Found

This CONDITIONAL USE (AMENDMENT) was created from an application. [Click here to view the application.](#)

Amount Due

Process - CONDITIONAL USE
(AMENDMENT) Total

\$475.00

[Pay Now](#)

Process Information

Filed As	CONDITIONAL USE (AMENDMENT)	Application Date	07/01/2024
Process Name	CONDITIONAL USE (AMENDMENT)	Date Process Started	No Data to Display
Process Number	PZ24-0021	Date Completed	No Data to Display
Status	Preprocess - Hold	Last Status Change	07/01/2024
Scope Of Work	Mama Bear Catering to occupy the former Buckys Fine Meats space. Operation details in business plan attached, but space will be used as a commercial prep kitchen for our ongoing catering business as well as licensing space to other culinary artisans for their prep kitchen needs. Ultimately we would like to also use the space for cooking classes and be open to the public for the sale of food items made by the culinary artisans that work within the space. The space will be occupied for kitchen prep work most days between 7 am to 7 pm. Hours for sale of items to the public will need to be determined at a later date, but saturday and sunday mornings would be the goal to start with.		
Conditions	No Data to Display		

Process Step Information

Step Number	Step Display Name	Status	Date Step Started	Date Step Completed	Date Step Due	
1	Application Completeness Review	Not Started				View
2	Schedule Hearing Dates	Not Started				View
3	Notify Land Owners - 250ft - Send to Clerk	Not Started				View
4	Notify Muni's within 1000ft - Include with 250ft Buffer	Not Started				View
5	Run Ad - Class 2 Notice	Not Started				View
6	Staff Review	Not Started				View
7	Post PC Agenda	Not Started				View
8	PC PH Review Recommend Resol	Not Started				View
9	Village Board	Not Started				View
10	Village Board Decision	Not Started				View
11	Owner and Applicant Notified	Not Started				View
12	Update Map	Not Started				View
13	Engineer - Refresh GIS Map	Not Started				View

Document Summary

Document Title					
IMAGES OF EXISTING ELEVATIONS OF STRUCTURE(S)					
[Expand All]					
Version	Document Title	Review Status	Received	Completed	
1	IMAGES OF EXISTING ELEVATIONS OF STRUCTURE(S)	Not Started			No Attachment
IMAGES OF PROPOSED ELEVATIONS OF STRUCTURE(S) AND MATERIALS					

Document Title					
Version	Document Title	Review Status	Received	Completed	
1	IMAGES OF PROPOSED ELEVATIONS OF STRUCTURE(S) AND MATERIALS	Not Started			No Attachment

MATERIALS AND PRODUCTS LIST TO BE UTILIZED - ALSO SUBMIT SAMPLE BOARD TO PLANNER

[Expand All]

Version	Document Title	Review Status	Received	Completed	
1	MATERIALS AND PRODUCTS LIST TO BE UTILIZED - ALSO SUBMIT SAMPLE BOARD TO PLANNER	Not Started			No Attachment

PROJECT SUMMARY - DESCRIBE HOURS OF OPERATION, NO. OF EMPLOYEES, IMPROVEMENTS SOUGHT

[Expand All]

Version	Document Title	Review Status	Received	Completed	
1	PROJECT SUMMARY - DESCRIBE HOURS OF OPERATION, NO. OF EMPLOYEES, IMPROVEMENTS SOUGHT	Not Started			No Attachment

SITE PLAN - SHOW EXISTING A/C OTHER MECHANICALS, PARKING, LIGHTING, MEETS SITE PLAN REG'S IF APPLICABLE

[Expand All]

Version	Document Title	Review Status	Received	Completed	
1	SITE PLAN - SHOW EXISTING A/C OTHER MECHANICALS, PARKING, LIGHTING, MEETS SITE PLAN REG'S IF APPLICABLE	Not Started			No Attachment

Review Comments/Concerns

Show All

[Collapse All]

Title	Type	Comment Type	Corrected	Date Found	Date Corrected	Process Step	Review	
No records to display.								

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Inspection Information

Inspection Type	Inspector	Status	Scheduled Date	Completed Date	Result	
No records to display.						

Fees & Payments

Date	Action	Qty	Description	Billed	Paid
7/1/2024	Invoice Item	1.00	PZE Fees: CONDITIONAL USE PERMIT (Invoice Number: 00005447)	\$475.00	

Applicant Information

Address	Dana Kohlmann S80 W30764 Meadowlark circle Mukwonago, WI 53149-_____				
Phone	No Data to Display	Fax	No Data to Display		
Mobile	No Data to Display	Other Phone	No Data to Display		

Owner Information

Address	GREENWALD FAMILY LIMITED PARTNERSHIP S86 W19050 WOODS RD MUSKEGO, WI 53150				
Phone	No Data to Display	Fax	No Data to Display		
Mobile	No Data to Display	Other Phone	No Data to Display		

Parcel/Land Details

Dimensional Information

Zoning/Rezoning and Usage

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JUSTIFICATION OF THE PROPOSED CONDITIONAL USE

The Plan Commission and Village Board of the Village of Mukwonago will base their decisions on the category standards listed below. It is in the best interest of the applicant to base their presentation on the same applicable set of standards when presenting their petition. **Applicant: Please fill out ALL of the questions. Use additional sheets of paper if needed.**

- A. How is the proposed conditional use (the use in general, independent of its location) in harmony with the purposes, goals, objectives, policies and standards of the Village of Mukwonago Comprehensive Plan, the Zoning Ordinance, and any other plan, program, or ordinance adopted, or under consideration pursuant to official notice by the Village?

The intended use will align closely with the various permitted uses in B-2 zoning. Our alignment with the community is emphasized in section F.

- B. How is the proposed conditional use, in its specific location, in harmony with the purposes, goals, objectives, policies and standards of the Village of Mukwonago Comprehensive Plan, the Zoning Ordinance, and any other plan, program, or ordinance adopted, or under consideration pursuant to official notice by the Village?

The specific location aligns with the comprehensive plan and is consistent with multiple permitted uses in B-2 zoning.

- C. Does the proposed conditional use, in its proposed location and as depicted on the required site plan (see Section 100-354 (a), (b), and (c)), result in any substantial or undue adverse impact on nearby property, the character of the neighborhood, environmental factors, traffic factors, parking, public improvements, public property or rights-of-way, or other matters affecting the public health, safety, or general welfare, either as they now exist or as they may in the future be developed as a result of the implementation of the provisions of the Zoning Ordinance, the Comprehensive Plan, or any other plan, program, map ordinance adopted or under consideration pursuant to official notice by the Village or other governmental agency having jurisdiction to guide development?

No, this will not result in any negative consequences. The parking impact should be minimal compared to nearby spaces. Commercial deliveries will be conducted at the rear of the building in line with other restaurants in the vicinity.

- D. How does the proposed conditional use maintain the desired consistency of land uses, land use intensities, and land use impacts as related to the environs of the subject property?

• This will have no additional impacts on the property.

- E. Is the proposed conditional use located in an area that will be adequately served by and will not impose an undue burden on, any of the improvements, facilities, utilities or services provided by public agencies serving the subject property?

The existing public utilities serving the building are adequate for our requirements.

F. Do the potential public benefits of the proposed conditional use outweigh all potential adverse impacts of the proposed conditional use (as identified in Sections 100-354 (e)(1) and (2)), after taking into consideration the Applicant's proposal and any requirements recommended by the Applicant to ameliorate such impacts?

Yes, the general public will derive direct benefit from this initiative. We intend to provide cooking classes accessible to all members of the community, and we will also facilitate open sales hours for individuals to procure goods from the talented artisans and crafters who will be utilizing our kitchen facilities. Additionally, we plan to offer a platform for local producers to showcase and sell their wares, thereby fostering a stronger connection between the community and locally-sourced food items. Furthermore, the advantages of having a licensed and inspected commercial kitchen available for rent extend far beyond the confines of our establishment at 225 Bayview. It is essential for artisans who sell their creations at farmers markets and various festivals to have access to a workspace like ours. By providing this space, we aim to encourage the growth of new businesses and increase the number of vendors participating in local markets and events, including but not limited to Phantom Junction Stage, Wednesday Farmers Market, and more.

CONFIDENTIAL

Mama Bear Catering, LLC

BUSINESS PLAN

PREPARED MAY 2024

Contact Information

Dana Kohlmann
mamabearkohlmann@gmail.com
Mamabearcatering.info

2628935083

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Executive Summary

Mama Bear Catering, LLC is a catering company that is family-owned and operated and is currently in search of funding to broaden its operations. The company's objective is to procure a 2,000 square foot establishment in Mukwonago, WI, which will function as the primary location for its services. This facility will allow Mama Bear Catering to cater to both individual and corporate events, offer cooking classes, provide rental space for commercial kitchens, host a retail vendor market, and conduct cooking classes.

Our proprietor, Dana Kohlmann, possesses extensive culinary expertise that enhances our operations. Specializing in scrumptious, homemade comfort food, Dana guides our team in devising menus that guarantee happiness. Mama Bear Catering has established an impressive reputation, adeptly catering to events with over 250 guests at local sites such as Schuett Farm in the 2023 pumpkin season and the community quilt show hosted by the Crazy Quilters in 2024.

The new facility will be equipped with top-of-the-line commercial-grade ovens, refrigeration units, sinks, and other essential equipment to ensure that we meet food safety standards and maintain high quality in our services. The increased capacity of the facility will allow us to expand our corporate and private event catering services. Additionally, we will offer the capacity for food entrepreneurs to lease our commercial kitchen, as well as provide retail space for local food vendors to showcase their products in a market setting. We also plan to organize hands-on cooking classes for individuals of all ages.

To bring this expansion to life, we have proudly outlined funding for the purchase of kitchen equipment. At Mama Bear Catering, our hearts are filled with passion for supporting and uniting people over delicious home-cooked meals. The new facility will give us the space needed to advance our mission and keep serving our beloved community.

Opportunity

Problem & Solution

Problem Worth Solving

Mama Bear Catering, LLC is currently operating out of a rented commercial kitchen as it offers catering services. However, the growing demand in the market has highlighted the need for expansion. Consequently, Mama Bear Catering is actively seeking to establish its own dedicated facility.

The new establishment will serve multiple purposes. Firstly, it will allow Mama Bear Catering to maintain its commitment of delivering exceptional catering services. Additionally, the facility will have ample capacity to accommodate other caterers who may be interested in renting space. It will also provide market space for the vendors that choose to rent. Also, it will provide an opportunity to offer cooking lessons to the local community.

Our Solution

Mama Bear Catering, LLC is excited to announce its plan to expand its operations with the acquisition of a spacious 2000 sq. ft. facility. This new facility will serve as the central hub for a diverse range of business activities, catering to the needs of the community in various ways.

One of the primary services that Mama Bear Catering will offer at the new facility is **catering**. We pride ourselves on providing affordable, homestyle meals that cater to various occasions. Our clientele includes both individuals and businesses who trust us to deliver delicious food for their events. From seasonal gatherings and business functions to more intimate celebrations like bridal showers, graduations, anniversaries, and office parties, we have consistently met the expectations of our customers. Notably, we have developed strong relationships with esteemed clients such as Schuett Farm and the Mukwonago Crazy Quilters Guild.

In addition to catering, Mama Bear Catering's new facility will feature a commercial kitchen that can be **rented** by local caterers and food truck operators. We have identified a demand for this service among fellow caterers in the area. By providing access to storage and available equipment, we aim to support and foster collaboration within the local catering community.

The facility will also offer **vendor market** spaces, providing local vendors with the opportunity to showcase and sell their products. This will not only benefit the vendors themselves but also contribute to the overall vibrancy of the community by promoting local businesses.

Furthermore, Mama Bear Catering is passionate about sharing our culinary expertise with the community. We will be offering **cooking classes**, allowing individuals to learn new skills and enhance their love for the culinary arts. These classes will cater to private events and birthday parties, creating fun and educational experiences for all participants.

Through our expanded operations and range of services, Mama Bear Catering, LLC is committed to making a positive impact in the community. We believe that by providing exceptional food, supporting local caterers, promoting local vendors, and sharing our culinary knowledge, we can contribute to the growth and well-being of the community we serve.

Products & Services

Services Breakdown

Mama Bear Catering, LLC is committed to providing high-quality food with a personalized touch. Our goal is to create dishes that evoke the same warmth and care as a mother's cooking. We pride ourselves on our ability to customize our offerings to meet the unique needs of each individual customer. In addition to our catering services, we will collaborate with talented artisans to showcase their culinary creations in our kitchen. On weekends, we will offer these artisanal foods for sale at our location as part of our commitment to supporting local talent and providing our community with a diverse and enticing culinary experience. We understand the importance of flexibility and will work closely with each artisan to establish a schedule that accommodates their availability while ensuring seamless operations. Our aim is to foster a collaborative environment where everyone can thrive. At Mama Bear Catering, LLC, we are passionate about sharing the joy of food and celebrating the talents of our artisans. Join us in experiencing the delicious creations that our team and community have to offer.

Pricing

At Mama Bear Catering, our mission is to offer cost-effective and top-notch catering services to our local community. Our pricing structure is transparent and competitive, taking into consideration factors such as food costs, labor costs, overhead expenses, and marketing efforts.

Catering services are tailored based on the level of service needed and the specific cuisine preferences. Our basic catering package begins at a rate of \$15 per person, which includes a main course, two side dishes, and essential paper goods. For more elaborate events, we offer

customized menus with a selection of appetizers and desserts, with pricing customized to suit individual preferences and needs.

Rental kitchen is available for hourly rentals at a rate of ~~\$18 per hour~~, offering access to dry storage, coolers, and freezers. This option is ideal for aspiring chefs, food entrepreneurs, or individuals seeking a professional kitchen space.

Vendor marketplace will be available for the public on weekends to exhibit products crafted by artisans who lease our commercial kitchen. This platform will offer a space for chefs and artisans to market their goods within the local community. Each sale made during our vendor market will be subject to a ~~10%~~ commission fee payable to Mama Bear Catering.

Cooking classes will also be available at a rate of \$25 per person, with a minimum of 10 participants required. These classes will focus on teaching culinary skills and promoting healthy eating habits.

As a startup, we strive to deliver accessible and affordable services to our community while upholding a sustainable business model. We are dedicated to maintaining transparency in our pricing and will routinely review and adjust our rates to ensure fair and competitive pricing for our clientele.

Target Market

Rental Kitchen and Cooking Classes

Mama Bear Catering, a family-owned and operated catering company, offers a licensed commercial kitchen for rent. Our fully equipped kitchen is suitable for bakers, pastry chefs, caterers, and other culinary artisans.

In addition to our rental kitchen, we also provide a range of cooking classes for different age groups and skill levels. Our kids' classes, designed for ages 7-18, teach valuable cooking skills in a fun and interactive way. These classes are perfect for introducing children to the culinary world, teaching food safety and promoting healthy eating habits.

During our cooking classes, participants will learn essential techniques, explore various cuisines, and create delicious dishes under the guidance of experienced chefs. We provide a supportive environment where children can gain confidence and a sense of accomplishment in the kitchen.

Mama Bear Catering aims to build a strong community and empower individuals with culinary knowledge that lasts a lifetime through our rental kitchen and cooking classes.

Competition

Barriers to Entry

In the area, there are rental kitchen options such as the Kiskstarter kitchen in Waukesha, The Petite Chef school of Cookery in Dousman, and Chef Pam in Waukesha. For cooking classes, you can learn from Chef Pam and The Petite Chef school and cookery.

Current Alternatives

Catering

In the area, there are several catering options available; however, none quite compare to the unique experience of Mama Bear Catering, LLC. Our meticulous attention to detail and personalized approach to each event sets us apart from the competition. We aim to fulfill the need for a personal touch in the catering industry, offering a level of customer engagement that is unmatched.

Rental Space for Local Caterers

Chef Pam, Kickstart Kitchen, and Petite Chef currently offer rental spaces. However, with the increasing number of food trucks in the area, there is a growing demand for this service among local caterers. Mama Bear Catering, LLC recognizes this need and aims to provide a valuable solution.

Vendor Market Space

In addition to our primary services, Mama Bear Catering, LLC will provide local vendors with the chance to utilize retail space within our establishment.

In addition to our primary services, Mama Bear Catering, LLC will provide local vendors with the chance to utilize retail space within our establishment.

Cooking Classes

Driven by a genuine passion for the culinary arts, we are excited to share our expertise with the community. Mama Bear Catering, LLC provides exclusive private cooking classes for various occasions and birthday parties. While Chef Pam's in Waukesha and Petite Chef also offer similar classes, there is a significant demand in the area that remains unmet.

Our Advantages

The owner and founder, Dana Kohlmann, brings a wealth of knowledge and expertise to Mama Bear Catering, with an impressive 28 years in the restaurant business. Her extensive experience ensures the success of our business and sets us apart from the competition. Dana's dedication and commitment to the industry can be seen in their impressive resume, leaving no doubt about their qualifications. What truly sets Dana apart is their unwavering dedication to treating each client as family. At Mama Bear Catering, we believe in creating a warm and welcoming environment, and Dana exemplifies this as a true mama bear.

As a family-owned and oriented business, Mama Bear Catering takes pride in our strong focus on family values. We understand the importance of creating an environment that is not only welcoming but also fosters a sense of belonging for both our team and customers. With Dana Kohlmann at the helm as the owner and founder, we lead by example and embody these values in everything we do.

In our continuous pursuit of excellence, we have sought the guidance of Chef Pam of Waukesha. Through this invaluable collaboration, we have gained valuable insights into the industry and learned from the gold standard of kitchen rental. This partnership allows us to constantly improve our operations and deliver exceptional services to our clients. With Chef Pam's expertise and guidance, we are equipped with the knowledge and skills to exceed our clients' expectations.

Looking towards the future, we have plans to hire dedicated and skilled temporary workers specifically for catering events and cooking classes. This strategic approach ensures that we have a highly qualified team that is passionate about their craft. By employing professionals who are dedicated and driven, we can guarantee the highest level of service and expertise for our clients. At Mama Bear Catering, we are committed to delivering outstanding experiences that will leave a lasting impression.

Execution

Marketing & Sales

Marketing Plan

In an effort to increase the visibility of our catering startup within the local community, we will place emphasis on word-of-mouth marketing strategies. This will involve offering outstanding

food and service at various local events. As we cultivate a reputation for excellence, we will also leverage social media platforms and our website to further enhance the profile of Mama Bear Catering.

Initial marketing efforts will center around continuing to provide catering services for established local community events, such as the quilt show, pumpkin season festivities, and school functions where our presence has already been established. To incentivize attendees at these events to consider booking our services for their own occasions, we will offer coupons.

Through social media channels, we will share captivating images of our culinary offerings, showcase events we have catered, and announce details about our cooking classes in order to actively engage our followers. Concurrently, our website will serve as a hub for promoting our services, facilitating online orders, and displaying our class schedule.

Our primary emphasis in the initial stages will be on delivering exceptional food and memorable experiences that generate positive buzz surrounding Mama Bear Catering.

Sales Plan

Mama Bear Catering will boost sales by leveraging our excellent reputation for delicious homemade comfort food. We will promote our catering services through word-of-mouth, social media marketing, and advertising at local farmers markets. We will also use traditional print marketing methods like distributing flyers and brochures.

We offer convenient ordering options, including online orders through our website, as well as phone and email orders. Online orders can be securely paid for through Square, and we accept major credit cards and Square payments in person.

As a new catering business, our main focus is on providing convenient payment methods and exceptional customer service to drive sales growth. We will monitor our sales performance by tracking metrics such as monthly sales totals, average order value, and website conversion rates using Square. This will allow us to set monthly sales goals and refine our sales and marketing strategies for profitable business growth.

Operations

Locations & Facilities

Mama Bear Catering, LLC is currently operating from a small commercial kitchen space that has been rented out at a local coffee shop. Although this space enables us to prepare food for catering events and classes, it is insufficient for the level of growth we aspire to achieve.

Currently, we are in the process of searching for a rental space in Mukwonago that spans 2,000 square feet. Ideally, this space would already be equipped with large cooler and freezer storage facilities. By securing such a space, we would be able to expand our catering services and accommodate larger events, such as cooking classes, birthday parties, and team-building activities. This strategic expansion would also allow us to diversify our sources of revenue.

In order to fully utilize the chosen space, we would need to equip it with additional ovens, holding equipment (such as Alto-Shaam units), and furnishings suitable for hosting classes and events. Additionally, the monthly rental fees should include provisions for garbage disposal, pest control, and general maintenance costs.

The acquisition of a properly equipped space of this size would provide Mama Bear Catering, LLC with the opportunity to significantly expand our catering operations and offer a wider range of community cooking classes and private events. This increased capacity and variety of services would help foster stronger community bonds and support our mission of uniting people through the joy of home-cooked meals.

Equipment & Tools

In order to ensure the successful operation of Mama Bear Catering, it is crucial that we have access to a fully equipped commercial kitchen space. This area will serve as the central hub for various activities, including food preparation, cooking classes, and catering operations. The key elements of this space will include the following equipment and tools:

- Commercial-grade refrigerators and freezers to adequately store fresh ingredients and prepared foods
- A three-compartment sink that will facilitate proper cleaning and sanitization of dishes and utensils
- A commercial oven that will be instrumental in the baking and roasting of menu items
- A commercial dishwasher that will efficiently clean large quantities of dishes and cookware

RESOLUTION 2024-41

Village of Mukwonago Order Granting a Conditional Use and Prescribing Conditions for a Catering Service (Mama Bear Catering) on Parcel MUKV2014988, 225 Bay View Road, Suite 100, Mukwonago, WI

WHEREAS, DANA KOHLMANN (hereinafter "owner") leases space at the property identified MUKV201498, site address 225 Bay View Road, Suite 100 (hereinafter "subject property") in the Village of Mukwonago, more particularly described as follows:

PT NW1/4 SEC 36 T5N R18E COM SW COR NW1/4 N00°51'E 132.11 FT THE BGN N00°51'E 636.11 FT S63°57'E 299.65 FT S 26°02'W 280.21 FT SWLY ALG CURVE 43.82 FT SWLY ALG CURVE 99.55 FT S13°58'W 62.20 FT TO BGN DOC# 2795848

WHEREAS, the owner has, consistent with the Village of Mukwonago's zoning regulations, submitted a conditional use application for a new Catering Service per Section 100-251, and

WHEREAS, upon receipt of the petition submitted by the owner, the Village Clerk properly referred such petition to the Plan Commission; and

WHEREAS, allowing for required public notice, the Plan Commission conducted a public hearing on August 12, 2024, to consider the petitioner's request; and

WHEREAS, members of the public in attendance were given ample opportunity to provide comment regarding the petitioner's request; and

WHEREAS, the Plan Commission passed a motion recommending to the Village Board that the conditional use be approved subject to certain conditions; and

WHEREAS, the Plan Commission, in passing on the matter, has made the following determinations consistent with Section 100-354 of Mukwonago's zoning regulations:

1. The establishment, maintenance or operation of the conditional use will not be detrimental to or endanger the public health, safety or welfare of the Village.
2. The uses, values and enjoyment of other property in the surrounding neighborhood that are already permitted shall be, in no foreseeable manner, substantially impaired or diminished by the establishment, maintenance or operation of the conditional use.
3. The establishment of the conditional use will not impede the normal and ordinary development and improvement of the surrounding property for uses permitted within the district and/or which are consistent with the standards in the Comprehensive Plan.
4. Adequate utilities, access roads, drainage and other necessary site improvements have been or are being made to accommodate the use.
5. Adequate measures have been taken or will be taken providing ingress and egress to minimize traffic congestion on public streets so as not to diminish the level of service of any intersection which is impacted by traffic arising from the conditional use.

Return to:

Diana Dykstra, Clerk-Treasurer
Village of Mukwonago
440 River Crest Court
Mukwonago, WI 53149

Parcel Number: MUKV 2014988

In addition, the owner has shown compliance with the requirements set forth in the Village's zoning regulations for the specified use.

WHEREAS, the Village Board has carefully reviewed the recommendation of the Plan Commission and concurs with the Plan Commission's findings set forth above, provided the conditional use is operated pursuant to the conditions of approval set forth in this order.

NOW THEREFORE, IT IS HEREBY DETERMINED AND ORDERED AS FOLLOWS:

1. **Authorized uses.** Subject to the terms and conditions of this approval and the sections of the zoning code that apply, the owner is authorized to operate a Catering Service.

2. **Issuance of permit required.** The zoning administrator is authorized to issue the owner a conditional use permit when all conditions enumerated in section 3 have been satisfied to his or her satisfaction. Such permit is the last approval before the owner/tenant can begin to establish the use as authorized herein.

3. **Initial conditions of approval.** The following conditions shall be satisfied prior to the issuance of the conditional use permit:

- a. The owner must accept the terms and conditions of this conditional use order in its entirety in writing within 6 months of the date of this decision. Prior to such expiration, the owner may request an extension to this time period and the Village Clerk may approve an extension with good cause.
- b. This order must be recorded against the subject property in the Waukesha County register of deeds office (only if subsections 3(a) through 3(b) have been satisfied).

In the event the requirements enumerated in subsections 3(a) and 3(b) above are not satisfied, this order shall automatically be null and void without any further action by the Village of Mukwonago on the aforementioned date.

4. **Ongoing conditions of approval.** The following conditions shall constitute an ongoing obligation:

- a. Any modifications to the site, buildings, site improvements shall require the conditional use application being updated.

5. **Expansion or changes.** The conditional use hereby authorized shall be confined to the subject property without extension or expansion. Any expansion or change in use shall require issuance of a new conditional use approval pursuant to the requirements in effect at the time of application.

6. **Modification of property boundary lines.** The owner shall not change the size and/or shape of the subject property by any means without the approval of the Village Board. If the Village Board determines that a proposed change is substantial with regard to the overall size of the parcel and/or configuration, such change shall require issuance of a new conditional use approval pursuant to the requirements in effect at the time of application.

7. **Plans and related matters.** Unless otherwise expressly stated herein, plans that are specifically required by this conditional use order may be amended upon the prior approval of the Plan Commission if the Plan Commission finds the amendment to be minor and consistent with the conditional use order and permit. Any change in any plan that the Plan Commission feels, in its sole discretion to be substantial, shall require a new conditional use approval and all procedures in place at the time must be followed.

8. **Inspection.** The owner shall allow Village of Mukwonago staff, officials, and other authorized agents to inspect the subject property, at any reasonable time and for any proper purpose related to compliance with this conditional use order.

9. **Discontinuance.** Should the conditional use be discontinued in use for 365 consecutive days the use

shall be terminated as set forth in the Village of Mukwonago's zoning regulations.

10. **Private rights.** This approval is given under the Village of Mukwonago's zoning regulations and is not to be interpreted to abrogate any private rights other owners may have pursuant to deed restrictions or restrictive covenants.

11. **Interpretation.** If any aspect of this conditional use order is in conflict with any other aspect of the conditional use order, the more restrictive provisions shall be controlling, as determined by the Plan Commission.

12. **Other permits.** This order shall not be deemed to constitute a building permit, or constitute any other license or permit required by Village ordinance, or other local, state, or federal law.

13. **Severability.** In the event a court of competent jurisdiction determines that a paragraph or phrase of this conditional use order is unlawful, illegal, or unconstitutional, said determination as to the particular phrase or paragraph shall not void the rest of the conditional use order and the remainder shall continue in full force and effect.

14. **Heirs, successors, and assigns.** This conditional use order shall be binding upon the owner and their heirs, successors, and assigns. Upon a change in ownership, the owner shall notify the Village Clerk.

15. **Ongoing review.** This conditional use may be reviewed by the Plan Commission with notice to the owner at any time upon complaint or upon Plan Commission initiative. If it is determined that the authorized use is no longer compatible, or that the provisions of this approval have not been complied with, the Village Board may revoke or amend this order after recommendation by the Plan Commission and holding of a public hearing.

16. **Amendment.** The owner may propose an amendment to this conditional use order at anytime by submitting a written petition to the Village Clerk, which shall be reviewed pursuant to the requirements in effect at the time of application.

17. **Violation.** Any violation of this order may be treated as a violation of Mukwonago's zoning regulations and each day of each violation of each condition herein shall be treated as a separate violation.

18. **Acceptance.** GRANTEES hereby accept the said Conditional Use Grant and covenant strictly to comply with all the terms and conditions thereof. GRANTEES acknowledge that, in accordance with the provisions of the Zoning Code, failure to comply with any conditions of the Conditional Use Grant is cause for the termination of said Grant by the Village. GRANTEES also acknowledge that approval of the Conditional Use Grant allows the appropriate Village officials to conduct reasonable and routine inspections of the property. This Covenant shall run with the land and shall be binding on the GRANTEES and all persons claiming any estate or interest in the Premises by, through or under the GRANTEES, as long as the said Premises are used as described in the Conditional Use Grant

Approved this 21st day of August, 2024.

BY THE VILLAGE BOARD OF THE VILLAGE OF MUKWONAGO

Fred Winchowky, Village President

Attest:

Diana Dykstra, Village Clerk-Treasurer

STATE OF WISCONSIN, WAUKESHA/WALWORTH COUNTY

Personally came before me this ____ day of _____ 2024, the persons described above, Fred Winchowky, Village President, and Diana Dykstra, Village Clerk, to me known to be the persons who executed the foregoing instrument and to me known to be such Village President and Village Clerk of the Village of Mukwonago and acknowledged that they executed the foregoing instrument as such officers of said municipal corporation by its authority and pursuant to the authorization by the Village Board from their meeting on the ____ day of _____, 2024.

NOTARY PUBLIC

My Commission Expires:

The remainder of this page left intentionally blank.

Acceptance by Owner

I, _____ verify that I am an authorized agent for DANA KOHLMANN accepts the terms stated herein.

Dated this _____ day of _____, 2024

_____, agent

STATE OF WISCONSIN, WAUKESHA

Personally, came before me this _____ day of _____, 2024, the above-named person,
_____ to me known to be the person who executed the foregoing instrument and acknowledged
the same.

NOTARY PUBLIC

My Commission Expires:

Drafted by Peter Gesch, Contracted Village Planner at the direction of the Mukwonago Village Board.

PLAN COMMISSION STAFF REPORT

TO: Village of Mukwonago Plan Commission

FROM: Peter Gesch, P.E., Ruekert & Mielke, Inc.

REPORT DATE: August 6, 2024

MEETING DATE: August 12, 2024, 6:30 P.M.

SUBJECT: Cardinal Ridge Subdivision – Phase 1 Final Development Plan Approval

BASIC INFORMATION	
Project:	Cardinal Ridge Subdivision
Applicant:	Bryan Lindgren – Neumann Developments, Inc.
Consulting Engineer:	Trio Engineering
Request:	PUD Overlay – Final Development Plan Phase 1
Staff Recommendation:	Approve with Conditions

PARCEL DATA/CHARACTERISTICS	
Tax Key:	MUKV2091995 (Lands Attached per Ord. 1030)
Acreage (Phase 1):	9.57Acres (6.92Acres in MUKV Future Phase)
Total Number of Units (Phase 1):	23 Units (13 Units in MUKV Future Phase)
Density:	2.18 Dwelling Units per Acre
Total Green Space:	60% of lot area required
Park Area Dedication:	Park owned by HOA to be provided on outlot in future phase.
Storm Water:	Handled on-site in outlots
Current Use:	Agriculture
Proposed Use:	Single Family Residential Subdivision
Current Zoning:	R-3 Single Family Residential (Via Ordinance 1027)
Proposed Zoning:	R-3 Single Family Residential with PUD Overlay

Project Summary & Overview

A General Development Plan was presented to Plan Commission on April 9, 2024 and approved by the Village Board on April 17, 2024. Village Ordinance requires the submittal of a Final Development Plan (construction plans) for each phase of Development as construction progresses.

Neumann Developments, Inc. is planning to move forward with Phase 1 of the subdivision which is entirely within the Village of Mukwonago at the end of Cardinal Lane. As part of Phase 1, grading will be completed in Phase 2 on lands in the Village of Vernon to achieve site balance with grading.

Staff have worked with the Developer and their Engineer to review the submitted documents and the Developer has modified the development documents to meet the requirements of Village Department Heads. Staff review has been coordinated with Waukesha County for review of storm water and erosion control within the Village of Vernon to ensure the documents were developed to satisfy the requirements of both municipalities.

Staff have also worked with the Village of Vernon and Neumann Developments to create a joint Developer Agreement that meets the standards of both municipalities and gives the Village of Mukwonago approval authority of its public infrastructure in both municipalities.

Specific Request

The Applicant is seeking the review and approval of the Final Development Plan for Phase 1 of the subdivision which contains a PUD overlay in the Village of Mukwonago. This is a review and consideration of approval of the construction documents for Phase 1 of the development.

PUD Modifications

The following PUD modifications were approved by the Village Board on April 17, 2024. No changes to the below PUD modifications are being requested.

The proposed portion of the subdivision in Mukwonago includes 36 single-family residential lots ranging in size from 9,000 square feet to 22,061 square feet. Phase 1 contains 23 total lots with 13 more lots to be developed in the Village in a future phase. The average proposed lot size is 12,770 square feet. The minimum lot area required in the R-3 Single-Family Small Lot – Residential District is 10,000 square feet. The setbacks associated with each lot are also less than required. Below is table summary of the approved modifications:

	R-3 Zoning District	R-3 with PUD Overlay (Approved)
Min. Lot Area:	10,000 S.F.	9,000 S.F.
Min. Lot Width:	80 Feet Interior/100 Feet Corner	70 Feet Interior, 80 Feet Corner
Max. Building Coverage:	25%	40%
Min. Greenspace:	60% Total Lot Size	5,000 S.F. (55.6% of 9,000 S.F. Lot)
Street Yard Setback:	30 Feet	25 Feet
Interior Side Yard:	15 Feet	7.5 Feet, 15 Feet at side street corner
Rear Yard:	30 Feet	20 Feet

Due to on-site natural features and necessary layouts for roadways and storm water management, the PUD modifications will allow the applicant to better cluster the lots and more adequately develop the land to meet the basic intent of the Comprehensive Plan and Zoning Code.

Staff Report – Final Development Plan – Phase 1
Cardinal Ridge Subdivision
August 6, 2024
Page 3

Staff Review

Engineering	No comments at this time.
Public Works	No comments at this time.
Utilities	No comments at this time.
Police	No comments at this time.
Fire	No comments at this time.
Building Inspection	No comments at this time.
Planning	No comments at this time.

Staff have worked with the Developer and their Engineer to address all outstanding comments.

Recommended Action

Staff recommends the Planning Commission recommend approval to the Village Board for the PUD Final Development Plan for Phase 1 of the subdivision. Any outstanding conditions enumerated in Resolution 2024-18 will be addressed in future phases of the subdivision prior to the Final Plat for those phases. It is also recommended that this Final Development Plan be approved with the conditions outlined in the attached resolution.

Attachments

1. Final Development Plan – Phase 1 Approval Request dated July 10, 2024
2. Cardinal Ridge Phase 1 Civil Plans dated July 17, 2024.
3. Cardinal Ridge Storm Water Management Plan dated July 19, 2024
4. Cardinal Ridge Storm Water Maintenance Agreement.



July 10, 2024

Village of Mukwonago
440 River Crest Court
Mukwonago, WI 53149

Dear Plan Commission,

We are excited to be submitting for approval the final development plans for our Cardinal Ridge Subdivision located in the Village of Mukwonago:

- Subject property:
 - Address: S92W27720 Edgewood Ave (vacant land north of Cardinal Lane)
 - Tax Key: MUKV2091995
 - Size: approximately 16.5001 acres
 - Current Owner: Cardinal Ridge LLC
 - Current Zoning: R-3 PUD

The Village of Mukwonago Board approved the R-3 PUD overlay modifications at its April 17th meeting. The details of the modifications are listed below.

R-3 PUD Overlay

- Total Units = 36 Lots
- Proposed Gross Density = 2.18 units/acre
- Min. Lot Size = 9,000 SF (Avg. 12,770 SF)
- Min. Lot Width at building setback = 70' interior/ 80' corner lot
- Min. Lot Width at R.O.W. = 60' wide and 45' in cul-de-sac's
- Min. Front = 25'
- Min Side = 7.5', 15' at side street corner
- Min. Rear = 20'
- Max Building Coverage = 40%
- Min. Greenspace = 5000 SF

We are requesting approval of the final development plan (FDP), which consists of our construction plans for phase 1. Subsequent phases that contain lots within The Village of Mukwonago will be submitted for review and FDP approval as we construct those phases.

Thank you for your consideration of this proposed project.

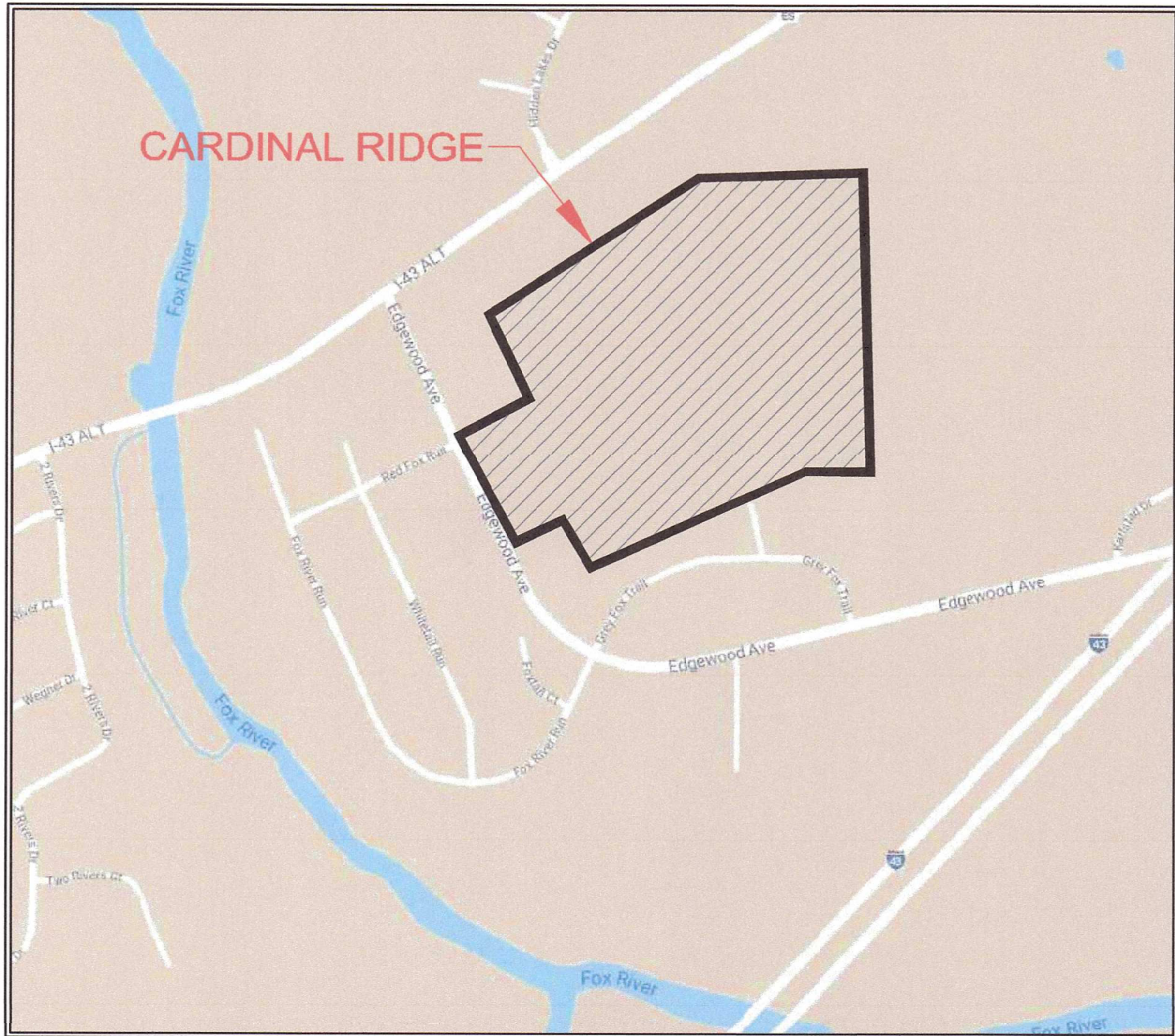
Sincerely,

Eric Obarski
Neumann Developments, Inc.

X:\2021\21-040-953\HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1 COVER & DETAILS_22X34.DWG

GENERAL NOTES

1. THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED.
 - STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, 6TH EDITION (SSSWCW)
 - THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
 - WDNR STORMWATER RUNOFF TECHNICAL STANDARDS.
 - WISDOT PAL APPROVED EROSION CONTROL MEASURES LIST, LATEST EDITION.
 - VILLAGE OF MUKWONAGO STANDARDS & REQUIREMENTS FOR DEVELOPMENT, LATEST EDITION.
 - VILLAGE OF VERNON DEVELOPMENT STANDARDS & REQUIREMENTS FOR DEVELOPMENT, LATEST ADDITION
2. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
3. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, AN APPROVED EROSION CONTROL PLAN WILL BE PROVIDED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY IMPLEMENTING THE APPROVED PLAN.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES, AND VERIFY FLOOR, CURB OR PAVEMENT ELEVATIONS WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.
5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (CALL DIGGERS HOTLINE AT 800-242-8511). COST OF REPLACEMENT OR REPAIR OF EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY
6. EXISTING UTILITY INFORMATION IS SHOWN FROM SURVEY WORK, FIELD OBSERVATIONS, AVAILABLE PUBLIC RECORDS, AND AS-BUILT DRAWINGS. EXACT LOCATIONS AND ELEVATIONS OF UTILITIES SHALL BE DETERMINED PRIOR TO INSTALLING NEW WORK. EXCAVATE TEST PITS AS REQUIRED.
7. PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
8. ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION.
9. ALL TRENCHING SHALL BE PERFORMED ACCORDING TO OSHA STANDARDS.
10. ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
11. THE CONTRACTOR SHALL CLEAN ALL ADJACENT STREETS OF ANY SEDIMENT OR DEBRIS AS REQUIRED BY MUNICIPAL ORDINANCE.
12. NOTIFY ENGINEER IF DRAIN TILE ARE ENCOUNTERED DURING SITE CONSTRUCTION. RECONNECT ANY BROKEN OR DAMAGED DRAIN TILE DURING CONSTRUCTION.



LOCATION MAP
NOT TO SCALE



CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
CALL DIGGERS HOTLINE 1-800-242-8511

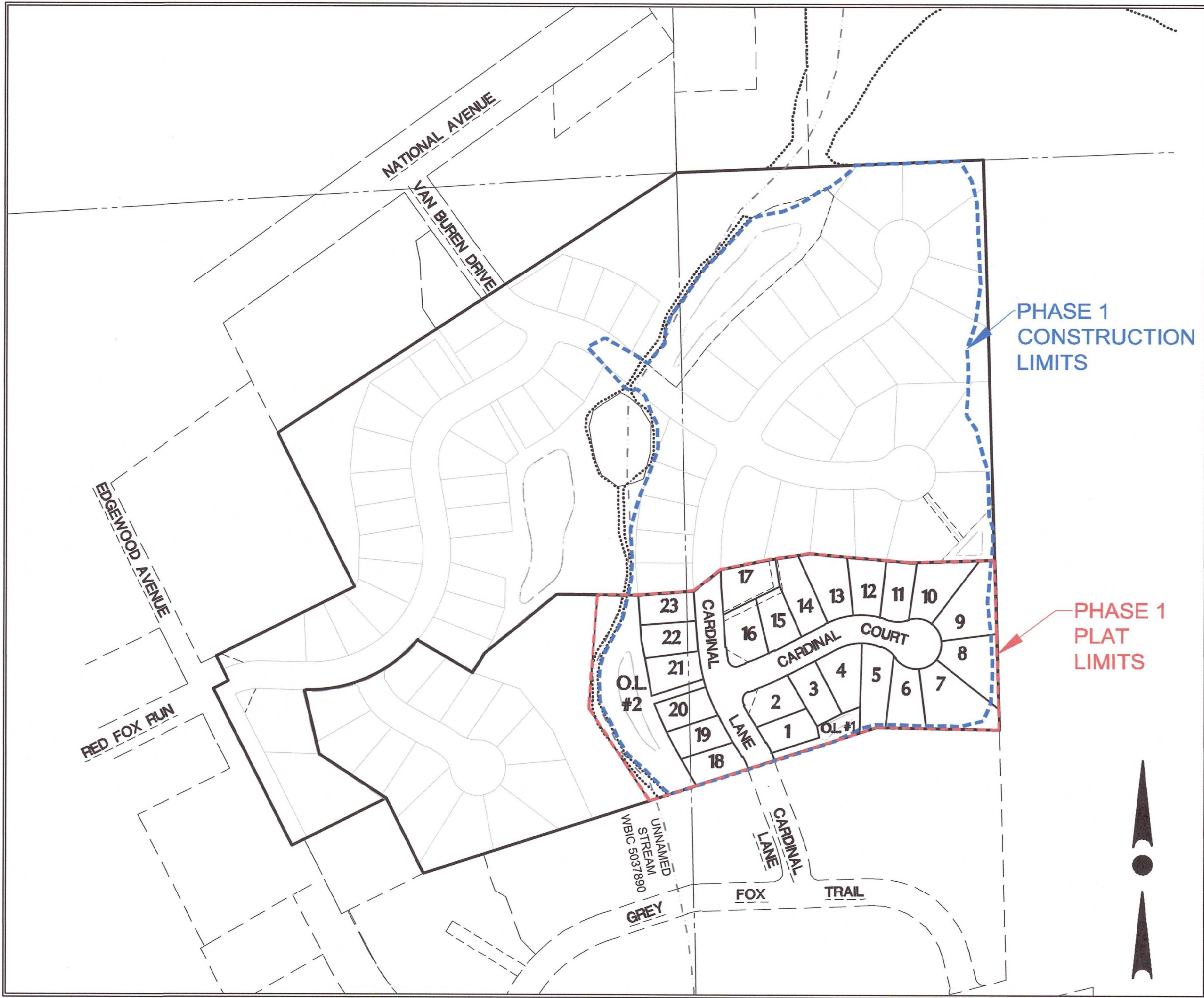
NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

CARDINAL RIDGE

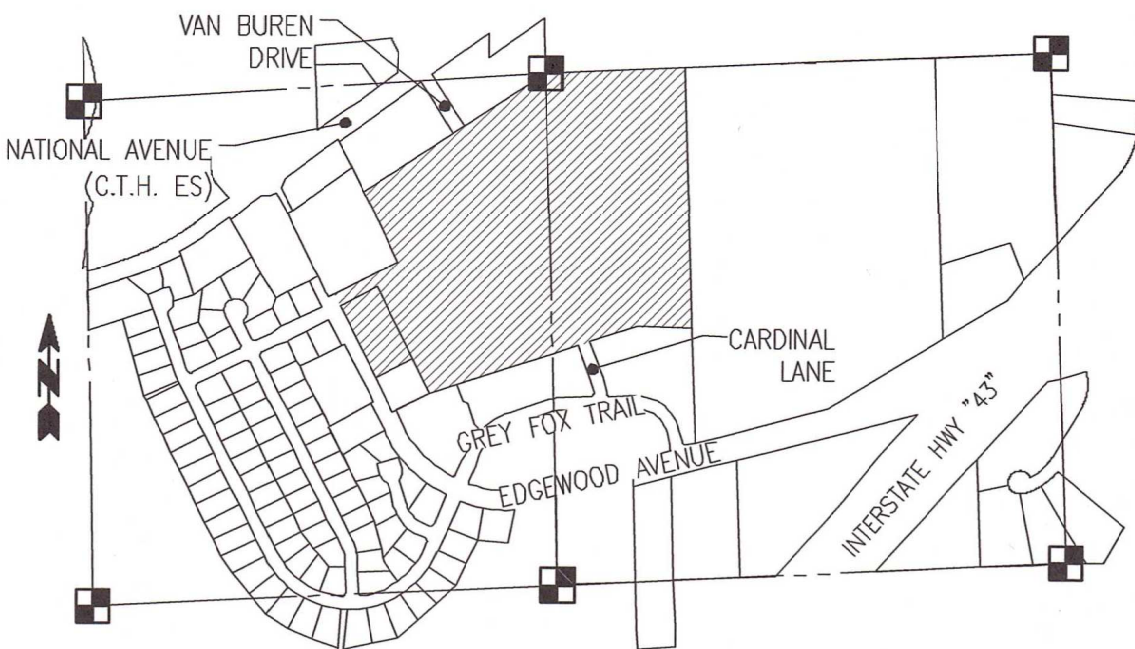
SINGLE FAMILY RESIDENTIAL SUBDIVISION

PHASE 1 – SITE DEVELOPMENT PLANS

VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN



SITE PLAN
SCALE: 1" = 200'



LOCALITY MAP:
S. 1/2, SEC. 19, T. 5 N., R. 19 E.
SCALE: 1"=1000'

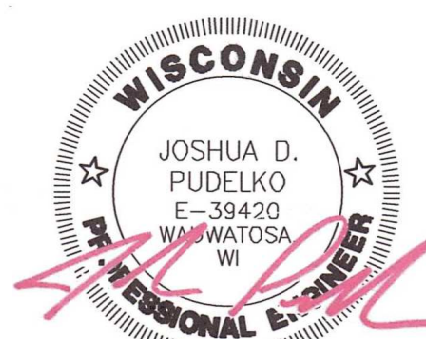
OWNER / DEVELOPER:
CARDINAL RIDGE, LLC
N27W24025 PAUL COURT, STE. 100
PEWAUKEE, WI 53072
CONTACT: ERIC OBARSKI
PHONE: (262) 542-9200
EMAIL: eobarski@neumanncompanies.com

ENGINEER / SURVEYOR:
TRIO ENGINEERING, LLC
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
CONTACT: JOSH PUDELKO, P.E., M.S.
PHONE: (262) 790-1480
EMAIL: jpudelko@trioeng.com



SHEET INDEX

CIVIL	
T1	- COVER SHEET
C0.1	- EXISTING SITE PLAN
C0.2	- OVERALL PROPOSED SITE PLAN
C0.3	- PHASE 1 SITE PLAN
C1.0	- OVERALL GRADING PLAN
C1.1-C1.3	- GRADING AND DRAINAGE PLAN
C1.1M	- MASTER GRADING PLAN
C1.4-1.6	- POND PLANS & DETAILS
C2.0	- EROSION CONTROL PLAN
C2.1	- LATE SEASON STABILIZATION REQUIREMENTS
C3.0	- OVERALL SANITARY SEWER & WATER MAIN SYSTEM PLAN
C3.1-C3.2	- SANITARY SEWER & WATER MAIN PLAN & PROFILES
C4.0	- OVERALL STORM SEWER SYSTEM PLAN
C4.1-C4.2	- ROADWAY & STORM SEWER PLAN & PROFILES
C4.3	- STORM SEWER PLAN & PROFILES
C5.0	- CUL-DE-SAC & INTERSECTION DETAILS PLAN
C5.1	- CURB RAMP DETAILS PLAN
C6.0-C6.1	- CONSTRUCTION NOTES & DETAILS



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

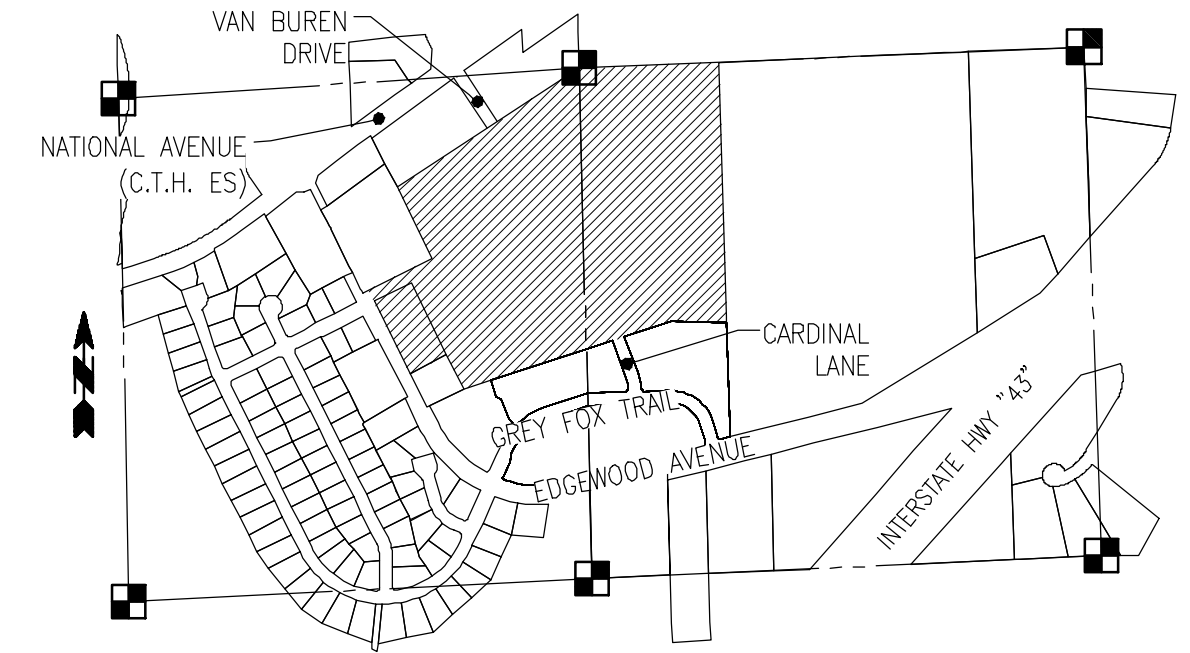
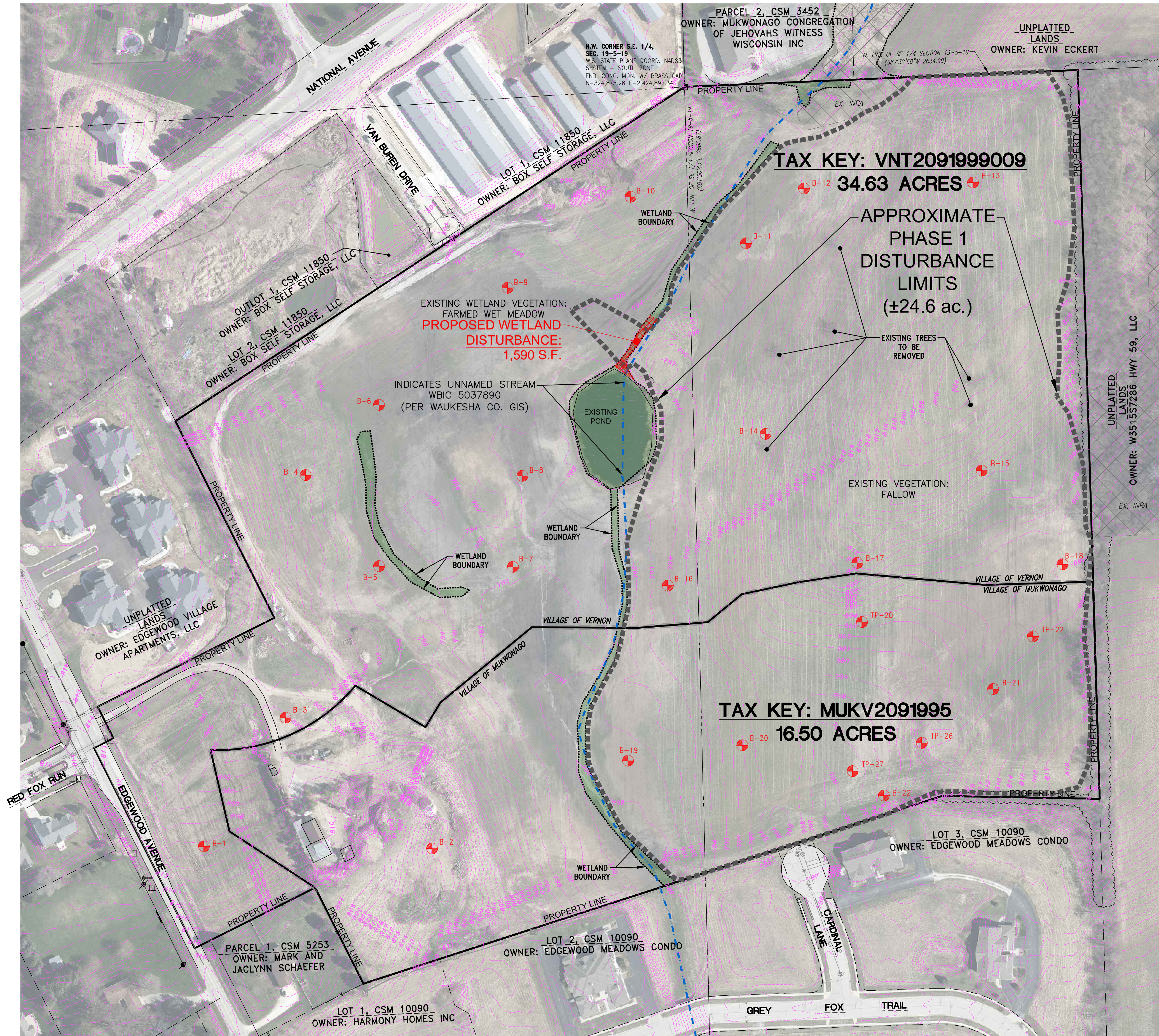
REVISION HISTORY	
DATE	DESCRIPTION
06/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
COVER SHEET

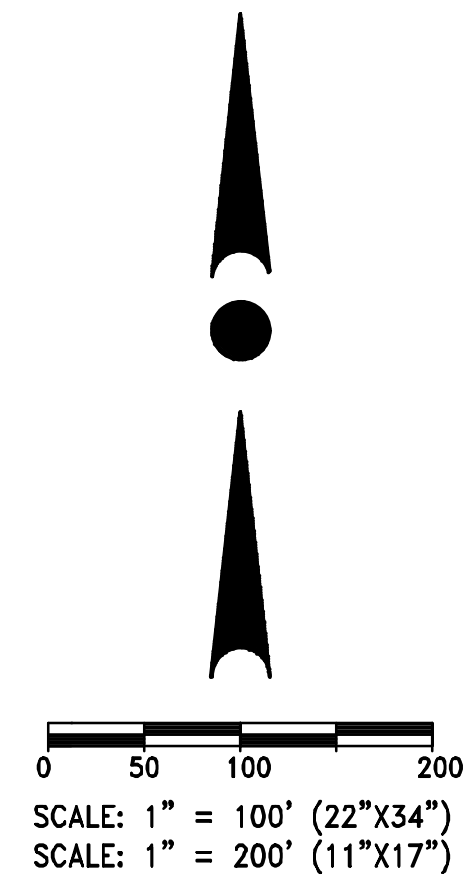
SHEET
T1



BEING ALL OF LOT 1 OF CERTIFIED SURVEY
MAP NUMBER 8142 LOCATED IN A PART OF
THE NORTHWEST 1/4 AND THE SOUTHWEST
1/4 SOUTHEAST 1/4 AND THE NORTHEAST
1/4 AND THE SOUTHEAST 1/4 OF THE
SOUTHWEST 1/4 OF SECTION 19, TOWN 5
NORTH, RANGE 19 EAST, IN THE VILLAGE
OF MUKWONAGO AND VILLAGE OF VERNON,
WAUKESHA COUNTY, WISCONSIN.

WETLAND DELINEATION NOTE:

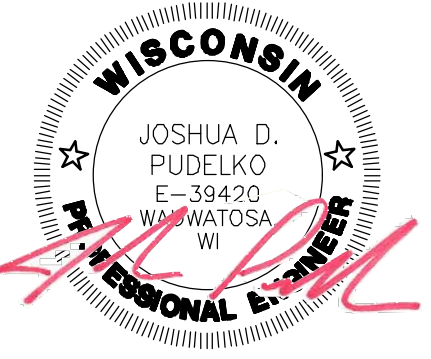
Wetland boundaries shown herein are based on a field delineation and Wetland Delineation Report prepared by Dave Meyer of Wetland & Waterway Consulting, LLC conducted in October of 2020.



 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS
HOTLINE TOLL FREE TO OBTAIN LOCATION OF
UNDERGROUND UTILITIES PRIOR TO COMMENCING THE
WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN-
OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

NOTE: CALL DIGGERS HOTLINE 1-800-242-8511

EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM
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UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1

**VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.**

**BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072**

REVISION HISTORY

DATE	DESCRIPTION
06/17/2024	PHASE 1 SUBMITTAL
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DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

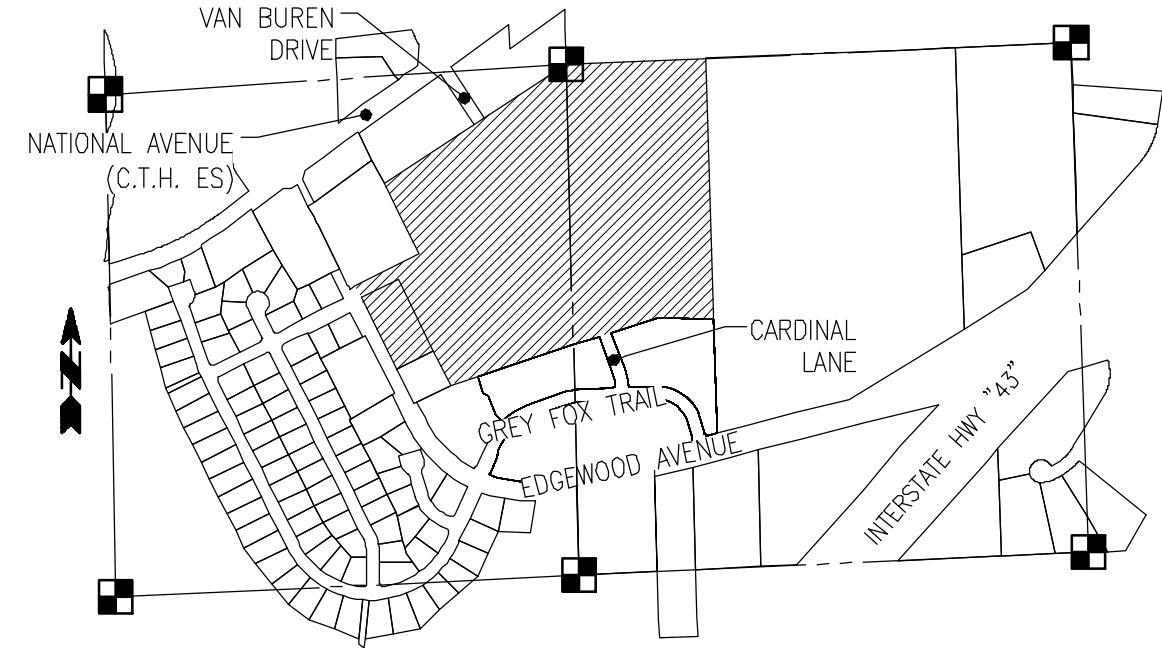
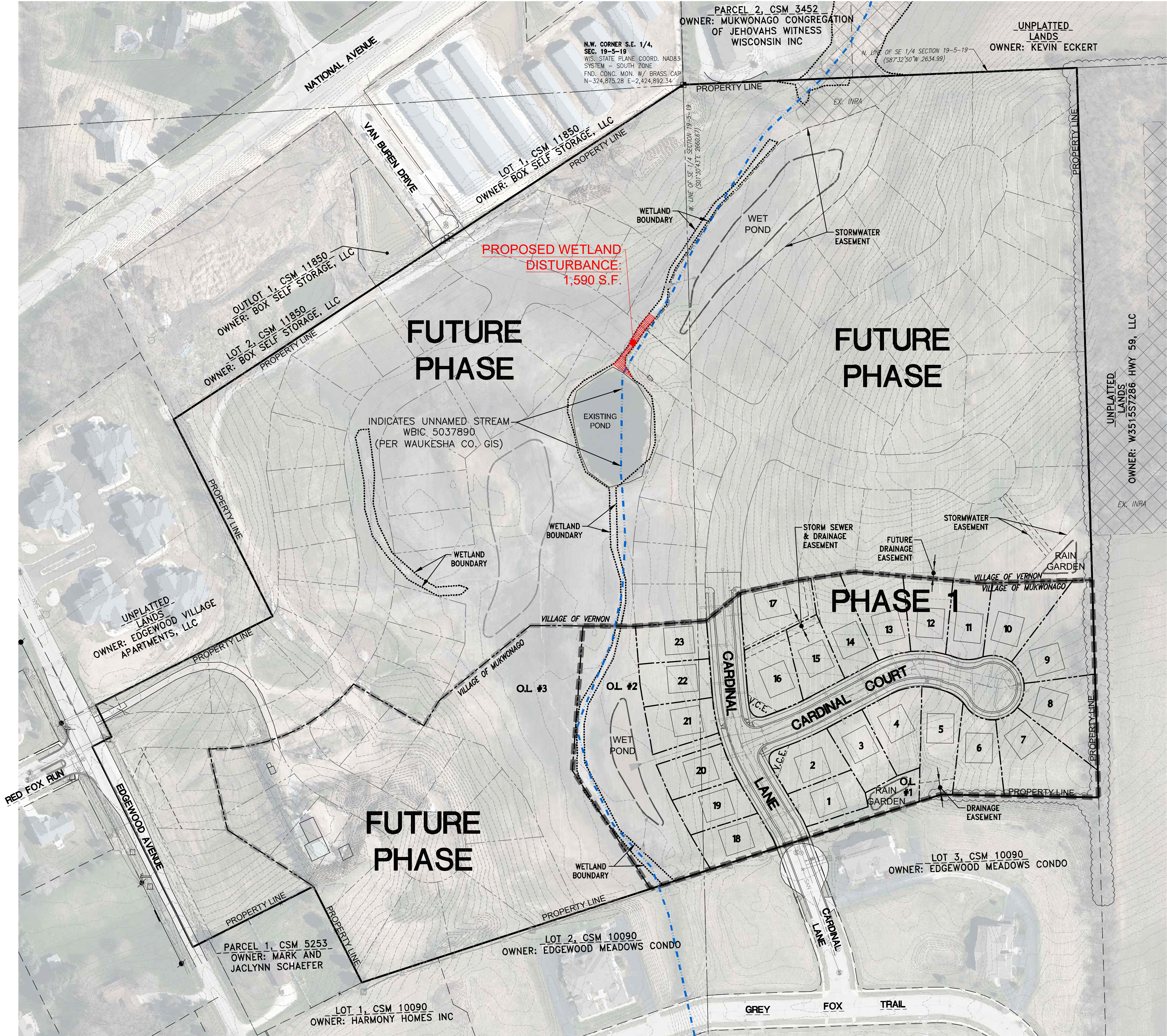
DESCRIPTION:

EXISTING SITE PLAN

SHEET

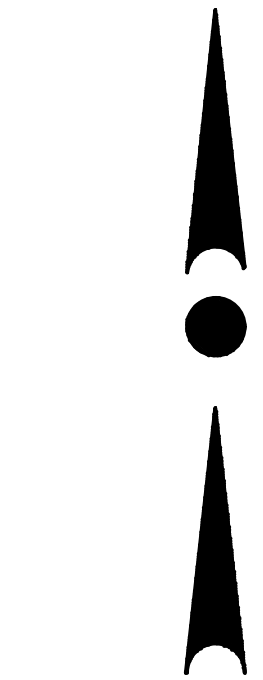
CO.1

X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1\PROPOSED SITE PLAN_22X34.DWG



LOCALITY MAP:
S. 1/2, SEC. 19, T. 5 N., R. 19 E.
SCALE: 1"=1000'

WETLAND DELINEATION NOTE:
Wetland boundaries shown herein are based on a field delineation and Wetland Delineation Report prepared by Dave Meyer of Wetland & Waterway Consulting, LLC conducted in October of 2020.



0 50 100 200
SCALE: 1" = 100' (22"x34")
SCALE: 1" = 200' (11"x17")



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4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
06/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:

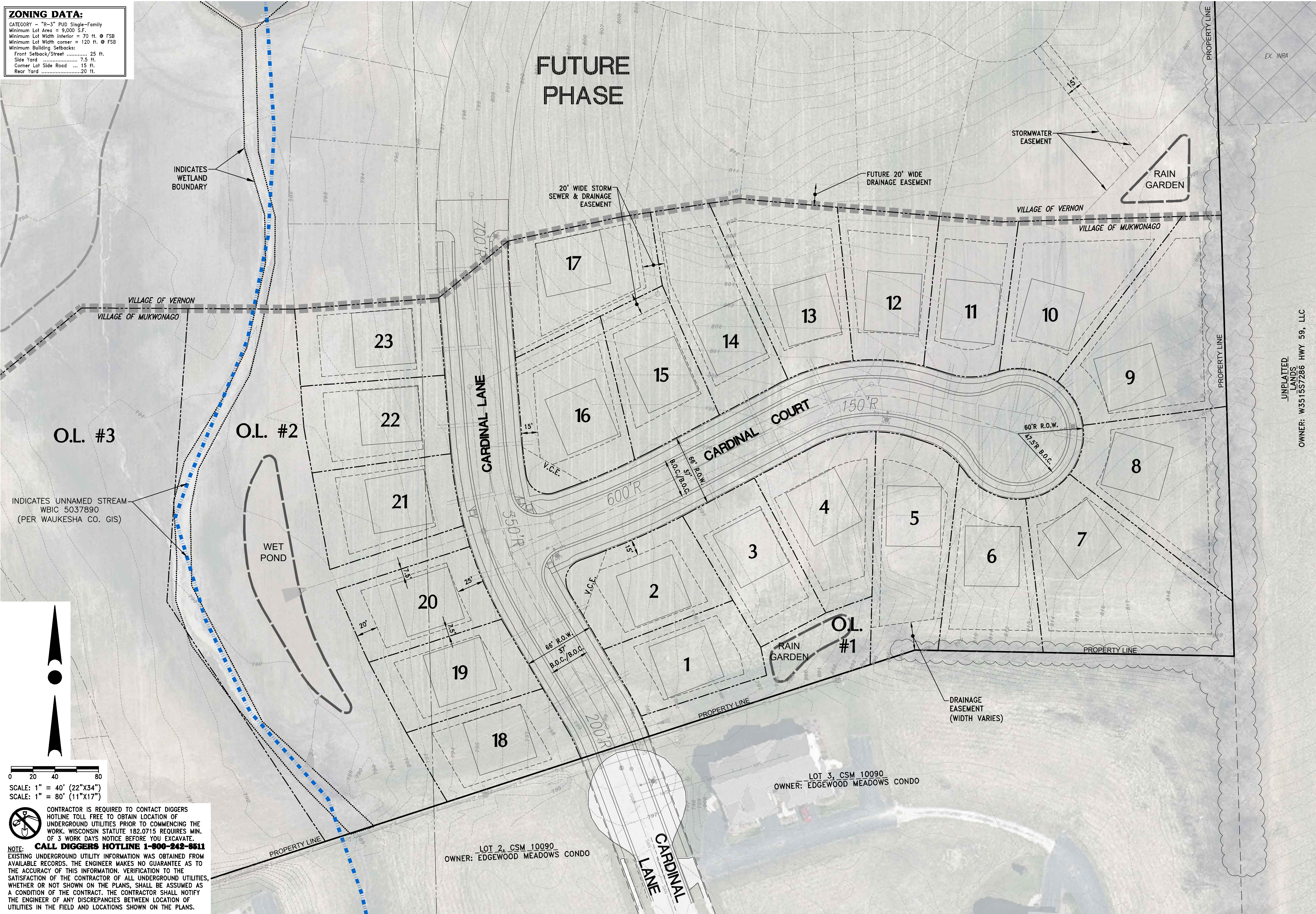
**OVERALL
PROPOSED SITE
PLAN**

SHEET

C0.2

X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY PHASE 1\PROPOSED SITE PLAN.20X34.DWG

ZONING DATA:
CATEGORY - "R-3" PUD Single-Family
Minimum Lot Area = 9,000 S.F.
Minimum Lot Width Interior = 70 ft. ● FSB
Minimum Lot Width corner = 120 ft. ● FSB
Minimum Building Setbacks:
Front Setback/Street 25 ft.
Side Yard 7.5 ft.
Corner Lot Side Road 15 ft.
Rear Yard 20 ft.



WISCONSIN
JOSHUA D. PUODELKO
E-39420
WATATOSA, WI

TRIO
DESIGN • LAND SURVEYING
CIVIL ENGINEERING

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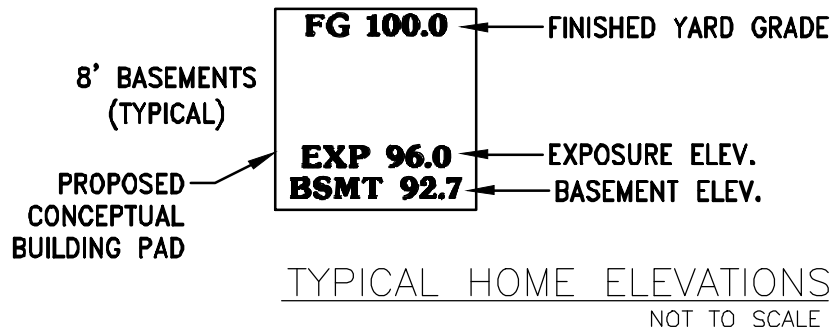
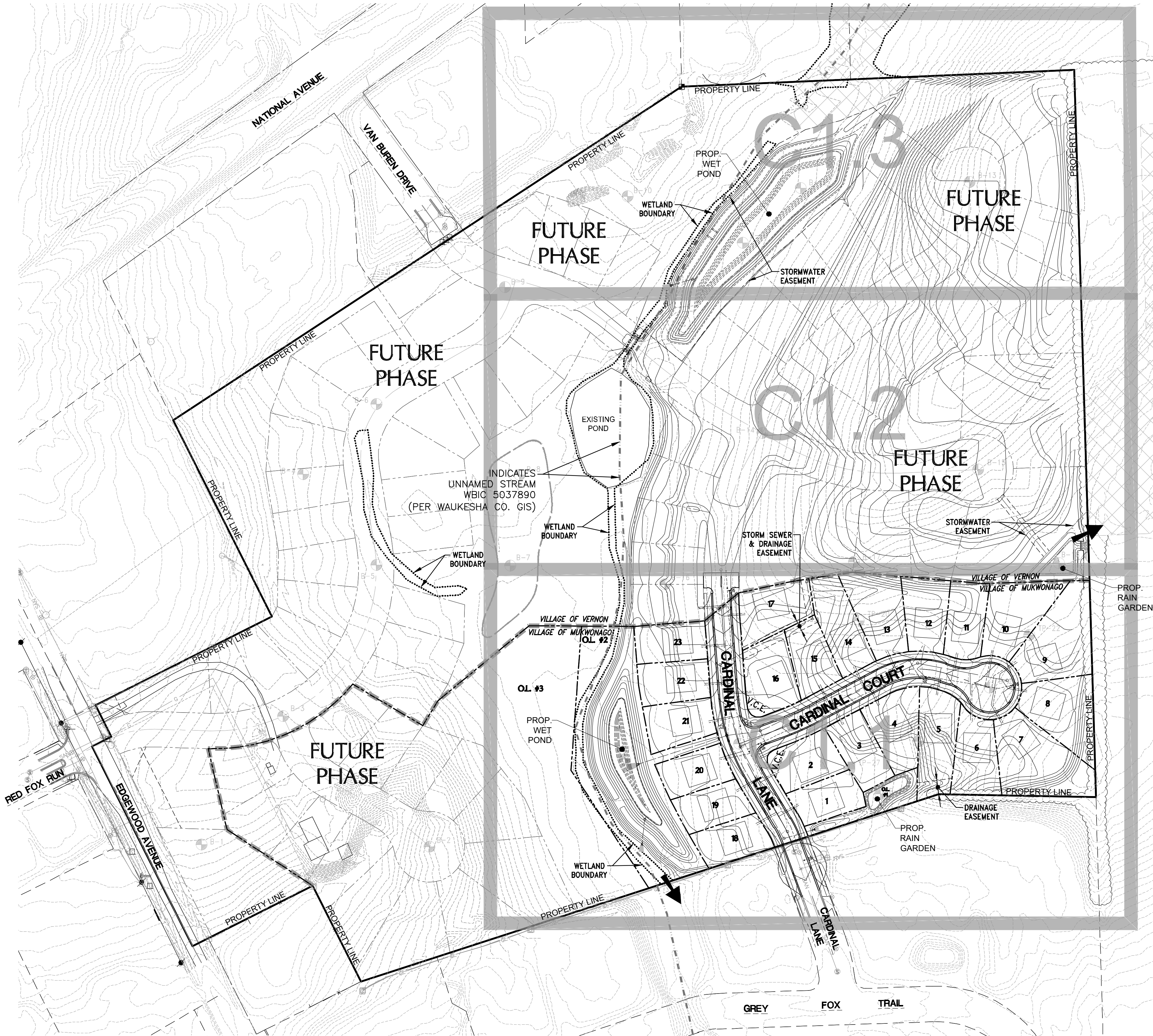
DESCRIPTION:

PHASE 1
SITE PLAN

SHEET

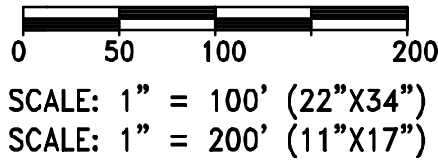
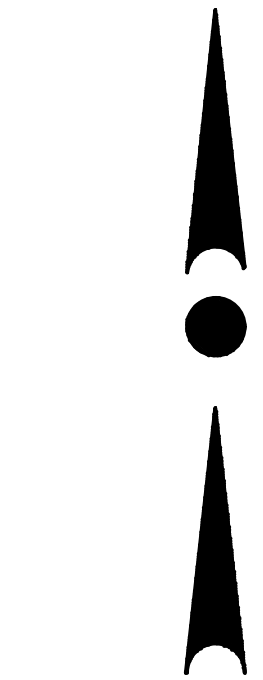
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VISION CORNER EASEMENT NOTE:
PER VILLAGE ORDINANCE (SECTION
100-406), LANDSCAPING, MONUMENTS AND
OTHER OBSTRUCTIONS MUST NOT BE
LOCATED WITHIN VISION CORNER EASEMENT.

LEGEND:	
---	850 - EXISTING CONTOUR
---	850 - PROPOSED CONTOUR
x 850.5	- PROPOSED SPOT ELEVATION
←	- PROPOSED FLOW ARROW
FG 850.0	- PROPOSED YARD GRADE
EXP 842.0	- PROPOSED EXPOSURE GRADE
⊗	- SOIL BORING LOCATION



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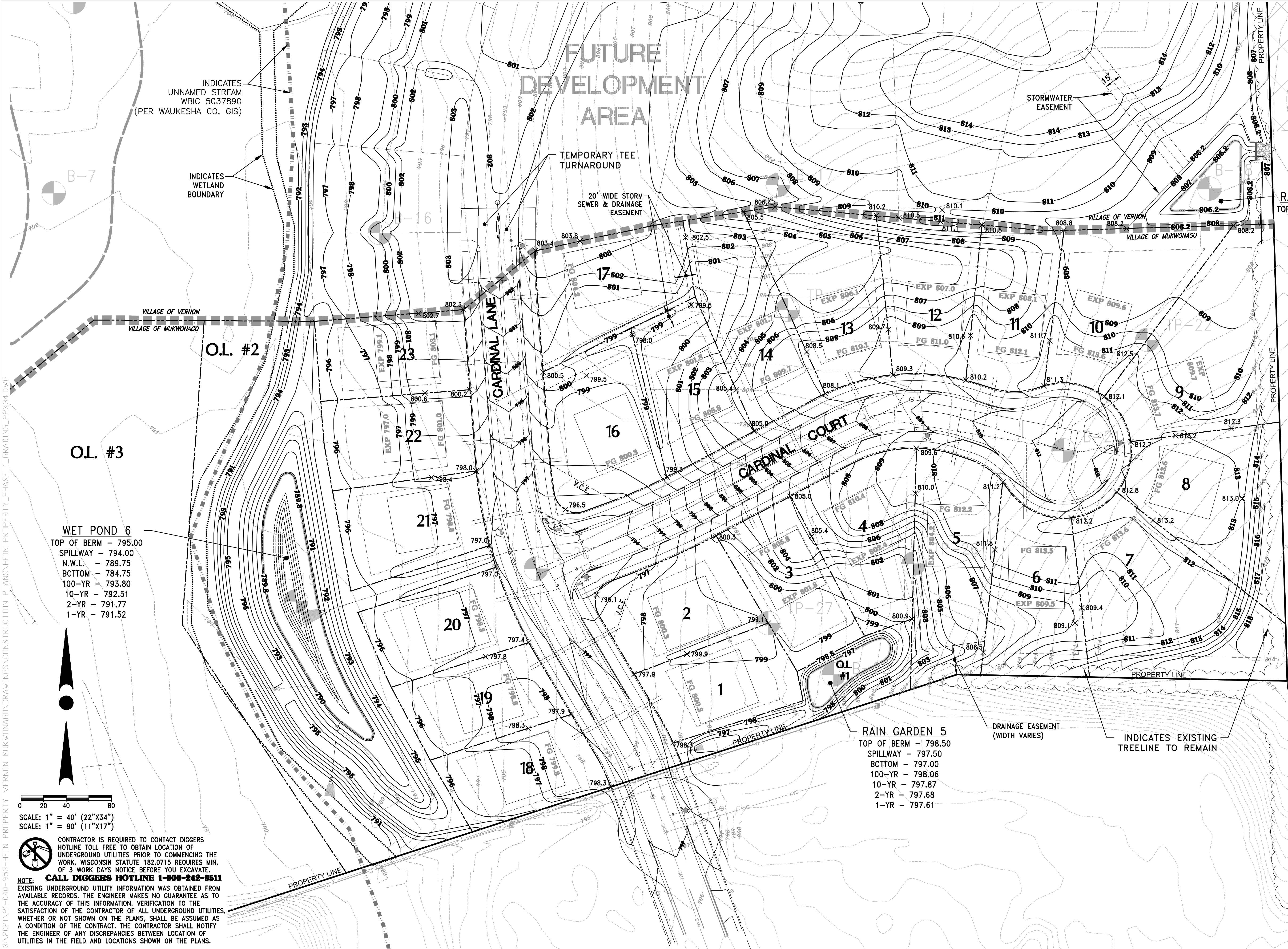
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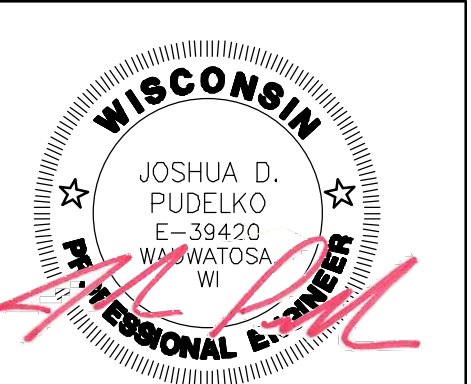
**OVERALL GRADING
& DRAINAGE PLAN**

SHEET

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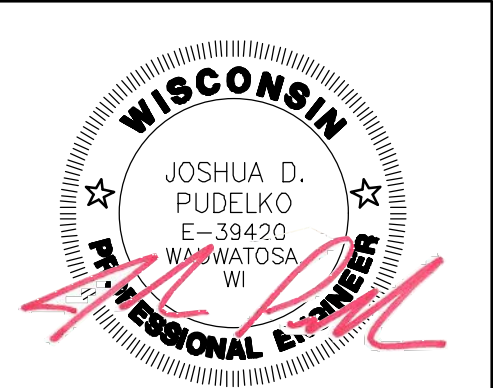
DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
**GRADING &
DRAINAGE PLAN**

SHEET

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PROJECT:
CARDINAL RIDGE - PHASE 1
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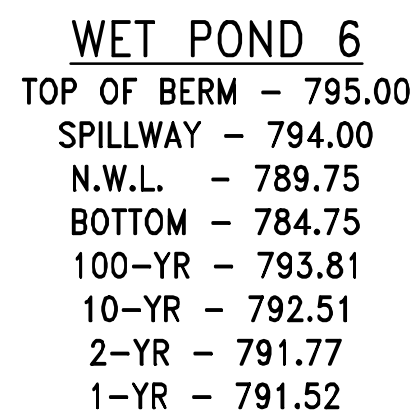
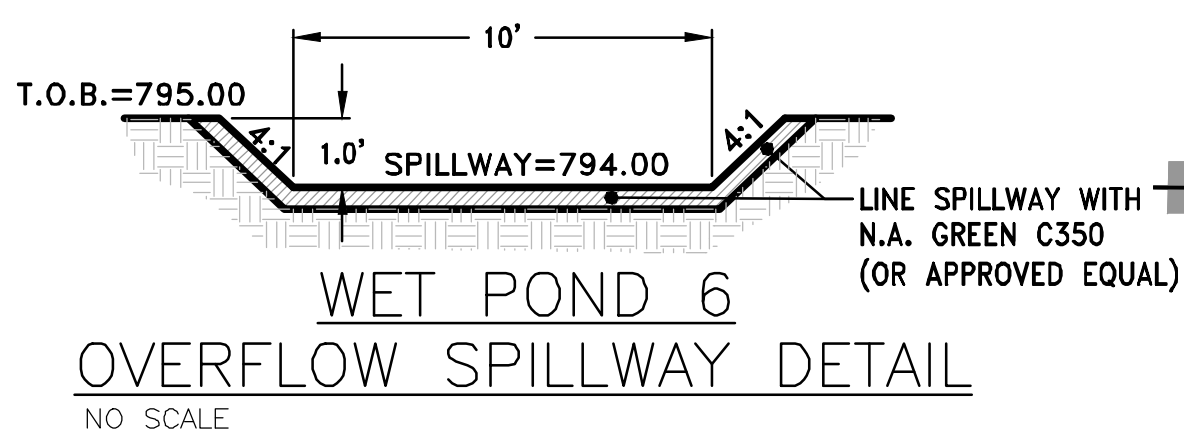
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JOB NUMBER:
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DESCRIPTION:
MASTER
GRADING &
DRAINAGE PLAN

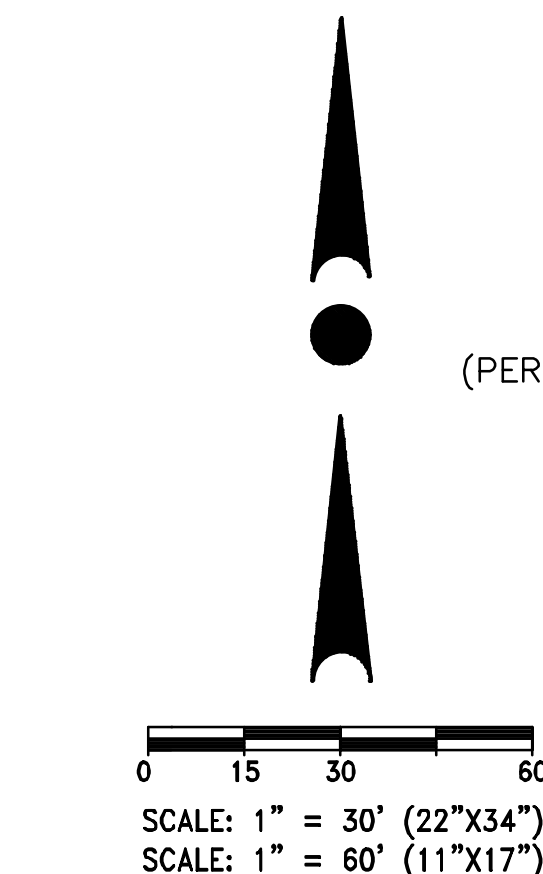
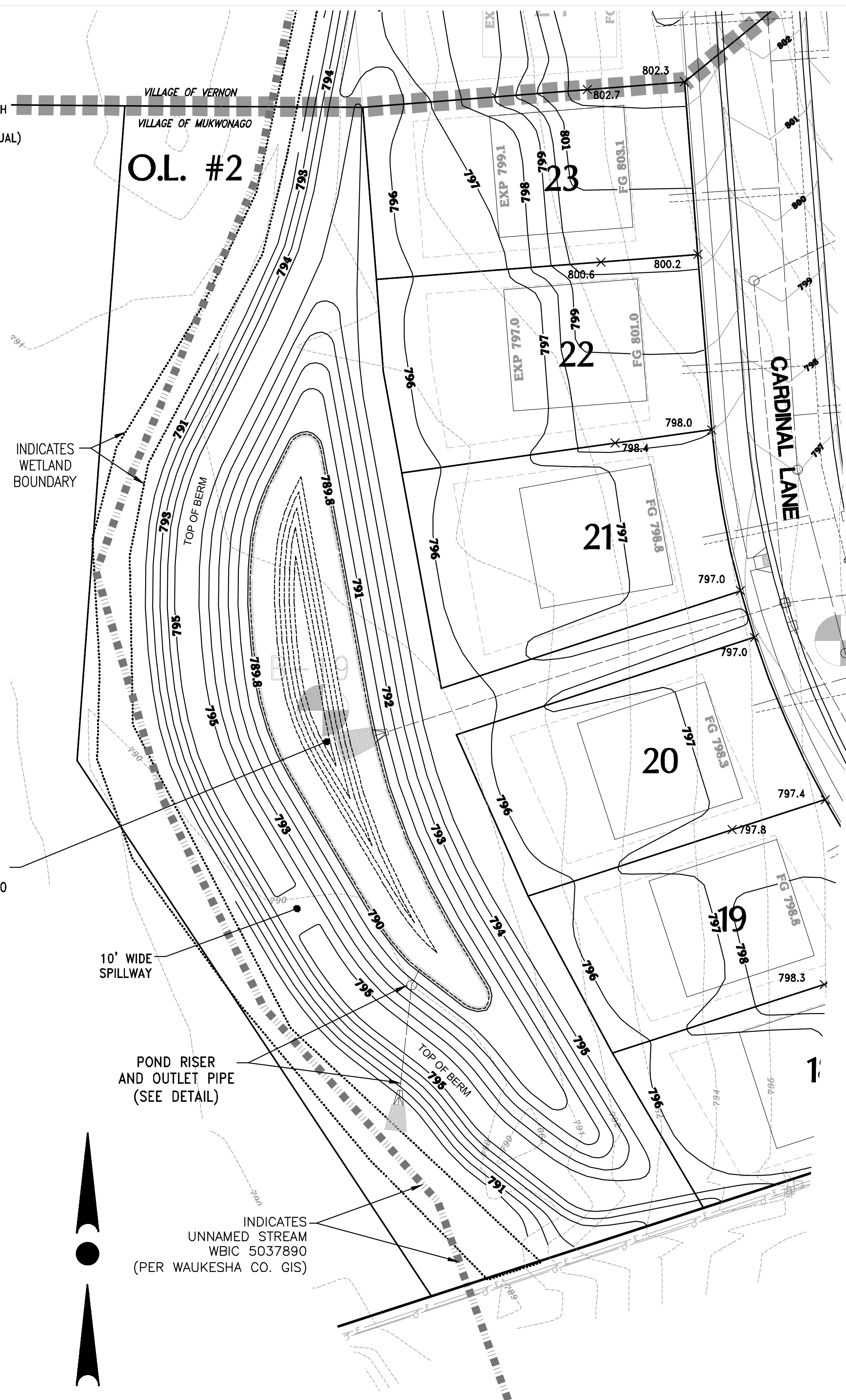
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RIP-RAP NOTE:
RIP-RAP IS TO EXTEND FROM ALL STORM SEWER OUTFALLS
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TWO-PIECE ANTI-SEEP COLLAR NOTES:

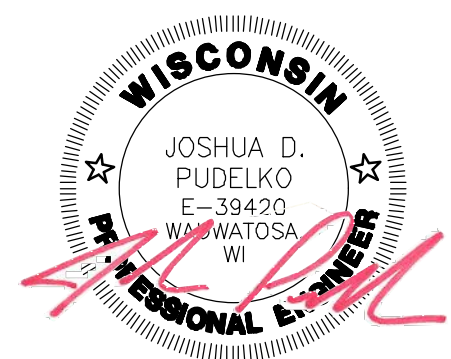
- ANTI-SEEP COLLARS SHALL INCLUDE 1/4" POLYETHYLENE SHEETS WITH COLLAR FOR PIPE; DIMENSIONS SHALL BE AS NOTED ON THE DETAIL.
- INSTALL ANTI-SEEP COLLARS PER MANUFACTURER SPECIFICATIONS.



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N27W24025 PAUL COURT, SUITE 100
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POND DETAILS

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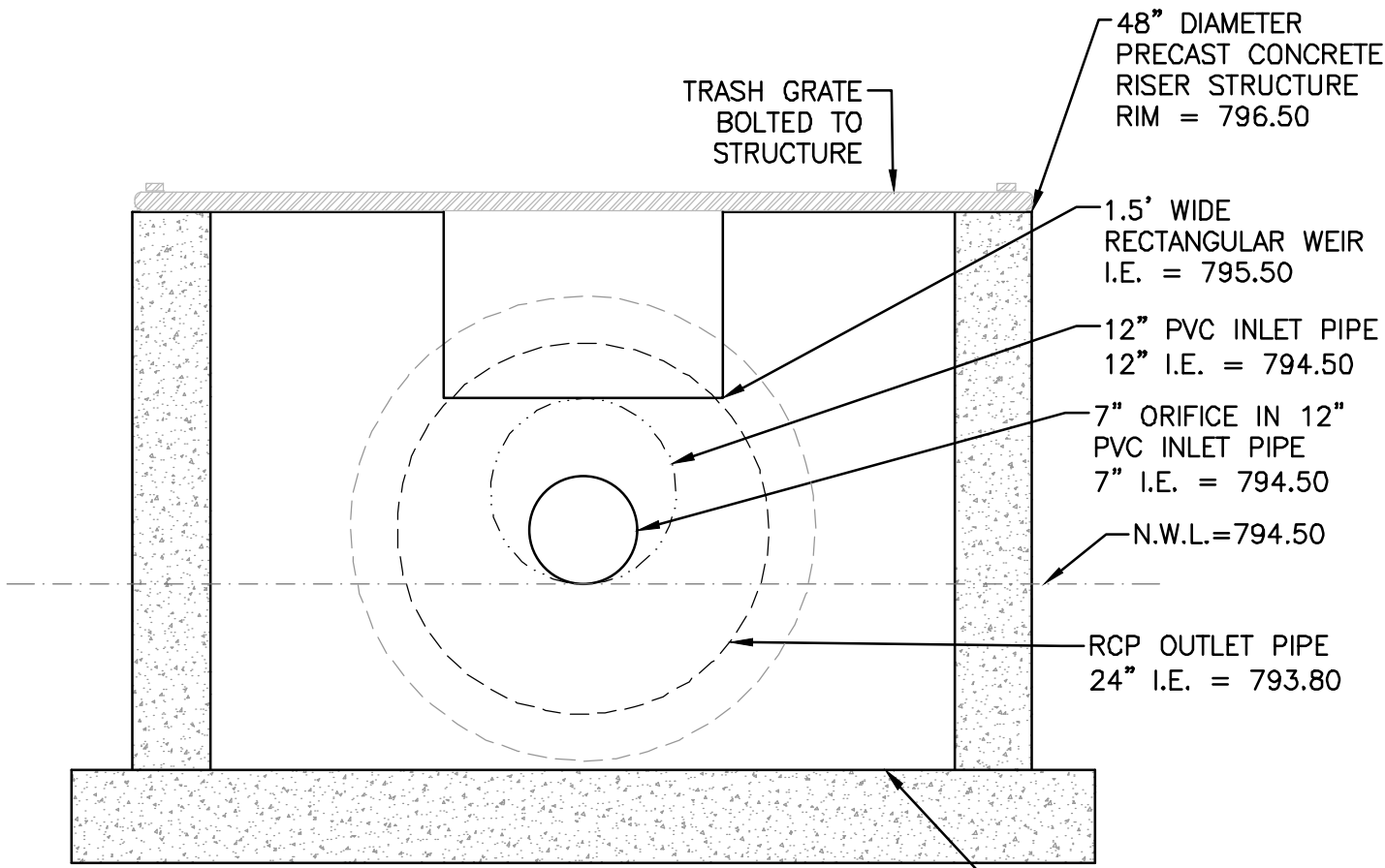
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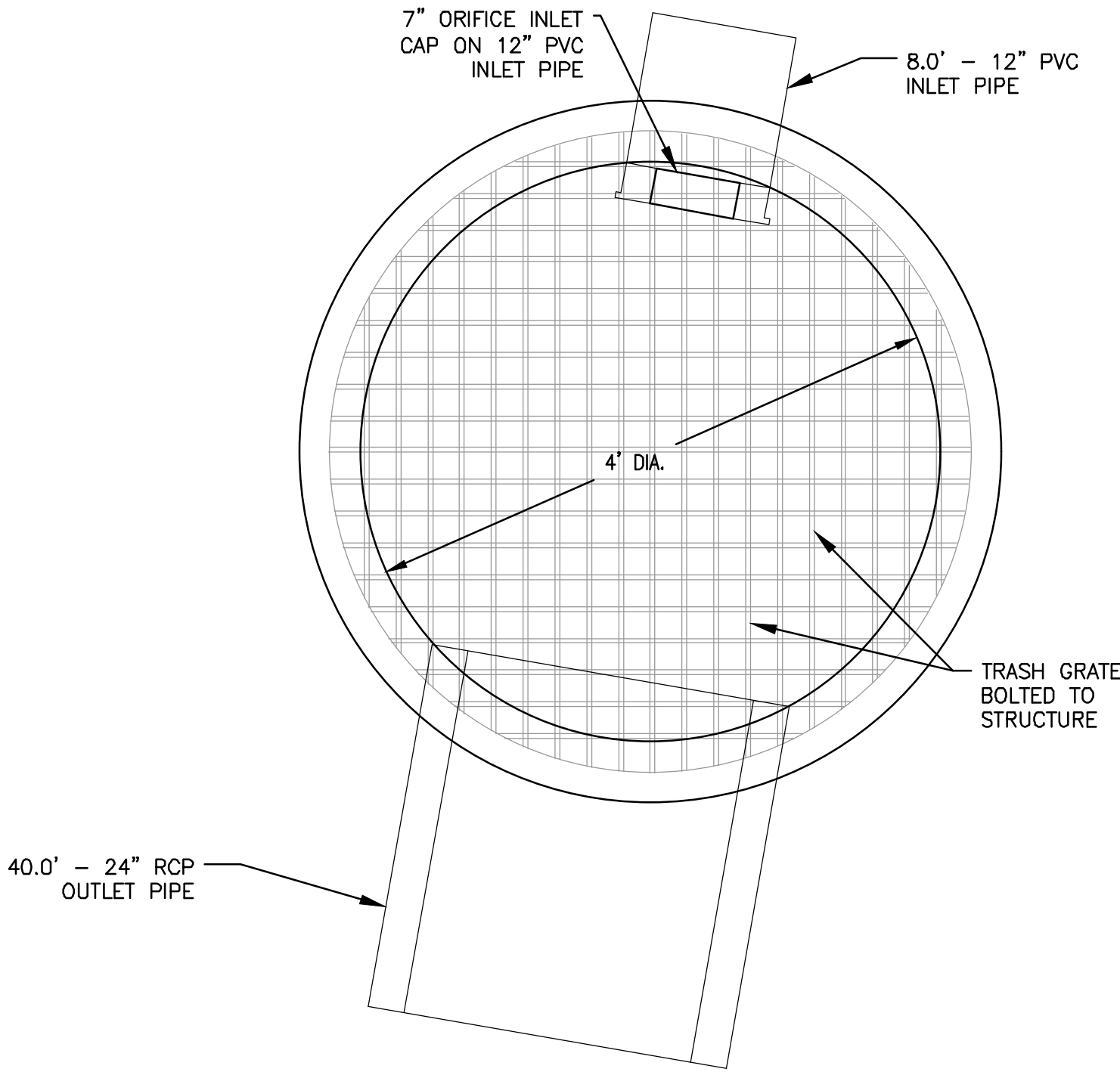


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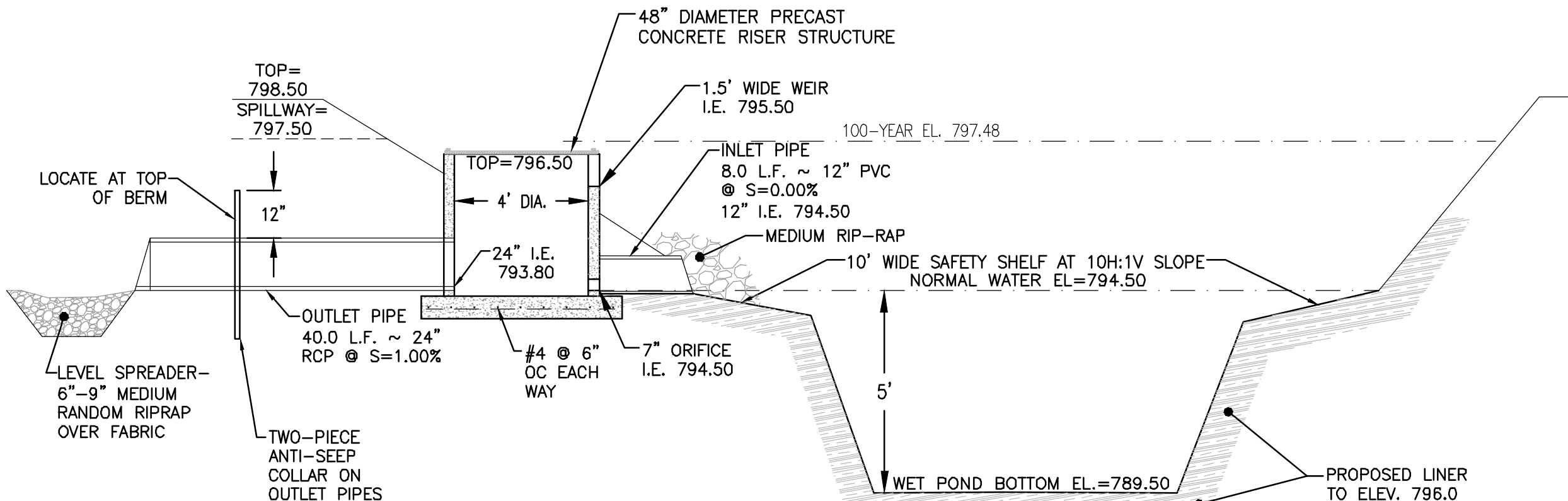
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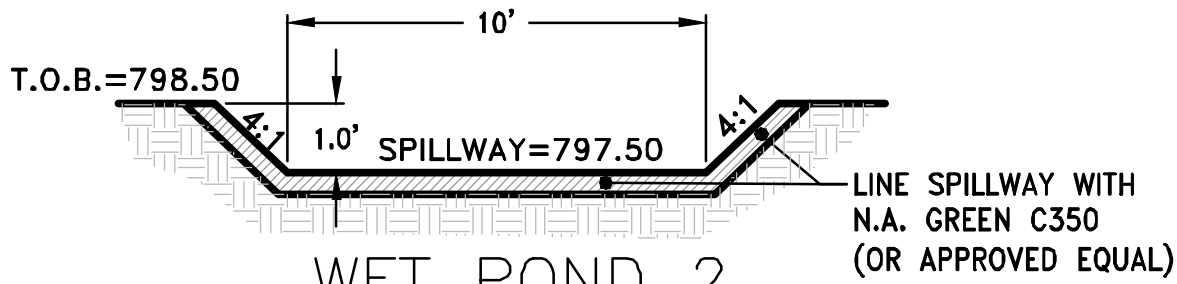
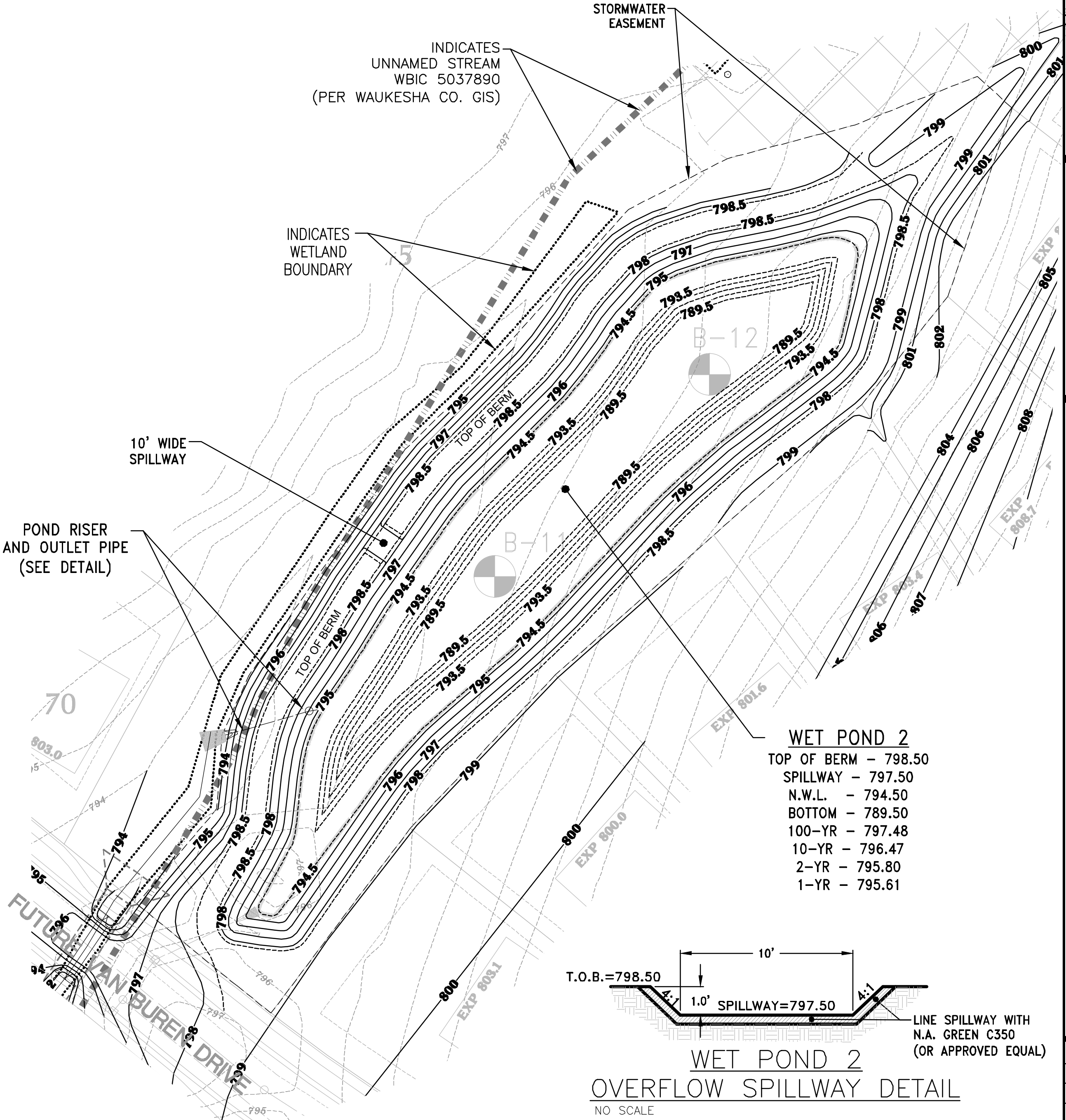
WET POND 2
OUTLET STRUCTURE FRONT VIEW
NOT TO SCALE



WET POND 2
OUTLET STRUCTURE TOP VIEW
NOT TO SCALE



WET POND 2 & OUTLET STRUCTURE DETAIL
NO SCALE

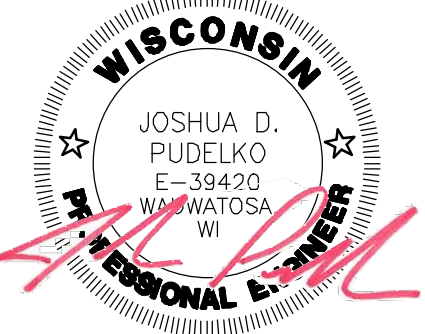


WET POND 2
OVERFLOW SPILLWAY DETAIL
NO SCALE

CLAY LINER NOTE:
-2" THICK CLAY LINER IN ACCORDANCE WITH WDNR TECH. STD. 1001 TYPE A, AND SOILS REPORT.
-GEOSYNTHETIC CLAY LINER (GCL) OR HDPE LINER, IN ACCORDANCE WITH WDNR TECH. STD. 1001 TYPE A, MAY BE USED IN LIEU OF CLAY LINERS.
-LINER SHALL BE PLACED TO THE 2-YEAR PEAK PONDING ELEVATION OR A MIN. 1' ABOVE THE SEASONAL HIGH GROUND WATER ELEVATION, WHICHEVER IS HIGHER.
-CLAY LINER MATERIALS SHOULD BE COMPACTED TO A MINIMUM OF 90 TO 92% DRY DENSITY AS DETERMINED BY MODIFIED PROCTOR (ASTM D1557)
-IF PREDOMINANTLY GRANULAR TEXTURE SOILS AND/OR GROUNDWATER INFLOW IS ENCOUNTERED AT OR BELOW THE BOTTOM ELEVATION OF THE POND, A "SACRIFICIAL" LIFT OF CLAYEY FILL MAY BE REQUIRED TO BE PLACED ALONG THE SIDEWALLS AND BASE PRIOR TO COMMENCING WITH ACTUAL LINER PLACEMENT/CONSTRUCTION TO AID IN ATTAINING A SATISFACTORILY COMPACTED LINER SECTION. THE PLACEMENT OF A "SACRIFICIAL" LAYER IS PARTICULARLY BENEFICIAL IN CREATING A STABLE SUBBASE IN THE EVENT SLIGHT GROUNDWATER SEEPAGE OCCURS.
- GEOTECHNICAL TESTING SHALL BE PERFORMED ON POTENTIAL CLAY LINER MATERIAL TO CONFIRM THAT SPECIFICATIONS ARE MET.
-WET POND SHALL BE FILLED TO NORMAL WATER LEVEL IMMEDIATELY AFTER PLACING LINER TO PREVENT CRACKING.

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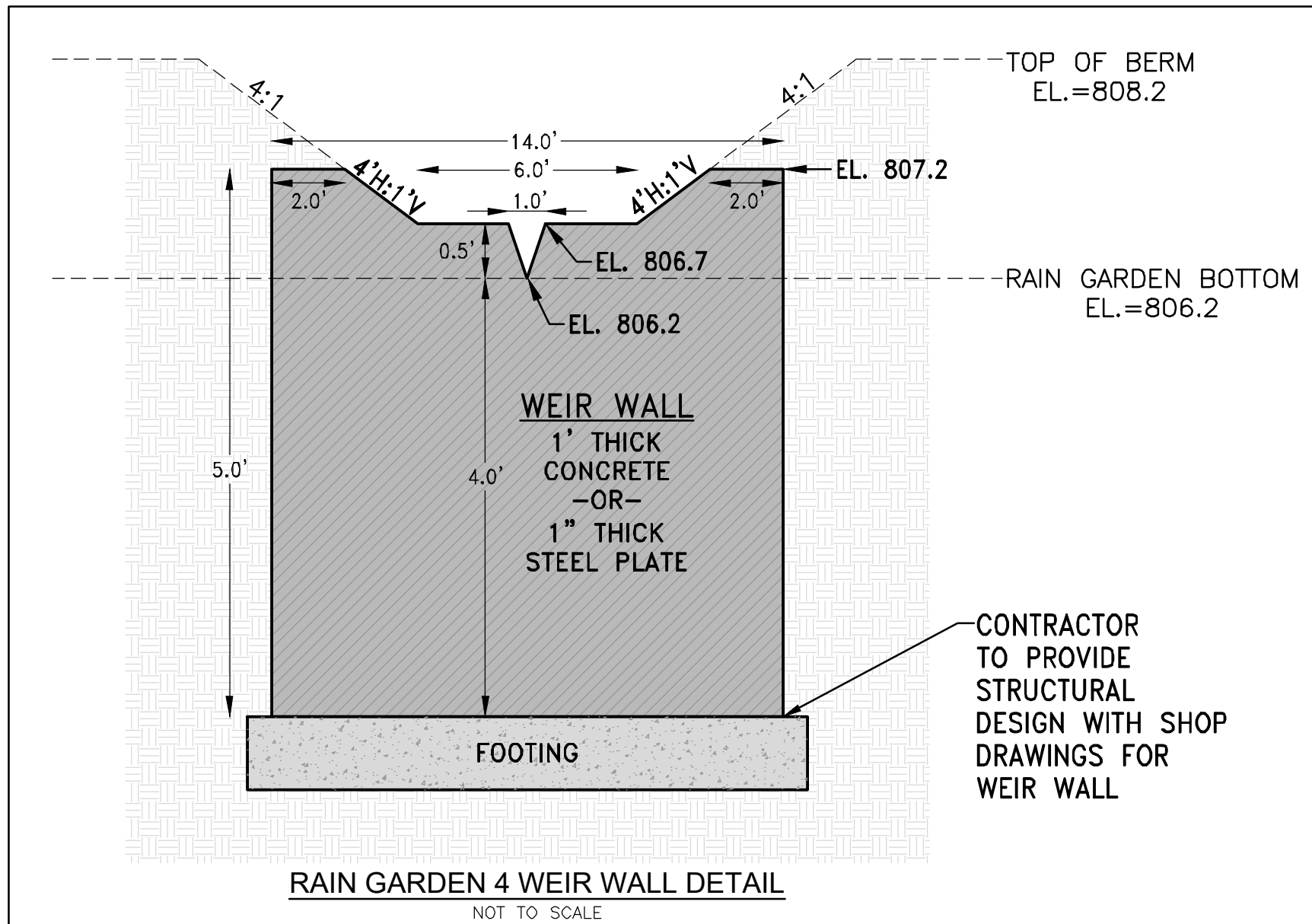
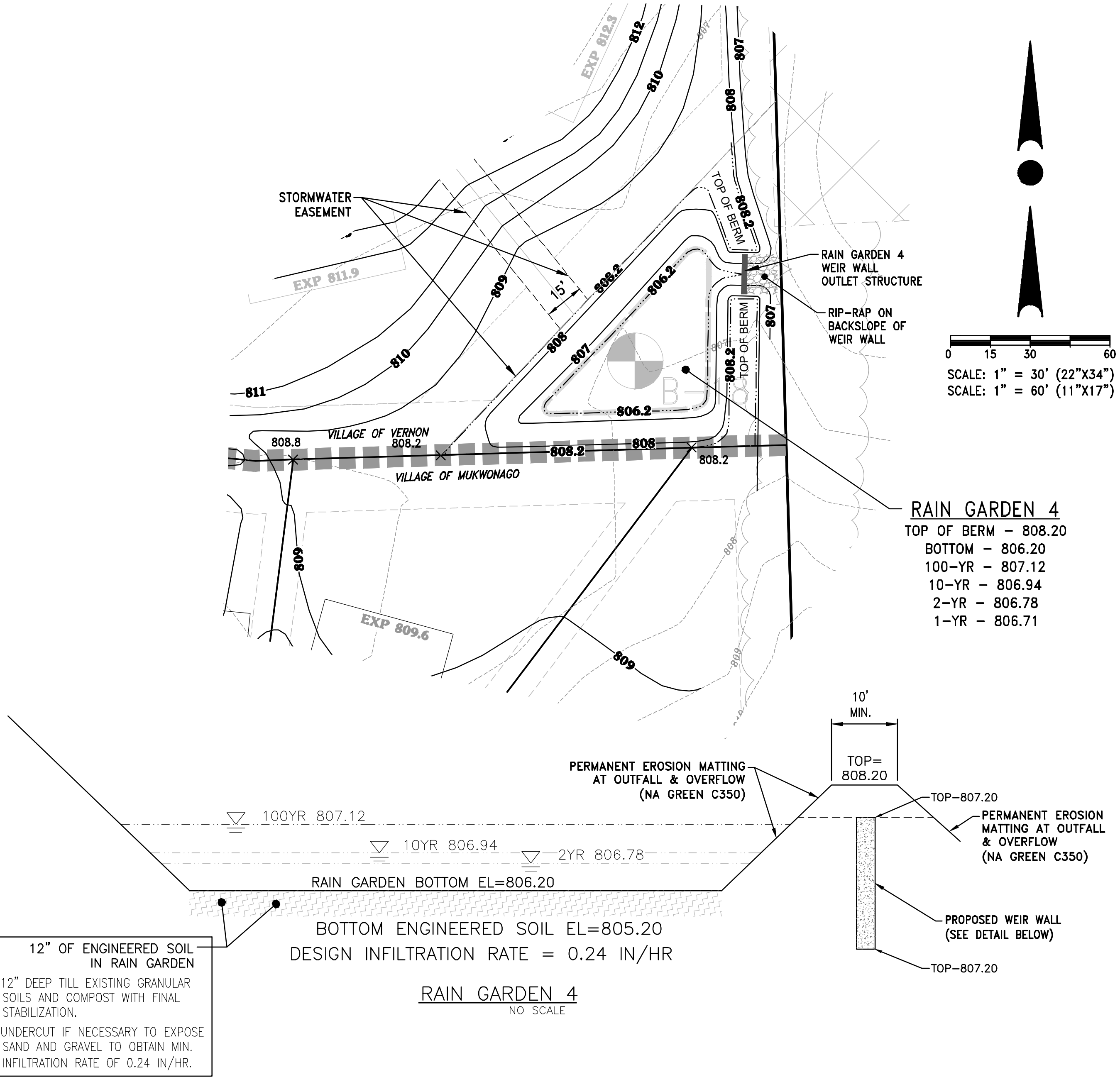
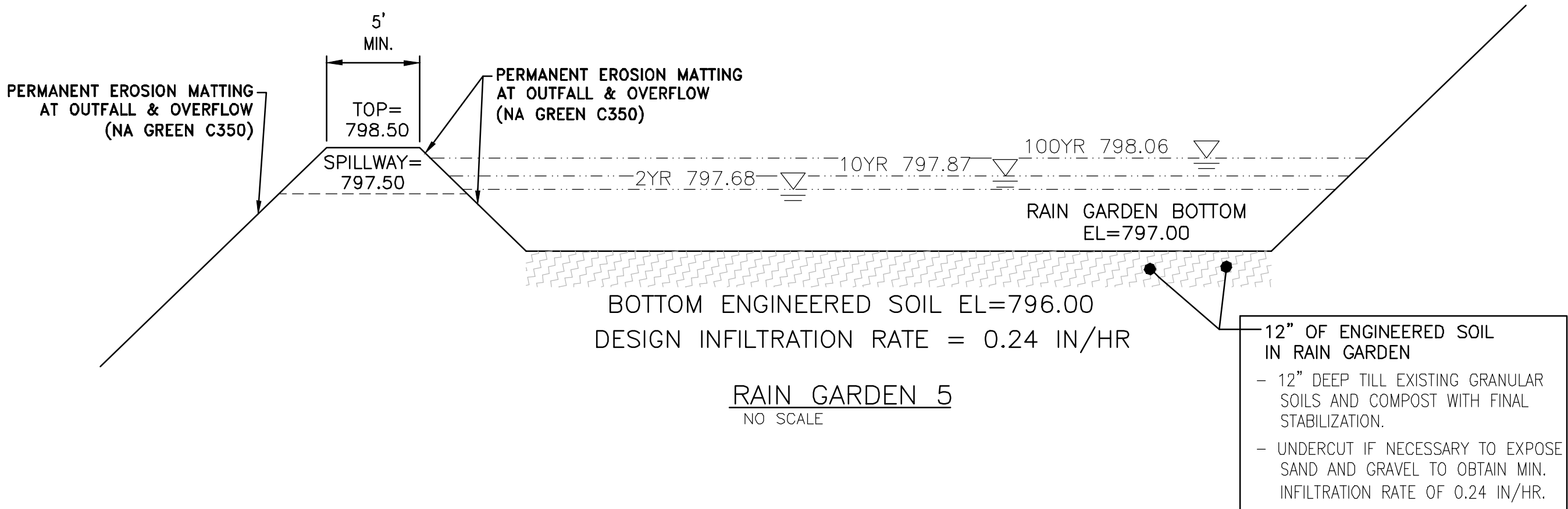
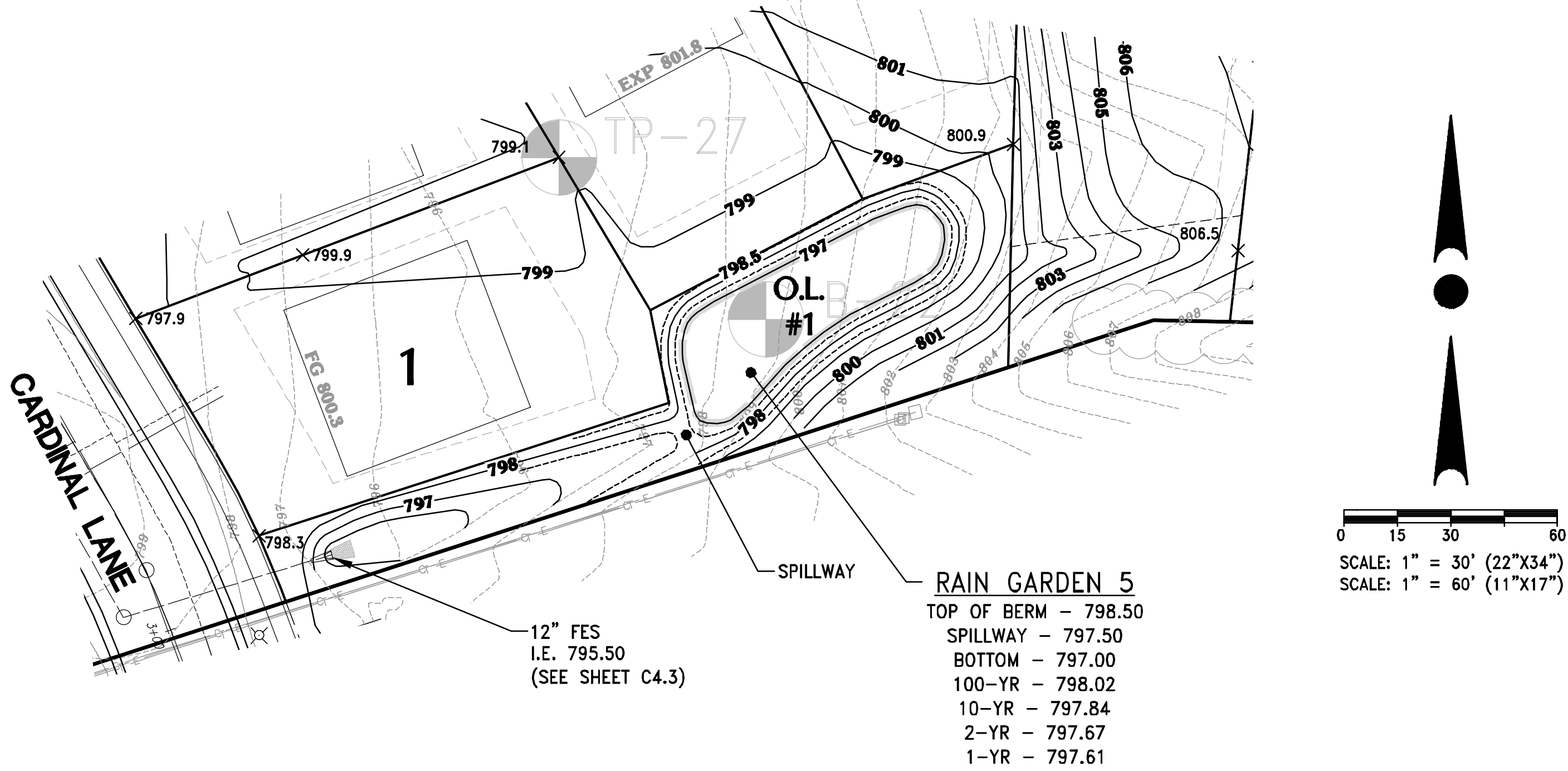
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ENGINEERED SOIL MIX:	
COMPONENT	% COMPOSITION (BY VOLUME)
LOCAL SAND	70%
COMPOST	30%

RAIN GARDEN CONSTRUCTION NOTES

- RAIN GARDEN FOOTPRINT SHALL BE (OVER)EXCAVATED WITH ROUGH GRADING.
- FINAL RAIN GARDEN WORK SHALL NOT BE INSTALLED UNTIL THE SITE IS SUBSTANTIALLY STABILIZED.
- DURING ALL PHASES OF CONSTRUCTION, THE BASIN AREAS SHALL BE PROTECTED FROM HEAVY EQUIPMENT COMPACTION.
- REMOVE ACCUMULATED SEDIMENT PRIOR TO PLACEMENT OF ENGINEERED SOIL.
- ENGINEERED SOIL SHALL BE PLACED IN 6 INCH LIFTS TO AVOID COMPACTION.
- ENGINEERED SOIL PLACED IN THE RAIN GARDEN AREAS SHALL NOT BE COMPACTED.
- PLACEMENT OF ENGINEERED SOILS SHALL BE SUSPENDED IN PERIODS OF RAINFALL AND SNOWMELT AND SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT.



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- EROSION CONTROL NOTES:
1. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
 2. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN, DETAILING SPECIFIC MEASURES THAT WILL BE USED IN THE VARIOUS STAGES OF CONSTRUCTION FOR APPROVAL BY THE ENGINEER.
 3. IMPLEMENTATION: THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL AFTER INITIAL EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER.
 4. EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - A. DIVERT UPSTREAM RUNOFF FROM FLOWING THROUGH THE CONSTRUCTION SITE.
 - B. PROTECT DOWNSTREAM OR ADJACENT WATERWAYS AND WETLANDS WITH SILT FENCE.
 - C. DELAY STRIPPING TOPSOIL UNTIL REQUIRED FOR CONSTRUCTION.
 - D. PLACE SILT FENCE OR EROSION CONTROL BALES IN DITCHES AND OTHER DRAINAGE WAYS TO COLLECT SEDIMENT AND TO SLOW THE VELOCITY OF RUNOFF.
 - E. MAINTAIN EXISTING SEDIMENT BASIN AS DICTATED BY SITE CONDITIONS.
 - F. PROTECT STORM SEWER INLETS AND THE UPSTREAM END OF CULVERTS WITH SILT FENCE OR EROSION CONTROL BALES.
 - G. PROMPT REMOVAL OF EXCAVATED MATERIAL.
 - H. PROPER STORAGE OF BACKFILL AND BEDDING MATERIALS INCLUDING PLACING SILT FENCE OR EROSION CONTROL BALES ON THE DOWNSLOPE SIDES OF SPOIL PILES.
 - I. CONSTRUCTION OF TRACKING PAD TO CONSTRUCTION SITE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
 - J. PROMPT (SAME DAY) CLEANUP OF MATERIAL TRACKED ONTO ADJACENT STREETS.
 - K. TIMELY RESTORATION OF DAMAGE SURFACE AREAS.
 - L. ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15, MUST BE TEMPORARY SEEDED AS OF THAT DATE.
 5. TEMPORARY EROSION CONTROL MEASURES:
 - A. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES, WHERE EROSION IS LIKELY TO BE A PROBLEM, PRIOR TO BEGINNING WORK ON THOSE SECTION(S) OF THE PROJECT. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL AFTER PERMANENT EROSION CONTROL, SUCH AS SEEDING OR SODDING, HAS BEEN ESTABLISHED.
 - B. IN THE EVENT THE PERMANENT EROSION CONTROL MEASURES ARE NOT FULLY IMPLEMENTED IN CURRENT CONSTRUCTION SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL AFTER PERMANENT MEASURES HAVE BEEN COMPLETED IN THE FOLLOWING YEAR.
 6. ALL DISTURBANCE AREAS THAT REMAIN INACTIVE FOR SEVEN DAYS OR LONGER SHALL RECEIVE TEMPORARY SEEDING.
 7. TRENCH DEWATERING SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS.
 8. INSTALL SILT FENCE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DETAILS
 9. ALL RIP RAP AT PIPE OUTLETS SHALL BE 3'x5' MEDIUM RIP RAP OVER TYPE R FABRIC PER WDOT SPECIFICATIONS UNLESS OTHERWISE DESIGNATED.
 10. EROSION CONTROL INSPECTION AND MAINTENANCE
 - A. INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER SITE RECEIVES 0.5" OF RAIN IN A 24-HOUR PERIOD DURING CONSTRUCTION.
 - B. REPAIR OR REPLACE EROSION CONTROLS THAT ARE DAMAGED OR FAILING.
 11. ALL AREAS TO BE SEEDDED AND MULCHED SHALL USE WDOT SEED MIXTURE NO. 20. MULCH SHALL APPLIED PER WDOT SPECIFICATIONS USING METHOD B FOR PLACEMENT.

CONSTRUCTION SEQUENCE PLAN

1. INSTALL TRACKING PAD. MAIN STREET IS THE ONLY ENTRANCE TO BE USED FOR CONSTRUCTION ACTIVITIES.
2. INSTALL SILT FENCE AROUND THE PERIMETER OF THE SITE.
3. CLEAR AND GRUB CONSTRUCTION AREAS AS REQUIRED.
4. STRIP TOPSOIL FROM THE TEMPORARY SEDIMENT BASIN AREA (INCLUDING ASSOCIATED/ADJACENT FILL PLACEMENT AREAS) AND STOCKPILE. SEED AND STABILIZE STOCKPILES IMMEDIATELY UPON COMPLETION OF STOCKPILING.
5. CONSTRUCT TEMPORARY DIVERSION BERMS AND SWALES (WITH DITCH CHECKS) TO DIRECT RUNOFF TO THE TEMPORARY SEDIMENT BASINS, AS INDICATED ON THE PLAN.
6. BEGIN STRIPPING TOPSOIL, IMPORTING OF CLEAN STRUCTURAL FILL, AND ROUGH GRADING OF THE SITE. NOTE THAT ROUGH GRADING MAY OCCUR CONCURRENT WITH CONSTRUCTION OF THE TEMPORARY DIVERSIONS.
7. INSTALL SANITARY SEWER AND WATER MAIN. COMPLETE ALL TESTING AND CONTACT VILLAGE PRIOR TO CONNECTING TO EXISTING MAINS. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH ROUGH GRADING ONCE THE UTILITY AREAS HAVE BEEN GRADED TO SUBGRADE.
8. INSTALL STORM SEWER AND ASSOCIATED EROSION CONTROL MEASURES PER EROSION CONTROL PLAN. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH SANITARY SEWER AND WATER MAIN INSTALLATION.
9. FINISH GRADE THE SITE. NOTE THAT THIS STEP MAY OCCUR CONCURRENT WITH STORM SEWER INSTALLATION.
10. INSTALL STONE BASE COURSE, CONSTRUCT CURB AND SIDEWALK, AND PLACE BINDER COURSE PAVEMENT. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING.
11. REMOVE TRACKING PAD ONCE ROADS ARE COMPLETED. RESTORE DISTURBED AREA.
12. RESPREAD TOPSOIL AND PLACE SEED, MULCH, MATTING AND OTHER SITE STABILIZERS AS NEEDED. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING AND ROAD CONSTRUCTION. ALSO NOTE THAT ANY AREAS, SUCH AS POND SLOPES, THAT ARE FINISH GRADED AND TOPSOILED SHALL BE SEEDDED, MULCHED AND/OR MATTED IMMEDIATELY AFTER TOPSOIL IS PLACED.
13. LATE SEASON (AFTER OCTOBER 15) STABILIZATION NOTES:
 - 13.1. ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15 MUST BE TEMPORARY SEEDDED AS OF THAT DATE.
 - 13.2. ANY FINAL SITE STABILIZATION THAT OCCURS AFTER OCTOBER 15 MAY REQUIRE CONTRACTOR TO COVER DISTURBED AREAS WITH THE ANIONIC FORM OF POLYACRYLAMIDE (PAM), PER WDNR TECHNICAL STANDARD 1050 AND WISDOT PAL LIST. CONTRACTOR SHALL COORDINATE WITH VILLAGE ENGINEER AND WDNR FOR LATE SEASON STABILIZATION REQUIREMENTS.
14. REMOVE CONSTRUCTION EROSION CONTROL MEASURES AFTER SITE IS STABILIZED (SUBSTANTIALLY VEGETATED) AND ALL PHASE 4 CONSTRUCTION IS COMPLETE.

TEMPORARY DEWATERING GEOTEXTILE BAG

1. IF DEWATERING IS REQUIRED, A GEOTEXTILE DEWATERING BAG MEETING THE SPECIFICATIONS IN THE TABLE TO THE RIGHT SHALL BE UTILIZED AS STATED ON THE EROSION CONTROL PLAN.
2. REFER TO WDNR TECHNICAL STANDARDS 1061 AND MANUFACTURERS REQUIREMENTS FOR INSTALLATION AND MAINTENANCE REQUIREMENTS.
3. CONTRACTOR MAY USE THRACE-LING, INC 275EX GEOTEXTILE BAG, OR FUNCTIONAL EQUIVALENT TO MEET TECHNICAL STANDARD REQUIREMENTS.
4. CONTRACTOR MAY INSTALL HAY BALES AROUND DEWATERING BAG FOR STABILIZATION AS DICTATED BY SITE CONDITIONS.
5. MAX FLOW RATE SHALL NOT EXCEED 100GPM

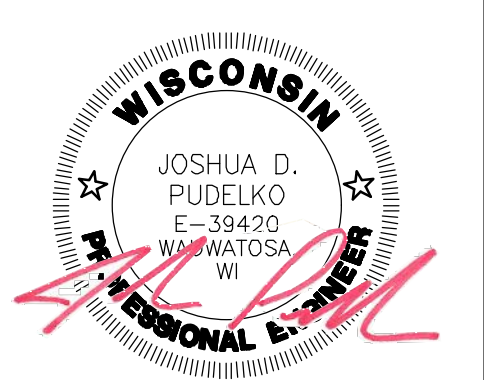
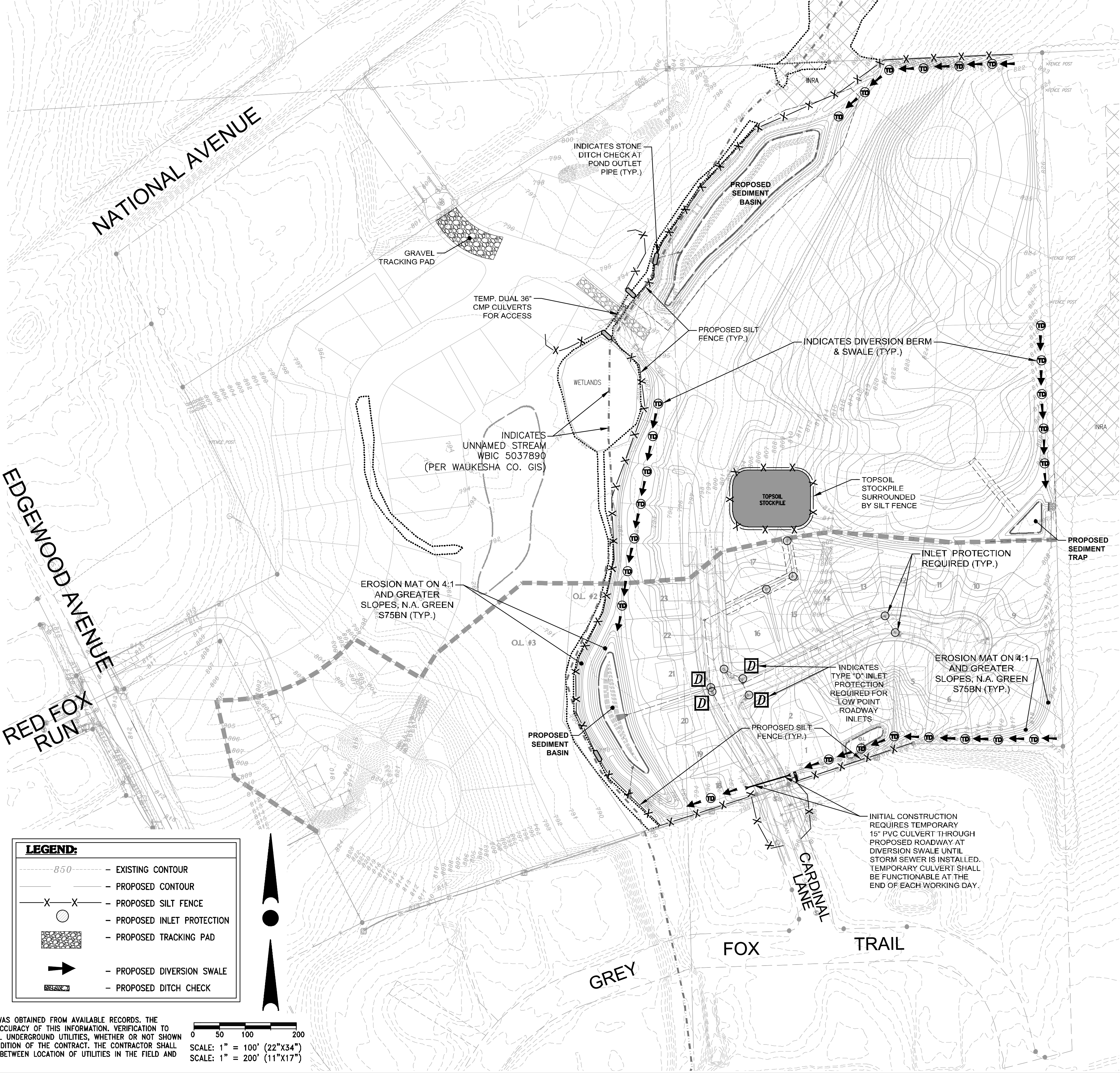
Property	Test Method	Type I Value
Maximum Apparent Opening Sizes	ASTM D-4751	0.212 mm
Grab Tensile Strength	ASTM D-4632	200 lbs.
Mullen Burst	ASTM D-3786	350 psi
Permeability	ASTM D-4491	0.28 cm/sec
Fabric	Nominal Representative Weight	8 oz

LEGEND:

- 850 — EXISTING CONTOUR
- PROPOSED CONTOUR
- X X — PROPOSED SILT FENCE
- — PROPOSED INLET PROTECTION
- ▢ — PROPOSED TRACKING PAD
- — PROPOSED DIVERSION SWALE
- PROPOSED DITCH CHECK

NOTE:
EXISTING UNDERGROUND UTILITY INFORMATION WAS OBTAINED FROM AVAILABLE RECORDS. THE ENGINEER MAKES NO GUARANTEE AS TO THE ACCURACY OF THIS INFORMATION. VERIFICATION TO THE SATISFACTION OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE ASSUMED AS A CONDITION OF THE CONTRACT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN LOCATION OF UTILITIES IN THE FIELD AND LOCATIONS SHOWN ON THE PLANS.

0 50 100 200
SCALE: 1" = 100' (22"x34")
SCALE: 1" = 200' (11"x17")



PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
EROSION CONTROL PLAN

SHEET
C2.0

 CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
CALL DIGGERS HOTLINE 1-800-242-8511

X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1\EROSION CONTROL_22X34.DWG

LATE SEASON STABILIZATION REQUIREMENTS FOR SITES >1 ACRE

1. Vegetated Channels (roadside swales and other stormwater conveyances):

All planned vegetated channels shall be stabilized with BMPs (erosion control matting, sod, etc.) by no later than November 15 in accordance with DNR technical standards and the criteria listed below. Ditch checks, sediment traps and other sediment control BMPs are only for use *during* channel grading work, and must be replaced with final site stabilization BMPs per the approved plans ASAP. None of these are suitable for controlling erosion/sedimentation of open channels over winter.

2. Timing Determines Requirements and BMPs:

The stabilization BMPs that must be implemented depend on the timing of the seeding (cool season grasses), and are organized in three risk categories, as listed below. The later the timing, the lower the success rates are for timely vegetative cover - and therefore the higher the risks of erosion and off-site sediment discharges.

a. Risk Level 1: Permanent Vegetation (before September 15):

To ensure successful fall seed germination, topsoil, seed and fertilize all disturbed areas by September 15 in accordance with the following:

- i. **Seeding.** Prepare seedbed and sow seeds per the rates and mixes of Wisconsin Department of Transportation (WisDOT) Roadway Standard Section 630.
- i. **Erosion Control:** Immediately apply mulch, erosion control matting, or other permanent stabilization BMPs as specified in the approved erosion control plans. Application of all erosion control measures shall follow DNR technical standards.
- ii. **Maintenance:** Inspect all seeded areas weekly. Ensure adequate water is provided until full vegetative cover is obtained, and repair any erosion problems, wash outs, etc.

b. Risk Level 2: Temporary Vegetation (before October 15):

Due to the cooler soil temperatures and the likelihood of overnight frost conditions, perennial cool season plant growth is slow and survival is at risk from September 15 - October 15. To offer more protection from soil erosion during this period, topsoil, seed and fertilize all disturbed areas by October 15 in accordance with the following:

- i. **Seeding:** The above noted seeding mix must include a minimum of 2 lbs. per 1,000 sq. ft. of a temporary cover (i.e. winter wheat or annual rye grass for fall plantings) per Section 630.
- ii. **Erosion Control:** Immediately apply mulch, erosion control matting, or other stabilization BMPs as specified in the approved plan, following DNR technical standards. The following are minimum requirements for stabilizing sites during this period. Approved plans may be more restrictive due to site conditions:
 - 1. **Channel Flow (roadside swales, etc.) and Backslopes:** Stake erosion matting over all the entire channel cross-section and all backslopes using a minimum WisDOT Erosion Control Product Acceptability (PAL) Class 3 Type A matting, unless otherwise called for in the approved plan.
 - 2. **Other disturbed areas:** Apply Type B Soil Stabilizer, mulch and tackifier from the PAL to all disturbed areas that remain exposed.
 - 3. **Infalls/Outfalls:** Install sod pads (2 rolls) at all culvert outfalls, and other high-erosion locations in accordance with County standards.
- iii. **Maintenance:** Inspect all seeded areas weekly. Ensure adequate water is provided until full temporary cover is obtained, and repair any erosion problems, wash outs, etc.

c. Risk Level 3: Dormant Seeding (before November 15):

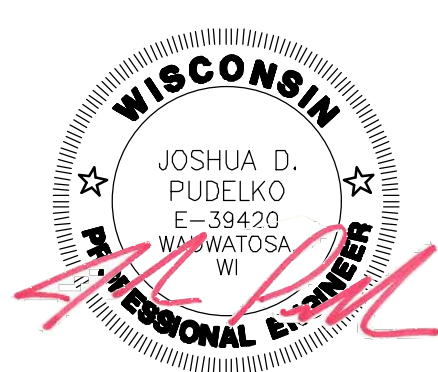
For areas not stabilized by October 15, erosion risks are high and additional erosion control measures and oversight are required, as described below. Temporary seeding must still be done, but fall germination and survival may be very limited. For perennial plants, dormant seeding should be done between October 20 and November 15. This means seed germination is planned for the following spring. To offer more protection from soil erosion during this period, topsoil, seed and fertilize all disturbed areas by November 15 in accordance with the following:

- i. **Seeding Rate:** Same seed mix as Risk Level 2 (including temporary cover crop) except the rates for perennial species must applied at 1.5 x WisDOT section 630 rates (apply rates of 3-5 lbs./1000 sq.ft.). Rates are increased to allow for poor germination rates associated with dormant seeding due to frozen conditions.
- ii. **Erosion Control:** In addition to applying topsoil, the above noted seed mix and starter fertilizer, the following are minimum requirements for stabilizing sites during this period. Approved erosion control plans may be more restrictive:
 - 1. **Channel Flow (roadside swales, etc.) and Backslopes:** Apply Type A soil stabilizer and staked PAL Class 3 Type A erosion matting over the entire channel and all backslopes.
 - 2. **Other Areas:** Apply Type A Soil Stabilizer from the PAL to all other disturbed areas that remain exposed.
 - 3. **Infalls/Outfalls:** Install sod pads (2 rolls) at all culvert outfalls, and other high-erosion locations in accordance with County standards.

iii. **Maintenance:** Inspect all seeded areas weekly. Ensure adequate water is provided until full temporary cover is obtained, and repair any erosion problems, wash outs, etc.

iv. **Reports:** The Project Engineer shall be responsible for emailing a report to the LRD by 4:30 pm every Wednesday after October 15, which shall include the following information:

- 1. Detailed status of all land disturbing and stabilization activities as of the day of the report.
- 2. Results of erosion control site inspections since October 15 or the previous report, whichever is shorter.
- 3. Any erosion control failures encountered and actions taken to rectify.
- 4. Projections for completion of all stabilization activities, including a 10- day plan based on the latest weather predictions.



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
06/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:

JULY 17, 2024

JOB NUMBER:

21-040-953

DESCRIPTION:

LATE SEASON
STABILIZATION
REQUIREMENTS

SHEET

C2.1



REVISION HISTORY	
DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

C3.0

- CONTRACTOR SHALL INSTALL PLASTIC COATED TRACER WIRE (10 GAUGE SOLID COPPER) PER COMM 82.30(11)(H). PLASTIC WIRE MAY BE TAPED TO PLASTIC PIPE. IF ATTACHED, THE TRACER SHALL BE SECURED EVERY 5 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.

	-	EXISTING CONTOUR
	-	EXISTING SANITARY SEWER
	-	EXISTING SANITARY MANHOLE
	-	EXISTING WATER MAIN
	-	EXISTING HYDRANT
	-	EXISTING STORM SEWER
	-	EXISTING STORM MANHOLE
	-	EXISTING STORM INLET
	-	EXISTING TRANSFORMER
	-	EXISTING ELECTRIC PEDESTAL
	-	EXISTING TELEPHONE PEDESTAL
	-	EXISTING CATV PEDESTAL
	-	EXISTING POWER POLE
	-	PROPOSED SANITARY SEWER
	-	PROPOSED SANITARY MANHOLE
	-	PROPOSED WATER MAIN
	-	PROPOSED HYDRANT
	-	PROPOSED WATER VALVE
	-	PROPOSED STORM SEWER
	-	PROPOSED STORM MANHOLE
	-	PROPOSED STORM INLET
	-	PROPOSED STORM END SECTION



REMOVE EXISTING
SAN MH #1 &
CONNECT TO EXISTING
15" SANITARY SEWER

—CONNECT TO EX. 12"
WATER MAIN
W/ 12"x8" REDUCER

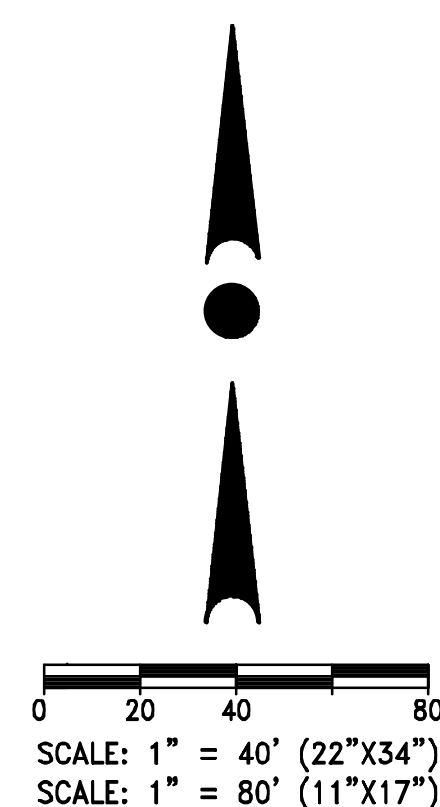
RELOCATE
EXISTING
HYDRANT
ASSEMBLY



CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

CALL DIGGERS HOTLINE 1-800-242-8511

NOTE:
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DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

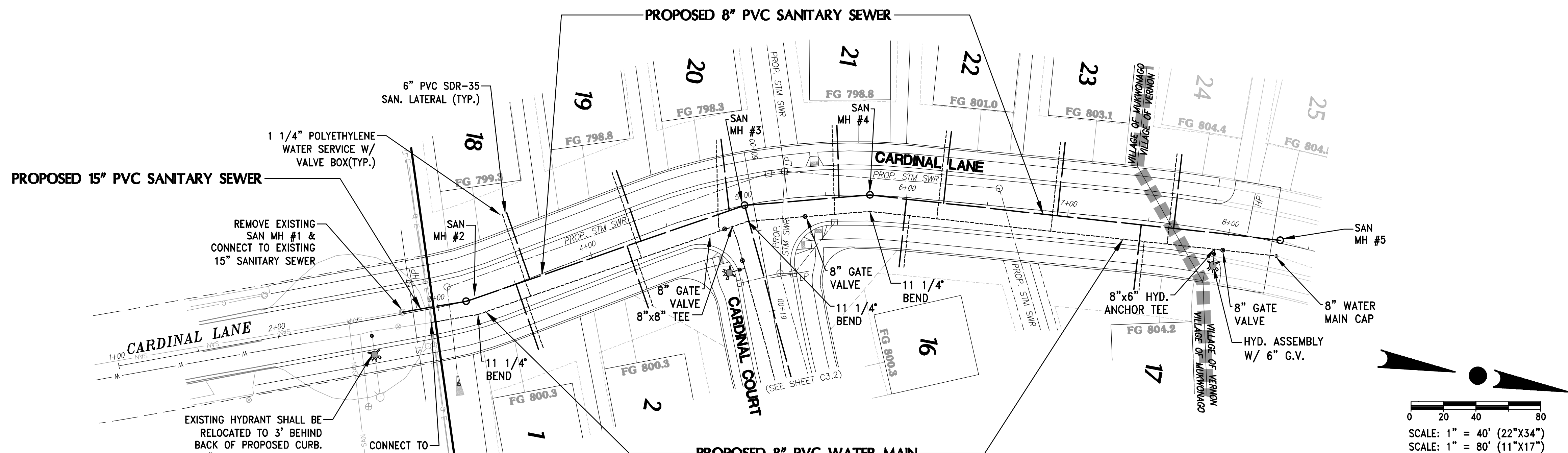
DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
**SANITARY SEWER
& WATER MAIN
PLAN & PROFILE**

SHEET

C3.1



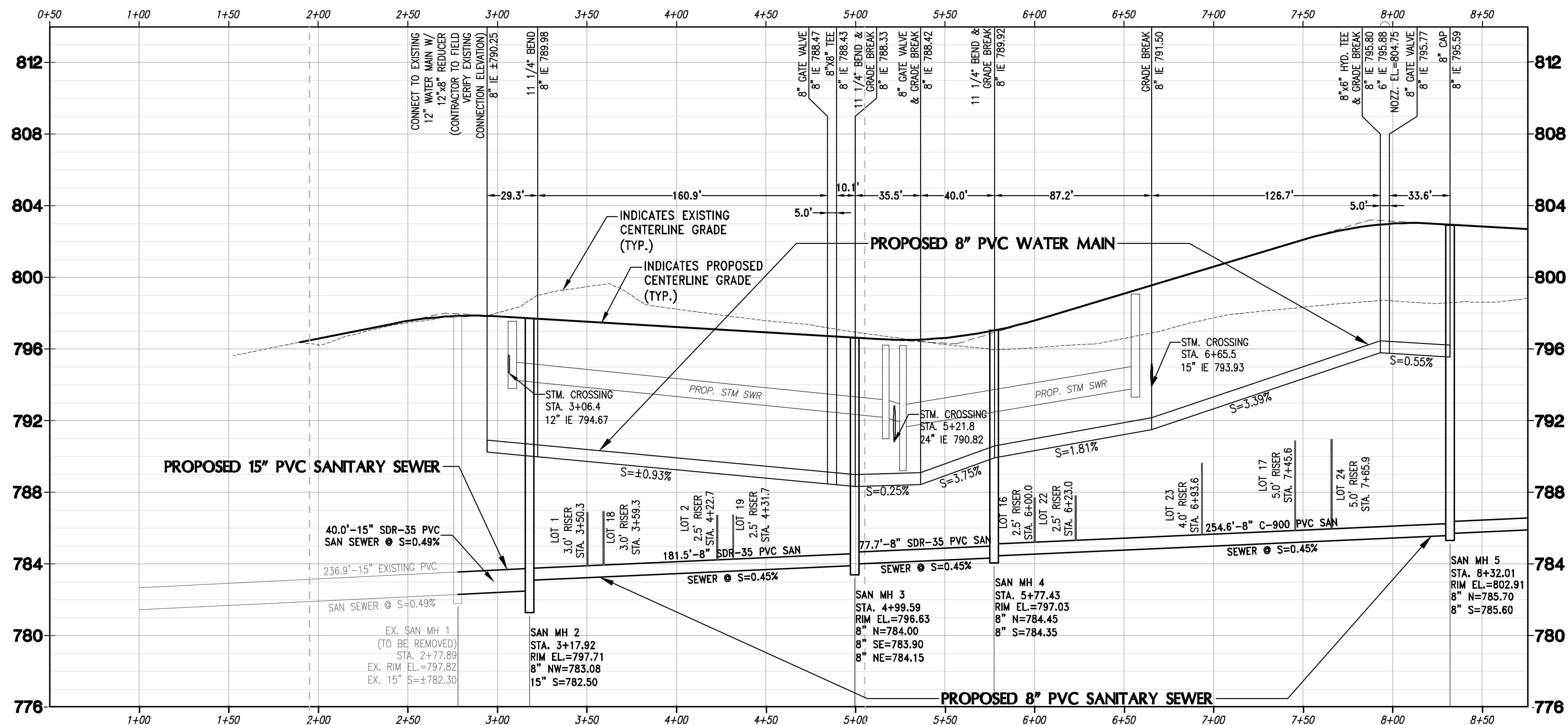
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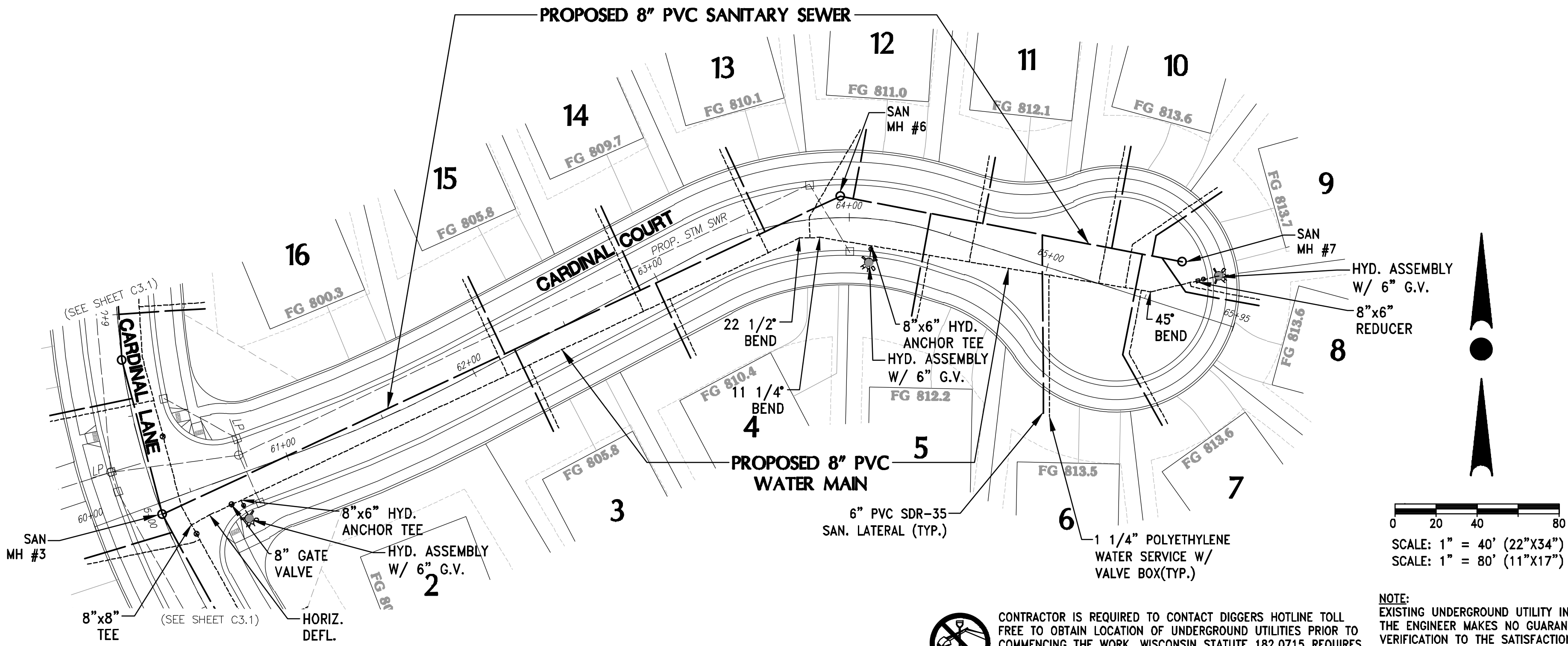
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SANITARY SEWER AND WATER MAIN

FROM: STA: 2+50 TO: STA: 8+50



X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1_SAN&WAT_P&P_12X34.DWG

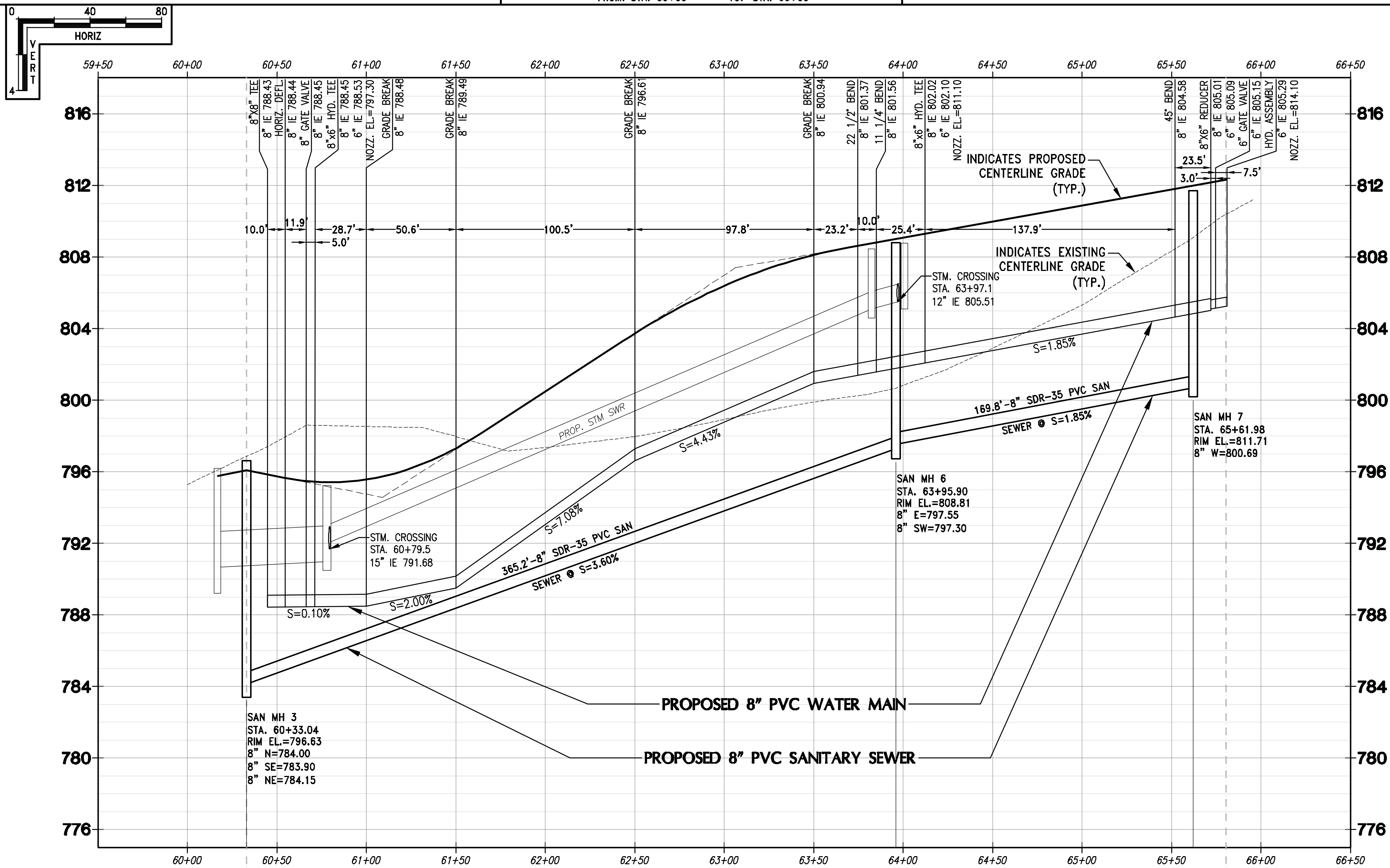


SANITARY SEWER AND WATER MAIN
FROM: STA: 60+00 TO: STA: 66+00



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PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
**SANITARY SEWER
& WATER MAIN
PLAN & PROFILE**

SHEET

C3.2



4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24C025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

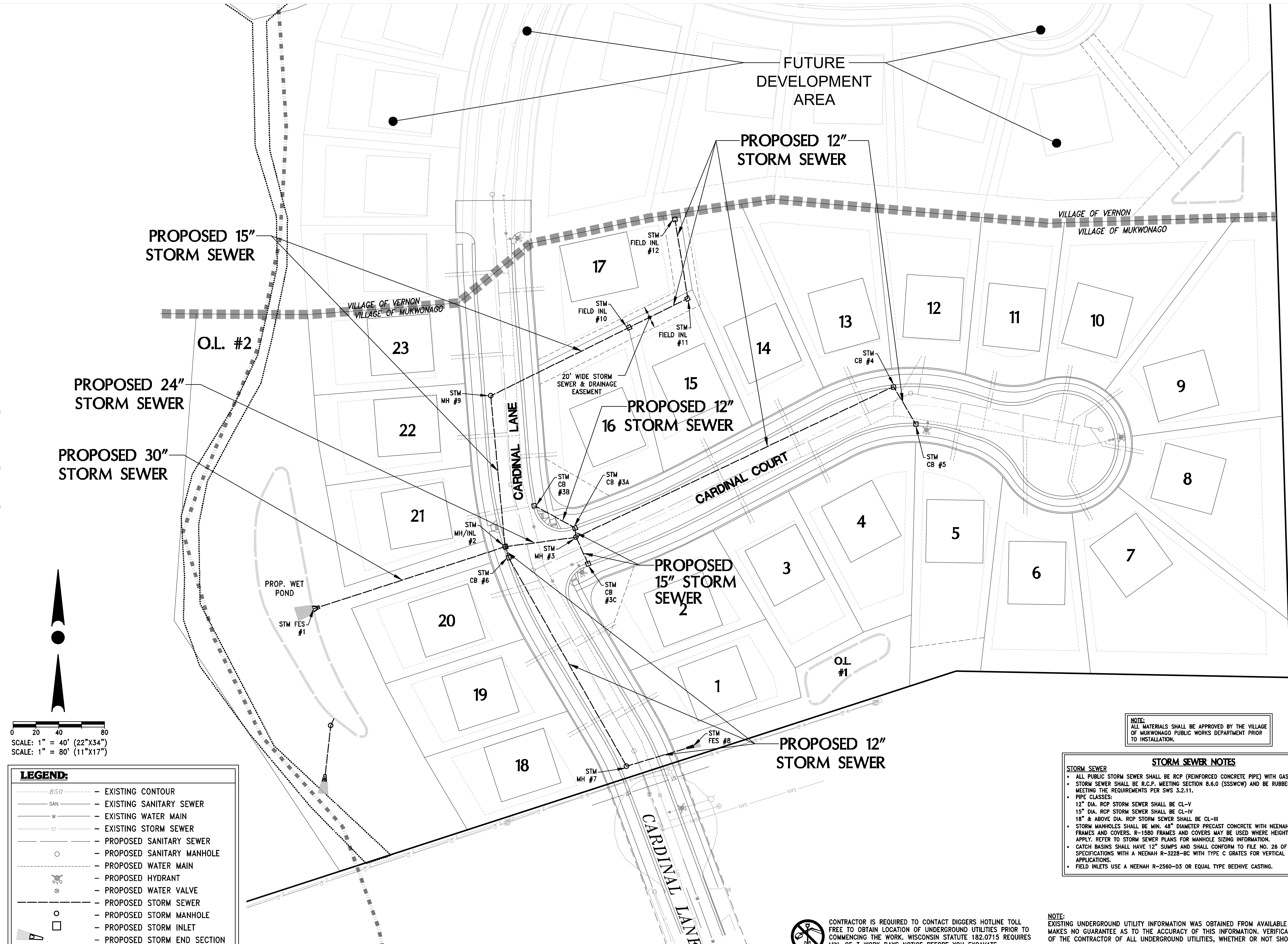
JOB NUMBER:
21-040-953

DESCRIPTION:

**OVERALL
STORM SEWER
SYSTEM PLAN**

SHEET

C4.0



NOTE:
ALL MATERIALS SHALL BE APPROVED BY THE VILLAGE
OF MUKWONAGO PUBLIC WORKS DEPARTMENT PRIOR
TO INSTALLATION.

STORM SEWER NOTES

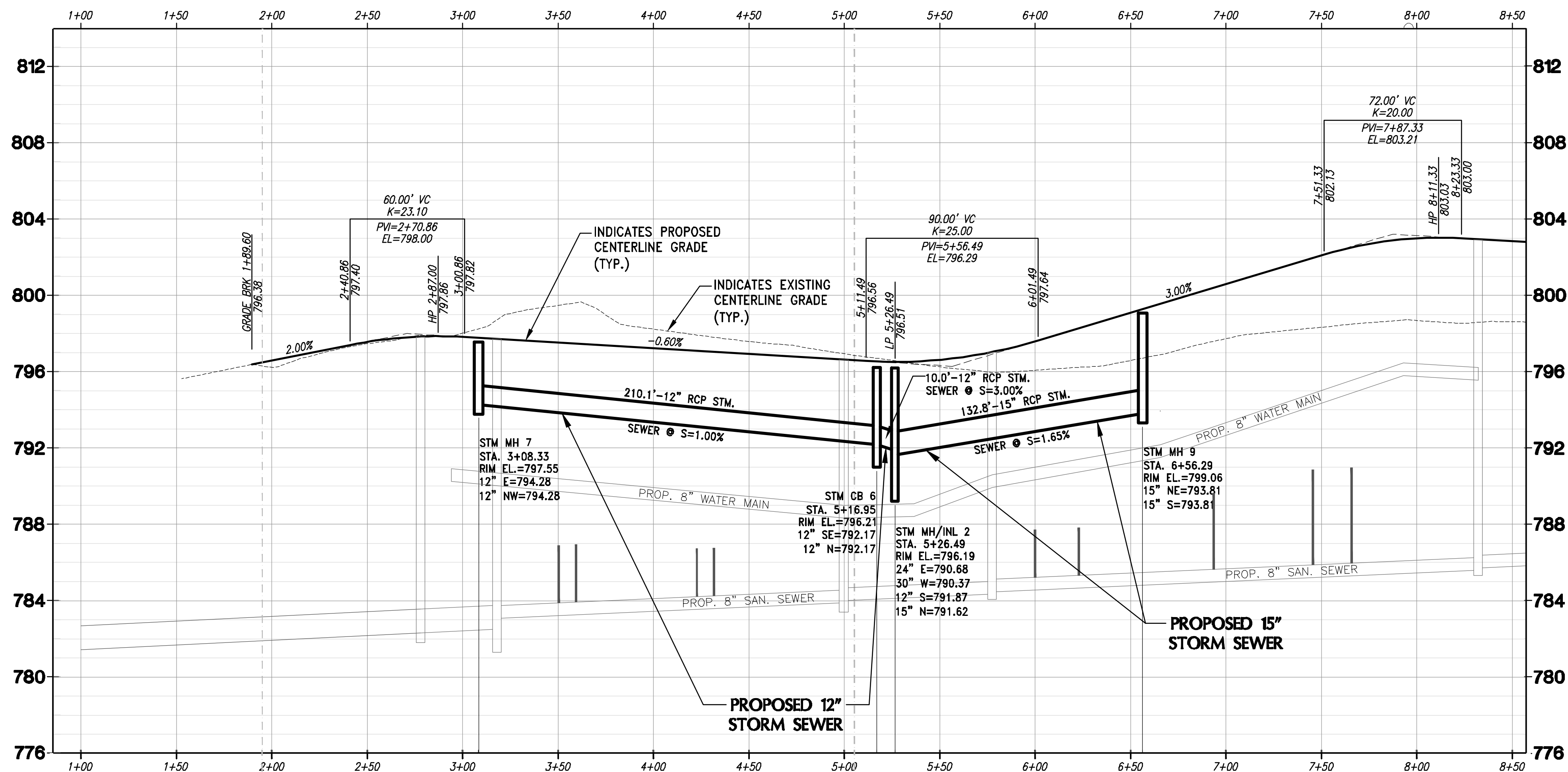
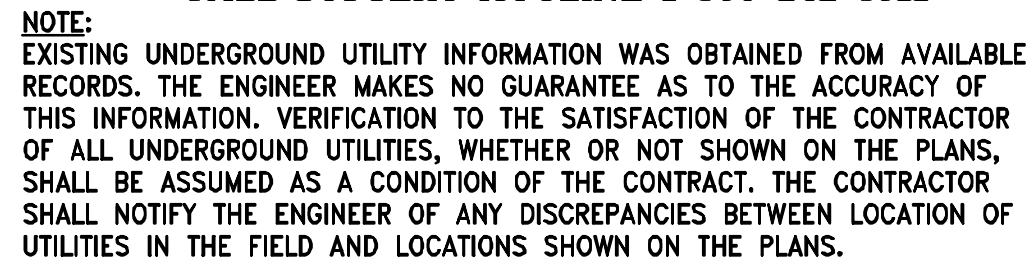
STORM SEWER

- * ALL PUBLIC STORM SEWER SHALL BE RCP (REINFORCED CONCRETE PIPE) WITH GASKETED JOINTS.
- * STORM SEWER SHALL BE R.C.P. MEETING SECTION 8.6.0 (SSSWCW) AND BE RUBBER GASKETED MEETING THE REQUIREMENTS PER SWS 3.2.11.
- PIPE CLASSES:
 - 12" DIA. RCP STORM SEWER SHALL BE CL-V
 - 15" DIA. RCP STORM SEWER SHALL BE CL-IV
 - 18" & ABOVE DIA. RCP STORM SEWER SHALL BE CL-III
- * STORM MANHOLES SHALL BE MIN. 48" DIAMETER PRECAST CONCRETE WITH NEENAH R-1710 FRAMES AND COVERS. R-1580 FRAMES AND COVERS MAY BE USED WHERE HEIGHT RESTRICTIONS APPLY. REFER TO STORM SEWER PERMITS FOR MANHOLE SIZING INFORMATION.
- CATCH BASINS SHALL HAVE 12" SUMPS AND SHALL CONFORM TO FILE NO. 26 OF THE STANDARD SPECIFICATIONS WITH A NEENAH R-3228-BC WITH TYPE C GRATES FOR VERTICAL CURB APPLICATIONS.
- * FIELD INLETS USE A NEENAH R-2560-03 OR EQUAL TYPE BEEHIVE CASTING.

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CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

CALL DIGGERS HOTLINE 1-800-243-8511



X:\2021\21-040-953-HEIN PROPERTY VERNON MUKWONAGO\DRAWINGS\CONSTRUCTION PLANS\HEIN PROPERTY_PHASE 1.RD&STM P&P_22X34.DWG

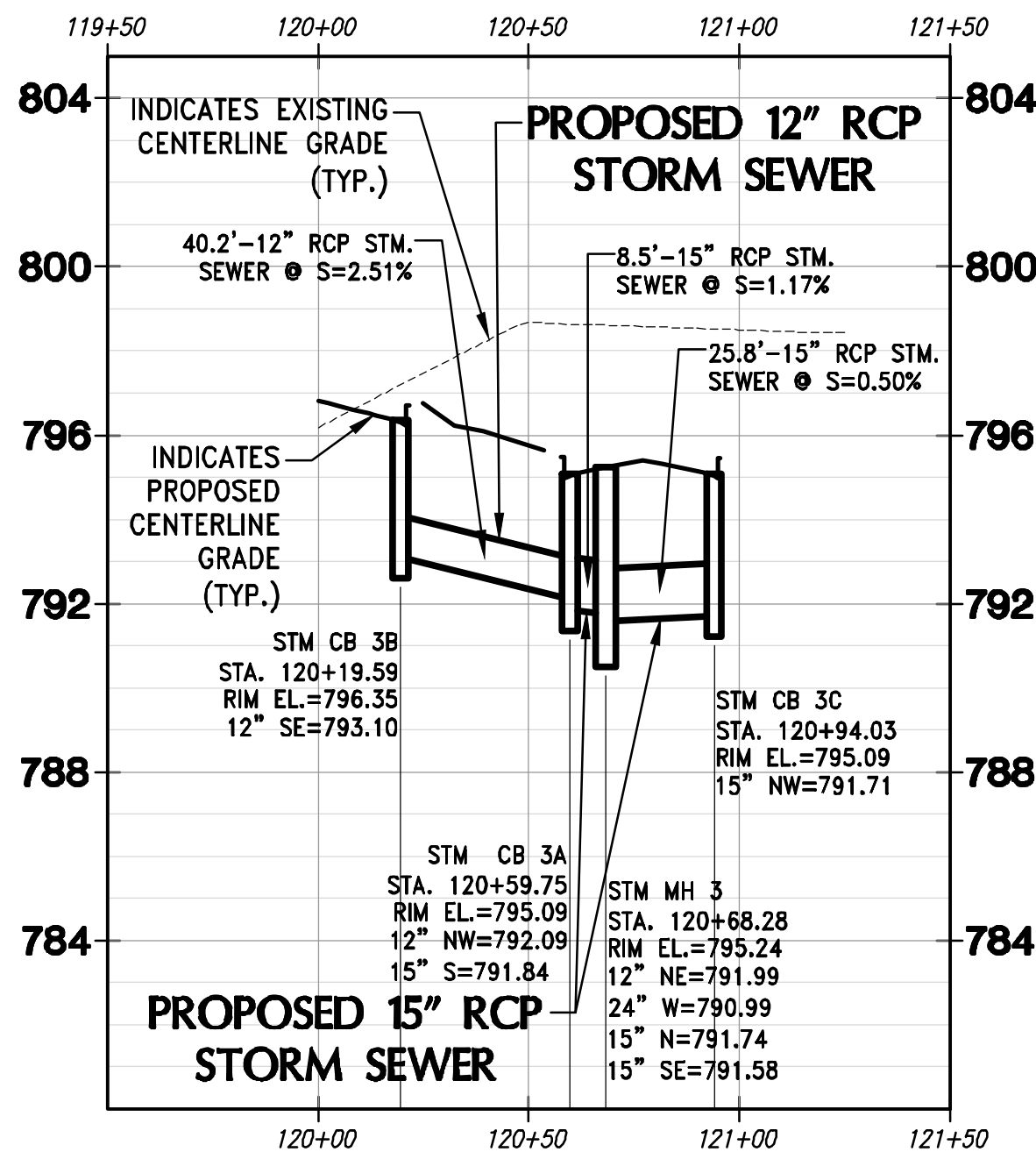


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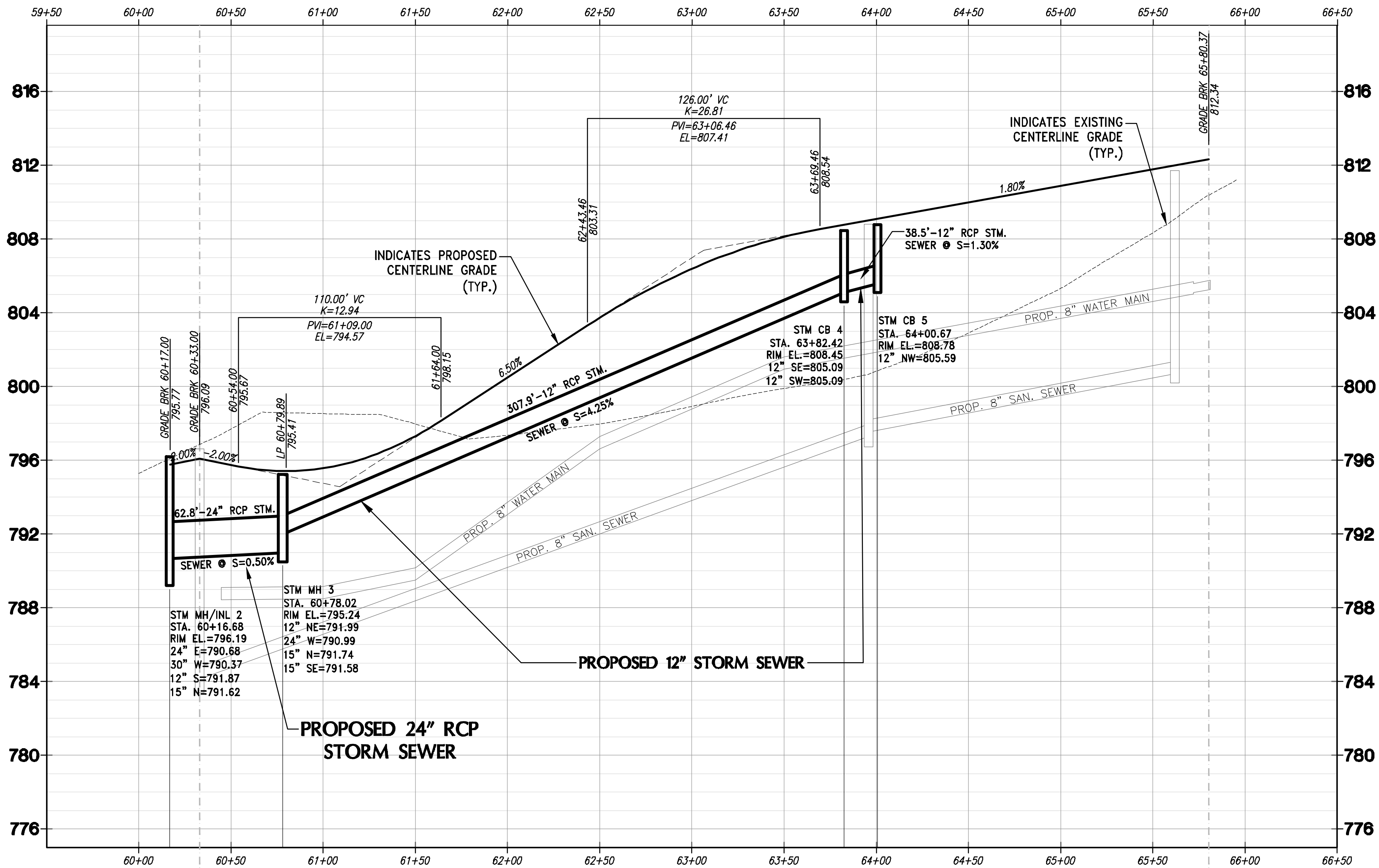
STORM SEWER

FROM: STA: 120+00 TO: STA: 121+00



PROPOSED 24" RCP STORM SEWER

FROM: STA: 120+00 TO: STA: 121+00



PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:

JULY 17, 2024

JOB NUMBER:

21-040-953

DESCRIPTION:

**ROADWAY & STORM SEWER
PLAN & PROFILE**

SHEET

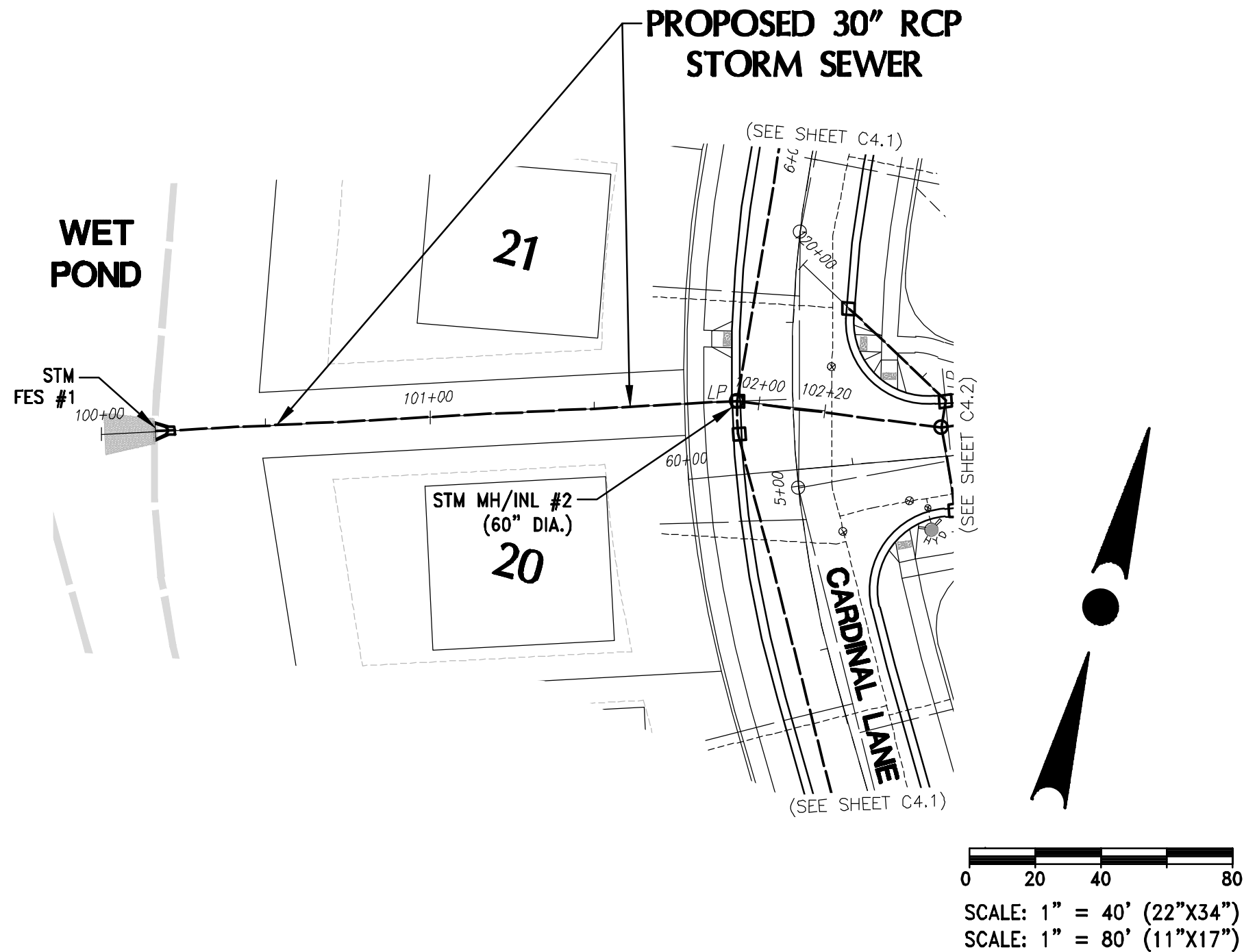
C4.2



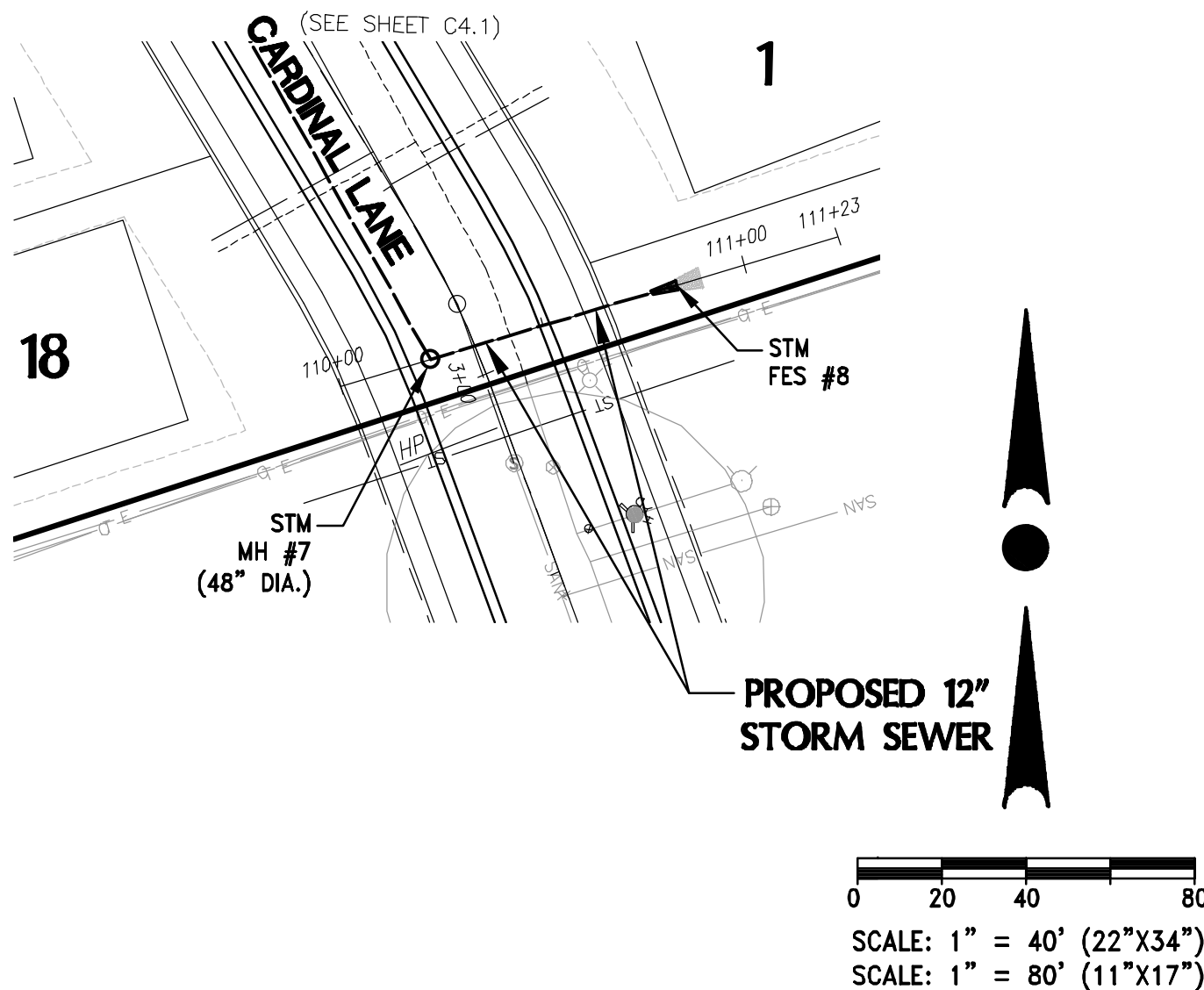
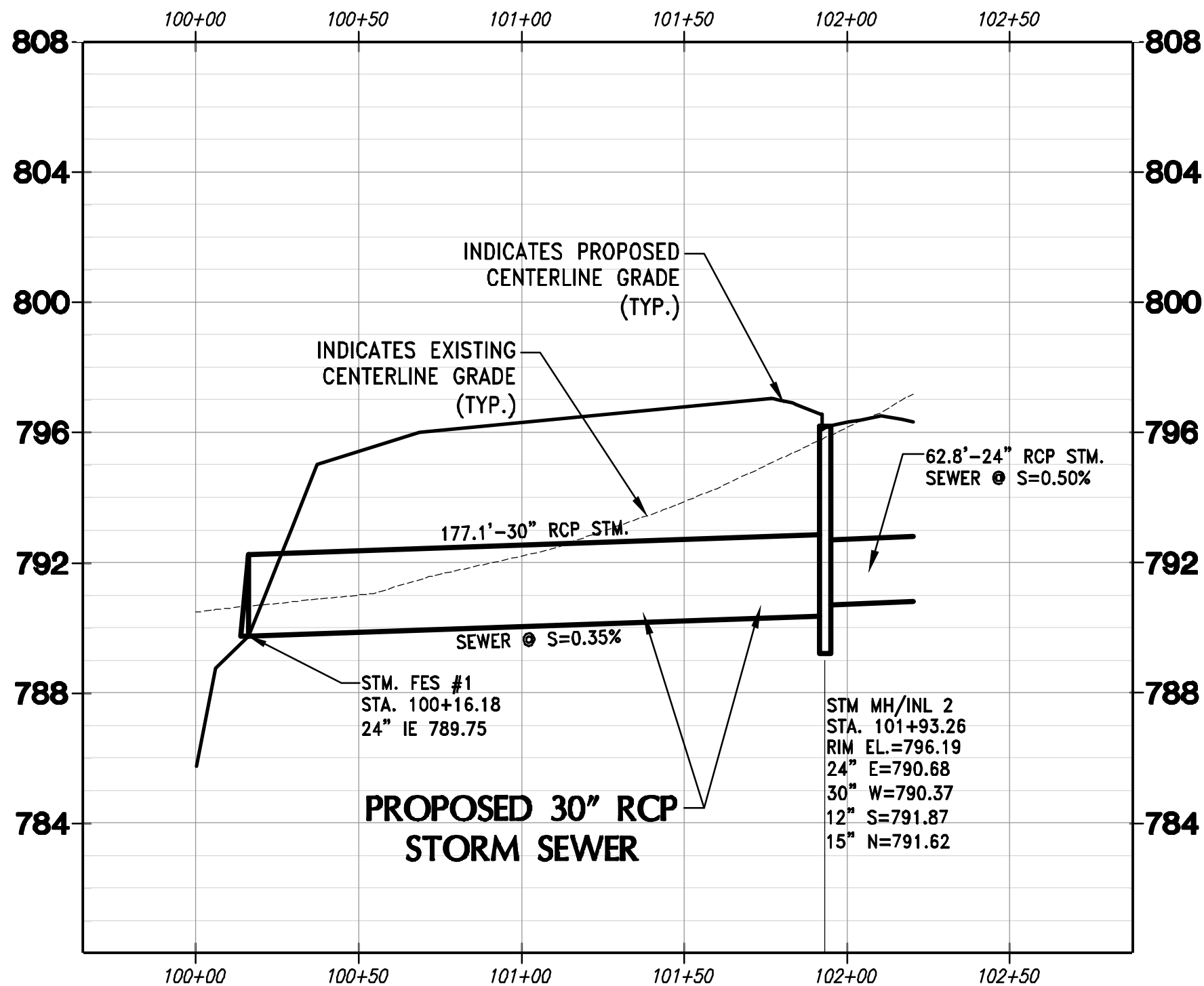
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
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EMAIL: info@trioeng.com

0 20 40 80
SCALE: 1" = 40' (22"x34")
SCALE: 1" = 80' (11"x17")

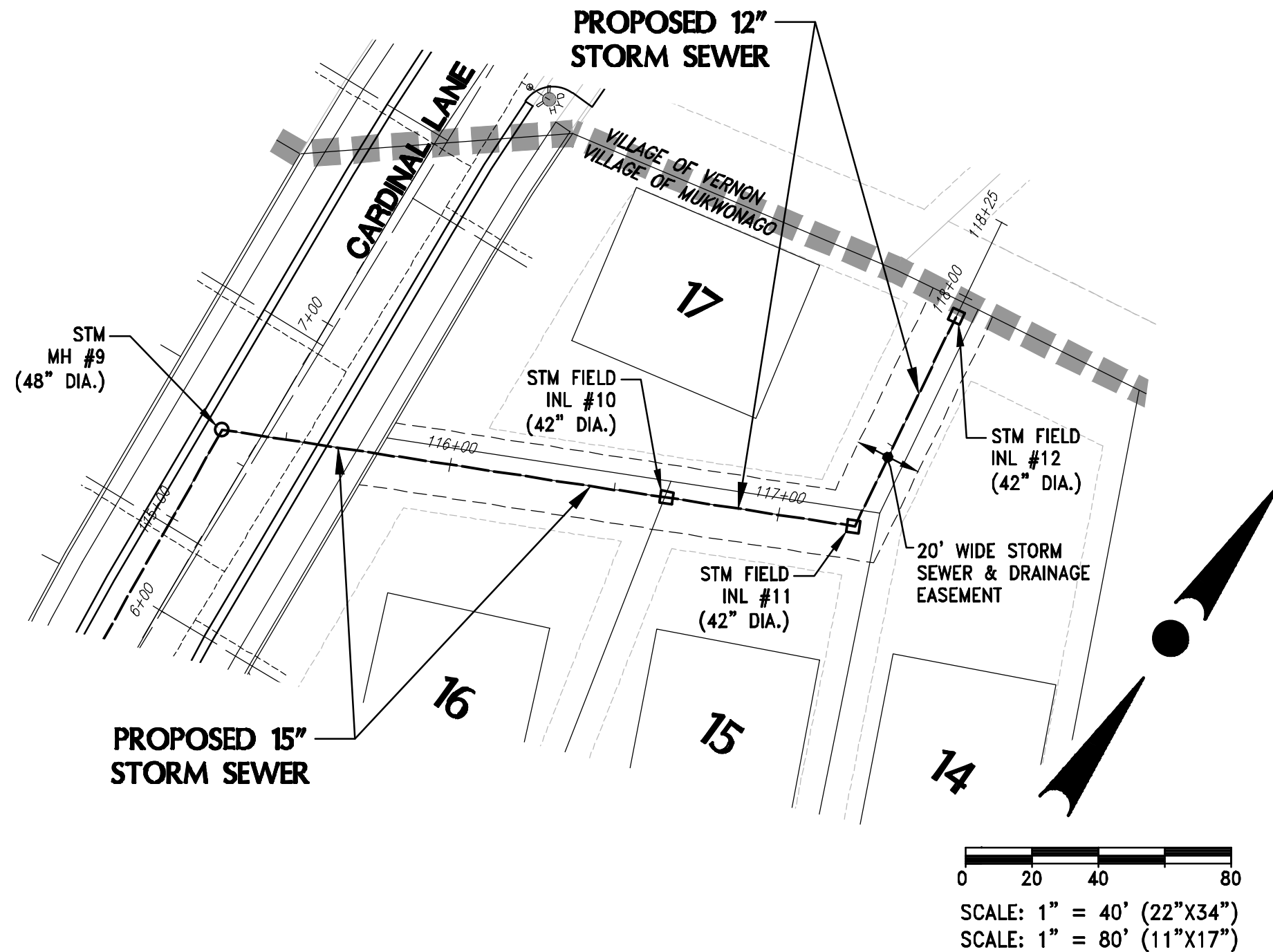
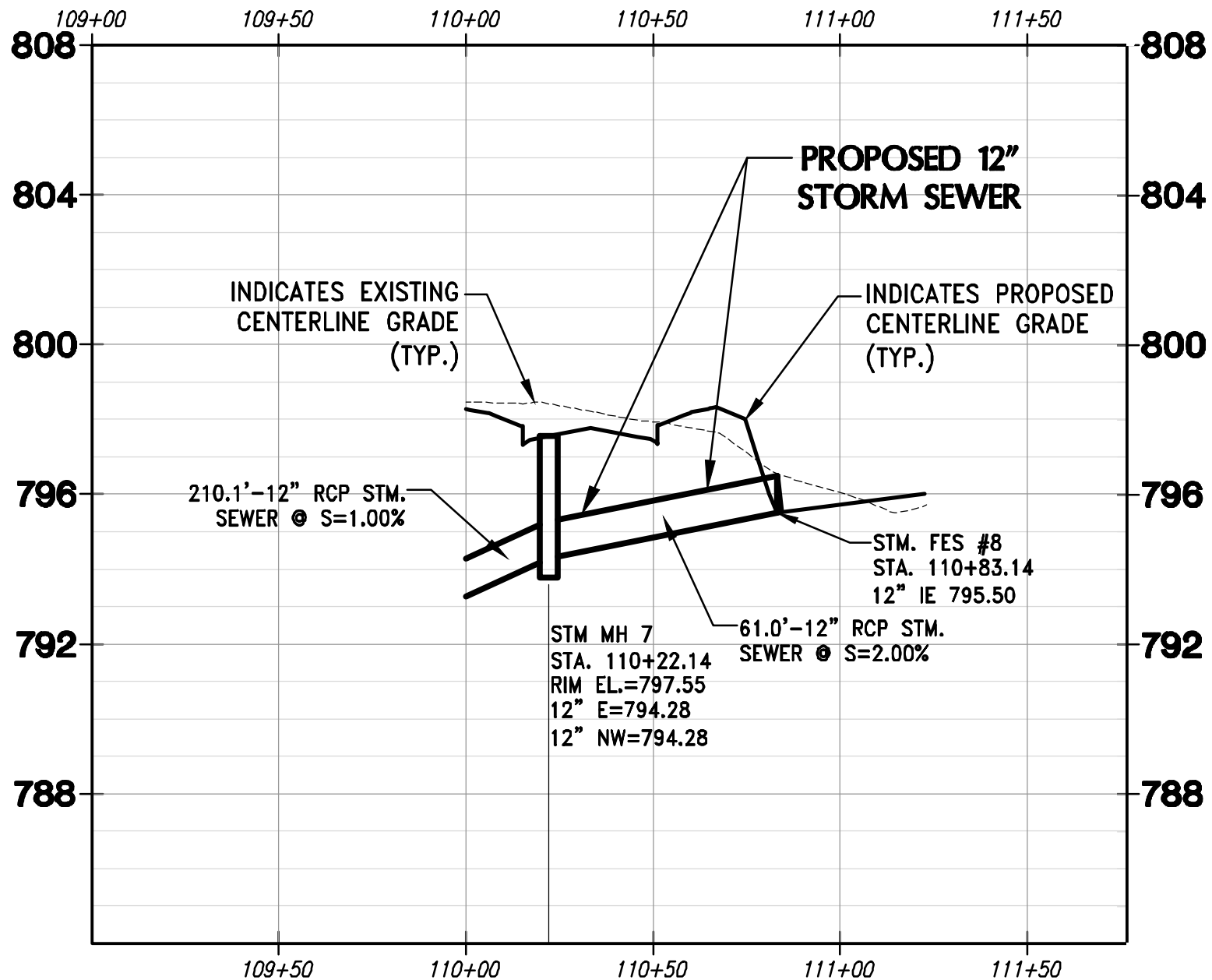
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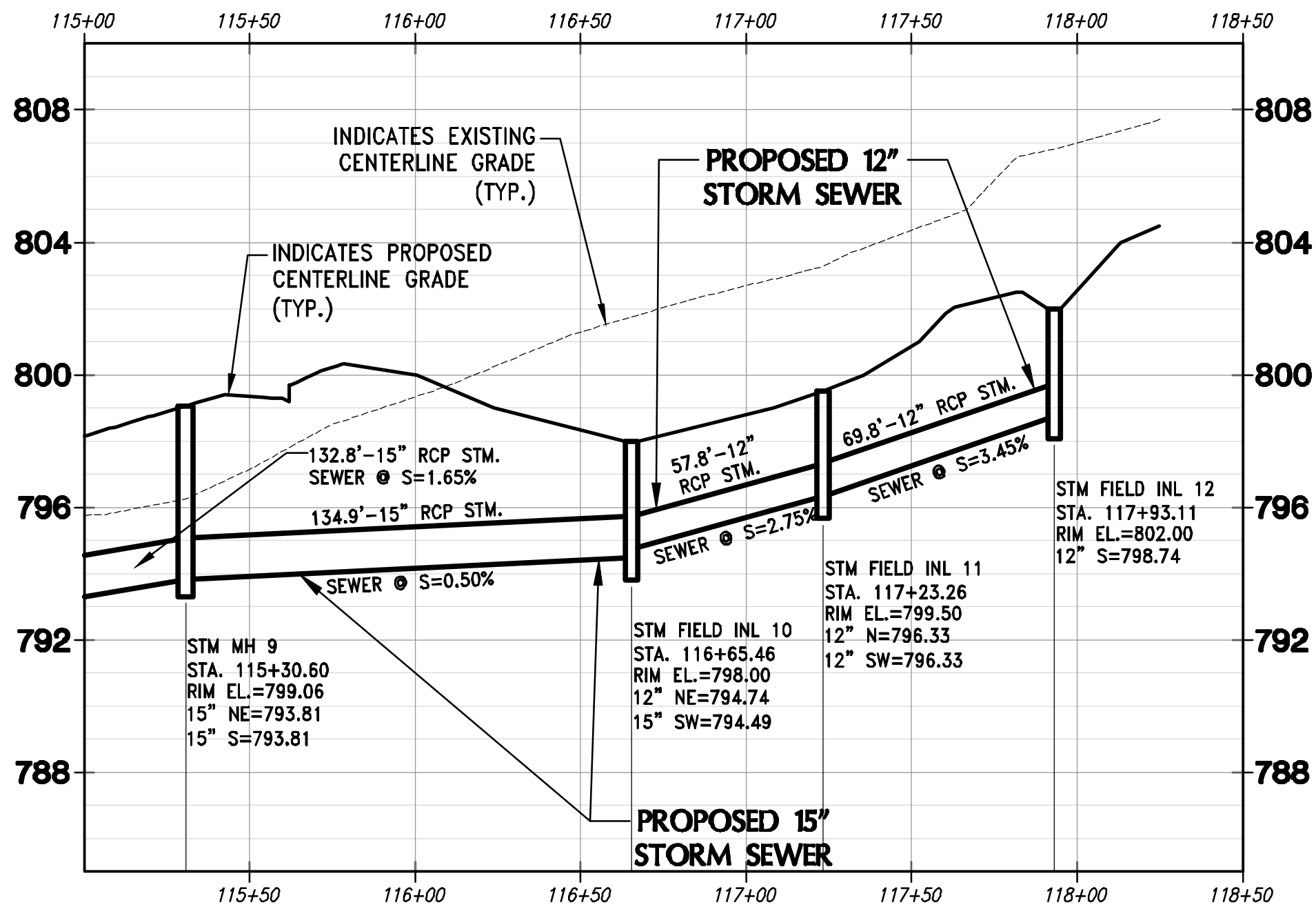
STORM SEWER
FROM: STA: 100+00 TO: STA: 102+00



STORM SEWER
FROM: STA: 110+00 TO: STA: 111+00



STORM SEWER
FROM: STA: 115+00 TO: STA: 118+00



CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
CALL DIGGERS HOTLINE 1-800-242-8511

NOTE:
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PROJECT:
CARDINAL RIDGE - PHASE 1
SINGLE FAMILY DEVELOPMENT
VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:
JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:
**STORM SEWER
PLAN & PROFILE**

SHEET

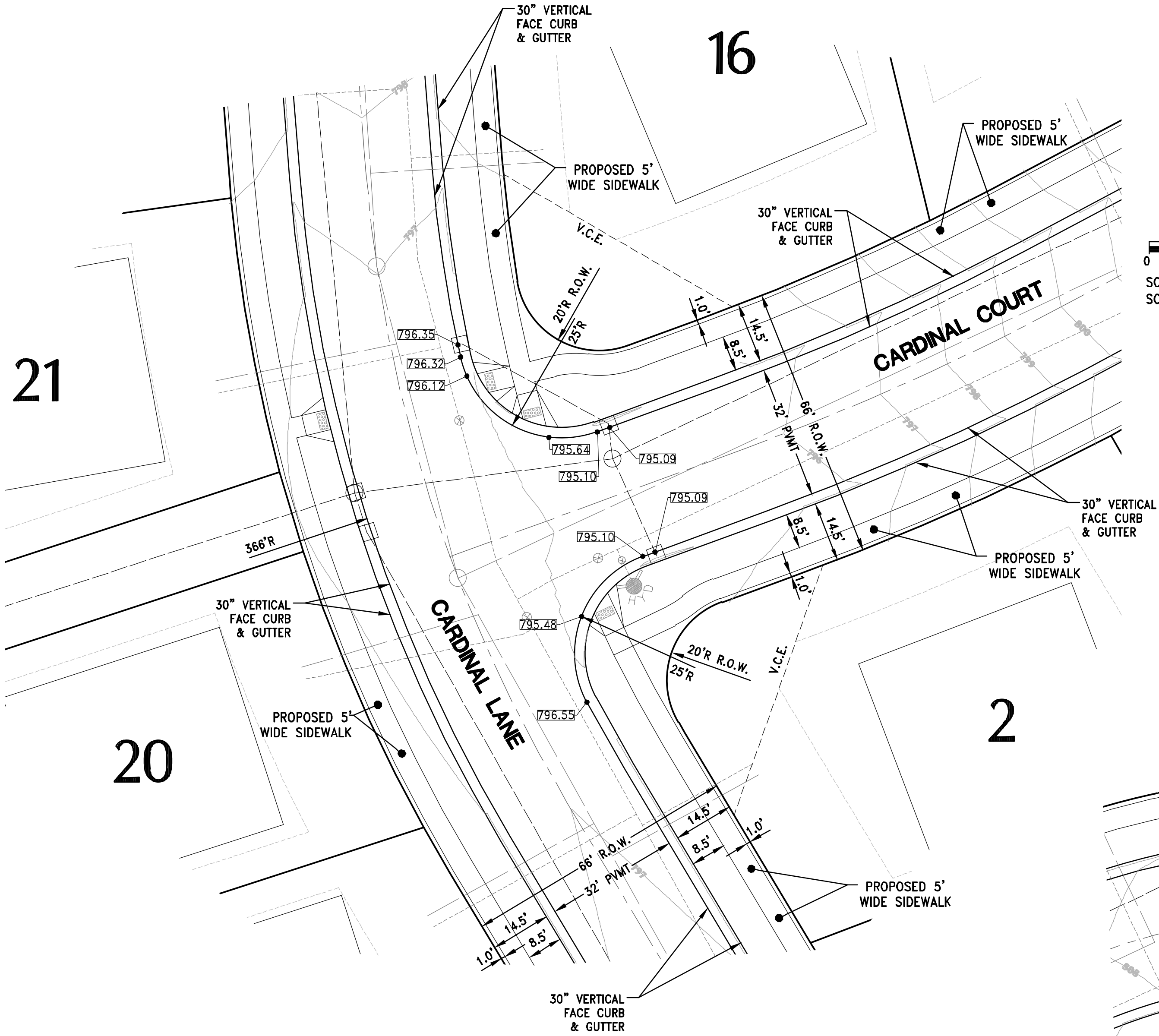
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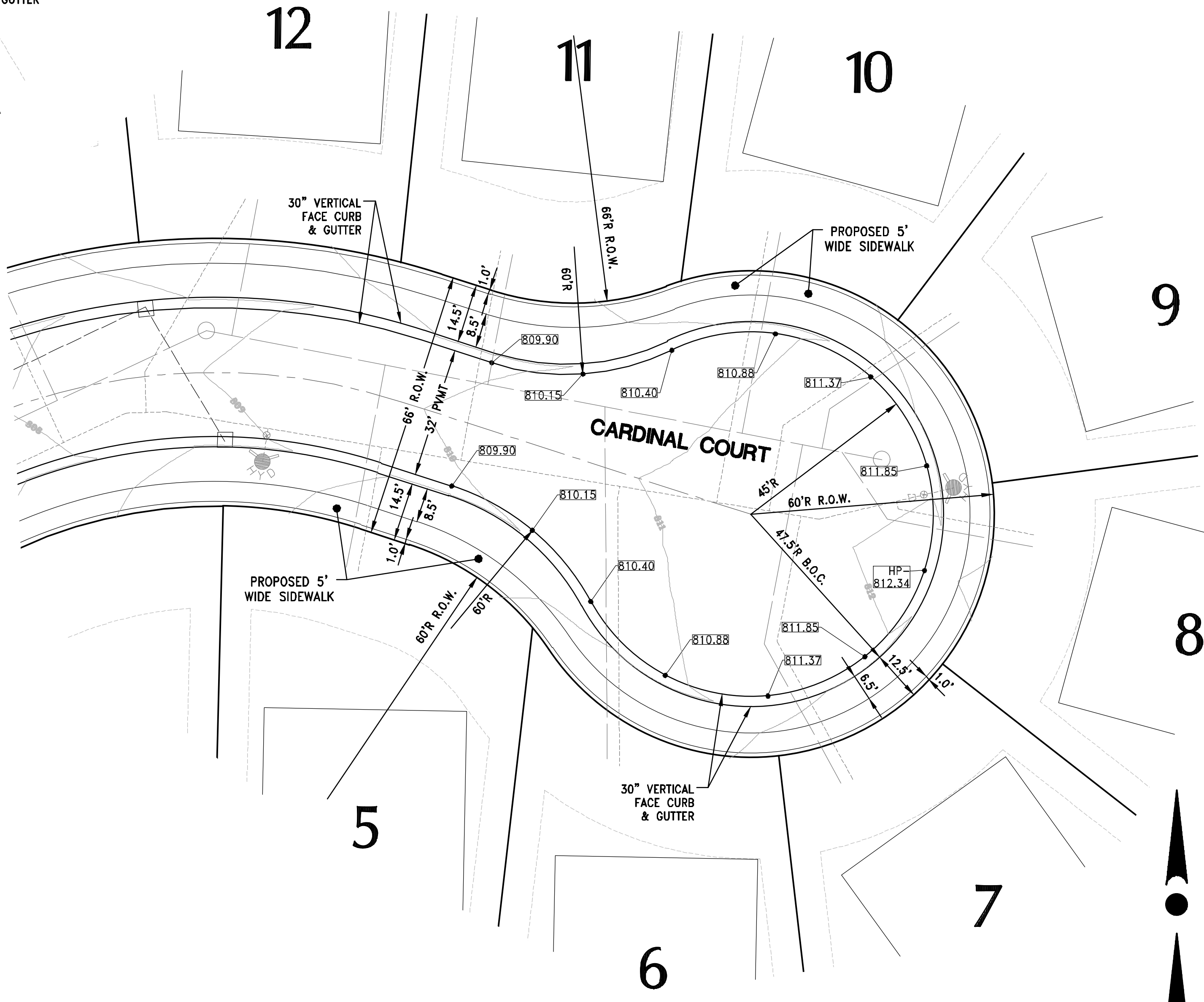


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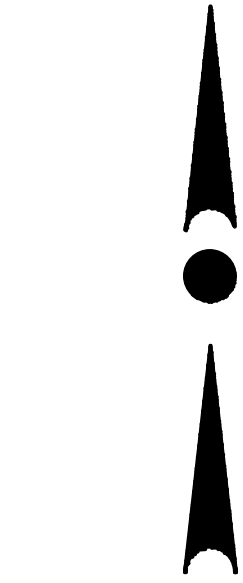
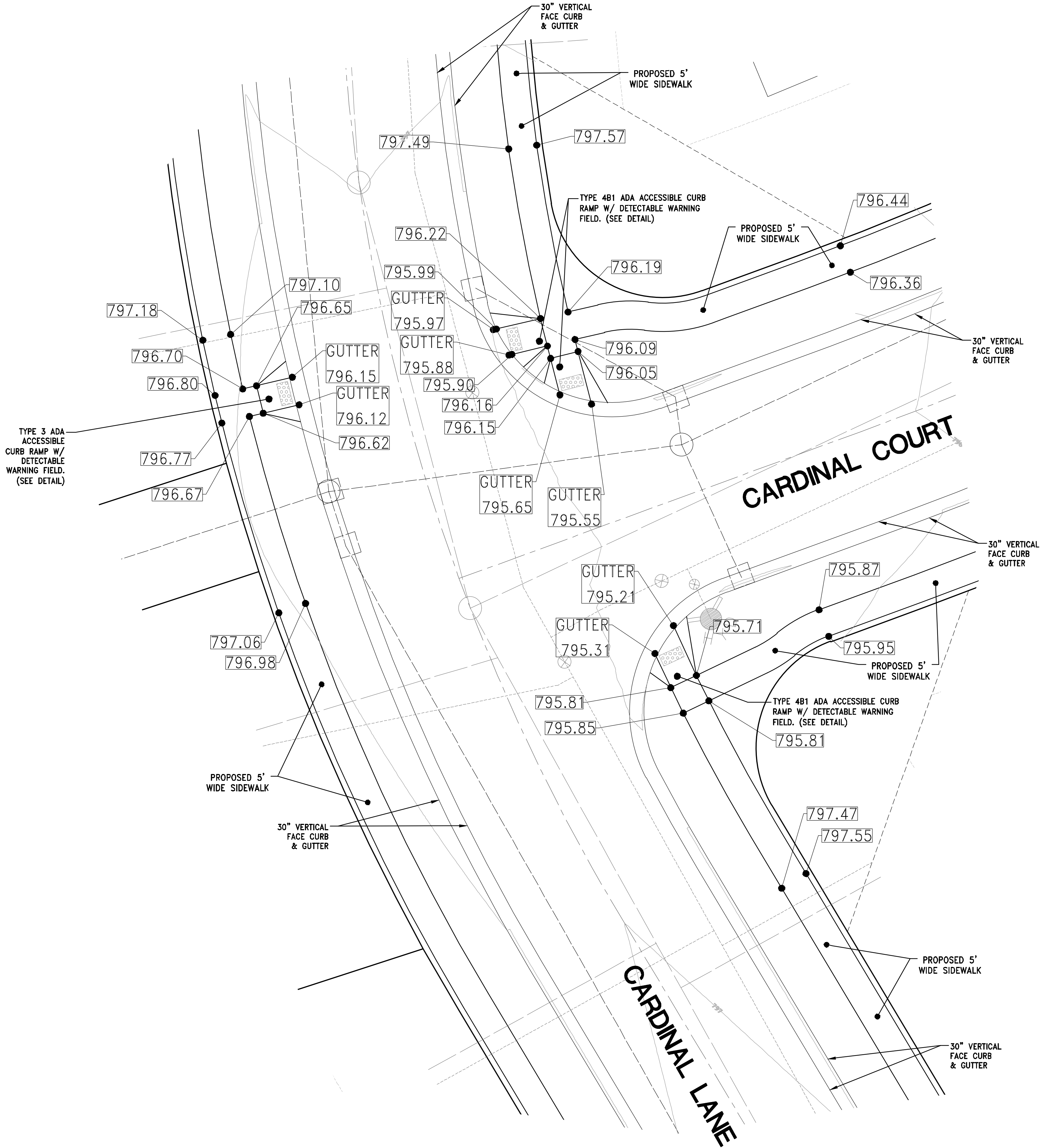
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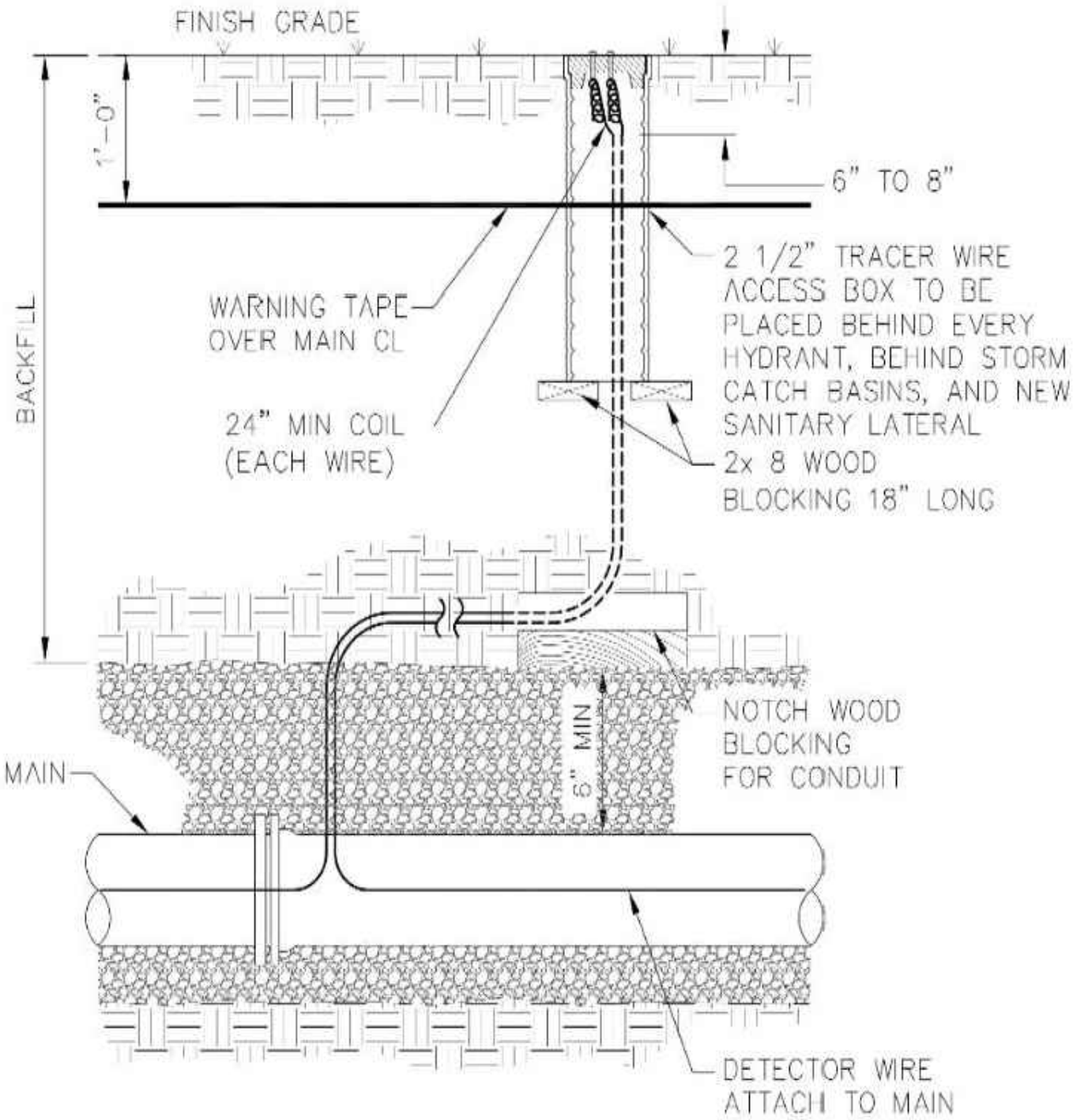
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21-040-953

DESCRIPTION:
**INTERSECTION
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DETAILS**

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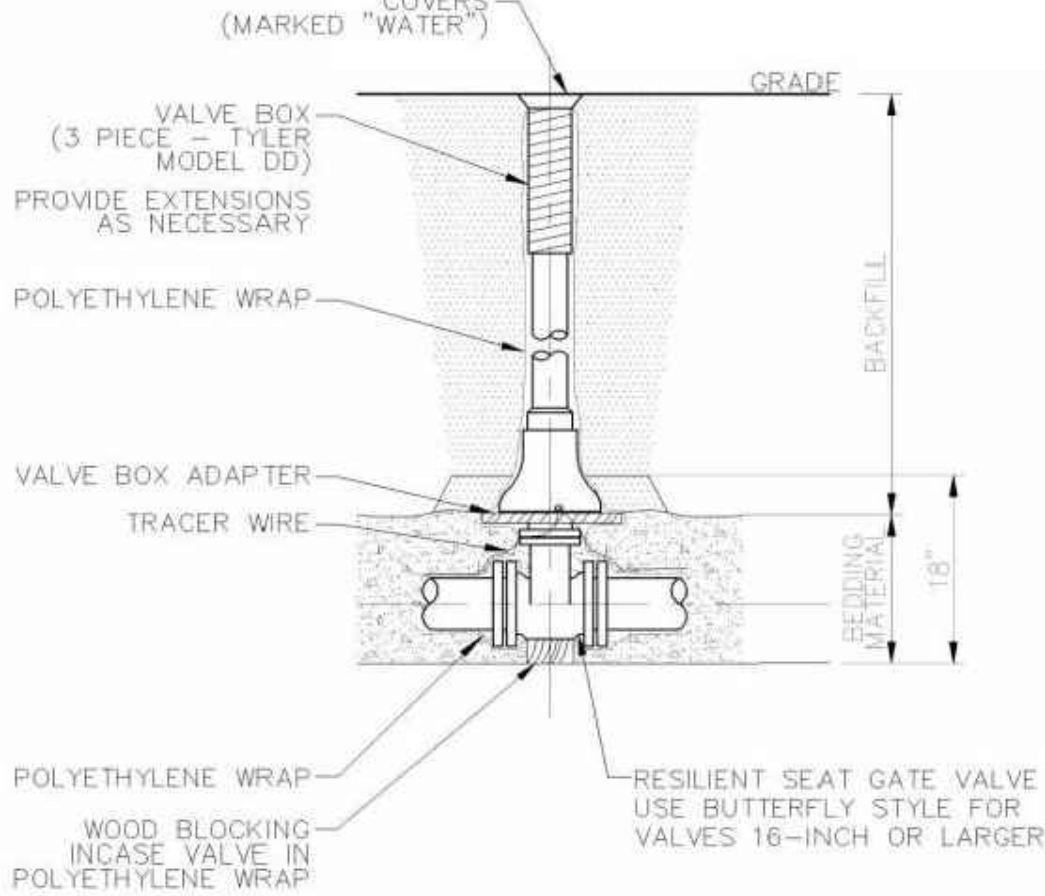
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DETECTOR WIRE & LOCATION BOX (ON TERRACE)

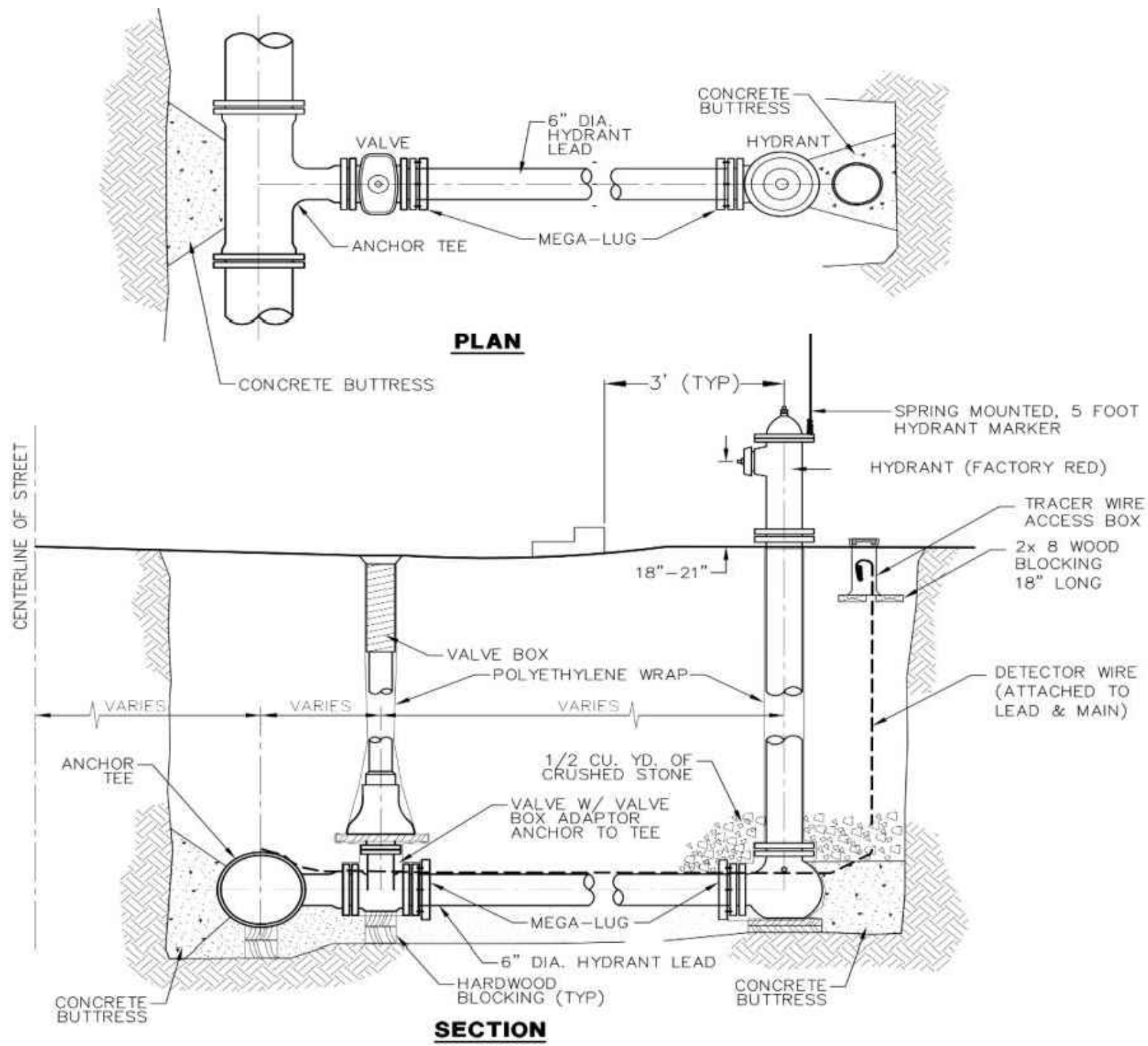
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STANDARD GATE VALVE BOX SETTING

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NO SCALE



NOTE : REFER TO FILE NO. 36 OF THE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN" FOR FURTHER INFORMATION

HYDRANT LEADS SHALL BE RESTRAINED

HYDRANT SETTING DETAIL

CG07HYD - 24

NO SCALE

WATER SERVICES

- ALL SERVICES TWO (2) INCH OR SMALLER SHALL BE DR9 HDPE (CTS) WITH A MINIMUM INSIDE DIAMETER OF 1 1/4 INCH.
- CORPORATION STOPS USE MUELLER B-25008 OR FORD FB1001. SHALL WITHSTAND A 150 PSI PRESSURE TEST.
- CURB VALVES USE MUELLER H15165 OR FORD B44M. SHALL WITHSTAND A 150 PSI PRESSURE TEST.
- COMPRESSION FITTINGS WITH STAINLESS STEEL STIFFENERS SHALL BE USED FOR CORPORATION STOPS AND CURB VALVES.
- FOR 2 1/2 INCH AND LARGER SERVICES, FOLLOW SWS PART IV AND V. PROVIDE TEE CONNECTION WITH ANCHOR VALVE MEGA LUGGED TO IT. PROVIDE PLUG AND BUTTRESS.
- USE TEFLON TAPE OF TEFLON PASTE ON THREADED JOINTS.

CURB BOXES

- SHALL BE TYLER 101F WITH FOUR (4) FOOT HEAVY-DUTY ROD WITH GUIDE RING AND STAINLESS STEEL BOLTS
- SHALL BE SCREW-ON STYLE.
- USE VALVE STEM EXTENDERS.
- SHALL BE PLACED ON THE RIGHT OF WAY LINE IN LAWN AREA, NOT IN AN EXISTING OR PROPOSED DRIVEWAY APPROACH.
- ALL CURB STOPS, LATERALS, AND HYDRANTS SHALL BE A MINIMUM OF 10 FEET FROM THE APPROACH.

INSTALLATION AND PLACEMENT

- NO WATER SERVICE SHALL BE LAID THROUGH ANY TRENCH HAVING CINDERS, RUBBISH, ROCK, OR ANY OTHER MATERIAL WHICH MAY CAUSE INJURY TO OR DISINTEGRATION OF THE SERVICE PIPE, UNLESS ADEQUATE MEANS OF PROTECTION ARE PROVIDED BY SAND FILLING OR SUCH OTHER INSULATION AS MAY BE APPROVED BY THE VILLAGE.
- SERVICE PIPES PASSING THROUGH CURB OR RETAINING WALLS SHALL BE ADEQUATELY SAFEGUARDED BY PROVISION OF CHANNEL SPACE OR PIPE CASING, NOT LESS THAN TWICE THE DIAMETER OF THE SERVICE CONNECTION. THE SPACE BETWEEN THE SERVICE PIPE AND CHANNEL OR PIPE CASING, SHALL BE FILLED AND LIGHTLY CAULKED WITH OAKUM, MASTIC CEMENT, OR OTHER RESILIENT MATERIAL, AND MADE IMPERVIOUS TO MOISTURE.
- PRESSURE TEST WATER MAIN SECTIONS BEFORE INSTALLING SERVICES TWO (2) INCH AND SMALLER, FOLLOWING SWS 4.15.0
- ALL WATER SERVICES SHALL BE WET TAPPED UNDER NORMAL OPERATING SYSTEM PRESSURE. USE DOUBLE-STRAP PVC TAPPING SADDLE FOR SERVICE LINES TWO (2) INCH AND SMALLER. USE FORD FS202 OR 303, OR SMITH-BLAIR 377 OR 372.
- ALL SERVICES SHALL BE INSTALLED A MINIMUM OF TEN (10) FEET FROM EXISTING OR FUTURE DRIVEWAY LOCATIONS.
- ALL NEW SERVICES SHALL EXTEND TEN (10) FEET BEYOND RIGHT OF WAY LINE.
- ALL WATER SERVICES ARE TO BE CENTERED ON THE LOT AS CLOSE AS PRACTICAL (WITHIN FIVE (5) FEET OF CENTER).
- ALL SERVICES SHALL BE STAKED PRIOR TO CONSTRUCTION.
- PROVIDE A TWO (2) BY SIX (6) INCH HARDWOOD MARKER AT END OF SERVICE FROM INVERT OF SERVICE TO TWO (2) FEET ABOVE FINISHED GRADE.
- ALL UNUSED WATER SERVICES SHALL HAVE THE CORPORATION STOP TURNED OFF AND THE SERVICE (AND ALL APPURTENANCES) REMOVED TO THE CORPORATION STOP.
- TEST SERVICES FOLLOWING SWS 5.5.18.

COVER DEPTH

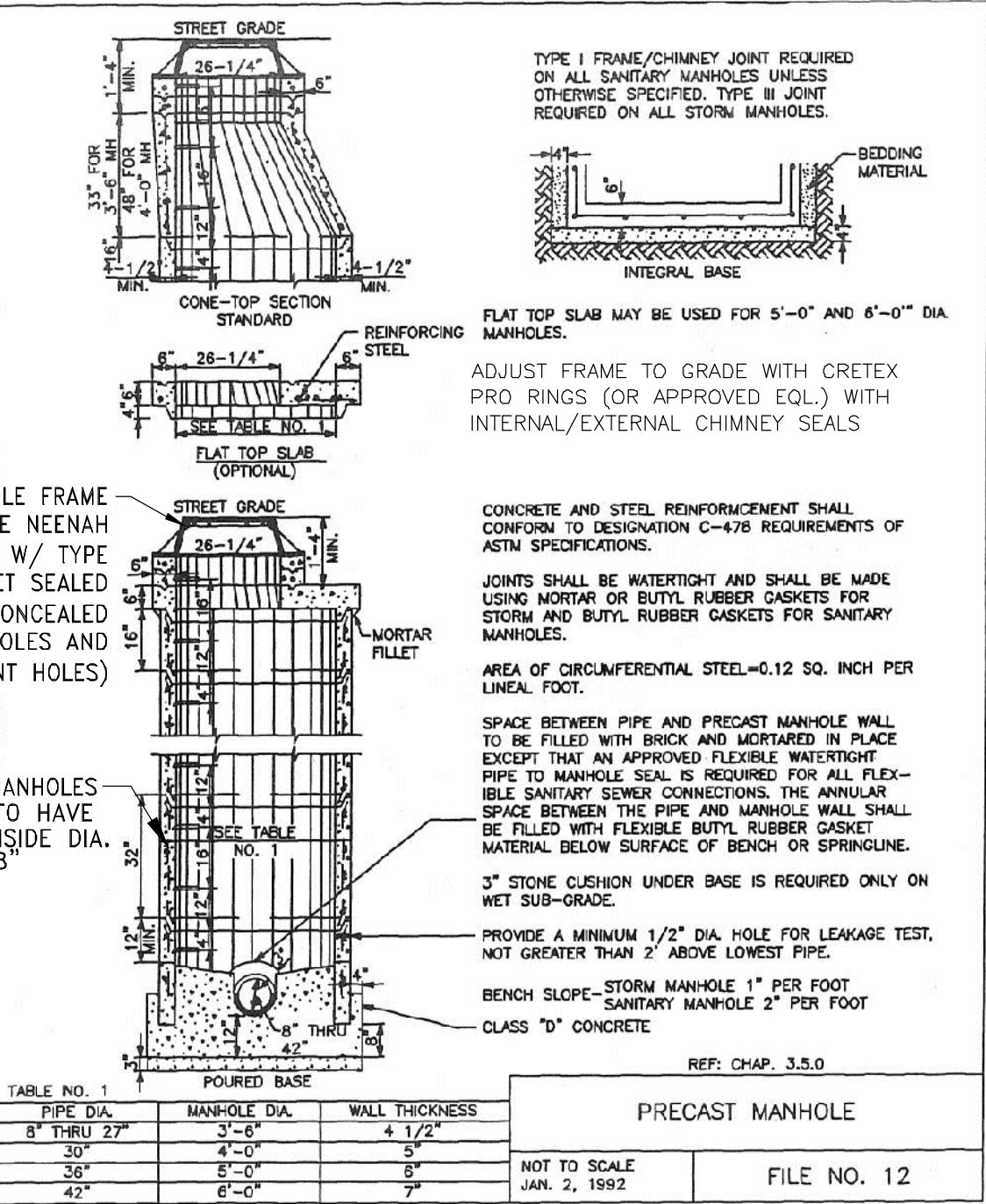
- THE MINIMUM DEPTH OF COVER BETWEEN FINISH GRAD AND THE TOP OF THE WATER MAIN PIPE SHALL BE 6 FEET.
- NO WATER MAIN SHALL BE INSTALLED WITH MORE THAN 8 FEET OF COVER BELOW FINISH GRADE.

BEDDING AND COVER MATERIAL

- NO WATER SERVICE OR WATER MAIN SHALL BE LAID THROUGH ANY TRENCH HAVING CINDERS, RUBBISH, ROCK, OR ANY OTHER MATERIAL WHICH MAY CAUSE INJURY OR DISINTEGRATION OF THE PIPE.
- WATER MAIN BEDDING AND COVER MATERIAL SHALL BE CRUSHED STONE OR SAND. WATER VALVE BONNETS SHALL BE SET IN STONE ON WOOD BLOCKING.
- IF A WET TRENCH CONDITION EXISTS, THE WATER MAIN BEDDING AND COVER MATERIAL SHALL BE SUPPORTED BY 3" OF CRUSHED LIMESTONE CHIPS OR CRUSHED LIMESTONE SCREENINGS, CONFORMING TO CHAPTER 8.43.0, TABLES 32 AND 33 OF THE "SWS" AND PLACED AS SHOWN ON FILE NO. 36 OF THE "STANDARD SPECIFICATIONS".

TESTING

- HYDROSTATIC TESTING SHALL BE PERFORMED AS SPECIFIED IN CHAPTER 4.15.0 OF THE "SWS".....A VILLAGE REPRESENTATIVE MUST BE PRESENT AT ALL TIMES DURING THE TESTING PROCESS.
- IN A NEW DEVELOPMENT THE CONTRACTOR HAS THE OPTION TO TEST THE ENTIRE NEW WATER MAIN, INCLUDING



MAHNOLE FRAME SHALL BE NEENAH R-1661 W/ TYPE T GASKET SEALED LID (CONCEALED PICK HOLES AND NO VENT HOLES)

ALL MANHOLES ARE TO HAVE AN INSIDE DIA. OF 48"

SANITARY MANHOLE DETAIL

NO SCALE

- WATER MAIN SHALL BE DISINFECTED IN ACCORDANCE WITH SWS 4.3.12 AND SWS 4.16.0.
- CONTRACTOR SHALL FURNISH AND BOND CHLORINE TABLETS TO THE INSIDE SPIGOT END TOP OF EACH PIPE AS IT IS INSTALLED IN THE GROUND.
- ALL PIPING INSTALLED OUTSIDE OF THE WATER MAIN SEGMENTS SHALL BE DISINFECTED BY SWABING WITH A FIVE (5%) HYPOCHLORITE SOLUTION AND THOROUGHLY FLUSHED. THE ENTIRE INTERIOR SURFACES OF ALL PIPES AND FITTINGS SHALL BE THOROUGHLY SWABBED.
- CONTRACTOR SHALL USE EXTREME CARE TO INSURE THE CLEANLINESS OF ALL WATER MAIN MATERIALS USED.
- ALL COST OF STERILIZATION WORK, INCLUDING RE-CHLORINATION IF NECESSARY, FLUSHING, SAMPLING AND PROCESSING OF BACTERIOLOGICAL SAMPLES SHALL BE PAID FOR BY THE DEVELOPER OR CONTRACTOR.

SAFE SAMPLES

- A SAFE SAMPLE MUST BE OBTAINED FROM EACH OF THE SEGMENTS HYDROSTATICALLY TESTED.
- SAMPLES SHALL ALSO BE TAKEN FROM CONNECTION TO INTERSECTING MAINS TO CHECK EFFECTIVENESS OF THE DISINFECTION PROCEDURE.
- SAMPLES MUST BE PROVEN SAFE BY A WISCONSIN DNR-CERTIFIED INDEPENDENT LABORATORY.
- VILLAGE OF MUKWONAGO UTILITY SHALL RECEIVE A COPY OF THE BACTERIOLOGICAL TEST BEFORE WATER MAIN WILL BE PLACED IN SERVICE.
- IF A TEST IS PROVING UNSATISFACTORY, THE WATER MAIN SHALL BE STERILIZED BY THE CONTRACTOR BY SUCH METHODS AS HE DEEMS NECESSARY AND SAMPLES TAKEN UNTIL ACCEPTABLE RESULTS ARE OBTAINED.

FLUSHING/FILLING WATER MAIN

- WATER FOR TESTING AND FLUSHING OF MAINS WILL BE MADE AVAILABLE BY THE MUKWONAGO UTILITY SUBJECT TO ITS REQUIREMENTS AND CHARGES.
- CONTRACTOR SHALL NOTIFY THE UTILITY OF FLUSHING/FILLING SCHEDULE, AND OBTAIN A METER TO BE USED.
- ALL FLUSHING/FILLING OF NEW MAINS SHALL BE COMPLETED BY CONTRACTOR.

WATER DISCHARGE

- PROVISIONS SHALL BE MADE TO CONVEY WATER USED FOR FLUSHING OR TESTING TO A SUITABLE DISCHARGE POINT WITHOUT CAUSING DAMAGE OR EROSION TO PROPERTIES.
- WATER WASTED FROM PIPELINE, WELL, AND/OR TOWER THAT MAY REACH BODIES OF SURFACE WATER MAY NOT CONTAIN ANY SUBSTANCES IN CONCENTRATIONS THAT ADVERSELY AFFECT THE WATER AS DETERMINED BY NR 105 AND NR 106.
- FOR CHLORINE, NO TOTAL RESIDUAL CHLORINE MAY BE MEASURED IN WATER BEING DISCHARGED TO SURFACE WATER.
- WATER WITH RESIDUAL CHLORINE MAY BE DISCHARGED TO THE SANITARY SEWER WITH PRIOR APPROVAL OF THE UTILITIES DIRECTOR.
- IF CHLORINATED WATER IS CONTAINED BY A DIKE OR BERM AND ALLOWED TO SEEP INTO THE GROUND, OR DISCHARGED TO AN AREA AT A RATE WHERE IT WILL SEEP INTO THE GROUND PRIOR TO REACHING A SURFACE WATER, THEN NO CHLORINE NEUTRALIZATION IS REQUIRED.



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PROJECT: CARDINAL RIDGE - PHASE 1

SINGLE FAMILY DEVELOPMENT

VILLAGE OF MUKWONAGO & VILLAGE OF VERNON, WISCONSIN

BY: NEUMANN DEVELOPMENTS, INC.
N27W24-025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
05/17/2024	PHASE 1 SUBMITTAL
07/17/2024	PER VILLAGE REVIEW

DATE:

JULY 17, 2024

JOB NUMBER:
21-040-953

DESCRIPTION:

CONSTRUCTION
NOTES & DETAILS

SHEET

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Cardinal Ridge – Phase I

Village of Vernon and Village of Mukwonago, Wisconsin

Storm Water Management Plan

Prepared by:



Trio Engineering LLC

4100 N. Calhoun Road
Brookfield, Wisconsin 53005
Contact: Josh Pudelko, P.E.
Telephone: (262) 790-1480
Email: info@trioeng.com

Sound Stormwater Design LLC

Contact: Jayme Sisel, P.E.
Telephone: (414) 286-4739
Email: jayme.sisel@soundstormwater.com

May 20, 2024
Revised July 19, 2024

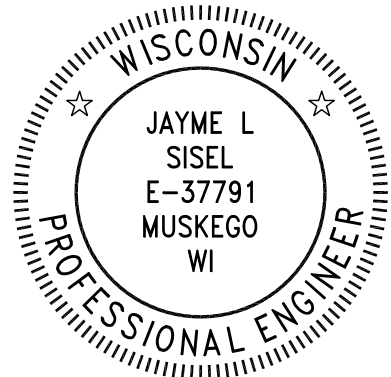


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Stormwater Detention Basin Design & Summary.....	5
Peak Discharge Summaries.....	6
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FIGURES

APPENDIX A	Pre-Development Hydrologic Analysis
APPENDIX B	Post-Development Hydrologic Analysis
APPENDIX C	Treatment Analysis / WinSLAMM
APPENDIX D	Infiltration Analysis / WinSLAMM
APPENDIX E	Soil Survey & Geotechnical Exploration and Site Feasibility Evaluation Report
APPENDIX F	BMP Design Summary Sheets
APPENDIX G	Watershed Summary Sheets

Introduction

The Cardinal Ridge development is a proposed 95-lot residential subdivision on a 50.75-acre parcel that is split between two municipalities. The northern 33.04 acres of the site is located within the Village of Vernon. The southern 17.71 acres is located within the Village of Mukwonago. Since the drainage is split between two municipalities, the stormwater management practices that are located within the Village of Vernon will be designed to meet the Village of Vernon stormwater management requirements. Likewise, the stormwater management practices that are located within the Village of Mukwonago will be designed to meet the Village of Mukwonago stormwater standards.

This report documents the design computations for Phase I of the proposed development and presents a plan for stormwater management that meets the requirements of the Village of Vernon, the Village of Mukwonago, and the Wisconsin Department of Natural Resources (WDNR).

Owner/ Developer

The owner, developer, and responsible entity for installation and maintenance of the storm water management practices is:

Neumann Development, Inc.
N27 W24025 Paul Ct., Suite 100
Pewaukee, Wisconsin 53072
Contract: Bryan Lindgren
Phone: (262) 542-9200

Design Requirements

The following design standards have been used to develop the stormwater management plan for the “Cardinal Ridge” development:

- Village of Vernon: Waukesha County Chapter 14, Article VIII, Stormwater Management & Erosion Control Ordinance
- Village of Mukwonago: Chapter 34, Article II, Division 4, Stormwater Management and Erosion Control
- Wisconsin Department of Natural Resources (WDNR): Technical Standards, NR151, and NR216
- Summary of Village of Vernon design requirements:
 - Peak Discharge:
 - Village of Vernon: The peak flow discharge rates of stormwater runoff from the site under the post-development site conditions shall not exceed the rates under the pre-development conditions for the 1, 2, 10, and 100-yr, 24-hr design storms.

- Water Quality (Total Suspended Solids): Reduce to the maximum extent practicable the total suspended solids load by 80% for new development sites, based on an average annual rainfall, as compared to no runoff management controls.
- Infiltration: For low imperviousness developments, such as low-density residential, one of the following shall be met:
 - Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 90% of the pre-development infiltration volume, based on an average annual rainfall.
 - No more than 1% of the project site is required as an effective infiltration area.
- Summary of Village of Mukwonago design requirements:
 - Peak Discharge:
 - Village of Mukwonago: Reduce the 100-yr, 24-hr post-development runoff rate to the 10-yr, 24-hr pre-development runoff rate. Reduce the 10 and 2-yr, 24-hr post-development runoff rates to no greater than the 2-yr, 24-hr pre-development runoff rate. In addition, control the 1-yr, 24-hr post-development runoff rate to the 1-yr, 24-hr pre-development rate.
 - Water Quality (Total Suspended Solids): Reduce to the maximum extent practicable the total suspended solids load by 80% for new development sites, based on an average annual rainfall, as compared to no runoff management controls.
 - Infiltration: For medium imperviousness developments, such as medium-density residential, one of the following shall be met:
 - Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 75% of the pre-development infiltration volume, based on an average annual rainfall.
 - No more than 2% of the project site is required as an effective infiltration area.

Analysis Overview

The Stormwater Management Plan for the “Cardinal Ridge” development has been designed in accordance with the Village of Vernon and the Village of Mukwonago stormwater management requirements and all applicable state requirements. Existing and proposed stormwater runoff conditions for the site were analyzed for: runoff volume, peak volume, discharge, detention basin storage capacity required, outlet structure and storm sewer system requirements. The software package used for modeling and analysis was HydroCAD Version 10.20 software by HydroCAD Software Solutions. HydroCAD uses NRCS methods to generate runoff and pond routing hydrographs. The model’s capabilities include modeling simple drainage basins, combining hydrographs to determine runoff and storage requirements, and detention basin and outlet structure sizing.

MSE3 rainfall distributions were used for modeling the 1, 2, 10 and 100-year, 24-hour storm events. The corresponding rainfall data used for modeling was taken from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Precipitation Frequency Tables for Wisconsin Counties and is shown in the following table.

TABLE 1
Design Rainfall Values

Storm Recurrence Interval	24-hour Rainfall Depths
1-year	2.4 inches
2-year	2.7 inches
10-year	3.81 inches
100-year	6.18 inches

Soil types for the site were determined from the NRCS Soil Survey Maps for Waukesha County. The Soil Survey identifies the soils at the site as a mix of Type D soils (Hochheim loams), Type C/D soils (Brookston silt loam), and Type B/D (Sebewa and Lamartine silt loams). Based on this, a hydrologic soil group Type C was used to determine runoff curve numbers for the site. Refer to Appendix E for details.

Pre-Development Watershed Description

The existing site is occupied by agricultural fields. Surface drainage for the site is generally towards the center of the property, to an unnamed tributary to the Fox River that flows from north to south and divides the site in half. A limited area of the site also drains to the east, towards a wooded wetland on the adjacent property that eventually drains south to another unnamed tributary to the Fox River.

Pre-development land cover types, topography, drainage subareas, and flow paths are shown on Figure 1. The following tables summarize the results of the stormwater model for pre-development conditions for each municipality. A schematic plan of the hydrological analyses and detailed hydrological computations for pre-development conditions are included in Appendix A.

TABLE 2
Village of Vernon
Pre-Development Site Conditions

Subarea or Junction	Description	Total Area (acres)	Impervious Area (acres)	Time of Conc. (min.)	Peak Flow Rate (cfs)			
					1-year	2-year	10-year	100-year
V-1	Subarea	11.21	0.00	14	10.14	13.15	25.46	54.95
V-2	Subarea	1.86	0.00	8	1.72	2.22	4.33	9.32
V-3	Subarea	1.93	0.00	8	2.22	2.87	5.52	11.78
V-4	Subarea	1.76	0.00	9	1.81	2.35	4.53	9.68
V-1L	Total Vernon Outflow	16.78	0.00	-	15.34	19.91	38.63	83.07

TABLE 3
Village of Mukwonago
Pre-Development Site Conditions

Subarea or Junction	Description	Total Area (acres)	Impervious Area (acres)	Time of Conc. (min.)	Peak Flow Rate (cfs)			
					1-year	2-year	10-year	100-year
M-2	Subarea	5.68	0.00	14	5.24	6.79	13.24	28.45
M-4	Subarea	3.49	0.00	11	3.56	4.60	8.87	18.98
M-1L	Total Mukwonago Outflow	9.17	0.00	-	8.73	11.32	21.93	47.08

Post-Development Site Drainage Description

Phase I of the proposed development plan encompasses the east half of the subdivision and includes the construction of fifty-two (52) single-family residential lots. Stormwater management for Phase I of the proposed development will be provided by 2 wet detention ponds and 2 rain gardens. Since the drainage is split between two municipalities, the stormwater management practices that are located within the Village of Vernon will be designed to meet the Village of Vernon stormwater management requirements. Likewise, the stormwater management practices that are located within the Village of Mukwonago will be designed to meet the Village of Mukwonago stormwater standards.

Figure 2 shows the proposed land cover, grading, drainage subarea boundaries, flow paths, and proposed site and stormwater management improvements. The following table summarizes the results of the hydrologic analyses for post-development conditions for each municipality. A schematic plan of the hydrological analyses and detailed hydrological computations for post-development conditions are included in Appendix B.

TABLE 4
Village of Vernon
Post-Development Site Conditions

Subarea, Junction or Pond	Description	Total Area (acres)	Impervious Area (acres)	Time of Conc. (min.)	Peak Flow Rate (cfs)			
					1-year	2-year	10-year	100-year
V-2	Subarea	12.81	5.15	17	16.89	20.65	35.22	67.62
2P	Pond 2P	-	-	-	1.33	2.05	5.76	24.33
V-4	Subarea	1.48	0.42	14	1.66	2.10	3.83	7.80
4B	Rain Garden 4B	-	-	-	0.50	1.03	3.39	7.49
V-7	Subarea	0.26	0.00	6	0.18	0.26	0.59	1.44
V-8	Subarea	1.15	0.44	15	1.36	1.70	3.05	6.11
V-9	Subarea	0.82	0.23	6	1.29	1.61	2.92	5.89
V-1L	Total Vernon Outflow	16.52	6.24	-	2.72	3.54	9.24	35.29

TABLE 5
Village of Mukwonago
Post-Development Site Conditions

Subarea, Junction or Pond	Description	Total Area (acres)	Impervious Area (acres)	Time of Conc. (min.)	Peak Flow Rate (cfs)			
					1-year	2-year	10-year	100-year
M-5	Subarea	1.62	0.53	10	2.30	2.87	5.13	10.24
5B	Rain Garden 5B	-	-	-	0.84	1.61	4.81	9.89
M-6	Subarea	7.54	3.34	15	10.60	12.96	22.07	42.18
6P	Pond 6P	-	-	-	1.41	2.20	10.22	21.47
M-8	Subarea	0.27	0.00	6	0.19	0.27	0.61	1.49
M-1L	Total Mukwonago Outflow	9.43	3.87	-	1.43	2.23	10.34	21.76

Stormwater Detention Basin Design & Summary

Phase I of the development plan proposes two wet detention ponds and two rain gardens as the primary means of stormwater management for the site. In conformance with WDNR requirements, the wet detention ponds have been designed with 4:1 side slopes on the berms, 10-foot top of berm widths, 10-foot wide safety shelves below the normal water level (NWL). All outfall structures discharge to energy dissipating level spreaders prior to discharging into the adjacent wetlands.

The following table summarizes the detention system routing analysis for post development conditions. Details of the stormwater management facilities are included in Appendix B.

TABLE 6
Post-Development Site Conditions

<i>Vernon Pond 2 (2P)</i>				
System Details:		Outlet Control:		
Bottom elevation = 789.5		7-inch diameter orifice at I.E. 794.5		
Normal water elevation = 794.5		1.5-foot sharp-crested weir at elevation 795.5		
10-foot spillway at elevation = 797.5		48-inch horizontal grate at elevation 796.5		
Top of berm elevation = 798.5		24-inch diameter outlet pipe at I.E. 793.8		
	1-year Storm	2-year Storm	10-year Storm	100-year Storm
Peak Inflow (cfs)	16.89	20.65	35.22	67.62
Peak Outflow (cfs)	1.33	2.05	5.76	24.33
Max Water Surface Elev.	795.61	795.80	796.47	797.48
Max Storage Volume (ac-ft)	0.72	0.85	1.35	2.18
<i>Vernon Rain Garden 4 (4B)</i>				
System Details:		Outlet Control:		
Bottom of Engineered Soil elevation = 804.7		Native infiltration rate = 0.24 in/hr (soils report)		
Top of Engineered Soil elevation = 805.7		V-notch weir at elevation 806.2		
Top of berm elevation = 808.5				
	1-year Storm	2-year Storm	10-year Storm	100-year Storm
Peak Inflow (cfs)	1.66	2.10	3.83	7.80
Peak Outflow (cfs)	0.50	1.03	3.39	7.49
Max Water Surface Elev.	806.71	806.78	806.94	807.12
Max Storage Volume (ac-ft)	0.04	0.05	0.06	0.07
<i>Mukwonago Rain Garden 5 (5B)</i>				
System Details:		Outlet Control:		
Bottom of Engineered Soil elevation = 795.0		Native infiltration rate = 0.24 in/hr (soils report)		
Top of Engineered Soil elevation = 797.0		10-foot spillway at elevation 797.5		
Top of berm elevation = 798.5				
	1-year Storm	2-year Storm	10-year Storm	100-year Storm
Peak Inflow (cfs)	2.30	2.87	5.13	10.24
Peak Outflow (cfs)	0.84	1.61	4.81	9.89
Max Water Surface Elev.	797.61	797.67	797.84	798.02
Max Storage Volume (ac-ft)	0.05	0.06	0.06	0.08

TABLE 6
Post-Development Site Conditions

Mukwonago Pond 6 (6P)				
System Details:		Outlet Control:		
Bottom elevation = 784.75		3-inch diameter orifice at I.E. 789.75		
Normal water elevation = 789.75		1-foot sharp-crested weir at elevation 791.0		
10-foot spillway at elevation = 794.0		48-inch horizontal grate at elevation 792.25		
Top of berm elevation = 795.0		24-inch diameter outlet pipe at I.E. 789.5		
	1-year Storm	2-year Storm	10-year Storm	100-year Storm
Peak Inflow (cfs)	10.60	14.01	26.68	51.49
Peak Outflow (cfs)	1.41	2.20	10.22	21.47
Max Water Surface Elev.	791.52	791.77	792.51	793.81
Max Storage Volume (ac-ft)	0.42	0.49	0.74	1.28

Peak Discharge Summaries

Village of Vernon requires post-development peak discharge rates to be no greater than pre-development discharge rates for the 1, 2, 10, and 100-yr, 24-hr design storms. The following table compares the results of the analysis from a peak discharge standpoint for the Village of Vernon.

TABLE 7
Village of Vernon
Comparison of Peak Discharge

	Pre-Development		Post-Development
1-year	15.34 cfs	>	2.72 cfs
2-year	19.91 cfs	>	3.54 cfs
10-year	38.63 cfs	>	9.24 cfs
100-year	83.07 cfs	>	35.29 cfs

Village of Mukwonago requires post-development peak discharge rates for the 100-yr, 24-hr storm to be no greater than the pre-development discharge rates for the 10-yr, 24-hr storm event. In addition, the post-development peak discharge rates for the 2 and 10-yr, 24-hr storms shall be no greater than the pre-development discharge rates for the 2-yr, 24-hr storm. The 1-yr, 24-hr post-development runoff rate shall be no greater than the 1-yr, 24-hr pre-development rate. The following table compares the results of the analysis from a peak discharge standpoint for the Village of Mukwonago.

TABLE 8
Village of Mukwonago
Comparison of Peak Discharge

1-year Pre-Development		1-yr Post-Development
8.73 cfs	>	1.43 cfs
2-year Pre-Development		10-yr Post-Development
11.32 cfs	>	10.34 cfs
10-year Pre-Development		100-yr Post-Development
21.93 cfs	>	21.76 cfs

Water Quality

Both the Village of Vernon and the Village of Mukwonago require new development sites to be designed to remove 80 percent of TSS, based on an average annual rainfall as compared to no runoff management controls. Stormwater quality was analyzed using SLAMM Version 10.5.0 software, developed by Robert Pitt and John Voorhees. The results of the SLAMM analysis indicate that approximately 81.3 percent of TSS will be removed from stormwater as a result of the proposed wet detention ponds and rain gardens. In addition, approximately 59.4 percent of total phosphorus will be removed from the development site. Detailed computations are included in Appendix C.

Infiltration

In conformance with Steps A and B of the WDNR Conservation Practice Standard 1002, *Site Evaluation for Stormwater Infiltration*, the site was initially screened to determine eligibility for infiltration. Based on the soil boring logs provided by Professional Service Industries, Inc., this site is exempt from meeting infiltration performance standards due to the shallow groundwater identified at the soil boring locations. However, based on recent correspondence with Waukesha County, it has been requested that the site be designed to infiltrate site runoff to the maximum extent practicable and that infiltration calculations be provided for the site.

Infiltration was analyzed using winSLAMM to determine runoff volumes for both pre-development and post-development conditions. The results of the winSLAMM analysis indicate that the site will infiltrate approximately 75.2 percent of the pre-development infiltration volume. Detailed computations are included in Appendix D.

Conclusion

The proposed development will maintain compliance with the Village of Vernon, the Village of Mukwonago, and the WDNR's requirements for control of stormwater quantity, quality, and infiltration. We request, on behalf of the owner, approval of this Stormwater Management Plan to allow for construction of Phase I of the Cardinal Ridge subdivision development.

Prepared by:

SOUND STORMWATER DESIGN LLC



Jayme Sisel, P.E.

FIGURES

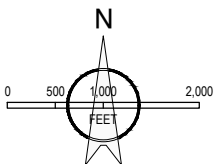
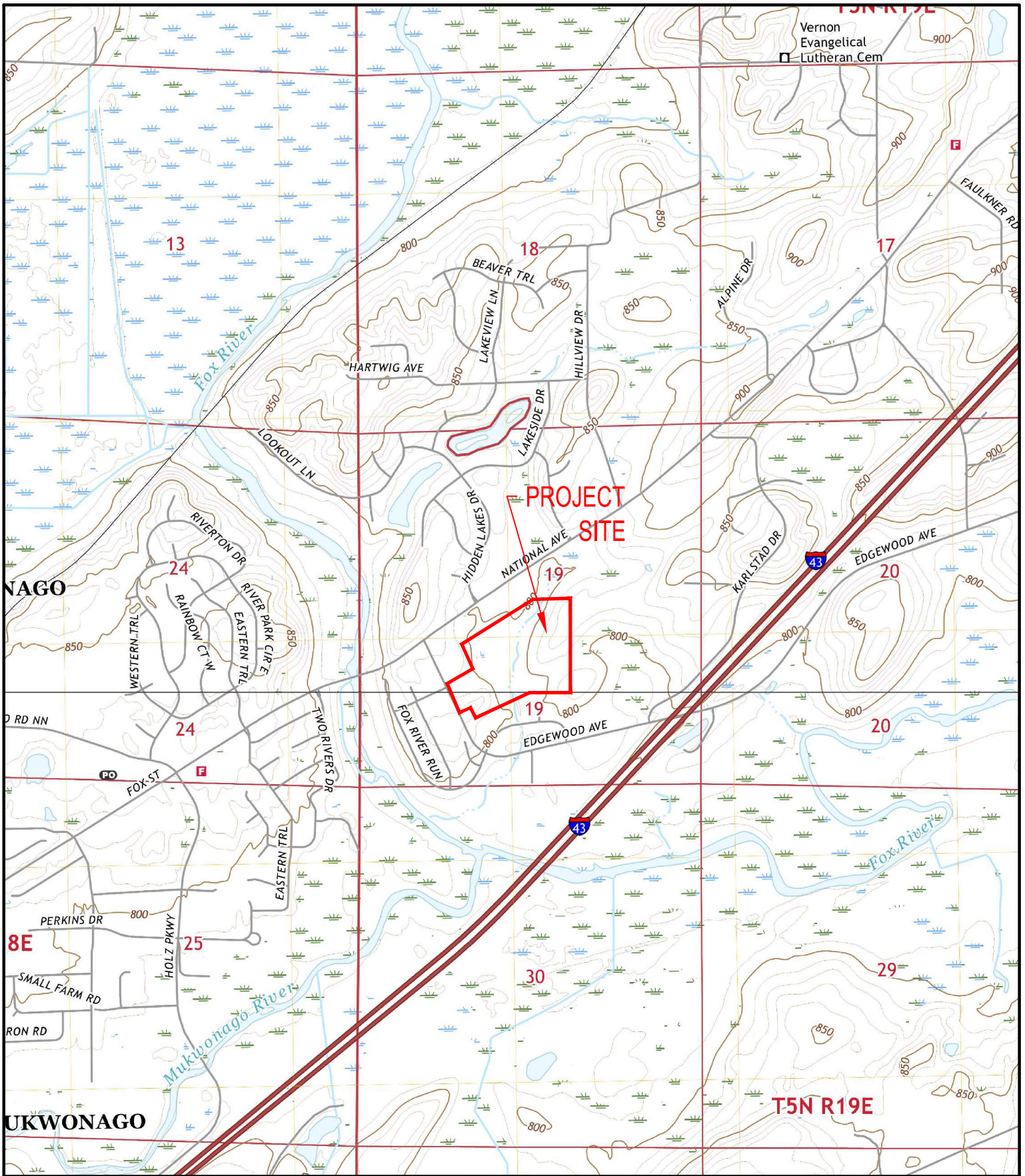


FIGURE 1

SITE LOCATION MAP

CARDINAL RIDGE

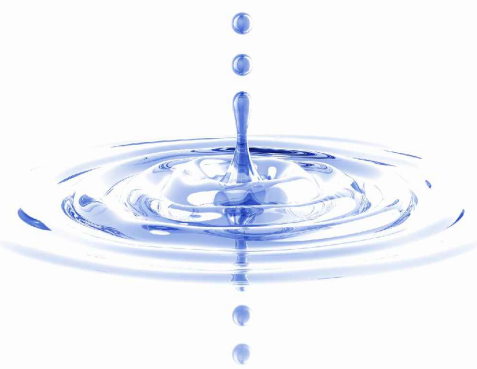
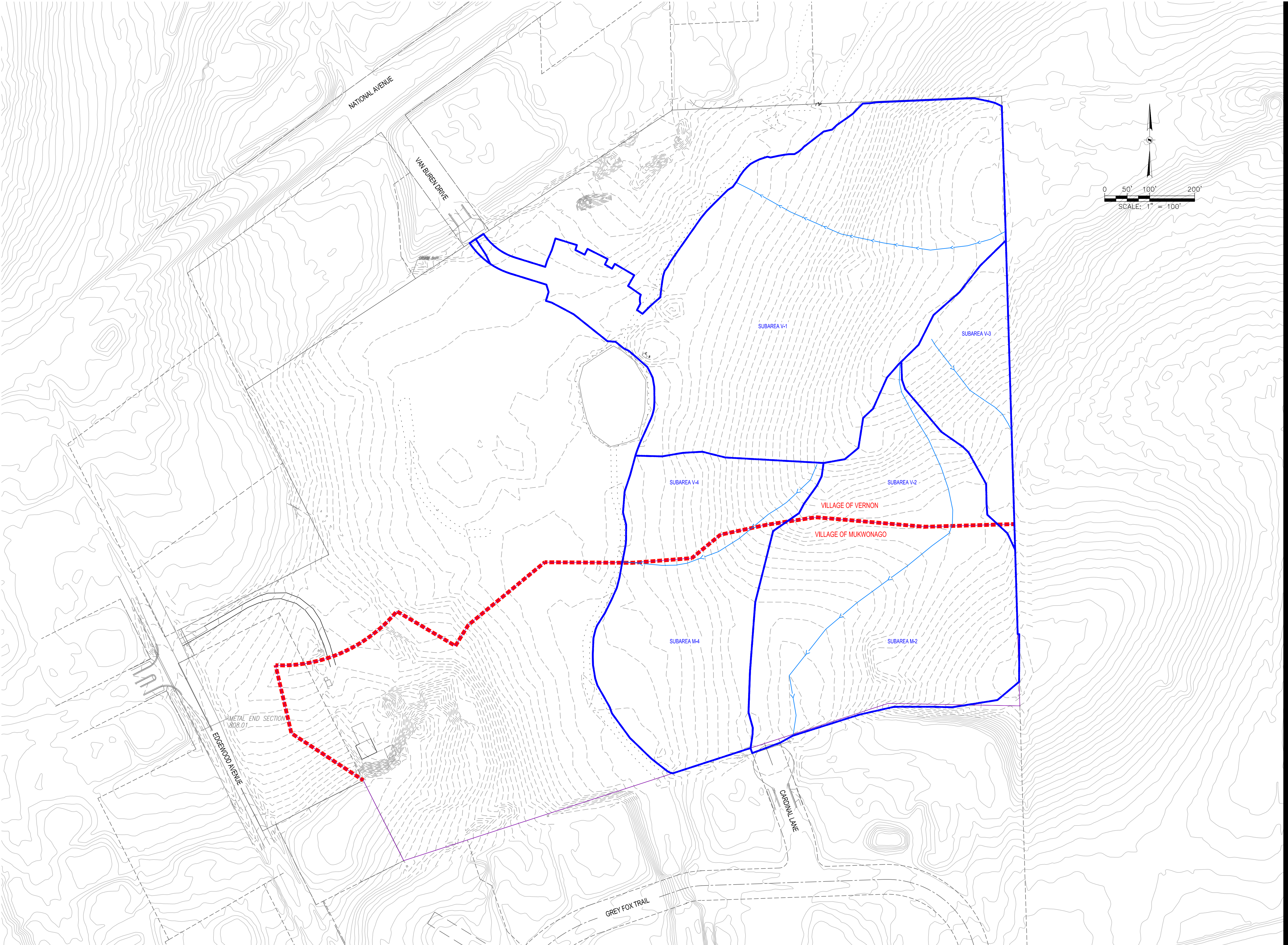
VILLAGE OF VERNON &

VILLAGE OF MUKWONAGO, WI



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SOUND STORMWATER
DESIGN

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Muskego, WI 53150
414.286.4739
jayme.sisel@soundstormwater.com

CLIENT:

PROJECT TITLE:
**CARDINAL RIDGE
PHASE I**
EDGEWOOD AVENUE
VERONA/MUKWONAGO, WISCONSIN

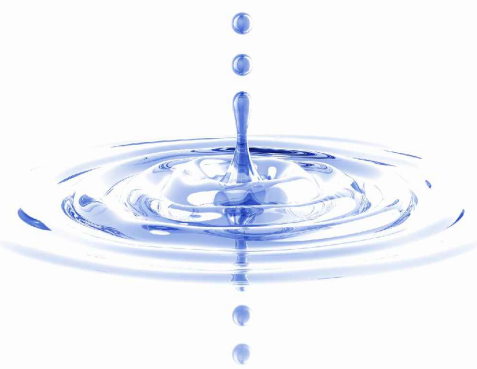
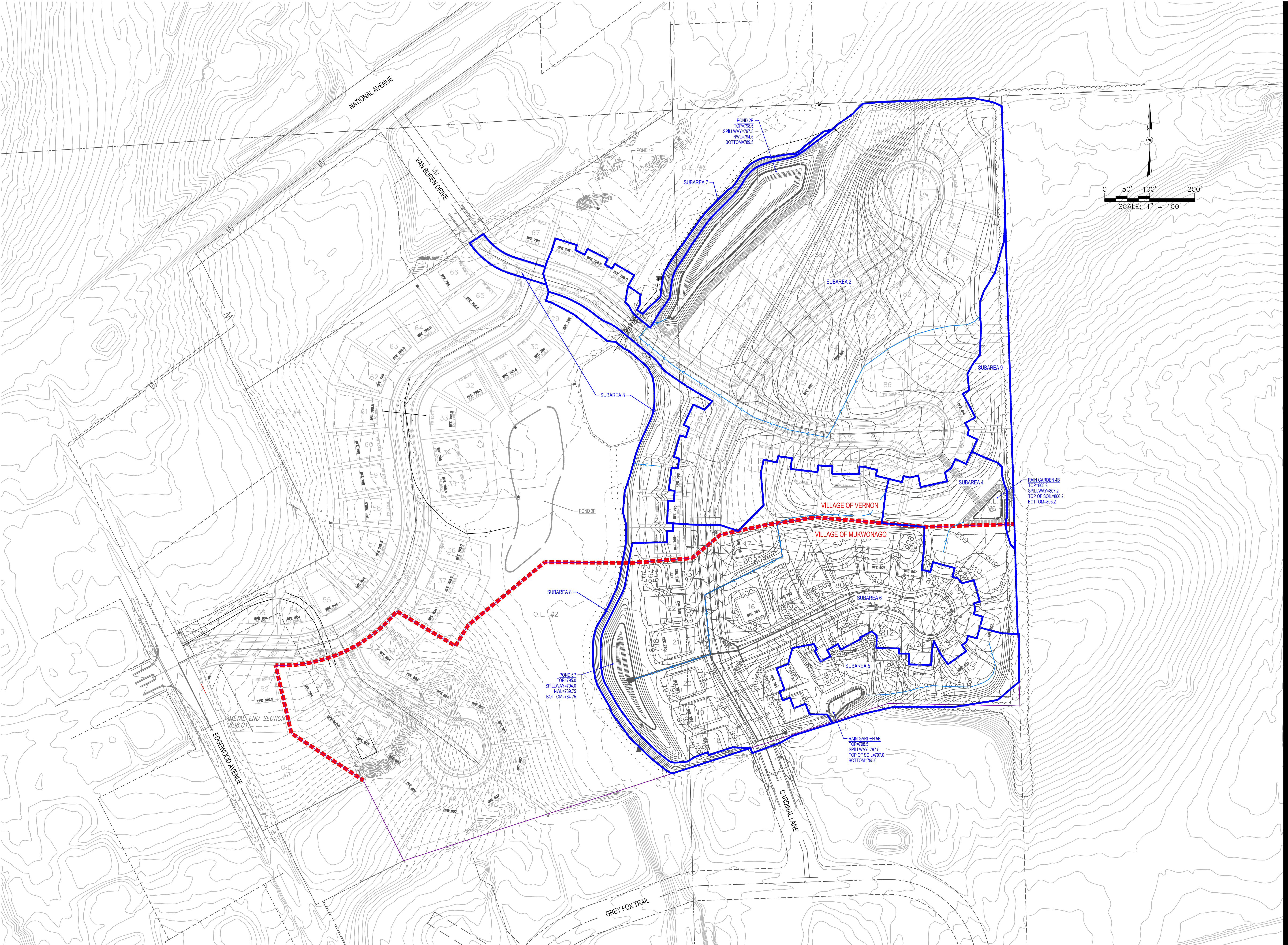
DATE: 05-20-24

JOB NO: 2022-004

SHEET TITLE:
**PRE-
DEVELOPMENT
CONDITIONS PLAN**

FIGURE:

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CLIENT:

PROJECT TITLE:
**CARDINAL RIDGE
PHASE I**
EDGEWOOD AVENUE
VERONA/MUKWONAGO, WISCONSIN

DATE: 05-20-24

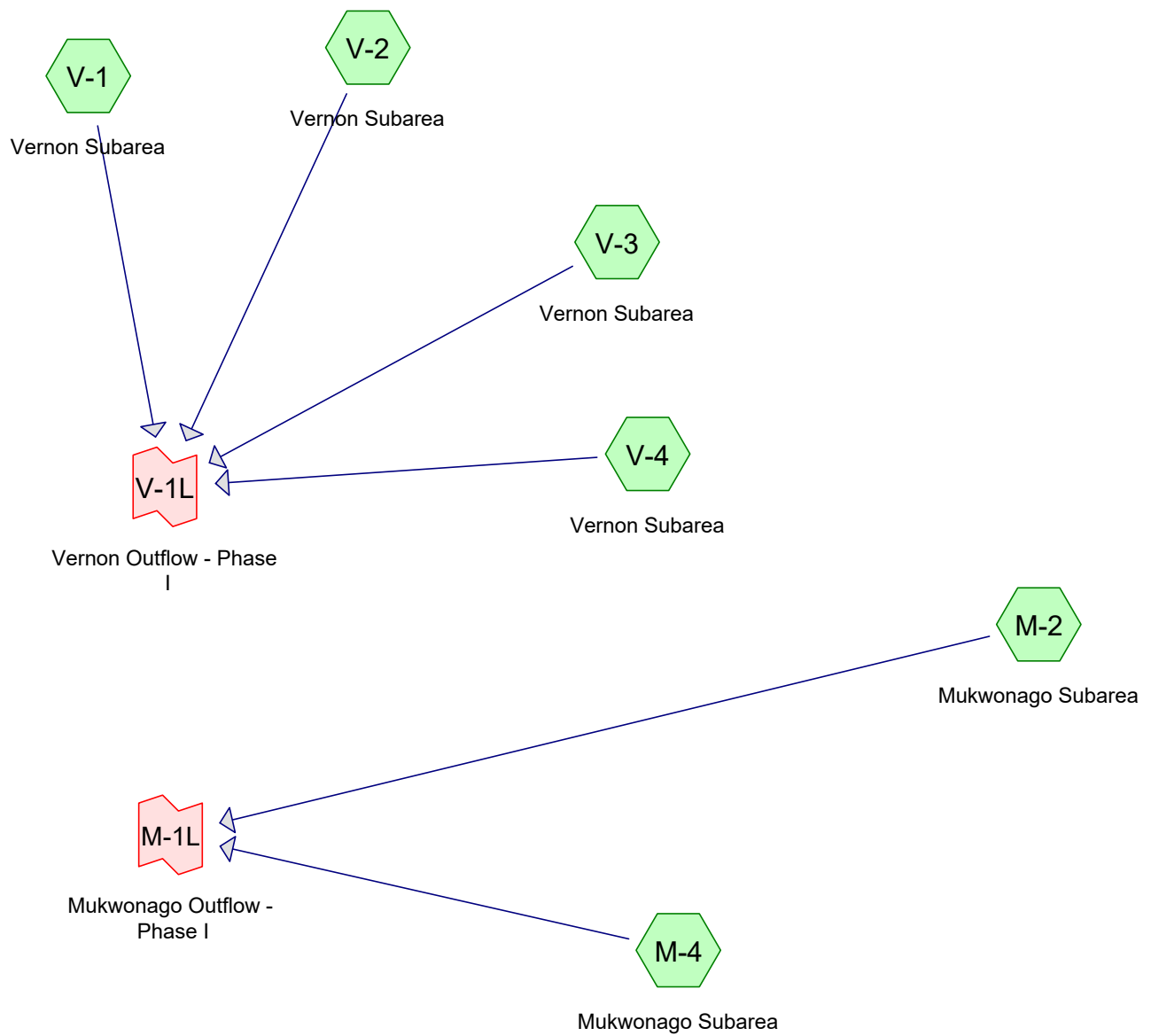
JOB NO: 2022-004

SHEET TITLE:
**POST-
DEVELOPMENT
CONDITIONS PLAN**

FIGURE:

APPENDIX A

Pre-Development Hydrologic Analysis



Routing Diagram for Existing Phase I
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Page 2

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 yr	MSE 24-hr	3	Default	24.00	1	2.40	2
2	2 yr	MSE 24-hr	3	Default	24.00	1	2.70	2
3	10 yr	MSE 24-hr	3	Default	24.00	1	3.81	2
4	100 yr	MSE 24-hr	3	Default	24.00	1	6.18	2

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Page 3

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
25.950	78	cropland (M-2, M-4, V-1, V-2, V-3, V-4)
25.950	78	TOTAL AREA

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MSE 24-hr 3 1 yr Rainfall=2.40"

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Page 4

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentM-2: Mukwonago Subarea Runoff Area=5.680 ac 0.00% Impervious Runoff Depth>0.72"
Flow Length=1,010' Tc=13.6 min CN=78 Runoff=5.24 cfs 0.342 af

SubcatchmentM-4: Mukwonago Subarea Runoff Area=3.490 ac 0.00% Impervious Runoff Depth>0.72"
Flow Length=520' Slope=0.0400 '/' Tc=11.1 min CN=78 Runoff=3.56 cfs 0.210 af

SubcatchmentV-1: Vernon Subarea Runoff Area=11.210 ac 0.00% Impervious Runoff Depth>0.72"
Flow Length=635' Tc=14.2 min CN=78 Runoff=10.14 cfs 0.675 af

SubcatchmentV-2: Vernon Subarea Runoff Area=1.860 ac 0.00% Impervious Runoff Depth>0.72"
Flow Length=1,010' Tc=13.6 min CN=78 Runoff=1.72 cfs 0.112 af

SubcatchmentV-3: Vernon Subarea Runoff Area=1.930 ac 0.00% Impervious Runoff Depth>0.72"
Flow Length=275' Slope=0.0600 '/' Tc=8.3 min CN=78 Runoff=2.22 cfs 0.116 af

SubcatchmentV-4: Vernon Subarea Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>0.72"
Flow Length=520' Slope=0.0400 '/' Tc=11.1 min CN=78 Runoff=1.81 cfs 0.107 af

Link M-1L: Mukwonago Outflow - Phase I Inflow=8.73 cfs 0.553 af
Primary=8.73 cfs 0.553 af

Link V-1L: Vernon Outflow - Phase I Inflow=15.34 cfs 1.011 af
Primary=15.34 cfs 1.011 af

Total Runoff Area = 25.950 ac Runoff Volume = 1.564 af Average Runoff Depth = 0.72"
100.00% Pervious = 25.950 ac 0.00% Impervious = 0.000 ac

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MSE 24-hr 3 2 yr Rainfall=2.70"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentM-2: Mukwonago Subarea Runoff Area=5.680 ac 0.00% Impervious Runoff Depth>0.92"
Flow Length=1,010' Tc=13.6 min CN=78 Runoff=6.79 cfs 0.435 af

SubcatchmentM-4: Mukwonago Subarea Runoff Area=3.490 ac 0.00% Impervious Runoff Depth>0.92"
Flow Length=520' Slope=0.0400 '/' Tc=11.1 min CN=78 Runoff=4.60 cfs 0.267 af

SubcatchmentV-1: Vernon Subarea Runoff Area=11.210 ac 0.00% Impervious Runoff Depth>0.92"
Flow Length=635' Tc=14.2 min CN=78 Runoff=13.15 cfs 0.859 af

SubcatchmentV-2: Vernon Subarea Runoff Area=1.860 ac 0.00% Impervious Runoff Depth>0.92"
Flow Length=1,010' Tc=13.6 min CN=78 Runoff=2.22 cfs 0.143 af

SubcatchmentV-3: Vernon Subarea Runoff Area=1.930 ac 0.00% Impervious Runoff Depth>0.92"
Flow Length=275' Slope=0.0600 '/' Tc=8.3 min CN=78 Runoff=2.87 cfs 0.148 af

SubcatchmentV-4: Vernon Subarea Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>0.92"
Flow Length=520' Slope=0.0400 '/' Tc=11.1 min CN=78 Runoff=2.35 cfs 0.136 af

Link M-1L: Mukwonago Outflow - Phase I Inflow=11.32 cfs 0.703 af
Primary=11.32 cfs 0.703 af

Link V-1L: Vernon Outflow - Phase I Inflow=19.91 cfs 1.286 af
Primary=19.91 cfs 1.286 af

Total Runoff Area = 25.950 ac Runoff Volume = 1.988 af Average Runoff Depth = 0.92"
100.00% Pervious = 25.950 ac 0.00% Impervious = 0.000 ac

Existing_Phase I

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MSE 24-hr 3 10 yr Rainfall=3.81"

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Page 22

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentM-2: Mukwonago Subarea Runoff Area=5.680 ac 0.00% Impervious Runoff Depth>1.74"
Flow Length=1,010' Tc=13.6 min CN=78 Runoff=13.24 cfs 0.821 af

SubcatchmentM-4: Mukwonago Subarea Runoff Area=3.490 ac 0.00% Impervious Runoff Depth>1.74"
Flow Length=520' Slope=0.0400 '/' Tc=11.1 min CN=78 Runoff=8.87 cfs 0.505 af

SubcatchmentV-1: Vernon Subarea Runoff Area=11.210 ac 0.00% Impervious Runoff Depth>1.74"
Flow Length=635' Tc=14.2 min CN=78 Runoff=25.46 cfs 1.621 af

SubcatchmentV-2: Vernon Subarea Runoff Area=1.860 ac 0.00% Impervious Runoff Depth>1.74"
Flow Length=1,010' Tc=13.6 min CN=78 Runoff=4.33 cfs 0.269 af

SubcatchmentV-3: Vernon Subarea Runoff Area=1.930 ac 0.00% Impervious Runoff Depth>1.74"
Flow Length=275' Slope=0.0600 '/' Tc=8.3 min CN=78 Runoff=5.52 cfs 0.279 af

SubcatchmentV-4: Vernon Subarea Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>1.74"
Flow Length=520' Slope=0.0400 '/' Tc=11.1 min CN=78 Runoff=4.53 cfs 0.257 af

Link M-1L: Mukwonago Outflow - Phase I Inflow=21.93 cfs 1.326 af
Primary=21.93 cfs 1.326 af

Link V-1L: Vernon Outflow - Phase I Inflow=38.63 cfs 2.426 af
Primary=38.63 cfs 2.426 af

Total Runoff Area = 25.950 ac Runoff Volume = 3.753 af Average Runoff Depth = 1.74"
100.00% Pervious = 25.950 ac 0.00% Impervious = 0.000 ac

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MSE 24-hr 3 100 yr Rainfall=6.18"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentM-2: Mukwonago Subarea Runoff Area=5.680 ac 0.00% Impervious Runoff Depth>3.74"
Flow Length=1,010' Tc=13.6 min CN=78 Runoff=28.45 cfs 1.768 af

SubcatchmentM-4: Mukwonago Subarea Runoff Area=3.490 ac 0.00% Impervious Runoff Depth>3.74"
Flow Length=520' Slope=0.0400 '/' Tc=11.1 min CN=78 Runoff=18.98 cfs 1.087 af

SubcatchmentV-1: Vernon Subarea Runoff Area=11.210 ac 0.00% Impervious Runoff Depth>3.74"
Flow Length=635' Tc=14.2 min CN=78 Runoff=54.95 cfs 3.489 af

SubcatchmentV-2: Vernon Subarea Runoff Area=1.860 ac 0.00% Impervious Runoff Depth>3.74"
Flow Length=1,010' Tc=13.6 min CN=78 Runoff=9.32 cfs 0.579 af

SubcatchmentV-3: Vernon Subarea Runoff Area=1.930 ac 0.00% Impervious Runoff Depth>3.74"
Flow Length=275' Slope=0.0600 '/' Tc=8.3 min CN=78 Runoff=11.78 cfs 0.601 af

SubcatchmentV-4: Vernon Subarea Runoff Area=1.780 ac 0.00% Impervious Runoff Depth>3.74"
Flow Length=520' Slope=0.0400 '/' Tc=11.1 min CN=78 Runoff=9.68 cfs 0.554 af

Link M-1L: Mukwonago Outflow - Phase I Inflow=47.08 cfs 2.855 af
Primary=47.08 cfs 2.855 af

Link V-1L: Vernon Outflow - Phase I Inflow=83.07 cfs 5.224 af
Primary=83.07 cfs 5.224 af

Total Runoff Area = 25.950 ac Runoff Volume = 8.078 af Average Runoff Depth = 3.74"
100.00% Pervious = 25.950 ac 0.00% Impervious = 0.000 ac

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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment M-2: Mukwonago Subarea

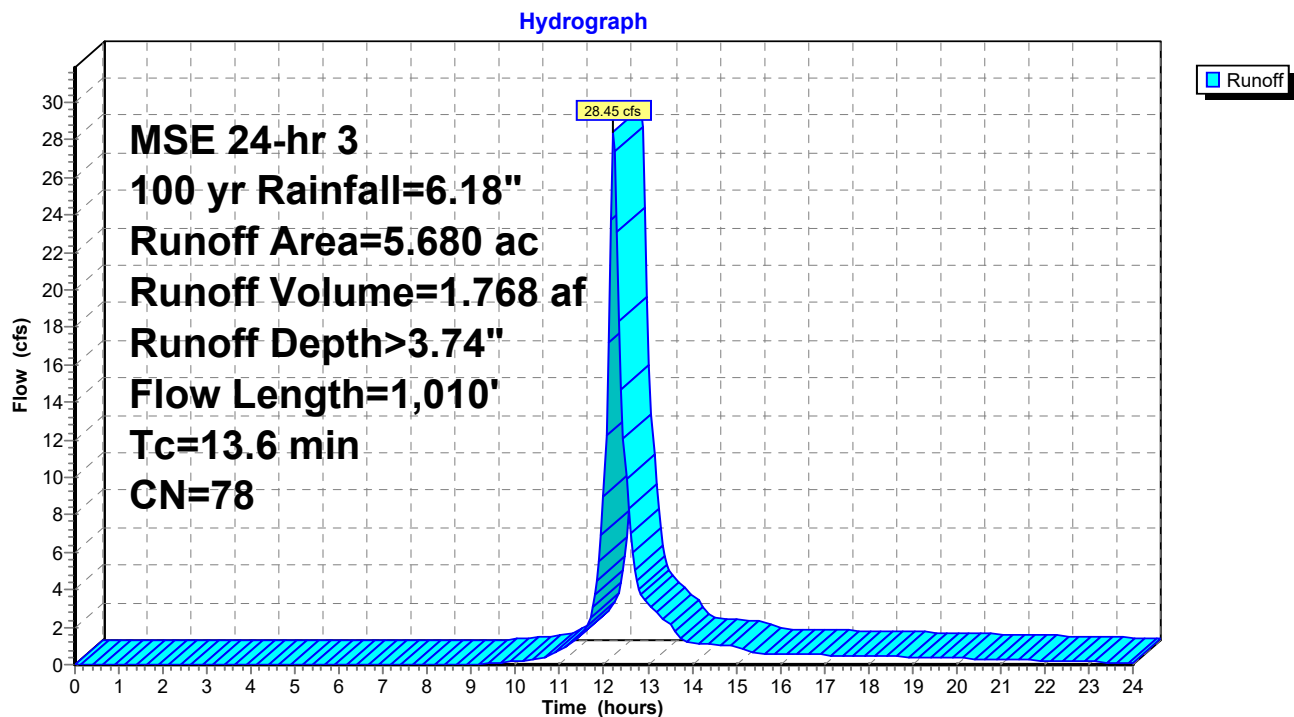
Runoff = 28.45 cfs @ 12.22 hrs, Volume= 1.768 af, Depth> 3.74"
Routed to Link M-1L : Mukwonago Outflow - Phase I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 5.680	78	cropland
5.680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	100	0.0600	0.22		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.70"
0.8	200	0.0600	3.94		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
5.2	710	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
13.6	1,010	Total			

Subcatchment M-2: Mukwonago Subarea



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment M-4: Mukwonago Subarea

Runoff = 18.98 cfs @ 12.19 hrs, Volume= 1.087 af, Depth> 3.74"
Routed to Link M-1L : Mukwonago Outflow - Phase I

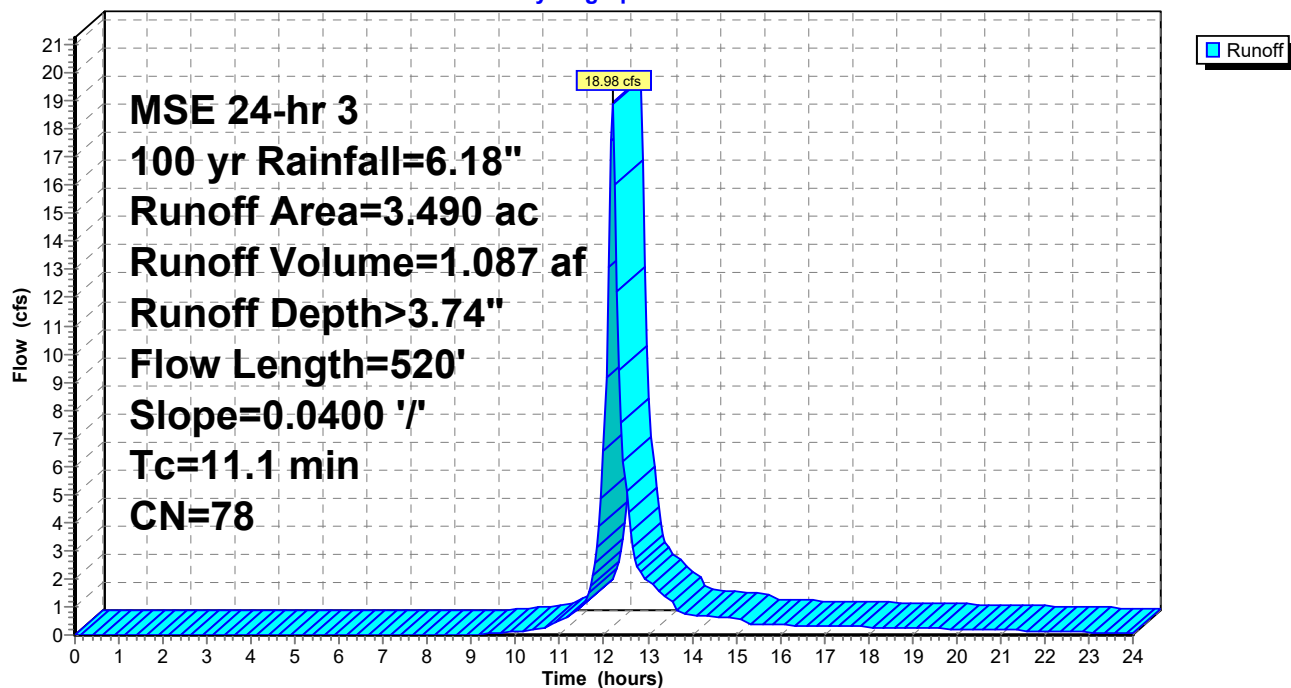
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 3.490	78	cropland
3.490		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0400	0.19		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.70"
2.2	420	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
11.1	520	Total			

Subcatchment M-4: Mukwonago Subarea

Hydrograph



Existing_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment V-1: Vernon Subarea

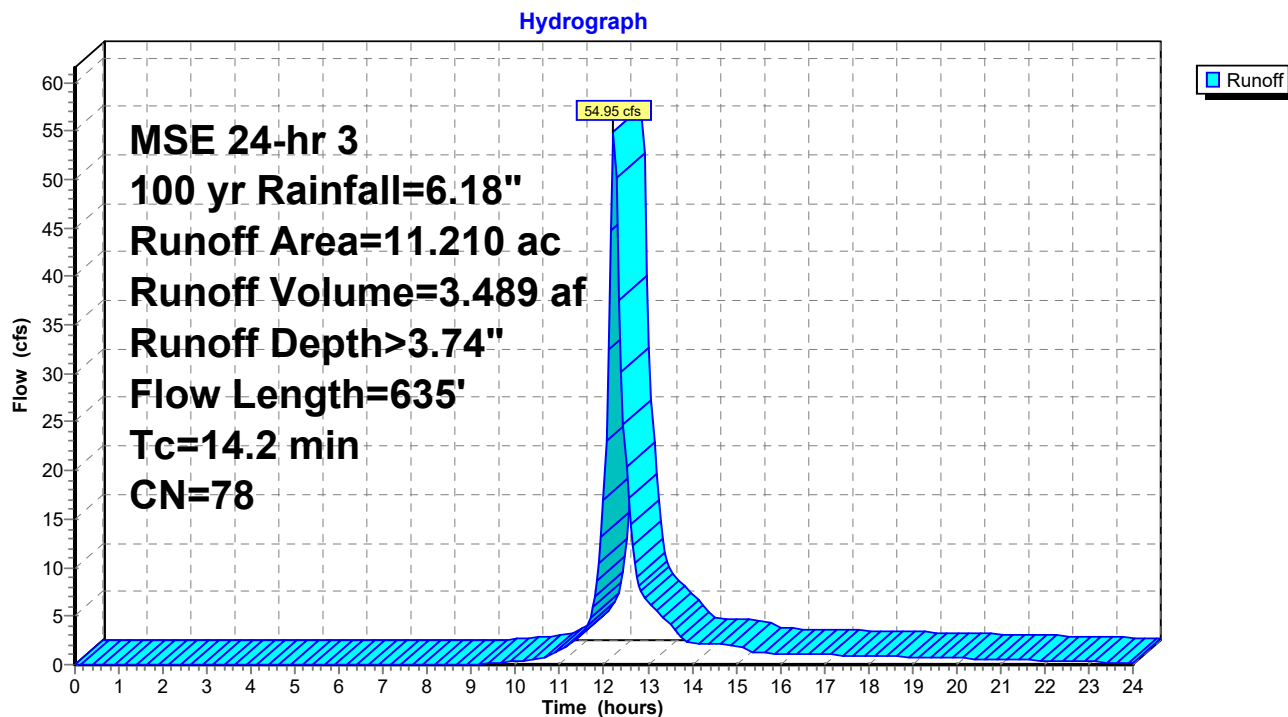
Runoff = 54.95 cfs @ 12.22 hrs, Volume= 3.489 af, Depth> 3.74"
Routed to Link V-1L : Vernon Outflow - Phase I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 11.210	78	cropland
11.210		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.8	100	0.0200	0.14		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.70"
0.4	60	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
2.0	475	0.0600	3.94		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
14.2	635	Total			

Subcatchment V-1: Vernon Subarea



Existing_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment V-2: Vernon Subarea

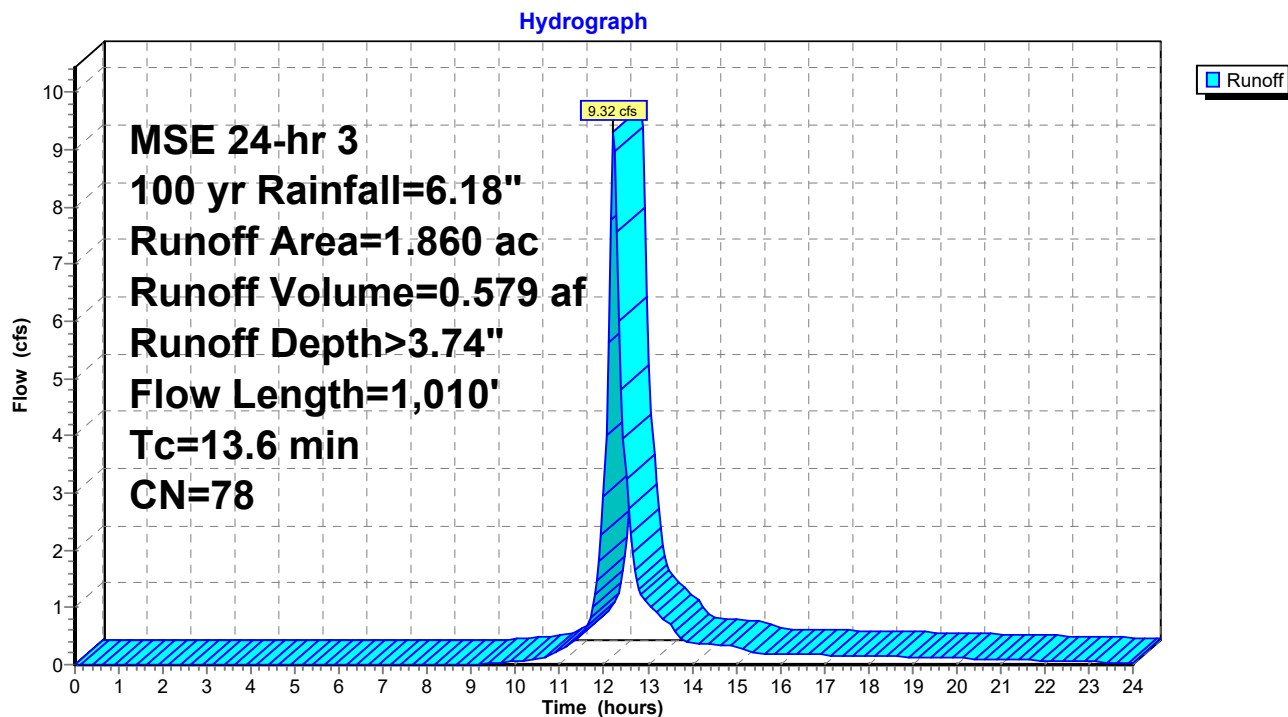
Runoff = 9.32 cfs @ 12.22 hrs, Volume= 0.579 af, Depth> 3.74"
Routed to Link V-1L : Vernon Outflow - Phase I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 1.860	78	cropland
1.860		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	100	0.0600	0.22		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.70"
0.8	200	0.0600	3.94		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
5.2	710	0.0200	2.28		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
13.6	1,010	Total			

Subcatchment V-2: Vernon Subarea



Existing_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"
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Summary for Subcatchment V-3: Vernon Subarea

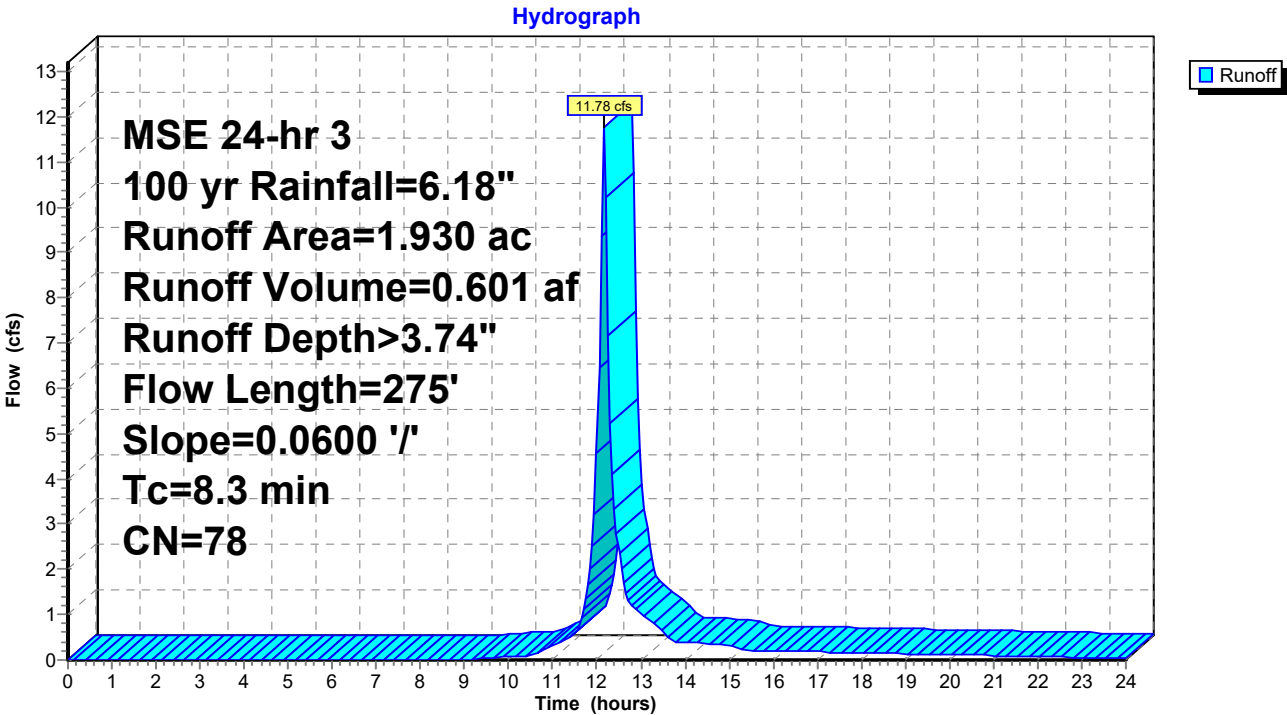
Runoff = 11.78 cfs @ 12.16 hrs, Volume= 0.601 af, Depth> 3.74"
Routed to Link V-1L : Vernon Outflow - Phase I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 1.930	78	cropland
1.930		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6	100	0.0600	0.22		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.70"
0.7	175	0.0600	3.94		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
8.3	275	Total			

Subcatchment V-3: Vernon Subarea



Existing_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment V-4: Vernon Subarea

Runoff = 9.68 cfs @ 12.19 hrs, Volume= 0.554 af, Depth> 3.74"
Routed to Link V-1L : Vernon Outflow - Phase I

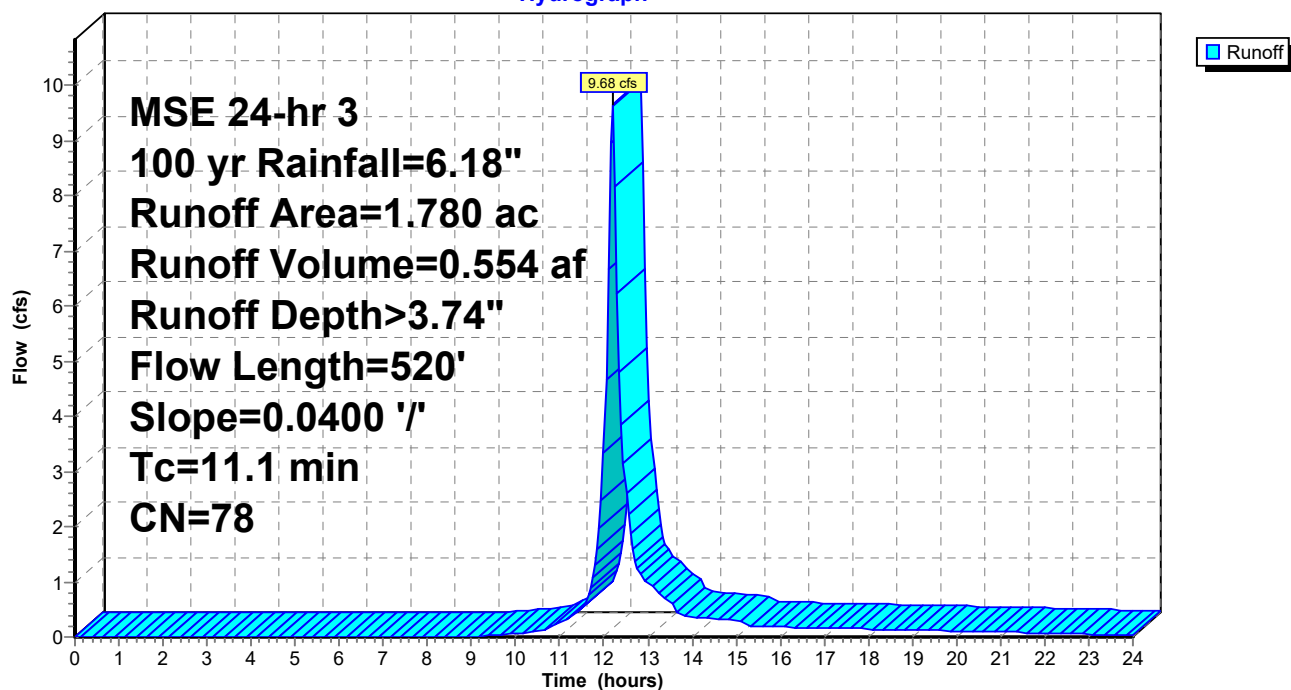
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 1.780	78	cropland
1.780		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	100	0.0400	0.19		Sheet Flow, Cultivated: Residue>20% n= 0.170 P2= 2.70"
2.2	420	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
11.1	520	Total			

Subcatchment V-4: Vernon Subarea

Hydrograph



Existing_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"

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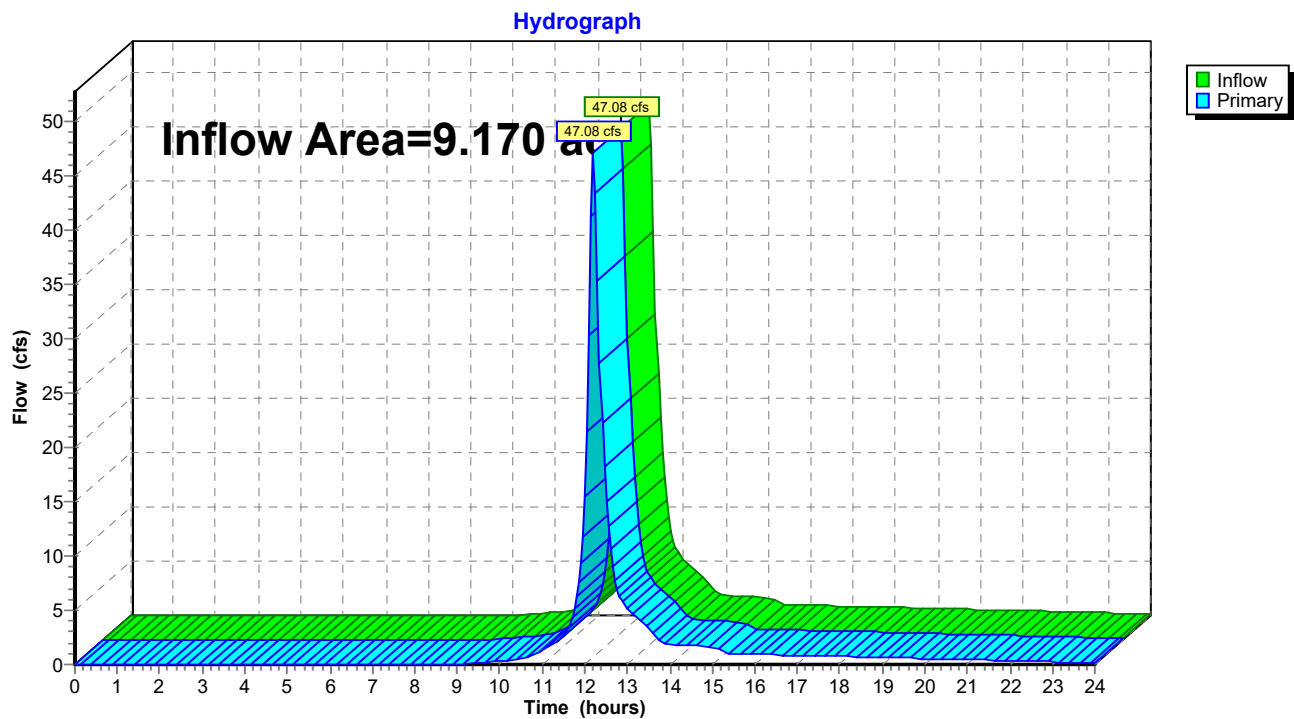
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Summary for Link M-1L: Mukwonago Outflow - Phase I

Inflow Area = 9.170 ac, 0.00% Impervious, Inflow Depth > 3.74" for 100 yr event
Inflow = 47.08 cfs @ 12.21 hrs, Volume= 2.855 af
Primary = 47.08 cfs @ 12.21 hrs, Volume= 2.855 af, Atten= 0%, Lag= 0.0 min
Routed to nonexistent node 99L

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link M-1L: Mukwonago Outflow - Phase I



Existing_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"

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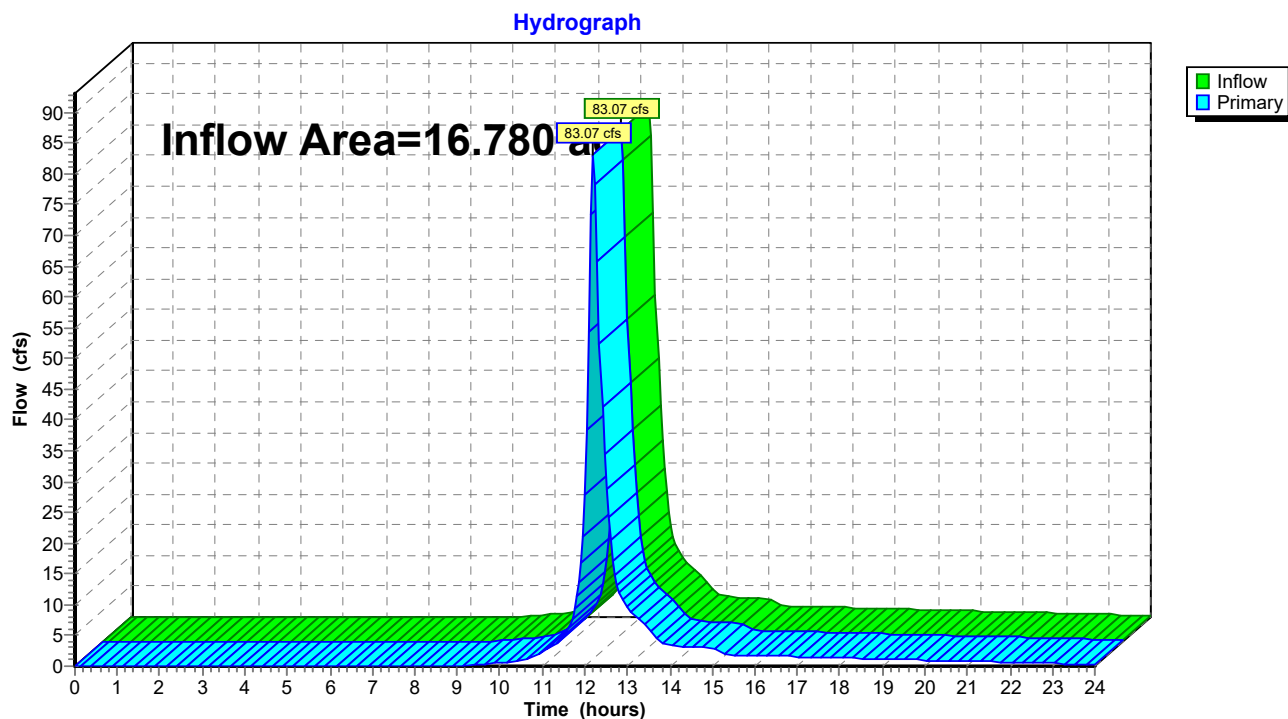
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Summary for Link V-1L: Vernon Outflow - Phase I

Inflow Area = 16.780 ac, 0.00% Impervious, Inflow Depth > 3.74" for 100 yr event
Inflow = 83.07 cfs @ 12.21 hrs, Volume= 5.224 af
Primary = 83.07 cfs @ 12.21 hrs, Volume= 5.224 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link V-1L: Vernon Outflow - Phase I



Existing_Phase I

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Multi-Event Tables

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Events for Subcatchment M-2: Mukwonago Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	5.24	0.342	0.72
2 yr	2.70	6.79	0.435	0.92
10 yr	3.81	13.24	0.821	1.74
100 yr	6.18	28.45	1.768	3.74

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Multi-Event Tables

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Events for Subcatchment M-4: Mukwonago Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	3.56	0.210	0.72
2 yr	2.70	4.60	0.267	0.92
10 yr	3.81	8.87	0.505	1.74
100 yr	6.18	18.98	1.087	3.74

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Multi-Event Tables

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Events for Subcatchment V-1: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	10.14	0.675	0.72
2 yr	2.70	13.15	0.859	0.92
10 yr	3.81	25.46	1.621	1.74
100 yr	6.18	54.95	3.489	3.74

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Multi-Event Tables

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Events for Subcatchment V-2: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	1.72	0.112	0.72
2 yr	2.70	2.22	0.143	0.92
10 yr	3.81	4.33	0.269	1.74
100 yr	6.18	9.32	0.579	3.74

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Multi-Event Tables

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Events for Subcatchment V-3: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	2.22	0.116	0.72
2 yr	2.70	2.87	0.148	0.92
10 yr	3.81	5.52	0.279	1.74
100 yr	6.18	11.78	0.601	3.74

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Multi-Event Tables

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Events for Subcatchment V-4: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	1.81	0.107	0.72
2 yr	2.70	2.35	0.136	0.92
10 yr	3.81	4.53	0.257	1.74
100 yr	6.18	9.68	0.554	3.74

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Multi-Event Tables

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Events for Link M-1L: Mukwonago Outflow - Phase I

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 yr	8.73	8.73	0.00
2 yr	11.32	11.32	0.00
10 yr	21.93	21.93	0.00
100 yr	47.08	47.08	0.00

Existing_Phase I

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Multi-Event Tables

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Events for Link V-1L: Vernon Outflow - Phase I

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 yr	15.34	15.34	0.00
2 yr	19.91	19.91	0.00
10 yr	38.63	38.63	0.00
100 yr	83.07	83.07	0.00

APPENDIX B

Post-Development Hydrologic Analysis



Routing Diagram for Proposed Phase I
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Proposed_Phase I

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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1 yr	MSE 24-hr	3	Default	24.00	1	2.40	2
2	2 yr	MSE 24-hr	3	Default	24.00	1	2.70	2
3	10 yr	MSE 24-hr	3	Default	24.00	1	3.81	2
4	100 yr	MSE 24-hr	3	Default	24.00	1	6.18	2

Proposed_Phase I

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
14.320	74	grass (M-5, M-6, M-8, V-2, V-4, V-8, V-9)
10.110	98	impervious (M-5, M-6, V-2, V-4, V-8, V-9)
0.760	71	meadow (M-8, V-7, V-8)
0.760	100	water (M-6, V-2)
25.950	84	TOTAL AREA

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MSE 24-hr 3 1 yr Rainfall=2.40"

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Time span=0.00-20.00 hrs, dt=0.04 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentM-5: Mukwonago Subarea Runoff Area=1.620 ac 32.72% Impervious Runoff Depth>0.88"
Flow Length=370' Tc=9.8 min CN=82 Runoff=2.30 cfs 0.119 af

SubcatchmentM-6: Mukwonago Subarea Runoff Area=7.540 ac 46.68% Impervious Runoff Depth>1.05"
Flow Length=550' Slope=0.0300 '/' Tc=15.1 min CN=85 Runoff=10.60 cfs 0.657 af

SubcatchmentM-8: Mukwonago Subarea Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>0.41"
Flow Length=50' Slope=0.0800 '/' Tc=6.0 min CN=71 Runoff=0.19 cfs 0.009 af

SubcatchmentV-2: Vernon Subarea Runoff Area=12.810 ac 44.73% Impervious Runoff Depth>1.05"
Flow Length=1,030' Slope=0.0300 '/' Tc=17.2 min CN=85 Runoff=16.89 cfs 1.116 af

SubcatchmentV-4: Vernon Subarea Runoff Area=1.480 ac 28.38% Impervious Runoff Depth>0.82"
Flow Length=90' Slope=0.0200 '/' Tc=14.3 min CN=81 Runoff=1.66 cfs 0.102 af

SubcatchmentV-7: Vernon Subarea Runoff Area=0.260 ac 0.00% Impervious Runoff Depth>0.41"
Tc=6.0 min CN=71 Runoff=0.18 cfs 0.009 af

SubcatchmentV-8: Vernon Subarea Runoff Area=1.150 ac 38.26% Impervious Runoff Depth>0.88"
Flow Length=955' Tc=14.7 min CN=82 Runoff=1.36 cfs 0.084 af

SubcatchmentV-9: Vernon Subarea Runoff Area=0.820 ac 28.05% Impervious Runoff Depth>0.83"
Tc=6.0 min CN=81 Runoff=1.29 cfs 0.057 af

Pond 2P: Pond Peak Elev=795.61' Storage=0.720 af Inflow=16.89 cfs 1.116 af
Primary=1.33 cfs 0.679 af Secondary=0.00 cfs 0.000 af Outflow=1.33 cfs 0.679 af

Pond 4B: Rain Garden - revised with Peak Elev=806.71' Storage=0.044 af Inflow=1.66 cfs 0.102 af
Discarded=0.02 cfs 0.014 af Primary=0.50 cfs 0.066 af Outflow=0.52 cfs 0.080 af

Pond 5B: Rain Garden Peak Elev=797.61' Storage=0.052 af Inflow=2.30 cfs 0.119 af
Discarded=0.02 cfs 0.011 af Primary=0.84 cfs 0.060 af Outflow=0.86 cfs 0.072 af

Pond 6P: Pond Peak Elev=791.52' Storage=0.415 af Inflow=10.60 cfs 0.718 af
Primary=1.41 cfs 0.439 af Secondary=0.00 cfs 0.000 af Outflow=1.41 cfs 0.439 af

Link M-1L: Mukwonago Outflow - Phase I Inflow=1.43 cfs 0.449 af
Primary=1.43 cfs 0.449 af

Link V-1L: Vernon Outflow - Phase I Inflow=2.72 cfs 0.894 af
Primary=2.72 cfs 0.894 af

Total Runoff Area = 25.950 ac Runoff Volume = 2.152 af Average Runoff Depth = 1.00"
58.11% Pervious = 15.080 ac 41.89% Impervious = 10.870 ac

Proposed_Phase I

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MSE 24-hr 3 2 yr Rainfall=2.70"

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Time span=0.00-20.00 hrs, dt=0.04 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentM-5: Mukwonago Subarea Runoff Area=1.620 ac 32.72% Impervious Runoff Depth>1.09"
Flow Length=370' Tc=9.8 min CN=82 Runoff=2.87 cfs 0.147 af

SubcatchmentM-6: Mukwonago Subarea Runoff Area=7.540 ac 46.68% Impervious Runoff Depth>1.28"
Flow Length=550' Slope=0.0300 '/' Tc=15.1 min CN=85 Runoff=12.96 cfs 0.803 af

SubcatchmentM-8: Mukwonago Subarea Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>0.56"
Flow Length=50' Slope=0.0800 '/' Tc=6.0 min CN=71 Runoff=0.27 cfs 0.013 af

SubcatchmentV-2: Vernon Subarea Runoff Area=12.810 ac 44.73% Impervious Runoff Depth>1.28"
Flow Length=1,030' Slope=0.0300 '/' Tc=17.2 min CN=85 Runoff=20.65 cfs 1.363 af

SubcatchmentV-4: Vernon Subarea Runoff Area=1.480 ac 28.38% Impervious Runoff Depth>1.03"
Flow Length=90' Slope=0.0200 '/' Tc=14.3 min CN=81 Runoff=2.10 cfs 0.127 af

SubcatchmentV-7: Vernon Subarea Runoff Area=0.260 ac 0.00% Impervious Runoff Depth>0.56"
Tc=6.0 min CN=71 Runoff=0.26 cfs 0.012 af

SubcatchmentV-8: Vernon Subarea Runoff Area=1.150 ac 38.26% Impervious Runoff Depth>1.09"
Flow Length=955' Tc=14.7 min CN=82 Runoff=1.70 cfs 0.104 af

SubcatchmentV-9: Vernon Subarea Runoff Area=0.820 ac 28.05% Impervious Runoff Depth>1.03"
Tc=6.0 min CN=81 Runoff=1.61 cfs 0.071 af

Pond 2P: Pond Peak Elev=795.80' Storage=0.854 af Inflow=20.65 cfs 1.363 af
Primary=2.05 cfs 0.865 af Secondary=0.00 cfs 0.000 af Outflow=2.05 cfs 0.865 af

Pond 4B: Rain Garden - revised with Peak Elev=806.78' Storage=0.048 af Inflow=2.10 cfs 0.127 af
Discarded=0.02 cfs 0.014 af Primary=1.03 cfs 0.090 af Outflow=1.06 cfs 0.105 af

Pond 5B: Rain Garden Peak Elev=797.67' Storage=0.055 af Inflow=2.87 cfs 0.147 af
Discarded=0.02 cfs 0.012 af Primary=1.61 cfs 0.089 af Outflow=1.63 cfs 0.100 af

Pond 6P: Pond Peak Elev=791.77' Storage=0.491 af Inflow=14.01 cfs 0.891 af
Primary=2.20 cfs 0.605 af Secondary=0.00 cfs 0.000 af Outflow=2.20 cfs 0.605 af

Link M-1L: Mukwonago Outflow - Phase I Inflow=2.23 cfs 0.618 af
Primary=2.23 cfs 0.618 af

Link V-1L: Vernon Outflow - Phase I Inflow=3.54 cfs 1.142 af
Primary=3.54 cfs 1.142 af

Total Runoff Area = 25.950 ac Runoff Volume = 2.640 af Average Runoff Depth = 1.22"
58.11% Pervious = 15.080 ac 41.89% Impervious = 10.870 ac

Proposed_Phase I

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MSE 24-hr 3 10 yr Rainfall=3.81"

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Time span=0.00-20.00 hrs, dt=0.04 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentM-5: Mukwonago Subarea Runoff Area=1.620 ac 32.72% Impervious Runoff Depth>1.95"
Flow Length=370' Tc=9.8 min CN=82 Runoff=5.13 cfs 0.264 af

SubcatchmentM-6: Mukwonago Subarea Runoff Area=7.540 ac 46.68% Impervious Runoff Depth>2.19"
Flow Length=550' Slope=0.0300 '/' Tc=15.1 min CN=85 Runoff=22.07 cfs 1.378 af

SubcatchmentM-8: Mukwonago Subarea Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>1.20"
Flow Length=50' Slope=0.0800 '/' Tc=6.0 min CN=71 Runoff=0.61 cfs 0.027 af

SubcatchmentV-2: Vernon Subarea Runoff Area=12.810 ac 44.73% Impervious Runoff Depth>2.19"
Flow Length=1,030' Slope=0.0300 '/' Tc=17.2 min CN=85 Runoff=35.22 cfs 2.340 af

SubcatchmentV-4: Vernon Subarea Runoff Area=1.480 ac 28.38% Impervious Runoff Depth>1.87"
Flow Length=90' Slope=0.0200 '/' Tc=14.3 min CN=81 Runoff=3.83 cfs 0.231 af

SubcatchmentV-7: Vernon Subarea Runoff Area=0.260 ac 0.00% Impervious Runoff Depth>1.20"
Tc=6.0 min CN=71 Runoff=0.59 cfs 0.026 af

SubcatchmentV-8: Vernon Subarea Runoff Area=1.150 ac 38.26% Impervious Runoff Depth>1.95"
Flow Length=955' Tc=14.7 min CN=82 Runoff=3.05 cfs 0.187 af

SubcatchmentV-9: Vernon Subarea Runoff Area=0.820 ac 28.05% Impervious Runoff Depth>1.88"
Tc=6.0 min CN=81 Runoff=2.92 cfs 0.128 af

Pond 2P: Pond Peak Elev=796.47' Storage=1.350 af Inflow=35.22 cfs 2.340 af
Primary=5.76 cfs 1.722 af Secondary=0.00 cfs 0.000 af Outflow=5.76 cfs 1.722 af

Pond 4B: Rain Garden - revised with Peak Elev=806.94' Storage=0.059 af Inflow=3.83 cfs 0.231 af
Discarded=0.03 cfs 0.016 af Primary=3.39 cfs 0.190 af Outflow=3.41 cfs 0.206 af

Pond 5B: Rain Garden Peak Elev=797.84' Storage=0.064 af Inflow=5.13 cfs 0.264 af
Discarded=0.02 cfs 0.013 af Primary=4.81 cfs 0.204 af Outflow=4.82 cfs 0.217 af

Pond 6P: Pond Peak Elev=792.51' Storage=0.743 af Inflow=26.68 cfs 1.582 af
Primary=10.22 cfs 1.273 af Secondary=0.00 cfs 0.000 af Outflow=10.22 cfs 1.273 af

Link M-1L: Mukwonago Outflow - Phase I Inflow=10.34 cfs 1.300 af
Primary=10.34 cfs 1.300 af

Link V-1L: Vernon Outflow - Phase I Inflow=9.24 cfs 2.253 af
Primary=9.24 cfs 2.253 af

Total Runoff Area = 25.950 ac Runoff Volume = 4.581 af Average Runoff Depth = 2.12"
58.11% Pervious = 15.080 ac 41.89% Impervious = 10.870 ac

Proposed_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"

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Time span=0.00-20.00 hrs, dt=0.04 hrs, 501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentM-5: Mukwonago Subarea Runoff Area=1.620 ac 32.72% Impervious Runoff Depth>4.00"
Flow Length=370' Tc=9.8 min CN=82 Runoff=10.24 cfs 0.540 af

SubcatchmentM-6: Mukwonago Subarea Runoff Area=7.540 ac 46.68% Impervious Runoff Depth>4.31"
Flow Length=550' Slope=0.0300 '/' Tc=15.1 min CN=85 Runoff=42.18 cfs 2.706 af

SubcatchmentM-8: Mukwonago Subarea Runoff Area=0.270 ac 0.00% Impervious Runoff Depth>2.91"
Flow Length=50' Slope=0.0800 '/' Tc=6.0 min CN=71 Runoff=1.49 cfs 0.065 af

SubcatchmentV-2: Vernon Subarea Runoff Area=12.810 ac 44.73% Impervious Runoff Depth>4.30"
Flow Length=1,030' Slope=0.0300 '/' Tc=17.2 min CN=85 Runoff=67.62 cfs 4.595 af

SubcatchmentV-4: Vernon Subarea Runoff Area=1.480 ac 28.38% Impervious Runoff Depth>3.89"
Flow Length=90' Slope=0.0200 '/' Tc=14.3 min CN=81 Runoff=7.80 cfs 0.480 af

SubcatchmentV-7: Vernon Subarea Runoff Area=0.260 ac 0.00% Impervious Runoff Depth>2.91"
Tc=6.0 min CN=71 Runoff=1.44 cfs 0.063 af

SubcatchmentV-8: Vernon Subarea Runoff Area=1.150 ac 38.26% Impervious Runoff Depth>3.99"
Flow Length=955' Tc=14.7 min CN=82 Runoff=6.11 cfs 0.383 af

SubcatchmentV-9: Vernon Subarea Runoff Area=0.820 ac 28.05% Impervious Runoff Depth>3.90"
Tc=6.0 min CN=81 Runoff=5.89 cfs 0.266 af

Pond 2P: Pond Peak Elev=797.48' Storage=2.179 af Inflow=67.62 cfs 4.595 af
Primary=24.33 cfs 3.872 af Secondary=0.00 cfs 0.000 af Outflow=24.33 cfs 3.872 af

Pond 4B: Rain Garden - revised with Peak Elev=807.12' Storage=0.072 af Inflow=7.80 cfs 0.480 af
Discarded=0.03 cfs 0.019 af Primary=7.49 cfs 0.432 af Outflow=7.52 cfs 0.451 af

Pond 5B: Rain Garden Peak Elev=798.02' Storage=0.075 af Inflow=10.24 cfs 0.540 af
Discarded=0.02 cfs 0.015 af Primary=9.89 cfs 0.477 af Outflow=9.91 cfs 0.492 af

Pond 6P: Pond Peak Elev=793.81' Storage=1.280 af Inflow=51.49 cfs 3.183 af
Primary=21.47 cfs 2.838 af Secondary=0.00 cfs 0.000 af Outflow=21.47 cfs 2.838 af

Link M-1L: Mukwonago Outflow - Phase I Inflow=21.76 cfs 2.904 af
Primary=21.76 cfs 2.904 af

Link V-1L: Vernon Outflow - Phase I Inflow=35.29 cfs 5.016 af
Primary=35.29 cfs 5.016 af

Total Runoff Area = 25.950 ac Runoff Volume = 9.098 af Average Runoff Depth = 4.21"
58.11% Pervious = 15.080 ac 41.89% Impervious = 10.870 ac

Proposed_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment M-5: Mukwonago Subarea

Runoff = 10.24 cfs @ 12.17 hrs, Volume= 0.540 af, Depth> 4.00"
Routed to Pond 5B : Rain Garden

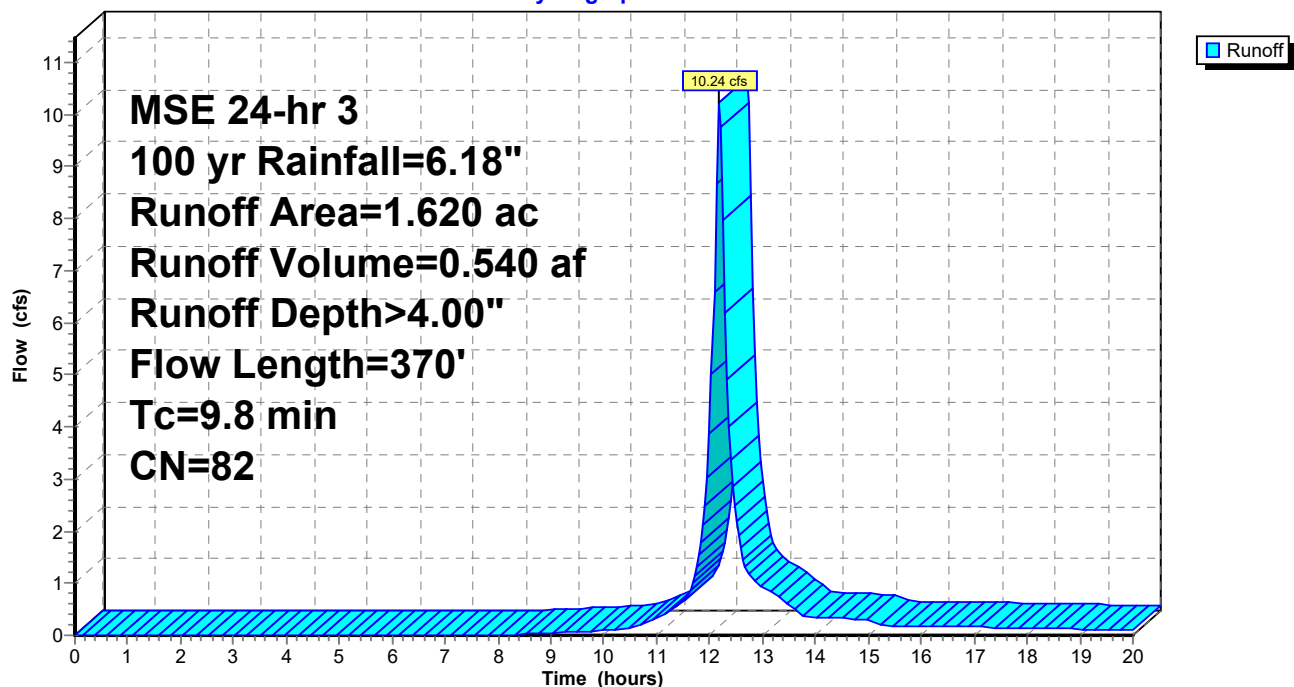
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 0.530	98	impervious
* 1.090	74	grass
1.620	82	Weighted Average
1.090		67.28% Pervious Area
0.530		32.72% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	55	0.0300	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 2.70"
1.6	315	0.0400	3.22		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
9.8	370	Total			

Subcatchment M-5: Mukwonago Subarea

Hydrograph



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment M-6: Mukwonago Subarea

Runoff = 42.18 cfs @ 12.23 hrs, Volume= 2.706 af, Depth> 4.31"
Routed to Pond 6P : Pond

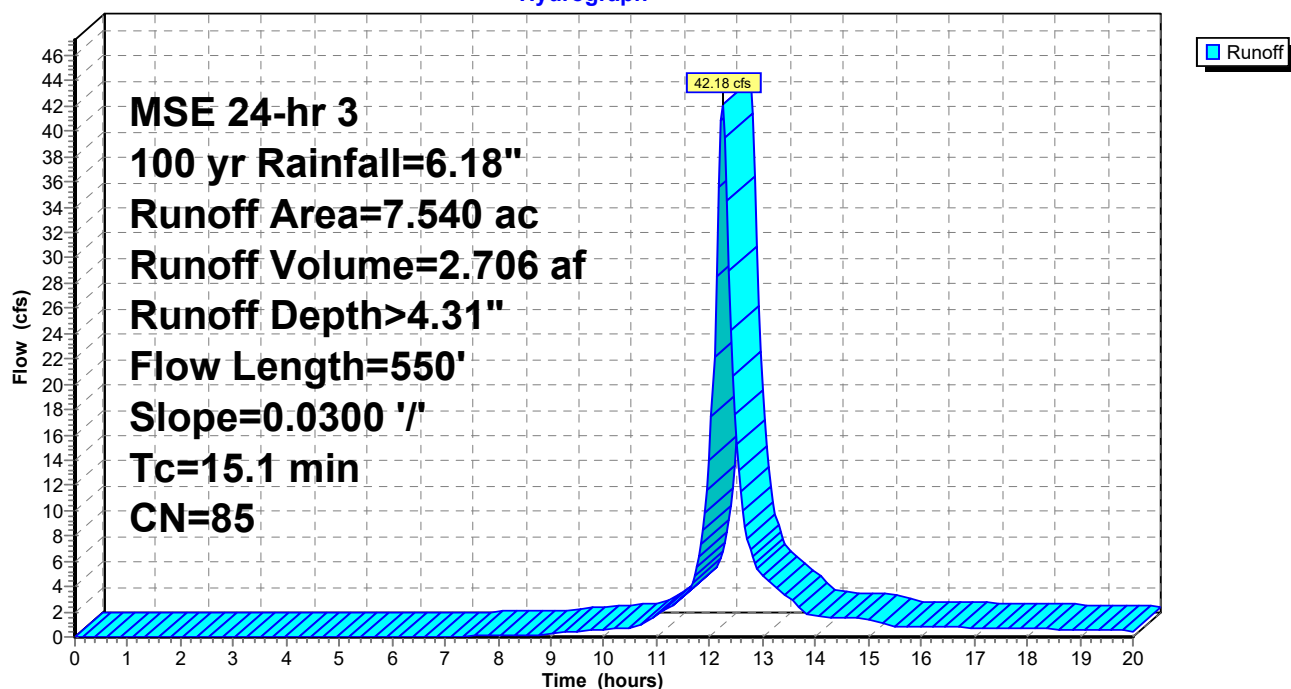
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

	Area (ac)	CN	Description
*	3.340	98	impervious
*	4.020	74	grass
*	0.180	100	water
	7.540	85	Weighted Average
	4.020		53.32% Pervious Area
	3.520		46.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	100	0.0300	0.13		Sheet Flow, Grass: Dense n= 0.240 P2= 2.70"
1.0	175	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.9	275		5.00		Direct Entry,
15.1	550				Total

Subcatchment M-6: Mukwonago Subarea

Hydrograph



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment M-8: Mukwonago Subarea

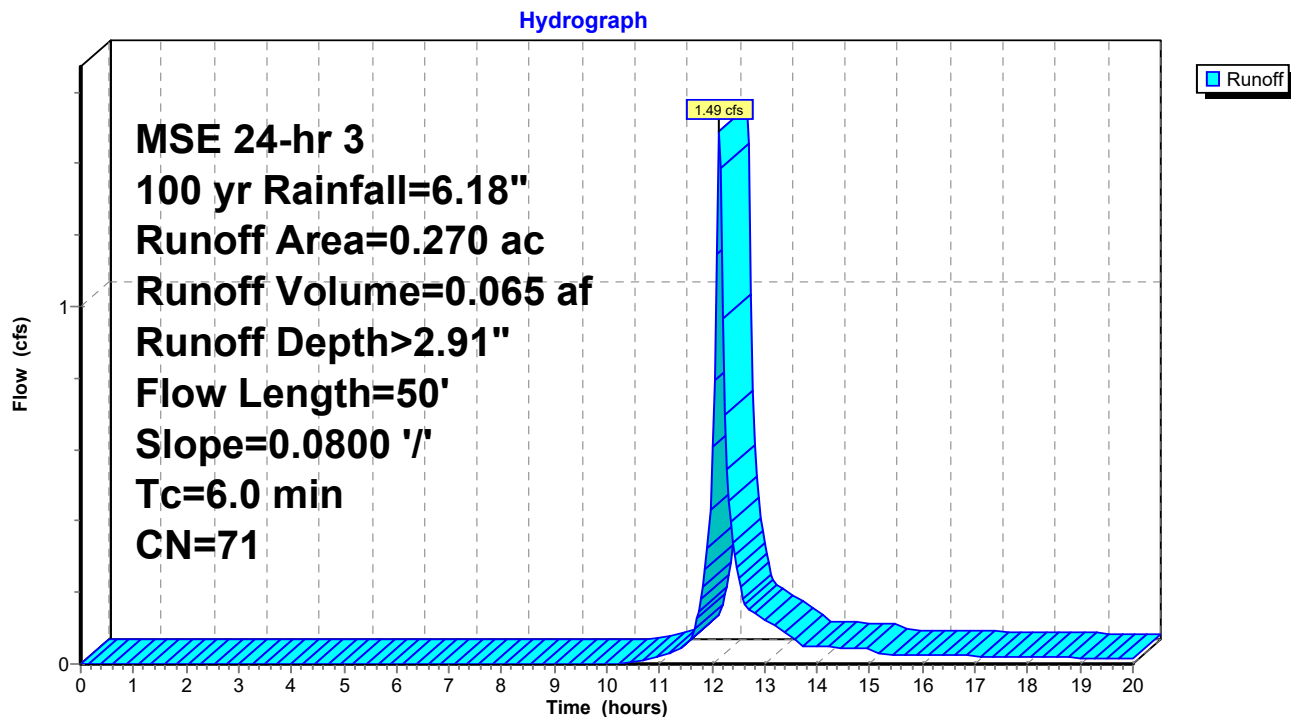
Runoff = 1.49 cfs @ 12.13 hrs, Volume= 0.065 af, Depth> 2.91"
Routed to Link M-1L : Mukwonago Outflow - Phase I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 0.040	74	grass
* 0.230	71	meadow
0.270	71	Weighted Average
0.270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.1	50	0.0800	0.16		Sheet Flow, Grass: Dense n= 0.240 P2= 2.70"
5.1	50	Total, Increased to minimum Tc = 6.0 min			

Subcatchment M-8: Mukwonago Subarea



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment V-2: Vernon Subarea

Runoff = 67.62 cfs @ 12.26 hrs, Volume= 4.595 af, Depth> 4.30"
Routed to Pond 2P : Pond

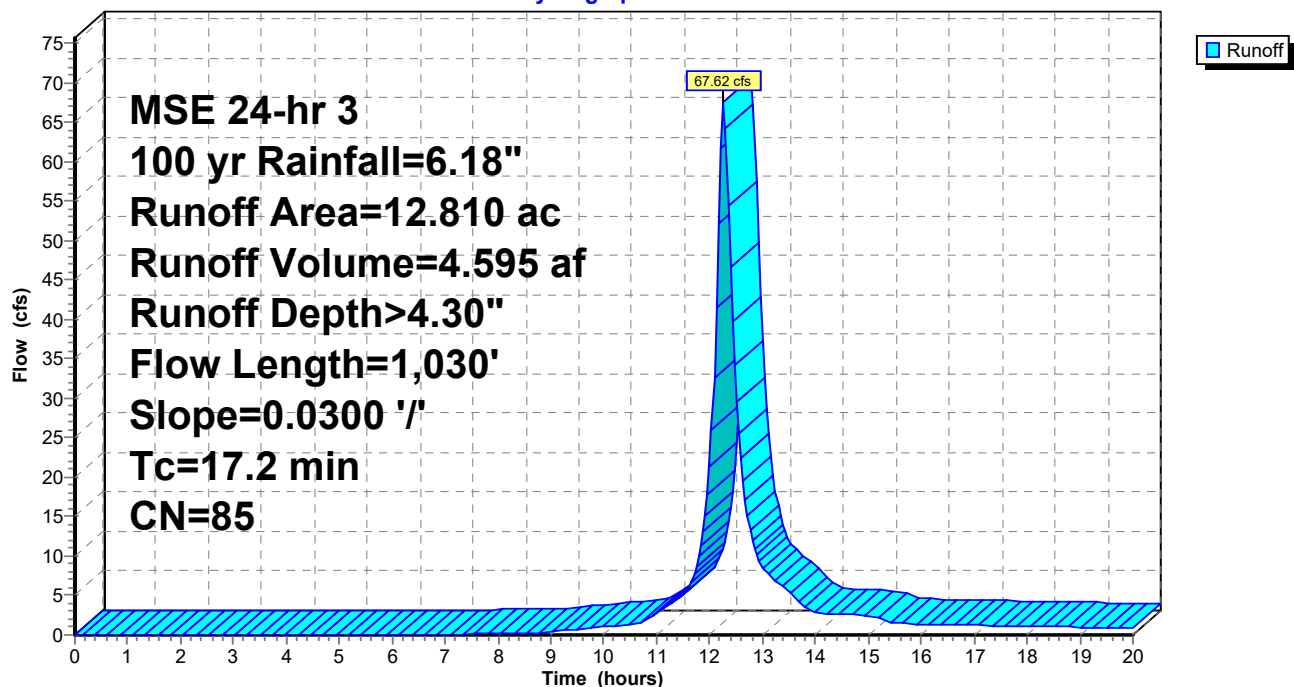
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 5.150	98	impervious
* 7.080	74	grass
* 0.580	100	water
12.810	85	Weighted Average
7.080		55.27% Pervious Area
5.730		44.73% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.2	100	0.0300	0.13		Sheet Flow, Grass: Dense n= 0.240 P2= 2.70"
2.0	340	0.0300	2.79		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
2.0	590		5.00		Direct Entry,
17.2	1,030	Total			

Subcatchment V-2: Vernon Subarea

Hydrograph



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Summary for Subcatchment V-4: Vernon Subarea

Runoff = 7.80 cfs @ 12.22 hrs, Volume= 0.480 af, Depth> 3.89"
Routed to Pond 4B : Rain Garden - revised with v-notch weir

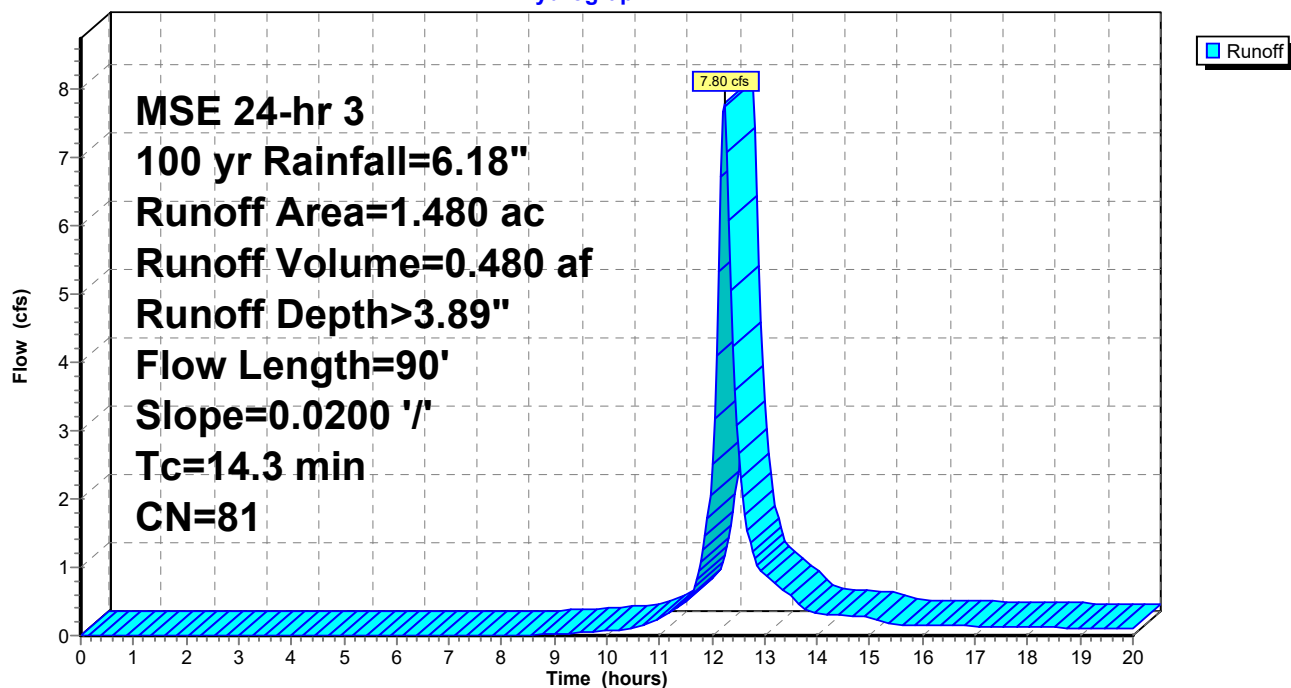
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

	Area (ac)	CN	Description
*	0.420	98	impervious
*	1.060	74	grass
	1.480	81	Weighted Average
	1.060		71.62% Pervious Area
	0.420		28.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.3	90	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 2.70"

Subcatchment V-4: Vernon Subarea

Hydrograph



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MSE 24-hr 3 100 yr Rainfall=6.18"
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Summary for Subcatchment V-7: Vernon Subarea

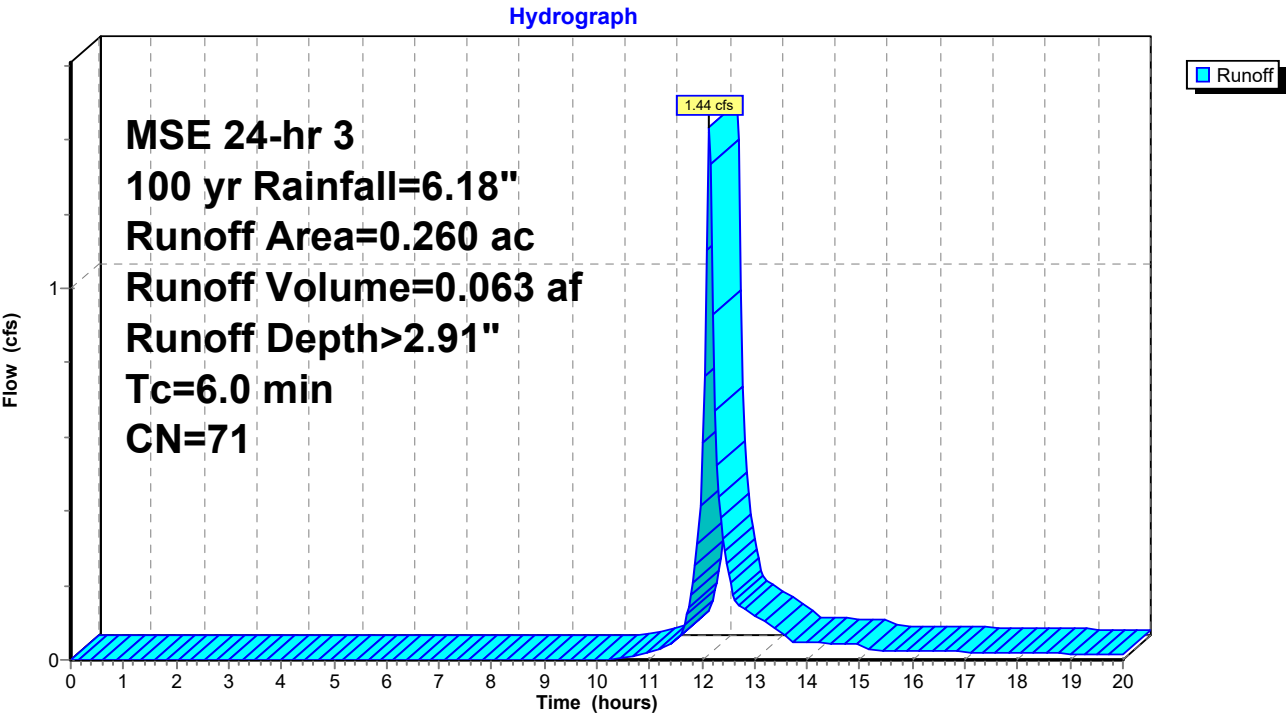
Runoff = 1.44 cfs @ 12.13 hrs, Volume= 0.063 af, Depth> 2.91"
Routed to Link V-1L : Vernon Outflow - Phase I

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 0.260	71	meadow
0.260		100.00% Pervious Area

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

Subcatchment V-7: Vernon Subarea



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment V-8: Vernon Subarea

Runoff = 6.11 cfs @ 12.23 hrs, Volume= 0.383 af, Depth> 3.99"
Routed to Link V-1L : Vernon Outflow - Phase I

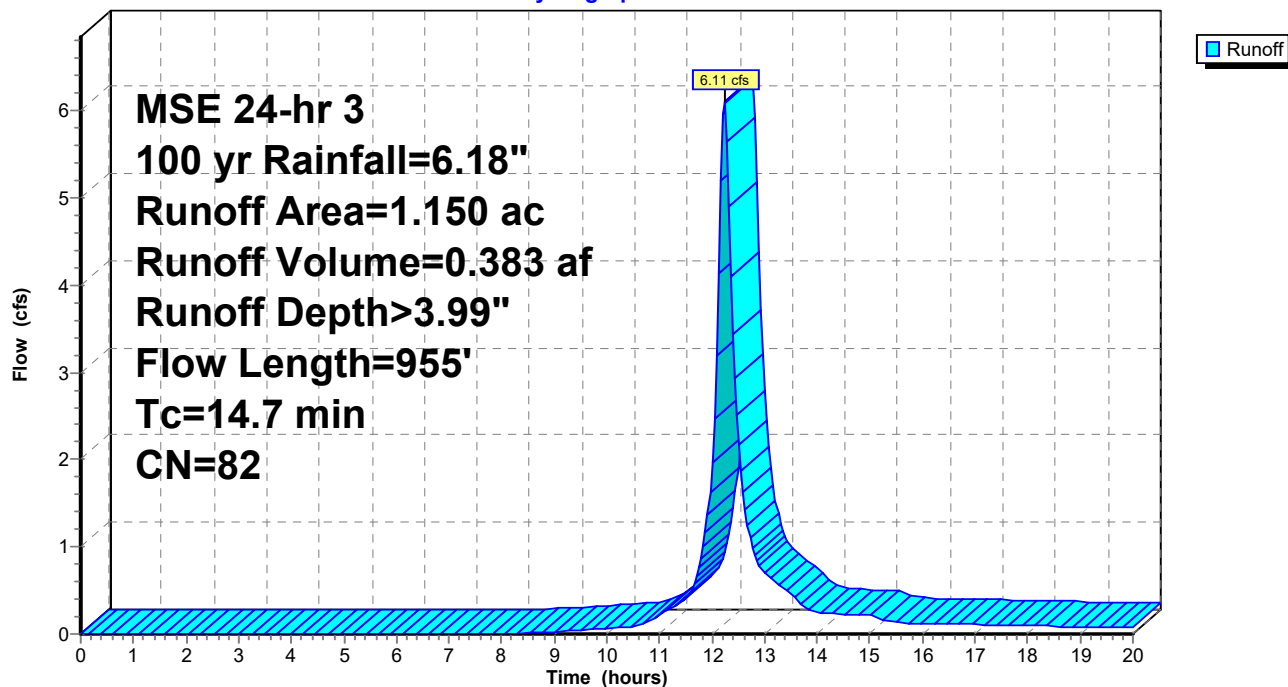
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

Area (ac)	CN	Description
* 0.440	98	impervious
* 0.440	74	grass
* 0.270	71	meadow
1.150	82	Weighted Average
0.710		61.74% Pervious Area
0.440		38.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	65	0.0400	0.13		Sheet Flow, Grass: Dense n= 0.240 P2= 2.70"
0.0	10	0.2000	7.20		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
5.1	495	0.0100	1.61		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
1.3	385		5.00		Direct Entry,
14.7	955	Total			

Subcatchment V-8: Vernon Subarea

Hydrograph



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Subcatchment V-9: Vernon Subarea

Runoff = 5.89 cfs @ 12.13 hrs, Volume= 0.266 af, Depth> 3.90"
Routed to Link V-1L : Vernon Outflow - Phase I

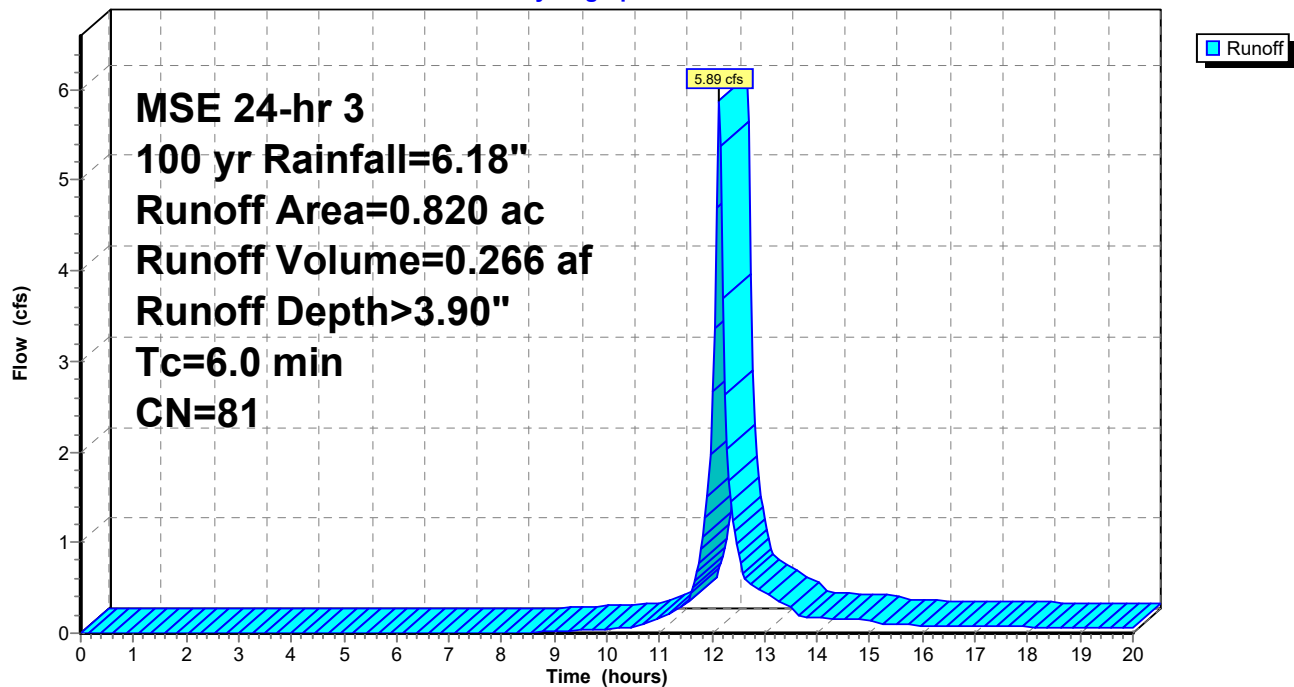
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
MSE 24-hr 3 100 yr Rainfall=6.18"

	Area (ac)	CN	Description
*	0.230	98	impervious
*	0.590	74	grass
	0.820	81	Weighted Average
	0.590		71.95% Pervious Area
	0.230		28.05% Impervious Area

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

Subcatchment V-9: Vernon Subarea

Hydrograph



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Pond 2P: Pond

Inflow Area = 12.810 ac, 44.73% Impervious, Inflow Depth > 4.30" for 100 yr event
Inflow = 67.62 cfs @ 12.26 hrs, Volume= 4.595 af
Outflow = 24.33 cfs @ 12.58 hrs, Volume= 3.872 af, Atten= 64%, Lag= 19.2 min
Primary = 24.33 cfs @ 12.58 hrs, Volume= 3.872 af
Routed to Link V-1L : Vernon Outflow - Phase I
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link V-1L : Vernon Outflow - Phase I

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
Peak Elev= 797.48' @ 12.58 hrs Surf.Area= 0.872 ac Storage= 2.179 af

Plug-Flow detention time= 108.2 min calculated for 3.872 af (84% of inflow)
Center-of-Mass det. time= 69.1 min (843.6 - 774.5)

Volume	Invert	Avail.Storage	Storage Description
#1	794.50'	2.643 af	Pond (Conic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
794.50	0.580	0.000	0.000	0.580
795.00	0.660	0.310	0.310	0.660
796.00	0.720	0.690	1.000	0.722
797.00	0.820	0.769	1.769	0.823
798.00	0.930	0.874	2.643	0.934

Device	Routing	Invert	Outlet Devices
#1	Primary	793.80'	24.0" Round Culvert L= 42.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 793.80' / 793.60' S= 0.0048 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Device 1	794.50'	7.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	795.50'	1.5' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)
#4	Device 1	796.50'	48.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	797.50'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=24.32 cfs @ 12.58 hrs HW=797.48' TW=0.00' (Dynamic Tailwater)

1=Culvert (Barrel Controls 24.32 cfs @ 7.74 fps)
2=Orifice (Passes < 2.11 cfs potential flow)
3=Sharp-Crested Rectangular Weir (Passes < 7.73 cfs potential flow)
4=Grate (Passes < 40.05 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=794.50' TW=0.00' (Dynamic Tailwater)

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

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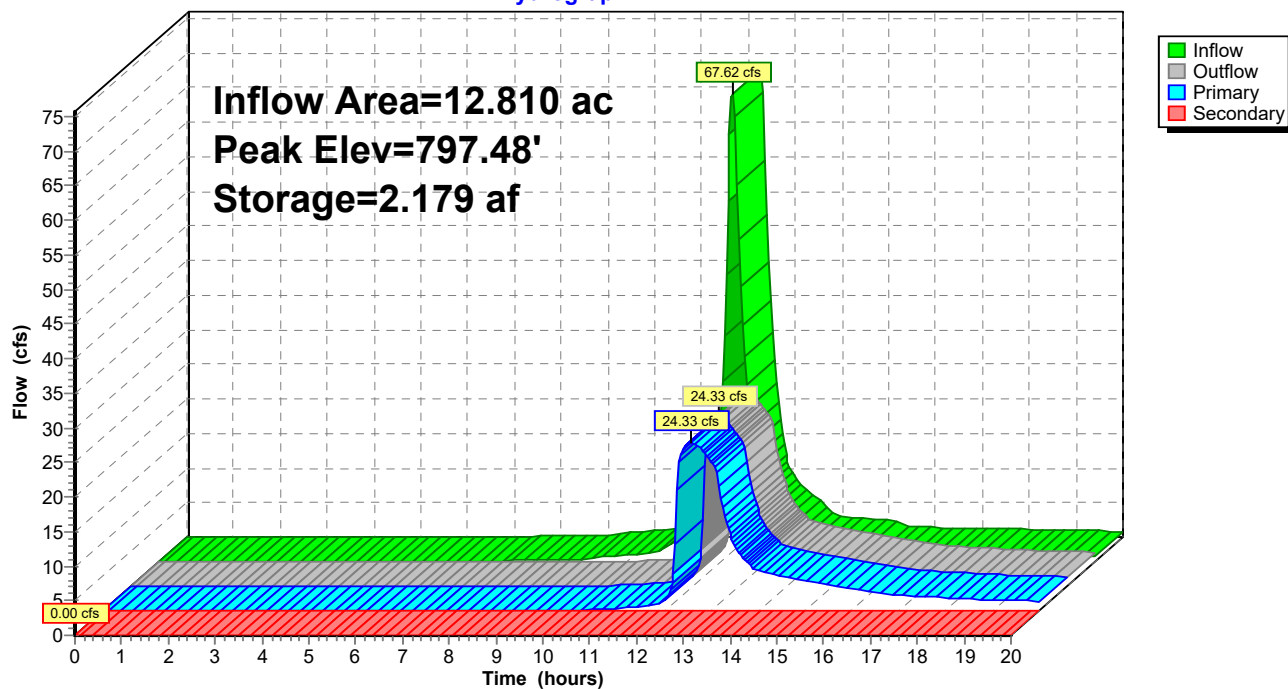
MSE 24-hr 3 100 yr Rainfall=6.18"

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Pond 2P: Pond

Hydrograph



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Summary for Pond 4B: Rain Garden - revised with v-notch weir

Inflow Area = 1.480 ac, 28.38% Impervious, Inflow Depth > 3.89" for 100 yr event
Inflow = 7.80 cfs @ 12.22 hrs, Volume= 0.480 af
Outflow = 7.52 cfs @ 12.26 hrs, Volume= 0.451 af, Atten= 4%, Lag= 2.1 min
Discarded = 0.03 cfs @ 12.26 hrs, Volume= 0.019 af
Primary = 7.49 cfs @ 12.26 hrs, Volume= 0.432 af
Routed to Link V-1L : Vernon Outflow - Phase I

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
Peak Elev= 807.12' @ 12.26 hrs Surf.Area= 0.075 ac Storage= 0.072 af

Plug-Flow detention time= 38.2 min calculated for 0.450 af (94% of inflow)
Center-of-Mass det. time= 17.9 min (796.6 - 778.6)

Volume	Invert	Avail.Storage	Storage Description						
#1	805.20'	0.183 af	Infiltration Basin (Conic) Listed below (Recalc)						
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)				
805.20	0.050	0.0	0.000	0.000	0.050				
806.20	0.050	30.0	0.015	0.015	0.054				
807.00	0.070	100.0	0.048	0.063	0.074				
808.00	0.120	100.0	0.094	0.157	0.124				
808.20	0.140	100.0	0.026	0.183	0.144				
Device	Routing	Invert	Outlet Devices						
#1	Discarded	805.20'	0.240 in/hr Exfiltration over Wetted area						
			Conductivity to Groundwater Elevation = 802.50' Phase-In= 0.01'						
#2	Primary	806.20'	Asymmetrical Weir, C= 3.27						
			Offset (feet) -6.00 0.00 2.50 3.00 3.50 6.00 12.00						
			Height (feet) 2.00 0.50 0.50 0.00 0.50 0.50 2.00						

Discarded OutFlow Max=0.03 cfs @ 12.26 hrs HW=807.12' (Free Discharge)
↑1=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=7.40 cfs @ 12.26 hrs HW=807.12' TW=0.00' (Dynamic Tailwater)
↑2=Asymmetrical Weir (Weir Controls 7.40 cfs @ 1.68 fps)

Proposed_Phase I

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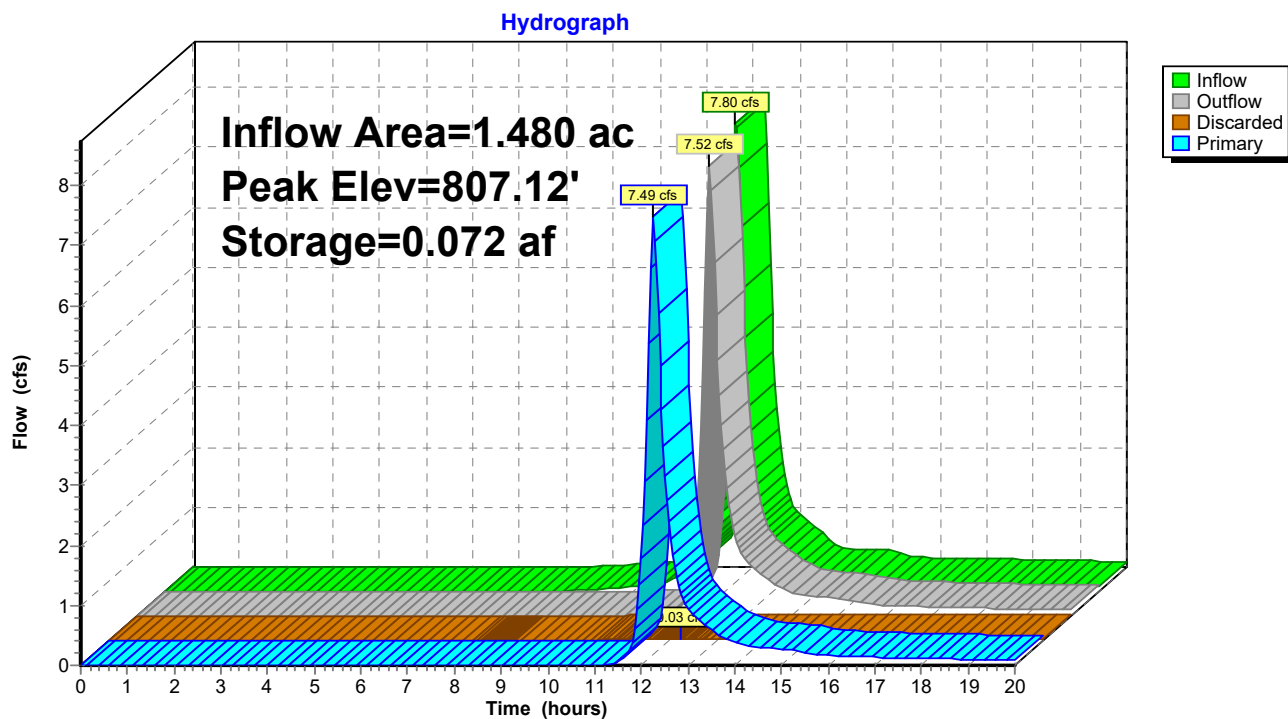
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MSE 24-hr 3 100 yr Rainfall=6.18"

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Pond 4B: Rain Garden - revised with v-notch weir



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Pond 5B: Rain Garden

Inflow Area = 1.620 ac, 32.72% Impervious, Inflow Depth > 4.00" for 100 yr event
Inflow = 10.24 cfs @ 12.17 hrs, Volume= 0.540 af
Outflow = 9.91 cfs @ 12.20 hrs, Volume= 0.492 af, Atten= 3%, Lag= 1.5 min
Discarded = 0.02 cfs @ 12.20 hrs, Volume= 0.015 af
Primary = 9.89 cfs @ 12.20 hrs, Volume= 0.477 af
Routed to Pond 6P : Pond

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
Peak Elev= 798.02' @ 12.20 hrs Surf.Area= 0.061 ac Storage= 0.075 af

Plug-Flow detention time= 41.7 min calculated for 0.491 af (91% of inflow)
Center-of-Mass det. time= 14.0 min (787.3 - 773.4)

Volume	Invert	Avail.Storage	Storage Description		
#1	795.00'	0.109 af	Infiltration Basin (Conic) Listed below (Recalc)		
Elevation (feet)	Surf.Area (acres)	Voids (%)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
795.00	0.040	0.0	0.000	0.000	0.040
796.00	0.040	30.0	0.012	0.012	0.043
797.00	0.040	30.0	0.012	0.024	0.047
797.50	0.050	100.0	0.022	0.046	0.057
798.00	0.060	100.0	0.027	0.074	0.067
798.50	0.080	100.0	0.035	0.109	0.087

Device	Routing	Invert	Outlet Devices													
#1	Discarded	795.00'	0.240 in/hr Exfiltration over Wetted area												Conductivity to Groundwater Elevation = 784.00' Phase-In= 0.01'	
#2	Primary	797.50'	10.0' long x 6.0' breadth Broad-Crested Rectangular Weir												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													

Discarded OutFlow Max=0.02 cfs @ 12.20 hrs HW=798.02' (Free Discharge)

↑1=Exfiltration (Controls 0.02 cfs)

Primary OutFlow Max=9.83 cfs @ 12.20 hrs HW=798.02' TW=792.90' (Dynamic Tailwater)

↑2=Broad-Crested Rectangular Weir (Weir Controls 9.83 cfs @ 1.89 fps)

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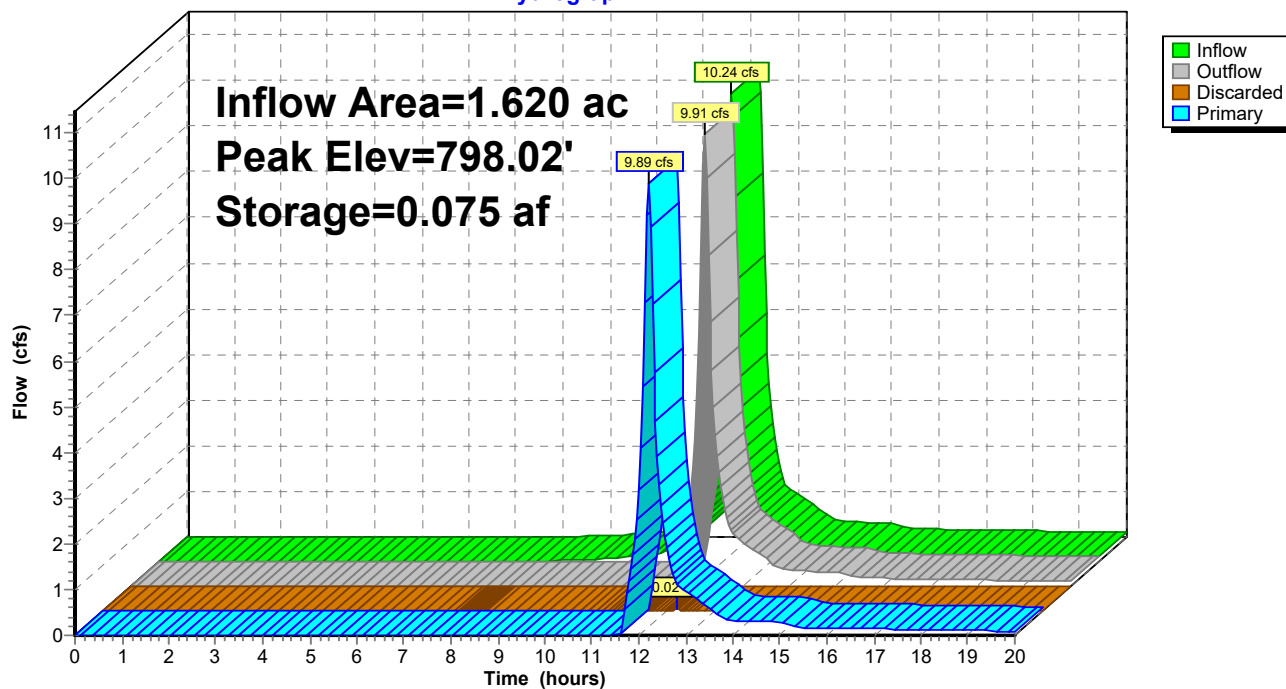
MSE 24-hr 3 100 yr Rainfall=6.18"

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Pond 5B: Rain Garden

Hydrograph



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Summary for Pond 6P: Pond

Inflow Area = 9.160 ac, 44.21% Impervious, Inflow Depth > 4.17" for 100 yr event
Inflow = 51.49 cfs @ 12.22 hrs, Volume= 3.183 af
Outflow = 21.47 cfs @ 12.47 hrs, Volume= 2.838 af, Atten= 58%, Lag= 14.8 min
Primary = 21.47 cfs @ 12.47 hrs, Volume= 2.838 af
Routed to Link M-1L : Mukwonago Outflow - Phase I
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link M-1L : Mukwonago Outflow - Phase I

Routing by Dyn-Stor-Ind method, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs
Peak Elev= 793.81' @ 12.47 hrs Surf.Area= 0.464 ac Storage= 1.280 af

Plug-Flow detention time= 78.4 min calculated for 2.838 af (89% of inflow)
Center-of-Mass det. time= 46.9 min (821.4 - 774.5)

Volume	Invert	Avail.Storage	Storage Description
#1	789.75'	1.898 af	Pond (Conic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
789.75	0.180	0.000	0.000	0.180
790.00	0.190	0.046	0.046	0.190
791.00	0.260	0.224	0.270	0.261
792.00	0.330	0.294	0.565	0.331
793.00	0.400	0.364	0.929	0.402
794.00	0.480	0.439	1.368	0.483
795.00	0.580	0.529	1.898	0.584

Device	Routing	Invert	Outlet Devices
#1	Primary	789.50'	21.0" Round Culvert L= 42.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 789.50' / 789.30' S= 0.0048 '/' Cc= 0.900 n= 0.013, Flow Area= 2.41 sf
#2	Device 1	789.75'	3.0" Vert. Orifice C= 0.600 Limited to weir flow at low heads
#3	Device 1	791.00'	1.0' long x 1.25' rise Sharp-Crested Rectangular Weir 2 End Contraction(s)
#4	Device 1	792.25'	48.0" Horiz. Grate C= 0.600 Limited to weir flow at low heads
#5	Secondary	794.00'	10.0' long x 10.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=21.47 cfs @ 12.47 hrs HW=793.81' TW=0.00' (Dynamic Tailwater)

↑ **1=Culvert** (Inlet Controls 21.47 cfs @ 8.93 fps)
↑ **2=Orifice** (Passes < 0.47 cfs potential flow)
↑ **3=Sharp-Crested Rectangular Weir** (Passes < 6.78 cfs potential flow)
↑ **4=Grate** (Passes < 75.60 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=789.75' TW=0.00' (Dynamic Tailwater)

↑ **5=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Proposed_Phase I

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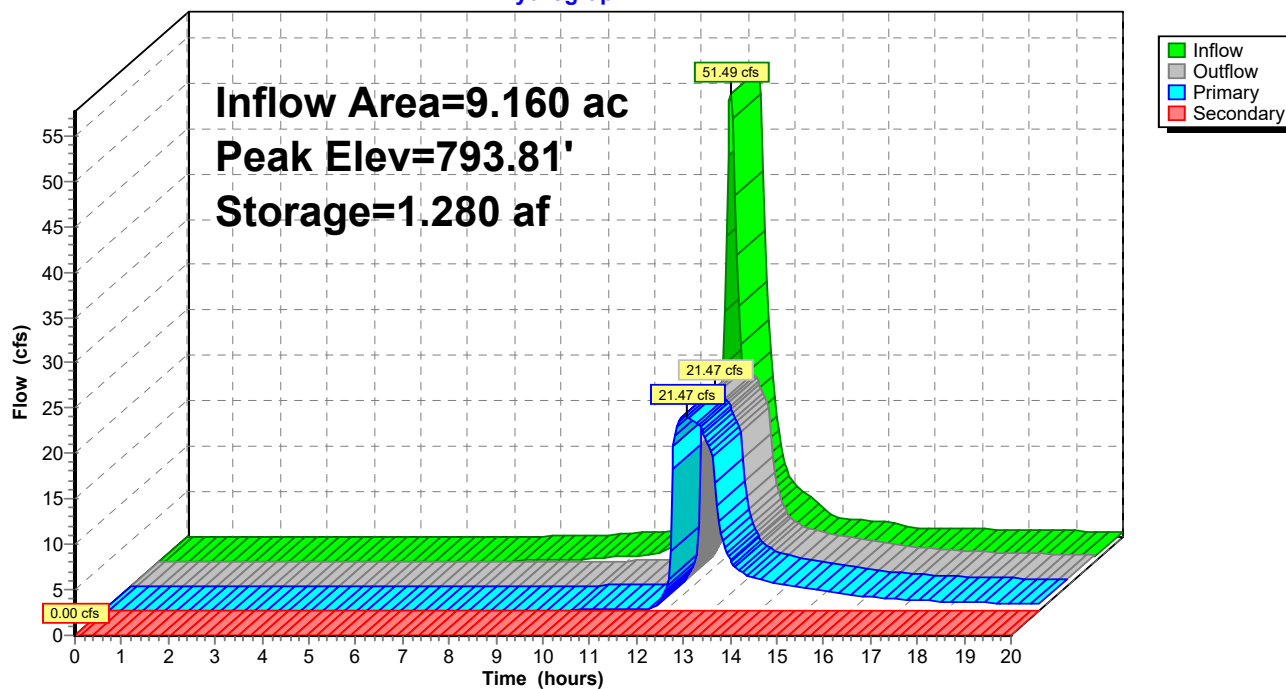
MSE 24-hr 3 100 yr Rainfall=6.18"

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Pond 6P: Pond

Hydrograph



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MSE 24-hr 3 100 yr Rainfall=6.18"

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Summary for Link M-1L: Mukwonago Outflow - Phase I

Inflow Area = 9.430 ac, 42.95% Impervious, Inflow Depth > 3.70" for 100 yr event

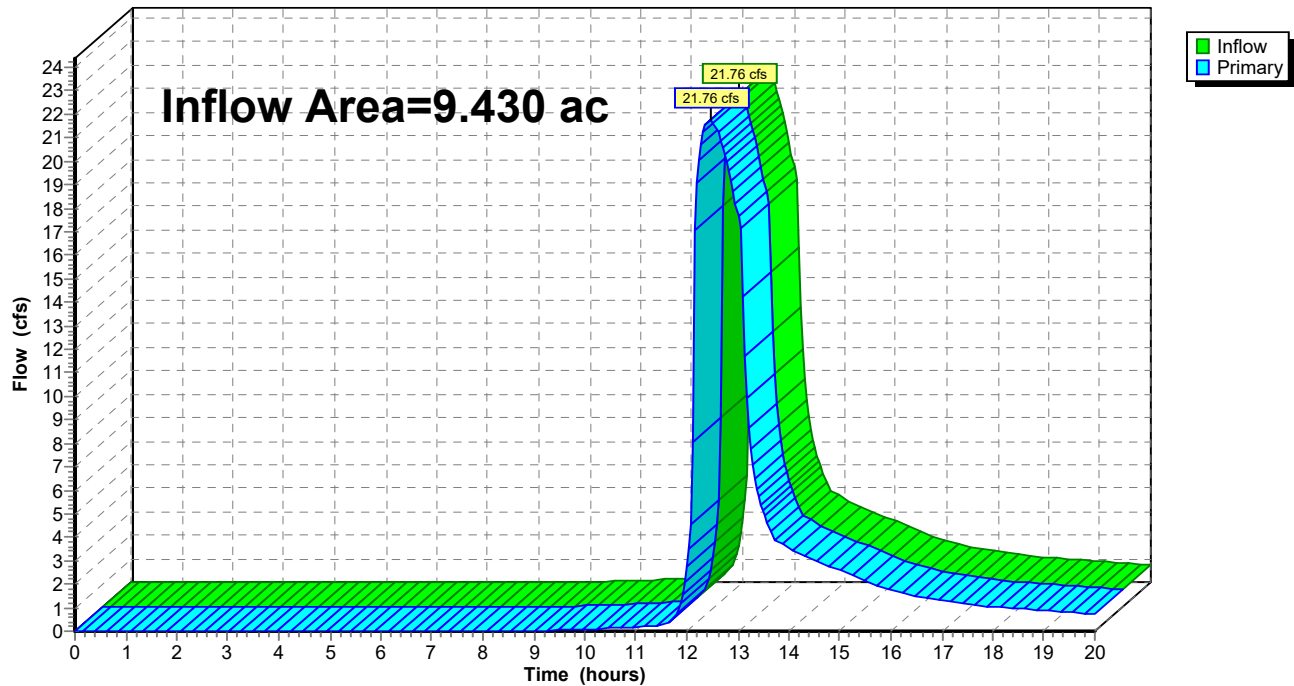
Inflow = 21.76 cfs @ 12.45 hrs, Volume= 2.904 af

Primary = 21.76 cfs @ 12.45 hrs, Volume= 2.904 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs

Link M-1L: Mukwonago Outflow - Phase I

Hydrograph



Proposed_Phase I

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MSE 24-hr 3 100 yr Rainfall=6.18"

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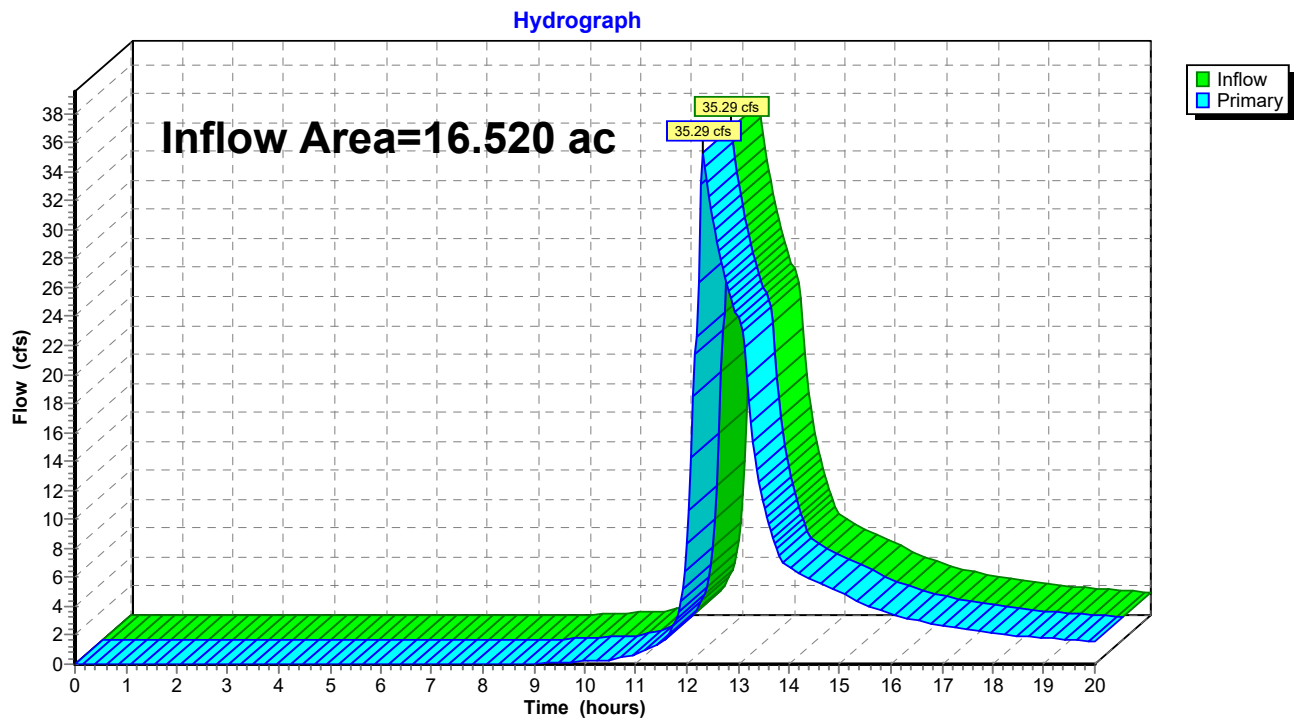
Page 79

Summary for Link V-1L: Vernon Outflow - Phase I

Inflow Area = 16.520 ac, 41.28% Impervious, Inflow Depth > 3.64" for 100 yr event
Inflow = 35.29 cfs @ 12.33 hrs, Volume= 5.016 af
Primary = 35.29 cfs @ 12.33 hrs, Volume= 5.016 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-20.00 hrs, dt= 0.04 hrs

Link V-1L: Vernon Outflow - Phase I



Proposed_Phase I

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Multi-Event Tables

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Page 80

Events for Subcatchment M-5: Mukwonago Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	2.30	0.119	0.88
2 yr	2.70	2.87	0.147	1.09
10 yr	3.81	5.13	0.264	1.95
100 yr	6.18	10.24	0.540	4.00

Proposed_Phase I

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Multi-Event Tables

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Events for Subcatchment M-6: Mukwonago Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	10.60	0.657	1.05
2 yr	2.70	12.96	0.803	1.28
10 yr	3.81	22.07	1.378	2.19
100 yr	6.18	42.18	2.706	4.31

Proposed_Phase I

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Multi-Event Tables

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Events for Subcatchment M-8: Mukwonago Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	0.19	0.009	0.41
2 yr	2.70	0.27	0.013	0.56
10 yr	3.81	0.61	0.027	1.20
100 yr	6.18	1.49	0.065	2.91

Proposed_Phase I

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Multi-Event Tables

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Page 83

Events for Subcatchment V-2: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	16.89	1.116	1.05
2 yr	2.70	20.65	1.363	1.28
10 yr	3.81	35.22	2.340	2.19
100 yr	6.18	67.62	4.595	4.30

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Multi-Event Tables

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Events for Subcatchment V-4: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	1.66	0.102	0.82
2 yr	2.70	2.10	0.127	1.03
10 yr	3.81	3.83	0.231	1.87
100 yr	6.18	7.80	0.480	3.89

Proposed_Phase I

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Multi-Event Tables

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Events for Subcatchment V-7: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	0.18	0.009	0.41
2 yr	2.70	0.26	0.012	0.56
10 yr	3.81	0.59	0.026	1.20
100 yr	6.18	1.44	0.063	2.91

Proposed_Phase I

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Multi-Event Tables

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Events for Subcatchment V-8: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	1.36	0.084	0.88
2 yr	2.70	1.70	0.104	1.09
10 yr	3.81	3.05	0.187	1.95
100 yr	6.18	6.11	0.383	3.99

Proposed_Phase I

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Multi-Event Tables

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Events for Subcatchment V-9: Vernon Subarea

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1 yr	2.40	1.29	0.057	0.83
2 yr	2.70	1.61	0.071	1.03
10 yr	3.81	2.92	0.128	1.88
100 yr	6.18	5.89	0.266	3.90

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Multi-Event Tables

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Events for Pond 2P: Pond

Event	Inflow (cfs)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (acre-feet)
1 yr	16.89	1.33	1.33	0.00	795.61	0.720
2 yr	20.65	2.05	2.05	0.00	795.80	0.854
10 yr	35.22	5.76	5.76	0.00	796.47	1.350
100 yr	67.62	24.33	24.33	0.00	797.48	2.179

Proposed_Phase I

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Multi-Event Tables

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Events for Pond 4B: Rain Garden - revised with v-notch weir

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
1 yr	1.66	0.52	0.02	0.50	806.71	0.044
2 yr	2.10	1.06	0.02	1.03	806.78	0.048
10 yr	3.83	3.41	0.03	3.39	806.94	0.059
100 yr	7.80	7.52	0.03	7.49	807.12	0.072

Proposed_Phase I

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Multi-Event Tables

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Events for Pond 5B: Rain Garden

Event	Inflow (cfs)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
1 yr	2.30	0.86	0.02	0.84	797.61	0.052
2 yr	2.87	1.63	0.02	1.61	797.67	0.055
10 yr	5.13	4.82	0.02	4.81	797.84	0.064
100 yr	10.24	9.91	0.02	9.89	798.02	0.075

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Events for Pond 6P: Pond

Event	Inflow (cfs)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (acre-feet)
1 yr	10.60	1.41	1.41	0.00	791.52	0.415
2 yr	14.01	2.20	2.20	0.00	791.77	0.491
10 yr	26.68	10.22	10.22	0.00	792.51	0.743
100 yr	51.49	21.47	21.47	0.00	793.81	1.280

Proposed_Phase I

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Multi-Event Tables

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Events for Link M-1L: Mukwonago Outflow - Phase I

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 yr	1.43	1.43	0.00
2 yr	2.23	2.23	0.00
10 yr	10.34	10.34	0.00
100 yr	21.76	21.76	0.00

Proposed_Phase I

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Multi-Event Tables

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Events for Link V-1L: Vernon Outflow - Phase I

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1 yr	2.72	2.72	0.00
2 yr	3.54	3.54	0.00
10 yr	9.24	9.24	0.00
100 yr	35.29	35.29	0.00

APPENDIX C

Treatment Analysis / WinSLAMM

Treatment Analysis Results

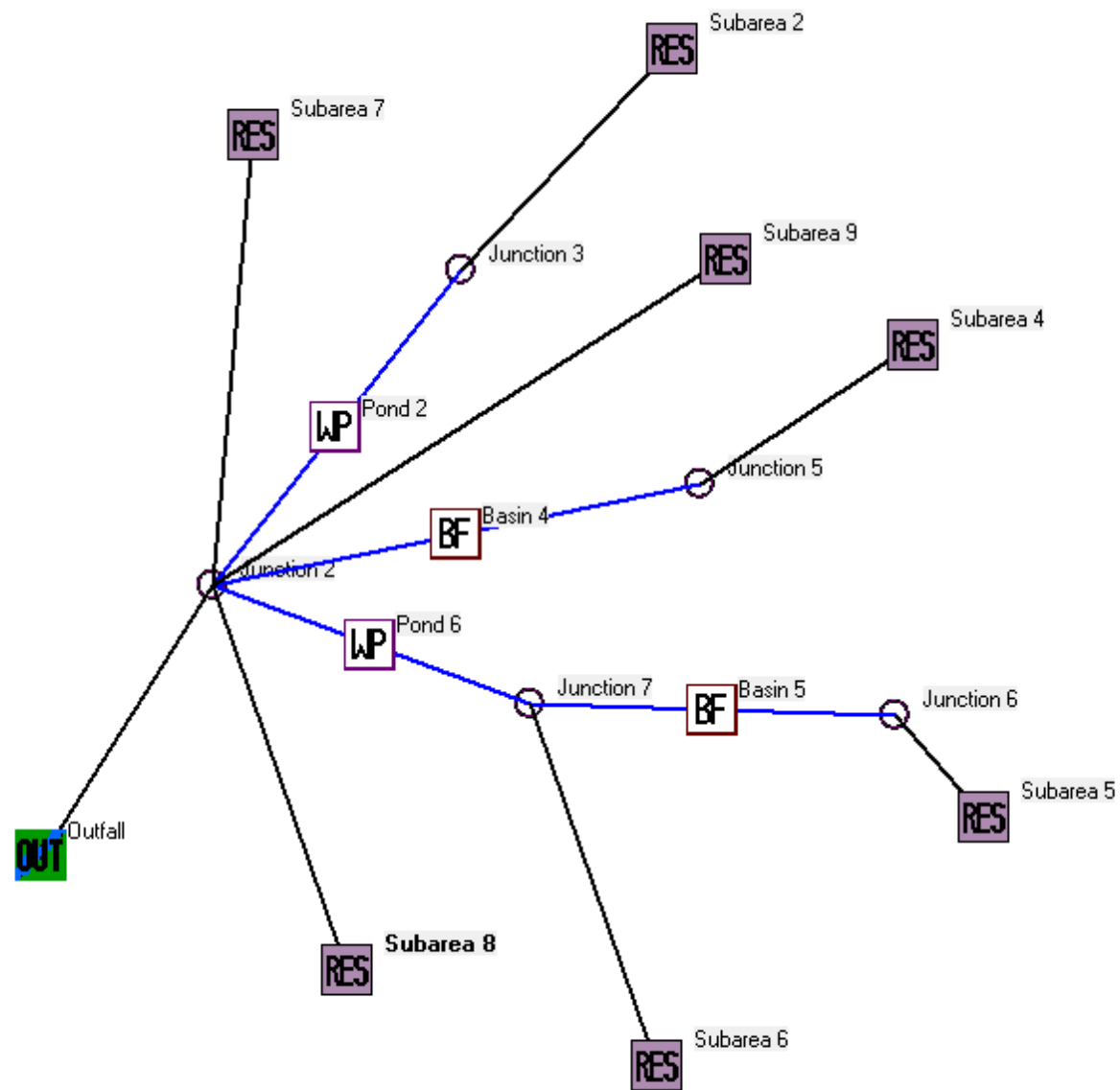
FOR: Cardinal Ridge - Phase I

LOCATION: Vernon and Mukwonago, Wisconsin

Treatment Analysis - Total Suspended Solids (TSS)						
Subarea	Total Loading (lbs)	Stormwater BMP	BMP		Total Solids Yield (lbs)	% TSS Removed
			lbs IN	lbs OUT		
2	3541	Pond 2P	3541	588	588	
4	226	Rain Garden 4B and Disconnected Roofs/Patios	261	34	34	
5	261	Rain Garden 5B and Disconnected Roofs/Patios	296	9	Directed to 6P	
6	2141	Pond 6P	2176	405	405	
7	2	-	-	-	2	
8	263	Disconnected Roofs and Patios, Sumped CBs	263	129	129	
9	125	Disconnected Roofs and Patios	125	68	68	
Total	6559	--	--	--	1226	81.3%

Treatment Analysis - Total Phosphorus				
Land Use	Total Phosphorus Loading No Controls (lbs)	Stormwater BMP	Total Phosphorus Loading With Controls (lbs)	% Total Phosphorus Removed
Total	28.60	Pond 2P, Rain Garden 4B, Rain Garden 5B, Pond 6P, & Select Disconnected Roofs and Patios	11.60	59.4%

WinSLAMM Treatment Analysis (Connected Impervious Model)



SLAMM for Windows Version 10.5.0

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Data file name: C:\Data\Jobs\2022\2022-004_Hein Property - TRIO\Project_Information\Calcs\SLAMM\Proposed_Phase I_Connected.mdb

Data file description:

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdxd

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

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

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

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

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

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

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

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

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Start of Winter Season: 12/06 End of Winter Season: 03/28

Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69

Date of run: 07-19-2024 Time of run: 12:03:46

Total Area Modeled (acres): 25.950

Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	1.086E+06	-	96.72	6559	-
Outfall Total with Controls:	1.018E+06	6.26%	25.29	1608	75.48%
Annualized Total After Outfall Controls:	1.032E+06			1630	

Pollutant	Concentration - No Controls	Concentration - With Controls	Conc. Units mg/L	Pollutant Yield No Controls	Pollutant Yield With Controls	Pol. Yield Units lbs	Percent Reduction
Particulate Solids	96.72	25.29	mg/L	6559	1608	lbs	75.48 %
Total Phosphorus	0.4217	0.2083	mg/L	28.60	13.24	lbs	53.71 %

Data file name: C:\Data\Jobs\2022\2022-004_Hein Property - TRIO\Project_Information\Calcs\SLAMM\Proposed_Phase I_Connected.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdX
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-19-2024 Time: 12:03:57
Site information:

LU# 1 - Residential: Subarea 2 Total area (ac): 12.810
1 - Roofs 1: 1.860 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.660 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.750 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.880 ac. Smooth Street Length = 0.4192 mi Street Width = 36.99905 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 7.080 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.580 ac. Source Area PSD File:
LU# 2 - Residential: Subarea 4 Total area (ac): 1.480
1 - Roofs 1: 0.280 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.140 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 1.060 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
LU# 3 - Residential: Subarea 5 Total area (ac): 1.620
1 - Roofs 1: 0.340 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.190 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 1.090 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
LU# 4 - Residential: Subarea 6 Total area (ac): 7.540
1 - Roofs 1: 1.320 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.520 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.510 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.990 ac. Smooth Street Length = 0.2207 mi Street Width = 37.00725 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

51 - Small Landscaped Areas 1: 4.020 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 70 - Water Body Areas: 0.180 ac. Source Area PSD File:
 LU# 5 - Residential: Subarea 7 Total area (ac): 0.260
 57 - Undeveloped Areas 1: 0.260 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 LU# 6 - Residential: Subarea 8 Total area (ac): 1.420
 1 - Roofs 1: 0.180 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.110 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - Streets 1: 0.150 ac. Smooth Street Length = 0.0334 mi Street Width = 37.0509 ft Street Edges = 2
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.480 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 57 - Undeveloped Areas 1: 0.500 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 LU# 7 - Residential: Subarea 9 Total area (ac): 0.820
 1 - Roofs 1: 0.150 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.080 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.590 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - Pond 2
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 5
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:

Outlet type: Sharp Crested Weir
 1. Sharp crested weir length (ft): 1.5
 2. Sharp crested weir height from invert: 2.5
 3. Sharp crested weir invert elevation above datum (ft): 6
 Outlet type: Orifice 1
 1. Orifice diameter (ft): 0.75
 2. Number of orifices: 1
 3. Invert elevation above datum (ft): 5
 Outlet type: Broad Crested Weir
 1. Weir crest length (ft): 10
 2. Weir crest width (ft): 10
 3. Height from datum to bottom of weir opening: 8
 Outlet type: Vertical Stand Pipe
 1. Stand pipe diameter (ft): 4
 2. Stand pipe height above datum (ft): 7

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.2000	0.00	0.00
2	4.00	0.3700	0.00	0.00
3	5.00	0.5800	0.00	0.00
4	5.50	0.6600	0.00	0.00

5	6.50	0.7200	0.00	0.00
6	7.50	0.8200	0.00	0.00
7	8.50	0.9300	0.00	0.00

Control Practice 2: Biofilter CP# 1 (DS) - Basin 4

1. Top area (square feet) = 5942
2. Bottom area (square feet) = 2177
3. Depth (ft): 3
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.24
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0.24
12. Engineered soil depth (ft) = 1
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 Media Type	1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 10
3. Height of datum to bottom of weir opening: 2.99

Outlet type: Evaporation\Evapotranspiration

Month Number	Month	Evapotranspiration (in/day)	Evaporation (in/day)
1	January	.	.6
2	February	.	.7
3	March	.	.9
4	April	.	1.3
5	May	.	2.1
6	June	.	3.2
7	July	.	5.
8	August	.	5.4
9	September	.	4.7
10	October	.	3.2
11	November	.	1.6
12	December	.	.6

Outlet type: Other Outlet

Stage Number	Stage (ft)	Discharge Rate (cfs)
1	1.00	0.000
2	1.20	0.050
3	1.40	0.260
4	1.60	1.270
5	1.80	4.570
6	2.00	9.780
7	3.00	66.460

Control Practice 3: Biofilter CP# 2 (DS) - Basin 5

1. Top area (square feet) = 3276
2. Bottom area (square feet) = 1905
3. Depth (ft): 3.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.24
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0.24
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 Media Type 1.000

Biofilter Outlet/Discharge Characteristics:

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 10
3. Height of datum to bottom of weir opening: 2.5

Outlet type: Evaporation\Evapotranspiration

Month Number	Month	Evapotranspiration (in/day)	Evaporation (in/day)
1	January	.	.6
2	February	.	.7
3	March	.	.9
4	April	.	1.3
5	May	.	2.1

6	June	.	3.2
7	July	.	5.
8	August	.	5.4
9	September	.	4.7
10	October	.	3.2
11	November	.	1.6
12	December	.	.6

Control Practice 4: Wet Detention Pond CP# 2 (DS) - Pond 6

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 5

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Sharp Crested Weir

1. Sharp crested weir length (ft): 1
2. Sharp crested weir height from invert: 4
3. Sharp crested weir invert elevation above datum (ft): 6.25

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.25
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 10
2. Weir crest width (ft): 10
3. Height from datum to bottom of weir opening: 9.25

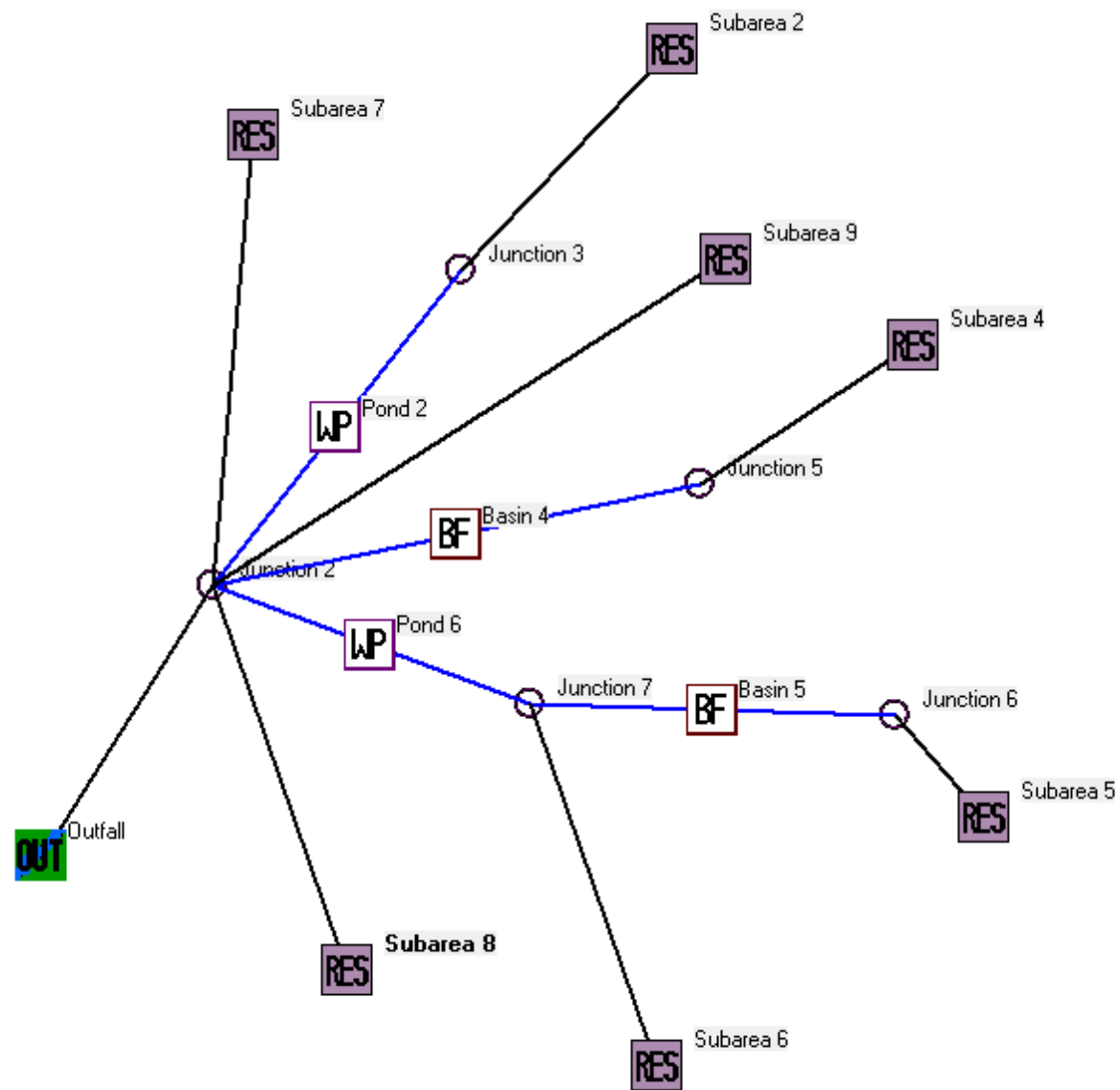
Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 4
2. Stand pipe height above datum (ft): 7.5

Pond stage and surface area

Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow (cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0100	0.00	0.00
2	4.00	0.0600	0.00	0.00
3	5.00	0.1800	0.00	0.00
4	5.25	0.1900	0.00	0.00
5	6.25	0.2600	0.00	0.00
6	7.25	0.3300	0.00	0.00
7	8.25	0.4000	0.00	0.00
8	9.25	0.4800	0.00	0.00
9	10.25	0.5800	0.00	0.00

WinSLAMM Treatment Analysis (Disconnected Impervious Model)



SLAMM for Windows Version 10.5.0
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Data file name: C:\Data\Jobs\2022\2022-004_Hein Property - TRIO\Project_Information\Calcs\SLAMM\Proposed Phase I.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdxd
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Start of Winter Season: 12/06 End of Winter Season: 03/28
Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69
Date of run: 07-19-2024 Time of run: 12:13:46
Total Area Modeled (acres): 25.950
Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	965423	-	102.8	6195	-
Outfall Total with Controls:	947043	1.90%	20.74	1226	80.21%
Annualized Total After Outfall Controls:	960197			1243	

Pollutant	Concentration - No Controls	Concentration - With Controls	Conc. Units	Pollutant Yield No Controls	Pollutant Yield With Controls	Pol. Yield Units	Percent Reduction
Particulate Solids	102.8	20.74	mg/L	6195	1226	lbs	80.21 %
Total Phosphorus	0.4490	0.1962	mg/L	27.06	11.60	lbs	57.13 %

Data file name: C:\Data\Jobs\2022\2022-004_Hein Property - TRIO\Project_Information\Calcs\SLAMM\Proposed_Phase I.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppd
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-19-2024 Time: 12:13:59
Site information:

Pre-Development Area Description	Pre-Development Area (ac)	Pre-Development CN
cropland	25.950	83
Total Area (ac)/Composite CN	25.950	83

LU# 1 - Residential: Subarea 2 Total area (ac): 12.810
1 - Roofs 1: 1.860 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.660 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.750 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.880 ac. Smooth Street Length = 0.4192 mi Street Width = 36.99905 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 7.080 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.580 ac. Source Area PSD File:
LU# 2 - Residential: Subarea 4 Total area (ac): 1.480
1 - Roofs 1: 0.280 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.140 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 1.060 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
LU# 3 - Residential: Subarea 5 Total area (ac): 1.620
1 - Roofs 1: 0.340 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.190 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 1.090 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 LU# 4 - Residential: Subarea 6 Total area (ac): 7.540
 1 - Roofs 1: 1.320 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - Driveways 1: 0.520 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.510 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - Streets 1: 0.990 ac. Smooth Street Length = 0.2207 mi Street Width = 37.00725 ft Street Edges = 2
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 4.020 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 70 - Water Body Areas: 0.180 ac. Source Area PSD File:
 LU# 5 - Residential: Subarea 7 Total area (ac): 0.260
 57 - Undeveloped Areas 1: 0.260 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 LU# 6 - Residential: Subarea 8 Total area (ac): 1.420
 1 - Roofs 1: 0.180 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.110 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - Streets 1: 0.150 ac. Smooth Street Length = 0.0334 mi Street Width = 37.0509 ft Street Edges = 2
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz CB-
 CP#5
 51 - Small Landscaped Areas 1: 0.480 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 57 - Undeveloped Areas 1: 0.500 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 LU# 7 - Residential: Subarea 9 Total area (ac): 0.820
 1 - Roofs 1: 0.150 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.080 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.590 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - Pond 2
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 5
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:
 Outlet type: Sharp Crested Weir
 1. Sharp crested weir length (ft): 1.5
 2. Sharp crested weir height from invert: 2.5
 3. Sharp crested weir invert elevation above datum (ft): 6
 Outlet type: Orifice 1
 1. Orifice diameter (ft): 0.58
 2. Number of orifices: 1
 3. Invert elevation above datum (ft): 5
 Outlet type: Broad Crested Weir

- ## Pond stage and surface area

Control Practice 2: Biofilter CP# 1 (DS) - Basin 4

- | | |
|-------------------------|---------------------------------|
| Soil Data | Soil Type Fraction in Eng. Soil |
| User-Defined Media Type | 1.000 |

Outlet type: Broad Crested Weir

- Outlet type: Evaporation\Evapotranspiration

Month Number	Month	Evapotranspiration (in/day)	Evaporation (in/day)
1	January	.	.6
2	February	.	.7
3	March	.	.9
4	April	.	1.3
5	May	.	2.1
6	June	.	3.2
7	July	.	5.
8	August	.	5.4
9	September	.	4.7
10	October	.	3.2
11	November	.	1.6
12	December	.	.6

Outlet type:	Other Outlet	
Stage Number	Stage (ft)	Discharge Rate (cfs)
1	1.00	0.000
2	1.20	0.050
3	1.40	0.260
4	1.60	1.270
5	1.80	4.570
6	2.00	9.780
7	3.00	66.460

Control Practice 3: Biofilter CP# 2 (DS) - Basin 5

1. Top area (square feet) = 3276
2. Bottom area (square feet) = 1905
3. Depth (ft): 3.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.24
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0.24
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 Media Type 1.000
 Biofilter Outlet/Discharge Characteristics:
 Outlet type: Broad Crested Weir
 1. Weir crest length (ft): 10
 2. Weir crest width (ft): 10
 3. Height of datum to bottom of weir opening: 2.5
 Outlet type: Evaporation\Evapotranspiration

Month Number	Month	Evapotranspiration (in/day)	Evaporation (in/day)
1	January	.	.6
2	February	.	.7
3	March	.	.9
4	April	.	1.3
5	May	.	2.1
6	June	.	3.2
7	July	.	5.
8	August	.	5.4
9	September	.	4.7
10	October	.	3.2
11	November	.	1.6
12	December	.	.6

Control Practice 4: Wet Detention Pond CP# 2 (DS) - Pond 6
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 5
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:
 Outlet type: Sharp Crested Weir
 1. Sharp crested weir length (ft): 1
 2. Sharp crested weir height from invert: 4
 3. Sharp crested weir invert elevation above datum (ft): 6.25
 Outlet type: Orifice 1
 1. Orifice diameter (ft): 0.25
 2. Number of orifices: 1
 3. Invert elevation above datum (ft): 5
 Outlet type: Broad Crested Weir
 1. Weir crest length (ft): 10
 2. Weir crest width (ft): 10
 3. Height from datum to bottom of weir opening: 9.25
 Outlet type: Vertical Stand Pipe
 1. Stand pipe diameter (ft): 4
 2. Stand pipe height above datum (ft): 7.5
 Pond stage and surface area

Entry	Stage	Pond Area	Natural Seepage	Other Outflow
-------	-------	-----------	-----------------	---------------

Number	(ft)	(acres)	(in/hr)	(cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0100	0.00	0.00
2	4.00	0.0600	0.00	0.00
3	5.00	0.1800	0.00	0.00
4	5.25	0.1900	0.00	0.00
5	6.25	0.2600	0.00	0.00
6	7.25	0.3300	0.00	0.00
7	8.25	0.4000	0.00	0.00
8	9.25	0.4800	0.00	0.00
9	10.25	0.5800	0.00	0.00

Control Practice 5: Catchbasin Cleaning CP# 1 (SA) - SA Device, LU# 6 ,SA# 37

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 4
3. Average sump depth below catchbasin outlet invert (feet) = 3
4. Depth of sediment in catchbasin sump at beginning of study period (ft) = 0
5. Typical outlet pipe diameter (ft) = 1
6. Typical outlet pipe Mannings n = 0.013
7. Typical outlet pipe slope (ft/ft) = 0.02
8. Typical catchbasin sump surface area (square feet) = 16
9. Total catchbasin depth (feet) = 8
10. Inflow hydrograph peak to average flow ratio = 3.8
11. Leakage rate through sump bottom (in/hr) = 0
12. Catchbasin Critical Particle Size File Name: Not needed - calculated by program

APPENDIX D

Infiltration Analysis / WinSLAMM

Infiltration Analysis Results

FOR: Cardinal Ridge - Phase I

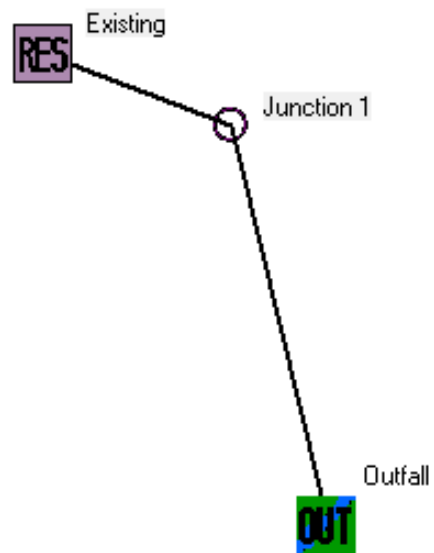
LOCATION: Vernon and Mukwonago, Wisconsin

Pre-Development				
Disturbed Area	25.95	acres	=	1,130,382 sq-ft
Average Annual Rainfall	29.02	inches	=	2.42 feet
Total Rainfall Volume	2,733,640	cu-ft		
Total Runoff (from SLAMM Output)	359,396	cu-ft		
Total Pre-Development Infiltration Volume	2,374,244	cu-ft		

Post-Development				
Total Runoff (from SLAMM Output)	947,043	cu-ft		
Total Post-Development Infiltration Volume	1,786,597	cu-ft		

Percent Infiltrated				
Post Infiltration Vol / Pre Infiltration Vol	75.2%			

WinSLAMM Infiltration Analysis (Existing Conditions Model)



Data File: C:\Data\Jobs\2022\2022-004_Hein Property - TRIO\Project_Information\Calcs\SLAMM\Existing_Phase I.mdb

Rain File: WisReg - Milwaukee WI 1969.RAN

Date: 07-19-24 Time: 12:21:02 PM

Site Description:

Runoff Volume Total (cf) at the Outfall

Rain Number	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)	Pre-Dev Runoff Vol. (cf)
Minimum:	0	0	0	0.01	74.9	0	0
Maximum:	1.96	36607	0.198	1.57	91.1	5.512	62919
Average:	0.25	1684	0.016	0.23	77.3	2.112	10268.5
Total:	29.02	195299		26.95			359396

* Note: NRCS does not recommend using CN method for rains < 0.5 in.

See 'PreDevelopment Areas and CN' Help for more info.

SLAMM for Windows Version 10.5.0

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Data file name: C:\Data\Jobs\2022\2022-004_Hein Property -
TRIO\Project_Information\Calcs\SLAMM\Existing_Phase I.mdb

Data file description:

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdX

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

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

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

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

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

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

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

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

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load
% Reduction calculations

Seed for random number generator: -42

Start of Winter Season: 12/06 End of Winter Season: 03/28

Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69

Date of run: 07-19-2024 Time of run: 12:21:28

Total Area Modeled (acres): 25.950

Years in Model Run: 0.99

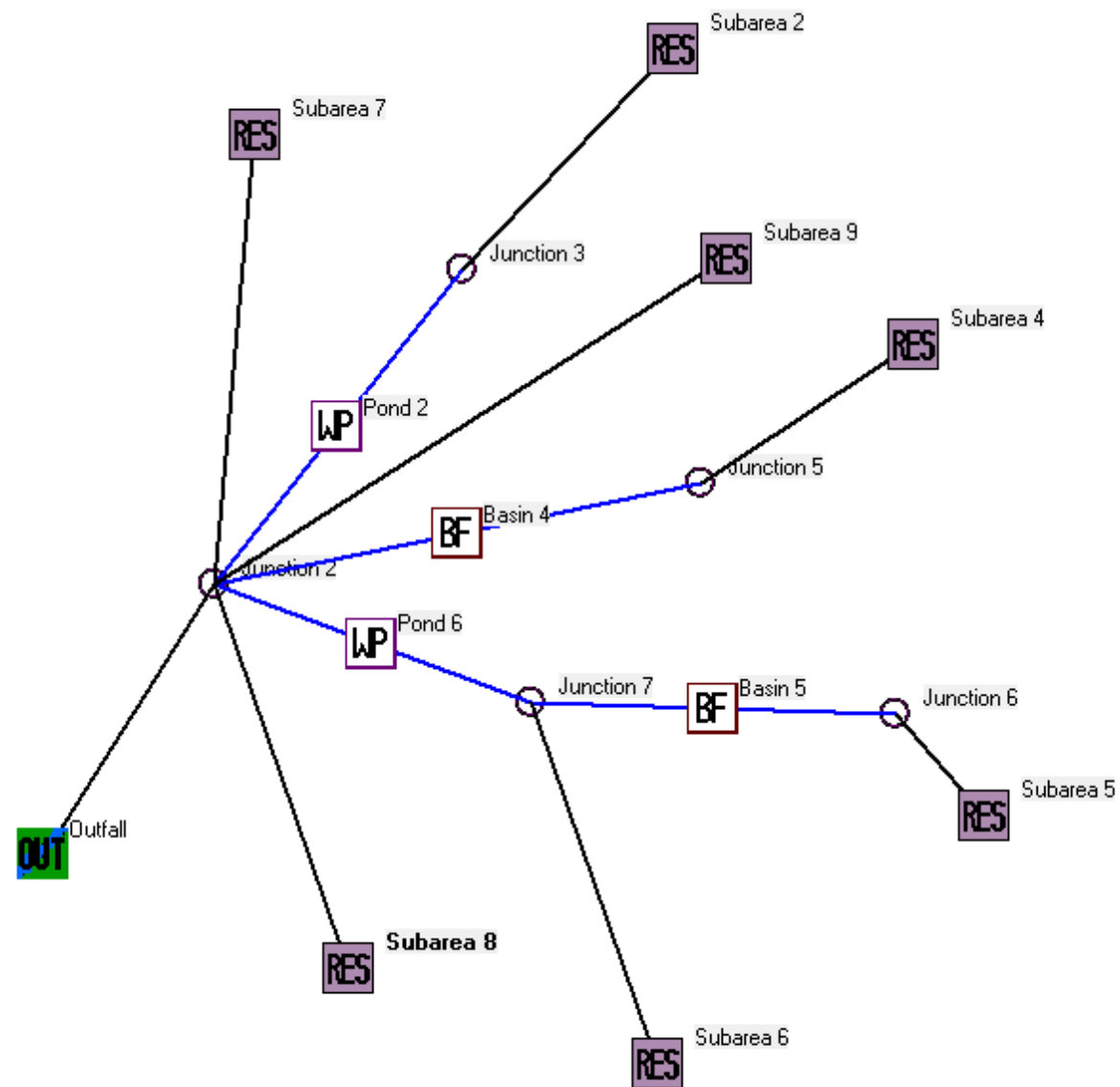
	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	195298	-	227.0	2768	-
Outfall Total with Controls:	195299	0.00%	227.0	2768	0.00%
Annualized Total After Outfall Controls:	198011			2806	

Data file name: C:\Data\Jobs\2022\2022-004_Hein Property - TRIO\Project_Information\Calcs\SLAMM\Existing_Phase I.mdb
 WinSLAMM Version 10.5.0
 Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
 Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
 Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
 Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
 Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
 Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
 Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
 Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
 Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
 Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
 Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppd
 Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
 Cost Data file name:
 If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
 Seed for random number generator: -42
 Study period starting date: 01/05/69 Study period ending date: 12/31/69
 Start of Winter Season: 12/06 End of Winter Season: 03/28
 Date: 07-19-2024 Time: 12:21:36
 Site information:

Pre-Development Area Description	Pre-Development Area (ac)	Pre-Development CN
Existing	25.950	83
Total Area (ac)/Composite CN	25.950	83

LU# 1 - Residential: Existing Total area (ac): 25.950
 45 - Large Landscaped Areas 1: 25.950 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

WinSLAMM Treatment Analysis (Disconnected Impervious Model)



SLAMM for Windows Version 10.5.0
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Data file name: C:\Data\Jobs\2022\2022-004_Hein Property - TRIO\Project_Information\Calcs\SLAMM\Proposed Phase 1.mdb

Data file description:

Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdxd

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

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

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

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

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

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

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

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

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Start of Winter Season: 12/06 End of Winter Season: 03/28

Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69

Date of run: 07-19-2024 Time of run: 12:13:46

Total Area Modeled (acres): 25.950

Years in Model Run: 0.99

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	965423	-	102.8	6195	-
Outfall Total with Controls:	947043	1.90%	20.74	1226	80.21%
Annualized Total After Outfall Controls:	960197			1243	

Pollutant	Concentration - No Controls	Concentration - With Controls	Conc. Units	Pollutant Yield No Controls	Pollutant Yield With Controls	Pol. Yield Units	Percent Reduction
Particulate Solids	102.8	20.74	mg/L	6195	1226	lbs	80.21 %
Total Phosphorus	0.4490	0.1962	mg/L	27.06	11.60	lbs	57.13 %

Data file name: C:\Data\Jobs\2022\2022-004_Hein Property - TRIO\Project_Information\Calcs\SLAMM\Proposed_Phase I.mdb
WinSLAMM Version 10.5.0
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Milwaukee WI 1969.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppd
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/05/69 Study period ending date: 12/31/69
Start of Winter Season: 12/06 End of Winter Season: 03/28
Date: 07-19-2024 Time: 12:13:59
Site information:

Pre-Development Area Description	Pre-Development Area (ac)	Pre-Development CN
cropland	25.950	83
Total Area (ac)/Composite CN	25.950	83

LU# 1 - Residential: Subarea 2 Total area (ac): 12.810
1 - Roofs 1: 1.860 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.660 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.750 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 1.880 ac. Smooth Street Length = 0.4192 mi Street Width = 36.99905 ft Street Edges = 2
Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 7.080 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.580 ac. Source Area PSD File:
LU# 2 - Residential: Subarea 4 Total area (ac): 1.480
1 - Roofs 1: 0.280 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.140 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 1.060 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
LU# 3 - Residential: Subarea 5 Total area (ac): 1.620
1 - Roofs 1: 0.340 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

31 - Sidewalks 1: 0.190 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 1.090 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 LU# 4 - Residential: Subarea 6 Total area (ac): 7.540
 1 - Roofs 1: 1.320 ac. Pitched Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 25 - Driveways 1: 0.520 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.510 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - Streets 1: 0.990 ac. Smooth Street Length = 0.2207 mi Street Width = 37.00725 ft Street Edges = 2
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 4.020 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 70 - Water Body Areas: 0.180 ac. Source Area PSD File:
 LU# 5 - Residential: Subarea 7 Total area (ac): 0.260
 57 - Undeveloped Areas 1: 0.260 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 LU# 6 - Residential: Subarea 8 Total area (ac): 1.420
 1 - Roofs 1: 0.180 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.110 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 37 - Streets 1: 0.150 ac. Smooth Street Length = 0.0334 mi Street Width = 37.0509 ft Street Edges = 2
 Default St. Dirt Accum. Annual Winter Load = 2500 lbs Source Area PSD File: C:\WinSLAMM Files\NURP.cpz CB-
 CP#5
 51 - Small Landscaped Areas 1: 0.480 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 57 - Undeveloped Areas 1: 0.500 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 LU# 7 - Residential: Subarea 9 Total area (ac): 0.820
 1 - Roofs 1: 0.150 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 31 - Sidewalks 1: 0.080 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
 51 - Small Landscaped Areas 1: 0.590 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - Pond 2
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 5
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:
 Outlet type: Sharp Crested Weir
 1. Sharp crested weir length (ft): 1.5
 2. Sharp crested weir height from invert: 2.5
 3. Sharp crested weir invert elevation above datum (ft): 6
 Outlet type: Orifice 1
 1. Orifice diameter (ft): 0.58
 2. Number of orifices: 1
 3. Invert elevation above datum (ft): 5
 Outlet type: Broad Crested Weir

- ## Pond stage and surface area

Control Practice 2: Biofilter CP# 1 (DS) - Basin 4

- | | |
|-------------------------|---------------------------------|
| Soil Data | Soil Type Fraction in Eng. Soil |
| User-Defined Media Type | 1.000 |

Outlet type: Broad Crested Weir

- Outlet type: Evaporation\Evapotranspiration

Month Number	Month	Evapotranspiration (in/day)	Evaporation (in/day)
1	January	.	.6
2	February	.	.7
3	March	.	.9
4	April	.	1.3
5	May	.	2.1
6	June	.	3.2
7	July	.	5.
8	August	.	5.4
9	September	.	4.7
10	October	.	3.2
11	November	.	1.6
12	December	.	.6
Outlet type: Other Outlet			
Stage Number	Stage (ft)	Discharge Rate (cfs)	
1	1.00	0.000	
2	1.20	0.050	
3	1.40	0.260	
4	1.60	1.270	
5	1.80	4.570	
6	2.00	9.780	
7	3.00	66.460	

Control Practice 3: Biofilter CP# 2 (DS) - Basin 5

1. Top area (square feet) = 3276
2. Bottom area (square feet) = 1905
3. Depth (ft): 3.5
4. Biofilter width (ft) - for Cost Purposes Only: 10
5. Infiltration rate (in/hr) = 0.24
6. Random infiltration rate generation? No
7. Infiltration rate fraction (side): 0.001
8. Infiltration rate fraction (bottom): 1
9. Depth of biofilter that is rock filled (ft) 0
10. Porosity of rock filled volume = 0
11. Engineered soil infiltration rate: 0.24
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 Media Type 1.000
 Biofilter Outlet/Discharge Characteristics:
 Outlet type: Broad Crested Weir
 1. Weir crest length (ft): 10
 2. Weir crest width (ft): 10
 3. Height of datum to bottom of weir opening: 2.5
 Outlet type: Evaporation\Evapotranspiration

Month Number	Month	Evapotranspiration (in/day)	Evaporation (in/day)
1	January	.	.6
2	February	.	.7
3	March	.	.9
4	April	.	1.3
5	May	.	2.1
6	June	.	3.2
7	July	.	5.
8	August	.	5.4
9	September	.	4.7
10	October	.	3.2
11	November	.	1.6
12	December	.	.6

Control Practice 4: Wet Detention Pond CP# 2 (DS) - Pond 6
 Particle Size Distribution file name: Not needed - calculated by program
 Initial stage elevation (ft): 5
 Peak to Average Flow Ratio: 3.8
 Maximum flow allowed into pond (cfs): No maximum value entered
 Outlet Characteristics:
 Outlet type: Sharp Crested Weir
 1. Sharp crested weir length (ft): 1
 2. Sharp crested weir height from invert: 4
 3. Sharp crested weir invert elevation above datum (ft): 6.25
 Outlet type: Orifice 1
 1. Orifice diameter (ft): 0.25
 2. Number of orifices: 1
 3. Invert elevation above datum (ft): 5
 Outlet type: Broad Crested Weir
 1. Weir crest length (ft): 10
 2. Weir crest width (ft): 10
 3. Height from datum to bottom of weir opening: 9.25
 Outlet type: Vertical Stand Pipe
 1. Stand pipe diameter (ft): 4
 2. Stand pipe height above datum (ft): 7.5
 Pond stage and surface area

Entry	Stage	Pond Area	Natural Seepage	Other Outflow
-------	-------	-----------	-----------------	---------------

Number	(ft)	(acres)	(in/hr)	(cfs)
0	0.00	0.0000	0.00	0.00
1	0.01	0.0100	0.00	0.00
2	4.00	0.0600	0.00	0.00
3	5.00	0.1800	0.00	0.00
4	5.25	0.1900	0.00	0.00
5	6.25	0.2600	0.00	0.00
6	7.25	0.3300	0.00	0.00
7	8.25	0.4000	0.00	0.00
8	9.25	0.4800	0.00	0.00
9	10.25	0.5800	0.00	0.00

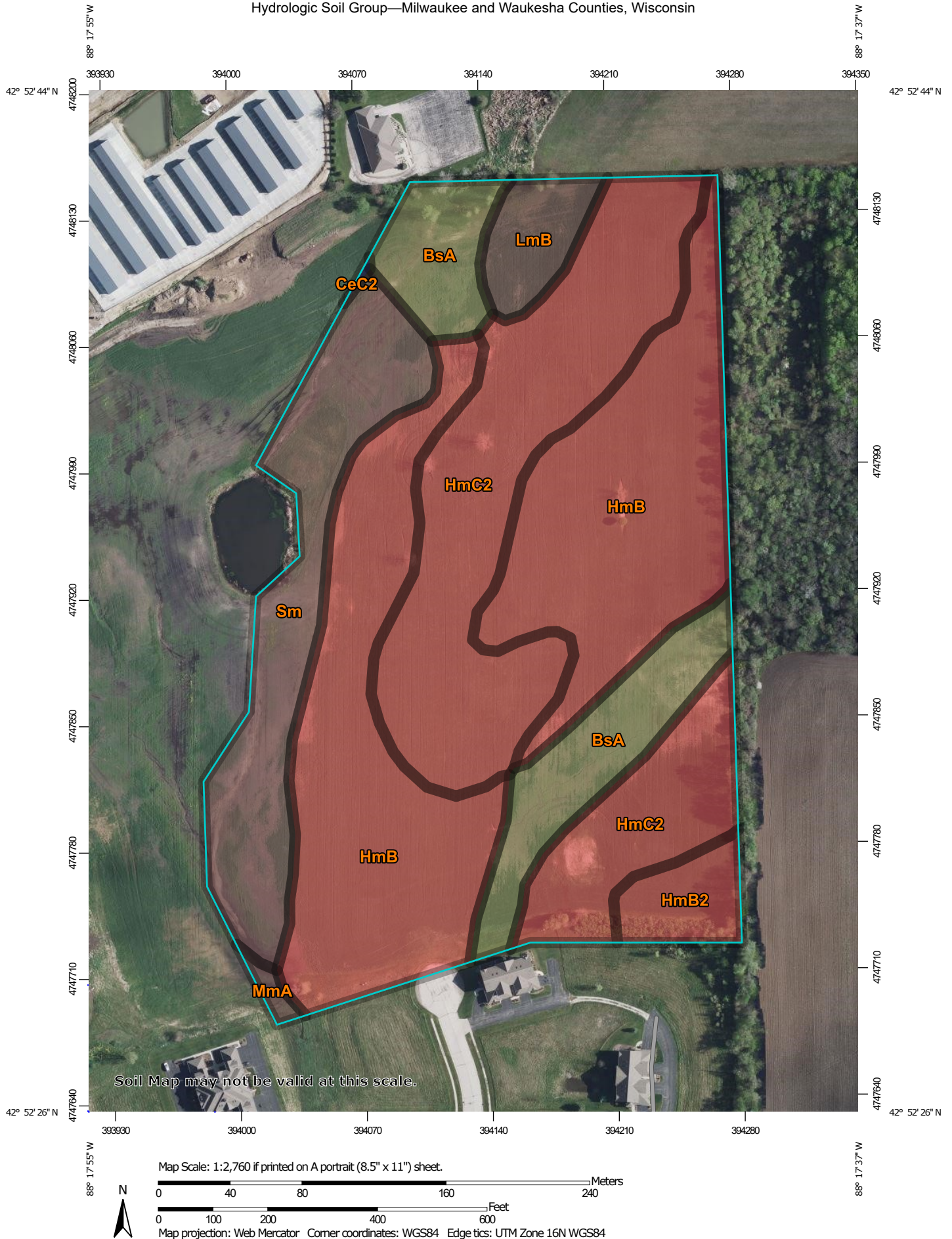
Control Practice 5: Catchbasin Cleaning CP# 1 (SA) - SA Device, LU# 6 ,SA# 37

1. Fraction of area served by catchbasins = 1.00
2. Number of catchbasins = 4
3. Average sump depth below catchbasin outlet invert (feet) = 3
4. Depth of sediment in catchbasin sump at beginning of study period (ft) = 0
5. Typical outlet pipe diameter (ft) = 1
6. Typical outlet pipe Mannings n = 0.013
7. Typical outlet pipe slope (ft/ft) = 0.02
8. Typical catchbasin sump surface area (square feet) = 16
9. Total catchbasin depth (feet) = 8
10. Inflow hydrograph peak to average flow ratio = 3.8
11. Leakage rate through sump bottom (in/hr) = 0
12. Catchbasin Critical Particle Size File Name: Not needed - calculated by program

APPENDIX E

Soil Survey & Geotechnical Exploration and Site Feasibility Evaluation Report

Hydrologic Soil Group—Milwaukee and Waukesha Counties, Wisconsin



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: Milwaukee and Waukesha Counties, Wisconsin
 Survey Area Data: Version 17, Sep 10, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 20, 2020—Aug 20, 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
BsA	Brookston silt loam, 0 to 2 percent slopes	C/D	3.1	11.3%
CeC2	Casco loam, 6 to 12 percent slopes, eroded	B	0.0	0.0%
HmB	Hochheim loam, 2 to 6 percent slopes	D	10.6	38.8%
HmB2	Hochheim loam, 2 to 6 percent slopes, eroded	D	0.8	2.9%
HmC2	Hochheim loam, 6 to 12 percent slopes, eroded	D	8.0	29.4%
LmB	Lamartine silt loam, 0 to 3 percent slopes	B/D	0.9	3.2%
MmA	Matherton silt loam, 1 to 3 percent slopes	B/D	0.1	0.5%
Sm	Sebewa silt loam, 0 to 2 percent slopes	B/D	3.8	13.9%
Totals for Area of Interest			27.3	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Professional Service Industries, Inc.
821 Corporate Court, Waukesha, WI 53189
Phone: (262) 521-2125
Fax: (262) 521-2471

April 8, 2024

Neumann Development Inc.
N27 W24025 Paul Court, Suite 100
Pewaukee, WI 53072

Attn: Mr. Eric Obarski
Project Manager

Re: Geotechnical Exploration and Site Feasibility Evaluation
Proposed Cardinal Crest Subdivision
Edgewood Avenue
Mukwonago, WI
PSI Project No. 00523364

Dear Mr. Obarski:

The geotechnical exploration and site feasibility evaluation for the referenced project has been completed. An electronic copy of the report is being provided via email. Paper copies can be issued upon request. After you have had the opportunity of reading the report, please call at any time with any questions or comments you may have. Professional Service Industries, Inc. (PSI), an Intertek Company, appreciates the opportunity to be of service on this project, and looks forward to continuing as your geotechnical consultant during the design and construction phases, as well as your upcoming projects.

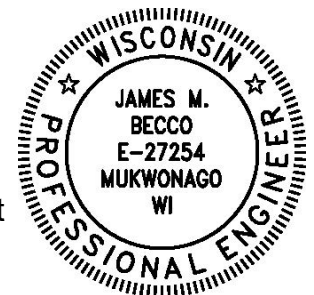
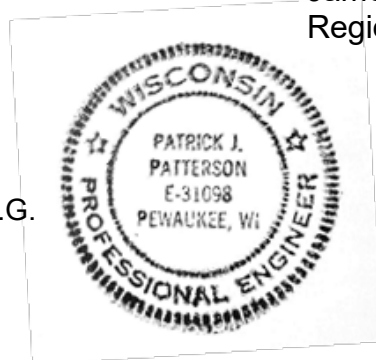
Sincerely,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Christopher D. Volkert
Project Manager

James M. Becco, P.E.
Regional Vice President

Patrick J. Patterson, P.E., P.G.
Senior Engineer
Environmental Services



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**GEOTECHNICAL EXPLORATION AND SITE
FEASIBILITY EVALUATION**

For the:

Proposed Cardinal Crest Subdivision
Edgewood Avenue
Mukwonago, WI

Prepared for:

Neumann Development Inc.
N27 W24025, Suite 100
Pewaukee, WI 53072

Prepared by:

Professional Service Industries, Inc.
821 Corporate Court, Waukesha, WI 53189
Phone: (262) 521-2125
Fax: (262) 521-2471

April 8, 2024

PSI Project Number: 00523364

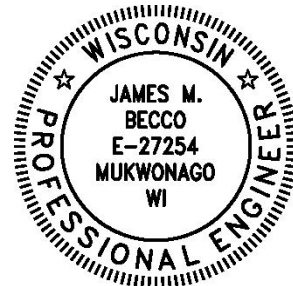


A handwritten signature in black ink, appearing to read "Chris Volkert".

Christopher D. Volkert
Project Manager

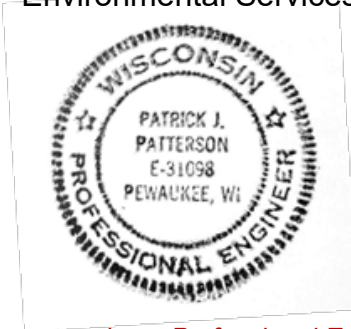
A handwritten signature in black ink, appearing to read "James M. Becco".

James M. Becco, P.E.
Regional Vice President



A handwritten signature in black ink, appearing to read "Patrick J. Patterson".

Patrick J. Patterson
Senior Engineer
Environmental Services



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APPENDIX (in order of appearance)
Figure 1 – Boring Location Plan
Soil Boring Logs
General Notes
Soil Evaluation – Storm Form
USDA Classification Chart



INTRODUCTION

General

This report presents the results of the geotechnical exploration and site feasibility evaluation for the proposed Cardinal Crest Subdivision project located in Mukwonago, Wisconsin. The work was performed for Neumann Development Inc., at the request of Mr. Eric Obarski.

Purpose

The purpose of this study was to evaluate the subsurface conditions at specific boring locations on the site, and to establish parameters for use by the design engineers and architects in preparing the foundation, floor slab, pavement, and stormwater management designs for the proposed project. A comprehensive foundation evaluation and recommendations for specific structures were beyond the scope of this preliminary site evaluation but are recommended as part of design planning.

Scope

The scope of services included a site reconnaissance, the subsurface exploration, an evaluation of soil characteristics by field and laboratory testing, and an evaluation of the data obtained. The scope of the field work, including the number, location, and depth of the borings was determined by the client.

Authorization

The description of services and authorization to perform this geotechnical exploration and site feasibility evaluation were in the form of signed PSI Proposal No. 417801, dated February 7, 2024. This report has been prepared on behalf of, and exclusively for the use of Neumann Development Inc. The information contained in this report may not be relied upon by any other parties without the express written consent of PSI, and acceptance by such parties of PSI's General Conditions.

SITE AND PROJECT DESCRIPTION

Site Features

The project site is located east of Edgewood Avenue, extending east about 1,800 feet. It is south of National Avenue, and directly north of Cardinal Court, in Mukwonago, Wisconsin. At the time of the exploration, the site was a farm field with a building and unpaved drive areas located on the southwestern side of the property. There is a wetland area in the north-central portion of the site. There are residential properties to the northeast and south, storage units to the north, and dense forests and farm fields to the east. Aerial photos of various years between 2000 and 2023 reviewed on Google Earth indicate that the site was a vacant agricultural

property in the 2000 photo. The wetland area in the central portion of the property is visible and appears to be a pond. The building in the southwestern portion of the site was present in the 2005 photo. Additionally, it appears that a pond is present on the southeast portion of the site, in the approximate area of B-18. The site remains relatively similar in appearance in subsequent photos with the exception of the pond in the southeast portion of the site which appears to become increasingly vegetated and/or filled in subsequent years. In the 2015 and subsequent photos, the pond is no longer visible and may have been completely filled. The subject site is depicted on the enclosed Boring Location Plan (Figure 1).

Project Description

Based on information provided by the client, it is understood that the proposed project will consist of the construction of 94 single-family homes with attached garages and basements, and associated roadways. There will be six (6) outlots, and six (6) stormwater management areas. The structures are estimated to be up to 2 stories above grade. No other details were provided.

Structural loads were not provided for the proposed buildings but are estimated to be light to moderate in magnitude. For the purpose of this report, it is estimated that maximum column and wall loads will not exceed 100 kips and 10 kips per lineal foot respectively. When structural loads are determined, PSI must be informed in order to determine if revisions to this report are necessary.

A grading plan and finished floor elevations for the proposed structures was not provided; however, based upon the topography map provided to PSI, and the grades of the surrounding neighboring properties, it is estimated that substantial cuts and fills of several feet or more (possibly in excess of 10 feet or even more) may be necessary at this site. The location of the buildings or other structure details were not provided, nor were planned elevations or final surface grades. When a grading plan is available, and when finished floor elevations, utility inverts, and roadway grades have been established, PSI must be informed so that any necessary reevaluation or redirection of the recommendations included herein can be made.

Six (6) stormwater management areas are proposed as part of the development. These will consist of four (4) wet ponds and two (2) dry pond/rain gardens. Based on the plan provided by the client, planned bottom elevations range from EL. 805.7 to EL. 785.7. Other design details of the stormwater management areas have not been provided.

The new pavements are estimated to consist of asphalt or concrete. Traffic loading for pavements has not been provided. However, it is understood that traffic will generally consist of light passenger vehicle traffic, delivery trucks, garbage trucks, school buses, and snow removal vehicles.

When additional information becomes available and/or if any of the information provided herein is incorrect or changes, PSI must be informed so that any necessary re-evaluation or revisions to this report can be made.

This preliminary exploration has been commissioned to evaluate the subsurface conditions across areas of the subject site and to provide subsurface information for general site feasibility and preliminary design planning for the proposed development. The number and spacing of the borings requested is not considered sufficient to serve as a conventional foundation evaluation for the proposed buildings. Additional borings are necessary and recommended within each of the proposed building footprints to further evaluate more specific soil conditions and provide subsequent recommendations at each building location. Additional borings are also recommended to assist in establishing finished floor, yard, utility invert, and basement slab elevations. When additional project information becomes available, PSI must be provided an opportunity to review them and determine if a redirection of the evaluation and recommendations contained herein is warranted.

EXPLORATION AND LABORATORY PROCEDURES

Scope Summary

The field and laboratory data utilized in the evaluation of the subsurface materials was obtained by drilling exploratory test borings, securing soil samples by the split-spoon sampling method, and subjecting the samples to standard laboratory testing.

With respect to the stormwater management areas, the field and laboratory work for classification of the subgrade soils was performed to provide information for use by the basin design personnel when considering requirements of Chapter NR151 of the Wisconsin Administrative Code, and of WDNR Technical Standard 1002, "Site Evaluation for Stormwater Infiltration" guidelines. The design of the proposed stormwater management area was beyond the scope of services for this project.

Field Exploration

Twenty-two (22) soil borings were drilled for this project. B-1 to B-6, B-9, B-13 to B-17, B-20, and B-21 were performed in the area of the lots and roadways to a depth of 20 feet below existing grade, and B-7, B-8, B-10 to B-12, B-18, B-19, and B-22 were performed in the planned stormwater management areas to a depth of 15 feet below existing grade. The number, depths, and locations of the borings were determined by the client. The borings were located in the field by the drill crew utilizing a consumer grade GPS device. They are estimated to be accurate to within several feet. The approximate locations of the borings performed are shown on the Boring Location Plan (Figure 1), which is provided in the Appendix of this report. The surface elevations shown on the logs were estimated by interpolation of a 1-foot contour map of the property, provided by the client. The elevations are estimated to be accurate to within about 1

foot.

The soil test borings were performed with an all-terrain vehicle (ATV) mounted rotary drilling rig utilizing continuous flight hollow stem augers to advance the holes. Representative samples were obtained by the Standard Penetration Test (SPT) method using split-spoon sampling procedures in general accordance with ASTM D-1586 procedures. Samples were collected at 2.5-foot intervals to 10 feet, and then at 5-foot intervals thereafter to the end of the borings. As an exception, samples were obtained at 2-foot intervals at the borings performed within the proposed pavement and/or stormwater management areas. The standard penetration value (N) is defined as the number of blows of a 140-pound hammer, falling thirty (30) inches, required to advance the split-spoon sampler one (1) foot into the soil. The sampler is lowered to the bottom of the drill hole and the number of blows recorded for each of the three (3) successive increments of six (6) inches penetration. The “N” value is obtained by adding the second and third incremental numbers. The SPT provides a means of estimating the relative density of granular soils and comparative consistency of cohesive soils, thereby providing a method of evaluating the relative strength and compressibility characteristics of the subsoils.

The SPT soil samples were transferred into clean glass jars immediately after retrieval and returned to the laboratory upon completion of the field operations. Samples will be discarded unless other instructions are received. The soil samples were visually classified in general accordance with the Unified Soil Classification System (ASTM D-2488-75). As an exception, the soil samples from B-7, B-8, B-10 to B-12, B-18, B-19, and B-22 were visually classified by a certified soil tester in general accordance with USDA National Resources Conservation Service textural soil classification procedures. A description of the subsurface conditions encountered at each boring location is shown on the enclosed Soil Boring Logs. After completion of the borings, the auger holes were backfilled to the ground surface with soil cuttings and bentonite.

A copy of the Soil Boring Logs, Boring Location Plan (Figure 1), and Soil Evaluation – Storm Forms are enclosed in the Appendix. The soil stratification shown on the logs represents the approximate soil conditions in the actual boring locations at the time of the exploration. The terms and symbols used on the logs are described in the General Notes found in the Appendix.

Laboratory Physical Testing

Soil samples obtained from the exploration were visually classified in the laboratory, and subjected to testing, which included moisture content determinations.

Selected cohesive soil samples were tested in unconfined compression with a controlled strain loading rate and/or with a calibrated hand penetrometer to aid in evaluating the soil strength characteristics. The values of strength tests performed on soil samples obtained by the Standard Penetration Test Method (SPT) are considered approximate, recognizing that the SPT method provides a representative but somewhat disturbed soil sample.

The laboratory testing was performed in general accordance with the respective ASTM methods, as applicable, and the results are shown on the boring logs in the Appendix.

DESCRIPTION OF SUBSURFACE CONDITIONS

General

A description of the subsurface conditions encountered at the test boring locations is shown on the Soil Boring Logs. The lines of demarcation shown on the logs represent an approximate boundary between the various soil classifications. It must be recognized that the soil descriptions are considered representative estimates for the specific test hole location, but those variations may occur between and beyond the sampling intervals and boring locations. Soil depths, topsoil, and layer thicknesses, and demarcation lines utilized for preconstruction planning should not be expected to yield exact and final quantities. A summary of the major soil profile components is described in the following paragraphs.

Soil Conditions

Lot and Pavement Borings (B-1 to B-6, B-9, B-13 to B-17, B-20, and B-21) USCS Classification

The surficial materials at the borings consisted of about 8 to 12 inches of topsoil, generally consisting of dark brown sandy silt with gravel. Underlying the topsoil were natural soils generally consisting of brown sandy clay with gravel; silty medium to fine sand and gravel; silty medium to coarse sand and gravel; medium to fine sand and gravel; sandy silt with gravel; silt with sand and gravel; lean clay with sand and gravel; gravel with medium to coarse sand; and clayey sand and gravel to the termination depths. The natural granular soils were in a very loose to extremely dense condition in relative density with N-values ranging from 3 blows per foot (bpf) to 50 blows per 2 inches of sampler penetration. The natural cohesive soils were very soft to very stiff in consistency with unconfined compressive strengths ranging from 0.1 to 3.5 tons per square foot (tsf).

Stormwater Management Area Borings (B-7, B-8, B-10 to B-12, B-18, B-19, and B-22) USDA Classification

The surficial materials at the borings consisted of about 8 to 12 inches of black silt loam topsoil. Underlying the topsoil at boring B-8 was possible fill consisting of gray and brown mottled gravelly sandy loam, and brown gravelly silty clay loam to a depth of about 5 feet (EL. 788.5) below existing grade. Underlying the possible fill at B-8 and the topsoil at the remaining stormwater borings were natural soils generally comprised of silt loam, gravelly fine sandy loam, gravelly fine sand, sandy loam, silty clay loam, very gravelly fine sand, gravelly sand, gravelly loam, loamy sand, clay loam, loamy fine sand, and fine sand to the termination depths. The natural granular soils were in a loose to extremely dense condition in relative density with N-values ranging from 5 blows per foot (bpf) to 50 blows per 1 inch of sampler penetration.

The foregoing discussion of soil conditions on this site represents a generalized soil profile as determined at the test boring locations. A more detailed description and supporting data for each test location can be found on the individual Soil Boring Logs.

Groundwater Observations

Groundwater observations were made during the drilling operations, and in the open boreholes at completion. Groundwater was encountered during auger advancement in all borings except B-22 at depths of about 1 to 18.5 feet below existing grade (EL. 794 to EL. 778.5), with depths of about 1 to 6 feet (EL. 807.5 to EL. 787.5) being more typical. Upon completion and removal of the augers, groundwater was present at borings B-2 through B-9, B-13, B-15 through B-19, and B-21, at depths of about 1.5 to 12 feet below existing grade (EL. 793.5 to EL. 793).

The groundwater observations reported herein are considered approximate. It must be recognized that groundwater levels fluctuate with time due to variations in seasonal precipitation, lateral drainage conditions, and soil permeability characteristics. Longer-term monitoring would be required and is recommended to further evaluate groundwater levels on this site.

EVALUATION AND RECOMMENDATIONS

General Development Considerations

In view of the subsurface conditions encountered in the test borings, together with the structural loading criteria and development grades anticipated, conventional spread footings, along with conventional slab-on-grade construction, can be used for support of the proposed structure. However, relatively shallow groundwater was encountered in most of the borings. As such, substantial difficulty with groundwater, and with excavation subgrade and sidewall stability will likely be experienced, especially where excavations encroach upon or extend below the groundwater. An adequate dewatering effort will be necessary. The over-excavation of unstable zones along the use of a crushed stone working mat may also be required and may become extensive.

It is recommended that the basement slabs be placed at least 2 feet above the groundwater level to prevent moisture problems and constantly running sump pumps. It is also recommended that further evaluation of groundwater levels across the site using backhoe test pits (and possibly monitoring wells) be performed as part of design planning to assist in establishing appropriate basement floor and associated surface elevations. Significant filling to raise finished exterior grades may be necessary in order to establish basement slabs at appropriate elevations; and in order to establish sufficient drainage pathways, to allow for similar entrance elevations, to meet utility slope requirements, and to achieve aesthetic requirements. Detailed and careful design and construction planning will be required. Dependent upon the results of further groundwater evaluation, and if proper grading/filling cannot be accomplished, it may be necessary to eliminate basements.

It should be noted that the borings were relatively widely spaced, especially considering the size of the site. As such, variations in subsurface conditions should be expected, and the removal or undercutting of loose, wet, unstable or otherwise unsuitable natural soils may be necessary, and may become extensive in some areas of the property. In addition, substantial difficulty with groundwater, and with subgrade and excavation instability may be experienced in some areas. It is recommended that additional exploration be performed to further evaluate areas of shallower groundwater in order to assist with development planning and with establishing basement floor and yard elevations.

The floor slabs and pavements can be supported by the existing soils following proper preparation, which will include the removal of soft, unstable or unsuitable zones. Some instability and the need for undercutting may occur.

A discussion of the foundation design parameters, as well as the support conditions for the floor slab and pavement areas, is included in the following sections.

Site Preparation

The presence of organic topsoil and vegetation in the subgrade can adversely affect the serviceability of structural fills, foundations, floor slabs, pavements, and other structures placed upon them. Approximately 8 to 12 inches of topsoil was present on the surface of the site at the boring locations. However, some variation should be anticipated, especially encroaching upon the wetland areas where thicker deposits may be present. All topsoil, vegetation, trees, roots and other organic matter must be stripped from the areas of footings, floor slabs, pavements, sidewalks, and other structures.

Topsoil depths and/or the presence of organic soils may increase substantially within and encroaching upon wetland areas. Very shallow groundwater levels may also be present. It is generally recommended that development within wetland areas not be performed due to the typical presence of highly organic soils and shallow groundwater. If such development is contemplated, special permits may be required from the Army Corps of Engineers, the WDNR, or other government agencies.

Site preparation will require removal of the existing structure(s) and any remnants of former buildings, including foundations and underground utilities. Extensive areas of loose backfill material may be encountered within utility trenches, adjacent to the existing structures, and in former building, basement, and other structural areas. Other fill deposits not disclosed by the borings may also be present within the general area of the existing building and roadways that may have been placed as part of the development. These will also require removal. The areas, including basements, must then be properly backfilled with compacted structural fill. Prior to the backfilling, the areas must be observed by a PSI representative to evaluate the suitability of the subgrade for subsequent support of the new building, utilities, or other structures.

The majority of the property was a farm field at the time of the field exploration. If any remnant drain tiles are encountered during construction, it is generally recommended that they be tied into new drainage structures or otherwise be properly drained to a suitable area (in accordance with any applicable regulatory requirements or restrictions), since they may still actively drain areas of the subject site or adjacent properties.

After stripping the topsoil and cutting high areas of the site to the planned finished grade, and prior to the placement of new fill which may be placed to raise grades, the subgrade must be thoroughly proofrolled to detect unstable, yielding soils. This should consist of overlapping passes in a perpendicular grid pattern, with a fully-loaded tandem-axle dump truck, or other equipment of similar size and weight suitable for the surface conditions. Proofrolling should be performed in consultation with the geotechnical engineer at the time of construction. Some difficulty with subgrade preparation may be experienced, especially in wet or cold weather, or during thawing conditions. Additionally, instability can become more severe in silty and clayey materials, which are considered to be moderately to highly moisture sensitive. It is generally recommended that earthwork be carried out during relatively warm, dry weather. Any soft, wet, or otherwise unstable zones which cannot be improved by scarification and aeration, must be removed and replaced with compacted structural fill, such as clean crushed stone, possibly in conjunction with the use of a geotextile fabric. Construction delays and difficulty with subgrade stabilization may be experienced during periods of wet and/or cool weather. Substantial difficulty may be experienced by construction equipment in accessing and moving around the site. Consideration should be given to installing construction roads to reduce disturbance to the sensitive subgrade soils.

Every effort must be made to keep excavations dry. If construction proceeds during wet weather, some additional over excavation may be necessary. If weather permits, the soil could be dried and recompacted. A crushed stone working mat, possibly in conjunction with a geotextile fabric, may also be feasible to help stabilize subgrades. Site grading runoff should be directed to catch basins, so that the potential for the softening of the foundation subgrade soils is reduced.

If site grades are raised in excess of 2 feet, the first lift of new fill must be placed so as to extend a minimum lateral distance of 5 feet beyond the planned top building pad dimension (for fills less than 5 feet in thickness), or for a distance equal to at least 1 foot laterally beyond the top pad dimension for every foot of fill thickness (for fills greater than 5 feet in depth). Subsequent lifts can then be placed on an approximate 1H:1V slope back up to the planned top perimeter dimension of the pad. Similarly, where undercutting of unsuitable soils is performed beneath foundations, floor slabs, or other structural areas, it is recommended that the removal extend laterally beyond the perimeter of the structure at least 1 foot for every foot of removal below the planned bearing depth. Proper moisture control is essential to reduce the amount of compactive effort necessary to achieve the desired densities.

When a firm and stable subgrade is established, low areas may be raised to planned grades with properly compacted structural fill. Any new fill should be a clean granular soil, such as

those materials meeting the gradations outlined in Section 209 or 305 of the State of Wisconsin Standard Specification for Highway and Structure Construction. If fine-grained soils, such as those with high silt or clay content are used, they should generally be placed over large open areas, where conditions are more favorable for the proper placement and compaction of such materials. It must be recognized that high silt or clay content materials are difficult to compact when placed at moisture contents beyond a few percent of the optimum moisture content. Fill must be placed in layers of not more than nine (9) inches in thickness, at moisture contents at or near optimum, and be compacted to a minimum density of 95 percent of the maximum dry density as determined by ASTM designation D-698. Silt, clay, and wet granular soils are not suitable for reuse as compacted fill in trenches, or adjacent to foundation stem walls or retaining walls.

Proper moisture control is essential to reduce the amount of compactive effort necessary to achieve the desired densities. This is especially true of clayey soils, where scarification and aeration may be required to achieve near - optimum moisture levels prior to compaction. A sheepsfoot roller is generally required for compaction of clayey soils, whereas a vibratory smooth drum roller is preferred for granular material. Small hand-operated compactors should be used in confined areas; granular fills are generally more readily compacted to the required densities in such applications.

It is recommended that well-graded granular soils be utilized as backfill in new utility trenches and alongside below grade walls to reduce the potential for consolidation and settlement of the fill. All fill soils must be placed and compacted under engineering-controlled conditions, to provide suitable support for overlaying structures and roadways. Additional guidance can be provided at the time of construction in the selection process for grade-raising fill and trench backfill.

The selection of fill materials for various applications should be done in consultation with the soils engineer. Similarly, the evaluation of the subgrade and placement and compaction of fill for structural applications should be monitored and tested by a qualified representative of the soils engineer.

Foundation Evaluation

The following is a general overview of the subsurface conditions for the site, as it relates to foundation analysis, and can be used in preliminary site planning.

The proposed structures may be supported by a conventional spread foundation system, bearing on suitable naturally occurring soils or within structural fill, prepared as discussed in a previous section. For preliminary planning conventional spread footings bearing upon suitable natural soils, or compacted structural fill (or lean concrete mix) used to replace unsuitable materials, can be designed to exert net allowable soil bearing pressures of 1,500 to 4,000 psf, dependent upon location and bearing elevation. However, some undercutting of soft, loose, wet, or otherwise unsuitable natural soils may be required, especially where excavations extend

below the groundwater or perched zones. All foundations must bear upon suitable and stable soils of sufficient strength.

The suitability of the existing soils for support of the proposed foundation must be determined by testing by a qualified geotechnical engineer during construction, utilizing static cone penetrometer tests or dynamic cone penetrometer tests for cohesive and granular soils, respectively. Soft, loose, or otherwise unsuitable materials not disclosed by the borings, may be encountered in the foundation excavations at the bearing elevation. If unsuitable existing soil is present, it must be removed throughout a zone extending one foot laterally for each two feet removed below the foundation, on either side of the planned footing. The over-excavated area must be backfilled with structural compacted fill.

In lieu of the use of compacted structural fill, the existing fill soils and any unsuitable natural materials could be removed from beneath new footings and the excavation backfilled to the original planned bearing depth with a lean concrete mix. If it is elected to utilize a lean concrete mix to replace the unsuitable soils, the foundation excavations should be about 4 inches wider than the proposed footing width and must extend through the unsuitable bearing materials to the natural soils. The concrete must be placed immediately after excavation to avoid intrusion of soil into the excavation. The concrete should contain sufficient aggregate and cement to attain a 28-day compressive strength of at least 1000 psi. Some sloughing or caving of the overlying soils may be experienced. Should this occur during concrete placement, the area must be removed and recast. Additionally, should caving become extensive, it may be necessary to substantially widen excavations to avoid soil intrusion into the concrete. This may result in the use of additional concrete quantities significantly in excess of preconstruction budget estimates.

Wet soils, and groundwater or perched zones may be encountered within foundation excavations in most areas, and a substantial loss in strength along with a soft or loose subgrade may develop when the confining effect of the overburden is removed. This may require undercutting and the use of a crushed stone working mat or a "mud mat" to achieve a stable bearing grade. Substantial sloughing and caving may also occur, and dewatering may be required.

All perimeter footings and all footings in unheated areas must be placed at a depth of at least 4 feet (or deeper if required by local code or in accordance with customary practice) below the finished grade for frost protection. Due to periodic severity of winters in this area, it is recommended that footings in poorly heated or unheated areas of the building also be placed at least 4 feet below the adjacent exterior grade. Interior footings not subject to frost action may be placed at a shallow depth of at least 18 inches below the floor slab, provided they bear on suitable natural soils or engineered fills. All footings must be protected from the effects of frost if construction is carried out during winter months.

It is recommended that the footings supporting individual columns have a minimum dimension of 24 inches, and continuous footings have a minimum width of 18 inches, even if the maximum

recommended allowable bearing pressure is not fully utilized. In order to minimize the effects of any slight differential movement that may occur due to variations in the character of the supporting soils and any variations in seasonal moisture contents, it is recommended that all foundations be suitably reinforced to make them as rigid as needed.

In general, the performance of the foundation system on this site is dependent on the various factors discussed herein. The excavation, preparation, and concreting of foundations should be monitored and tested by a representative of the soils engineer.

Preliminary Floor Slab and Pavement Subgrades

Prior to constructing the floor slabs or pavements, and prior to the placement of any fill used to raise grades, the exposed subgrade must be prepared utilizing the proofrolling procedures described previously. In areas that exhibit soft, yielding or unstable soil conditions, the following remedial measures are recommended to provide a stable subgrade. It is recommended that the and proofrolling operations be monitored by a representative of the geotechnical engineer to ensure that a firm, suitable subgrade is present prior to placement of new fills, or to construction of floor slabs and pavements.

Localized wet, soft or unstable areas can be undercut to such depths determined necessary in the field to reach stable material, and the area backfilled with imported crushed stone, such as the 1¼-inch gradation specified in Section 305 of the WisDOT Standard Specifications, placed and compacted as recommended in the Site Preparation section of this report. If relatively thick zones or areas of extensive yielding are observed, and they cannot be stabilized by normal discing, aeration and recompaction procedures, undercutting and replacement with crushed stone and geotextile fabric (if needed) may also be required in these areas.

The floor slab(s) may be designed utilizing an estimated modulus of subgrade reaction of 125 pci based on the presence of suitable and stable soils, prepared as discussed in this report. However, this is based on common range values obtained from 1 ft. x 1 ft. plate load tests on specific soil types. Depending on how the slab load is applied, the value may need to be modified for larger areas using the following:

Modulus of Subgrade Reaction	$k_s = \left(\frac{k}{B} \right)$ for cohesive soil
	$k_s = k \left(\frac{B+1}{2B} \right)^2$ for cohesionless soil

where: k_s = coefficient of vertical subgrade reaction for loaded area
 k = coefficient of vertical subgrade reaction for a 1x1 foot square area
 B = width of area loaded, in feet

The final design and detailing should be performed by a qualified structural engineer based on the intended slab use, loading conditions and anticipated subgrade conditions.

A granular mat, which can be designed as a drainage layer, should be provided below the floor slab. This must be a minimum of six (6) inches in thickness and properly compacted. In moisture sensitive areas, a vapor retarder may be placed beneath the floor slab or base course, however, it is recommended that the architect be consulted in this regard. The proper use of a vapor retarder may not completely prevent moisture beneath or on top of slabs. If the base course contains sharp particles, a cushion layer of sand approximately 2 inches in thickness may be required to provide protection from puncture.

The floor slabs should be suitably reinforced to make them as rigid as necessary and proper joints provided at the junction of slabs and the foundation system so that a small amount of independent movement can occur without causing damage. Large floor areas must be provided with joints at frequent intervals (maximum spacing of 30 times the slab thickness, per ACI) to compensate for concrete volume changes (shrinkage). Where the slab will be supporting live loads, such as from moving vehicles, joints must be keyed or dowelled to permit proper load transfer. It is recommended that appropriate construction methods and curing procedures be used to minimize shrinkage and curling of the floor slabs.

Below Grade Walls

It is recommended that basement slabs be placed at least 2 feet above the groundwater. However, groundwater was encountered during auger advancement in all borings except B-22 at depths of about 1 to 18.5 feet below existing grade (EL. 794 to EL. 778.5), with relatively shallow depths of about 1 to 6 feet (EL. 807.5 to EL. 787.5) being more typical. As such, substantial difficulty with groundwater, and with excavation subgrade and sidewall stability will likely be experienced, especially where excavations encroach upon or extend below the groundwater. An adequate dewatering effort will be necessary. Additionally, the over-excavation of unstable zones along the use of a crushed stone working mat will likely be required and may become extensive.

It is recommended that further evaluation of groundwater levels across the site using backhoe test pits (and possibly monitoring wells) be performed as part of design planning to assist in establishing appropriate basement floor and associated surface elevations. Significant filling to raise finished exterior grades may be necessary in order to establish basement slabs at appropriate elevations; and in order to establish sufficient drainage pathways, to allow for similar entrance elevations, to meet utility slope requirements, and to achieve aesthetic requirements. Detailed and careful design and construction planning will be required. Dependent upon the results of further groundwater evaluation, and if proper grading/filling cannot be accomplished, it may be necessary to eliminate basements.

It is recommended that an underdrain system and drainage course be placed beneath the floor slab and that a drain tile system be placed alongside the basement foundation (if conventional construction is used) to alleviate excessive lateral pressure on the walls. The drainage system should be connected to adequate sumps for drainage and be properly discharged in accordance with all state and local discharge requirements. Drain tile should have a minimum

diameter of four (4) inches and should be wrapped with an appropriate filter fabric. Drainage pipes should be surrounded by clean gravel and extend up to the near ground surface in window well areas. At least six (6) inches of clean $\frac{3}{4}$ inch stone should be utilized for the free draining layer beneath the floor areas.

The below grade walls must be backfilled for a lateral distance of 3 to 4 feet with a well-graded, free draining granular material. This should be placed in lifts not exceeding 12 inches in thickness and be compacted to at least 95 percent of the Standard Proctor density. Based upon the use of a clean, crushed stone fill, and a drained condition, an equivalent fluid pressure of 65 psf may be used as the horizontal component of earth pressure at rest. However, when a proposed fill material has been selected, a representative sample must be submitted to PSI for testing to verify the above values and associated recommendations. Silt and clay soils, organic soils, and wet granular materials are not suitable for use as backfill alongside basement walls. It must be recognized that the above value is based upon a drained condition and is exclusive of traffic and other surcharge loads near the walls, which must be factored into the design.

Exterior/Unheated Area Slabs

Based on the borings, entry slabs, sidewalks, aprons, and other slabs in exterior or unheated areas may bear upon silty or clayey soils in at least some areas. Such materials are highly frost susceptible and poorly drained. Slabs placed directly upon such soils are subject to heaving and subsequent settlement due to freeze/thaw cycles. This can result in cracking, misalignment, and other related effects (especially at joints). It is recommended that consideration be given to limited undercutting of the frost susceptible materials to a depth of 1 to 2 feet below the slab, and replacement with well graded, properly placed and compacted granular soils. A properly designed underdrain system connected to the municipal sewer (if permissible) or directed to on-site stormwater management areas should also be incorporated to reduce the potential effects of freeze/thaw cycles.

Utility Construction

The on-site soils can generally be used for support of utility lines. However, some undercutting of soft, wet, or otherwise unsuitable soils, in conjunction with the placement of crushed stone or other suitable granular backfill may be necessary. Some difficulty with the stability of utility trenches may be experienced, especially in the presence of water. The use of sloping, shoring, bracing, or trench boxes will likely be required. Utility construction should be performed in accordance with "The Standard Specifications for Sewer and Water Line Construction" for the State of Wisconsin.

It is recommended that well graded granular soils such as those specified in Tables 37 and 39 of the Standard Specification for Sewer and Water Construction be utilized as backfill in utility trenches to reduce the potential for consolidation and settlement of the backfill. All fill soils must be properly placed and compacted under engineering-controlled conditions to provide suitable support for overlaying structures and roadways. Silty and clayey soils, organic soils, and wet

materials are not recommended for use as backfill within utility trenches due to the substantial difficulty of obtaining proper compaction in confined areas. Substantial importing of suitable fill will likely be required.

As with all excavation work, all open cut trenches must be properly shored and braced as required by applicable federal and state OSHA codes, and as necessary to protect life and property.

CONSTRUCTION CONSIDERATIONS

Groundwater Control

Groundwater observations were made during the drilling operations, and in the open boreholes upon completion of drilling and removal of the augers. Groundwater was encountered during auger advancement in all borings except B-22 at depths of 1 to 18.5 feet below existing grade (EL. 794 to EL. 778.5). Upon completion and removal of the augers, groundwater was present at borings B-2 through B-9, B-13, B-15 through B-19, and B-21, at depths of about 1.5 to 12 feet below existing grade (EL. 793.5 to EL. 793).

On the basis of the observations, substantial difficulty with groundwater may be experienced during excavation work on this site. For low volume perched zones, a filtered sump pump or other conventional means may suffice to control the groundwater. However, for excavations encroaching upon or extending below the groundwater, or for larger volume perched zones, more severe difficulty is likely to be experienced and prolonged dewatering with a series of sumps and high-capacity pumps (with sufficient lifting capacity), or other more comprehensive means may be necessary to facilitate construction. Due and proper care must be used during dewatering in order to avoid rapid or excessive drawdown, which may cause settlement or other related distress to existing buildings, utilities, or other structures.

Since portions of the anticipated subgrade soils are subject to softening when exposed to free moisture, every effort should be made to keep excavations dry. Site grading should be performed to direct runoff away from the construction area, so that the potential for the softening of the subgrade soils is reduced.

It must be recognized that groundwater levels fluctuate with time due to variations in seasonal precipitation, lateral drainage conditions, and soil permeability characteristics. Additional evaluation of groundwater levels is recommended.

Excavations and Site Drainage

Sloping, shoring or bracing of the excavation sidewalls will be necessary to facilitate construction and to protect life and property. Sloughing and caving should be expected within unprotected excavations. The degree of excavation instability problems is dependent upon the

depth and length of time that excavations remain open, excavation bank slopes, water levels and the effectiveness of any dewatering systems. However, severe instability may occur within granular or soft clay soils. All excavation work must be performed in accordance with OSHA and local building code requirements.

Where excavations encroach upon or extend below the groundwater or perched zones and into sand, silt, or soft clay, a substantially unstable subgrade may develop when the confining effect of the overburden is removed. Significant sloughing or caving of sidewalls may also occur. Some over-excavation of softened or loosened soils, in conjunction with the use of a crushed stone working mat, may be necessary to establish a stable bearing subgrade. Additionally, significantly widened excavations may result, or be required to maintain or achieve sidewall stability. Extreme difficulty with excavations and in achieving a stable subgrade may be experienced on this site, especially when encroaching upon or extending below the groundwater.

It is mandated that excavations, whether they be for utility trenches, or footing excavations, be constructed in accordance with current Occupational Safety and Health Administration (OSHA) guidelines to protect workers and others during construction. PSI recommends that these regulations be strictly enforced; otherwise, workers could be in danger and the owner(s) and the contractor(s) could be liable for substantial penalties. The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. PSI is providing this information solely as a service to our client. PSI does not assume responsibility for construction site safety or the contractor's or other parties' compliance with local, state, and federal safety or other regulations.

Since the subgrade soils are generally sensitive to moisture, every effort should be made to provide adequate drainage across the site during construction, and to prevent ponding of runoff on the subgrade. These soils are also subject to erosion caused by runoff, and erosion control measures should be implemented where needed or required by local ordinances.

Seismic Design Considerations

The soils encountered in the borings are estimated to meet the criteria for Site Class D in accordance with 1613.2.5.2 of the International Building Code-2018 (which directs to the simplified design procedure outlined in ASCE 7 – Minimum Design Loads and Associated Criteria for Buildings and Other Structures).

PAVEMENT DESIGN RECOMMENDATIONS

Pavements for this project are understood to consist of residential roads, which are estimated to be primarily subjected to light passenger vehicle traffic, and occasional delivery trucks, garbage trucks, and school buses.

The near surface pavement subgrade soils encountered at the borings predominately consisted of sandy silt soils with an estimated visual classification of A-4 by the AASHTO soil classification method. These soils are generally rated as poor for pavement subgrade support, based on their moderate shrink/swell potential and frost susceptibility; and fair to poor drainage characteristics. Provided that the subgrade soils are prepared as outlined in the Site Preparation section of this report, the in-place subgrade soils and any new structural fill can be used for standard flexible or rigid pavement construction.

Evaluation of the visual soil classification has been made in estimating pertinent subgrade design coefficients as described in the Wisconsin Soils Manual for Pavement Design. Based on the soils encountered, and with proper subgrade preparation and drainage, the following pavement subgrade design parameters are recommended for the pavement section design. However, if soils with support characteristics different from the lean clay materials are encountered or are used to raise grades in new pavement areas, revised coefficients will need to be provided.

PAVEMENT SUBGRADE DESIGN COEFFICIENTS

AASHTO Soil Classification	A-4
Design Frost Index	F-3 to F-4
Design Group Index	12
Soil Support Value	3.8
Estimated Subgrade Modulus (k)	150 pci

The subject site is located in an area that experiences annual freezing cycles. The granular subgrade soils encountered at the borings are not generally considered to be highly susceptible to frost action. However, near surface layers of finer grained soils may be encountered. In addition, it is generally good customary practice to control surface runoff in order to reduce the potential for frost action. It is recommended that underdrains be placed within the subgrade, just below the granular base, to help reduce the potential for trapping water within the aggregate base layer. Sufficient drain tiles extending radially outward an adequate distance from each interior catch basin must be installed. In addition, drain tiles should extend along curb lines, up the slope from curb inlets. The drain tile should be directly connected to the storm sewer manholes or catch basins (if permissible by local municipal or other applicable code). The drain tile should consist of perforated PVC pipe of adequate diameter placed beneath the base layer, extending a sufficient distance into the subgrade. The pipe should be surrounded by appropriately sized clean stone, with the pipe and stone being wrapped with a geotextile filter fabric to reduce the potential for soils to migrating into and obstruct the pipe. It is also

recommended that roof drains be connected to the stormwater collection system to minimize the potential for this water to enter the base and subgrade.

STORMWATER MANAGEMENT AREA CONSIDERATIONS

Borings B-7, B-8, B-10 to B-12, B-18, B-19, and B-22 were completed within the areas of proposed stormwater management basins. The subgrade soils encountered in the borings have been visually classified in general accordance with the USDA textural soil classification system. They consisted of silt loam, gravelly fine sandy loam, gravelly fine sand, sandy loam, silty clay loam, very gravelly fine sand, gravelly sand, gravelly loam, loamy sand, clay loam, loamy fine sand, and fine sand. Groundwater was encountered during auger advancement at all stormwater borings except B-22, at depths of about 3 to 13 feet (EL. 803.5 to 782.5) below existing grade. Upon completion and removal of the augers, groundwater was present at borings B-7, B-8, B-18, B-19 at depths of about 2 to 4 feet (EL. 788.5 to EL. 789.5) below existing grade.

With regard to the above soil and groundwater conditions encountered at the borings, NR 151.124(4)(c)1 and 2 – *Infiltration rate exemptions* indicates that infiltration practices located in an area where the infiltration rate of the soil measured at the proposed bottom of the infiltration system is less than 0.6 inches per hour using a scientifically credible field test method; or an area where the least permeable soil horizon to 5 feet below the proposed bottom of the infiltration system using the USDA method of soils analysis consists of sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay or clay may be credited toward meeting the requirements, but the decision to infiltrate under these conditions is optional. In addition, NR 151.124(4)(b)1 – *Separation distances* indicates that infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with the following Table (reproduced from NR 151.124):

Table 3. Separation Distances and Soil Characteristics		
Source Area	Separation Distance	Soil Characteristics
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering Layer*
Residential Arterial Roads	5 feet or more	Filtering Layer*
Roofs Draining to Surface Infiltration Practices	1 foot or more	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	
All Other Impervious Source Areas	3 feet or more	Filtering Layer*

*Defined in NR 151.002(14r) as a "soil that has at least a 3-foot deep layer with at least 20 percent fines; or at least a 5-foot deep layer with at least 10 percent fines; or an engineered soil with an equivalent level of protection as determined by the regulatory authority for the site."

The information shown above is a selected excerpt from NR151 that is intended only as general guidance for considering stormwater management in conjunction with the encountered subsurface conditions at the borings. Basin design must be performed by a qualified and experienced firm. In addition, the entirety of Chapter NR151 of the Wisconsin Administrative Code, the Site Evaluation for Stormwater Infiltration (1002) document, and other applicable references; along with appropriate state, local or other municipal requirements must be consulted as part of site-specific stormwater design.

It is recommended that stormwater management basins not be placed in close proximity to basements or other below grade structures. Proper and careful consideration of soils and subsurface conditions must be given during site and design planning, and extreme care must be exercised during construction. Lateral migration of water may result in substantially increased sump pump activity and can quickly overcome the ability of such pumps to maintain a desirable water level, resulting in significant flooding. The potential for such conditions to occur can greatly increase when below grade floor elevations encroach upon or are below the elevation of basin bottoms and/or when basins are placed in close proximity to structures (strongly not recommended). In addition, the presence of granular or other generally permeable soils, which is typically necessary in the areas of structures for utility backfill, alongside basement walls, or within other development excavations/trenches can act as extensive migration channels to rapidly carry large volumes of water from basins and into nearby below grade structures. Building codes or municipal regulations may require that floor elevations of below grade structures be a specified distance above the water level of nearby basins or other stormwater features. It is therefore recommended that the design engineer (or other appropriate representative) review applicable municipal or other regulatory requirements and verify the design normal and design high water elevations of stormwater basins/features with respect to planned or existing below grade slab elevations.

GENERAL COMMENTS

This geotechnical exploration and evaluation has been prepared to aid in the evaluation of the subsurface conditions on this site. The recommendations presented herein are based on the available soil information and the preliminary project information provided. Any changes in the planned project activities should be brought to the attention of the soil engineer to determine if modifications in the recommendations are required. The final design plans and specifications should also be reviewed by the soil engineer to determine that the recommendations presented herein have been interpreted and implemented as intended.

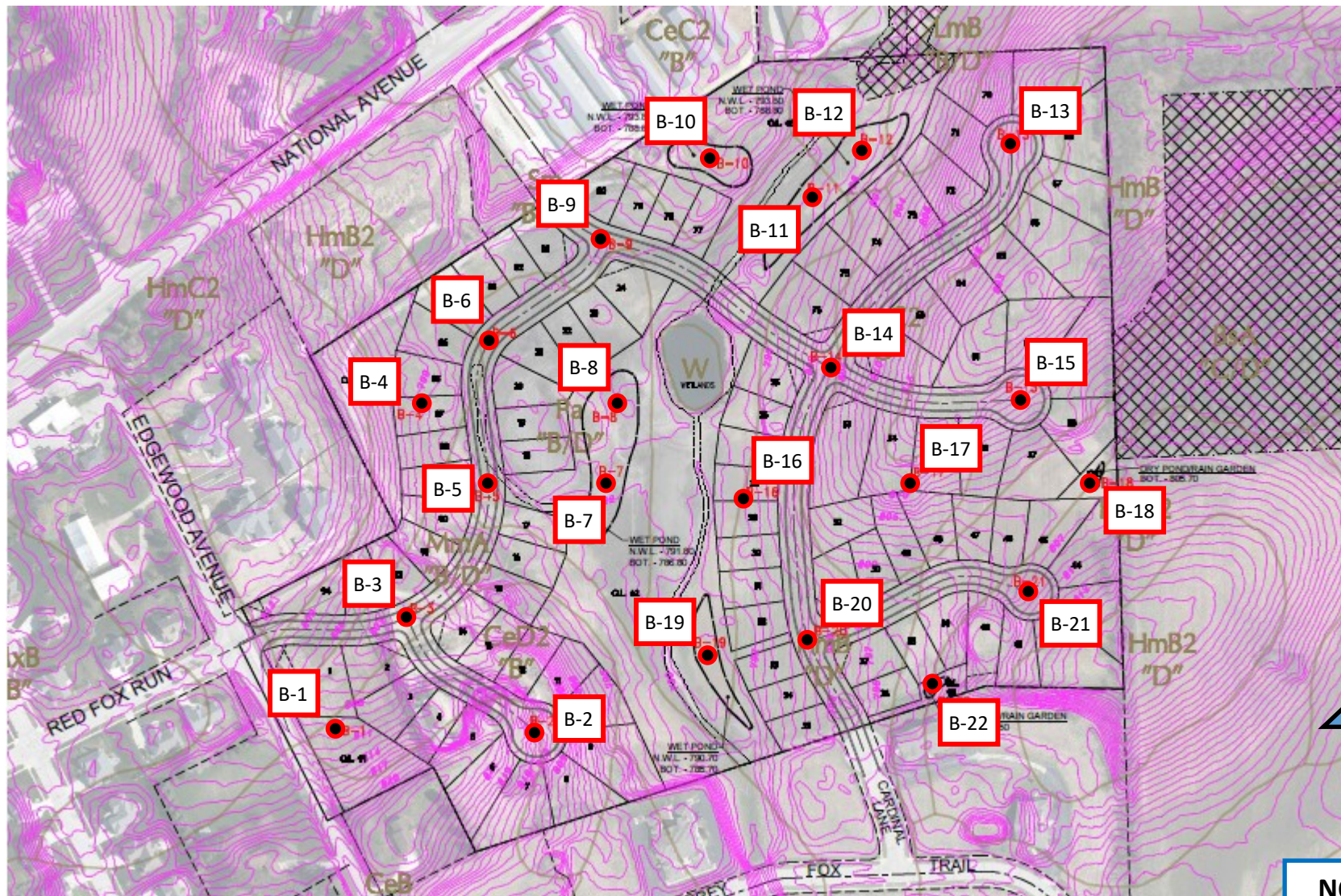
This geotechnical study has been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The findings, recommendations and opinions contained herein have been promulgated in accordance with generally accepted practice in the fields of foundation

engineering, soils mechanics, and engineering geology. No other representations, expressed or implied, and no warranty or guarantee is included or intended in this report.

It is recommended that the earthwork and foundation operations be monitored by the soil engineer, to test and evaluate the subgrade stability, bearing capacities, and the selection, placement and compaction of controlled fills. WisDOT Standard Specifications for Highway and Structure Construction can also serve as a guide in implementing the subgrade preparation and other earthwork operations.

Appendix

Figure 1 – Boring Location Plan
Soil Boring Logs
General Notes
Soil Evaluation – Storm Form
USDA Classification Chart



DATE STARTED: 2/29/24 DATE COMPLETED: 2/29/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 809.5 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: ASV D-50 ATV - Rig #420 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-1 Water ▽ While Drilling 3.5 feet ▼ Upon Completion Not Obsvd ▽ Delay N/A BORING LOCATION: 	
---	--	---	--	---	--

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
0						Topsoil, Dark Brown Sandy Silt With Gravel, Moist (10"± Thick)	TPSL				
				1	6	Brown Sandy Clay With Gravel, Very Moist	CL	5-4-7 N=11			Q _r = 0.3 tsf
				2	8	Brown Silty Medium to Fine Sand and Gravel, Wet	SM	7-7-8 N=15			
805	5			3	18	Brown Sandy Clay With Gravel, Wet	CL	3-4-3 N=7			
800	10			4	18		CL	6-10-16 N=26			Q _r = 0.1 tsf
				5	14	Orangish-Brown to Gray Silty Medium to Coarse Sand and Gravel, Wet	SM	15-37-37 N=74			
795	15			6	16		SM	13-35-34 N=69			
790	20					End of Boring at 20'					

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 2/29/24 DATE COMPLETED: 2/29/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 813 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: ASV D-50 ATV - Rig #420 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-2	
		Water ▽ While Drilling 13.5 feet ▼ Upon Completion 8.5 feet ▽ Delay N/A		BORING LOCATION: 	

Elevation (feet)	Depth (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @				Additional Remarks
									× Moisture ■ PL ● LL ▲ Qu * Qp				
0		[Graphic Log: Topsoil]			Topsoil, Dark Brown Sandy Silt With Gravel, Moist (8"± Thick)	TPSL		14					
		[Graphic Log: Sand & Gravel]	1	10	Brown Medium to Fine Sand and Gravel With Clay Lenses, Moist		16-15-9 N=24	9	×	○			
810		[Graphic Log: Sand & Gravel]	2	12		SP	10-13-13 N=26	3	×	○			
5		[Graphic Log: Sand & Gravel]	3	10			10-15-14 N=29	8	×	○			
805		[Graphic Log: Sand & Gravel]	4	12	▼ Brown Sandy Silt With Gravel, Moist to Wet		15-21-39 N=60	8	×			>>○	
10		[Graphic Log: Sand & Gravel]	5	16		ML	11-21-23 N=44	9	×			○	
800		[Graphic Log: Sand & Gravel]	6	18	Brown Silty Medium to Coarse Sand and Gravel, Wet	SM	8-13-33 N=46	9	×			○	
795		[Graphic Log: Sand & Gravel]			End of Boring at 20'								
20		[Graphic Log: Sand & Gravel]			Cave-In at 11'								

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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 2/29/24 DATE COMPLETED: 2/29/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 805 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: ASV D-50 ATV - Rig #420 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-3 Water ▽ While Drilling 6 feet ▼ Upon Completion 12 feet ▽ Delay N/A BORING LOCATION: 	
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
800	0	Topsoil, Dark Brown Sandy Silt With Gravel, Moist (9"± Thick)				TPSL				
		Brown Sandy Silt With Gravel, Moist to Wet	1	12			7-8-10 N=18			
	5		2	14			4-6-6 N=12			
			3	16		ML	4-4-4 N=8			
	10		4	5			4-9-9 N=18			
					Gray Silt With Sand and Gravel, Moist					
	15		5	14		ML	4-5-9 N=14			
					Gray Sandy Clay With Gravel, Wet					
	20		6	6		CL	7-11-12 N=23			
					End of Boring at 20'					
					Cave-In at 13'					

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DATE STARTED: 2/28/24 DATE COMPLETED: 2/28/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 799 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: ASV D-50 ATV - Rig #420 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-4 Water ▽ While Drilling 3.5 feet ▼ Upon Completion 3 feet ▽ Delay N/A BORING LOCATION:	
---	--	---	--	--	--

Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
									× Moisture ■ PL ● LL ▲ Qu ✱ Qp	
0		[Topsoil Pattern]			Topsoil, Dark Brown Sandy Silt With Gravel, Moist (10"± Thick)	TPSL	22			
		[Silt Pattern]	1	8	Dark Brown to Brown Sandy Silt With Gravel, Moist		4-2-3 N=5			
795	5	[Clay Pattern]	2	14		ML	8-8-7 N=15			
		[Clay Pattern]	3				8-8-8 N=16			
790	10	[Clay Pattern]	4	16	Grayish-Brown Lean Clay With Sand and Gravel, Wet		3-4-5 N=9			Q _r = 0.6 tsf
785	15	[Clay Pattern]	5	14		CL	10-10-15 N=25			Q _r = 3.1 tsf
780	20	[Clay Pattern]	6	16			7-9-11 N=20			Q _r = 0.2 tsf
					End of Boring at 20'					
					Cave-In at 7'					

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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 2/29/24 DATE COMPLETED: 2/29/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 794.5 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: ASV D-50 ATV - Rig #420 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-5 Water ▽ While Drilling 1 feet ▼ Upon Completion 2 feet ▽ Delay N/A BORING LOCATION:	
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
0		[Topsoil Pattern]			Topsoil, Black Sandy Silt With Gravel, Moist (12"± Thick)	TPSL				
		[Brown Sandy Silt Pattern]			Brown Sandy Silt With Gravel, Wet					
		[Sample 1]	1	8			2-6-8 N=14	9	×	
		[Sample 2]	2	10			5-6-8 N=14	8	×	
790	5	[Sample 3]	3	8		ML	7-5-6 N=11	10	×	
		[Sample 4]	4	6			11-9-9 N=18	10	×	
785	10	[Sample 5]	5	14	Gray Silty Medium to Fine Sand and Gravel, Wet		24-37-41 N=78	8	×	>>⊙
		[Sample 6]	6	16		SM	23-35-43 N=78	9	×	>>⊙
780	15									
775	20				End of Boring at 20'					
					Cave-In at 5'					

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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DATE STARTED: 2/28/24 DATE COMPLETED: 2/28/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 794.5 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: ASV D-50 ATV - Rig #420 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-6 Water While Drilling Upon Completion Delay 3.5 feet 3 feet N/A	
BORING LOCATION:					

Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks		
									× Moisture ■ PL ◆ LL 0 25 50 STRENGTH, tsf 0 2.0 4.0 ▲ Qu ✱ Qp			
0		[Topsoil Symbol]			Topsoil, Dark Brown Sandy Silt With Gravel, Very Moist (11"± Thick)	TPSL						
		[Brown Sandy Silt Symbol]	1		Brown Sandy Silt With Gravel, Wet		9-11-9 N=20					
790	5	[Grayish-Brown Silt Symbol]	2	12	Grayish-Brown Silt With Sand, Very Moist	ML	6-9-11 N=20	10				
		[Grayish-Brown Lean Clay Symbol]	3	18	Grayish-Brown Lean Clay, Moist	ML	8-8-10 N=18	14				
785	10	[Gray Sandy Clay Symbol]	4	14	Gray Sandy Clay With Gravel, Wet	CL	4-6-7 N=13	21		Q _r = 2.2 tsf		
780	15	[Gray Lean Clay Symbol]	5	16	Gray Lean Clay With Sand and Gravel, Wet	CL	5-6-5 N=11	24				
775	20	[End of Boring Symbol]	6	14	End of Boring at 20'	CL	6-7-5 N=12	15				
					Cave-In at 5'							



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Waukesha, WI 53189
Telephone: (262) 521-2125

PROJECT NO.: 00523364
PROJECT: Proposed Cardinal Crest Subdivision
LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave
Mukwonago, WI

DATE STARTED: 2/27/24		DRILL COMPANY: PSI, Inc.		BORING B-7											
DATE COMPLETED: 2/27/24		DRILLER: DT LOGGED BY: AW													
COMPLETION DEPTH: 15.0 ft		DRILL RIG: Marooka D-50 ATV - Rig #395		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td rowspan="3" style="width: 30px; text-align: center; vertical-align: middle;">Water</td> <td style="text-align: center;">▽</td> <td>While Drilling</td> <td style="text-align: right;">5 feet</td> </tr> <tr> <td style="text-align: center;">▼</td> <td>Upon Completion</td> <td style="text-align: right;">3 feet</td> </tr> <tr> <td style="text-align: center;">▽</td> <td>Delay</td> <td style="text-align: right;">N/A</td> </tr> </table>		Water	▽	While Drilling	5 feet	▼	Upon Completion	3 feet	▽	Delay	N/A
Water	▽	While Drilling	5 feet												
	▼	Upon Completion	3 feet												
	▽	Delay	N/A												
BENCHMARK: N/A		DRILLING METHOD: Hollow Stem Auger		BORING LOCATION:											
ELEVATION: 792.5 ft		SAMPLING METHOD: 2-in SS													
LATITUDE:		HAMMER TYPE: Automatic													
LONGITUDE:		EFFICIENCY: N/A													
STATION: N/A OFFSET: N/A		REVIEWED BY:													
REMARKS:															

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
										X Moisture PL LL 02550 ▲ Qu * Qp 02.04.0	
	0					Topsoil, Black Silt Loam, Moist (10"± Thick)					
						Gray Silt Loam, Moist					
790				1	12			5-4-3-2 N=7	17		
				2		Pale Brown Gravelly Fine Sandy Loam, Moist to Wet		2-2-4-4 N=6			
5				3	8			3-3-5-12 N=8	15		
785				4	18	Brown Gravelly Fine Sand, Wet		8-13-9-6 N=22	11		
				5	14			4-4-4-10 N=8	19		
				6	20			6-7-9-9 N=16	16		
780				7	24			13-14-17-18 N=31	9		
15						End of Boring at 15'					
						Cave-In at 6'					

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DATE STARTED: 2/27/24		DRILL COMPANY: PSI, Inc.		BORING B-8	
DATE COMPLETED: 2/27/24		DRILLER: DT LOGGED BY: AW			
COMPLETION DEPTH: 15.0 ft		DRILL RIG: Marooka D-50 ATV - Rig #395		Water ▽ While Drilling 5 feet ▼ Upon Completion 4 feet ▽ Delay N/A	
BENCHMARK: N/A		DRILLING METHOD: Hollow Stem Auger			
ELEVATION: 793.5 ft		SAMPLING METHOD: 2-in SS			
LATITUDE:		HAMMER TYPE: Automatic		BORING LOCATION:	
LONGITUDE:		EFFICIENCY: N/A			
STATION: N/A OFFSET: N/A		REVIEWED BY:			
REMARKS:					

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
	0					Topsoil Fill, Black Silt Loam, Moist (11"± Thick)					
				1	6	Possible Fill, Brown Gravelly Sandy Loam Mottled Gray, Moist		4-4-6-7 N=10	12	⊗	
790				2	8	Possible Fill, Brown Gravelly Silty Clay Loam, Moist		4-6-8-7 N=14	9	⊗	
5				3	20	Brown Gravelly Fine Sandy Loam, Wet		8-8-8-7 N=16	15	⊗	
785				4	12	Brown Gravelly Fine Sand, Wet		4-5-12-17 N=17	24	⊗	
10				5	16			4-6-9-12 N=15	17	⊗	
				6	14			7-9-9-13 N=18	17	⊗	
780				7	18			12-14-16-15 N=30	11	⊗	
15						End of Boring at 15'					
						Cave-In at 7'					

	Professional Service Industries, Inc.	PROJECT NO.: 00523364
	821 Corporate Court, Suite 100	PROJECT: Proposed Cardinal Crest Subdivision
	Waukesha, WI 53189	LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave
	Telephone: (262) 521-2125	Mukwonago, WI

DATE STARTED: 2/28/24 DATE COMPLETED: 2/28/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 795 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: ASV D-50 ATV - Rig #420 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-9 Water ▽ While Drilling 1 feet ▼ Upon Completion 1.5 feet ▽ Delay N/A	
BORING LOCATION:					

Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
									× Moisture ■ PL ▲ Qu * Qp	
0					Topsoil, Black Sandy Silt With Gravel, Moist (10"± Thick)	TPSL		29		
			1	10	Brown Silty Medium to Fine Sand and Gravel, Wet	SM	8-11-14 N=25	7	×	⊙
			2	12	Brown Gravel With Medium to Coarse Sand, Trace Silt, Wet		8-17-21 N=38	7	×	⊙
790	5		3	12		GM	9-19-27 N=46	8	×	⊙
			4	14			12-26-27 N=53	8	×	>>⊙
785	10				Brown Medium to Fine Sand With Silt, Wet					
			5	18		SM	7-9-11 N=20	25		⊙
780	15									
			6	14			10-10-11 N=21	20		⊙
775	20				End of Boring at 20'					
					Cave-In at 3'					

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PROJECT NO.: 00523364
PROJECT: Proposed Cardinal Crest Subdivision
LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave
Mukwonago, WI

DATE STARTED: 2/29/24		DRILL COMPANY: PSI, Inc.		BORING B-10	
DATE COMPLETED: 2/29/24		DRILLER: DT LOGGED BY: AW			
COMPLETION DEPTH: 15.0 ft		DRILL RIG: ASV D-50 ATV - Rig #420		Water ☐ While Drilling 7 feet ☒ Upon Completion Not Obsvd ☐ Delay N/A	
BENCHMARK: N/A		DRILLING METHOD: Hollow Stem Auger			
ELEVATION: 801.5 ft		SAMPLING METHOD: 2-in SS			
LATITUDE:		HAMMER TYPE: Automatic		BORING LOCATION:	
LONGITUDE:		EFFICIENCY: N/A			
STATION: N/A OFFSET: N/A		REVIEWED BY:			
REMARKS:					

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @				Additional Remarks
										X Moisture PL LL STRENGTH, tsf ▲ Qu * Qp				
800	0					Topsoil, Black Silt Loam, Moist (9"± Thick)								
						Pale Brown Very Gravelly Fine Sand, Moist								
				1	14			8-8-10-13 N=18	3	X				
				2	16			10-12-12-15 N=24	3	X				
	5					Brown Gravelly Sand, Moist to Wet								
795				3	16			12-13-12-16 N=25	3	X				
				4	14			5-10-11-12 N=21	9	X				
	10			5	10			10-17-12-8 N=29	13		X			
790				6	16			6-12-16-14 N=28	14		X			
				7	16			6-12-21-15 N=33	12		X			
	15					End of Boring at 15'								
						Cave-In at 6'								

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125		PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI

DATE STARTED: 3/1/24		DRILL COMPANY: PSI, Inc.		BORING B-11	
DATE COMPLETED: 3/1/24		DRILLER: DT LOGGED BY: AW			
COMPLETION DEPTH: 15.0 ft		DRILL RIG: Marooka D-50 ATV - Rig #395		Water ▽ While Drilling 13 feet ▼ Upon Completion Not Obsvd ▽ Delay N/A	
BENCHMARK: N/A		DRILLING METHOD: Hollow Stem Auger			
ELEVATION: 795.5 ft		SAMPLING METHOD: 2-in SS			
LATITUDE:		HAMMER TYPE: Automatic		BORING LOCATION:	
LONGITUDE:		EFFICIENCY: N/A			
STATION: N/A OFFSET: N/A		REVIEWED BY:			
REMARKS:					

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
										X Moisture PL LL 02550 ▲ Qu * Qp 02040	
795	0					Topsoil, Black Silt Loam, Moist (10"± Thick)					
				1	5	Black and Brown Gravelly Loam, Moist		3-3-4-6 N=7	14		
				2	6	Light Brownish-Gray Gravelly Loam Mottled Dark Yellowish-Brown, Moist		7-8-9-12 N=17	7		
790	5			3	12			6-12-8-8 N=20	8		
				4	6	Grayish-Brown Silt Loam Mottled Gray, Moist		4-6-8-6 N=14	14		
				5	12	Gray Gravelly Loamy Sand, Wet		2-3-3-5 N=6	8		
785	10			6	6	Gray Silt Loam, Wet		69/8"	7		>>⊙
				7	3			50/5"	11		>>⊙
	15					End of Boring at 15'					
						Cave-In at 10'					

	Professional Service Industries, Inc.	PROJECT NO.: 00523364
	821 Corporate Court, Suite 100	PROJECT: Proposed Cardinal Crest Subdivision
	Waukesha, WI 53189	LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave
	Telephone: (262) 521-2125	Mukwonago, WI

DATE STARTED: 3/1/24 DATE COMPLETED: 3/1/24 COMPLETION DEPTH: 15.0 ft BENCHMARK: N/A ELEVATION: 797 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-12 Water ☐ While Drilling ☒ Upon Completion ☐ Delay 3 feet Not Obsvd N/A BORING LOCATION:	
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @			Additional Remarks
									0 25 50 0 2.0 4.0			
									0 2.0 4.0			
0					Topsoil, Dark Brown Silt Loam, Moist (10"± Thick)			22				
					Gray Clay Loam, Moist							
795			1	10	Brown Sandy Loam, Moist to Wet		2-2-12-14 N=14	21				
			2	14			6-10-7-14 N=17	9				
5			3	20	Pale Brown Gravelly Loam, Wet		4-3-4-5 N=7	9				
790			4	18			3-3-4-5 N=7	10				
10			5	5			3-4-5-4 N=9	13				
			6	10	Gray Gravelly Loam, Wet		6-15-30-37 N=45	9				
785			7	3			50/4"	4				
15					End of Boring at 15'							
					Cave-In at 9'							

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 3/1/24 DATE COMPLETED: 3/1/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 820 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-13 Water ▽ While Drilling ▼ Upon Completion ▽ Delay 13.5 feet 7 feet N/A BORING LOCATION:	
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @				Additional Remarks
										X Moisture ▲ Qu □ PL + LL				
										0 25 50 STRENGTH, tsf 0 2.0 4.0				
0						Topsoil, Dark Brown Sandy Silt With Gravel, Moist (11"± Thick)	TPSL		19					
				1	8	Brown Lean Clay With Sand and Gravel, Moist	CL	3-6-10 N=16	19		⊗		*	Q _r = 2.1 tsf
				2	6	Light Brown Silty Medium to Coarse Sand and Gravel, Moist		67/11"	6		×		>>⊕	
815	5			3	12			6-11-16 N=27	9		×	⊗		
				4	12			9-15-19 N=34	8		×	⊗		
810	10						SM							
				5	8			15-17-34 N=51	11		×		>>⊕	
805	15													
				6	1			50/2"					>>⊕	
800	20					End of Boring at 20'								

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 3/1/24 DATE COMPLETED: 3/1/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 803 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-14 Water ☐ While Drilling ☒ Upon Completion ☐ Delay 6 feet Not Obsvd N/A BORING LOCATION:	
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
0					Topsoil, Dark Brown Sandy Silt With Gravel, Moist (11"± Thick)	TPSL				
			1	10	Brown Sandy Silt With Gravel, Moist to Wet		4-4-4 N=8	19	⊗	
800			2	14			2-2-4 N=6	13	⊗	
5			3	10			4-11-14 N=25	9	⊗	
795			4	12		ML	8-33-17 N=50	9	⊗	
10			5	10			90/10"	12	⊗	>>⊗
790			6	3			50/5"	8	⊗	>>⊗
785					End of Boring at 20'					
20					Cave-In at 10'					

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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DATE STARTED: 3/1/24 DATE COMPLETED: 3/1/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 815 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-15 Water ▽ While Drilling 18.5 feet ▼ Upon Completion 10 feet ▽ Delay N/A BORING LOCATION: 	
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
									× Moisture ▣ PL ▣ LL 0 25 50	
									▲ Qu * Qp 0 2.0 4.0	
815	0	[Topsoil, Black Sandy Silt With Gravel, Moist (12"± Thick)]			Topsoil, Black Sandy Silt With Gravel, Moist (12"± Thick)	TPSL		19	×	
		[Brown Sandy Clay With Gravel, Moist]	1	12	Brown Sandy Clay With Gravel, Moist	CL	2-3-6 N=9	10	⊗	Q _r = 0.4 tsf
		[Brown Sandy Silt With Gravel, Very Moist]	2	12	Brown Sandy Silt With Gravel, Very Moist	ML	4-3-6 N=9	9	⊗	
		[Brown Sandy Clay With Gravel, Very Moist]	3		Brown Sandy Clay With Gravel, Very Moist	CL	4-4-8 N=12	10	⊗	Q _r = 0.4 tsf
		[Brown Sandy Clay With Gravel, Very Moist]	4	6			3-3-6 N=9		⊗	
800	15	[Brown Silty Sand and Gravel, Moist]	5	4	Brown Silty Sand and Gravel, Moist	SM	7-17-32 N=49	9	×	
		[Brown Silty Sand and Gravel, Moist]	6	5			50/6"	7	×	>>⊗
795	20	End of Boring at 20'								

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 3/2/24 DATE COMPLETED: 3/2/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 794 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:	DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:	BORING B-16 <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%; text-align: center;">Water</td> <td style="width:15%;"> While Drilling Upon Completion Delay </td> <td style="width:15%; text-align: right;"> 1 feet 3 feet N/A </td> </tr> </table> BORING LOCATION:	Water	While Drilling Upon Completion Delay	1 feet 3 feet N/A
Water	While Drilling Upon Completion Delay	1 feet 3 feet N/A			

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
										X Moisture PL LL 02550 STRENGTH, tsf ▲ Qu * Qp 0204.0	
0	0					Topsoil, Black Sandy Silt With Gravel, Moist (12"± Thick)	TPSL		21		
				1	8	Brown Sandy Clay With Gravel, Moist	CL	3-6-6 N=12	18		
						Brown Gravel With Medium to Fine Sand, Wet					
790	5			2	12		GM	13-17-33 N=50	9		
						Brown Clayey Sand and Gravel					
				3	12			5-2-1 N=3	10		
785	10			4	8		SC	3-3-10 N=13	11		
						Brown Gravel With Sand and Silt, Wet					
780	15			5	14		GM	20-34-34 N=68	9		
775	20			6	8			7-14-32 N=46	8		
						End of Boring at 20'					

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 3/1/24 DATE COMPLETED: 3/1/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 811 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-17	
		Water ▽ While Drilling 3.5 feet ▼ Upon Completion 11 feet ▽ Delay N/A		BORING LOCATION:	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @				Additional Remarks
									× Moisture ■ PL ▲ Qu * Qp				
810	0	Topsoil, Dark Brown Sandy Silt With Gravel, Moist (10"± Thick)				TPSL		17	X				
		Brown Silty Medium to Fine Sand and Gravel, Wet	1	0		SM	3-4-8 N=12		⊙				
805	5	Brown Sandy Silt With Gravel, Very Moist	2	8			16-11-6 N=17	10	X ⊙				
			3	16			3-6-10 N=16	9	X ⊙				
800	10		4	14		ML	13-17-23 N=40	5	X ⊙				
795	15		5	12			9-25-40 N=65	8	X >> ⊙				
	20		6	5			50/6"	8	X >> ⊙				
					End of Boring at 20'								
					Cave-In at 12'								

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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DATE STARTED: 3/1/24 DATE COMPLETED: 3/1/24 COMPLETION DEPTH: 15.0 ft BENCHMARK: N/A ELEVATION: 806.5 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-18 Water While Drilling Upon Completion Delay 3 feet 4 feet N/A BORING LOCATION:	
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
805	0				Topsoil, Black Silt Loam, Moist (12"± Thick)					
			1	8	Dark Brown Gravelly Loam, Moist		13-9-5-5 N=14			
			2	8	Brown Loamy Fine Sand, Wet		3-5-5-6 N=10			
800	5		3	16	Light Yellowish-Brown Gravelly Loam Mottled Gray, Wet		4-5-4-4 N=9			
			4	12			3-47-6-6 N=53			
	10		5	6			4-2-3-4 N=5			
795			6	10			92/10"			
			7	8	Gray Gravelly Loam, Wet		50/6"			
	15				End of Boring at 15'					
					Cave-In at 9'					

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 3/2/24 DATE COMPLETED: 3/2/24 COMPLETION DEPTH: 15.0 ft BENCHMARK: N/A ELEVATION: 790.5 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-19 Water While Drilling Upon Completion Delay 3 feet 2 feet N/A	
BORING LOCATION:					

Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
790	0				Topsoil, Black Silt Loam, Moist (11"± Thick)					
			1	6	Brown Gravelly Loam Mottled Gray, Moist to Wet		5-5-3-4 N=8	12	X Moisture ▲ Qu ■ PL + LL	
			2	14	Gray Gravelly Fine Sandy Loam, Wet		19-21-9-5 N=30	9		
785	5		3	10	Gray Gravelly Fine Sand, Wet		5-4-3-4 N=7	8		
			4	14			3-7-9-11 N=16	10		
780	10		5	12			10-19-12-12 N=31	20		
			6	14			14-12-14-25 N=26	9		
			7	6			50/6"	9		
15	15				End of Boring at 15'					
					Cave-In at 3'					

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 3/2/24 DATE COMPLETED: 3/2/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 797 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:	DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:	BORING B-20 <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="3" style="width:5%; text-align: center; font-weight: bold;">Water</td> <td style="width:10%; text-align: center;">▽</td> <td style="width:65%;">While Drilling</td> <td style="width:20%; text-align: right;">18.5 feet</td> </tr> <tr> <td style="text-align: center;">▼</td> <td>Upon Completion</td> <td style="text-align: right;">Not Obsvd</td> </tr> <tr> <td style="text-align: center;">▽</td> <td>Delay</td> <td style="text-align: right;">N/A</td> </tr> </table> BORING LOCATION:	Water	▽	While Drilling	18.5 feet	▼	Upon Completion	Not Obsvd	▽	Delay	N/A
Water	▽	While Drilling		18.5 feet								
	▼	Upon Completion		Not Obsvd								
	▽	Delay	N/A									

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @				Additional Remarks
										× Moisture ■ PL + LL ▲ Qu ✱ Qp				
0						Topsoil, Dark Brown Sandy Silt With Gravel, Moist (11"± Thick)	TPSL	17		×				
795				1	5	Light Brown Medium to Fine Sand and Gravel With Silt, Moist to Wet		4-11-12 N=23	3	×	⊙			
				2	8			7-12-11 N=23	6	×	⊙			
790				3	14			18-29-30 N=59	2	×			>>⊙	
				4	14			14-34-32 N=66	2	×			>>⊙	
785							SM							
				5	14			9-20-17 N=37	4	×		⊙		
780														
				6	16			11-19-20 N=39	5	×		⊙		
20						End of Boring at 20'								
						Cave-In at 8'								

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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DATE STARTED: 3/2/24 DATE COMPLETED: 3/2/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 808 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-21 Water While Drilling Upon Completion Delay 3.5 feet 8 feet N/A	
BORING LOCATION:					

Elevation (feet)	Depth (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks		
									X Moisture PL LL 0 25 50 ▲ Qu * Qp 0 2.0 4.0			
808	0				Topsoil, Dark Brown Sandy Silt With Gravel, Moist (11"± Thick)	TPSL		23				
			1	10	Brown Sandy Clay With Gravel, Moist to Wet	CL	5-3-4 N=7	14		Q _r = 0.3 tsf		
805			2	14			4-3-4 N=7	11				
800	5		3	8	Brown Silty Medium to Fine Sand and Gravel, Very Moist to Moist		4-5-8 N=13	9				
			4	14			5-15-19 N=34	7				
795			5	12		SM	50/6"	6		>>⊙		
790	15		6	5			50/5"	8		>>⊙		
	20				End of Boring at 20'							
					Cave-In at 9'							

Professional Service Industries, Inc.
821 Corporate Court, Suite 100
Waukesha, WI 53189
Telephone: (262) 521-2125

PROJECT NO.: 00523364
PROJECT: Proposed Cardinal Crest Subdivision
LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave
Mukwonago, WI

The stratification lines represent approximate boundaries. The transition may be gradual.

DATE STARTED: 3/2/24 DATE COMPLETED: 3/2/24 COMPLETION DEPTH: 20.0 ft BENCHMARK: N/A ELEVATION: 799 ft LATITUDE: LONGITUDE: STATION: N/A OFFSET: N/A REMARKS:		DRILL COMPANY: PSI, Inc. DRILLER: DT LOGGED BY: AW DRILL RIG: Marooka D-50 ATV - Rig #395 DRILLING METHOD: Hollow Stem Auger SAMPLING METHOD: 2-in SS HAMMER TYPE: Automatic EFFICIENCY: N/A REVIEWED BY:		BORING B-22 Water ☐ While Drilling ☒ Upon Completion ☐ Delay Not Obsvd Not Obsvd N/A BORING LOCATION:	
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Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft @	Additional Remarks
0						Topsoil, Dark Brown Silt Loam, Moist (8"± Thick)					
						Pale Brown Gravelly Loam, Moist to Wet					
				1	16			4-3-5-5 N=8			
795				2	3			5-8-7-6 N=15			
5				3	8			2-4-5-6 N=9			
				4	2			50/3"			
790				5	16			73/9"			
10				6	12			71/11"			
				7				50/1"			
785											
15						End of Boring at 15'					
						Cave-In at 9'					
780											
20											

	Professional Service Industries, Inc. 821 Corporate Court, Suite 100 Waukesha, WI 53189 Telephone: (262) 521-2125	PROJECT NO.: 00523364 PROJECT: Proposed Cardinal Crest Subdivision LOCATION: SEC of National Ave (Hwy ES) & Edgewood Ave Mukwonago, WI
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The stratification lines represent approximate boundaries. The transition may be gradual.

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System (USCS), AASHTO 1988 and ASTM designations D2487 and D-2488 are used to identify the encountered materials unless otherwise noted. Coarse-grained soils are defined as having more than 50% of their dry weight retained on a #200 sieve (0.075mm); they are described as: boulders, cobbles, gravel or sand. Fine-grained soils have less than 50% of their dry weight retained on a #200 sieve; they are defined as silts or clay depending on their Atterberg Limit attributes. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size.

DRILLING AND SAMPLING SYMBOLS

SFA: Solid Flight Auger - typically 4" diameter flights, except where noted.	☒ SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
HSA: Hollow Stem Auger - typically 3 1/4" or 4 1/4" I.D. openings, except where noted.	■ ST: Shelby Tube - 3" O.D., except where noted.
M.R.: Mud Rotary - Uses a rotary head with Bentonite or Polymer Slurry	▮ RC: Rock Core
R.C.: Diamond Bit Core Sampler	↓ TC: Texas Cone
H.A.: Hand Auger	☞ BS: Bulk Sample
P.A.: Power Auger - Handheld motorized auger	☒ PM: Pressuremeter
	CPT-U: Cone Penetrometer Testing with Pore-Pressure Readings

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. Split-Spoon.
N ₆₀ : A "N" penetration value corrected to an equivalent 60% hammer energy transfer efficiency (ETR)
Q _u : Unconfined compressive strength, TSF
Q _p : Pocket penetrometer value, unconfined compressive strength, TSF
w%: Moisture/water content, %
LL: Liquid Limit, %
PL: Plastic Limit, %
PI: Plasticity Index = (LL-PL), %
DD: Dry unit weight, pcf
▼, ▼, ▼ Apparent groundwater level at time noted

RELATIVE DENSITY OF COARSE-GRAINED SOILS

Relative Density	N - Blows/foot
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	50 - 80
Extremely Dense	80+

ANGULARITY OF COARSE-GRAINED PARTICLES

Description	Criteria
Angular:	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular:	Particles are similar to angular description, but have rounded edges
Subrounded:	Particles have nearly plane sides, but have well-rounded corners and edges
Rounded:	Particles have smoothly curved sides and no edges

GRAIN-SIZE TERMINOLOGY

Component	Size Range
Boulders:	Over 300 mm (>12 in.)
Cobbles:	75 mm to 300 mm (3 in. to 12 in.)
Coarse-Grained Gravel:	19 mm to 75 mm (3/4 in. to 3 in.)
Fine-Grained Gravel:	4.75 mm to 19 mm (No.4 to 3/4 in.)
Coarse-Grained Sand:	2 mm to 4.75 mm (No.10 to No.4)
Medium-Grained Sand:	0.42 mm to 2 mm (No.40 to No.10)
Fine-Grained Sand:	0.075 mm to 0.42 mm (No. 200 to No.40)
Silt:	0.005 mm to 0.075 mm
Clay:	<0.005 mm

PARTICLE SHAPE

Description	Criteria
Flat:	Particles with width/thickness ratio > 3
Elongated:	Particles with length/width ratio > 3
Flat & Elongated:	Particles meet criteria for both flat and elongated

RELATIVE PROPORTIONS OF FINES

Descriptive Term	% Dry Weight
Trace:	< 5%
With:	5% to 12%
Modifier:	>12%

GENERAL NOTES

(Continued)

CONSISTENCY OF FINE-GRAINED SOILS

<u>Q_u - TSF</u>	<u>N - Blows/foot</u>	<u>Consistency</u>
0 - 0.25	0 - 2	Very Soft
0.25 - 0.50	2 - 4	Soft
0.50 - 1.00	4 - 8	Firm (Medium Stiff)
1.00 - 2.00	8 - 15	Stiff
2.00 - 4.00	15 - 30	Very Stiff
4.00 - 8.00	30 - 50	Hard
8.00+	50+	Very Hard

MOISTURE CONDITION DESCRIPTION

<u>Description</u>	<u>Criteria</u>
Dry:	Absence of moisture, dusty, dry to the touch
Moist:	Damp but no visible water
Wet:	Visible free water, usually soil is below water table

RELATIVE PROPORTIONS OF SAND AND GRAVEL

<u>Descriptive Term</u>	<u>% Dry Weight</u>
Trace:	< 15%
With:	15% to 30%
Modifier:	>30%

STRUCTURE DESCRIPTION

<u>Description</u>	<u>Criteria</u>	<u>Description</u>	<u>Criteria</u>
Stratified:	Alternating layers of varying material or color with layers at least ¼-inch (6 mm) thick	Blocky:	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Laminated:	Alternating layers of varying material or color with layers less than ¼-inch (6 mm) thick	Lensed:	Inclusion of small pockets of different soils
Fissured:	Breaks along definite planes of fracture with little resistance to fracturing	Layer:	Inclusion greater than 3 inches thick (75 mm)
Slickensided:	Fracture planes appear polished or glossy, sometimes striated	Seam:	Inclusion 1/8-inch to 3 inches (3 to 75 mm) thick extending through the sample
		Parting:	Inclusion less than 1/8-inch (3 mm) thick

SCALE OF RELATIVE ROCK HARDNESS

<u>Q_u - TSF</u>	<u>Consistency</u>
2.5 - 10	Extremely Soft
10 - 50	Very Soft
50 - 250	Soft
250 - 525	Medium Hard
525 - 1,050	Moderately Hard
1,050 - 2,600	Hard
>2,600	Very Hard

ROCK BEDDING THICKNESSES

<u>Description</u>	<u>Criteria</u>
Very Thick Bedded	Greater than 3-foot (>1.0 m)
Thick Bedded	1-foot to 3-foot (0.3 m to 1.0 m)
Medium Bedded	4-inch to 1-foot (0.1 m to 0.3 m)
Thin Bedded	1¼-inch to 4-inch (30 mm to 100 mm)
Very Thin Bedded	½-inch to 1¼-inch (10 mm to 30 mm)
Thickly Laminated	1/8-inch to ½-inch (3 mm to 10 mm)
Thinly Laminated	1/8-inch or less "paper thin" (<3 mm)

ROCK VOIDS

<u>Voids</u>	<u>Void Diameter</u>
Pit	<6 mm (<0.25 in)
Vug	6 mm to 50 mm (0.25 in to 2 in)
Cavity	50 mm to 600 mm (2 in to 24 in)
Cave	>600 mm (>24 in)

GRAIN-SIZED TERMINOLOGY

<u>(Typically Sedimentary Rock)</u>	
<u>Component</u>	<u>Size Range</u>
Very Coarse Grained	>4.76 mm
Coarse Grained	2.0 mm - 4.76 mm
Medium Grained	0.42 mm - 2.0 mm
Fine Grained	0.075 mm - 0.42 mm
Very Fine Grained	<0.075 mm

ROCK QUALITY DESCRIPTION

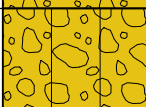
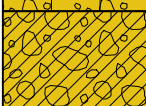
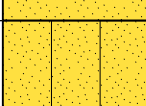
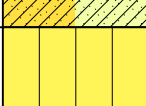
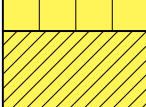
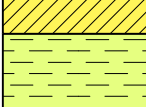
<u>Rock Mass Description</u>	<u>RQD Value</u>
Excellent	90 - 100
Good	75 - 90
Fair	50 - 75
Poor	25 - 50
Very Poor	Less than 25

DEGREE OF WEATHERING

Slightly Weathered:	Rock generally fresh, joints stained and discoloration extends into rock up to 25 mm (1 in), open joints may contain clay, core rings under hammer impact.
Weathered:	Rock mass is decomposed 50% or less, significant portions of the rock show discoloration and weathering effects, cores cannot be broken by hand or scraped by knife.
Highly Weathered:	Rock mass is more than 50% decomposed, complete discoloration of rock fabric, core may be extremely broken and gives clunk sound when struck by hammer, may be shaved with a knife.

SOIL CLASSIFICATION CHART

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
	SAND AND SANDY SOILS			GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
		CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
				ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
				MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
			HIGHLY ORGANIC SOILS		

SOIL EVALUATION - STORM

Page 1 of 2

In accordance with SPS 382.365 & 385, Wis. Adm. Code and WDNR Standard 1002

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. <i>Please print all information.</i> Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04 (1) (m)].						County					
						Waukesha					
						Parcel I.D.					
Reviewed by:											
Date:											
Property Owner				Property Location: Mukwonago, WI							
Property Owner's Mailing Address				Govt. Lot							
City State Zip Code Phone Number				Lot #		Block #		Subd. Name or CSM#			
				City		State		Zip Code		Phone Number	
				☒ City ☐ Village ☐ Town		Nearest Road					
				Mukwonago							
Drainage area _____ ☐ sq. ft. ☐ acres				Hydraulic Application Test Method: ☒ Morphological Evaluation ☐ Double Ring Infiltrometer ☐ Other (specify)				Soil Moisture Date of Test Pits: February 27, 2024 USDA-NRCS WETS Value: 11 ☐ Dry = 1; ☒ Normal = 2; ☐ Wet = 3.			
Optional: Test Site Suitable for (check all that apply) ☐ Irrigation ☐ Bioretention trench ☐ Trench(es) ☐ Rain Garden ☐ Grassed swale ☐ Reuse ☐ Infiltration trench ☐ SDS (> 15' wide) ☐ Other _____											
1 Obs. # ☒ Boring B-7 Elevation of limiting factor: 10"± ☐ Pit Ground surface elevation ±											
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.	
1	0-10	10YR 2/1		sil	0 cr	mfr		<15		0.13	
2	10-48	10YR 5/1		sil	1 f sbk	mfr		<15		0.13	
3	48-96	10YR 6/3		grfsl	0 m	mfr		>15		0.5	
4	96-180	10YR 5/3		grfs	0 m	mfr		>15		0.5	
Comment: gray soils at 10 inches; wet soils at 5 feet											
2 Obs. # ☒ Boring B-10 Elevation of limiting factor: 7"± ☐ Pit Ground surface elevation ±											
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.	
1	0-9	10YR 2/1		sil	0 cr	mfr		<15		0.13	
2	9-60	10YR 6/3		vgrfs	0 sg	ml		>35		0.5	
3	60-180	10YR 5/3		grs	0 m	mfr		>15		0.5	
Comment: wet soils at 7 feet											
CST/PSS Name (Please Print) Patrick J. Patterson				Signature 				CST/PSS/Geologist Number G-229			
Address 821 Corporate Court, Waukesha, WI 53189				Date Evaluation Conducted 2/27/2024				Telephone Number 262 521 2125			

SBD-10793 (R.01/17)

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3	Obs. #	☒ Boring	B-8									
		☐ Pit	Ground surface elevation ±		Elevation of limiting factor: ground surface							
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate		
										Inches/Hr.		
1	0-11	10YR 2/1		sil	0 cr	mfr		<15		0.13		
2	11-36	10YR 4/3	c 2 d 10YR 6/1	grsl	0 m	mfr		>15		0.5		
3	36-60	10YR 5/3		grscl	1 f sbk	mfi		>15		0.04		
4	60-96	10YR 5/3		grfsl	0 m	mfr		>15		0.5		
5	96-180	10YR 5/3		grfs	0 m	mfr		>15		0.5		
Comment: possible fill to 5 feet; wet soils at 5 feet												

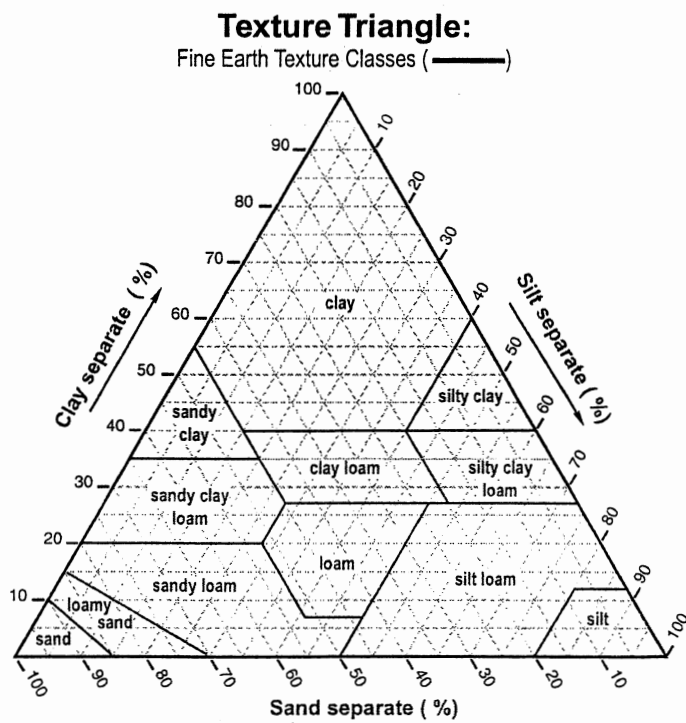
4	Obs. #	☒ Boring	B-11									
		☐ Pit	Ground surface elevation ±					Elevation of limiting factor: 5±				
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate		
										Inches/Hr.		
1	0-10	10YR 2/1		sil	0 cr	mfr		<15		0.13		
2	10-36	10YR 2/1&5/3		grl	1 f sbk	mfr		>15		0.24		
3	36-84	10YR 6/2	c 2 d 10YR 4/4	grl	1 f sbk	mfr		>15		0.24		
4	84-108	10YR 5/2	m 2 p 10YR 5/1	sil	2 thin pl	mfr		<15		0.13		
5	108-132	10YR 6/1		grls	1 thin pl	mfr		>15		1.63		
6	132-180	10YR 6/1		sil	2 thin pl	mfr		<15		0.13		
Comment: redoximorphic features indicative of seasonal groundwater and gray soils at 3 feet; wet soils at 9 feet												

5	Obs. #	☒ Boring	B-12									
		☐ Pit	Ground surface elevation ±		Elevation of limiting factor: 10"±							
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate		
										Inches/Hr.		
1	0-10	10YR 3/3		sil	0 cr	mfr		<15		0.13		
2	10-24	10YR 6/1		cl	1 vythin pl	mfi		<15		0.03		
3	24-60	10YR 4/3		sl	0 m	mfr		<15		0.5		
4	60-132	10YR 6/3		grl	0 m	mfr		>15		0.24		
5	132-180	10YR 5/1		grl	0 m	mfr		>15		0.24		
Comment: redoximorphic features indicative of seasonal groundwater at 10 inches; wet soils at 3 feet; gray soils at 11 feet												

6	Obs. #	☒ Boring	B-18									
		☐ Pit	Ground surface elevation ±		Elevation of limiting factor: 3±							
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate		
										Inches/Hr.		
1	0-12	10YR 2/1		sil	0 cr	mfr		<15		0.13		
2	12-36	10YR 3/3		grl	1 f sbk	mfr		<15		0.24		
3	36-60	10YR 5/3		lfs	0 m	mfr		<15		1.63		
4	60-156	10YR 6/4	m 2 p 10YR 5/1	grl	1 f sbk	mfr		>15		0.24		
5	156-180	10YR 5/1		grl	1 f sbk	mfr		>15		0.24		
Comment: redoximorphic features at 5 feet; gray soils at 13 feet; wet soils at 3 feet												

7	Obs. #	☒ Boring	B-19	Ground surface elevation ±		Elevation of limiting factor: 11"±				
		☐ Pit								
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.
1	0-11	10YR 2/1		sil	0 cr	mfr		<15		0.13
2	11-54	10YR 4/3	c 2 d 10YR 6/1	grl	1 f sbk	mfr		>15		0.24
3	54-84	10YR 5/1		grfsl	0 m	mfr		>15		0.5
4	84-132	10YR 5/1		grfs	0 m	mfr		>15		0.5
5	132-180	10YR 5/1		grfsl	0 m	mfr		>15		0.5
Comment: redoximorphic features at 11 inches; gray soils at 4.5 feet; wet soils at 3 feet										

8	Obs. #	☒ Boring	B-22	Ground surface elevation ±		Elevation of limiting factor: 5'±				
		☐ Pit								
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.	% Fines	Hydraulic App. Rate Inches/Hr.
1	0-8	10YR 3/3		sil	0 cr	mfr		<15		0.13
2	8-180	10YR 6/3		grl	1 f sbk	mfr		>15		0.24
Comment: very moist to wet soils at about 5 feet										



TEXTURE MODIFIERS - Conventions for using "Rock Fragment Texture Modifiers" and for using textural adjectives that convey the "% volume" ranges for Rock Fragments - Size and Quantity.

Fragment Content % By Volume	Rock Fragment Modifier Usage
< 15	No texture adjective is used (noun only; e.g., <i>loam</i>).
15 to < 35	Use adjective for appropriate size; e.g., <i>gravelly</i> .
35 to < 60	Use "very" with the appropriate size adjective; e.g., <i>very gravelly</i> .
60 to < 90	Use "extremely" with the appropriate size adjective; e.g., <i>extremely gravelly</i> .
≥ 90	No adjective or modifier. If ≤ 10% fine earth, use the appropriate noun for the dominant size class; e.g., <i>gravel</i> . Use Terms in Lieu of Texture .

(SOIL) TEXTURE

This is the numerical proportion (percent by weight) of sand, silt, and clay in a soil. Sand, silt, and clay content is estimated in the field by hand (or quantitatively measured in the office/lab by hydrometer or pipette) and then placed within the texture triangle to determine **Texture Class**. Estimate the **Texture Class**; e.g., *sandy loam*; or **Subclass**; e.g., *fine sandy loam* of the fine earth (≤ 2 mm) fraction, or choose a **Term in Lieu of Texture**; e.g., *gravel*. If appropriate, use a **Textural Class Modifier**; e.g., *gravelly silt loam*.

NOTE: Soil Texture encompasses only the fine earth fraction (≤ 2 mm). **Particle Size Distribution (PSD)** encompasses the whole soil, including both the fine earth fraction (≤ 2 mm; weight %) and rock fragments (> 2 mm; volume %).

TEXTURE CLASS

Texture Class or Subclass	Code	
	Conv.	NASIS
Coarse Sand	cos	COS
Sand	s	S
Fine Sand	fs	FS
Very Fine Sand	vfs	VFS
Loamy Coarse Sand	lcos	LCOS
Loamy Sand	ls	LS
Loamy Fine Sand	lfs	LFS
Loamy Very Fine Sand	lvfs	LVFS
Coarse Sandy Loam	cosl	COSL
Sandy Loam	sl	SL
Fine Sandy Loam	fsl	FSL
Very Fine Sandy Loam	vfsl	VFSL
Loam	l	L
Silt Loam	sil	SIL
Silt	si	SI
Sandy Clay Loam	scl	SCL
Clay Loam	cl	CL
Silty Clay Loam	sicl	SICL
Sandy Clay	sc	SC
Silty Clay	sic	SIC
Clay	c	C

TEXTURE MODIFIERS - (adjectives)

ROCK FRAGMENTS: Size & Quantity ¹	Code		Criteria: Percent (By Volume) of Total Rock Fragments and Dominated By (<i>name size</i>): ¹
	Conv.	PDP/ NASIS	
ROCK FRAGMENTS (> 2 mm; ≥ Strongly Cemented)			
Gravelly	GR	GR	≥ 15% but < 35% gravel
Fine Gravelly	FGR	GRF	≥15% but < 35% fine gravel
Medium Gravelly	MGR	GRM	≥15% but < 35% med. gravel
Coarse Gravelly	CGR	GRC	≥ 15% but < 35% coarse gravel
Very Gravelly	VGR	GRV	≥ 35% but < 60% gravel
Extremely Gravelly	XGR	GRX	≥ 60% but < 90% gravel
Cobbly	CB	CB	≥ 15% but < 35% cobbles
Very Cobbly	VCB	CBV	≥ 35% but < 60% cobbles
Extremely Cobbly	XCB	CBX	≥ 60% but < 90% cobbles
Stony	ST	ST	≥ 15% but < 35% stones
Very Stony	VST	STV	≥ 35% but < 60% stones
Extremely Stony	XST	STX	≥ 60% but < 90% stones
Bouldery	BY	BY	≥ 15% but < 35% boulders
Very Bouldery	VBY	BYV	≥ 35% but < 60% boulders
Extremely Bouldery	XBY	BYX	≥ 60% but < 90% boulders
Channery	CN	CN	≥ 15% but < 35% channers
Very Channery	VCN	CNV	≥ 35% but < 60% channers
Extremely Channery	XCN	CNX	≥ 60% but < 90% channers
Flaggy	FL	FL	≥ 15% but < 35% flagstones
Very Flaggy	VFL	FLV	≥ 35% but < 60% flagstones
Extremely Flaggy	XFL	FLX	≥ 60% but < 90% flagstones
PARAROCK FRAGMENTS (> 2 mm; < Strongly Cemented) ^{2, 3}			
Parabouldery	PBY	PBY	(same criteria as bouldery)
Very Parabouldery	VPBY	PBYV	(same criteria as very bouldery)
Extr. Parabouldery	XPBY	PBYX	(same criteria as ext. bouldery)
etc.	etc.	etc.	(same criteria as non-para)

¹ The "Quantity" modifier (e.g., *very*) is based on the total rock fragment content. The "Size" modifier (e.g., *cobbly*) is independently based on the largest, dominant fragment size. For a mixture of sizes (e.g., *gravel and stones*), a smaller size-class is named only if its quantity (%) sufficiently exceeds that of a larger size-class. For field texture determination, a smaller size-class must exceed 2 times the quantity (vol. %) of a larger size class before it is named (e.g., 30% gravel and 14% stones = *very gravelly*, but 20% gravel and 14% stones = *stony*). For more explicit naming criteria see NSSH-Part 618, Exhibit 618.11(Soil Survey Staff, 2001b).

APPENDIX F

BMP Design Summary Sheets

Pond 2P Data Summary Sheet

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (subarea V-2)	12.81 acres
Distance to nearest private well (including off-site wells)	> 100 feet
Distance to nearest municipal well	> 1,000 feet
Ground slope at site of proposed basin	average 3%
Proposed outfall conveyance system/discharge (w/ distances)	24" outfall pipe, 42 ft.
Any downstream roads or other structures? (describe)	Yes – culvert at proposed road
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	2 (in basin area, see plan)
Do elevations of test holes extend 5 ft. below proposed bottom?	Yes (see soil tests and plan details)
Average soil texture at pond bottom elevation (USDA)	Gravelly Loam
Distance from pond bottom to bedrock	> 5 feet
Distance from pond bottom to seasonal water table	Bottom 0.5 ft. to 1 ft. above water level or seasonal water level indicators (mottling)
General basin design data (see attached detailed drawings):	
Permanent pool surface area	0.58 acres
Design permanent pool water surface elevation	elev. 794.5
Top of berm elevation (after settling) and width	elev. 798.0 / 10 feet wide
Length/width (dimensions/ratio)	450 ft. (L) x 75 ft. (W) = 6:1
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1' deepest
Liner yes/no, material, thickness	yes
Ave. water depth (minus safety shelf/sediment)	4 ft. (in center)
Sediment forebay size & depth	N/A
Sediment storage depth & design maintenance	2 ft. depth for pool 15 year maintenance schedule

Basin Inflow, Outflow & Storage Data				
Inflow Peak Flows	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev.	Outflow Control Structures*
16.89 cfs (Post 1-yr./24 hr. peak)	1.33 cfs	795.61 ft.	0.720 ac. ft.	#1 & #2
20.65 cfs (Post 2-yr./24 hr. peak)	2.05 cfs	795.80 ft.	0.854 ac. ft.	#1 & #2
35.22 cfs (Post 10-yr./24 hr. peak)	5.76 cfs	796.47 ft.	1.350 ac. ft.	#1 & #2
67.62 cfs (Post 100-yr./24 hr. peak)	24.33 cfs	797.48 ft.	2.179 ac. ft.	#1, #2, #3

* The controlling elements are summarized below (See attached detail drawing of outlet structure):

- #1 = 7- inch outlet pipe, invert elev. @ 794.50
- #2 = 1.5-foot sharp-crested weir, elev. @ 795.50
- #3 = 48-inch horizontal grate, elev. @ 796.50
- #4 = 10 foot wide emergency spillway @ elev. 797.50

Water Quality Data for Development Site		
Parameter	Units	Removal
Total Suspended Solids	Lbs / year	81.3%
Total Phosphorus	Lbs / year	59.4%

Rain Garden 4B Data Summary Sheet

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (Subarea V-4)	1.48 acres
Distance to nearest private well (including off-site wells)	> 100 feet
Distance to nearest municipal well	> 1,000 feet
Ground slope at site of proposed basin	average 2%
Proposed outfall conveyance system/discharge (w/ distances)	V-notch weir wall
Any downstream roads or other structures? (describe)	No – sheet flows offsite
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (in basin area, see plan)
Do elevations of test holes extend 5 ft. below proposed bottom?	Yes (see soil tests and plan details)
Average soil texture at pond bottom elevation (USDA)	Gravelly Loam
Design infiltration rate at basin bottom and method of analysis	0.24 in/hr, Tech Standard 1002, Table 2
Measured infiltration rate following construction	
Distance from pond bottom to bedrock	> 5 feet
Distance from BMP bottom to highest groundwater table	Bottom 1.7 ft. above water level
General basin design data (see attached detailed drawings):	
Basin bottom area	0.05 acres
Effective infiltration area	0.05 acres
1% of development area (Development Site 25.95 acres)	0.26 acres
Basin bottom elevation	elev. 805.2
Top of berm elevation (after settling) and width	elev. 808.2 / 10 feet wide
Basin storage below outlet	653 cu. ft.
Time to completely infiltrate stored water	<1 hr
Sediment forebay size & depth	N/A
Pre-treatment prior to infiltration	N/A – backyards, roof, patio

Infiltration Data for Development Site				
Pre-dev. infil. volume	Post-dev. infil. volume w/basin	% of Pre-dev. infil. provided	Average annual runoff volume	25% of the runoff from the 2 yr. / 24 hr. storm (cu. ft.)
2,374,244 cu. ft.	1,786,597 cu. ft.	75.2%	947,043 cu. Ft.	22,977 cu. Ft.

Basin Inflow, Outflow & Storage Data				
Inflow Peak Flows	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev.	Outflow Control Structures*
1.66 cfs (Post 1-yr./24 hr. peak)	0.50 cfs	806.71 ft.	0.044 ac. ft.	#1 & #2
2.10 cfs (Post 2-yr./24 hr. peak)	1.03 cfs	806.78 ft.	0.048 ac. ft.	#1 & #2
3.83 cfs (Post 10-yr./24 hr. peak)	3.39 cfs	806.94 ft.	0.059 ac. ft.	#1 & #2
7.80 cfs (Post 100-yr./24 hr. peak)	7.49 cfs	807.12 ft.	0.072 ac. ft.	#1 & #2

* The controlling elements are summarized below (See attached detail drawing of outlet structure):

#1 = Infiltration @ 0.24 in./hr.

#2 = V-notch sharp-crested weir, elev. 806.2

Water Quality Data for Development Site		
Parameter	Units	Removal
Total Suspended Solids	Lbs / year	81.3%
Total Phosphorus	Lbs / year	59.4%

Rain Garden 5B Data Summary Sheet

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (Subarea M-5)	1.62 acres
Distance to nearest private well (including off-site wells)	> 100 feet
Distance to nearest municipal well	> 1,000 feet
Ground slope at site of proposed basin	average 3%
Proposed outfall conveyance system/discharge (w/ distances)	spillway, 10-ft
Any downstream roads or other structures? (describe)	Yes – proposed road crossing and structure at Pond 6
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (in basin area, see plan)
Do elevations of test holes extend 5 ft. below proposed bottom?	Yes (see soil tests and plan details)
Average soil texture at pond bottom elevation (USDA)	Gravelly Loam
Design infiltration rate at basin bottom and method of analysis	0.24 in/hr, Tech Standard 1002, Table 2
Measured infiltration rate following construction	
Distance from pond bottom to bedrock	> 5 feet
Distance from BMP bottom to highest groundwater table	> 5 feet
General basin design data (see attached detailed drawings):	
Basin bottom area	0.04 acres
Effective infiltration area	0.04 acres
1% of development area (Development Site 25.95 acres)	0.26 acres
Basin bottom elevation	elev. 795.0
Top of berm elevation (after settling) and width	elev. 798.5 / 10 feet wide
Basin storage below outlet	1,045 cu. ft.
Time to completely infiltrate stored water	25 hrs
Sediment forebay size & depth	N/A
Pre-treatment prior to infiltration	N/A – backyards, roof, patio

Infiltration Data for Development Site				
Pre-dev. infil. volume	Post-dev. infil. volume w/basin	% of Pre-dev. infil. provided	Average annual runoff volume	25% of the runoff from the 2 yr. / 24 hr. storm (cu. ft.)
2,374,244 cu. ft.	1,786,597 cu. ft.	75.2%	947,043 cu. Ft.	22,977 cu. Ft.

Basin Inflow, Outflow & Storage Data				
Inflow Peak Flows	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev.	Outflow Control Structures*
2.30 cfs (Post 1-yr./24 hr. peak)	0.84 cfs	797.61 ft.	0.052 ac. ft.	#1 & #2
2.87 cfs (Post 2-yr./24 hr. peak)	1.61 cfs	797.67 ft.	0.055 ac. ft.	#1 & #2
5.13 cfs (Post 10-yr./24 hr. peak)	4.81 cfs	797.84 ft.	0.064 ac. ft.	#1 & #2
10.24 cfs (Post 100-yr./24 hr. peak)	9.89 cfs	798.02 ft.	0.075 ac. ft.	#1 & #2

* The controlling elements are summarized below (See attached detail drawing of outlet structure):

#1 = Infiltration @ 0.24 in./hr.

#2 = 10 foot wide emergency spillway @ elev. 797.5

Water Quality Data for Development Site		
Parameter	Units	Removal
Total Suspended Solids	Lbs / year	81.3%
Total Phosphorus	Lbs / year	59.4%

Pond 6P Data Summary Sheet

Design Element	Design Data
Site assessment data: (see attached maps)	
Contributing drainage area to basin (subarea M-6)	7.54 acres
Distance to nearest private well (including off-site wells)	> 100 feet
Distance to nearest municipal well	> 1,000 feet
Ground slope at site of proposed basin	average 3%
Proposed outfall conveyance system/discharge (w/ distances)	21" outfall pipe, 42 ft.
Any downstream roads or other structures? (describe)	Yes – culvert at Grey Fox Trail
Soil investigation data (see attached map & soil logs):	
Number of soil investigations completed	1 (in basin area, see plan)
Do elevations of test holes extend 5 ft. below proposed bottom?	Yes (see soil tests and plan details)
Average soil texture at pond bottom elevation (USDA)	Sandy Loam
Distance from pond bottom to bedrock	> 5 feet
Distance from pond bottom to seasonal water table	Bottom 3.75 ft. below water level
General basin design data (see attached detailed drawings):	
Permanent pool surface area	0.18 acres
Design permanent pool water surface elevation	elev. 789.75
Top of berm elevation (after settling) and width	elev. 795.0 / 10 feet wide
Length/width (dimensions/ratio)	250 ft. (L) x 50 ft. (W) = 5:1
Safety shelf design (length, grade, max. depth)	10 ft. @ 10% slope/1' deepest
Liner yes/no, material, thickness	yes
Ave. water depth (minus safety shelf/sediment)	4 ft. (in center)
Sediment forebay size & depth	N/A
Sediment storage depth & design maintenance	2 ft. depth for pool 15 year maintenance schedule

Basin Inflow, Outflow & Storage Data				
Inflow Peak Flows	Maximum Outflow Rate	Max. Water Elevation	Storage Volume at Max. Elev.	Outflow Control Structures*
10.60 cfs (Post 1-yr./24 hr. peak)	1.41 cfs	791.52 ft.	0.415 ac. ft.	#1 & #2
14.01 cfs (Post 2-yr./24 hr. peak)	2.20 cfs	791.77 ft.	0.491 ac. ft.	#1 & #2
26.68 cfs (Post 10-yr./24 hr. peak)	10.22 cfs	792.51 ft.	0.743 ac. ft.	#1, #2, #3
51.49 cfs (Post 100-yr./24 hr. peak)	21.47 cfs	793.81 ft.	1.280 ac. ft.	#1, #2, #3

* The controlling elements are summarized below (See attached detail drawing of outlet structure):

- #1 = 3- inch outlet pipe, invert elev. @ 789.75
- #2 = 1-foot sharp-crested weir, elev. @ 791.00
- #3 = 48-inch horizontal grate, elev. @ 792.25
- #4 = 10 foot wide emergency spillway @ elev. 794.00

Water Quality Data for Development Site		
Parameter	Units	Removal
Total Suspended Solids	Lbs / year	81.3%
Total Phosphorus	Lbs / year	59.4%

APPENDIX G

Watershed Summary Sheets

Data Summary Sheet for Stormwater Management Plan

Project Name: Cardinal Ridge – Phase I **Project Size:** 25.95 Acres **Project type:** Residential Subdivision **No. of Lots:** 52 lots
Number of Runoff Discharge Points: 3 **Watershed (ultimate discharge):** Unnamed tributary to the Fox River
Watershed Area (including off-site runoff traveling through project area): 25.95 acres
Public Land Survey Location: Section 19, T5N R19E (Mukwonago Township)

Summary Data Elements	Vernon Subwatershed (Link V-1L)		Mukwonago Subwatershed (Link M-1L)			
	Pre-develop	Post-develop	Pre-develop	Post-develop		
Watershed Areas (see attached map)	16.78 acres	16.52 acres	9.17 acres	9.43 acres		
Average Watershed Slopes	2%	2%	2%	2%		
Land Uses (% of each, see attached map)	100% cropland	6.24 ac. impervious 9.17 ac. lawn 0.53 ac. meadow 0.58 ac. water	100% cropland	0.39 ac. impervious 0.78 ac. lawn 0.03 ac. woodland		
Runoff Curve Numbers	RCN = 78	impervious = 98 lawn = 74 meadow = 71 water = 100 RCN = 84	RCN = 78	impervious = 98 lawn = 74 woodland = 70 RCN = 82		
Conveyance System Types	Sheet flow	50% grass swale 50% storm sewer	Sheet flow	Sheet flow to backyards		
Summary of Average Conveyance System Data	2% grade	2' depth swale/2% Sewer see calcs.	2% grade	2% grade		
Time of Concentration (Tc) (see attached map & worksheets)	0.23 hrs.	0.29 hrs.	0.23 hrs.	0.11 hrs.		
Runoff volume: 25% of 2-yr 24-hr post-developed storm (for low-density residential only)	N/A	15,311 cu. ft.	N/A	7,666 cu. ft.		
Runoff volume: first half-inch (watershed area in sq. ft. X .04 ft.)	N/A	29,983 cu. ft.	N/A	17,115 cu. ft.		
Runoff volume: average annual basis (WinSLAMM Output)	359,396 cu. ft.*	947,043 cu. ft.*	359,396 cu. ft.*	947,043 cu. ft.*		
Infiltration Volume [2.4 ft. X onsite subwatershed area (sq. ft.)] - average annual runoff volume	1,754,248 cu. ft.	1,727,066 cu. ft.	958,668 cu. ft.	985,849 cu. ft.		
Peak Flow: 1-year/24 hour	15.34 cfs	2.72 cfs	8.73 cfs	1.43 cfs		
Peak Flow: 2-yr./24 hour	19.91 cfs	3.54 cfs	11.32 cfs	2.23 cfs		
Peak Flow: 10-yr./24 hour	38.63 cfs	9.24 cfs	21.93 cfs	10.34 cfs		
Peak Flow: 100-yr./24 hour	83.07 cfs	35.29 cfs	47.08 cfs	21.76 cfs		

*: Vernon and Mukwonago Subwatersheds combined

Stormwater Management Practice Maintenance Agreement

Document Number

Neumann Developments, Inc., as “Owner” of the property described below, in accordance with Chapter 14 Waukesha County Code of Ordinances, agrees to install and maintain stormwater management practice(s) on the subject property in accordance with approved plans and Stormwater Permit conditions. The owner further agrees to the terms stated in this document to ensure that the stormwater management practice(s) continues serving the intended functions in perpetuity. This Agreement includes the following exhibits:

Exhibit A: Legal Description of the real estate for which this Agreement applies (“Property”).

Exhibit B: Location Map(s) – shows an accurate location of each stormwater management practice affected by this Agreement.

Exhibit C: Maintenance Plan – prescribes those activities that must be carried out to maintain compliance with this Agreement.

Note: After construction verification has been accepted by Waukesha County for all planned stormwater management practices, an addendum(s) to this agreement shall be recorded by the Owner showing design and construction details. The addendum may contain several additional exhibits.

Through this Agreement, the Owner hereby subjects the Property to the following covenants, conditions and restrictions:

1. The Owner shall be responsible for the routine and extraordinary maintenance and repair of the stormwater management practice(s) and drainage easements identified in Exhibit B in accordance with the maintenance plan contained in Exhibit C.
2. Upon written notification by Village of Vernon or Village of Mukwonago or their designee, the Owner(s) shall, at their own cost and within a reasonable time period determined by the Village of Vernon or Village of Mukwonago, have an inspection of the stormwater management practice conducted by a qualified professional, file a report with the Village of Vernon or Village of Mukwonago and complete any maintenance or repair work recommended in the report. The Owner(s) shall be liable for the failure to undertake any maintenance or repairs.
3. In addition, and independent of the requirements under paragraph 2 above, the Village of Vernon or Village of Mukwonago, or its designee, is authorized to access the property as necessary to conduct inspections of the stormwater management practices or drainage easements to ascertain compliance with the intent of this Agreement and the activities prescribed in Exhibit C. The Village of Vernon or Village of Mukwonago may require work to be done which differs from the report described in paragraph 2 above, if the Village of Vernon or Village of Mukwonago reasonably concludes that such work is necessary and consistent with the intent of this agreement. Upon notification by the Village of Vernon or Village of Mukwonago of required maintenance or repairs, the Owner(s) shall complete the specified maintenance or repairs within a reasonable time frame determined by the Village of Vernon or Village of Mukwonago.
4. If the Owner(s) do not complete an inspection under 2 above or required maintenance or repairs under 3. above within the specified time period, the Village of Vernon or Village of Mukwonago is authorized, but not required, to perform the specified inspections, maintenance or repairs. In the case of an emergency situation, as determined by the Village of Vernon or Village of Mukwonago, no notice shall be required prior to the Village of Vernon or Village of Mukwonago performing emergency maintenance or repairs. The Village of Vernon or Village of Mukwonago may levy the costs and expenses of such inspections, maintenance or repair related actions as a special charge against the Property and collected as such in accordance with the procedures under s. 66.0627 Wis. Stats. or subch. VII of ch. 66 Wis. Stats.
5. This Agreement shall run with the Property and be binding upon all heirs, successors and assigns. After the Owner records the addendum noted above, the Village of Vernon or Village of Mukwonago shall have the sole authority to modify this agreement upon a 30-day notice to the current Owner(s).

Name and Return Address

Land Resources Division
515 W Moreland Blvd, Rm AC260
Waukesha, WI 53188

Parcel Identification Number(s) – (PIN)

Dated this ____ day of _____, 20__.

Owner:

Bryan Lindgren

Acknowledgements

State of Wisconsin:
County of Waukesha

Personally came before me this ____ day of _____, 20__, the above named Bryan Lindgen to me known to be the person who executed the foregoing instrument and acknowledged the same.

_____.
[Name]
Notary Public, Waukesha County, WI
My commission expires:_____.

This document was drafted by:

Jayme L. Sisel, P.E.
Sound Stormwater Design LLC
Muskego, WI 53150

For Certification Stamp

Exhibit A – Legal Description

The following description and reduced copy map identifies the land parcel(s) affected by this Agreement. For a larger scale view of the referenced document, contact the Waukesha County Register of Deeds office.

Date of Recording:
Map Produced By: Trio Engineering LLC
Legal Description:

REZONING EXHIBIT “A”

LEGAL DESCRIPTION “A” (Lands to be rezoned to “R-3”):

All that part of Lot 1 of Certified Survey Map No. 8142, recorded in the Office of the Register of Deeds for Waukesha County on October 22, 1996, in Volume 71 of Certified Survey Maps, at Pages 23 through 25 inclusive, as Document No. 2166785, being located in a part of the Northeast 1/4 and the Southeast 1/4 of the Southwest 1/4 and the Northwest 1/4 and the Southwest 1/4 of the Southeast 1/4 of Section 19, Town 5 North, Range 19 East, in the Village of Vernon, Waukesha County, Wisconsin, now being more particularly bounded and described as follows:

Commencing at the East 1/4 Corner of said Section 19; Thence South 87°32'52" West and along the North line of the said Southeast 1/4 Section, 1902.96 feet to a point on the East line of said Lot 1 of Certified Survey Map No. 8142; Thence South 01°43'08" East and along the East line of said Lot 1 of said Certified Survey Map No. 8142, 952.16 feet to a point to the place of beginning of lands hereinafter described;

Thence continuing South 1°43'08" East and along the East line of said Lot 1 of said Certified Survey Map No. 8142, 404.35 feet to a point; Thence North 88°54'57" West, 292.78 feet to a point; Thence South 72°00'22" West, 1132.21 feet to a point on the Southeasterly line of Certified Survey Map No. 5253; Thence North 26°40'38" West and along the said existing Corporate Limits line, 200.00 feet to a point; Thence North 56°47'31" West and along the said existing Corporate Limits line, 191.03 feet to a point; Thence North 13°05'19" West and along the said existing Corporate Limits Line, 155.18 feet to a point; Thence South 88°14'25" East and along the said existing Corporate Limits Line, 3.07 feet to a point; Thence Northeasterly 302.58 feet along the arc of a curve, whose center lies to the Northwest, whose radius is 333 feet, whose central angle is 52°03'40", and whose chord bears North 65°43'45" East, 292.27 feet to a point; Thence South 59°23'49" East and along the said existing Corporate Limits Line, 151.31 feet to a point; Thence North 31°29'21" East and along the said existing Corporate Limits Line, 54.12 feet to a point; Thence North 50°35'42" East and along the said existing Corporate Limits Line, 220.30 feet to a point; Thence South 89°39'13" East and along the said existing Corporate Limits Line, 195.07 feet to a point; Thence North 85°31'46" East and along the said existing Corporate Limits Line, 132.35 feet to a point; Thence North 50°39'11" East and along the said existing Corporate Limits Line, 82.26 feet to a point; Thence North 77°52'12" East and along the said existing Corporate Limits Line, 105.65 feet to a point; Thence North 81°19'56" East and along the said existing Corporate Limits Line, 110.16 feet to a point; Thence South 84°58'32" East and along the said existing Corporate Limits Line, 242.15 feet to a point; Thence North 88°16'52" East and along the said existing Corporate Limits Line, 200.00 feet to the point of beginning of this description.

Said Parcel contains 718,743 Square Feet (or 16.5000 Acres) of land, more or less.

Exhibit A – Legal Description (continued)

REZONING EXHIBIT “B”

LEGAL DESCRIPTION “A” (Lands to be rezoned to “R-3”):

All that part of Lot 1 of Certified Survey Map No. 8142, recorded in the Office of the Register of Deeds for Waukesha County on October 22, 1996, in Volume 71 of Certified Survey Maps, at Pages 23 through 25 inclusive, as Document No. 2166785, being located in a part of the Northeast 1/4 and the Southeast 1/4 of the Southwest 1/4 and the Northwest 1/4 of the Southeast 1/4 of Section 19, Town 5 North, Range 19 East, in the Village of Vernon, Waukesha County, Wisconsin, now being more particularly bounded and described as follows:

Commencing at the East 1/4 Corner of said Section 19; Thence South 87°32'52" West and along the North line of the said Southeast 1/4 Section, 1902.96 feet to the place of beginning of lands hereinafter described;

Thence South 01°43'08" East and along the East line of said Lot 1 of said Certified Survey Map No. 8142, 952.16 feet to a point; Thence South 88°16'52" West and along the existing Corporate Limits line, 200.00 feet to a point; Thence North 84°58'32" West and along the said existing Corporate Limits line, 242.15 feet to a point; Thence South 81°19'56" West and along the said existing Corporate Limits line, 110.16 feet to a point; Thence South 77°52'12" West and along the said existing Corporate Limits line, 105.65 feet to a point; Thence South 50°39'11" West and along the said existing Corporate Limits line, 82.26 feet to a point; on the West line of the said Southeast 1/4 Section; Thence South 85°31'46" West and along the said West line and said existing Corporate Limits line, 132.35 feet to a point; Thence North 89°39'13" West and along the said existing Corporate Limits line, 195.07 feet to a point; Thence South 50°35'42" West, 220.30 feet to a point; Thence South 31°29'21" West and along the said existing Corporate Limits line, 54.12 feet to a point; Thence North 59°23'49" West and along the said existing Corporate Limits line, 151.31 feet to a point; Thence Southwesterly 305.65 feet along the arc of a curve, whose center lies to the Northwest, whose radius is 333.07 feet, whose central angle is 52°34'47", and whose chord bears South 65°59'28" West, 295.04 feet to a point; Thence South 13°05'19" East and along the said existing Corporate Limits line, 155.18 feet to a point; Thence South 56°47'31" East and along the said existing Corporate Limits line, 191.03 feet to a point; Thence South 63°19'22" West, 250.80 feet to a point; Thence North 26°40'38" West and along said existing Corporate Limits line, 482.88 feet to a point; Thence North 63°19'22" East and along said existing Corporate Limits line, 407.95 feet to a point; Thence North 26°40'38" West and along said existing Corporate Limits line, 409.98 feet to a point on the Southeasterly line of Certified Survey Map No. 11850; Thence North 56°44'10" East and along the said existing Corporate Limits line, 645.76 feet to a point; Thence North 56°44'10" East and along the said Southeasterly line, 487.73 feet to a point marking the Center of said Section 19; Thence North 87°32'52" East and along the said North line of the said Southeast 1/4 Section, 732.00 feet to the point of beginning of this description.

Said Parcel contains 1,511,059 Square Feet (or 34.6891 Acres) of land, more or less.

Exhibit B - Location Map

Stormwater Management Practices Covered by this Agreement

The stormwater management practices covered by this Agreement are depicted in the reduced copy of a portion of the construction plans, as shown below. All of the noted stormwater management practices are located within a drainage easement, as noted in Exhibit A.

Stormwater Practices: Ponds (2), Rain Gardens (2), Grass Swales
Location of Practices: Outlots as represented on the Cardinal Ridge Final Plat

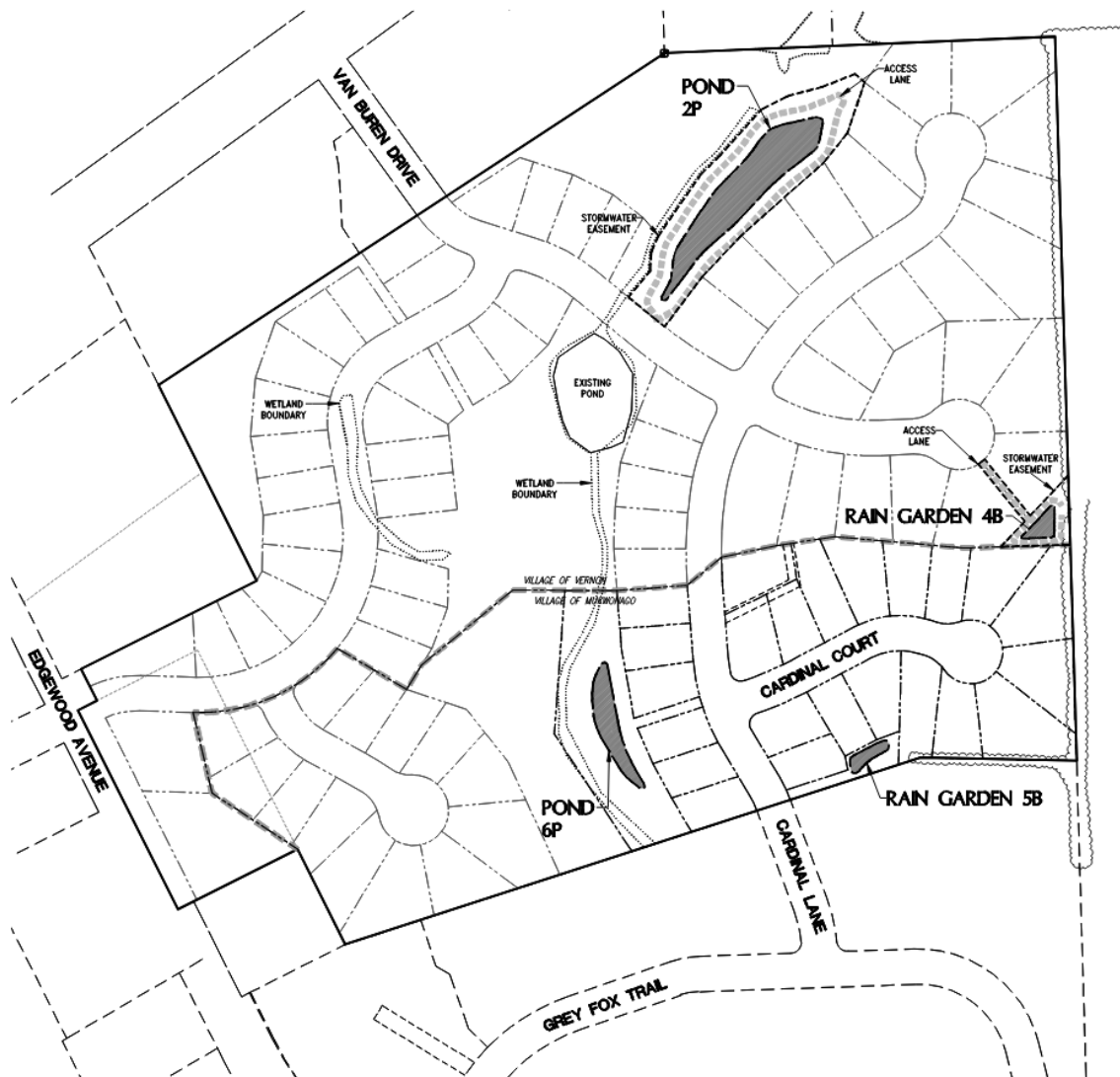


Exhibit C

Stormwater Practice Maintenance Plan

This exhibit explains the basic function of each of the stormwater practices listed in Exhibit B and prescribes the minimum maintenance requirements to remain compliant with this Agreement. The maintenance activities listed below are aimed to ensure these practices continue serving their intended functions in perpetuity. The list of activities is not all inclusive, but rather indicates the minimum type of maintenance that can be expected for this particular site. Access to the stormwater practices for maintenance vehicles is shown in Exhibit B. Any failure of a stormwater practice that is caused by a lack of maintenance will subject the Owner(s) to enforcement of the provisions listed on page 1 of this Agreement by the Village of Vernon or Village of Mukwonago.

System Description:

The stormwater management system includes two (2) ponds, two (2) rain gardens, and all associated pipes, outlet control structures, grass swales, earthen berms, and other components of these practices. The ponds and rain gardens are designed to trap over 80% of sediment in runoff and maintain pre-development downstream peak flows. In addition, the rain gardens are designed to reduce runoff volumes from the site by intercepting runoff and allowing it to slowly seep (infiltrate) into the underlying soil and groundwater. Vigorous vegetation cover of native plants and grasses within the rain gardens is essential to long-term function of these systems. All orifices, outlet structures, pipes, and spillways must be maintained as specified in this Agreement.

“As-built” construction drawings of the ponds and rain gardens, showing actual dimensions, elevations, outlet structures, etc. will be recorded as an addendum(s) to this agreement within 60 days after Waukesha County accepts verification of construction from the project engineer.

Minimum Maintenance Requirements – Ponds:

To ensure the proper long-term function of the stormwater management practices described above, the following activities must be completed:

1. All outlet pipes must be checked monthly to ensure there is no blockage from floating debris or ice. Any blockage must be removed immediately.
2. Grass swales shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling is allowed that may interrupt flows in any way.
3. Grass swales, inlets and outlets must be checked after heavy rains (minimum of annually) for signs of erosion. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the downstream ponds. Erosion matting is recommended for repairing grassed areas.
4. NO trees are to be planted or allowed to grow on the earthen berms. Tree root systems can reduce soil compaction and cause berm failure. The berms must be inspected annually and any woody vegetation removed.
5. Invasive plant and animal species shall be managed in compliance with Wisconsin Administrative Code Chapter NR 40. This may require eradication of invasive species in some cases.
6. If the permanent pool falls below the safety shelf, a review shall be performed to determine whether the cause is liner leakage or an insufficient water budget. If the cause is leakage, the liner shall be repaired. Leakage due to muskrat burrows may require removal of the animals, repair of the liner with clay, and embedding wire mesh in the liner to deter further burrowing. If the permanent pool cannot be sustained at the design elevation, benching of the safety shelf may be necessary.
7. If floating algae or weed growth becomes a nuisance (decay odors, etc.), it must be removed from the pond and deposited where it cannot drain back into the pond. Removal of the vegetation from the water reduces regrowth the following season (by harvesting the nutrients). Wetland vegetation must be maintained along the waters edge for safety and pollutant removal purposes.
8. If mosquitoes become a nuisance, the use of mosquito larvicide containing naturally-occurring Bti soil bacteria is recommended.
9. When sediment in the ponds has accumulated to an elevation of three feet below the outlet elevation, it must be removed (see Exhibit D). All removed sediment must be placed in an appropriate upland disposal site and stabilized (grass cover) to prevent sediment from washing back into the pond. Failure to remove sediment from the ponds will cause resuspension of previously trapped sediments and increase downstream deposition.
10. No grading or filling of the pond or berm other than for sediment removal is allowed, unless otherwise approved by the Village of Vernon or Village of Mukwonago.

Exhibit C

Stormwater Practice Maintenance Plan (continued)

11. Periodic mowing of the grass swales will encourage vigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife. Mowing around the ponds may attract nuisance populations of geese to the property and is not necessary or recommended.
12. Any other repair or maintenance needed to ensure the continued function of the stormwater practices or as ordered by the Village of Vernon or Village of Mukwonago under the provisions listed on page 1 of this Agreement.
13. Aerators/Fountains – If an aerator or fountain is desired for visual and other aesthetic effects (aerators designed to mix the contents of the pond are prohibited) they must meet all of the items below:
 - Use an aerator/fountain that does not have a depth of influence that extends into the sediment storage depth (i.e. more than three feet below the normal water surface).
 - If the water surface drops due to drought or leakage, the aerator / fountain may not be operated until the water rises enough for the depth of influence to be above the sediment storage layer. Therefore, if the depth of influence of the aerator / fountain is two feet, the water surface must be within one foot or less of the lowest pond outlet.
 - Provide an automatic shut-off of the aerator/fountain as the pond starts to rise during a storm event. The aerator/fountain must remain off while the pond depth returns to the permanent pool elevation and, further, shall remain off for an additional 48 hours, as required for the design micron particle size to settle to below the draw depth of the pump.
 - Configure the pump intake to draw water primarily from a horizontal plane so as to minimize the creation of a circulatory pattern from bottom to top throughout the pond.

Minimum Maintenance Requirements – Rain Gardens:

To ensure the proper function of rain gardens, the following list of maintenance activities are recommended:

1. A minimum of 70% soil cover made up of native grasses must be maintained on the basin bottom to ensure infiltration rates. Periodic burning or mowing and controlled burning every 5 to 10 years is recommended to enhance establishment of the prairie grasses (which may take 2-3 years) and maintain the minimum native cover. To reduce competition from cool season grasses (bluegrass, fescues, quack, etc.) and other weeds:
 - For the first year, cut to a 6” height three times – once each in June, July and early August. To prevent damage to the native grasses, do not mowed below a 6” height. Remove excessive accumulation of clippings to avoid smothering next year’s seedlings.
 - After the first year, mowing may only be needed in early June each year to help control the spread of cool season plants. The mowing should also be raised to 10-12” to avoid damage to the warm season plants.
 - Burning may also be used to manage weeds in 2-5 years intervals. Late spring burns (mid-late May) provide maximum stimulus to warm season grasses and work well to control cool season grasses. Burn when the cool season grasses are growing and the warm season plants are just barely starting to grow to get maximum control of cool season species.
 - Any major bare areas or areas taken over by nonnative species must be reseeded. To clear area of weeds and cool season grasses, treat with an herbicide that contains glyphosphate in accordance with manufacture’s instructions. Ensure a firm seedbed is prepared to a depth of 3 inches (a roller is recommended). Seeding should occur in early-mid June. Seed with Big Bluestem, Indian Grass, Little Blue Stem or Switchgrass (preferably an equal mix of all four types). A companion crop of oats is recommended. Seed must be placed at a depth of 1/4 – 1/2” and a minimum rate of 1/4 pound per 100 square feet. If broadcast seeding by hand, drag leaf rake over soil surface after seeding. Then roll it again and cover with a light layer of mulch and staked erosion control netting to hold it in place until germination. For other planting details, see NRCS standard 342 (Critical Area Planting).
2. The rain gardens and all components (grass swales, inlets, outlets, etc.) should be inspected after each heavy rain, but at a minimum of once per year. If the basin is not draining properly (within 72 hours), further inspection may be required by persons with expertise in storm water management and/or soils.
 - If soil testing or observations show that the soil surface has become crusted, sealed or compacted, some deep tillage should be performed. Deep tillage will cut through the underlying soils at a 2-3 foot depth, loosening the soil and improving infiltration rates, with minimal disturbance of the surface vegetation. Types of tillage equipment that can be used include a subsoiler or straight, narrow-shanked chisel plow.

Exhibit C

Stormwater Practice Maintenance Plan (continued)

- If sedimentation is determined to be causing the failure, the accumulated sediment must be removed and the area reseeded in accordance with the notes above.
- 3. All flow control devices must be kept free of debris. Any blockage must be removed immediately.
- 4. Any eroding areas must be repaired immediately to prevent premature sediment build-up in the system. Erosion matting is recommended for repairing grassed areas.
- 5. Heavy equipment and vehicles must be kept off of the bottom and side slopes of basins to prevent soil compaction. Soil compaction will reduce infiltration rates and may cause failure of the rain garden, resulting in ponding and possible growth of wetland plants.
- 6. No trees are to be planted or allowed to grow on the earthen berms or the bottom of the rain garden. On the berms, tree root systems can reduce soil compaction and cause berm failure. On the basin bottom, trees may shade out the native grasses. The rain garden must be inspected annually and any woody vegetation removed.
- 7. Grass swales leading to the rain garden shall be preserved to allow free flowing of surface runoff in accordance with approved grading plans. No buildings or other structures are allowed in these areas. No grading or filling of swales is permitted.
- 8. No grading or filling of the rain garden or berms other than for sediment removal is allowed, unless otherwise approved by the Village of Vernon or Village of Mukwonago.
- 9. Periodic mowing of grass swales will encourage rigorous grass cover and allow better inspections for erosion. Waiting until after August 1 will avoid disturbing nesting wildlife.
- 10. Any other repair or maintenance needed to ensure the continued function of the rain garden as ordered by the Village of Vernon or Village of Mukwonago under the provisions listed on page 1 of this Agreement.

**VILLAGE OF MUKWONAGO
WAUKESHA AND WALWORTH COUNTIES**

RESOLUTION NO. 2024-42

**RESOLUTION APPROVING THE PLANNED UNIT DEVELOPMENT OVERLAY FINAL
DEVELOPMENT PLAN FOR PHASE 1 OF CARDINAL RIDGE SUBDIVISION, NEUMANN
DEVELOPMENTS, INC.**

WHEREAS, pursuant to Chapter 100-53 of the Municipal Code, an application by Neumann Developments, Inc. was submitted for a Planned Unit Development (hereinafter “PUD”) for the vacant 16.50-acre property located at S92W27720 Edgewood Avenue, between National Avenue and Edgewood Avenue, also known as the lands attached and executed in Ordinance 1030, in the Village of Mukwonago, which is part of the overall subdivision known as Cardinal Ridge, and

WHEREAS, a PUD application requires the submittal of a Final Development Plan for each phase of the subdivision within the PUD overlay for review by the Village Plan Commission and Village Board, and

WHEREAS, Neumann Developments, Inc. has submitted a Final Development Plan for Phase 1 for the PUD in the form of a formal request, civil site drawings, storm water management plan and storm water maintenance agreement, and

WHEREAS, the subject property has base zoning classification of R-3, and

WHEREAS, R-3 zoning requires a minimum lot area of 10,000 square feet and the applicant is requesting a minimum lot area of 9,000 square feet with associated set-back and lot width reductions, and

WHEREAS, the Village Board approved the General Development Plan and associated PUD modifications at it’s regular meeting on April 17, 2024, and

WHEREAS, the Plan Commission has reviewed the applicants Final Development Plan for Phase 1 at their meeting on August 12, 2024 and recommended Village Board approval of the same, and

WHEREAS, the Plan Commission conducted a public hearing at their meeting on August 12, 2024, regarding the same matter, and

WHEREAS, Neumann Developments, Inc. will apply for Final Development Plan approval of future phases within the Village of Mukwonago at a later date and shall not proceed with development on such phases until approval is received.

NOW, THEREFORE, BE IT RESOLVED by the Village Board of the Village of Mukwonago, Wisconsin hereby approves the Final Development Plan for Phase 1 for the project with civil site plans dated July 17, 2024 and a storm water management plan dated July 19, 2024.

NOW, THEREFORE, BE IT FURTHER RESOLVED no development with the exception of land disturbing activity as outlined in the early grading agreement approved at the July 17, 2024 Village Board Meeting may be undertaken until the following conditions have been satisfied:

1. A Developer Agreement is executed by both the Village of Mukwonago and Village of Vernon for the Cardinal Ridge Subdivision.
2. A letter of credit is provided in the Village's Standard Form for all Phase 1 improvements.
3. A signed copy of the storm water maintenance agreement is provided for execution.
4. A preconstruction meeting is held with pertinent development staff, contractors, and Village Department Heads prior to development beyond site grading work.

Passed and adopted by the Village of Mukwonago Village Board this 21st day of August, 2024.

VILLAGE OF MUKWONAGO

By: _____
Fred Winchowky, Village President

Attest: _____
Diana Dykstra, Village Clerk

** Please see last two pages for updates! 7/17/2024 FF*

Village of Mukwonago
440 River Crest Court
Mukwonago, WI 53149
Phone: (262) 363-6420
Fax: (262) 363-6425
www.villageofmukwonago.com

VILLAGE OF MUKWONAGO SPECIAL EVENT PERMIT APPLICATION

Application Fee: See fee sheet

Date Submitted: 2/5/24

Total Fees Paid: \$20- 5/2/24



Application must be received a minimum of 90 days prior to the special event. Fees are non-refundable.

ORGANIZATION INFORMATION

Name of Organization: Mukwonago Area Chamber of Commerce + Tourism
Mailing Address: 100 Atkinson St. City: Mukwonago State: WI Zip: 53149
Phone Number: (262) 363-7758 Is the organization a 501(c)3 organization?: ☐ YES ☒ NO
Website Address: www.mukwonagochamber.org
Event Contact Person: April Reszka
Mailing Address: Same as above City: _____ State: _____ Zip: _____
Home Phone: _____ Work Phone: (262) 363-7758 Cell Phone: 
Email Address: director@mukwonagochamber.org

EVENT INFORMATION

Name of the Event: MACC Fall Fest Date(s) of the Event: Saturday, September 21, 2024
Event Start Time: 8am setup (10am start) Event End Time: 4pm (clean up 5pm)
Location of the Event: Village of Mukwonago

- A. Will your event take place in a residential neighborhood? If yes, you will be required to notify all adjacent property owners when the event will occur. ☐ YES ☒ NO
- B. Please provide your COVID-19 Action Plan.
- C. You MUST attach a detailed map/sketch of your event indicating the specific location, layout of your event, and the direction of the route, including all turns and the number of traffic lanes to be used.
- D. If you are using a Village park, you must reserve the park through the Village Clerk-Treasurer's Office prior to getting your special event permit approved by the Village Board. Call 262-363-6420, Option 4.
- E. Generally describe your event and its purpose.
see plan of operation

F. Based on the class definitions found in the manual, what class is your event? ☒ CLASS I ☐ CLASS II

G. Estimated # of participants: 150 Spectators: 2000-3000 Vendors: 75+

OTHER INFORMATION

- A. Is there an outdoor bar that will serve alcohol? If yes, temporary Class B beer and/or wine (picnic) and operator (bartender) licenses are necessary under separate application. ☒ YES ☐ NO

- B. Please list the number of Village of Mukwonago licensed bartenders that will be on site: 1
- C. Will you be selling/serving food? *If yes, you will need to contact Waukesha County Health Department (262-896-8300) for proper permits.* ☒ YES ☐ NO
- D. Will your event need electricity? *If yes, the Fire Department and Building Inspection Department will need to inspect prior to being energized.* ☐ YES ☒ NO
- E. Will you be setting up any lighting? *If yes, the Fire Department and Building Inspection Department will need to inspect prior to being energized.* ☐ YES ☒ NO
- F. Will your event require any fencing? *If yes, please provide plans for the fencing location and the gates.* ☐ YES ☒ NO
- G. Does your event involve fireworks? *If yes, you will need to contact the Fire Department (262-363-6426) for proper permits.* ☐ YES ☒ NO
- H. Does your event involve amplified music? ☒ YES ☐ NO
 If yes, will the amplified music be a: ☐ Band ☒ DJ ☐ Other
 Hours of amplified music: 10am - 4pm
- I. Please list the number of security staff you will be providing for the event: police to provide
- J. Will you need barricades provided by the Village for your event? ☒ YES ☐ NO
 If yes, how many? see plan of operation
- K. Will you be erecting any tents, canopies, or other temporary structure(s)? *If yes, please provide a plan for their proposed locations. The Fire Department and Building Inspection Department will need to inspect these structures prior to the start of your event.* ☒ YES ☐ NO
- L. Will you be providing portable restrooms and wash stations? *If yes, please provide a description of how many restrooms/wash stations will be provided, their locations, and the plan for how solid waste will be disposed of.* ☒ YES ☐ NO
- M. Will you provide parking for your participants? *If yes, please provide a plan describing where parking will be available.* ☒ YES ☐ NO
- N. Will you provide dumpster/clean-up services? *If yes, please provide a clean-up and refuse collection plan.* ☒ YES ☐ NO
- O. What other assistance do you foresee needing from the Village (personnel, materials, equipment, etc.)?
see plan of operation

- P. Have you reviewed and do you have a copy of the Village of Mukwonago Special Events Manual and the Village of Mukwonago Ordinance? ☒ YES ☐ NO

INSURANCE REQUIREMENTS

The Special Event Sponsor will provide evidence of liability insurance in a form acceptable to the Village Attorney, with limits of not less than \$1 Million per occurrence and \$2 Million in the aggregate, which coverage names the Village of Mukwonago, its officers, agents, employees and contractors as Additional Insured on a primary and non-contributory basis. Evidence of this coverage must be provided by a Policy Endorsement received by the Village not less than 20 days prior to the event. A Certificate of Insurance must evidence this coverage throughout the duration of the event. Applicant further agrees to indemnify and hold harmless the Village of Mukwonago, its officers, agents, employees, contractors and assigns, as and against any and all claims, demands, actions and causes of action, including actual attorney fees, arising from the Applicant's use of Village property and the issuance of this Permit.

Are you able to provide these insurance documents, if required?: ☒ YES ☐ NO

PROCEDURAL CHECKLIST FOR SPECIAL EVENT PERMIT REVIEW AND APPROVAL

This form is designed to be a guide for submitting a complete application for a special event.

Application:

- ☐ Completed application form including the procedural checklist.
- ☐ Application fee: see fee sheet.

Other Documents:

- ☐ Plan of operation/proposal.
- ☐ Overview of the site to be used for the event (layout of the event site).
- ☐ Any additional information as determined by Village staff.

DEPOSIT REQUIREMENTS

The applicant may be required to submit to the Village Clerk-Treasurer's Office a cleaning/damage deposit of \$200 for each scheduled day of the event (or portion thereof) two weeks prior to the starting date of the event. That deposit shall be refunded to the applicant, if, upon inspection, all is in order, or a prorated portion thereof as may be necessary to reimburse the Village for loss or cleaning costs. The Village reserves the right to retain the entire deposit if cleanup is not completed satisfactorily in the time frame as specified in the permit. Unless otherwise stated in the permit, the applicant shall be fully responsible for all necessary cleanup associated with the permitted event to be completed within 12 hours after the conclusion of the event. (This deposit is separate from any deposit required for rental of Village parks).

TERMINATION OF AN EVENT

The Village reserves the right to shut down a special event that is in progress if it is deemed to be a public safety hazard by the Police Department, Fire Department, and/or there is a violation of Village Ordinances, State Statutes or the terms of the applicant's permit. The Village Administrator and/or his/her designee may revoke an approved Special Events Permit if the applicant fails to comply in good faith with the provisions of the permit prior to the event date.

CERTIFICATION

By signing this form, the applicant certifies authorization to act on behalf of their organization, and hereby agrees to hold the Village, its officers, agents, employees, and contractors harmless against all claims, liability, loss, damage or expense (including but not limited to actual attorney fees) incurred by the Village for any damage or injury to person or property caused by or resulting directly or indirectly from the activities for which the permit is granted. Any change to coverage requires Village approval.

(The applicant's signature must be from a Managing Member if the business/organization is an LLC, or from the President or Vice President if the business/organization is a corporation. A signed applicant's authorization letter may be provided in lieu of the applicant's signature below.)


Signature - Applicant

April Reszka - Executive Director
Name & Title (PRINT)

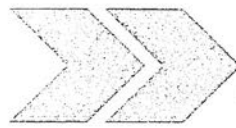
2/5/2024
Date

Signature - Applicant

Name & Title (PRINT)

Date

FOR OFFICE USE ONLY			
Date Fees Paid	Receipt #	Date Deposit Paid	Deposit Returned?
Police Department:	Approved ☒ Denied ☐ Comments:	<i>*Need to have emergency access at all areas</i>	
Fire Department:	Approved ☒ Denied ☐ Comments:		
Public Works Department:	Approved ☐ Denied ☐ Comments:		
Village Clerk:	Approved ☒ Denied ☐ Comments:		
Village Board Approval Date	Village President Signature	Permit #	Issue Date



MUKWONAGO

AREA CHAMBER OF COMMERCE

Mukwonago Fall Fest Plan of Operation/Downtown

Saturday, September 21st, 2024

10am - 4pm

Mukwonago Area of Chamber of Commerce & Tourism Center's Mission Statement:

The Mukwonago Area Chamber of Commerce & Tourism Center is an organization of community focused leaders dedicated to promoting a positive business environment by supporting economic development through networking, educating and promoting our local businesses, as a voice and resource for business, education, agriculture, civic and community organizations throughout the Mukwonago Area.

PLAN:

- Fall Fest to be held downtown - Please see area map attached
- Road Closures: ~~Fox~~, Atkinson, & Main from Atkinson - Henry
- Set-up 8am (roads closed), cleanup 4:01pm - Committed to assisting in opening the roads as quickly as possible
- Chamber Staff on premise from 6:30am - 5pm
- Expecting: 2000—3000 patrons, 75+ vendors, 150 participant, and 20 chamber member businesses to participate
- No electricity provided
- Have requested additional police coverage ~~(2)~~ reserve officers
- Chamber Staff has been trained as crossing guards
- Parking for volunteers and patrons will be included on the Event Map, such as Mt. Olive, Little Lambs Childcare, & the Public Lot

DPW:

- Barricades- ~~Both ends of Fox St.~~, Main St., Atkinson St.- West, Atkinson St. East (parking lot entrance/exit behind Red Brick). Parking lot behind chamber (2) and gravel driveway Mt. Olive greenspace (1). Barricades on Henry (2), one West and East (on each side of Main)
- Picnic Tables on Atkinson St. (6), ~~Fox St. (6)~~, & on Square (4)
- Orange Barrels behind chamber office with orange fencing for pumpkins
- Garbage & Recycling Cans - will be ordered from John's Disposal

FOUR AREAS:

- ~~Monster Mash (Fox St.) Concession Stand, Beer Tent, Chili Cook Off, Police & Fire Displays, a few Vendors & Live Music~~
- Harvest Hollow (Square) Shopping, DJ, Children's Activities, Member Booths, Pumpkin Carving Demonstration & Hand Washing Station/Portable Toilet
- Pumpkin Patch (Atkinson St.) Pumpkin Painting, Children's Activities & a few Vendors
- Goblin's Glen (Main St.) Live Performances, Crafter & Vender Booths, & Inflatables, + Portable Toilet

Please call April Reszka at the chamber office with any questions

Office: (262) 363-7758 Cell: (262) 751-1651

MUKWONAGO AREA CHAMBER OF COMMERCE & TOURISM CENTER
262.363.7758 www.mukwonagochamber.org

Updated: 2/5/2024

7/17/2024 368



Mukwonago Fall Fest Plan of Operation/Downtown
Saturday, September 21st, 2024
10am - 4pm

Mukwonago Area of Chamber of Commerce & Tourism Center's Mission Statement:

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PLAN:

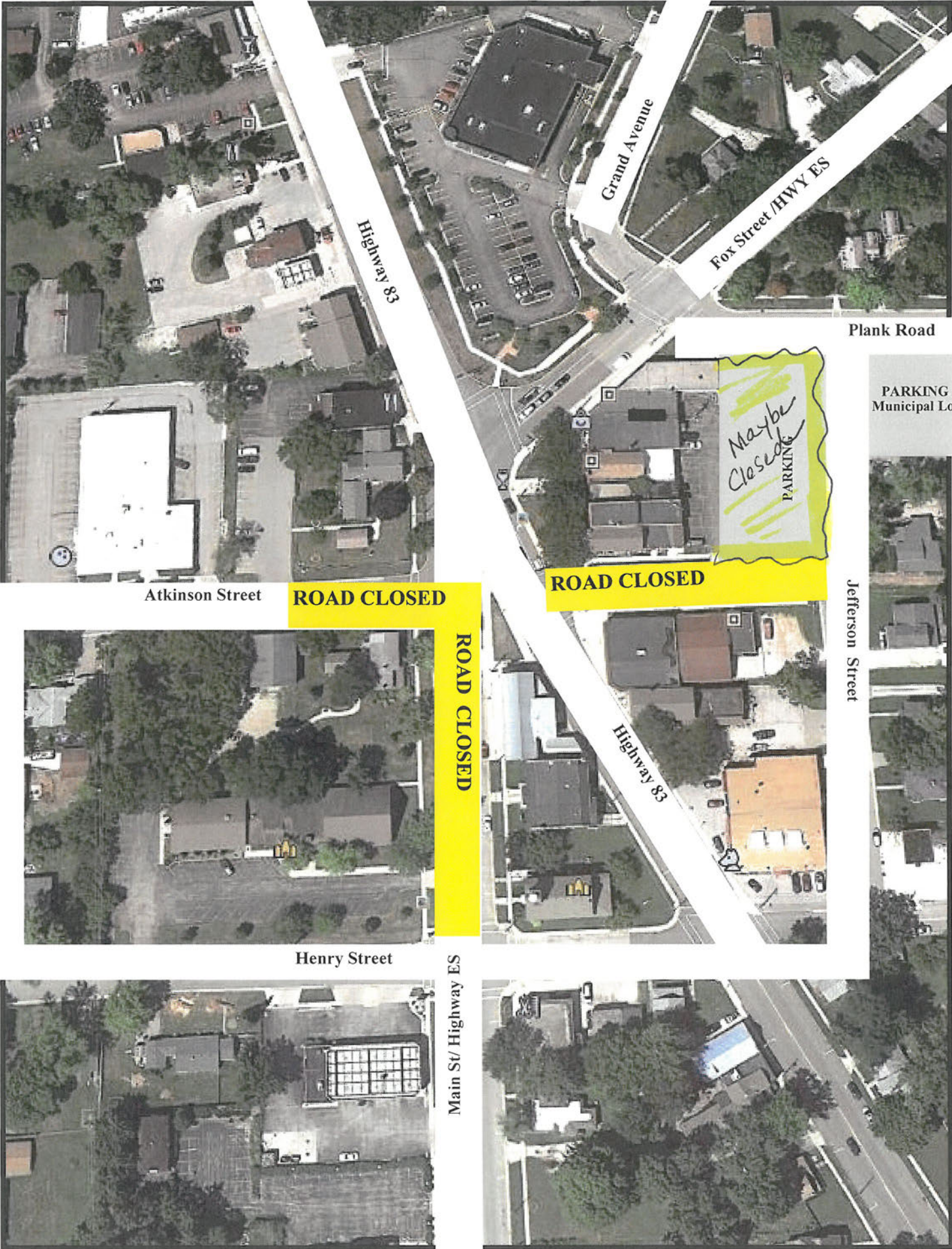
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- Chamber Staff on premise from 6:30am - 5pm
- Expecting: 2000—3000 patrons, 75+ vendors, 150 participant, and 20 chamber member businesses to participate
- No electricity provided
- Have requested additional police coverage (1 reserve officer)
- Chamber Staff has been trained as crossing guards
- Parking for volunteers and patrons will be included on the Event Map, such as Mt. Olive, Little Lambs Childcare, & the Public Lot

DPW:

- Barricades- Both ends of Main St., Atkinson St.- West, Atkinson St. East (parking lot entrance/exit behind Red Brick). Parking lot behind chamber (2) and gravel driveway Mt. Olive greenspace (1). Barricades on Henry (2), one West and East (on each side of Main)
- Picnic Tables on Atkinson St. (6), & on Square (6)
- Orange Barrels behind chamber office with orange fencing for pumpkins
- Jay Campbell will allow the Chamber to use the parking lot for activities if needed
- Garbage Cans - will be ordered from John's Disposal

FOUR AREAS:

- Concession Stand, Chili Cook Off, Police & Fire Displays, a few Vendors & Live Music
- Harvest Hollow (Square) Shopping, DJ, Children's Activities, Member Booths, Pumpkin Carving Demonstration & Hand Washing Station/Portable Toilet
- Pumpkin Patch (Atkinson St.) Pumpkin Painting, Children's Activities & a few Vendors
- Goblin's Glen (Main St.) Live Performances, Crafter & Vender Booths, Beer Tent, Portable Toilet & Inflatables



Accounts Payable Cover Sheet

Report:

Village Accounts Payable

**Period or corresponding
report date**

8/15/2024

\$

82,869.71

Total for Approval: \$ 82,869.71

The preceding list of bills payable was approved for payment

Date: _____

Approved by: _____

08/15/2024 02:08 PM
User: MROCKLEY
DB: Mukwonago

PENDING VILLAGE BOARD REVIEW FOR MUKWONAGO
EXP CHECK RUN DATES 08/22/2024 - 08/22/2024
UNJOURNALIZED OPEN
BANK CODE: GEN

Page: 1/10

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT	POST DATE
VENDOR NAME: AERO COMPRESSED GASES						
487052	NNO HELIUM	340-5890-580602	496.00	496.00	POLICE	08/22/2024
TOTAL VENDOR AERO COMPRESSED GASES				496.00		
VENDOR NAME: AIRGAS USA LLC						
9152365337	EMS SUPPLIES OXYGEN	150-5231-531100	346.74	346.74	FIRE	08/22/2024
TOTAL VENDOR AIRGAS USA LLC				346.74		
VENDOR NAME: AMAZON CAPITOL SERVICES						
16NKTYPL7TYK	SEAL KITS, SPEEDI SLEEVES, SHOP CLOCK AN	100-5324-539500	142.72	210.51	DPW	08/22/2024
		100-5323-531100	9.79			
		100-5254-531100	58.00			
1K6HLPFTR67M	ELECTION SUPPLIES	100-5144-531100	17.63	17.63	CLERK	08/22/2024
TOTAL VENDOR AMAZON CAPITOL SERVICES				228.14		
VENDOR NAME: BARRIENTOS DESIGN & CONSULTING						
1949	FACILITIES STUDY	610-6920-692300	1,211.55	2,423.10	FINANCE	08/22/2024
		620-8400-852000	1,211.55			
TOTAL VENDOR BARRIENTOS DESIGN & CONSULTING				2,423.10		
VENDOR NAME: BASSETT MECHANICAL						
6511718C	MAINTENANCE SERVICE AGREEMENT	620-8400-852000	1,105.00	1,105.00	UTILITIES	08/22/2024
TOTAL VENDOR BASSETT MECHANICAL				1,105.00		
VENDOR NAME: BOUND TREE MEDICAL LLC						
85434450	EMS SUPPLIES	150-5231-531100	188.56	188.56	FIRE	08/22/2024
85437633	EMS SUPPLIES	150-5231-531100	112.99	112.99	FIRE	08/22/2024
85447228	EMS SUPPLIES	150-5231-531100	767.24	767.24	FIRE	08/22/2024
85447229	EMS SUPPLIES	150-5231-531100	26.66	26.66	FIRE	08/22/2024
TOTAL VENDOR BOUND TREE MEDICAL LLC				1,095.45		
VENDOR NAME: BUELOW, VETTER, BUIKEMA, OLSON						
JULY 2024 ACTIVITI	GENERAL LIBRARY AND POLICE MATTERS	100-5142-521900	142.50	4,987.50	FINANCE	08/22/2024
		100-5211-521900	4,845.00			
TOTAL VENDOR BUELOW, VETTER, BUIKEMA, OLSON				4,987.50		
VENDOR NAME: C & M AUTO PARTS INC						
6079-385876	SHOP HAND SOAP	100-5323-531100	25.99	25.99	DPW	08/22/2024
6079-386428	SQUAD 30 FUSES	100-5212-539500	17.99	17.99	POLICE	08/22/2024
6079-386346	SQUAD 30 BATTERY	100-5212-539500	210.19	210.19	POLICE	08/22/2024
6079-386260	WIRING REPAIR	610-6200-662500	4.74	4.74	UTILITIES	08/22/2024
6079-386235	EQUIPMENT FUSES	100-5324-539500	31.85	31.85	DPW	08/22/2024
6079-386147	OIL DRI	100-5323-531100	44.95	44.95	DPW	08/22/2024
TOTAL VENDOR C & M AUTO PARTS INC				335.71		
VENDOR NAME: CINTAS						

08/15/2024 02:08 PM

User: MROCKLEY

DB: Mukwonago

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INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		AMOUNT	APPROVAL DEPARTMENT	POST DATE
VENDOR NAME: CINTAS						
4200886682	STAFF UNIFORMS AND SHOP SUPPLIES	100-5323-531100	123.09	123.09	DPW	08/22/2024
4200886772	UNIFORM SERVICE	610-6920-693000	57.35	114.71	UTILITIES	08/22/2024
		620-8400-856000	57.36			
4201595662	STAFF UNIFORMS AND SHOP SUPPLIES	100-5323-531100	123.09	123.09	DPW	08/22/2024
4201595822	UNIFORM SERVICE	610-6920-693000	57.36	114.71	UTILITIES	08/22/2024
		620-8400-856000	57.35			
TOTAL VENDOR CINTAS				475.60		
VENDOR NAME: CLASSIC CONCRETE & MASONRY						
080624	SIDEWALK REPLACEMENT PROGRAM	480-5700-586300	3,096.00	3,096.00	DPW	08/22/2024
TOTAL VENDOR CLASSIC CONCRETE & MASONRY				3,096.00		
VENDOR NAME: CLERKBASE, INC						
12574	CLERK BASE SOFTWARE	100-5142-522900	800.00	800.00	CLERK	08/22/2024
TOTAL VENDOR CLERKBASE, INC				800.00		
VENDOR NAME: CONLEY MEDIA, LLC						
6362410724-2	PH NOTICE PLAN COMM	100-5632-531200	66.26	66.26	PLANNER	08/22/2024
TOTAL VENDOR CONLEY MEDIA, LLC				66.26		
VENDOR NAME: COREY OIL, LTD						
560826	HYDRAULIC FLUID	100-5324-535100	549.85	549.85	DPW	08/22/2024
TOTAL VENDOR COREY OIL, LTD				549.85		
VENDOR NAME: COUNTY MATERIALS CORPORATION						
4076095-00	MATERIAL BIN BLOCKS	610-6452-665200	1,110.00	1,110.00	UTILITIES	08/22/2024
4076074-00	BIN BLOCKS FOR TOP SOIL	100-5521-531100	972.00	972.00	DPW	08/22/2024
TOTAL VENDOR COUNTY MATERIALS CORPORATION				2,082.00		
VENDOR NAME: DIGGERS HOTLINE INC						
240738301 DPW	STORM SEWER LOCATES	100-5344-539500	60.37	60.37	DPW	08/22/2024
240738301 UTILITIES	DIGGERS HOTLINE FEE	610-6920-693000	60.36	120.72	UTILITIES	08/22/2024
		620-8400-856000	60.36			
TOTAL VENDOR DIGGERS HOTLINE INC				181.09		
VENDOR NAME: DRAGONFLY EMBROIDERY						
22210	NEW DISPATCHER UNIFORMS	100-5211-534700	66.00	66.00	POLICE	08/22/2024
22214	VILLAGE LOGO	100-5670-531100	24.00	87.15	CLERK	08/22/2024
		100-5241-531100	30.00			
		100-5142-531100	33.15			
TOTAL VENDOR DRAGONFLY EMBROIDERY				153.15		
VENDOR NAME: DYNAMIC AWARDS						

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VENDOR NAME: DYNAMIC AWARDS						
23219	NNO SHIRTS	340-5890-580602	105.00	105.00	POLICE	08/22/2024
TOTAL VENDOR DYNAMIC AWARDS				105.00		
VENDOR NAME: EBIX						
13453	EBIX INVOICE	150-5231-521900	6,643.41	6,643.41	FIRE	08/22/2024
TOTAL VENDOR EBIX				6,643.41		
VENDOR NAME: EMPATHIA, INC.						
52037	QUARTERLY EAP BENEFIT COST	100-5141-515900	3.54	438.75	ALLOCATE	08/22/2024
		100-5241-515900	10.61			
		100-5142-515900	7.08			
		100-5120-511000	7.08			
		100-5632-515900	3.54			
		150-5221-515900	130.92			
		440-5511-515900	92.00			
		100-5211-515900	106.15			
		100-5300-515900	38.92			
		610-6920-515900	14.16			
		620-8400-515900	14.15			
		100-5145-515900	10.60			
TOTAL VENDOR EMPATHIA, INC.				438.75		
VENDOR NAME: ENVIROTECH EQUIPMENT						
24-0023993	PIPE JETTING EQUIPMENT	620-8010-827000	1,869.28	1,869.28	UTILITIES	08/22/2024
TOTAL VENDOR ENVIROTECH EQUIPMENT				1,869.28		
VENDOR NAME: ETNA SUPPLY						
S105586503.002	MAIN AND SERVICE PARTS	610-6451-664100	405.00	924.50	UTILITIES	08/22/2024
		610-6452-665200	519.50			
TOTAL VENDOR ETNA SUPPLY				924.50		
VENDOR NAME: EXCEL BUILDING SERVICES LLC						
4274	PD BUILDING CLEANING SERVICE	100-5211-539400	975.00	975.00	POLICE	08/22/2024
TOTAL VENDOR EXCEL BUILDING SERVICES LLC				975.00		
VENDOR NAME: FOREMOST PROMOTIONS						
727691	FIRE PREVENTION MATERIALS	150-5221-531300	1,221.14	1,221.14	FIRE	08/22/2024
TOTAL VENDOR FOREMOST PROMOTIONS				1,221.14		
VENDOR NAME: FOSTER COACH SALES						
27838	AMBULANCE TURN SIGNAL	150-5231-539500	94.97	94.97	FIRE	08/22/2024
TOTAL VENDOR FOSTER COACH SALES				94.97		
VENDOR NAME: GENERAL CODE, CMS						
PG000037341	PLANNING FLOOD PLAIN ORDINANCE	100-5632-531200	1,116.00	1,116.00	PLANNER	08/22/2024
PG000037341	FINANCE ORDINANCE CHANGE PER ADMIN REQUEST	100-5141-521900	18.00	18.00	FINANCE	08/22/2024
PG000037341	DPW CODE CODIFICATION	100-5300-521900	18.00	18.00	DPW	08/22/2024

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VENDOR NAME: GENERAL CODE, CMS					
PG000037341 UTILITIES	ORDINANCES	610-6920-692300	9.00	18.00 UTILITIES	08/22/2024
		620-8400-852000	9.00		
PG000037341 CLERK ORDINANCE CODIFICATIONS					
		100-5142-531200	33.00	33.00 CLERK	08/22/2024
TOTAL VENDOR GENERAL CODE, CMS				1,203.00	
VENDOR NAME: GENESEE AGGREGATE CORP					
22245	BEDDING STONE	610-6452-665200	576.50	576.50 UTILITIES	08/22/2024
22246	BEDDING STONE	610-6451-665100	147.49	147.49 UTILITIES	08/22/2024
TOTAL VENDOR GENESEE AGGREGATE CORP				723.99	
VENDOR NAME: GENESEE AGGREGATE TRUCKING					
T22245	BEDDING STONE-HAULING FEE	610-6452-665200	315.02	315.02 UTILITIES	08/22/2024
T22246	BEDDING STONE-HAULING FEE	610-6451-665100	123.21	123.21 UTILITIES	08/22/2024
TOTAL VENDOR GENESEE AGGREGATE TRUCKING				438.23	
VENDOR NAME: GRAINGER					
9208315680	GRIT TANK-SLOW CLOSE VALVES	620-8010-827000	525.56	525.56 UTILITIES	08/22/2024
TOTAL VENDOR GRAINGER				525.56	
VENDOR NAME: HAHN ACE HARDWARE					
JULY 2024 UTILITIES	VARIOUS-HARDWARE, PIPING, SUPPLIES	610-6300-663200	64.32	207.08 UTILITIES	08/22/2024
		610-6210-662300	13.45		
		620-8010-834000	47.74		
		620-8010-827000	81.57		
JULY 2024 DPW	MISC SUPPLIES	100-5324-539500	7.85	148.33 DPW	08/22/2024
		100-5348-531100	18.98		
		100-5323-531100	75.42		
		100-5521-531100	46.08		
JULY 2024 POLICE	MISCELLANEOUS HARDWARE	100-5211-539400	14.38	14.38 POLICE	08/22/2024
JULY 2024 FIRE	ACE HARDWARE INVOICE	150-5221-531100	56.27	56.27 FIRE	08/22/2024
TOTAL VENDOR HAHN ACE HARDWARE				426.06	
VENDOR NAME: HAWKINS WATER TREATMENT					
6830852	WATER TREATMENT CHEMICALS	610-6300-663100	2,797.44	2,797.44 UTILITIES	08/22/2024
TOTAL VENDOR HAWKINS WATER TREATMENT				2,797.44	
VENDOR NAME: HINCKLEY SPRINGS					
23853226080324	VILLAGE HALL & DPW DRINKING WATER	100-5160-531100	24.82	49.64 DPW	08/22/2024
		100-5323-531100	24.82		
23849324080324	LAB SUPPLIES	620-8010-826000	224.20	224.20 UTILITIES	08/22/2024
TOTAL VENDOR HINCKLEY SPRINGS				273.84	
VENDOR NAME: HIPPENMEYER, REILLY, BLUM,					
56666	PROSECUTIONS	100-5130-521900	1,605.00	1,605.00 FINANCE	08/22/2024

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VENDOR NAME: HIPPENMEYER, REILLY, BLUM,						
TOTAL VENDOR HIPPENMEYER, REILLY, BLUM,				1,605.00		
VENDOR NAME: HOFFMAN, AMIRA						
080124	AMIRA HOFFMAN WI DNR ATV COURSE	150-5223-533500	36.70	36.70	FIRE	08/22/2024
081224	2024 CLOTHING ALLOWANCE - HOFFMAN	150-5222-534600	112.92	112.92	FIRE	08/22/2024
2024 AEMT CLASSES	REIMBURSE CLASS EXPENSE	150-5880-580500	1,682.19	1,682.19	FIRE	08/22/2024
TOTAL VENDOR HOFFMAN, AMIRA				1,831.81		
VENDOR NAME: HORN OIL						
JULY 2024	JULY 2024 MONTHLY FUEL	100-5212-535100	3,841.52	9,522.45	ALLOCATE	08/22/2024
		100-5241-535100	63.98			
		100-5324-535100	1,002.49			
		150-5222-535100	618.54			
		150-5231-535100	2,363.42			
		610-6920-693300	352.28			
		620-8010-828000	899.96			
		620-8030-828000	209.87			
		100-5323-531100	109.20			
		100-5324-535100	61.19			
TOTAL VENDOR HORN OIL				9,522.45		
VENDOR NAME: HYDROCORP						
CI-01424	COMMERCIAL CROSS CONNECTION PROGRAM	610-6920-692300	1,413.00	1,413.00	UTILITIES	08/22/2024
TOTAL VENDOR HYDROCORP				1,413.00		
VENDOR NAME: IAFC MEMBERSHIP						
000274318	STIEN IAFC 2024 MEMBERSHIP DUES	150-5221-532400	400.00	400.00	FIRE	08/22/2024
TOTAL VENDOR IAFC MEMBERSHIP				400.00		
VENDOR NAME: JAMES IMAGING SYSTEMS						
1469564	COPIER INVOICE	150-5221-531100	116.60	116.60	FIRE	08/22/2024
TOTAL VENDOR JAMES IMAGING SYSTEMS				116.60		
VENDOR NAME: LIFE-ASSIST, INC.						
1499524	EMS SUPPLIES	150-5231-531100	734.16	734.16	FIRE	08/22/2024
1497689	EMS SUPPLIES	150-5231-531100	291.67	291.67	FIRE	08/22/2024
1498001	EMS SUPPLIES	150-5231-531100	146.12	146.12	FIRE	08/22/2024
1498064	EMS SUPPLIES	150-5231-531100	291.67	291.67	FIRE	08/22/2024
1486272	SAPPHIRE PUMP CREDIT	150-5700-571400	(581.13)	(581.13)	FIRE	08/22/2024
1495693	EMS SUPPLIES	150-5231-531100	44.50	44.50	FIRE	08/22/2024
1498988	EMS SUPPLIES	150-5231-531100	457.68	457.68	FIRE	08/22/2024
TOTAL VENDOR LIFE-ASSIST, INC.				1,384.67		
VENDOR NAME: LISA KOCH						
080224	MINIWAUKEN PARK RENTAL FEE REFUND FOR CA	100-4820-485000	120.00	120.00	CLERK	08/22/2024
TOTAL VENDOR LISA KOCH				120.00		
VENDOR NAME: LOOK CREATIVE						
517	LED MESSAGE CENTER UPDATES (CONTROLERS)	100-5348-531100	2,150.00	2,150.00	DPW	08/22/2024

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VENDOR NAME: LOOK CREATIVE					
TOTAL VENDOR LOOK CREATIVE				2,150.00	
VENDOR NAME: LYNCH CHEVROLET					
4121008	VEHICLE REPAIR	610-6920-693300	577.70	577.70 UTILITIES	08/22/2024
4120860	VEHICLE MAINTENANCE	610-6920-693300	2,128.22	2,128.22 UTILITIES	08/22/2024
TOTAL VENDOR LYNCH CHEVROLET				2,705.92	
VENDOR NAME: MARCO TECHNOLOGIES					
37122444	COPIER LEASE	610-6920-692100	94.24	188.47 UTILITIES	08/22/2024
		620-8400-851000	94.23		
TOTAL VENDOR MARCO TECHNOLOGIES				188.47	
VENDOR NAME: MARTENS PLBG & HTG INC					
69533	METER HORN REPLACEMENT	610-6453-665300	164.00	164.00 UTILITIES	08/22/2024
TOTAL VENDOR MARTENS PLBG & HTG INC				164.00	
VENDOR NAME: MCDONOUGH SEPTIC					
I13049	PORTABLE RESTROOMS	100-5521-531100	135.00	135.00 DPW	08/22/2024
I13031	HAULER STATION-PORTA POT	620-8010-827000	95.00	95.00 UTILITIES	08/22/2024
I13026	PORTABLE RESTROOMS	100-5521-531100	285.00	285.00 DPW	08/22/2024
TOTAL VENDOR MCDONOUGH SEPTIC				515.00	
VENDOR NAME: MINUTEMAN PRESS OF BURLINGTON					
57124	WINDOWED ENVELOPES	100-5241-531100	16.92	726.21 ALLOCATE	08/22/2024
		100-5142-531100	90.70		
		100-5145-531100	42.28		
		100-5141-531100	22.51		
		100-5632-531100	20.84		
		100-5323-531100	85.47		
		100-5120-531100	36.17		
		100-5211-531100	89.18		
		150-5221-531100	90.05		
		410-5363-531100	7.26		
		440-5511-531100	82.79		
		500-5344-531100	10.09		
		610-6920-692100	69.93		
		620-8300-840000	62.02		
TOTAL VENDOR MINUTEMAN PRESS OF BURLINGTON				726.21	
VENDOR NAME: NAPA AUTO PARTS - SP018					
229588	TRUCK # 7 HYDAULIC HOSE AND FITTINGS	100-5324-539500	117.80	117.80 DPW	08/22/2024
230211	FENDER COVER	610-6920-693300	19.99	19.99 UTILITIES	08/22/2024
230138	HYDRAULIC PLUGS	100-5323-531100	10.96	10.96 DPW	08/22/2024
230028	VEHICLE REPLACEMENT BATTERY	610-6920-693300	218.56	218.56 UTILITIES	08/22/2024
229751	LOADER- WINDSHIELD SQUEEGEE	620-8010-825500	9.49	9.49 UTILITIES	08/22/2024
TOTAL VENDOR NAPA AUTO PARTS - SP018				376.80	
VENDOR NAME: NORTHERN LAKE SERVICE INC					

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VENDOR NAME: NORTHERN LAKE SERVICE INC						
2412467	COMPLIANCE SAMPLING-COURIER FEE	610-6300-663200	60.00	60.00	UTILITIES	08/22/2024
TOTAL VENDOR NORTHERN LAKE SERVICE INC				60.00		
VENDOR NAME: PROHEALTH CARE LAB BILLING						
10005468805	PROHEALTH JUNE/JULY BLOOD DRAWS	100-5212-521900	114.72	114.72	POLICE	08/22/2024
TOTAL VENDOR PROHEALTH CARE LAB BILLING				114.72		
VENDOR NAME: PROHEALTH MEDICAL GROUP						
323342	DOT DRUG SCREEN	610-6920-693000	31.00	62.00	UTILITIES	08/22/2024
		620-8400-856000	31.00			
TOTAL VENDOR PROHEALTH MEDICAL GROUP				62.00		
VENDOR NAME: PROVEN POWER INC						
02-468860	ZERO TURN MOWER ROCKER SWITCH	100-5324-539500	34.43	34.43	DPW	08/22/2024
02-468862	ZERO TURN PULLEY	100-5324-539500	77.96	77.96	DPW	08/22/2024
TOTAL VENDOR PROVEN POWER INC				112.39		
VENDOR NAME: QUADIENT LEASING USA INC						
Q1452946	06/08/24 - 09/07/24 LEASE PYMT	100-5142-531500	73.36	587.34	ALLOCATE	08/22/2024
		100-5323-531500	69.13			
		100-5120-531500	29.25			
		100-5141-531100	18.21			
		100-5145-531100	34.17			
		100-5241-531500	13.69			
		100-5632-531500	16.86			
		100-5211-531500	72.13			
		150-5221-531100	72.83			
		410-5363-531500	5.87			
		440-5511-531500	66.96			
		500-5344-531500	8.16			
		610-6902-690300	56.56			
		620-8400-851000	50.16			
INV17405610	POSTAGE MACHINE INK AND SEALER	100-5142-531500	19.93	159.60	ALLOCATE	08/22/2024
		100-5323-531500	18.78			
		100-5120-531500	7.95			
		100-5141-531100	4.95			
		100-5145-531100	9.29			
		100-5241-531500	3.72			
		100-5632-531500	4.58			
		100-5211-531500	19.60			
		150-5221-531100	19.79			
		410-5363-531500	1.60			
		440-5511-531500	18.19			
		500-5344-531500	2.22			
		610-6902-690300	15.37			
		620-8400-851000	13.63			

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VENDOR NAME: QUADIENT LEASING USA INC					
TOTAL VENDOR QUADIENT LEASING USA INC				746.94	
VENDOR NAME: QUILL LLC					
39603839	OFFICE SUPPLIES AND TONER	100-5211-531100	379.97	379.97 POLICE	08/22/2024
TOTAL VENDOR QUILL LLC				379.97	
VENDOR NAME: REINDERS, INC.					
6058367-00	TORO 5910 HYDRAULIC REPAIR PARTS	100-5324-539500	334.94	334.94 DPW	08/22/2024
6058237-01	SEAL KIT	100-5324-539500	79.97	79.97 DPW	08/22/2024
6058237-00	5910 SPINDLE, SEAL KIT	100-5324-539500	278.04	278.04 DPW	08/22/2024
TOTAL VENDOR REINDERS, INC.				692.95	
VENDOR NAME: SHERWIN-WILLIAMS					
6926-5	STATION PAINT SUPPLIES	150-5221-531100	135.74	135.74 FIRE	08/22/2024
6905-9	STATION SUPPLIES	150-5221-531100	57.33	57.33 FIRE	08/22/2024
TOTAL VENDOR SHERWIN-WILLIAMS				193.07	
VENDOR NAME: SHI INTERNATIONAL CORP					
B18634860	VEEAM BACK UP	100-5150-531100	1,612.62	1,612.62 FINANCE	08/22/2024
TOTAL VENDOR SHI INTERNATIONAL CORP				1,612.62	
VENDOR NAME: SIREN SERVICES					
3219	E34 TANK TO PUMP VALVE REPAIR	150-5222-539500	6,815.99	6,815.99 FIRE	08/22/2024
TOTAL VENDOR SIREN SERVICES				6,815.99	
VENDOR NAME: SOUTHERN LAKES NEWSPAPERS					
458309	ELECTION LEGAL NOTICE	100-5144-531200	31.40	31.40 CLERK	08/22/2024
458308	ELECTION LEGAL NOTICE	100-5144-531200	19.82	19.82 CLERK	08/22/2024
TOTAL VENDOR SOUTHERN LAKES NEWSPAPERS				51.22	
VENDOR NAME: TRACTOR SUPPLY CREDIT PLAN					
JULY 2024 UTILITIES	DRIP TRAP PAINT	620-8010-827000	15.98	15.98 UTILITIES	08/22/2024
JULY 2024 DPW	PARK AND SIGN SUPPLIES, MACHINERY EQUIPM	100-5324-539500	35.97	545.64 DPW	08/22/2024
		100-5348-531100	55.73		
		100-5521-531100	453.94		
TOTAL VENDOR TRACTOR SUPPLY CREDIT PLAN				561.62	
VENDOR NAME: UNTI DAVID					
080924	UNTI HS CPR/AED INSTRUCTOR	150-5232-533500	42.00	42.00 FIRE	08/22/2024
TOTAL VENDOR UNTI DAVID				42.00	
VENDOR NAME: USA BLUEBOOK					
INV00449497	LAB SUPPLIES/MANHOLE LID HOOK	620-8030-831000	374.30	1,870.62 UTILITIES	08/22/2024
		620-8010-826000	1,496.32		
TOTAL VENDOR USA BLUEBOOK				1,912.37	
INV00449589	LAB SUPPLIES	620-8010-826000	41.75	41.75 UTILITIES	08/22/2024
TOTAL VENDOR USA BLUEBOOK				1,912.37	

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VENDOR NAME: VELOCITY LLC						
2024119	JULY 2024 OFFICE 365 LICENSING AND SENTI	100-5111-522900	56.00	1,228.00	ALLOCATE	08/22/2024
		100-5120-522900	20.50			
		100-5141-522900	20.50			
		100-5142-522900	70.00			
		100-5211-522900	302.00			
		100-5241-522900	61.50			
		100-5300-522900	73.50			
		100-5512-522900	16.50			
		100-5632-522900	20.50			
		150-5221-522900	348.50			
		610-6920-692100	53.50			
		620-8400-851000	53.50			
		100-5145-522900	61.50			
		100-5150-521900	62.00			
		440-5511-534000	8.00			
2024120	AUGUST 2024 OFFICE 365 LICENSING AND SEN	100-5111-522900	56.00	1,228.00	ALLOCATE	08/22/2024
		100-5120-522900	20.50			
		100-5141-522900	20.50			
		100-5142-522900	70.00			
		100-5211-522900	302.00			
		100-5241-522900	61.50			
		100-5300-522900	73.50			
		100-5512-522900	16.50			
		100-5632-522900	20.50			
		150-5221-522900	348.50			
		610-6920-692100	53.50			
		620-8400-851000	53.50			
		100-5145-522900	61.50			
		100-5150-521900	62.00			
		440-5511-534000	8.00			
2024121	IT SERVICES MAY 14 - JULY 30	100-5141-521901	720.00	6,555.00	FINANCE	08/22/2024
		100-5145-521901	270.00			
		100-5142-521901	450.00			
		100-5211-521901	1,605.00			
		100-5300-521901	450.00			
		100-5111-521901	180.00			
		150-5221-521901	90.00			
		610-6920-692300	540.00			
		620-8400-852000	540.00			
		100-5150-521900	1,710.00			
TOTAL VENDOR VELOCITY LLC				9,011.00		
VENDOR NAME: VERIZON WIRELESS						
9970609555	MONITOR MODEMS VERIZON INVOICE	150-5221-522500	50.16	50.16	FIRE	08/22/2024
TOTAL VENDOR VERIZON WIRELESS				50.16		
VENDOR NAME: WI DEPT OF JUSTICE CIB						
L6812T 202407	BACKGROUND CHECKS	100-0000-242205	70.00	70.00	ALLOCATE	08/22/2024

INVOICE NUMBER	DESCRIPTION	DISTRIBUTIONS\AMOUNTS		APPROVAL AMOUNT DEPARTMENT	POST DATE
VENDOR NAME: WI DEPT OF JUSTICE CIB					
	TOTAL VENDOR WI DEPT OF JUSTICE CIB			70.00	
VENDOR NAME: WI STATE LAB OF HYGIENE 782195	COMPLIANCE SAMPLING-FLUORIDE	610-6300-663200	29.00	29.00 UTILITIES	08/22/2024
	TOTAL VENDOR WI STATE LAB OF HYGIENE			29.00	
VENDOR NAME: WISCONSIN CENTRAL 9500265402	RAILROAD CROSSING FEE	610-6451-665100	50.00	50.00 UTILITIES	08/22/2024
	TOTAL VENDOR WISCONSIN CENTRAL			50.00	
GRAND TOTAL:				82,869.71	



Agenda Cover Report

Date: 8/2/24	Committee/Board: Finance Committee
Submitted by: Ron Bittner	Department: Public Works
Date of Committee Action:	Date of Village Board Action: 8/21/24

Subject: 2024 Mill & Fill Street Patching
Executive Summary: Mill & Fill patching is used when sections of a street have deteriorated, and the remainder of the asphalt is in good condition.
Fiscal Impact: Johnson and Sons Paving Company was the lowest of the three quotes at a cost of \$30,724.40.
Executive Recommendation/Action: Recommend approval of the Mill & Fill purchase requisition for \$30,724.40 to Johnson and Sons Pacing Company.

☐ Attachments Included



Village of Mukwonago Street Patching 2024

**2 inch Mill and overlay using 12.5mm - 4LT WisDOT surface.
Contractor to dispose of millings.**

Location #	Street Number	Street Name (on)	(at)	Dimensions (Feet)	Dimensions (SF.)	Cost Per Patch
1		Parkview Ln.	Macarthur Dr	9 x 49	441	\$1,323.00
2		Parkview Ln.	Macarthur Dr	17 x 47	799	\$2,397.00
32	202	Macarthur Dr		12 x 27	324	\$972.00
4	202	Macarthur Dr		25 x 38	950	\$2,850.00
5	223	Macarthur Dr		40 x 44	1760	\$5,280.00
6	223	Macarthur Dr		17 x 61	1037	\$3,111.00
7	315	Macarthur Dr		12 x 54	648	\$1,944.00
8	321	Macarthur Dr		8 x 15	120	\$360.00
9	201	Roberts Dr.		14 x 17	238	\$714.00
10		Roberts Dr.	Meadow View Dr.	14 x 55	770	\$2,310.00
11	927	Meadow View Dr.		11 x 26	286	\$858.00
12	953	Meadow View Dr.		22 x 23	506	\$1,518.00
13	809	Meadow View Dr.		5 x 16	80	\$240.00
14	914	Kims Lane		10 x 12	120	\$360.00
15	926	Kims Lane		10 x 16	160	\$480.00

8239

Total	\$24,717.00
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Water Break Repairs

**Remove remaining asphalt and cold patch and excavate to depth of four (4) inches.
Replace with 2 1/2 inches of binder, with an 1 1/2 inch surface course using
12.5 MM- 4LT WisDOT asphalt mix.**

Contractor to dispose of all excavated material.

410 Ahrens Dr			16 x 47	752	\$4,609.76
	Blood St.	Main St.	12 x 19	228	\$1,397.64

980

Total	\$6,007.40
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Parking Lot Maintenance

W225N3178 Duplainville Rd
Pewaukee, WI 53072
262-691-3964
sales@plmpaving.com

Prepared By: Tom O'Malley
omalley@plmpaving.com
414.801.8398



Prepared For:
Village of Mukwonago
P.O. Box 206 440 Rivercrest Ct.
Mukwonago, WI 53149
(262) 363-6447

Attention:
Ron Bittner

Project Address:
Village of Mukwonago Street Patching
2024
Various Locations
Mukwonago , WI 53149

Dear Ron Bittner, thank you for the opportunity to provide you with this proposal. We look forward to answering any questions you may have and working with you on this project.

MILL AND PAVE 15 AREAS WITH 2" \$27,933.00

VILLAGE OF MUKWONAGO STREET PATCHING - 2024

- Mill Asphalt pavement to allow for 2.00" of new asphalt resurfacing and haul off-site.
- Sweep and clean asphalt pavement free of dust, dirt and debris and haul off-site.
- Apply tack coat (glue) prior to asphalt paving to ensure proper bond and adhesion.
- Machine lay hot mix asphalt to a depth of 2" with 4 LT Asphalt - 15 Areas

MILL AND PAVE 2 WATER BREAK REPAIRS WITH 4" \$3,567.00

- Mill asphalt pavement to allow for 4.00" of new asphalt resurfacing and haul off-site.
- Sweep and clean asphalt pavement free of dust, dirt and debris and haul off-site.
- Apply tack coat (glue) prior to asphalt paving to ensure proper bond and adhesion.
- Machine lay hot mix asphalt to a depth of 4" in 2 lifts with 4 LT Asphalt

PROPOSAL TOTAL: \$31,500.00

This proposal is valid for thirty (30) days from the date written above. The proposal is subject to the terms and conditions enclosed, attached, and/or on the backside of the proposal.

Client Signature: _____ Today's date: _____



Village of Mukwonago Street Patching 2024

2 inch Mill and overlay using 12.5mm - 4LT WisDOT surface.

Contractor to dispose of millings.

Location #	Street Number	Street Name (on)	(at)	Dimensions (Feet)	Cost Per Patch
1		Parkview Ln.	Macarthur Dr	9 x 49	\$ 1,853.00
2		Parkview Ln.	Macarthur Dr	17 x 47	\$ 3,356.00
32	202	Macarthur Dr		12 x 27	\$ 1,361.00
4	202	Macarthur Dr		25 x 38	\$ 3,990.00
5	223	Macarthur Dr		40 x 44	\$ 7,392.00
6	223	Macarthur Dr		17 x 61	\$ 4,356.00
7	315	Macarthur Dr		12 x 54	\$ 2,722.00
8	321	Macarthur Dr		8 x 15	\$ 504.00
9	201	Roberts Dr.		14 x 17	\$ 1,000.00
10		Roberts Dr.	Meadow View Dr.	14 x 55	\$ 3,234.00
11	927	Meadow View Dr.		11 x 26	\$ 1,202.00
12	953	Meadow View Dr.		22 x 23	\$ 2,126.00
13	809	Meadow View Dr.		5 x 16	\$ 336.00
14	914	Kims Lane		10 x 12	\$ 504.00
15	926	Kims Lane		10 x 16	\$ 672.00

Total	\$ 34,608.00
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Water Break Repairs

Remove remaining asphalt and cold patch and excavate to depth of four (4) inches.

Replace with 2 1/2 inches of binder, with an 1 1/2 inch surface course using

12.5 MM- 4LT WisDOT asphalt mix.

Contractor to dispose of all excavated material.

410 Ahrens Dr			16 x 47	\$ 6,317.00
	Blood St.	Main St.	12 x 19	\$ 1,916.00

Total	\$ 8,233.00
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Date: 8-1-2024

Submitted By: Poblocki Paving Corp

Cliff Koutnik-Project Manager/Civil Engineer

Cell: 414-349-9724

Email: cgk@poblockipaving.com

*VILLAGE OF MUKWONAGO
POLICE DEPARTMENT*



MONTHLY REPORT

July 2024

Citation Totals by Offense

All Departments

Violation Date: 07/01/2024 through 07/31/2024

Court	Agency	Offense Code	Offense Description	Total
MKPD				
	Adult			
		346.14(1m)	Automobile Following Too Closely	1
		348.10(5)(a)	Fail/Secure Loads If Towing A Trailer	1
		346.46(1)	Fail/Stop At Stop Sign	3
		346.18(3)	Fail/Yield Right/Way From Stop Sign	1
		346.57(2)	Failure To Keep Vehicle Under Control	1
		346.37(1)(c)3	Failure To Obey Sign Or Signal	1
		346.06	Failure To Yield Right Of Way	1
		341.15(2)	Improperly Attached License Plates	4
		346.89(1)	Inattentive Driving	3
		343.43(1)(d)	Lic Restriction Violation-Class D/M Vehicle	1
		341.04(1)	Non-Registration Of Auto, Etc	27
		341.03(1)	Operate After Rev/Susp Of Registration	4
		344.62(1)	Operate Motor Vehicle W/O Insurance	9
		344.62(2)	Operate Motor Vehicle W/O Proof Of Insurance	1
		343.05(3)(b)	Operate Motorcycle W/O Valid License	1
		347.14(1)	Operate Vehicle W/O Stopping Lights	3
		343.05(3)(a)	Operate W/O Valid License	4
		343.44(1)(a)	Operating After Suspension	4
		346.63(1)(a)	Operating While Intox.	2
		82-71	Parking Lot Traffic Violation	1
		961.41(3g)(b)	Possession of Controlled Substance	1
		961.41(3e)	Possession Of Marijuana	1
		943.50(1m)(b)	Retail Theft-Intentionally Take(<=\$2500)	2
		346.57(4)(a)	Speeding In School Zones	1
		346.57(4)(gm)2	Speeding on Freeway	3
		346.57(5)	Speeding Zone And Posted Limits	28
		347.06(3)	Unclean/Defective Lights Or Reflectors	8
		346.13(1)	Unsafe Lane Deviation	1
		347.48(2m)(b)	Vehicle Operator Fail/Wear Seat Belt	1
		346.37(1)(c)1	Violate Red Traffic Signal	1
Adult Grand Total				120

Citation Totals by Offense
All Departments

Violation Date: 07/01/2024 through 07/31/2024

Court	Agency	Offense Code	Offense Description	Total
MKPD	Juvenile			
		947.01	Disorderly Conduct	1
		943.50(1m)(b)	Retail Theft-Intentionally Take(<=\$2500)	1
		Juvenile Grand Total		2

Mukwonago Police Department
Tickets Totals (by Violation)

Issue Date: 07/01/2024 through 07/31/2024

Violation Description	Violation Code	Area	Total
Fire Lane Violation	82-194		1
		By Violation:	1
Handicapped Parking Violation	82-180		3
		By Violation:	3
Park 24hr - Abandoned	82-1(K)		1
		By Violation:	1
Park Left Wheel To Curb	82-1(A)		1
		By Violation:	1
Park No Parking Anytime	82-192		1
		By Violation:	1
Parking/Stopping/Standing on Certain Hwys	82-178		3
		By Violation:	3
Restrictions: Winter/Sth 83/Etc	82-191		7
		By Violation:	7
		Total Tickets:	17



Monthly Case Overview Report

Printed On: 08/05/24 10:54

Reporting Period: 07/02/2024 - 07/31/2024

Village of Mukwonago Police - 1122

	Total
Total	56
Administrative/Informational	10
Assist Other Dept/Service/Request by Citizen	2
Disorderly Conduct	4
Disorderly Conduct: Noise/Nuis	1
DOA - Sudden Death, Etc.	1
Drug/Narcotic Law Investigatio	1
Fraud	2
Fraud-Illeg Use Credit Card	2
Fraud-Imperson	1
Fraud-Swindle	2
Investigation/Follow Up	1
Lost Property	1
Marijuana-Possession	3
OWI/DWI-Liquor	2
Public Order Crimes	1
Retail Theft \$50-\$200	3
Retail Theft <\$50	2
Retail Theft >\$200	8
Shoplifting/Retail Theft Compl	2
Simple Assault	1
Special Project/Tour	1
Station Contact	2
Traffic Offense/Traffic Other	3



Arrests by Statute Report

Printed On: 08/05/24 10:55

Reporting Period: 07/02/24 - 07/27/24

This report contains all arrest charges.

	Total	Felony	Misdemeanor	Non-Criminal	Ordinance
346.63(1)(a) - Operating While Intoxicated - 1st Offense	2			2	
346.63(1)(a) - Operating while Intoxicated - 1st Offense, with a Minor Child in the Vehicle	1		1		
54-1(1) - Retail Theft (Shoplifting)	4				4
54-1(G) - Disorderly Conduct	4		3		1
54-1(V) - Possession of a Controlled Substance 961.41(3g)(e)	1				1
54-5 - Possession of THC	1				1
940.19(1) - Battery	1		1		
941.375(2) - Throw/Discharge Bodily Fluids at Public Safety Worker	1	1			
943.50(1m)(b) - Retail Theft - Intentionally Take - (>\$500-\$5,000)	3	3			
946.41(1) - Resisting or Obstructing an Officer	1		1		
946.49(1)(a) - Bail Jumping-Misdemeanor	1		1		
FUGM - Fugitive Warrant Other Municipal	1			1	
Total	21	4	7	3	7



Traffic Crash List

Printed On: 08/05/24 10:56

Village of Mukwonago Police

Date Time	Case#	Crash#	Officer	Total Units	Total Injured	Total Killed	Crash Type	EMS#
07/25/2024 19:50	24-033238	24-000140	Dykstra, Tyler-tdyk48	2	0	0	C	
07/24/2024 12:07		24-000139	Dykstra, Tyler-tdyk48	2	0	0	C	
07/19/2024 15:24		24-000138	Kreiser, Robert S-rkre39	2	0	0	C	
07/19/2024 07:55		24-000137	Pinkowski, Shaun-spin42	2	0	0	C	
07/16/2024 16:30		24-000136	Cieszynski, Brian-bcie45	2	0	0	C	
07/17/2024 14:08		24-000135	Wilson, Chet-cwil47	2	0	0	C	
07/08/2024 19:15		24-000134	Pinkowski, Shaun-spin42	2	0	0	C	
07/13/2024 16:00		24-000133	McKinney, Daniel-dmck44	2	1	0	C	
07/04/2024 16:24		24-000132	Dykstra, Tyler-tdyk48	1	0	0	C	
07/05/2024 00:00		24-000131	Rogers, Richard-rrog49	1	0	0	C	
07/08/2024 15:35		24-000130	Wilson, Chet-cwil47	2	0	0	C	
07/08/2024 12:39		24-000129	Steinbrenner, Jason J-jste35	1	0	0	C	
07/01/2024 12:06		24-000128	Petted, Joseph J-jpet43	2	0	0	C	
Village of Mukwonago Police				23	1	0		

13

Police Contacts - Village

First Shift	1525
Second Shift	1112
Third Shift	435
911 Calls	202
TOTAL CALLS	3274

Police Contacts - Town

First Shift	529
Second Shift	800
Third Shift	709
911 Calls	100
TOTAL CALLS	2138

Phantom Lake Patrol

All Calls/Contacts	20
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<u>TOTAL CONTACTS</u>	5432
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FLEET MILES AND GAS USAGE

	24	26	28	30	32	33	34	36	38
	<u>22 Chev</u>	<u>21 Ford</u>	<u>20 Dodge</u>	<u>22 Chev</u>	<u>17 Ford</u>	<u>19 Chev</u>	<u>23 Chev</u>	<u>18 Ford</u>	<u>22 Chev</u>
Speed End	79702	11617	20015	78485	82226	15947	11858	92011	65260
Speed Beg	77110	11301	19878	76357	82004	15816	9836	1779	63566
Total Miles	2592	316	137	2128	222	131	2322	232	1694
Total Gas	267.1	15	13.4	240.9	23.5	9.7	193.3	20.5	213.3

Respectfully Submitted,

Chief Daniel J. Streit
Village of Mukwongo Police Department



Agenda Item Cover Report

Date: 08/14/2024	Committee/Board: Protective Services
Submitted by: Chief Dan Streit	Department: Police
Date of Committee Action:	Date of Village Board Action: 08/14/2024

Subject:

Mukwonago Area School District School Resource Officer MOU

Executive Summary:

Our current MOU with the MASD expires at the end of August. The proposed new MOU covers the next three years and has only three changes from the current MOU. Two minor changes are the effective dates of the MOU and the hours of work for the SROs as MASD no longer has early release on Wednesdays. The third change was removing the last sentence of section 20 that read something similar to "the village will only bill MASD for hours worked by the SROs in the schools." That is not how we bill MASD since the inception of the SRO program over 20 years ago. The village bills MASD quarterly for 65% of the SRO wages and benefits whether they are in the school or not. We removed this line so the MOU accurately reflects how we bill them.

Fiscal Impact:

Status quo on how we bill MASD for the SRO hours.

Executive Recommendation/Action:

Approve the MOU.

 **Attachments Included**

Memorandum of Understanding for School Resources Officer Program

The purpose of this document is to establish a School Resource Officer Program and to set forth guidelines to ensure that law enforcement, school officials, and the communities they serve, have a shared understanding of the goals of the School Resource Officer Program;

The parties agree that an effective School Resource Officer Program defines the role of the School Resource Officer (SRO) within the context of the educational mission of the school; distinctions between disciplinary misconduct to be handled by school officials, and criminal offenses to be handled by law enforcement; information sharing; School Resource Officer training requirements; program assessment; and program structure;

The School Resource Officers receive the necessary support and training to ensure a safe school environment while respecting the rights of students and improving the overall school climate;

The signatories agree to the following:

Role of the School Resource Officer within the Context of the Educational Mission of the School

1. The mission of the School Resource Officer program is to improve school safety and the educational climate at the school.
2. School Resource Officers are responsible for dealing with criminal law issues, not to enforce school discipline or punish students.
3. The SRO shall meet with building-level school administrators, teachers, parents, and student representatives at least annually to discuss issues of school safety.
4. The SRO shall be integrated into the school community through participation in faculty and student meetings and assemblies as appropriate.
5. The SRO shall maintain activity reports and submit summaries of these reports to building-level school administrators, district-level school administrators, and the relevant law enforcement agency. The summaries shall include, for each SRO, the numbers and descriptions of all incidents or calls for service; names of school officials involved (referring teachers, principals, etc.); student searches; student questioning; tickets, citations, or summonses; filing of delinquency petitions; referrals to a probation officer; actual arrests, and other referrals to the juvenile justice system. The information provided will be limited as per Wis. Stat. 938.396.
6. Absent a real and immediate threat to student, teacher, or school safety, and absent the situations described herein where formal law enforcement intervention is deemed appropriate, building-level school administrators shall have final authority in the building.
7. Absent a real and immediate threat to student, teacher, or public safety, incidents involving public order offenses including: disturbance /disruption of schools or public assembly; loitering; profanity; and fighting that does not involve physical injury or weapon, shall be considered school discipline issues to be handled by school officials, rather than criminal law issues warranting formal law enforcement intervention (e.g., issuance of criminal citation, ticket, summon, or filing of delinquency petition).

8. The school administrator shall conduct his/her own investigation into whether the student violated school rules. This investigation may be conducted in conjunction with or separate from an SRO's investigation, but the school may not use the law enforcement records as the sole basis for disciplinary action.
9. If SROs or either Police Department receives information of an ordinance violation or crime on campus, SROs shall notify the administration of the violation, as soon as possible either directly, through email or telephone to the extent practical and as reasonably practical based on the nature and status of the law enforcement investigation.
10. It is the intent of this agreement that SROs will report and process all crimes originating on campus to the Police Department, as may be appropriate. Information on cases worked off-campus by either Police Department or other agencies involving students of the District will be provided to the SROs, but SROs will not normally be actively involved in off-campus investigations(s).
11. SROs will coordinate his/her actions within MASD school buildings with District administration for law enforcement cases that occur outside the school environment.
12. SROs may assist school administration in conducting searches at the request of school administration, subject to the limitations of applicable statutes and constitutional limitations, as long as SROs are assisting school officials in furtherance of the school's objectives in maintaining a safe and proper education environment as opposed to gathering evidence of a crime.
13. Students shall not be taken into custody at school, except where a child poses a real and immediate threat to student, teacher, or public safety or pursuant to a warrant.
 - a. School principals shall be consulted prior to a student being taken into custody where practicable.
 - b. The student's parent or guardian shall be notified of a child being taken into custody as soon as practicable.
14. Students may be interviewed during school hours by the SRO, consistent with School Board Policy 5540.
15. If the SRO uses seclusion or physical restraint on a student at school, as defined by Wis. Stat. 118.305(1), the District will follow the notification and reporting requirements in Wis. Stat. 118.305(4) and School Board Policy 5630.01.

Information Sharing

16. The school district designates the SRO a "school official" as provided in the Federal Educational Rights and Privacy Act (FERPA) 20 U.S.C. 1232g, and I 18.125(2)(d) of the Wisconsin Statutes. An SRO may be provided access to student records information maintained by the school district only as needed by the SRO to perform his or her duties as SRO. An SRO may also be granted access to student records information in the

event of an emergency situation threatening the health or safety of a student or other individual. The SRO may only re-disclose student records information consistent with FERPA and Wisconsin pupil records law.

17. Records created and maintained by an SRO for the purpose of ensuring the safety and security of persons or property in the school, district, or for the enforcement of local, state, or federal laws or ordinances shall not be considered student records - even when such records may serve the dual purpose of enforcing school rules - and are not subject to the same prohibitions of access or disclosure by the SRO. (This provision does not prohibit school personnel from complying with the notice and reporting requirements of seclusion or restraint of a student by the SRO as specified in 118.305(4) of the Wisconsin Statutes.) However, such records may be limited to their disclosure per Wis. Stat. 938.396.

School Resource Officer Training Requirements

18. The SRO shall receive such training as is necessary to permit the SRO to effectively advance the school's educational mission in the context of his or her duties as SRO. Training topics, goals, and objectives shall be determined jointly by representatives of the school and the law enforcement agency. Training shall be provided in the following areas:
 - a. Provisions of Wisconsin law pertaining to the use of seclusion and restraint by school personnel
 - b. Federal and state anti-discrimination and special education laws
 - c. Crisis intervention training
 - d. De-escalation techniques
 - e. Threat assessment
 - f. Current active shooter training, such as ALICE, Run-Hide-Fight, or standard response protocols from the "I Luv U Guys" foundation.

Program Assessment

19. The School Resource Officer Program will be assessed annually, and the evaluation will be conducted jointly between the Village of Mukwonago Police Department and the Mukwonago Area School District. The following areas will be used to evaluate the program:
 - a. Success of established goals and objectives.
 - b. Police-citizen contacts (citations, arrests, community and school outreach activities, etc.).
 - c. Community feedback.
 - d. Accomplishment of tasks agreed upon as part of any work plan written in conjunction with the principal.

Structure and Funding for School Resource Officer Program

20. The MASD will fund sixty-five (65) percent and MPD will fund thirty-five (35) percent of the compensation of the SRO's at each of the schools. Any overtime hours which are the results of school activities outside of the regular instructional day will be billed separately to MASD from regular SRO services by the Village of Mukwonago. Overtime

hours directly related to SRO services will be billed proportionately to MASD under the agreement reached by the Chief of Police and the SRO's Labor Association.

The Village of Mukwonago shall bill MASD quarterly for the SRO services. Any changes in billing arrangements will be agreed upon by the Village of Mukwonago Administrator and the MASD's Director of Business Services.

Employment of SRO

21. SROs shall be employees of the Mukwonago Police Department and shall be subject to the administration, supervision, and control of the Mukwonago Police Department.

SROs shall be subject to all personnel policies and practices of the Mukwonago Police Department except as such policies or practices may be modified by the terms and conditions of this agreement.

The Mukwonago Police Department, in its sole discretion, shall have the power and authority to hire, discharge, and discipline the SROs.

A joint committee composed of representatives of the Mukwonago Police Department and MASD shall make recommendations for the SRO positions to the Chief of Police who shall assign such officers.

The MASD Superintendent may request the immediate removal and/or reassignment of an officer from the program. However, the discipline of the SRO shall be subject to the provisions of Wis. Stat. 62.13.

Suggested assignment term to the SRO program shall be for a period of four (4) years. Ultimately, the length of term for the assignment will be at the Chief of Police's discretion.

SRO staff transitions will occur in different years in order to create consistency in training and to enhance community relationships.

22. Funding for equipment requested by MASD will be provided by MASD. Funding for training requested by MASD will be provided by MASD.

Chain of Command

23. As employees of the Mukwonago Police Department, SROs will be subject to the chain of command within the Mukwonago Police Department.

In the performance of their duties, SROs shall coordinate and communicate with the Superintendent or their designee.

Work Hours

24. An SRO will be provided at both Park View Middle School and Mukwonago High School. The SRO at Mukwonago High School will have a physical presence at the building from 6:45 am until 3:00 pm on school days. The SRO at Park View Middle School will have a physical presence at the building from 7:00 am to 3:00 pm on school days.

It is understood and agreed that time spent by SRO's attending municipal court, juvenile court, and/or criminal cases arising from and/or out of their employment as an SRO shall be considered as hours worked under this Agreement.

In the event an SRO is absent from work, the SRO shall notify the Police Department and an administrator of the school district to include building principals and Superintendent.

25. The Mukwonago Police Department reserves the right to assign the SRO's to assist with emergent law enforcement needs in the community as circumstances may dictate.

Uniform

26. SROs will wear Mukwonago Police Department uniforms, business casual, and formal with appropriate logos and name badges depending on the time of the school year, the type of activity or program, and the requests of the District and/or Mukwonago Police Department.
27. SROs will wear Mukwonago Police Department-issued weapons in accordance with Department policy.

The use of any body or weapon cameras by SROs will conform with Village of Mukwonago Police Departmental policy, and the District will have access to review such policy. Body camera footage recorded on District property is considered a "law enforcement unit record" and will not be considered a pupil record maintained by the District unless such records are obtained by the District pursuant to this Interagency Agreement or as otherwise authorized by Wisconsin law.

Duration

28. This memorandum of understanding shall become effective immediately upon execution by signature and remain effective until August 31, 2027, whereupon it must be reviewed annually by all signatories or their successors before being renewed.
29. A signatory may terminate this memorandum of understanding by serving written notice to all other signatories at least sixty (60) days in advance of such termination. A termination by a signatory shall eliminate the presence of School Resource Officers at Mukwonago Public Schools.

Signed on the _____ of _____, 2024

Superintendent

Representative of Law Enforcement Agency

RESOLUTION NO. 2024-44

**A RESOLUTION TO SUPPORT THE REQUEST TO REDUCE THE SPEED LIMIT ON
COUNTY HIGHWAY ES EAST FROM VILLAGE OF MUKWONAGO TO RIDGE WAY ROAD
IN THE VILLAGE OF VERNON FROM 45 MILES PER HOUR TO 35 MILES PER HOUR**

WHEREAS the Village Boards of Mukwonago and Vernon are very concerned about the speed limit east on County Trunk Highway ES from the border of the Village of Mukwonago east to Ridge Way Drive in the Village of Vernon where the speed limit increases to 45 miles per hour from 35 miles per hour going east on County Trunk Highway ES, and

WHEREAS, the Village Boards from both Mukwonago and Vernon receive many complaints about the increase in speed from 35 miles per hour to 45 miles per hour after traffic crosses the Fox River and the intersection of CTH ES and Edgewood Avenue is extremely dangerous to cross with the current 45 miles per hour, and

WHEREAS, the increase in development within the Villages and the traffic accidents referred to in the Community Map on Wisc.edu, are some of the factors that have caused the need for reduction of the speed limit in the interest of public safety.

NOW THEREFORE, BE IT RESOLVED, the Village Board of the Village of Mukwonago hereby supports the request for the reduction of the speed limit on County Trunk Highway ES from 45 miles per hour to 35 miles per hour from the border of the Village of Mukwonago east to Ridge Way Drive in the Village of Vernon.

Adopted this 21st day of August, 2024.

Fred Winchowky, Village President

Attest: _

Diana Dykstra, MMC Village Clerk



Village of Mukwonago

Board Book Report



Historical Preservation Commission

Basic Information

Type	Commission
Status	Enabled
Visibility	Public
Creating Authority	Historic Preservation Commission is established under Section 100-303 of the Mukwonago Municipal Code. HPC Meets the first Thursday of the Month at 5:30pm as necessary. Historic Preservation Commission consists of seven members. The Village President shall appoint the Commission subject to confirmation by the Village Board. The term of each member shall be three years.

- Historic Preservation Commission is established under [Section 100-303](#) of the Mukwonago Municipal Code.
- HPC Meets the first Thursday of the Month at 5:30pm as necessary.
- Historic Preservation Commission consists of seven members. The Village President shall appoint the Commission subject to confirmation by the Village Board. The term of each member shall be three years.

[Application for Committee, Commission, or Board](#)

[Agendas & Minutes](#)

Contact Information

Email
Planner@villageofmukwonago.gov

Contact
Pete Gesch, Village Planner

Contact Phone
[262-363-6420](tel:262-363-6420)

Board Seats

Position	Appointed By	First Name	Last Name	Title	Appointed date	Status
Citizen Member	Village President					Vacant
Citizen Member	Village President	Janine	Coley	Citizen Member	4/19/2023	Active
Citizen Member	Village President	Andrea	Cooper	Citizen Member	4/17/2024	Active
Citizen Member	Village President	Mary	Patz	Citizen Member	4/17/2024	Active
Historian	Village President	Jeff	Vanevenhoven	Historian	4/19/2023	Active
Planner	Village President	Peter	Gesch	Advisory	4/17/2024	Active
Real Estate Professional	Village President	Ray	Goodden	Real Estate Professional	4/19/2023	Active
Trustee	Village President	Scott	Reeves	Trustee	4/17/2024	Active

Diana Dykstra

From: Wesley Willoughby <wesleywilloughby@yahoo.com>
Sent: Wednesday, July 24, 2024 1:49 PM
To: Diana Dykstra
Subject: Application for Appointment: Historical Preservation Commission
Attachments: application_and_committee_description_2-01-23.pdf

**CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Dear Ms. Dykstra:

Please find attached my application for appointment to the Mukwonago Village Historic Preservation Commission. I noticed on the Village website that there were currently a couple of vacancies and would like to be considered for a "Citizen Member" position. Let me know if you have any questions or need any additional information. Thank you for your time.

Best Regards,

Wesley Willoughby

APPLICATION FOR APPOINTMENT

The Municipal Committee System is a way for citizens to take part in local government and decision making. At various times throughout the year, membership openings for residents may occur and, as they arise, we will follow up on your interest in participation. If you are not appointed immediately, **your application will be kept in an active file for 2 years.**

LEGAL NAME: Wesley R. Willoughby

ADDRESS [HOME]: 125 Lincoln Avenue, Mukwonago, WI 53149

PHONE [HOME/CELL]: [REDACTED]

E-MAIL: [REDACTED]

OCCUPATION: Archaeologist

If retired, former occupation

EMPLOYER: Bureau of Land Management

If retired, former employer

PHONE [WORK]: [REDACTED]

ADDRESS: 250 E. Wisconsin Ave, Milwaukee WI 53202

MUNICIPAL COMMITTEE PREFERENCES: (Please Rank)

	Board of Zoning & Building Appeals
	Downtown Development Committee
1	Historic Preservation Committee
	Joint Village & Town Fire Commission
	Joint Protective Services (Village & Town Fire Dept)

	Library Board of Trustees
	Plan Commission

WORK EXPERIENCE AND EDUCATION pertaining to choices above. If you would like to attach a resume, please do so.

I hold a PhD in Anthropology with a focus in historical archaeology. I have over 25 years experience working in the field of historic preservation and cultural resources management. Can provide resume if desired.

PREVIOUS COMMITTEE EXPERIENCE OR AFFILIATIONS YOU WISH TO BE CONSIDERED:

(Village, School Board, Church, Non-Profit or Service Club) Include a brief description of each.

N/A

How long have you been a resident of the Village of Mukwonago? 4 years

Are any members of your family employed by the Village or currently serving on the Village Board?

YES _____ NO X

FAMILY MEMBER'S NAME

DEPARTMENT/COMMITTEE

List any additional information you feel is relevant to your application for an appointment.

I have been working in the field of historic preservation for over 25 years for various state and
federal agencies, as well as in the private sector. I would like to use my expertise and experience to
make a meaningful contribution to my local community.

Signature: **WESLEY
WILLOUGHBY**

Digitally signed by WESLEY
WILLOUGHBY
Date: 2024.07.24 13:44:22 -05'00'

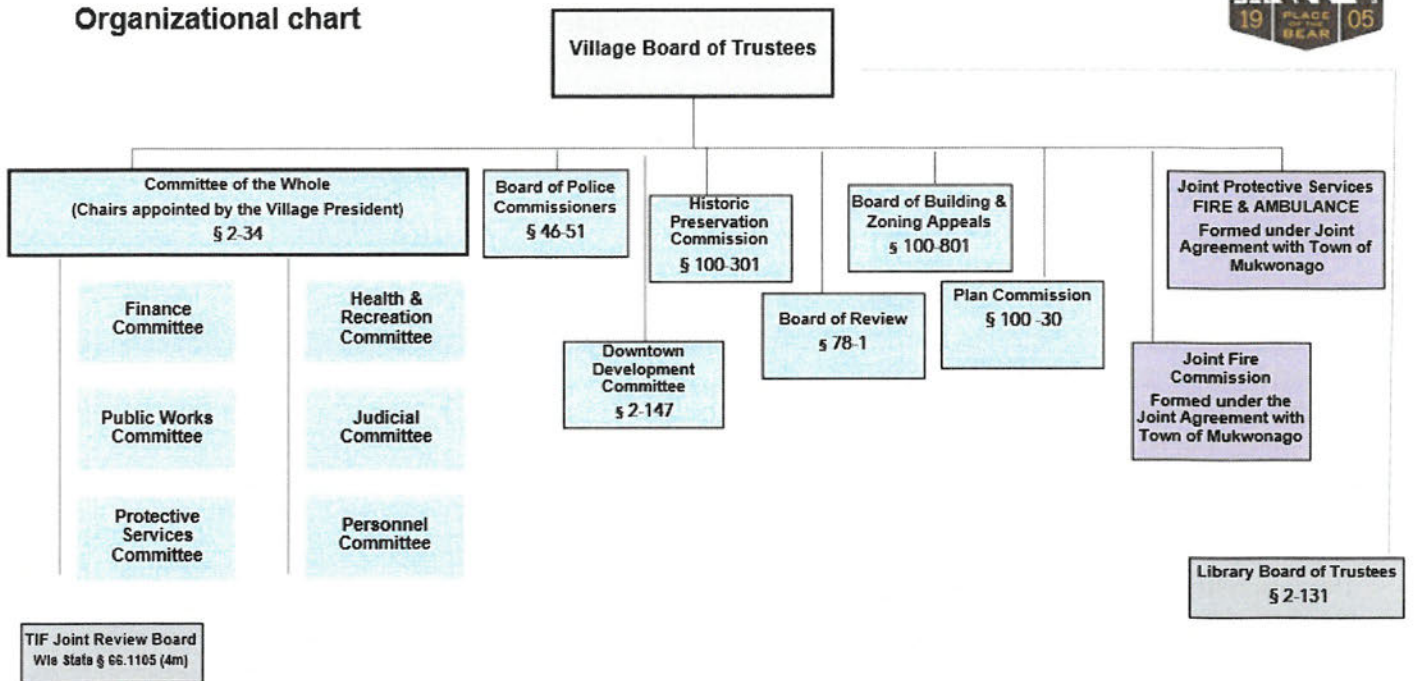
Date: 7/24/2024

If you are appointed to serve, please be aware that Wisconsin State Statutes may require you to take an Oath of Office

Return application to:
Diana Dykstra, Village Clerk-Treasurer, 440 River Crest Ct., Mukwonago, WI 53149 or ddykstra@villageofmukwonago.gov

**VILLAGE OF MUKWONAGO
COMMITTEE, COMMISSIONS, BOARDS**

Committee/Commission Organizational chart



Descriptions of their respective functions and membership qualifications, where applicable, are given below:
Please note that meetings may be cancelled or rescheduled. See specific posted agenda for details.

BOARD OF POLICE COMMISSIONERS:

The Police Commission consists of five citizen members appointed by the Village President and confirmed by a majority of the Board. This Commission is responsible to assist in the hiring of Police officers. It also reviews charges against and may discipline or dismiss the Police Chief or any subordinate.

Meet quarterly or as necessary.

Term: 3 years commencing on the first Monday in May.

BOARD OF ZONING AND BUILDING APPEALS:

The Board of Zoning and Building Appeals consists of seven members, five regular voting members and two alternate members who shall be qualified to vote in the absence of a regular voting member, appointed by the Village President with confirmation by the Village Board.

The concurring vote of four members of the board of zoning and building appeals shall be necessary to reverse any order, requirement, decision or determination of any administrative official; grant a variance; make an interpretation; or authorize alternate materials or methods of construction. However, a conditional use permit may be approved by a simple majority.

Meet as necessary

Term: 3 years

DOWNTOWN DEVELOPMENT COMMITTEE

The Downtown Development Committee shall be a citizen advisory committee whose purpose shall be to advise the

Village Board on matters of implementation identified in the Downtown Strategic Plan and to otherwise advise the Village on matters of development activities that will promote the development of the downtown.

The DDC shall consist of five voting members each of whom shall be Village residents and up to four nonvoting members with voice. (b) The members of the DDC shall include the following: (1) A member of the Historic Preservation Committee (HPC). (2) A member of the Village Plan Commission and/or the Village Board (the representatives of the Village Board and Plan Commission may be the same person). (3) The Village Administrator or Community Planner. c) In considering the appointment of members, the Village President may consider whether the candidates are business owners or managers of businesses in the Village; persons with known interest in local economic development; persons having general knowledge of the affairs of the Village; persons whose principal occupations offer unique skills in land use, planning, architecture, local history, local government, construction or economic development. (d) The Chairperson shall be elected from the members and shall serve annually.

Meets the Last Thursday of the Month at 5:30PM as necessary.

Term: 2 years

HISTORICAL PRESERVATION COMMISSION

Historic Preservation Commission consists of seven members. The Village President shall appoint the Commission subject to confirmation by the Village Board.

Powers and Duties as set forth in [Section 100-305](#)

HPC Meets the first Thursday of the Month at 5:30pm as necessary.

Term: 3 Years

JOINT PROTECTIVE SERVICES (FIRE)

This Committee is created under the Joint Village and Town of Mukwonago FIRE/EMS Department Agreement.

The Committee makes recommendations back to each respective Board.

The Committee shall meet the Monday preceding the third Wednesday of each month.

Members shall elect among themselves a Chairman and Secretary. Chairmanship shall alternate, the Village in even-numbered years and the Town in odd-numbered years.

JOINT VILLAGE & TOWN FIRE COMMISSION

Joint Fire Commission is created under the Joint Town and Village of Mukwonago FIRE/EMS Department Agreement.

It shall consist of five (5) Commissioners and two (2) non-voting Liaisons.

Terms shall be set for three (3) Years with one member as a rotating appointment between the Village and Town. (Village is odd number years.)

The purpose is to govern the department with the purpose of removing management of the Fire/EMS Department from political influences and to provide basic protection and security in employment, promotion, and disciplinary practices. The Joint Fire Commission shall not have the optional powers contained in Sect. 62.13 (6) Wis. Stats.

LIBRARY BOARD OF TRUSTEES

The Library Board of Trustees will set library policies; monitors finances; employ staff.

Meet monthly at 6:00 p.m. on 3rd Wednesday

Term: 3 years

PLAN COMMISSION:

Produces master plan regulating physical community development; recommends action on zoning, subdivision and planning. The Plan Commission shall have all the powers and duties granted or assigned by the Village Board, or by Village ordinances, and those powers and duties granted or assigned by W.S.A. §§ 61.35, 61.351, 61.354, 62.23, 87.30, 144.26 and 144.266; Chapter 236 of the Wisconsin Statutes and Chapters **64** and **100** of the Municipal Code of the Village of Mukwonago

Meets monthly on the second Tuesday of each month at 6:30pm.

Term: 3 years