

**Village of Somers
7511 12th Street
Somers, WI 53171**

**Village Board Meeting
Agenda
Tuesday, May 27, 2025
5:30 p.m.**

Village Board Meeting:	
Item #	
1	Call to order
2	Pledge of Allegiance
3	Consent and Approval of Minutes of Regular meetings on May 13, 2025, Vouchers dated May 15 and May 22.
4	Correspondence: none
5	Citizens Comments
6	President and Trustee Comments
7	<p>Action on Plan Commission Recommendations (Willow Creek):</p> <ul style="list-style-type: none"> a. Request by Berwick Properties Inc, 4011 80th St, Kenosha, WI 53142 (Owner), Daniel Szczap, Bear Development, LLC, 4011 80th St., Kenosha, WI 53142 (Agent); requesting approval of a rezoning from R-9 Multiple-Family Residential Dist., C-1 Lowland Resource Conservancy Dist., and A-2 General Agricultural Dist. to R-5 Urban Single-Family Residential Dist. & C-1 Lowland Resource Conservancy Dist., on Tax Parcel #s 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563, located in the NE 1/4 of Section 15, T2N, R22E, Village of Somers. <i>(For information use only the property fronts Highway E (12th Street) and wraps south along the creek behind the Pike Creek Lift Station).</i> b. Request by Berwick Properties Inc, 4011 80th St, Kenosha, WI 53142 (Owner), Daniel Szczap, Bear Development, LLC, 4011 80th St., Kenosha, WI 53142 (Agent); requesting approval of a preliminary plat (dated March 20, 2025 and prepared by John P. Konopacki of Pinnacle Engineering Group), on Tax Parcel #s 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563, located in the NE 1/4 of Section 15, T2N, R22E, Village of Somers. <i>(For information use only the property fronts</i>

	<i>Highway E (12th Street) and wraps south along the creek behind the Pike Creek Lift Station).</i>
8	Action on proposed Ordinance 2025-002 an Ordinance to repeal and recreate sections 18.30(E) and (F) of the code of Ordinances of the Village of Somers relating to preliminary plat and final plat fees.
9	Discussion and possible action on awarding bid received for Public Improvements for Golden Oil – Somers Gateway Center Project to PTS Contractors, Inc. in the amount of \$332,270.00.
10	Discussion and possible action to share cost with other municipalities to hire a lobbyist to advance Bills in Congress to have municipalities get their own ZIP Code.
11	Action on Operator’s Licenses: Ella Cater, Himabahen Joshi, Rakesh Joshi, Carla Lamos, and Anna Vignali
12	Motion to convene into closed session per Wisconsin State Statute §19.85(1)(c) considering employment, promotion, compensation or performance evaluation data of any public employee over which the governmental body has jurisdiction or exercise responsibility, specifically Village/Town Administrator position. (Roll call required)
13	Motion to reconvene in Open Session (roll call vote required)
14	Adjourn

I hereby certify that as the designee of the chief elected official of the Village of Somers, I posted this notice of the May 27, 2025 Village Board Meeting in 1 public place & on the Village website.

Dated this 23rd day of May 2025

Wendy Burnette, Clerk-Treasurer

Requests from person with disabilities who need assistance to participate in this meeting should be made to the Clerk’s Office at 262-859-2822 with as much notice as possible. **Notice is hereby given that members of the Village Board may participate telephonically. Notice is hereby given that members of the Town Board may be in attendance for the sole purpose of gathering information. A quorum may be present. However, no Board action will be taken.**

**Village of Somers
Proceedings from the Regular Board Meeting May 13, 2025**

President Stoner called the meeting to order at 5:30 p.m.

President Stoner led the Pledge of Allegiance.

Present: President George Stoner, Trustees Karl Ostby, Ben Harbach, Jackie Nelson, Jack Aupperle, and Joe Smith. Trustee Scott Fredrick was excused. Also present: Interim Administrator Chris Swartz, Deputy Clerk/Treasurer Eugenia Lara, Assistant Administrator Kevin Poirer and Attorney Davison

Consent and Approval of Minutes of Regular meetings on April 22, Vouchers dated April 24, May 1, May 2, May 8, April 2025 ACH Payments, April Building Report, December, January, February and March Investment Statements.

Trustee Aupperle moved to approve Minutes of Regular Meetings on April 22, Vouchers dated April 24, May 1, May 2, May 8, April 2025 ACH Payments, April Building Report, December, January, February and March Investment Statements.

Trustee Harbach asked why there were several double entries, with exact amounts on the Vouchers

Chief Andersen indicated some of the charges for PS was legit due to several items that needed to be fixed. He indicated he would get back to him regarding the other entries.

Seconded by Trustee Nelson.

Motion carried a 6-0 vote.

Correspondence:

Correspondence: Kenosha County Board of Adjustment Letter

Citizens Comments

None

President and Trustee Comments:

Trustee Nelson mentioned that the Plan Commission is working on having a joint session with the Village Board.

President Stoner stated that staff has had a lot of meetings with housing developers. He also wanted to thank all the members of the Fire Department for their outstanding service to the community.

Action on proposed Resolution 2025-007, a Resolution in support of any Bills introduced in both the US House of Representatives and the US Senate that would help give the Village of Somers its own ZIP Code

Trustee Smith moved to approve the Resolution 2025-007, a Resolution in support of any Bills introduced in both the US House of Representatives and the US Senate that would help give the Village of Somers its own ZIP Code

Trustee Smith mentioned that it was exciting to see movement on this again.

Trustee Harbach asked if there was any time table as to when this may become effective

Trustee Ostby seconded.

Motion carried a 6-0 vote.

Discussion and Action on awarding bid received for 2025 Roadway Improvements Program (Petrifying Springs Subdivision and 96th Avenue) to Payne & Dolan in the amount of \$533,199.98

Trustee Ostby moved to approve the awarding bid received for 2025 Roadway Improvements Program (Petrifying Springs Subdivision and 96th Avenue) to Payne & Dolan in the amount of \$533,199.98

Trustee Ostby asked if we had any competitive bid. Brett, the Village Engineer, indicated that there was not.

Trustee Nelson seconded.

Motion carried. 6-0 vote.

Motion to approve Action on Proposed Resolution 2025-008, a Resolution to amend the 2025 Budget to reference updated Capital Improvement Plan projects for the 2025 Paving Project

Trustee Aupperle moved to approve Proposed Resolution 2025-008, a Resolution to amend the 2025 Budget to reference updated Capital Improvement Plan projects for the 2025 Paving Project

Seconded by Trustee Smith

Motion carried. 6-0 Vote

Motion to have Village President reappointment of Tim Schrader and Jeff Johnson to the Fire Commission for 5-year term expiring May 1, 2030

Trustee Ostby move to approve the Village President reappointment of Tim Schrader and Jeff Johnson to the Fire Commission for 5-year term expiring May 1, 2030

Seconded by Trustee Nelson

Motion carried. 6-0 Vote

Action on application for “Class B” (Picnic) Beer License from Friends of Hawthorn Hollow for their Pike River Benefit Concert Series on June 13 and July 11, 2025. Located at 880 Green Bay Road, Kenosha, Wisconsin 53144, and requests to waive fees

Trustee Smith moved to approve application for “Class B” (Picnic) Beer License from Friends of Hawthorn Hollow for their Pike River Benefit Concert Series on June 13 and July 11, 2025. Located at 880 Green Bay Road, Kenosha, Wisconsin 53144, and requests to waive fees

Seconded by Trustee Aupperle.

Motion carried. 6-0 vote.

Action on Operator's Licenses: Steven Rickman and Taylor Weinstock

Trustee Ostby move to approve Operator's Licenses: Steven Rickman and Taylor Weinstock

Seconded by Trustee Harbach

Motion carried. 6-0 vote

Adjourn

Trustee Harbach motioned to adjourn the meeting at 5:43pm

Seconded by Trustee Nelson.

Motioned carried. 6-0 vote.

Drafted this 16th day of May by Wendy Burnette, Clerk/Treasurer

These minutes are not official until approved by the Village Board.

05/15/2025 10:33 AM
 User: HKRUK
 DB: Somers

CHECK REGISTER FOR VILLAGE OF SOMERS
 CHECK DATE FROM 05/15/2025 - 05/15/2025

Check Date	Bank	Check	Vendor	Vendor Name	Amount
Bank POOL POOLED CASH					
05/15/2025	POOL	258(E)	BCM1	BCM ONE INC	1,316.37
05/15/2025	POOL	64808	AT&T001	AT&T	148.86
05/15/2025	POOL	64809	BAXTER	BAXTER & WOODMAN	12,730.00
05/15/2025	POOL	64810	BTM001	BOUND TREE MEDICAL LLC	2,122.73
05/15/2025	POOL	64811	CDWGOV	CDW GOVERNMENT	172.00
05/15/2025	POOL	64812	CSC001	CENTURY SECURITY	35.00
05/15/2025	POOL	64813	CENTURYL	CENTURYLINK	0.08
05/15/2025	POOL	64814	SPECTRUM	CHARTER COMMUNICATIONS	139.98
05/15/2025	POOL	64815	SPECTRUM	CHARTER COMMUNICATIONS	32.88
05/15/2025	POOL	64816	DONSAUTO	DON'S AUTO PARTS	299.99
05/15/2025	POOL	64817	UHS002	FROEDTERT SOUTH INC--OCC MED	175.00
05/15/2025 ---	POOL	64818	GAT001	GATEWAY TECHNICAL COLLEGE	1,094.45
05/15/2025	POOL	64819	KTC001	KENOSHA TROPHY COMPANY	49.00
05/15/2025	POOL	64820	POIRIER	KEVIN POIRIER	2,562.01
05/15/2025	POOL	64821	MEN001	MENARDS - RACINE	151.20
05/15/2025	POOL	64822	PUBLICADM	PUBLIC ADMINISTRATION ASSOCIATES	5,500.00
05/15/2025	POOL	64823	R&RINS	R & R INSURANCE SERVICES INC	20,678.15
05/15/2025	POOL	64824	SBS001	SAFEGUARD BUSINESS SYSTEMS	108.97
05/15/2025	POOL	64825	STAPLEAD	STAPLES	113.39
05/15/2025	POOL	64826	THELETTER	THE LETTERING MACHINE	298.94
05/15/2025	POOL	64827	WEE001	WE ENERGIES	181.57
05/15/2025	POOL	64828	WEE001	WE ENERGIES	22.77
05/15/2025	POOL	64829	WEE001	WE ENERGIES	126.78
05/15/2025	POOL	64830	WEE001	WE ENERGIES	17.72
05/15/2025	POOL	64831	WEE001	WE ENERGIES	209.91
05/15/2025	POOL	64832	WEE002	WE ENERGIES	2,005.17
05/15/2025	POOL	64833	WBURNETTE	WENDY BURNETTE	150.00
05/15/2025	POOL	64834	WIHUMANE	WISCONSIN HUMANE SOCIETY	926.88

POOL TOTALS:

Total of 28 Checks:	51,369.80
Less 0 Void Checks:	0.00
Total of 28 Disbursements:	51,369.80

Check Date	Bank	Check	Vendor	Vendor Name	Amount
Bank POOL POOLED CASH					
05/22/2025	POOL	259(E)	KWIKTRIP	KWIK TRIP INC	4,090.75
05/22/2025	POOL	260(E)	WID002	WI DEPT OF JUSTICE	147.00
05/22/2025	POOL	64835	ALLHANDS	ALL HANDS FIRE EQUIPMENT LLC	1,486.35
05/22/2025	POOL	64836	BAXTER	BAXTER & WOODMAN	17,960.00
05/22/2025	POOL	64837	COLUMNS	COLUMN SOFTWARE PBC	665.29
05/22/2025	POOL	64838	TRI-VISA	ELAN FINANCIAL SERVICES	10.63
05/22/2025	POOL	64839	UHS001	FROEDTERT SOUTH INC-PHARMACY	375.45
05/22/2025	POOL	64840	GOLDENOIL	GOLDEN OIL	483.40
05/22/2025	POOL	64841	JEF001	JEFFERSON FIRE & SAFETY INC	132.34
05/22/2025	POOL	64842	KWU002	KENOSHA WATER UTILITY	78,860.67
05/22/2025	POOL	64843	MCDEVITTS	MCDEVITTS TOWING & REPAIR	829.03
05/22/2025	POOL	64844	MTP001	MT PLEASANT SEWER UTILITY	42,845.00
05/22/2025	POOL	64845	NAP001	NAPA AUTO PARTS	256.36
05/22/2025	POOL	64846	PARAGON	PARAGON DEVELOPMENT SYSTEMS	365.90
05/22/2025	POOL	64847	PUBLICADM	PUBLIC ADMINISTRATION ASSOCIATES	3,335.00
05/22/2025	POOL	64848	QUADIEN	QUADIEN FINANCE USA INC	503.05
05/22/2025	POOL	64849	RICOHUSA	RICOH USA, INC	193.43
05/22/2025	POOL	64850	SHI001	SHERWIN INDUSTRIES INC	4,725.00
05/22/2025	POOL	64851	STRAND	STRAND ASSOCIATES INC	6,000.00
05/22/2025	POOL	64852	WEE001	WE ENERGIES	587.16
05/22/2025	POOL	64853	WEE001	WE ENERGIES	7,047.20
05/22/2025	POOL	64854	WEE001	WE ENERGIES	1,162.80

POOL TOTALS:

Total of 22 Checks:

172,061.81

Less 0 Void Checks:

0.00

Total of 22 Disbursements:

172,061.81

**VILLAGE OF SOMERS
VILLAGE BOARD
MEETING ITEM MEMORANDUM**

MEETING DATE: May 27, 2025

TO: Village President Stoner and Village Trustees

PREPARED BY: Kevin Poirier, Assistant Administrator

REVIEWED BY: Wendy Burnette, Clerk-Treasurer

AGENDA ITEM: #7 Action on Plan Commission Recommendations (Willow Creek):

- a. Request by Berwick Properties Inc, 4011 80th St, Kenosha, WI 53142 (Owner), Daniel Szczap, Bear Development, LLC, 4011 80th St., Kenosha, WI 53142 (Agent); requesting approval of a rezoning from R-9 Multiple-Family Residential Dist., C-1 Lowland Resource Conservancy Dist., and A-2 General Agricultural Dist. to R-5 Urban Single-Family Residential Dist. & C-1 Lowland Resource Conservancy Dist., on Tax Parcel #s 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563, located in the NE 1/4 of Section 15, T2N, R22E, Village of Somers. *(For information use only the property fronts Highway E (12th Street) and wraps south along the creek behind the Pike Creek Lift Station).*
- b. Request by Berwick Properties Inc, 4011 80th St, Kenosha, WI 53142 (Owner), Daniel Szczap, Bear Development, LLC, 4011 80th St., Kenosha, WI 53142 (Agent); requesting approval of a preliminary plat (dated March 20, 2025 and prepared by John P. Konopacki of Pinnacle Engineering Group), on Tax Parcel #s 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563, located in the NE 1/4 of Section 15, T2N, R22E, Village of Somers. *(For information use only the property fronts Highway E (12th Street) and wraps south along the creek behind the Pike Creek Lift Station).*

BACKGROUND:

The Willow Creek Subdivision has been planned since 2018. The Developer, Bear Realty has met regularly with the Village over the years. The development originally included a mix of single-family homes and owner-occupied duplexes. None were going to have basement due to the high-water table on the property. The development was dependent on TID incentives and in 2019, TID 4 was amended to allow for the development to occur within the 35 percent residential cap.

In 2024, the developer contacted the Village and in light of the fact that they were able to secure some fill for the site, they proposed to change the project to single-family houses with basement throughout the property.

The new concept was presented to the Plan Commission in July and was well received. The Village granted them the necessary fill permit.

UPDATE:

On May 12, the Plan Commission held the necessary public hearing for the Rezoning and the Preliminary Plat. The requests were discussed, and the commission recommended approval for the Rezoning (5-0) and the Preliminary Plat (5-0).

Administration will point out that this project is the first Plat development the Village Plan Commission has approved in decades.

Kenosha County Planning has reviewed the application and materials submitted and recommends approval with several conditions listed in report dated April 28, 2025. Baxter Woodman provided additional comments in a report dated April 28, 2025.

PRIOR ACTION TAKEN:

This item was discussed at the May 20 Village Work Session.

SUGGESTED ACTION/ACTION REQUESTED/COMMENTS:

In the event that the Village Board agrees with the suggested action, a suggested motion to approve would be as follows:

7a *“Motion to approve request by Berwick Properties Inc, 4011 80th St, Kenosha, WI 53142 (Owner), Daniel Szczap, Bear Development, LLC, 4011 80th St., Kenosha, WI 53142 (Agent); requesting approval of a rezoning from R-9 Multiple-Family Residential Dist., C-1 Lowland Resource Conservancy Dist., and A-2 General Agricultural Dist. to R-5 Urban Single-Family Residential Dist. & C-1 Lowland Resource Conservancy Dist., on Tax Parcel #s 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563, located in the NE 1/4 of Section 15, T2N, R22E, Village of Somers.*

1. *Subject to conditions as listed in Planning Memo dated April 28, 2025;*

2. *Subject to conditions as listed in Engineer Memo dated April 28, 2025;*
3. *Subject to Preliminary Plat being reviewed and approved by Village Planning;*
4. *Subject to review and recommendations by affected Village boards, commissions or departments, and all affected local utility companies as outlined in ordinance 18.18(B); and*
5. *Execution of a Developer’s Agreement between the Village of Somers and Berwick Properties Inc.”*

7b *“Motion to approve request by Berwick Properties Inc, 4011 80th St, Kenosha, WI 53142 (Owner), Daniel Szczap, Bear Development, LLC, 4011 80th St., Kenosha, WI 53142 (Agent); requesting approval of a preliminary plat (dated March 20, 2025 and prepared by John P. Konopacki of Pinnacle Engineering Group), on Tax Parcel #s 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563, located in the NE 1/4 of Section 15, T2N, R22E, Village of Somers.*

1. *Subject to conditions as listed in Planning Memo dated April 28, 2025;*
2. *Subject to conditions as listed in Engineer Memo dated April 28, 2025;*
3. *Subject to Preliminary Plat being reviewed and approved by Village Planning;*
4. *Subject to review and recommendations by affected Village boards, commissions or departments, and all affected local utility companies as outlined in ordinance 18.18(B); and*
5. *Execution of a Developer’s Agreement between the Village of Somers and Berwick Properties Inc.”*

ATTACHMENTS:

Minutes from the May 12 Plan Commission

Planning and Zoning Reported dated April 28, 2025

Baxter and Woodman Review dated April 28, 2025

Rezoning Cover Letter

Project Narrative

Rezoning Application

Land Division Application

Preliminary Plat (with Comment)

Preliminary Plat

Preliminary Stormwater Management Plan



Village of Somers
Proceeding from the Village Plan
Commission Meeting
May 12, 2025

1. Call to Order

Chairman Stoner called the meeting to order at 5:30 p.m.

Present:

- Chairman George **Stoner**
- Commissioner Troy **Steege**
- Commissioner Vinnie **Chambers**
- Commissioner Don **Boxx**
- Commissioner Michael **DeLuca**

Absent:

- Commissioner Gregg **Thompson**
- Alternate Pat Juliana
- Commissioner Jerry **Romanowski**

Staff present in person: Assistant Administrator Kevin Poirier, Deputy Clerk Treasure Eugenia Lara, Chief Ben Anderson
Village Trustees: Ben Harbach, Jackie Nelson, Joe Smith
Kenosha County Planners: Andy Buehler
Others: Gregg Sinnen, Luke Zoning, Brett Engineer

2. Pledge of Allegiance

Chairman Stoner led everyone in the Pledge of Allegiance.

3. Approve Minutes of March 10, 2025 Meeting

Commissioner Donald Boxx moved to approve to the minutes.
Seconded by Commissioner Troy Steege.
Motion carried. 5-0 vote.

4. Correspondence

None

5. **Citizen Comments**

None

6. **Discussion and Action on Changing the mode of delivery documents to Plan Commissioners to e-delivery only and recommending that the Village Board update Ordinances accordingly.**

Admin Assistant Poirier requesting the change of delivery of documents to Plan Commissioners. It takes a significant amount of time from staff.

Commissioner Donald Boxx asked what the Trustees are doing.

Admin Assistant Poirier stated that the Trustees do online.

Commissioner Troy Steege is okay with online documents to be sent through email.

Commissioner Michael Deluca is not in favor of having to print out documents.

Chairman George Stoner mentioned that if someone would like a copy of packet to contact Kevin and he will make sure to get the information out to who would like a hard copy.

7. **FEMA Maps**

Public Hearing and Action on proposed Village Resolution regarding FEMA's recent Letter of Map Revision and proposed Ordinance to Repeal and Recreate Section ZN 4.08(1)(a) 5b of Code of Ordinance of the Village of Somers Relating to the Official Map and Revisions.

Commissioner Donald Boxx motion to accept FEMA letter of Map Revision.
Seconded by Commissioner Troy Steege
Motion carried 5-0 vote.

Chairman George Stoner mentioned FEMA went through entire area and revised flood plain. If anyone would like to see this Admin Assistant Kevin could give you a copy.

8. **Rezoning**

Public Hearing and Action on Request by Berwick Properties Inc, 4011 80th St, Kenosha, WI 53142(Owner), Daniel Szczap, Bear Development, LLC, 4011 80th St., Kenosha, WI 53142 (Agent); requesting approval of a **rezoning** from R-9 Multiple-Family Residential Dist., C-1 Lowland Resource Conservancy Dist., and A-2 General Agricultural Dist. to R-5 Urban Single-Family Residential Dist. & C-1 Lowland Resource Conservancy Dist., on Tax Parcel #s 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563, located in the NE 1/4 of Section 15, T2N, R22E, Village of Somers. (For information use only the

property fronts Highway E (12th Street) and wraps south along the creek behind the Pike Creek Lift Station).

Commissioner Donald Boxx moved to motion for rezoning.
Seconded by Commissioner Troy Steege
Motion carried. 5-0 vote.

S.R. Mills Bear Development, not much of a change, other than importing some dirt converted into single family homes. Had some two-family homes but had some purchase ground water issues and ducts can only do slab on grade. Mitigated that as best as we can. I still have some engineering work from Prelim to final. Assuming we can get to the prelim Plat. I appreciate the staff efforts to move forward thank you.

9. Preliminary Plat (land division)

Public Hearing and Action on Request by Berwick Properties Inc, 4011 80th St, Kenosha, WI 53142 (Owner), Daniel Szczap, Bear Development, LLC. 4011 80th St., Kenosha, WI 53142 (Agent); requesting approval of a **preliminary plat** (dated March 20, 2025, and prepared by John P. Konopacki of Pinnacle Engineering Group), on Tax Parcel #'s 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563, located in the NE 1/4 of Section 15, T2N, R22E, Village of Somers. (For information use only the property fronts Highway E (12th Street) and wraps south along the creek behind the Pike Creek Lift Station).

Commissioner Donald Boxx motion to approve the Preliminary Plat and Rezoning.
Seconded by Commissioner Michael DeLuca
Motion carried. 5-0 vote.

S.R. Mills gave handouts on what homes could look like, not exactly. Homes that have been constructed in the last 24-36 months in Paddock Lake, Union Grove and Pleasant Prairie. Lot house packages prices jump 13,500 sq ft and 83ft wide to 3 car garages. It's a step up from Paddock Lake and Salem ranging from 525,000-700,000. We can do any house plan. This has been a long time since Somers single family with basements.

Commissioner Donald Box had a question regarding the exterior finishes.

S. R. Mills 15% stone/brick in front and high-grade vinyl and many people like the variety of vinyl packages. Pictures that you have in front of you will be similar to the homes that will be built.

Commissioner Donald Boxx questioned the elevation change, what looks like a mountain of fill that was brought in and what will be the increase.

S.R. Mills dirt fill would be spread out and not be so dramatic as it is currently, and the elevation would be 3-4ft on average. We had a water table issue on a 1/3 of this site about 6ft, and by pushing back a little. We can pull it out of the water table so we can do full basements.

Chairman George Stoner there were water issues in that area because Hawthorne put apartments there, they were unable to do basements because of that.

Daniel Szczap of Willow Creek the water issues or soil issues NE is on SW.

Commissioner Donald Boxx, it's refreshing not to have to consider PUD in subdivision finally.

Commissioner Troy Steege as far as zoning everything complies. It is a great package excited for the single-family homes.

Commissioner Michael DeLuca everything is good, and we need Single family homes.

Chairman Stoner mentioned the only concerns that he has is all utilities will be on back of homes not in the front. That is what is asked of all homes with a 10ft walking path of gravel along sewer. The Vision of the Village Hwy E from 31st St by Walmart and some point in time that is where sewer goes. Requirement of all subdivisions. People can stay off Green Bay Road and other road that connects. It only makes sense and if we can work that it would be great.

S.R Mills mentioned this shouldn't be a problem, but some homeowners may complain but understand. We may have a little push back from the owners for having a path in their backyard. You have an easement for the sewer which makes sense.

Chairman George Stoner a 50ft easement. If you have a problem with, WE Energies have them, come and talk to me at the Village and we will set up a meeting at the Village Hall.

S.R. Mills we may have to render it a little bit due we have some PC and Wetlands and things, but we can figure it out.

Chairman George Stoner mentioned S.R we have had a phenomenal relationship so far and I am really excited for this subdivision.

S.R. Mills great so are we.

Chairman George mentioned that the board as well is very receptive of things but may have some concerns in certain areas, but it is 100% better than what we have seen at first. Not that it was better, but we took the duplexes away and now have single family homes and there is a big need for that. I have visited two subdivisions that were single family homes. As soon as those have gone up, they are gone. There is a need for that. I appreciate all you have done and the partnership with the Village. I hope it continues, and I know it will.

S.R. Mills mentioned like wise.

10. Comprehensive Plan Amendment

Public hearing and Action on Request by Maplecrest Country Club Inc, 9401 18th St, Kenosha, WI 53144-7748 (Owner), Ken Frank, Home Path Financial, LP, 5116 N 126th St., Butler, WI 53007 (Agent), request an amendment to the land use plan map for the Village of Somers (Map 80) as adopted in the Multi-Jurisdictional Comprehensive Plan for Kenosha County: 2035 from “Park and Recreational”, “High-Density Residential”, “Nonfarmed Wetland” and “Other Conservancy Land to be Preserved “ on Tax Parcel #82-4-222-201-0100, located in located in the NE 1/4 of Section 20, T2N, R22E, Village of Somers. (For information use only, the property is the site of the former Maplecrest Golf Course on the southwest corner of Highway H 88th (Avenue) and L (18th Street))

Ken Frank- 1435 W. Capitol Drive, Brookfield, WI of Home Path Financial we are asking for three things.

1. Revision (Comp Plan & Revision from the Park Recreation to Medium density residential and High residential)
2. CSM Land Division to 4 lots
3. Change to current PR-1 zoning current land division to R5 zoning and R11 zoning for a multi-family section or piece with PUD overlay

The existing site is 161 acres formally Maple Crest Golf Club, located SW corner of Hwy H and 18th Street 2 acres low grade wetland and existing 1 acre pond on site will remain. 4 buildings that will be removed from some scattered low quality wooded areas that will be impacted. In the final land plan, it will shake out. History on site it has been brought to the Village in the past several years. Last proposal last spring of 2024 was voted to approve by the Village and Plan Commission. Generally, in conformance to that overall density 4.4 unit to acre. 230 single-family detached homes, 46 twin homes, 276 residential lots in total. The multi-family that proposed 443 apartment units had variation with PUD 9000sq ft lots 14ft total side yard separation 5 & 9 ft. The open space was approximately 34%. So, what we are bringing forth to you tonight is generally in conformance to that some differences but for the most part is consistent to that. What is on the screen is an early version.w23

Admin Assistant Kevin Poirier mentioned that what was being viewed has not been seen by the Village Board and believe they will like it.

Ken Frank mentioned he has been around for 30 years and have multiple divisions. We are currently building in Somers as well as numerous other sites. 24 communities around southeast are of Wisconsin, those are some of the communities we are in. Some of the developments we are in doing from dirt through vertical. Prior proposal from PR-1 to and 8 4 holding 276 single-family and 443 apartments. What we are proposing is rezoning PR-1 to R5 and R-11 with PUD overlay. We are asking for 4 deviations with an overlay. Minimum lot size 9,000 from 10,000 ft. We are dropping 1000 sq ft. 75ft frontage to go to

64ft and asking for front yard setbacks to go from 30ft to 20ft. The last variance we are to go to 7ft side yard totaling the 14. Which was approved from the prior project. We do have a foot of slop in those setbacks for the larger product. For our product it will effectively be 16ft. between buildings. We just like to have a little bit of wiggle room for layout extra for errors or mistakes that might occur. The other part with the setbacks there were some discussions earlier concerned with the 7ft, and I did include as exhibits and back part of presentation there are only two instances that they would come close to 16ft separation between buildings. One if the building was built in 3 consecutive lots. Which we wouldn't do just doesn't make sense. To build the same unit next to each other. It's really to accommodate the much larger product on part of site rather than having to restrict it to a certain percentage of lots. That ask on deviations.

We came up with a plan and this was submitted 60 days ago that is in your packet so we can discuss to be on today's agenda. We have been working with the Village to come up with a better plan. Zoning and variances have not changed. Everything asking tonight is the same. Regardless, land plan is preferable all the things being asked and act on tonight will remain. None of that has changed. Eric will be go over more of site but this is currently what we have honed in on with staff and others in the Village. We think it is a better plan. There are fewer single-family units on it we laid out a general concept of the multi-family site. Right now the multi-family site we are at 250 units versus the 443 that was originally planned for that. We are asking for R11 zoning on there, which would allow 400. We are not a multi-family developer. We will build 8-unit buildings that cluster buildings on the screen. 88 of those we will build. We would build roughly 150 common entry buildings. Asking for R11 to leave options open for a multi-family developer. We don't build that product. We want to market to those folks. Would like to move this alternate plan into workshop.

Eric Issacs project manager of Manhart Consultants. Trying to tweak the prior plans. The lighter color yellow lots interior those will be the Pathway series that is being offered those are the smaller of the lots but there is a mix of 2-3 cars shown. The Orange in color are the Flagship series that are found on the perimeter South a little on East and Southwest of the area are the bigger models. Duplexes remaining on the Northend. The multifamily portion is just a conceptional layout that can prove out what is possible. What could be there and its function amongst the single portion on the site. On the interior sidewalks along all right ways and showing a path currently navigating from current access point off 18th street and 88th South binds around wetland and ponds and backs interior to site and connecting back into the network . Realistically people can walk quite a way as far as they would like to walk. Interior on the site and beneath the proposed retention pond currently proposed a dog park there. Which is connected by a trail, also navigating around the pond and getting people from East to West and North to South are all taken care of by the paths. There is a proposed club house for the single-family portion of the site and a clubhouse for the multifamily to have their own. Landscaping that was added is a conceptional landscaping but a realistic of potentially be there adding tree and shrubs and making landscaping layout pop. Landscaping islands in the center. On the rear yards of all Pathway series a lot of green and open yards will be big.

Ken Frank regarding product. 37 Flagship products around perimeter better known as the premium lots 2,000 to 3,000 sq ft. 234 Pathway single-family 1450sq ft and 22 Ranch Villas duplex 1600 sq ft all with garages.

Chairman George Stoner asked the lot sizes along if all had garages.

Eva Fryer – Stepping Stone Homes, Division President all have garages and the biggest of the buildings are the Flagship series at 2,000 to 3,000 sq ft.

Ken Frank mentioned this revised land plan. One of the ways we have made it work is to get rid of the 4 Plexes that the unit that looks like a long town home with all the garage doors. We introduced as part of the multi-family this stacked 4 unit building which we call and 8 plex. We are currently building that one and show you a few elevations, all single-entry units garages, that is what we are looking at for the multi-family site. We don't build the bigger building but guess that you probably in the range of 150-200 of the total units for multi-family site. Probably about 150 for the bigger buildings. Again, I want to leave that zoning somewhat flexible so we can have those types of buildings some flexibility.

Chairman George Stoner I like the look of those 8 units, and I understand that. The units that are on the other side. The right-hand side up at the top. Apartment building George likes everything but the cluster in corner not a friend.

Ken Frank mentioned those are the common hallway building duplexes. Common entry buildings are like an apartment. We are not building those. We would be building 8 plexes and the single-family detached products. This is just to prove out what a multi-family site would look like. It is well below the R-11, which allows 450 units in there we are considerably below that.

Chairman George Stoner I personally like the whole layout except that one section and have a big concern. I can envision what it looks like, but I am not a friend of that. If it was more of the 8 units that is more attractive to me, and I understand the philosophy that you must have on that. I am not in propionate to the long hallways in between.

Ken Frank we can work on these on the workshop level we are just asking for the zoning and comp plan overlay and PUD.

Chairman George Stoner had the same concerns as Chris Interim Administrator and Andy in planning and zoning is out there now. We usually don't pre zone anything until we see the product.

Andy B planning from Kenosha County we would not rezone without knowing product. Just seen today not saying that it would not be good for the Village. Once zoning is granted it been granted. Zoning is the biggest card what will be built there.

Chairman George Stoner if given zoning forgets the blank area the 8 units would go there. What was presented is that they can't change and put high rises because it falls in zoning.

Andy B planning That area is not a plat so what you see is what you are going to get. Once R11 is there the density could be utilized from low end that they are proposing to a high end as it was mentioned and in previous developers and anything in between. Up for everyone to discuss. Even with last proposals worked with using PUD overlay for entire property to allow for flexibility and in the future areas that were not being developed. Which in this case was flip flopped The residential areas but then we were not going to zone those areas those would be left for A4 because we did not know enough about them. That is just the recommendations to the Plan Commission and up to you to decide.

Commission Troy Steege would be in position to qualify how we would look at this. Potentially we would be acting on zoning or looking at a plan only for the single family duplex by keeping the zoning for the upper west corner as is right now until there is a plan on how everything is going to be developed.

Andy B, that is correct, that is how we would recommend that.

Commissioner Michael DeLuca, for lack of experience and all technicalities would a conditional use permit in that section limit what would could be done and control what could be built?

Andy B, a conditional use, is not a part a village code for multi-family. In some communities but not the Village Avenue. But it could be if it was available.

Chairman George Stoner protect the Village we could zone all single family and duplexes and zone for that and leaving the upper portion to A4. Until someone comes up with a plan and says this is what we want there. Then decides and rezone A4 to protect the Village.

Commissioner Michael DeLuca still move project along tonight is not a bad thing we can change later.

Ken Frank This is what we would like to get out to the workshop before it goes to the board. Address issues and concerns.

Andy B Concerns should be addressed prior to the board so proper language goes to the agenda. If you want the A4 there Its not possible they are not asking for it. Then it will be left to PR-1 which in one sense is okay but not practical. To move forward you could but Village would have to take additional action to A4. From a standpoint now it's kind of being introduced. It's new for all to digest. Maybe that is an area that will remain, or Plan Commission will have the ability change it to A4. Work out and figure out what that might be and everyone is comfortable at this point.

Commissioner Michael DeLuca a lot of things need to be worked out its moving to the next level.

Commissioner Donald Boxx is this just broad base or are we just on item 10?

Chairman George We are talking about the entire project.

Andy B if you keep this in mind the Plan Commission is the recommendation to the board. With the conversation and some are present sitting here. They are understanding your concerns, those are things that can be worked on and through.

Commissioner Donald Boxx, you mentioned a couple of things regarding setbacks why ask for things that you wouldn't do?

Ken Frank, We need that for larger units and don't want to drop those. Would like flexibility to put units on any lots within that subdivision. That can be put as additional condition 7 and 7 can't exceed certain dimensions or less than 16 or 14 ft. Restrictions can be put. We just don't want to build those two units on any lot within the subdivision. We still have a foot of slop for errors and mistakes.

Commissioner Donald Boxx, you mentioned several times precedent referring to prior developers plan for the land. But several months ago, several commissioners expressed their concerns about variance and specific lots size and setbacks. How did you mitigate our concerns.

Ken Frank trying to get apartment count down and add more single detached family homes. It's a map game to make site work. Dropped 200 apartments and added single family detached products.

Commissioner Donald Boxx as I recall the concern, I heard was minimum lot sq ft and setbacks not for multi-family but for single family residential. You're not trying to hear what the Village is asking. Asking for a variance front yard 20ft not acceptable.

Commissioner Vinnie Chambers Flagship front entry and front setbacks.

Chairman George Depth of garage 24-25ft and comprise 25ft.

Admin Assistant Kevin Poirer Bear Development is a TID District and will be asking for help of the Village.

Commissioner Boxx is rejecting all and not in agreement.

Ken Frank if the Village put money, then we can do a lot. Address variances.

Andy B apologizes for the misunderstanding.

Commissioner Michael DeLuca would like to see this project moving forward. We will learn as we go forward. I would like to make this happen.

Commissioner Vince Chambers appreciates and wants to see single family communities growing. Agrees to move project forward and being smart about it. Negotiating and agreeing. We may not all agree but learn and keep it going. Concerned for the front setbacks and willing to compromise.

Commissioner Troy Steege agrees and disagrees with agreeing to move forward suggest isolating the deviations. Is in between.

Chairman George Stoner 20-30ft front, separation, side by side does not want homes like Chicago not comfortable with apartments. What is the consensus does not want to pre-zone without knowing end result and leave it up to the Village Board.

Commissioner Donald Boxx would like to see more specifically on this plan deviates from our five and will not vote unless there is a better understanding of variances request come into play.

Andy B point comprehensive plan and corner to change. Rezone everything except R11 require setback 25ft.

Commissioner Michael DeLuca moved to approve comprehensive Plan Amendment.

Second by Commissioner Vinnie Chambers
Motion carried 4-0 vote
Commissioner Donald Chambers Abstain

11.Rezone

Public Hearing and Action on request by Maplecrest Country Club Inc, 9401 18th St, Kenosha, WI 53144-7748 (Owner), Ken Frank Home Path Financial, LP, 5116 N 126th St., Butler, WI 53007 (Agent), request a rezoning from PR-1 Park Recreational Dist. to R-5 Urban Single-Family Residential Dist., R-11 Multiple-Family Residential Dist. and PUD Planned Unit Development Overlay Dist. On Tax Parcel #82-4-222-201-0100, located in the NE 1/4 of Section 20, T2N, R22E, Village of Somers. (For information use only, the property is the site of the former Maplecrest Golf Course on the southwest corner of Highway H 88th (Avenue) and L (18th Street))

Chairman George Stoner amends the motion to have PUD changed to a minimum front yard setback of 25ft.

Seconded by Commissioner Michael DeLuca
Motion carried 4-0 votes.
Commissioner Donald Boxx Abstain

12. Certified Survey Map:

Public Hearing and Action on Request by Maplecrest Country Club Inc, 9401 18th St, Kenosha, WI 53144-7748 (Owner), Ken Frank, Home Path Financial, LP, 5116 N 126th St., Butler, WI 53007 (Agent), requests approval of a Certified Survey Map (dated 2/28/25 and prepared by James D. Baker of Manhard Consulting) to create one (1) 34.874-acre Lot, one (1) 7.421-acre Lot, one (1) 3.574-acre Lot, and one (1) 71.199-acre Lot, along with public right-of-way dedication, on Tax Parcel # 82-4-222-201-0100, located in the NE 1/4 of Section 20, T2N, R22E, Village of Somers. (For information use only, the property is the site of the former Maplecrest Golf Course on the southwest corner of Highway H 88th (Avenue)and L (18th Street))

Commissioner Michael DeLuca motion to carry Certified Survey Map.

Seconded by Commissioner Troy Steege
Commissioner Donald Boxx
Abstain
Motion carried 4-0 votes.

13. Site Plan Review & Exterior Fenestration:

Discussion and Action on Request by Maplecrest Country Club Inc, 9401 18th St, Kenosha, WI 53144-7748 (Owner), Ken Frank, Home Path Financial, LP, 5116 N 126th St., Butler, WI 53007 (Agent), requesting site plan review and exterior fenestration review on Tax Parcel # 82-4-222-201-0100, located in the NE 1/4 of Section 20, T2N, R22E, Village of Somers. *(For information use only, the property is the site of the former Maplecrest Golf Course on the southwest corner of Highway H 88th (Avenue)and L (18th Street)*

Commissioner Michael DeLuca motion to discuss action on request **dated 5/8/2025** Maplecrest Country Club Inc, 9401 18th St, Kenosha, WI 53144-7748 (Owner), Ken Frank, Home Path Financial, LP, 5116 N 126th St., Butler, WI 53007 (Agent), requesting site plan review and exterior fenestration review on Tax Parcel # 82-4-222-201-0100, located in the NE 1/4 of Section 20, T2N, R22E, Village of Somers. *(For information use only, the property is the site of the former Maplecrest Golf Course on the southwest corner of Highway H 88th (Avenue)and L (18th Street))*

Chairman George Stoner mentioned only concerns were walking trails and detention ponds. My biggest concern is 18th street now is the time to fix this. Update sewer and water prior to Village counsel.

Second by Commissioner Troy Steege
Commissioner Donald Boxx No
Motion carried 4-1 votes

14. Adjourn

Chairman George moved to adjourn at 7:22 p.m.
Seconded by Commissioner Boxx.
Motion carried 5-0 votes.

Drafted May 15, 2025.

These minutes are not official until approved by the Plan Commission. Submitted by Deputy Clerk/Treasurer Eugenia Lara.



KENOSHA COUNTY

Shelly Billingsley, Director
Department of Public Works
& Development Services

Andy M. Buehler, Director
Division of Planning & Development

TO: Village of Somers Plan Commission
FROM: Luke Godshall, Senior Land Use Planner
APPLN DATE: 03-28-25
RPT DATE: 04-28-25
MTG DATE: 05-12-25
RE: Willow Creek Rezoning & Preliminary Plat

PROJECT/SITE INFO:

1. Petitioner/Agent: Daniel Szczap, Bear Development, LLC
2. Property Owner: Berwick Properties Inc
3. Location/Address: Vacant land south of CTH E, adjacent to the east side of Pike Creek
4. Tax key Number(s): 82-4-222-151-0560, 82-4-222-151-0561, 82-4-222-151-0563
5. Area: 43.31 acres
6. Existing Zoning: R-9 Multiple-Family Residential Dist., A-2 General Agricultural Dist., C-1 Lowland Resource Conservancy Dist.
7. Proposed Zoning: R-5 Urban Single-Family Residential Dist., C-1 Lowland Resource Conservancy Dist.
8. Existing Land Use: High-Density Residential, Nonfarmed Wetland, SEC, Other Conservancy Land to be Preserved
9. Proposed Land Use: Medium-Density Residential, Nonfarmed Wetland, SEC, Other Conservancy Land to be Preserved

PROJECT OVERVIEW:

The Petitioner is proposing to amend the zoning designations on the subject parcels, to allow for a proposed 69-Lot single-family residential subdivision development known as Willow Creek.

This project was previously presented to the Plan Commission in October 2024 as a subdivision containing a mixture of single-family Lots and duplex Lots.

PLANNER COMMENTS:

The land use plan amendment application, which was filed by the Petitioner in August 2024 and approved by the Plan Commission in October 2024, to change the land use category from “High-Density Residential” to “Medium-Density Residential” across the project site remains the same, as “Medium-Density Residential” correlates with the requested R-5 Urban Single-Family Residential District zoning designation. Areas containing wetlands and/or environmental corridors would retain the corresponding existing land use categories of “Nonfarmed Wetland”, “SEC (Secondary Environmental Corridor)”, and “Other Conservancy Land to be Preserved”.

The rezoning application proposes R-5 zoning for the development site to accommodate the proposed single-family Lots. Wetland areas located adjacent to Pike Creek will retain the C-1 Lowland Resource Conservancy designation.

The rezoning request does not include a PUD request for ordinance deviations. The proposed Lots shown on the preliminary plat have been designed to meet the minimum lot area, frontage/width, and building setback requirements of the R-5 zoning district. The submitted project narrative from the Petitioner indicates the average Lot size will be 13,520 square feet (0.31 acre).

The submitted preliminary plat, dated March 20, 2025 and prepared by John P. Konopacki of Pinnacle Engineering Group, generally conforms to the requirements found in the Village of Somers Land Division and Platting Control ordinance (Chapter 18). Several items that will need to be added to and revised on the preliminary plat have been indicated in the staff recommendation below. These items, and any other items determined by the Plan Commission and Board, will need to be incorporated into a revised plat for eventual Final Plat approval.

The proposed subdivision will be accessed from CTH "E" (12th Street) via public Village road 58th Avenue, of which only its western 40' is dedicated as public right-of-way, with the eastern half being owned by the Village of Somers as tax parcel #82-4-222-151-0302. This parcel would need to be dedicated as public right-of-way in order to create a conforming public road right-of-way width of at least 66'.

Kenosha County Highways has reviewed the proposed preliminary plat and has indicated that CTH "E" (12th Street) is planned to be a 120-foot right-of-way. With the south half of the CTH "E" right-of-way currently being 50 feet in width, the plat will need to dedicate an additional 10 feet for right-of-way to achieve 60 feet of right-of-way for the south half of CTH "E". Highways has also indicated that the existing gravel construction drive is to be removed as part of development improvements.

Lots within the subdivision will be accessed via two new public streets, labelled on the preliminary plat as "Road A" and "Road B". The County Land Information Office has reviewed the street layout shown on preliminary plat and has indicated that "Road A" shall be called "Willow Creek Court", and "Road B" shall be called "61st Avenue". The previously-dedicated right-of-way of "Willow Creek Court" is indicated in the preliminary plat notes to be vacated via separate document.

The submitted Site Plan from Pinnacle Engineering Group dated 3/28/25, indicates that wetlands were delineated by Heartland Ecological Group, Inc. on March 25, 2025. The site plan indicates wetlands were identified upon portions of proposed Lots 16, 42, 43, 44 and 45. The Petitioner will need to be confirm with the Wisconsin Department of Natural Resources if these wetlands can be filled or mitigated so as to not place any wetlands upon the buildable portion of Lots of the subdivision.

It should be known that the proposed subdivision is within an area that the Comprehensive Bike Plan for Kenosha County had recommended a shared-use path to be known as the "Pike River Trail" running alongside the Pike River. The plan states:

"The proposed shared use path will connect with the planned segment in Mt. Pleasant in Racine County. The Kenosha portion of this trail will travel south from CTH KR to CTH K. This almost 6.5 mile segment will run alongside the Pike River, providing an excellent off-street alternative within the County. The trail will also provide a connection to Petrifying Springs Park, located in the northeast portion of the county. This county park is home to numerous internal trails, streams and rivers, the Carlisle Family Dog Park and winter

recreation opportunities. The trail system in Petrifying Springs Park hooks into the existing trail located on CTH JR.”

If desired, the Village could choose to require that the Petitioner construct the shared-use path or require that the plat identify an area to be set aside for the future construction of the shared-use path.

STAFF RECOMMENDATION:

Should the Plan Commission choose to recommend approval of the proposed rezoning and preliminary plat, staff would recommend the following:

1. The preliminary plat shall be subject to addressing any comments/conditions provided by Wisconsin Department of Administration – Plat Review.
2. The following items shall be added to the face of the preliminary plat:
 - a. Add Lot dimensions to Lots 25, 26, 27, 40, 41, 42, 43, 49, 50, 51, 52, 53, 54 to confirm conformance with R-5 zoning standards, specifically in regard to required minimum lot width of 75' (or at least 75' of width at the required building setback line if located on a cul-de-sac or curve).
 - b. Per Kenosha County Highways, label an additional 10 feet of right-of-way to be dedicated for public road purposes on the south half of the CTH “E”/12th Street right-of-way, for a total south half right-of-way of 60 feet.
 - c. Add a 15'x15' vision corner easement to the southeast corner of Lot 3.
 - d. Add a 15'x15' vision corner easement to the southeast corner of Lot 54.
 - e. Per Section 18.27(D)(3) of the Village ordinance, the southeast corner of Lot 3 and the northeast corner of Lot 54 shall be rounded with a minimum radius of 15 feet or of a greater radius when required by the Village Plan Commission.
 - f. Per Section 18.27(C)(2) of the Village ordinance, add a temporary cul-de-sac or temporary “T” 25 feet wide extending to each adjacent right-of-way to the southern end of proposed “ROAD B”.
 - g. On Sheet 2, duplicate the note from Sheet 1 indicating the adjacent unplatted tax key #82-4-222-151-0501.
 - h. On Sheets 1 and 2, add a note identifying what the green dashed & dotted line represents.
 - i. If applicable, identify proposed phases of the proposed subdivision.
 - j. If applicable, locate and identify any proposed development sign easements on the face of the preliminary plat.
3. The following items shall be revised on the face of the preliminary plat:
 - a. In the legal descriptions on Sheets 1 and 2, revise “Town of Somers” to read “Village of Somers”.
 - b. On Sheets 1 and 2, relabel “Road A” as “Willow Creek Court”, and relabel “Road B” as “61st Avenue”.
 - c. On Sheets 1 and 2, revise the Existing Zoning note to read “A-2 General Agricultural District, R-9 Multiple-Family Residential District, C-1 Lowland Resource Conservancy District, Airport Overlay Zoning Districts AIR-4 & AIR-5”.
 - d. On Sheets 1 and 2, revise the Proposed Zoning note to read “R-5 Urban Single-Family Residential District & C-1 Lowland Resource Conservancy District”.
 - e. On Sheets 1 and 2, revise “Proposed Zoning Requirements” to read “R-5 Urban Single-Family Residential District Requirements”.
 - f. On Sheets 1 and 2 under the Zoning Requirements section, revise “Front” to read “Street Yard” and revise “Front Street” to read “Street Yard”.

- g. On Sheets 1 and 2, revise notations of “Racine County Shoreland Zoning Jurisdiction” to read “Kenosha County Shoreland Zoning Jurisdiction”.
 - h. On Sheets 1 and 2, revise the note for the zoning of adjacent parcel 82-4-222-151-0401 to read “Zoned: B-4 Planned Business District, PUD Planned Unit Development Overlay District & A-2 General Agricultural District”.
 - i. On Sheet 1, revise the note for the zoning of adjacent parcel 82-4-222-151-0501 to read “Zoned: A-2 General Agricultural District & C-1 Lowland Resource Conservancy District”.
 - j. On Sheet 2, relocate the text “ZONED: C-1” so that it does not overlap the text referring to the Sec. 15 monument.
 - k. In Note 13 on Sheet 2, confirm the date of the wetland delineation by Heartland Ecological Group, Inc. (Note 13 indicates wetlands were delineated September 2024, but the submitted Site Plan from Pinnacle Engineering Group dated 3/28/25 indicates the wetlands were delineated March 25, 2025).
 - l. On Sheet 2, in the third (3rd) bullet point under the WETLAND PRESERVATION AND PRIMARY ENVIRONMENTAL CORRIDOR RESTRICTION note, replace “Kenosha County” with “the Village of Somers”.
 - m. On Sheet 2, revise the surveyor’s certification to include language certifying that the preliminary plat is a correct representation of all existing land divisions and features and that the plat complies with the provisions of Chapter 18, the Village of Somers Land Division and Platting Control ordinance.
4. Subject to submitting for review a draft of protective covenants whereby the developer intends to regulate land use in the proposed subdivision and otherwise protect the proposed development.
 5. Subject to receiving final approval for a stormwater management plan from the Village engineer.

Review Comments and Request for Additional Information

Willow Creek Development

Plans and Calculations Dated March 28, 2025

Village of Somers

April 28, 2025

We reviewed the engineering documents prepared by Pinnacle Engineering, for the Willow Creek project. Attached are marked-up plans reflecting a portion of the comments below. Please provide or change the following items:

General Comments:

1. Provide a traffic impact analysis or verification from Kenosha County that it is not required.
2. Provide estimates of settlement and construction considerations for public utilities and roads constructed in fill areas from a mutually acceptable geotechnical firm.
3. There are likely farm drain tiles within the proposed development. We recommend a pre-construction tile survey to confirm the presence and location of tiles on the property. All existing surface and subsurface drainage pathways must be maintained or properly rerouted.
4. Provide accommodations for a pedestrian path along the west boundary of the site.
5. Provide copies of all permits when received.
6. Provide a vertical datum conversion from NAVD 88 to NGVD 29.

CSM Comments:

1. Show proposed easements and easements to be abandoned.
2. Provide a vertical datum conversion from NAVD 88 to NGVD 29.

Plan Comments:

1. Sheet 3: Provide an emergency pond overland flow route.
2. Sheet 4:
 - a. Provide a 24-inch water main on the entrance road (58th Ave.).
 - b. The east pond discharge conflicts with an existing sanitary manhole.
 - c. The sanitary sewer tie-in manhole has an existing outside drop. As-builts have been provided.
 - d. Provide permit for wetland disturbance.
 - e. Provide an 8-inch sanitary sewer stub and easement to serve property to the east.
 - f. Coordinate future water main and sanitary sewer extensions to the south with the gas pipeline utility.

Storm Water Management Plan Comments:

1. Provide a stormwater model simulating build out of the property to the east with a 10-year storm entering the east pond.
2. Account for the wet pond areas in the "Proposed East" and "Proposed West" area CN calculations.
3. Provide plans and details corresponding to the HydroCAD and WinSLAMM calculations.
4. Provide a storm sewer design and calculations, including gutter spread.

Status of Engineer's Approval: Not Approved

Brett D. Biver

Brett D. Biver, PE

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PRELIMINARY ENGINEERING IMPROVEMENT PLANS

FOR

WILLOW CREEK

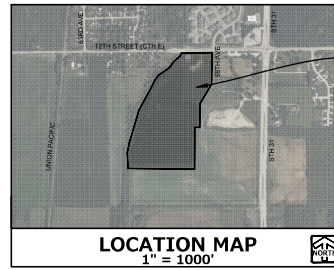
SOMERS, WISCONSIN

PLANS PREPARED FOR

BEAR DEVELOPMENT, LLC

4011 80TH STREET
KENOSHA, WI 53142

LEGEND	
EXISTING	PROPOSED
SANITARY SEWER MANHOLE	⊙
STORM SEWER MANHOLE	⊙
STORM SEWER CATCH BASIN (ROUND CASTING)	⊙
STORM SEWER CATCH BASIN (RECTANGULAR CASTING)	⊙
PRECAST FLARED END SECTION	▽
CONCRETE HEADWALL	▽
VALVE BOX	⊗
FIRE HYDRANT	⊗
CLEANOUT	⊗
SANITARY SEWER	—
FORCE MAIN	—
STORM SEWER	—
DRAIN TILE	—
WATER MAIN	—
FIRE PROTECTION	—
ELECTRICAL CABLE	—
OVERHEAD WIRES	—
GAS MAIN	—
TELEPHONE LINE	—
UTILITY CROSSING	—
CAUTION EXISTING UTILITIES NEARBY	⚠
GRANULAR TRENCH BACKFILL	▨
LIGHTING	⊙
ELECTRICAL TRANSFORMER OR PEDESTAL	⊙
POWER POLE	⊙
POWER POLE WITH LIGHT	⊙
GUY WIRE	⊙
STREET SIGN	⊙
CONTOUR	—
SPOT ELEVATION	⊙
WETLANDS	▨
PRIMARY ENVIRONMENTAL CORRIDOR	▨
FLOODWAY	▨
FLOODPLAIN	▨
HIGH WATER LEVEL (HWL)	—
NORMAL WATER LEVEL (NWL)	—
DIRECTION OF SURFACE FLOW	→
DITCH OR SWALE	—
DIVERSION SWALE	→
OVERFLOW RELIEF ROUTING	→
TREE WITH TRUNK SIZE	⊙
SOIL BORING	⊙
TOPSOIL PROBE	⊙
FENCE LINE, TEMPORARY SILT	—
FENCE LINE, WIRE	—
FENCE LINE, CHAIN LINK OR IRON	—
FENCE LINE, WOOD OR PLASTIC	—
CONCRETE SIDEWALK	—
CURB AND GUTTER	—
DEPRESSED CURB	—
REVERSE PITCH CURB & GUTTER	—
EASEMENT LINE	—



PROJECT LOCATION

INDEX OF SHEETS	
1	COVER SHEET
2	SITE PLAN
3	OVERALL GRADING & EROSION CONTROL PLAN
4	OVERALL UTILITY PLAN

PROJECT TEAM CONTACTS	
CIVIL ENGINEER: AARON KOCI PINNACLE ENGINEERING GROUP 20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186 MAIN: 262-754-8888 E-MAIL: akoch@pinnacle-engr.com	APPLICANT: DAN SZCZAP BEAR DEVELOPMENT, LLC 4011 80TH STREET KENOSHA, WI 53142
SURVEYOR: JOHN KONOPACKI PINNACLE ENGINEERING GROUP 20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186 MAIN: 262-754-8888 E-MAIL: john.konopacki@pinnacle-engr.com	

GENERAL NOTES

- THE INTENTION OF THE PLANS AND SPECIFICATIONS IS TO SET FORTH PERFORMANCE AND CONSTRUCTION MATERIAL STANDARDS FOR THE PROPER EXECUTION OF WORK. ALL WORKS CONTAINED WITHIN THE PLANS AND SPECIFICATIONS SHALL BE COMPLETED IN ACCORDANCE WITH ALL REQUIREMENTS FROM LOCAL, STATE, FEDERAL OR OTHER GOVERNING AGENCY'S LAWS, REGULATIONS, JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., AND THE OWNER'S DIRECTION.
- A GEOTECHNICAL REPORT HAS BEEN PREPARED BY GESTRA ENGINEERING, INC DATED OCTOBER 11, 2016 FOR THE PROJECT SITE. THE DATA ON SUB-SURFACE SOIL CONDITIONS IS NOT INTENDED AS A REPRESENTATION OR WARRANTY OF THE CONTINUITY OF SUCH CONDITIONS BETWEEN BORINGS OR INDICATED SAMPLING LOCATIONS. IT SHALL BE EXPRESSLY UNDERSTOOD THAT OWNER WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN THERE FROM BY THE CONTRACTOR. DATA IS MADE AVAILABLE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY ADDITIONAL SOILS INVESTIGATIONS THEY FEEL IS NECESSARY FOR THE PROPER EVALUATION OF THE SITE FOR PURPOSES OF PLANNING, BIDDING, OR CONSTRUCTING THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND UNDERSTAND ALL COMPONENTS OF THE PLANS AND SPECIFICATIONS, INCLUDING FIELD VERIFYING SOIL CONDITIONS, PRIOR TO SUBMISSION OF A BID PROPOSAL.
- THE CONTRACTOR SHALL PROMPTLY REPORT ANY ERRORS OR AMBIGUITIES LEARNED AS PART OF THEIR REVIEW OF PLANS, SPECIFICATIONS, REPORTS AND FIELD INVESTIGATIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COMPUTATION OF QUANTITIES AND WORK REQUIRED TO COMPLETE THIS PROJECT. THE CONTRACTOR'S BID SHALL BE BASED ON ITS OWN COMPUTATIONS AND IN NO SUCH INSTANCES RELY ON THE ENGINEER'S ESTIMATE.
- QUESTIONS/CLARIFICATIONS WILL BE INTERPRETED BY ENGINEER/OWNER PRIOR TO THE AWARD OF CONTRACT. ENGINEER/OWNER WILL SUBMIT OFFICIAL RESPONSES IN WRITING. INTERPRETATIONS PRESENTED IN OFFICIAL RESPONSES SHALL BE BINDING ON ALL PARTIES ASSOCIATED WITH THE CONTRACT. IN NO WAY SHALL WORD-OF-MOUTH DIALOG CONSTITUTE AN OFFICIAL RESPONSE.
- PRIOR TO START OF WORK, CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH ALL CONDITIONS OF THE SITE, AND SHALL ACCOUNT FOR CONDITIONS THAT AFFECT, OR MAY AFFECT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, LIMITATIONS OF WORK ACCESS, SPACE LIMITATIONS, OVERHEAD OBSTRUCTIONS, TRAFFIC PATTERNS, LOCAL REQUIREMENTS, ADJACENT ACTIVITIES, ETC. FAILURE TO CONSIDER SITE CONDITIONS SHALL NOT BE CAUSE FOR CLAIM OF JOB EXTRAS.
- COMMENCEMENT OF CONSTRUCTION SHALL EXPLICITLY CONFIRM THAT THE CONTRACTOR HAS REVIEWED THE PLANS AND SPECIFICATIONS IN ENTIRETY AND CERTIFIES THAT THEIR SUBMITTED BID PROPOSAL CONTAINS PROVISIONS TO COMPLETE THE PROJECT, WITH THE EXCEPTION OF UNFORESEEN FIELD CONDITIONS; ALL APPLICABLE PERMITS HAVE BEEN OBTAINED, AND CONTRACTOR UNDERSTANDS ALL OF THE REQUIREMENTS OF THE PROJECT.
- SHOULD ANY DISCREPANCIES OR CONFLICTS IN THE PLANS OR SPECIFICATIONS BE DISCOVERED AFTER THE AWARD OF CONTRACT, ENGINEER SHALL BE NOTIFIED IN WRITING IMMEDIATELY AND CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES/CONFLICTS SHALL NOT COMMENCE, OR CONTINUE, UNTIL A WRITTEN RESPONSE FROM ENGINEER/OWNER IS DISTRIBUTED. IN THE EVENT OF A CONFLICT BETWEEN REFERENCED CODES, STANDARDS, SPECIFICATIONS AND PLANS, THE ONE ESTABLISHING THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.
- THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, OBTAIN ALL NECESSARY PERMITS AND LICENSES TO COMPLETE THE PROJECT. OBTAINING PERMITS, OR DELAYS, IS NOT CAUSE FOR DELAY OF THE CONTRACT OR SCHEDULE. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL NOTIFY ALL INTERESTED GOVERNING AGENCIES, UTILITY COMPANIES AFFECTED BY THIS CONSTRUCTION PROJECT, AND DIGGERS HOTLINE IN ADVANCE OF CONSTRUCTION TO COMPLY WITH ALL JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., PERMIT STIPULATIONS, AND OTHER APPLICABLE STANDARDS.
- SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO INITIATE, INSTITUTE, ENFORCE, MAINTAIN, AND SUPERVISE ALL SAFETY PRECAUTIONS AND JOB SITE SAFETY PROGRAMS IN CONNECTION WITH THE WORK.
- CONTRACTOR SHALL KEEP THE JOBSITE CLEAN AND ORDERLY AT ALL TIMES. ALL LOCATIONS OF THE SITE SHALL BE KEPT IN A WORKING MANNER SUCH THAT DEBRIS IS REMOVED CONTINUOUSLY AND ALL RESPECTIVE CONTRACTORS OPERATE UNDER GENERAL "GOOD HOUSEKEEPING."
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, ENGINEER, AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.

ABBREVIATIONS			
BL	BASE LINE	HH	MANHOLE
BP	BOTTOM OF PIPE	NWL	NORMAL WATER LEVEL
C	LONG CHORD OF CURVE	PC	POINT OF CURVATURE
C & G	CURB AND GUTTER	PT	POINT OF TANGENCY
CB	CATCH BASIN	PVI	POINT OF VERTICAL INTERSECTION
CL	CENTERLINE	R	RADIUS
D	DEGREE OF CURVE	ROW	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT	SAN	SANITARY SEWER
FES	FLARED END SECTION	ST	STORM SEWER
FF	FINISHED FLOOR	T	TANGENCY OF CURVE
FG	FINISHED GRADE	TB	TOP OF BANK
FL	FLOW LINE	TC	TOP OF CURB
FP	FLOODPLAIN	TF	TOP OF FOUNDATION
FR	FRAME	TP	TOP OF PIPE
FW	FLOODWAY	TS	TOP OF SIDEWALK
FYG	FINISHED YARD GRADE	TW	TOP OF FOUNDATION WALL
HWL	HIGH WATER LEVEL	WM	WATER MAIN
INV	INVERT	∠	INTERSECTION ANGLE
L	LENGTH OF CURVE		

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WISCONSIN OFFICE
20725 WATERTOWN ROAD
BROOKFIELD, WI 53186
800.774.8888
CHICAGO, ILL. OFFICE - NATIONWIDE

WILLOW CREEK
SOMERS, WI

COVER SHEET

REVISIONS

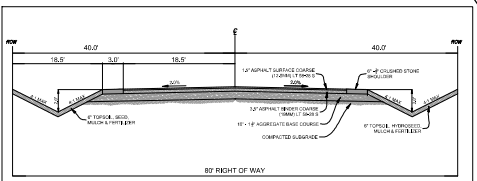
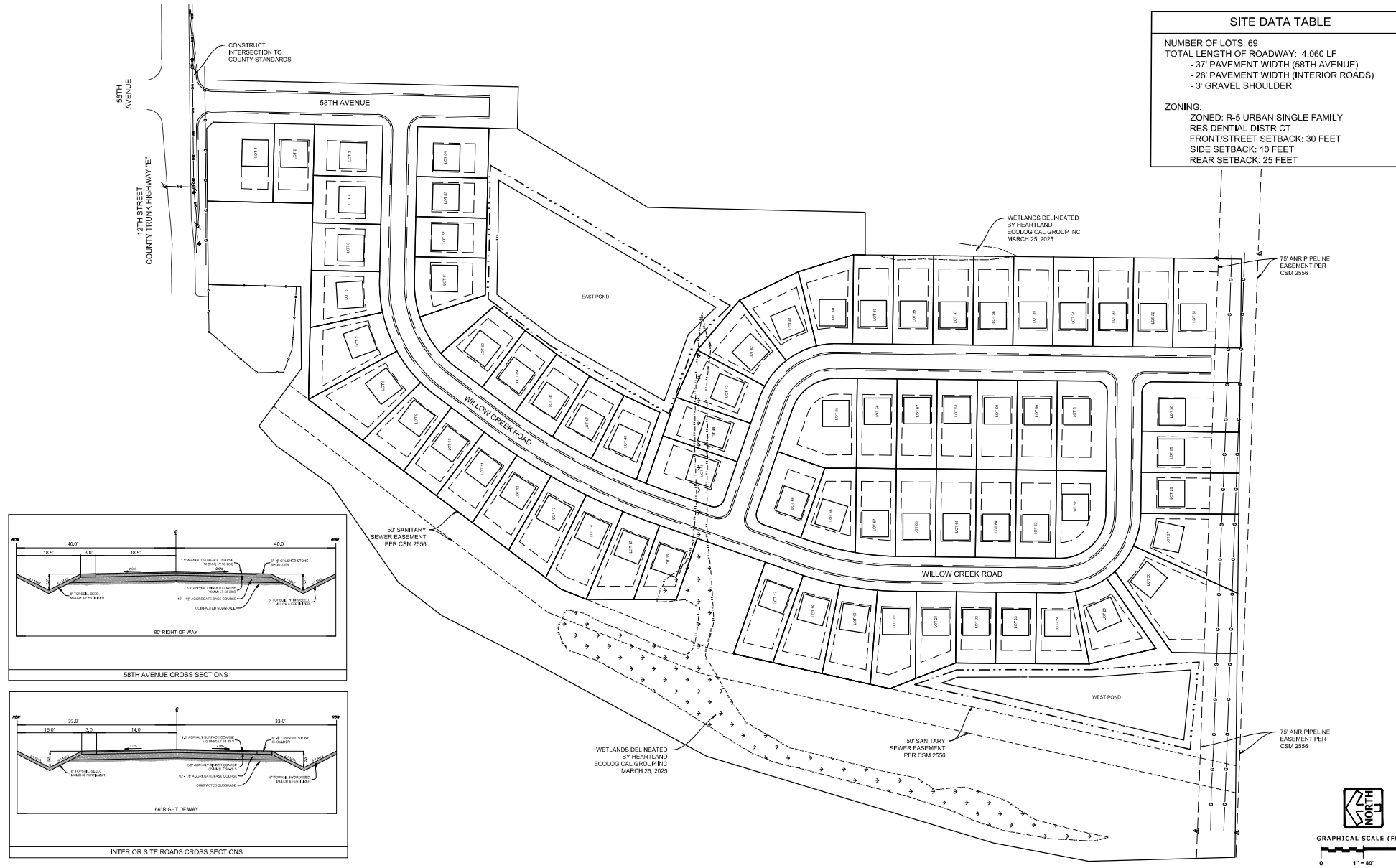
NO. OF REV.	DATE	BY	SCALE
1	11/20/23	AK	

SHEET 1 OF 1

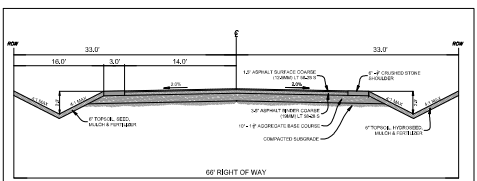
THESE PLANS AND DETAILS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC.
 REVISIONS: 01/2025
 DESIGNED: AKC
 DRAWN: AKC

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SITE DATA TABLE	
NUMBER OF LOTS:	69
TOTAL LENGTH OF ROADWAY:	4,060 LF
- 37' PAVEMENT WIDTH (58TH AVENUE)	
- 28' PAVEMENT WIDTH (INTERIOR ROADS)	
- 3' GRAVEL SHOULDER	
ZONING:	
ZONED:	R-5 URBAN SINGLE FAMILY RESIDENTIAL DISTRICT
FRONT/STREET SETBACK:	30 FEET
SIDE SETBACK:	10 FEET
REAR SETBACK:	25 FEET



58TH AVENUE CROSS SECTIONS



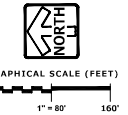
INTERIOR SITE ROADS CROSS SECTIONS

50' SANITARY SEWER EASEMENT PER CSM 2556

WETLANDS DELINEATED BY HEARTLAND ECOLOGICAL GROUP INC MARCH 25, 2025

50' SANITARY SEWER EASEMENT PER CSM 2556

75' ANR PIPELINE EASEMENT PER CSM 2556



PINNACLE ENGINEERING GROUP
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WISCONSIN OFFICE: 20725 WATERLOO ROAD, SUITE 100, BROOKFIELD, WI 53005 | 414-782-7988 | 2025 © PINNACLE ENGINEERING GROUP, LLC
 CHICAGO OFFICE: 100 W. MADISON ST., SUITE 1000, CHICAGO, IL 60601 | 312-467-1000 | 2025 © PINNACLE ENGINEERING GROUP, LLC

WILLOW CREEK

SOMERS, WI

SITE PLAN

REVISIONS

NO.	DATE	DESCRIPTION

REV. NO.	1	DATE	1/23/25
BY	AKC	CHECKED	AKC
SCALE	1" = 80'	SHEET	2

Z:\PROJECTS\2019\1647.00-WICA\SHEETS\PRELIM\2 SITE PLAN.DWG

SITE PLAN

THESE PLANS AND DESIGN ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC.
 REVISIONS: AKS
 DESIGNED: AKS
 DRAFTER: AKS

12TH STREET
 COUNTY TRUNK HIGHWAY 'E'

58TH AVENUE

VERIFY WITH COUNTY IF A TIA IS REQUIRED?

PROVIDE A GEOTECHNICAL PLAN FOR PUBLIC UTILITIES AND ROADS INSTALLED IN FILL LOCATIONS.

PROVIDE POND OVERLAND FLOW ROUTES

- CONSTRUCTION SITE SEQUENCING**
1. INSTALL PERIMETER SILT FENCE, INLET PROTECTION AND TEMPORARY CONSTRUCTION ENTRANCE.
 2. STRIP AND STOCKPILE TOPSOIL, INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
 3. CONDUCT ROUGH GRADING EFFORTS AND INSTALL CHECK DAMS AND SEDIMENT TRAPBASINS AS NEEDED.
 4. INSTALL UTILITY PERMS AND STRUCTURES, IMMEDIATELY INSTALL INLET PROTECTION.
 5. COMPLETE FINAL GRADING, INSTALLATION OF GRAVEL BASE COURSES, PLACEMENT OF CURBS, PAVEMENTS, WALKS, ETC..
 6. PLACE TOPSOIL, AND IMMEDIATELY STABILIZE DISTURBED AREAS WITH EROSION CONTROLS.
 7. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
- CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM #4 AS NEEDED TO COMPLETE CONSTRUCTION. IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS.

LEGEND

●	STORM SEWER MANHOLE
○	CATCH BASIN- ROUND CASTING
□	CATCH BASIN- RECTANGULAR CASTING
▭	CONCRETE FLARED END SECTION
—	PROPOSED CONTOUR
- - -	EXISTING CONTOUR
+ 750.00	SPOT ELEVATION
○	INLET PROTECTION (SEE DETAIL)
□	CONSTRUCTION ENTRANCE
▭	EROSION CONTROL BLANKET
—	SILT FENCE
—	DITCH CHECK

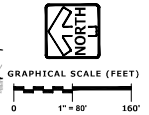
WETLANDS DELINEATED BY HEARTLAND ECOLOGICAL GROUP INC MARCH 25, 2025

WETLANDS DELINEATED BY HEARTLAND ECOLOGICAL GROUP INC MARCH 25, 2025

100 YEAR FLOOD PLAN

100 YEAR FLOOD PLAN

100 YEAR FLOOD PLAN



PINNACLE ENGINEERING GROUP
 ENGINEERING | NATURAL RESOURCES | SURVEYING
 WISCONSIN OFFICE: 20725 WATERTOWN ROAD, SUITE 100
 WISCONSIN, WI 53190
 (262) 794-8888
 CHICAGO OFFICE: 1400 N. LAKE STREET, SUITE 200
 CHICAGO, IL 60610

WILLOW CREEK
SOMERS, WI

OVERALL GRADING & EROSION CONTROL PLAN

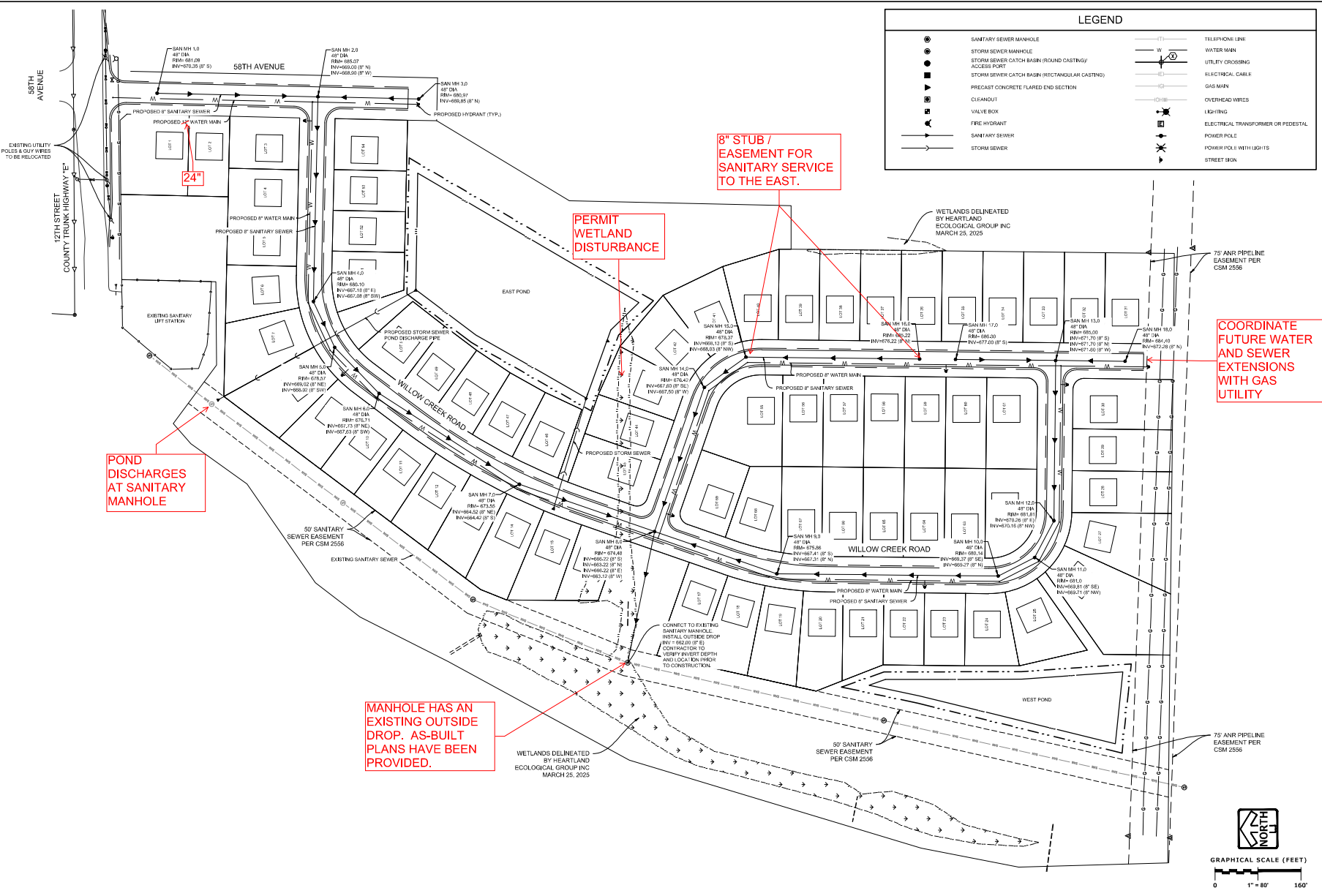
REVISIONS	
NO.	DESCRIPTION

REG. NO. 1837269 REG. PH. AKS START DATE 2/28/25 SCALE 1" = 80'	SHEET 3
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Z:\PROJECTS\2019\1617.00-WCAD\SHEETS\PRELIM\OVERALL GRADING & EROSION CONTROL PLAN.DWG

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 OVERALL GRADING & EROSION CONTROL PLAN

SEE PLANS AND DETAILS ARE COPYRIGHT PROTECTED AND MAY NOT BE REPRODUCED OR IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC.



LEGEND

	SANITARY SEWER MANHOLE		TELEPHONE LINE
	STORM SEWER MANHOLE		WATER MAIN
	STORM SEWER CATCH BASIN (ROUND CASTING)		UTILITY CROSSING
	ACCESS PORT		ELECTRICAL CABLE
	STORM SEWER CATCH BASIN (RECTANGULAR CASTING)		GAS MAIN
	PRECAST CONCRETE FLARED END SECTION		OVERHEAD WIRES
	CLEANOUT		LIGHTING
	VALVE BOX		ELECTRICAL TRANSFORMER OR PEDESTAL
	FIRE HYDRANT		POWER POLE
	SANITARY SEWER		POWER POLE WITH LIGHTS
	STORM SEWER		STREET SIGN

POND DISCHARGES AT SANITARY MANHOLE

PERMIT WETLAND DISTURBANCE

8" STUB / EASEMENT FOR SANITARY SERVICE TO THE EAST.

COORDINATE FUTURE WATER AND SEWER EXTENSIONS WITH GAS UTILITY

MANHOLE HAS AN EXISTING OUTSIDE DROP. AS-BUILT PLANS HAVE BEEN PROVIDED.

PINNACLE ENGINEERING GROUP
 ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE: 20725 WATERTOWN ROAD, SUITE 100, WISCONSIN, WI 53190
 CHICAGO OFFICE: 6247 N. BIRCH, CHICAGO, ILLINOIS 60631

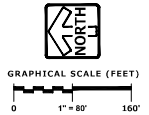
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WILLOW CREEK

SOMERS, WI

OVERALL UTILITY PLAN

REVISIONS	
NO.	DESCRIPTION





Providing Creative Real Estate Solutions to Build Better Communities

March 31,2025

Mr. Luke Godshall
Kenosha County
19600 75th Street
Bristol, WI 53104

Re: Village of Somers Zoning Amendment-Willow Creek

Dear Mr. Godshall:

Bear Development, LLC is pleased to submit this amended letter and the enclosed submittal materials as formal application for a Zoning Amendment in the Village of Somers. Bear Development is acting on behalf of the record owner, Berwick Properties, Inc.

Subject Property

Berwick Properties, Inc. is the owner of record of approximately 43.31 acres of vacant land in the Village of Somers. The land is located on the east side of CTH E, approximately 900 feet west of STH 31.

Tax Key Numbers: 82-4-222-151-0563, 82-4-222-151-0560 and 82-4-222-151-0561

Current Land Use

The subject property is unimproved and is actively farmed for row crops.

Proposed Use

Bear Development, LLC is seeking approval for mixed residential neighborhood consisting of single-family homes and open space.

Existing Zoning Classifications

A-2 General Agriculture District
C-1 Lowland Resource Conservancy District
R-9 Multiple-Family Residential District

Proposed Zoning Classifications

C-1 Lowland Resource Conservancy District
R-5 Urban Single-Family Residential District

We feel the request for Zoning Amendment is compatible with existing and planned land use in the general area. Further, the proposed development has been planned so that the natural resources on the site, including wetlands, Floodplain and Primary Environmental Corridor are not impacted.

Phone: 262.694.2327



www.beardevelopment.com



4011 80th Street, Kenosha, WI 53142



Providing Creative Real Estate Solutions to Build Better Communities

Should you have any questions regarding this request, please do not hesitate to contact me. I can be reached at (262) 842-0556 or by email, dan@beardevelopment.com

Thank you for your time and consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Daniel Szczap".

Daniel Szczap
Bear Development, LLC

Phone: 262.694.2327



www.beardevelopment.com



4011 80th Street, Kenosha, WI 53142



Providing Creative Real Estate Solutions to Build Better Communities

RECEIVED

MAR 26 2025

Kenosha County
Planning & Development

March 27, 2025

Mr. Jason Peters
Village of Somers
7511 12th Street
Somers, WI 53171

Re: Willow Creek – Preliminary Plat

Dear Mr. Peters:

Bear Development, LLC is pleased to submit this letter and the enclosed submittal materials as formal application for Preliminary Plat review and approval. Bear Development is acting on behalf of the owner of record, Berwick Properties, Inc.

Project Summary

Berwick Properties, Inc. is the owner of record of approximately 43.31 acres of vacant land in the Village of Somers. The land is located on the east side of CTH E, approximately 900 feet west of STH 31.

Current Land Use

The subject property is unimproved and is actively farmed for row crops. The property includes delineated wetlands and woods that border the Pike River. These natural resources are designated as Primary Environmental Corridor.

Village Comprehensive Land Use Map

The subject property is designated Medium Density Residential and Natural Area on the Village Comprehensive Land Use Map.

Proposed Use

Bear Development, LLC is seeking approval for a single-family residential neighborhood consisting of sixty-nine (69) homesites and two (2) outlots.

Existing Zoning

The subject property is zoned A-2 Agricultural District, R-9 Multiple Family Residential District and C-1 Conservancy District.

Proposed Zoning

Bear Development, LLC, under separate application, has applied for a zoning reclassification to the R-5 Urban Single-Family Residential District.



Phone: 262.694.2327



www.beardevelopment.com



4011 80th Street, Kenosha, WI 53142

Proposed Preliminary Plat

Bear Development, LLC, respectfully requests Village of Somers review and approval of the enclosed Preliminary Plat. The Preliminary Plat includes:

- Gross Land Area of 43.31 acres
- A total of 69 Lots and 2 Outlots
- Lots 1-69 are Single Family lots with bulk requirements meeting the R-5 Urban Single-Family Residential zoning standards.
- The average lot size is 13,520 Square Feet (0.31 acre).
- The Gross Residential Density is .62 Dwelling Units per Acre
- Outlot 1 is designated for Stormwater Retention and Open Space.
- Outlot 2 is designated for Stormwater Retention and Open Space.
- All Lots are to be serviced by public water and sanitary sewer service.

We feel the Preliminary Plat offers an opportunity to create a residential neighborhood that meets the goals of the Comprehensive Plan while preserving the unique natural resources on the site.

Should you have any questions regarding this request, please do not hesitate to contact me. I can be reached at (262) 842-0556 or by email, dan@beardevelopment.com

Thank you for your time and consideration.

Sincerely,



Daniel Szczap
Bear Development, LLC



VILLAGE OF SOMERS

Department of Planning and Development

Sept. 2021

REZONING APPLICATION

(a) Property Owner's Name:

Berwick Properties, Inc.

Print Name: _____

Signature: _____

Mailing Address: **4011 80th Street**

City: **Kenosha**

State: **WI**

Zip: **53142**

Phone Number: **(262) 949-3788**

E-mail (optional): **dan@beardevelopment.com**

Note: Unless the property owner's signature can be obtained in the above space, a letter of agent status signed by the legal property owner must be submitted if you are a tenant, leaseholder, or authorized agent representing the legal owner, allowing you to act on their behalf.

(b) Agent's Name (if applicable):

Print Name: **Daniel Szczap**

Signature: _____

Business Name: **Bear Development, LLC**

Mailing Address: **4011 80th Street**

City: **Kenosha**

State: **WI**

Zip: **53142**

Phone Number: **(262) 949-3788**

E-mail (optional): **dan@beardevelopment.com**

(c) Tax key number(s) of property to be rezoned:

82-4-222-151-0563

82-4-222-151-0560

82-4-222-151-0561

Property Address of property to be rezoned:

Vacant Property-No assigned address

(d) Proposed use (a statement of the type, extent, area, etc. of any development project):

~~The applicant is proposing a mixed residential neighborhood consisting of 33 Traditional Single Family Lots and 64 "split lots" to accommodate~~

~~32 duplex buildings (64 dwelling units). To facilitate this plan we are requesting rezoning to the R-5~~

~~Residential District and teh R-9 Residential District with a Planned Unit Development Overlay.~~

The applicant is requesting R-5 Residential zoning to facilitate a single family residential neighborhood.

REZONING APPLICATION

(e) Check the box next to any and all of the existing zoning district classifications present on the subject property:

<input type="checkbox"/> A-1 Agricultural Preservation District	<input type="checkbox"/> B-1 Neighborhood Business District
<input checked="" type="checkbox"/> A-2 General Agricultural District	<input type="checkbox"/> B-2 Community Business District
<input type="checkbox"/> A-3 Agricultural Related Manufacturing, Warehousing and Marketing District	<input type="checkbox"/> B-3 Highway Business District
<input type="checkbox"/> A-4 Agricultural Land Holding District	<input type="checkbox"/> B-4 Planned Business District
<input type="checkbox"/> AE-1 Agricultural Equestrian Cluster Single-Family District	<input type="checkbox"/> B-5 Wholesale Trade and Warehousing District
<input type="checkbox"/> R-1 Rural Residential District	<input type="checkbox"/> BP-1 Business Park District
<input type="checkbox"/> R-2 Suburban Single-Family Residential District	<input type="checkbox"/> B-94 Interstate Highway 94 Special Use Business District
<input type="checkbox"/> R-3 Urban Single-Family Residential District	<input type="checkbox"/> M-1 Limited Manufacturing District
<input type="checkbox"/> R-4 Urban Single-Family Residential District	<input type="checkbox"/> M-2 Heavy Manufacturing District
<input type="checkbox"/> R-4.5 Urban Single-Family Residential District	<input type="checkbox"/> M-3 Mineral Extraction District
<input type="checkbox"/> R-5 Urban Single-Family Residential District	<input type="checkbox"/> M-4 Sanitary Landfill and Hazardous Waste Disposal District
<input type="checkbox"/> R-6 Urban Single-Family Residential District	<input type="checkbox"/> I-1 Institutional District
<input type="checkbox"/> R-7 Suburban Two-Family and Three-Family Residential District	<input type="checkbox"/> PR-1 Park-Recreational District
<input type="checkbox"/> R-8 Urban Two-Family Residential District	<input type="checkbox"/> C-1 Lowland Resource Conservancy District
<input checked="" type="checkbox"/> R-9 Multiple-Family Residential District	<input type="checkbox"/> C-2 Upland Resource Conservancy District
<input type="checkbox"/> R-10 Multiple-Family Residential District	<input type="checkbox"/> FPO Floodplain Overlay District
<input type="checkbox"/> R-11 Multiple-Family Residential District	<input type="checkbox"/> PUD Planned Unit Development Overlay District
<input type="checkbox"/> R-12 Mobile Home/Manufactured Home Park-Subdivision District	<input type="checkbox"/> AO Airport Overlay District
	<input type="checkbox"/> RC Rural Cluster Development Overlay District

(f) Check the box next to any and all of the proposed zoning district classifications proposed for the subject property:

<input type="checkbox"/> A-1 Agricultural Preservation District	<input type="checkbox"/> B-1 Neighborhood Business District
<input type="checkbox"/> A-2 General Agricultural District	<input type="checkbox"/> B-2 Community Business District
<input type="checkbox"/> A-3 Agricultural Related Manufacturing, Warehousing and Marketing District	<input type="checkbox"/> B-3 Highway Business District
<input type="checkbox"/> A-4 Agricultural Land Holding District	<input type="checkbox"/> B-4 Planned Business District
<input type="checkbox"/> AE-1 Agricultural Equestrian Cluster Single-Family District	<input type="checkbox"/> B-5 Wholesale Trade and Warehousing District
<input type="checkbox"/> R-1 Rural Residential District	<input type="checkbox"/> BP-1 Business Park District
<input type="checkbox"/> R-2 Suburban Single-Family Residential District	<input type="checkbox"/> B-94 Interstate Highway 94 Special Use Business District
<input type="checkbox"/> R-3 Urban Single-Family Residential District	<input type="checkbox"/> M-1 Limited Manufacturing District
<input type="checkbox"/> R-4 Urban Single-Family Residential District	<input type="checkbox"/> M-2 Heavy Manufacturing District
<input type="checkbox"/> R-4.5 Urban Single-Family Residential District	<input type="checkbox"/> M-3 Mineral Extraction District
<input checked="" type="checkbox"/> R-5 Urban Single-Family Residential District	<input type="checkbox"/> M-4 Sanitary Landfill and Hazardous Waste Disposal District
<input type="checkbox"/> R-6 Urban Single-Family Residential District	<input type="checkbox"/> I-1 Institutional District
<input type="checkbox"/> R-7 Suburban Two-Family and Three-Family Residential District	<input type="checkbox"/> PR-1 Park-Recreational District
<input type="checkbox"/> R-8 Urban Two-Family Residential District	<input type="checkbox"/> C-1 Lowland Resource Conservancy District
<input checked="" type="checkbox"/> R-9 Multiple-Family Residential District	<input type="checkbox"/> C-2 Upland Resource Conservancy District
<input type="checkbox"/> R-10 Multiple-Family Residential District	<input type="checkbox"/> FPO Floodplain Overlay District
<input type="checkbox"/> R-11 Multiple-Family Residential District	<input checked="" type="checkbox"/> PUD Planned Unit Development Overlay District
<input type="checkbox"/> R-12 Mobile Home/Manufactured Home Park-Subdivision District	<input type="checkbox"/> AO Airport Overlay District
	<input type="checkbox"/> RC Rural Cluster Development Overlay District

REZONING APPLICATION

(g) Your request must be consistent with the existing planned land use category as shown on Map 65 of the adopted "Multi-Jurisdictional Comprehensive Plan for Kenosha County, 2035".

The existing planned land use category for the subject property is:

<input type="checkbox"/> Farmland Protection	<input type="checkbox"/> Governmental and Institutional
<input type="checkbox"/> General Agricultural and Open Land	<input type="checkbox"/> Park and Recreational
<input type="checkbox"/> Rural-Density Residential	<input type="checkbox"/> Street and Highway Right-of-Way
<input type="checkbox"/> Agricultural and Rural Density Residential	<input type="checkbox"/> Other Transportation, Communication, and Utility
<input type="checkbox"/> Suburban-Density Residential	<input type="checkbox"/> Extractive
<input type="checkbox"/> Medium-Density Residential	<input type="checkbox"/> Landfill
<input checked="" type="checkbox"/> High-Density Residential	<input type="checkbox"/> Primary Environmental Corridor
<input type="checkbox"/> Mixed Use	<input type="checkbox"/> Secondary Environmental Corridor
<input type="checkbox"/> Commercial	<input type="checkbox"/> Isolated Natural Resource Area
<input type="checkbox"/> Office/Professional Services	<input type="checkbox"/> Other Conservancy Land to be Preserved
<input type="checkbox"/> Industrial	<input type="checkbox"/> Nonfarmed Wetland
<input type="checkbox"/> Business/Industrial Park	<input type="checkbox"/> Surface Water

(h) Attach a plot plan or survey plat of property to be rezoned (showing location, dimensions, zoning of adjacent properties, existing uses and buildings of adjacent properties, floodways and floodplains)—drawn to scale.

(i) The Village of Somers Department of Planning and Development may ask for additional information.

(j) The name of the County Supervisor of the district wherein the property is located (District Map):

Supervisory District Number: 15 County Board Supervisor: David Geertsen

(k) The fee specified in Section 12.05-8 of this ordinance.

Request for Rezoning Petition (payable to "Kenosha County").....\$1,450.00

(For other fees see the Fee Schedule)

Note: Agricultural Use Conversion Charge

The use value assessment system values agricultural land based on the income that would be generated from its rental for agricultural use rather than its fair market value. When a person converts agricultural land to a non-agricultural use (e.g. residential or commercial development), that person may owe a conversion charge. To obtain more information about the use value law or conversion charge, contact the Wisconsin Department of Revenue's Equalization Section at 608-266-2149 or visit <http://www.revenue.wi.gov/faqs/sif/useassmt.html>.

Note that the act of rezoning property from an agricultural zoning district to a non-agricultural zoning district does not necessarily trigger the agricultural use conversion charge. It is when the use of the property changes from agricultural that the conversion charge is assessed.

Interactive Mapping Kenosha County

Layers Legend Details

- Select Ortho Photo:
- No Ortho
 - Ortho2022
 - Ortho2024
 - Ortho2015
 - Ortho2005
 - Ortho1995
 - Ortho1985
 - Ortho1975
 - Ortho1967
 - Ortho1937
 - Ortho2020
 - Ortho2010
 - Ortho2000
 - Ortho1990
 - Ortho1980
 - Ortho1970
 - Ortho1963

- Select Layers:
- Address_Points
 - Places
 - PLSS
 - Water Features
 - Recreational Trails
 - Streets
 - Cadastral
 - Buildings
 - Contours
 - Floodplain
 - Environmental
 - School Districts
 - Election Boundaries
 - Zoning
 - County Zoning
 - Bristol Zoning
 - City Zoning
 - Paddock Lake Zoning
 - Pleasant Prairie Zoning
 - Salem Lakes Zoning
 - Somers Zoning
 - Twin Lakes Zoning
 - TID Districts

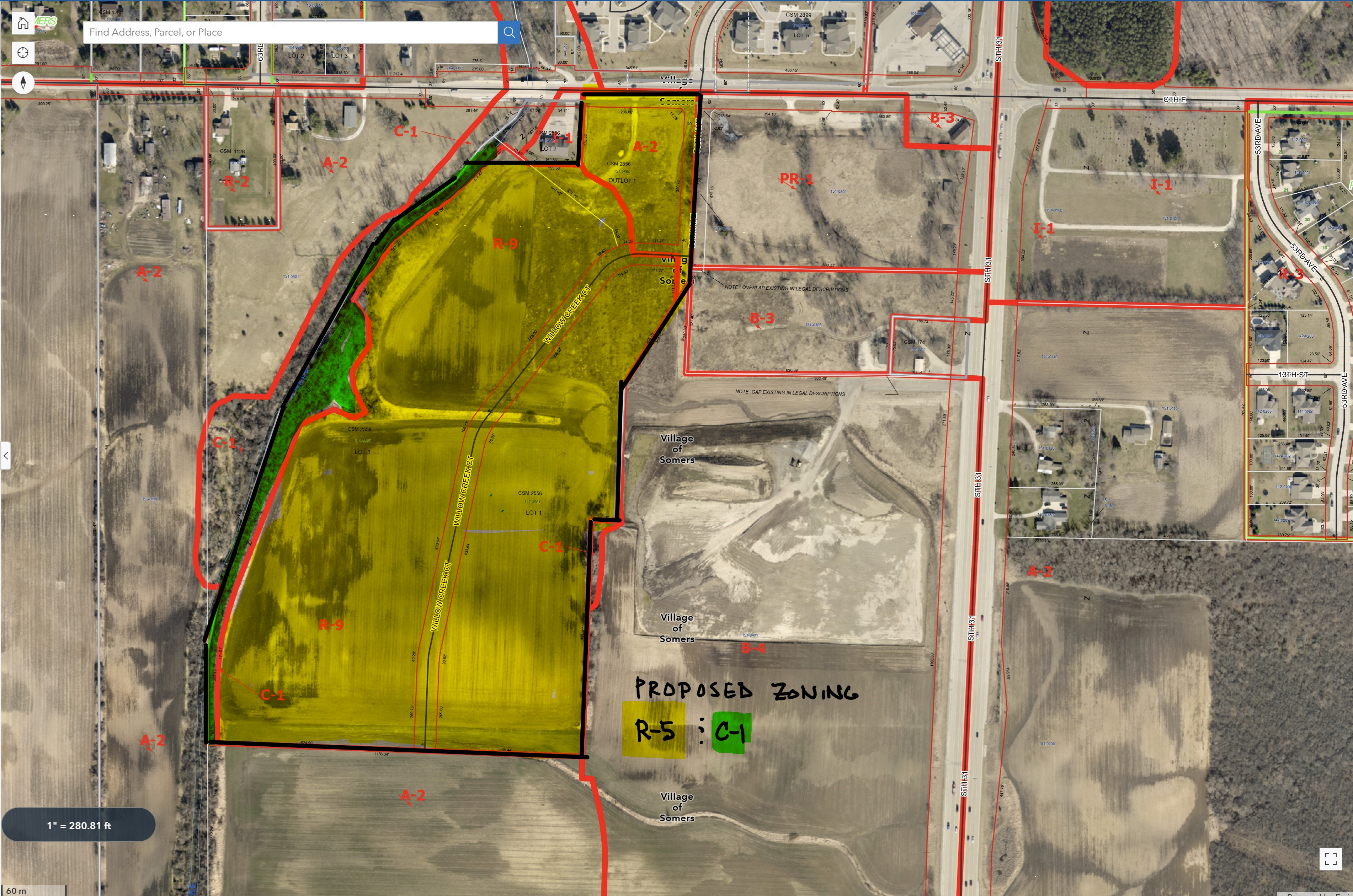


Interactive Mapping Kenosha County

Layers Legend Details

- Select Ortho Photo:
- No Ortho
 - Ortho2022
 - Ortho2024
 - Ortho2015
 - Ortho2005
 - Ortho1995
 - Ortho1985
 - Ortho1975
 - Ortho1967
 - Ortho1937
 - Ortho2020
 - Ortho2010
 - Ortho2000
 - Ortho1990
 - Ortho1980
 - Ortho1970
 - Ortho1963

- Select Layers:
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 - Paddock Lake Zoning
 - Pleasant Prairie Zoning
 - Salem Lakes Zoning
 - Somers Zoning
 - Twin Lakes Zoning
 - TID Districts



**ATTACH TO-SCALE MAP OF
PROPERTY SHOWING
EXISTING ZONING
CLASSIFICATIONS HERE**

**ATTACH TO-SCALE MAP OF
PROPERTY SHOWING
PROPOSED ZONING
CLASSIFICATIONS HERE**



VILLAGE OF SOMERS

Department of Planning & Development

LAND DIVISION APPLICATION

In order for applications to be processed, all information, drawings, application signatures, and fees required shall be submitted at time of application.

Please check the appropriate box below for the type of application being submitted:

- Certified Survey Map
- Subdivision Preliminary Plat
- Subdivision Final Plat
- Condominium Plat

Applicant is: Property Owner Subdivider Other _____

Applicant Name: Bear Development, LLC (Daniel Szczap) Date 3/25/2025

Mailing Address: 4011 80th Street, Kenosha, WI 53142 Phone # (262) 949-3788

_____ Phone # _____

Tax Parcel Number(s): 82-4-222-151-0560, 82-4-222-151-0563 and 82-4-222-151-0561

_____ Acreage of Project: 43.31

Location of Property (including legal description):

The subject property is located on teh south side of CTH E, west of STH 31

Being a part of Outlot 1 and all of Lot 1 & 3 of Certified Survey Map No. 2556 and all of vacated Willow Creek

Court adjacent thereto, in the Northwest 1/4, Southwest 1/4 and Northwest 1/4 of the Northeast 1/4 of

Section 15, Township 2 North, Range 22 East, Town of Somers, Kenosha County, Wisconsin.

Subdivision/Development Name (if applicable): Willow Creek

Existing Zoning: A-2, C-1 and R-9 Proposed Zoning: R-5 and C-1

Village Land Use Plan District Designation(s) (if applicable):

Present Medium Denisty Residential and Natural Area

Proposed Medium Density Resdential and Natural Area

Present Use(s) of Property: Agriculture and Vacant

Proposed Use(s) of Property: Single Family Residential

The subdivision abuts or adjoins a state trunk highway.....Yes () No (✓)

The subdivision will be served by public sewerYes (✓) No ()


The subdivision abuts a county trunk highwayYes (✓) No ()

The subdivision contains shoreland/floodplain areasYes (✓) No ()

The subdivision lies within the extra-territorial plat (ETP) authority
area of a nearby Village or CityYes () No (✓)

*Applicant is responsible for submitting to the ETP authority any fees and documentation
needed to obtain a recommendation.

REQUIRED SIGNATURE(S) FOR ALL APPLICATIONS:

 03.25.2025
Property Owner's Signature Date

Property Owner's Signature Date

REQUIRED APPLICABLE SIGNATURES:

 March 25, 2025
Applicant's Signature Date

Developer's Signature Date

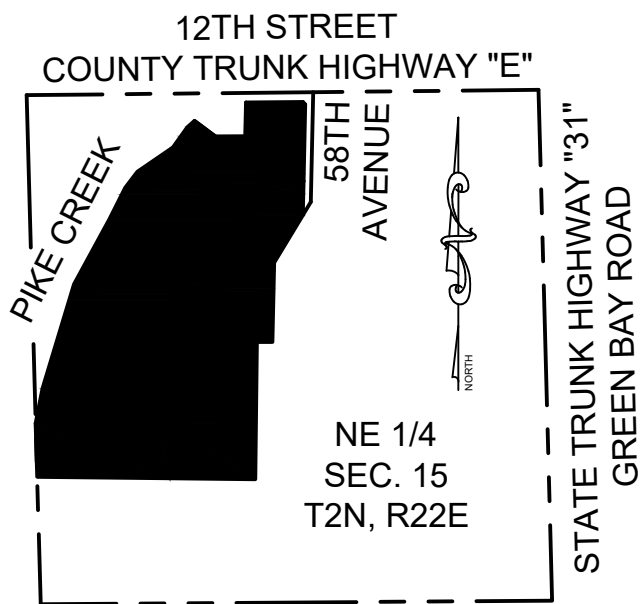
PRELIMINARY PLAT OF WILLOW CREEK

Being a part of Outlot 1 and all of Lots 1 & 3 of Certified Survey Map No. 2556 and all of vacated Willow Creek Court adjacent thereto, in the Northeast 1/4, Southwest 1/4 and Northwest 1/4 of the Northeast 1/4 of Section 15, Township 2 North, Range 22 East, Town of Somers, Kenosha County, Wisconsin



MARCH 20, 2025

VICINITY MAP
SCALE 1"=1000'



PREPARED FOR:
BERWICK PROPERTIES INC.
4011 80th Street
Kenosha, WI 53142

Prepared by:
PINNACLE ENGINEERING GROUP
20725 WATERTOWN ROAD SUITE 100
BROOKFIELD, WI 53186
OFFICE: (262) 754-8888

REVIEWING AGENCIES:
- Village of Somers
- Department of Administration

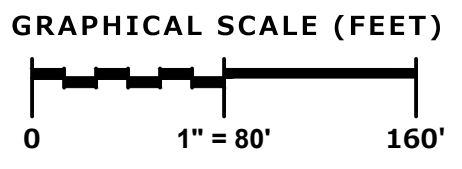
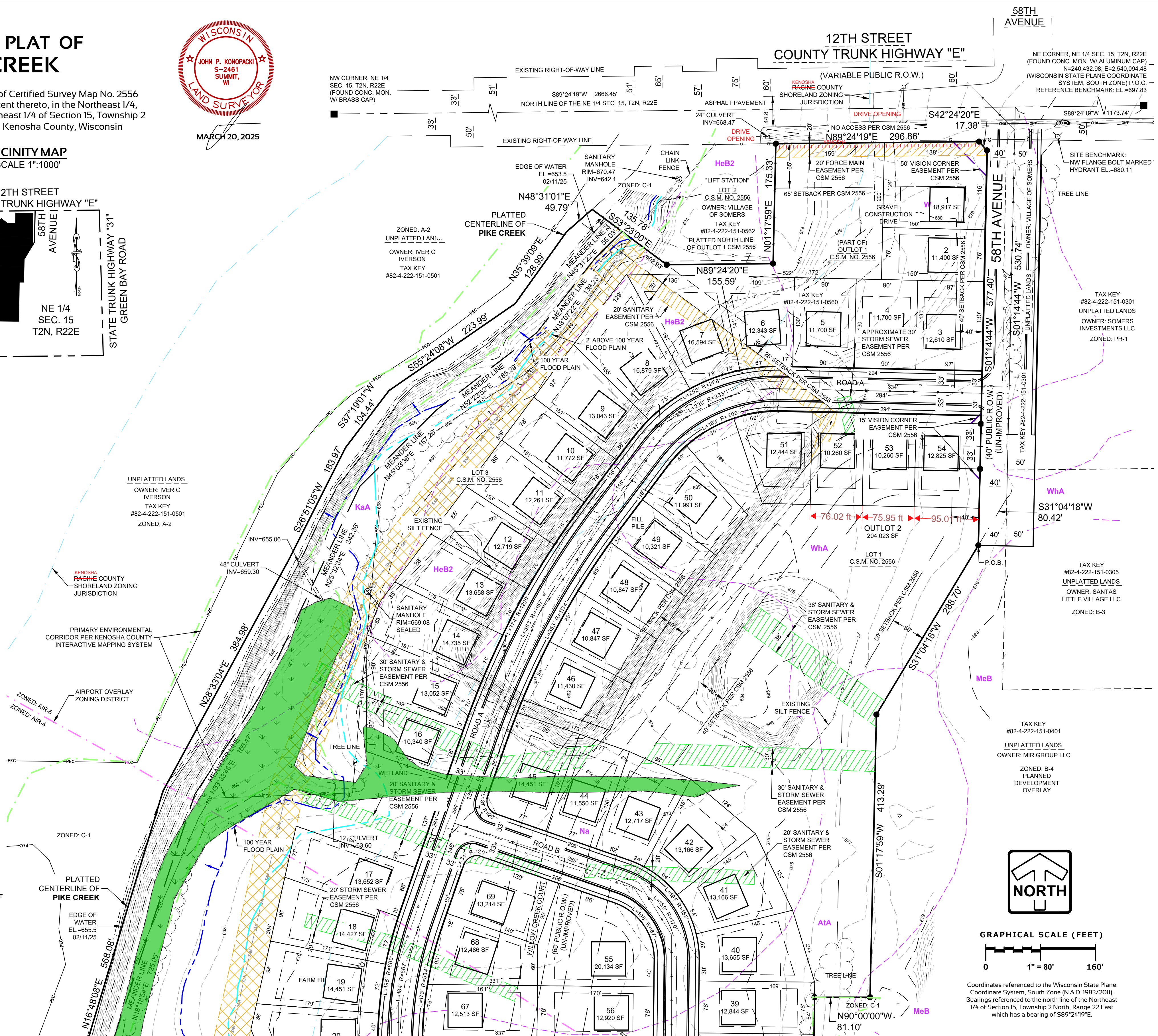
EXISTING ZONING:
A-2 AGRICULTURAL LAND HOLDING, R-9 MULTIPLE FAMILY RESIDENTIAL DISTRICT, C-1 UPLAND CONSERVANCY, KENOSHA COUNTY SHORELAND, AIRPORT OVERLAY ZONING DISTRICTS AIR - 4 & AIR-5

PROPOSED ZONING:
R-5 URBAN SINGLE FAMILY RESIDENTIAL DISTRICT
C-1 LOWLAND RESOURCE CONSERVANCY DISTRICT

R-5 PROPOSED ZONING REQUIREMENTS:
MIN. FRONT SETBACK FROM COUNTY TRUNK HIGHWAY "E" = 65 FEET
MIN. FRONT STREET SETBACK = 30 FEET
MIN. SIDEYARD = 10 FEET
MIN. REARYARD = 25 FEET
MIN. SHORE YARD = 75 FEET
MIN. LOT AREA = 10,000 SF
MIN. LOT WIDTH = 75 FEET AT SETBACK LINE

LEGEND OF SYMBOLS & ABBREVIATIONS

Sanitary Manhole	Fiber Optic Marker	Sign
Storm Manhole	Fiber Optic Manhole/Vault	Mail Box
Storm Inlet	Telephone Pedestal	Flag Pole
Cleanout	Telephone Manhole/Vault	Basketball Hoop
Catch Basin	Telephone Marker	Bollard
Lateral	Transformer	Cross Cut
Unknown Manhole	Electric Meter/Pedestal	Found Iron Pipe
Well	Electric Manhole/Vault	Set 3/4" X 18" Iron Rebar
Hydrant	Cable TV Riser/Box Cable	Mag Nail
Water Valve	TV Manhole/Vault	Section Monument
Down Spout	Gas Valve	Bench Mark
Sprinkler Valve	Gas Meter	Conifer Tree
Water Shut Off	Gas Marker	Deciduous Tree
Standpipe	Air Conditioning Unit	Bush
Water Manhole	Found 1" Iron Rod	Wetland Symbol
Flood Light	Directional Arrow	CL = CENTERLINE
Light Pole	Dumpster	CONC. = CONCRETE
Traffic Signal Pole	Handicap Stall	EL. = ELEVATION
Utility Pole	Spot Elevation	EXT. = EXISTING
Guy Wire		INV. = INVERT
	Sanitary Sewer	MON. = MONUMENT
	Storm Sewer	P.O.B. = POINT OF BEGINNING
	Water Main	P.O.C. = POINT OF COMMENCEMENT
	Fiber Optic Line	R.O.W. = RIGHT OF WAY
	Telephone Line	SEC. = SECTION
	Electric Line	SQ. FT. = SQUARE FEET
	Overhead Wires	WI. = WITH
	Cable Television	(R) = RECORDED AS
	Gas Main	(D) = DEEDED AS
	Wetlands	
	Tree Line	
	No Access	



Coordinates referenced to the Wisconsin State Plane Coordinate System, South Zone (N.A.D. 1983/2011). Bearings referenced to the north line of the Northeast 1/4 of Section 15, Township 2 North, Range 22 East which has a bearing of S89°24'19"E.

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PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888

CHICAGO | MILWAUKEE | NATIONWIDE

WILLOW CREEK
VILLAGE OF SOMERS

PRELIMINARY PLAT

REVISIONS			

REG. JOB No.	1617.00
DATE	03/20/2025
SCALE	1" = 80'
DRAFTED BY	ST

SHEET 1 OF 2

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PRELIMINARY PLAT OF WILLOW CREEK

Being a part of Outlot 1 and all of Lots 1 & 3 of Certified Survey Map No. 2556 and all of vacated Willow Creek Court adjacent thereto, in the Northeast 1/4, Southwest 1/4 and Northwest 1/4 of the Northeast 1/4 of Section 15, Township 2 North, Range 22 East, Town of Somers, Kenosha County, Wisconsin

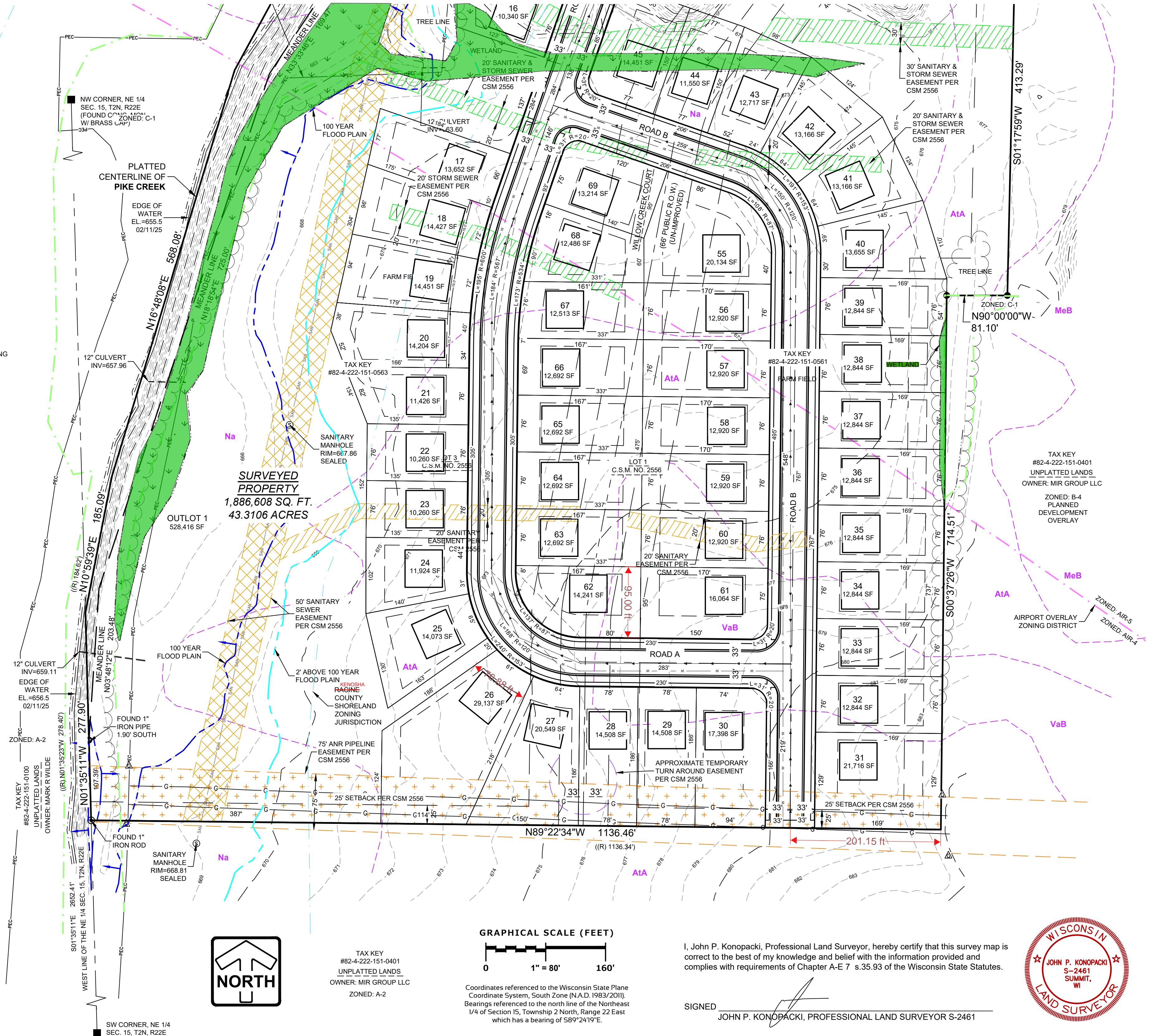
NOTES:

- Tax Parcel Numbers: 82-4-222-151-0560, 82-4-222-151-0563, 82-4-222-151-0561 (38.2313 acres).
- Gross land area of the subject property is 1,886,608 square feet (43.3106 acres). Net land area is 1,665,356 square feet (38.2313 acres).
- Subdivision contains 69 Lots and 2 Outlots.
- Vertical Datum: North American Vertical Datum of 1988(12), (NAVD88). Survey data was obtained through a combination of ground based survey practices and un-manned aerial systems. Contours are shown at a 1' interval of the current ground terrain. Reference Benchmark: Concrete monument with aluminum cap at the northeast corner of the Northeast 1/4 Section 15, Town 2 North, Range 22 East. Elevation = 697.83.
- All Lots to be serviced by public sanitary sewer and water main.
- All streets to be improved with concrete curb and gutter and asphalt pavement.
- No direct vehicular access shall be allowed on to 12th Street - County Trunk Highway "E".
- Flood Zone Classification: The property lies within in Zone "X" and Zone "AE" of the Flood Insurance Rate Map Community Panel No. 55059C0069D with an effective date of JUNE 19, 2012. Zone "X" areas are determined to be outside the 0.2% annual chance floodplain. Zone "AE" areas are Special Flood Hazard Areas with Base Flood Elevations determined.
- Drainage and Utility Easements to be determined during site engineering and will be shown on the final plat.
- Utilities on or above the surface of the surveyed property observed in the process of conducting the fieldwork graphically shown on the survey. Underground utility locations shown are based on field location markings by Digger's Hotline ticket #20250502586 with a clear date of FEBRUARY 07, 2025. The location and size of underground structures and utilities shown hereon have been located based on a reasonable visual observation and are shown for informational purposes only. PINNACLE ENGINEERING GROUP, LLC, does not guarantee the location of utilities shown. Contact Digger's Hotline prior to the start of any activity.
- Any land below the ordinary high water mark of a lake or a navigable stream is subject to the public trust in navigable waters that is established under article IX, section 1, of the state constitution.
- Where the property being surveyed includes a water boundary, the parties relying on the survey should be aware that, (1) laws regarding the delineation between the ownership of the bed of navigable waters and the upland owner differ from state to state, (2) water boundaries are typically subject to change due to natural causes, and (3) as a result, the boundary shown hereon may or may not represent the actual location of the limit of title. The centerline of the Pike Creek shown hereon is based on Certified Survey Map No. 2556 recorded December 6, 2006. The edge of water of the Pike Creek was located on February 11, 2025.
- Wetlands delineated by Heartland Ecological Group, Inc. September 2024.
- OUTLOT OWNERSHIP AND PURPOSE:** Outlot 1 and Outlot 2 of the plat of WILLOW CREEK shall be maintained by the WILLOW CREEK Homeowners Association for storm water retention purposes and open space and each individual lot owner shall have an undivided fractional ownership of the outlots and that Kenosha County and the Village of Somers shall not be liable for any fees or special assessments in the event Kenosha County or the Village of Somers should become the owner of any lot in the subdivision by reason of delinquency. The Homeowners Association shall maintain said Outlots in an unobstructed condition so as to maintain their intended purpose. Construction of any building, grading, or filling in said Outlots is prohibited unless approved by the Village of Somers. The Homeowners Association grants to the Village the right (but not the responsibility) to enter upon the Outlots in order to inspect, repair, or restore said Outlots to their intended purpose. Expense incurred by the Village for said inspection, repair, or restoration of said Outlots may be placed against the tax roll for said association and collected as a special charge by the Village. The developer and all subsequent owners shall transfer to any subsequent purchaser of any buildable lot within the plat of WILLOW CREEK an undivided one-sixty ninth (1/69th) interest in Outlot 1 and Outlot 2. The developer and all subsequent owners warrant and represent that said outlots for assessment purposes will have no value per se, and the 1/69th interest in said outlots would be assessed with each of the buildable lots. In the event that said outlots are not assessed as above, the developer and all subsequent owners warrant and represent that each will pay 1/69th per buildable lot, of the taxes due on said outlots. In the event that these said taxes are not paid, Kenosha County reserves the right to collect from each and every developer or subsequent owner individually for all taxes due.
- WETLAND PRESERVATION AND PRIMARY ENVIRONMENTAL CORRIDOR RESTRICTION**
 - Grading and filling shall be prohibited unless specifically authorized by the municipality in which they are located and, if applicable, Kenosha County, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
 - The removal of topsoil or other earthen materials shall be prohibited.
 - The removal or destruction of any native vegetative cover, ie., trees, shrubs, grasses, etc., shall be prohibited, with the exception of the removal of dead, dying or diseased vegetation, non-indigenous species or noxious weeds (as defined by local ordinance) at the discretion of a forester or naturalist and the approval of Kenosha County.
 - Grazing by domesticated animals, ie., horses, cows, etc., shall be prohibited.
 - The introduction of plant material not indigenous to the existing environment of the wetland area or primary environmental corridor shall be prohibited.
 - Creation of a mown landscape, gardening, cultivating, or depositing yard waste of any type shall be prohibited.
 - Ponds may be permitted subject to the approval of the municipality in which they are located and, if applicable, the Kenosha County, the Wisconsin Department of Natural Resources and the Army Corps of Engineers.
 - Construction of buildings within the wetland boundary is prohibited.
- BASEMENT RESTRICTION:** Although all lots in the Subdivision have been reviewed and approved for development with single-family residential use in accordance with Section 236 Wisconsin Statutes, some lots may contain soil conditions which, due to the possible presence of groundwater near the surface, may require soil engineering and foundation design with regard to basement construction. It is recommended that either a licensed professional engineer or other soils expert design a basement and foundation which will be suitable to withstand the various problems associated with saturated soil conditions on basement walls or floors or that special measures be taken. Soil conditions should be subject to each owners special investigation prior to construction and no specific representation is made herein.
- Soil Types: A1A - Ashkum silty clay loam, 0-2% slopes; E1B - Elliott silt clay loam, 2 - 6% slopes; HeB2 - Hebron loam, 2-6% slopes, eroded; KaA - Kane loam, 1-3% slopes; MeB - Markham silt loam, 2-6% slopes; Na - Navan silt loam; VaB - Varna silt loam, 2-6% slopes; WhA - Warsaw silt loam, 0-2% slopes; WhB - Warsaw silt loam, 2-6% slopes.
- At the time of this survey the subject property contained snow covered ground conditions. Pinnacle Engineering Group, LLC takes no responsibility for any improvements that can not be located based on a reasonable visual observation.
- Temporary Turn-Around Easement, 15' Vision Corner Easements and 20'30'38' Sanitary and Storm Sewer Easements as recorded on Certified Survey Map No. 2556 to be modified, amended and/or vacated by separate documents.
- Willow Creek Court, dedicated to the Town of Somers for Public Street purposes, to be vacated via separate document.
- VISION CORNER EASEMENT RESTRICTION:** Within the area of the vision corner easement, the height of all plantings, signs, fencing, signs, any other structure shall be limited to 24 inches above the intersection elevation. No access to any roadway shall be permitted over the vision corners from the adjacent lots.

EXISTING ZONING:
A-2 AGRICULTURAL LAND HOLDING, R-9 MULTIPLE FAMILY RESIDENTIAL DISTRICT, C-1 UPLAND CONSERVANCY, KENOSHA COUNTY SHORE LAND, AIRPORT OVERLAY ZONING DISTRICTS AIR - 4 & AIR-5

PROPOSED ZONING:
R-5 URBAN SINGLE FAMILY RESIDENTIAL DISTRICT

PROPOSED ZONING REQUIREMENTS:
MIN. FRONT SETBACK FROM COUNTY TRUNK HIGHWAY "E" = 65 FEET
MIN. FRONT STREET SETBACK = 30 FEET
MIN. SIDEYARD = 10 FEET
MIN. REARYARD = 25 FEET
MIN. SHORE YARD = 75 FEET
MIN. LOT AREA = 10,000 SF
MIN. LOT WIDTH = 75 FEET AT SETBACK LINE



I, John P. Konopacki, Professional Land Surveyor, hereby certify that this survey map is correct to the best of my knowledge and belief with the information provided and complies with requirements of Chapter A-E 7 s.35.93 of the Wisconsin State Statutes.

SIGNED: JOHN P. KONOPACKI, PROFESSIONAL LAND SURVEYOR S-2461



MARCH 21, 2025

PLAN | DESIGN | DELIVER
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PINNACLE ENGINEERING GROUP
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WISCONSIN OFFICE:
20725 WATERTOWN ROAD SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888

CHICAGO | MILWAUKEE | NATIONWIDE

WILLOW CREEK
VILLAGE OF SOMERS

PRELIMINARY PLAT

REVISIONS		SHEET 2 OF 2
NO.	DATE	

REG. JOB No. 1617.00
REG. PM. 03/20/2025
DATE 03/20/2025
SCALE 1" = 80'
DRAFTED BY: ST

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PRELIMINARY ENGINEERING IMPROVEMENT PLANS

FOR

WILLOW CREEK

SOMERS, WISCONSIN

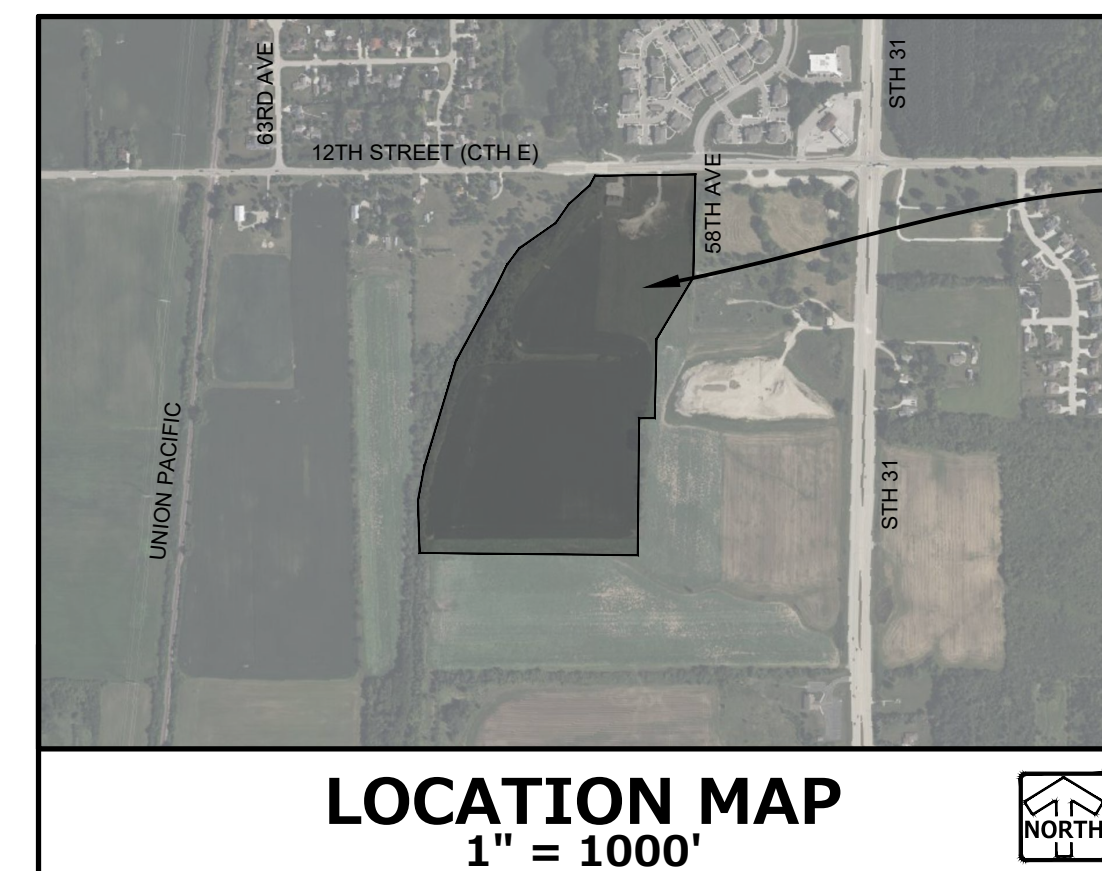
PLANS PREPARED FOR

BEAR DEVELOPMENT, LLC

4011 80TH STREET
KENOSHA, WI 53142

LEGEND

	EXISTING	PROPOSED
SANITARY SEWER MANHOLE	⊙	⊙
STORM SEWER MANHOLE	⊕	⊕
STORM SEWER CATCH BASIN (ROUND CASTING)	⊗	⊗
STORM SEWER CATCH BASIN (RECTANGULAR CASTING)	⊠	⊠
PRECAST FLARED END SECTION	△	△
CONCRETE HEADWALL	∩	∩
VALVE BOX	⊗	⊗
FIRE HYDRANT	⊗	⊗
CLEANOUT	⊗	⊗
SANITARY SEWER	—	—
FORCE MAIN	—	—
STORM SEWER	—	—
DRAIN TILE	—	—
WATER MAIN	— W —	— W —
FIRE PROTECTION	—	—
ELECTRICAL CABLE	— E —	— E —
OVERHEAD WIRES	— OHW —	— OHW —
GAS MAIN	— G —	— G —
TELEPHONE LINE	— T —	— T —
UTILITY CROSSING	—	—
CAUTION EXISTING UTILITIES NEARBY		⚠
GRANULAR TRENCH BACKFILL		▨
LIGHTING	⊙	⊙
ELECTRICAL TRANSFORMER OR PEDESTAL	⊠	⊠
POWER POLE	⊙	⊙
POWER POLE WITH LIGHT	⊙	⊙
GUY WIRE	—	—
STREET SIGN	⊙	⊙
CONTOUR	749	749
SPOT ELEVATION	x(750.00)	+750.00
WETLANDS	▨	▨
PRIMARY ENVIRONMENTAL CORRIDOR	▨	▨
FLOODWAY	—	—
FLOODPLAIN	—	—
HIGH WATER LEVEL (HWL)	—	—
NORMAL WATER LEVEL (NWL)	—	—
DIRECTION OF SURFACE FLOW	→	→
DITCH OR SWALE	—	—
DIVERSION SWALE	—	—
OVERFLOW RELIEF ROUTING	→	→
TREE WITH TRUNK SIZE	⊙	⊙
SOIL BORING	⊙	⊙
TOPSOIL PROBE	⊙	⊙
FENCE LINE, TEMPORARY SILT	— SF —	— SF —
FENCE LINE, WIRE	—	—
FENCE LINE, CHAIN LINK OR IRON	—	—
FENCE LINE, WOOD OR PLASTIC	—	—
CONCRETE SIDEWALK	—	—
CURB AND GUTTER	—	—
DEPRESSED CURB	—	—
REVERSE PITCH CURB & GUTTER	—	—
EASEMENT LINE	—	—



PROJECT LOCATION

INDEX OF SHEETS	
1	COVER SHEET
2	SITE PLAN
3	OVERALL GRADING & EROSION CONTROL PLAN
4	OVERALL UTILITY PLAN

PROJECT TEAM CONTACTS	
CIVIL ENGINEER: AARON KOCH PINNACLE ENGINEERING GROUP 20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186 MAIN: 262-754-8888 E-MAIL: aekoch@pinnacle-engr.com	APPLICANT: DAN SZCZAP BEAR DEVELOPMENT, LLC 4011 80TH STREET KENOSHA, WI 53142
SURVEYOR: JOHN KONOPACKI PINNACLE ENGINEERING GROUP 20725 WATERTOWN ROAD, SUITE 100 BROOKFIELD, WI 53186 MAIN: 262-754-8888 E-MAIL: john.konopacki@pinnacle-engr.com	

GENERAL NOTES

- THE INTENTION OF THE PLANS AND SPECIFICATIONS IS TO SET FORTH PERFORMANCE AND CONSTRUCTION MATERIAL STANDARDS FOR THE PROPER EXECUTION OF WORK. ALL WORKS CONTAINED WITHIN THE PLANS AND SPECIFICATIONS SHALL BE COMPLETED IN ACCORDANCE WITH ALL REQUIREMENTS FROM LOCAL, STATE, FEDERAL OR OTHER GOVERNING AGENCY'S LAWS, REGULATIONS, JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., AND THE OWNER'S DIRECTION.
- A GEOTECHNICAL REPORT HAS BEEN PREPARED BY GESTRA ENGINEERING, INC DATED OCTOBER 11, 2018 FOR THE PROJECT SITE. THE DATA ON SUB-SURFACE SOIL CONDITIONS IS NOT INTENDED AS A REPRESENTATION OR WARRANTY OF THE CONTINUITY OF SUCH CONDITIONS BORINGS OR INDICATED SAMPLING LOCATIONS. IT SHALL BE EXPRESSLY UNDERSTOOD THAT OWNER WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN THERE FROM BY THE CONTRACTOR. DATA IS MADE AVAILABLE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY ADDITIONAL SOILS INVESTIGATIONS THEY FEEL IS NECESSARY FOR THE PROPER EVALUATION OF THE SITE FOR PURPOSES OF PLANNING, BIDDING, OR CONSTRUCTING THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND UNDERSTAND ALL COMPONENTS OF THE PLANS AND SPECIFICATIONS, INCLUDING FIELD VERIFYING SOIL CONDITIONS, PRIOR TO SUBMISSION OF A BID PROPOSAL.
- THE CONTRACTOR SHALL PROMPTLY REPORT ANY ERRORS OR AMBIGUITIES LEARNED AS PART OF THEIR REVIEW OF PLANS, SPECIFICATIONS, REPORTS AND FIELD INVESTIGATIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COMPUTATION OF QUANTITIES AND WORK REQUIRED TO COMPLETE THIS PROJECT. THE CONTRACTOR'S BID SHALL BE BASED ON ITS OWN COMPUTATIONS AND IN NO SUCH INSTANCE RELY ON THE ENGINEER'S ESTIMATE.
- QUESTIONS/CLARIFICATIONS WILL BE INTERPRETED BY ENGINEER/OWNER PRIOR TO THE AWARD OF CONTRACT. ENGINEER/OWNER WILL SUBMIT OFFICIAL RESPONSES IN WRITING. INTERPRETATIONS PRESENTED IN OFFICIAL RESPONSES SHALL BE BINDING ON ALL PARTIES ASSOCIATED WITH THE CONTRACT. IN NO WAY SHALL WORD-OF-MOUTH DIALOG CONSTITUTE AN OFFICIAL RESPONSE.
- PRIOR TO START OF WORK, CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH ALL CONDITIONS OF THE SITE, AND SHALL ACCOUNT FOR CONDITIONS THAT AFFECT, OR MAY AFFECT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, LIMITATIONS OF WORK ACCESS, SPACE LIMITATIONS, OVERHEAD OBSTRUCTIONS, TRAFFIC PATTERNS, LOCAL REQUIREMENTS, ADJACENT ACTIVITIES, ETC. FAILURE TO CONSIDER SITE CONDITIONS SHALL NOT BE CAUSE FOR CLAIM OF JOB EXTRAS.
- COMMENCEMENT OF CONSTRUCTION SHALL EXPLICITLY CONFIRM THAT THE CONTRACTOR HAS REVIEWED THE PLANS AND SPECIFICATIONS IN ENTIRETY AND CERTIFIES THAT THEIR SUBMITTED BID PROPOSAL CONTAINS PROVISIONS TO COMPLETE THE PROJECT, WITH THE EXCEPTION OF UNFORESEEN FIELD CONDITIONS; ALL APPLICABLE PERMITS HAVE BEEN OBTAINED; AND CONTRACTOR UNDERSTANDS ALL OF THE REQUIREMENTS OF THE PROJECT.
- SHOULD ANY DISCREPANCIES OR CONFLICTS IN THE PLANS OR SPECIFICATIONS BE DISCOVERED AFTER THE AWARD OF CONTRACT, ENGINEER SHALL BE NOTIFIED IN WRITING IMMEDIATELY AND CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES/CONFLICTS SHALL NOT COMMENCE, OR CONTINUE, UNTIL A WRITTEN RESPONSE FROM ENGINEER/OWNER IS DISTRIBUTED. IN THE EVENT OF A CONFLICT BETWEEN REFERENCED CODES, STANDARDS, SPECIFICATIONS AND PLANS, THE ONE ESTABLISHING THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.
- THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, OBTAIN ALL NECESSARY PERMITS AND LICENSES TO COMPLETE THE PROJECT. OBTAINING PERMITS, OR DELAYS, IS NOT CAUSE FOR DELAY OF THE CONTRACT OR SCHEDULE. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL NOTIFY ALL INTERESTED GOVERNING AGENCIES, UTILITY COMPANIES AFFECTED BY THIS CONSTRUCTION PROJECT, AND DIGGER'S HOTLINE IN ADVANCE OF CONSTRUCTION TO COMPLY WITH ALL JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., PERMIT STIPULATIONS, AND OTHER APPLICABLE STANDARDS.
- SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO INITIATE, INSTITUTE, ENFORCE, MAINTAIN, AND SUPERVISE ALL SAFETY PRECAUTIONS AND JOB SITE SAFETY PROGRAMS IN CONNECTION WITH THE WORK.
- CONTRACTOR SHALL KEEP THE JOBSITE CLEAN AND ORDERLY AT ALL TIMES. ALL LOCATIONS OF THE SITE SHALL BE KEPT IN A WORKING MANNER SUCH THAT DEBRIS IS REMOVED CONTINUOUSLY AND ALL RESPECTIVE CONTRACTORS OPERATE UNDER GENERAL "GOOD HOUSEKEEPING."
- THE CONTRACTOR SHALL INDEMNIFY THE OWNER, ENGINEER, AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.

ABBREVIATIONS

BL	BASE LINE	MH	MANHOLE
BP	BOTTOM OF PIPE	NWL	NORMAL WATER LEVEL
C	LONG CHORD OF CURVE	PC	POINT OF CURVATURE
C & G	CURB AND GUTTER	PT	POINT OF TANGENCY
CB	CATCH BASIN	PVI	POINT OF VERTICAL INTERSECTION
CL	CENTERLINE	R	RADIUS
D	DEGREE OF CURVE	ROW	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT	SAN	SANITARY SEWER
FES	FLARED END SECTION	ST	STORM SEWER
FF	FINISHED FLOOR	T	TANGENCY OF CURVE
FG	FINISHED GRADE	TB	TOP OF BANK
FL	FLOW LINE	TC	TOP OF CURB
FP	FLOODPLAIN	TF	TOP OF FOUNDATION
FR	FRAME	TP	TOP OF PIPE
FW	FLOODWAY	TS	TOP OF SIDEWALK
FYG	FINISHED YARD GRADE	TW	TOP OF FOUNDATION WALL
HWL	HIGH WATER LEVEL	WM	WATER MAIN
INV	INVERT	Δ	INTERSECTION ANGLE
L	LENGTH OF CURVE		



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FURTHERMORE, PINNACLE ENGINEERING GROUP, LLC IS NOT RESPONSIBLE FOR CONSTRUCTION SAFETY OR THE MEANS AND METHODS OF CONSTRUCTION.

REVISIONS

NO.	DATE	DESCRIPTION

REG JOB No. 1617.00
 REG PM A/E/K
 START DATE 3/28/25
 SCALE

SHEET
1
 OF

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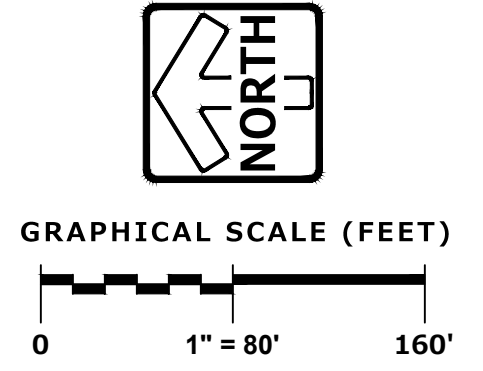
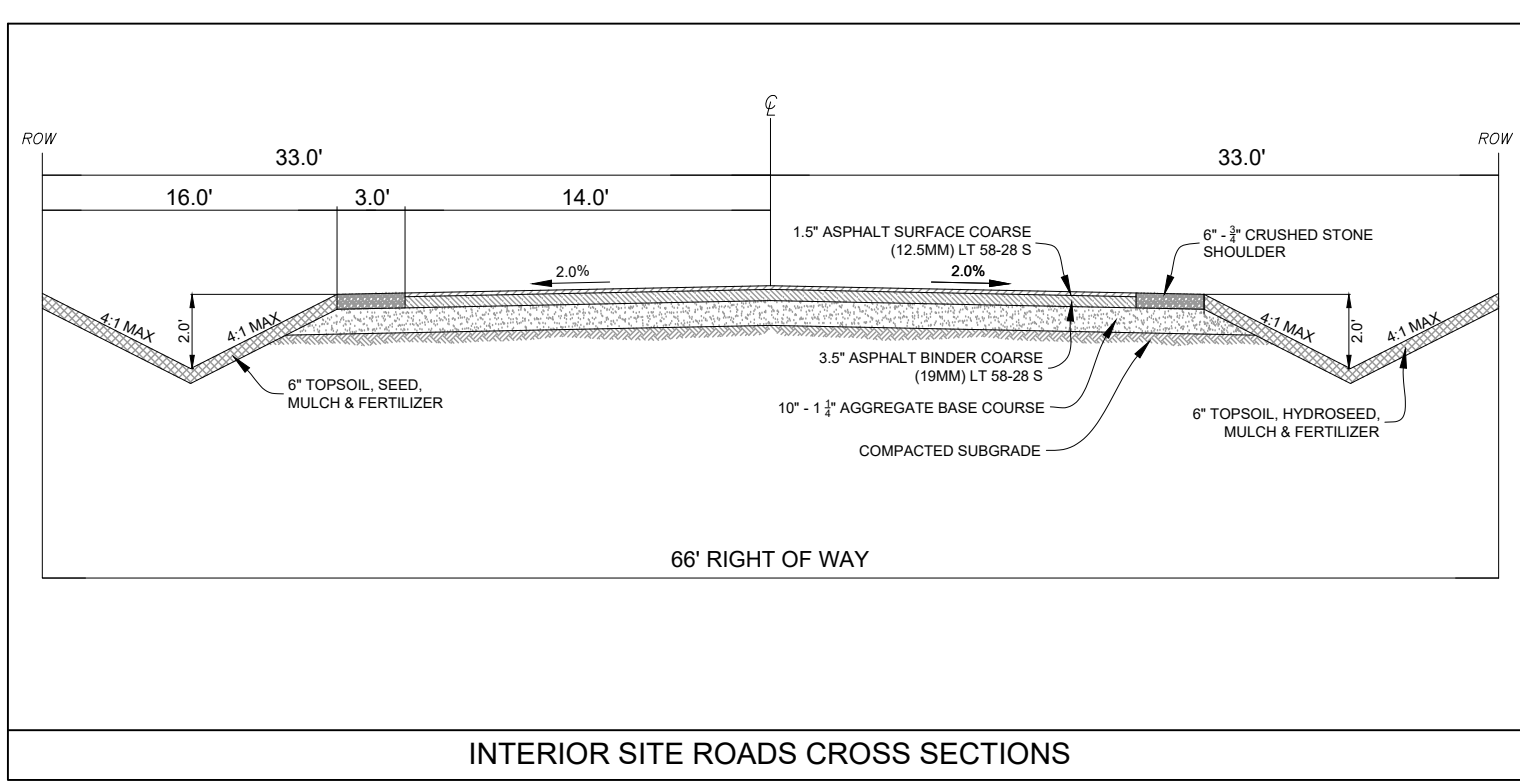
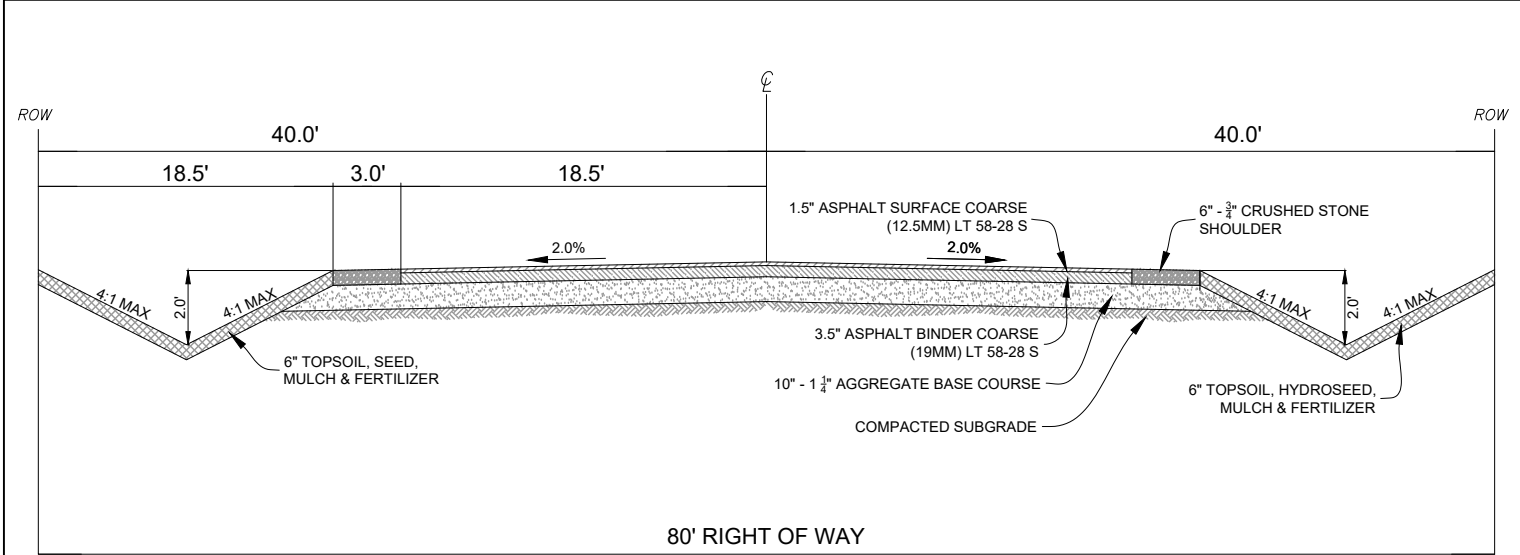
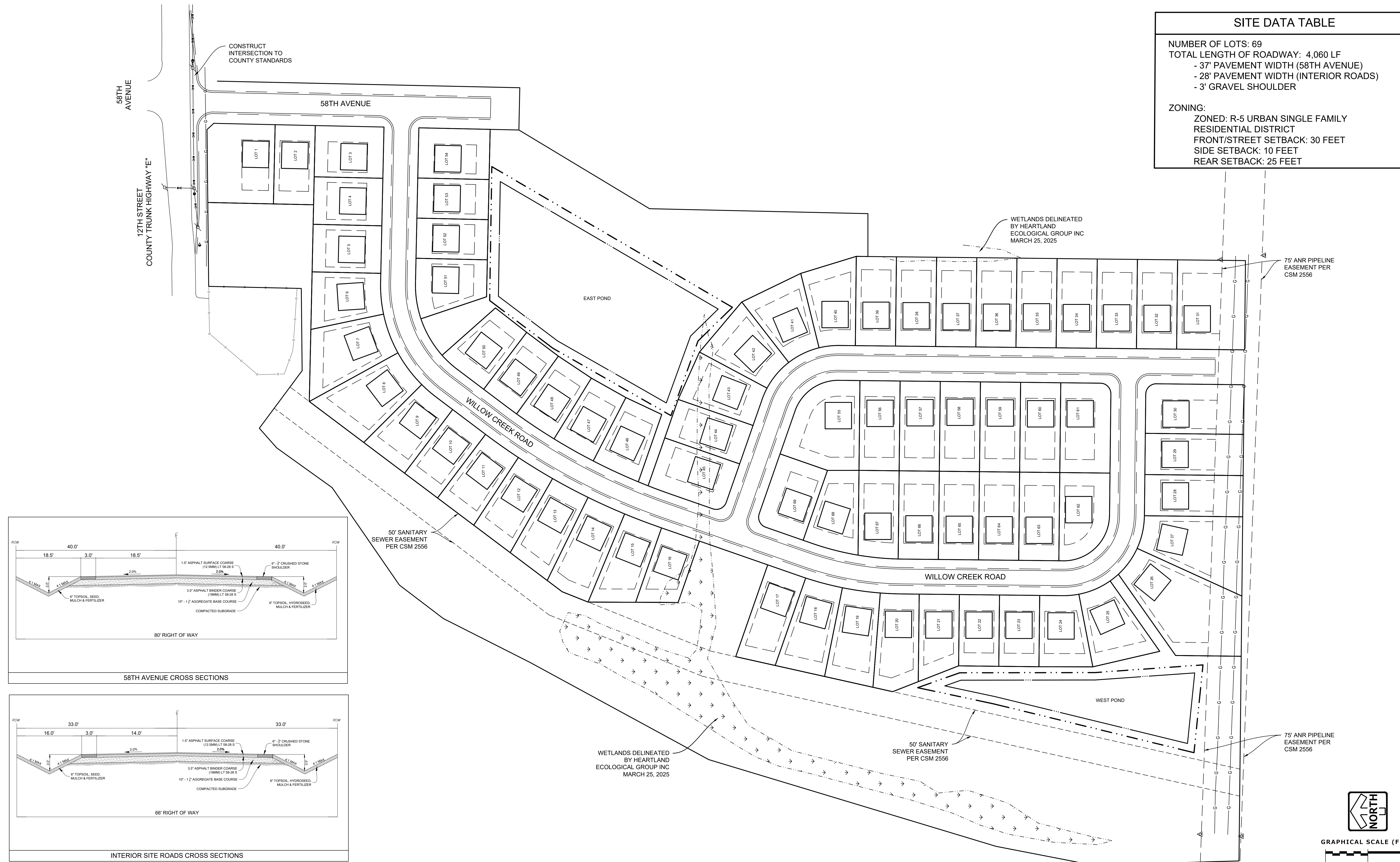
SOMERS, WI

COVER SHEET

DRAFTED: AMG
 DESIGNED: AAK
 REVIEWED:
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 SHEET PLAN

SITE DATA TABLE	
NUMBER OF LOTS:	69
TOTAL LENGTH OF ROADWAY:	4,060 LF
	- 37' PAVEMENT WIDTH (58TH AVENUE)
	- 28' PAVEMENT WIDTH (INTERIOR ROADS)
	- 3' GRAVEL SHOULDER
ZONING:	
	ZONED: R-5 URBAN SINGLE FAMILY RESIDENTIAL DISTRICT
	FRONT/STREET SETBACK: 30 FEET
	SIDE SETBACK: 10 FEET
	REAR SETBACK: 25 FEET



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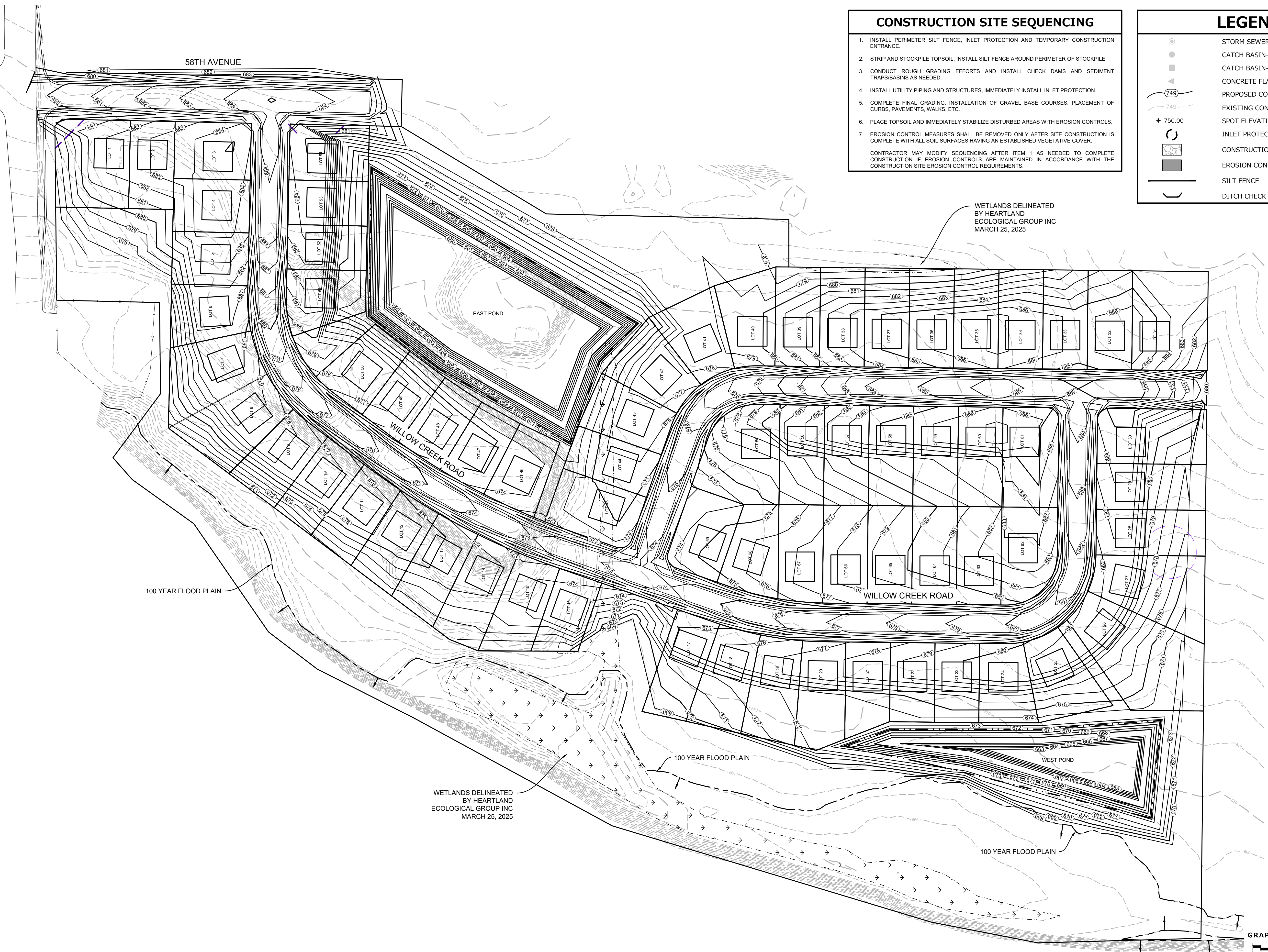
SITE PLAN

REVISIONS	

REG. JOB No. 1617.00	REG. PM. AAK	START DATE 3/28/25	SCALE 1" = 80'
SHEET 2			SITE PLAN

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58TH AVENUE
 12TH STREET
 COUNTY TRUNK HIGHWAY "E"



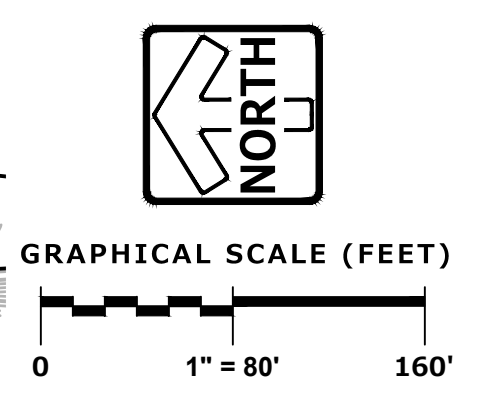
- ### CONSTRUCTION SITE SEQUENCING
1. INSTALL PERIMETER SILT FENCE, INLET PROTECTION AND TEMPORARY CONSTRUCTION ENTRANCE.
 2. STRIP AND STOCKPILE TOPSOIL, INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
 3. CONDUCT ROUGH GRADING EFFORTS AND INSTALL CHECK DAMS AND SEDIMENT TRAPS/BASINS AS NEEDED.
 4. INSTALL UTILITY PIPING AND STRUCTURES, IMMEDIATELY INSTALL INLET PROTECTION.
 5. COMPLETE FINAL GRADING, INSTALLATION OF GRAVEL BASE COURSES, PLACEMENT OF CURBS, PAVEMENTS, WALKS, ETC.
 6. PLACE TOPSOIL AND IMMEDIATELY STABILIZE DISTURBED AREAS WITH EROSION CONTROLS.
 7. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
- CONTRACTOR MAY MODIFY SEQUENCING AFTER ITEM 1 AS NEEDED TO COMPLETE CONSTRUCTION IF EROSION CONTROLS ARE MAINTAINED IN ACCORDANCE WITH THE CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS.

LEGEND

- STORM SEWER MANHOLE
- CATCH BASIN- ROUND CASTING
- CATCH BASIN- RECTANGULAR CASTING
- CONCRETE FLARED END SECTION
- PROPOSED CONTOUR
- EXISTING CONTOUR
- SPOT ELEVATION
- INLET PROTECTION (SEE DETAIL)
- CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET
- SILT FENCE
- DITCH CHECK

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 BY HEARTLAND
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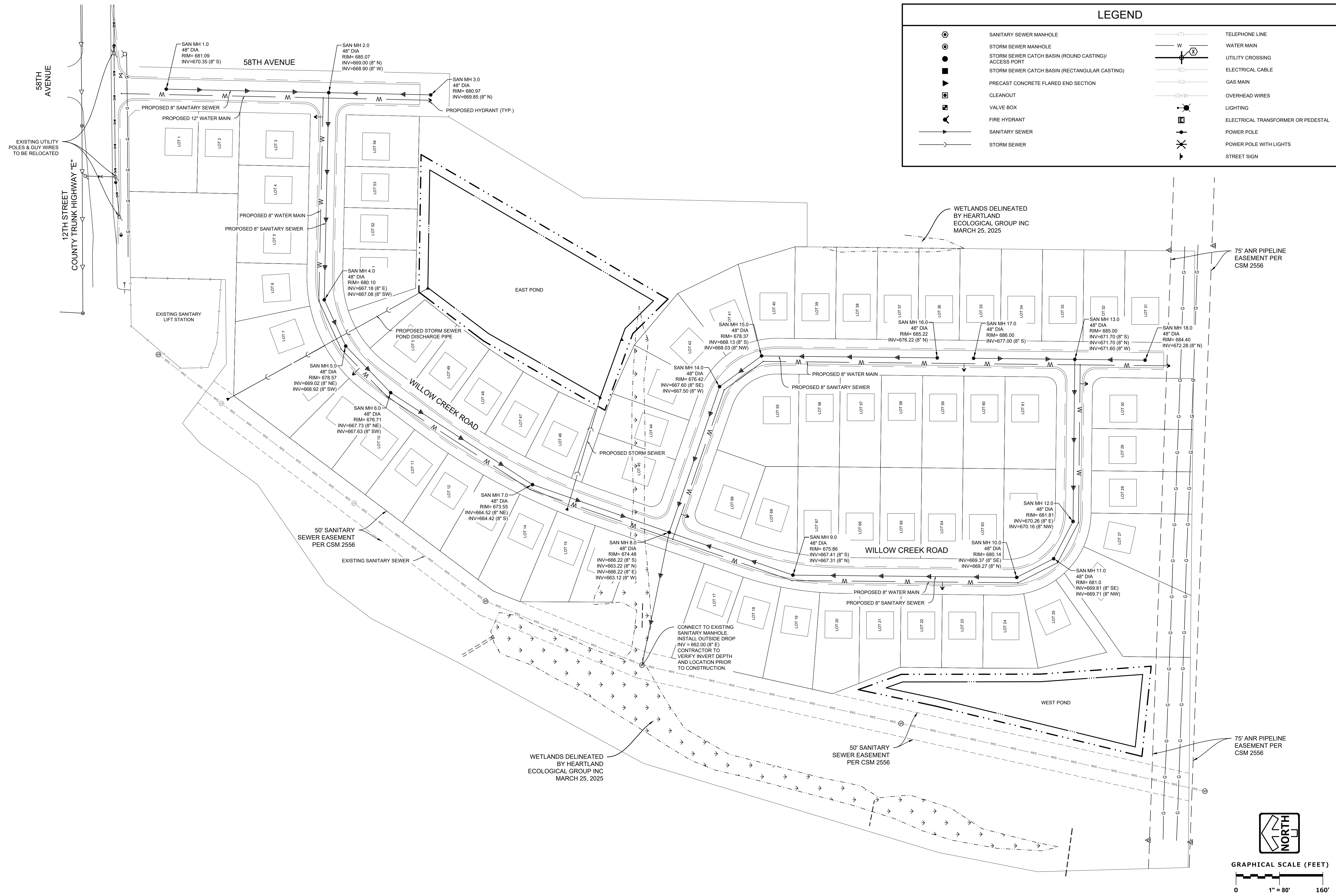
OVERALL GRADING & EROSION CONTROL PLAN

REVISIONS	
NO.	DESCRIPTION

SHEET
3
 PEG JOB No. 1617.00
 REG. NO. AEK
 START DATE 3/28/25
 SCALE 1" = 80'

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LEGEND	
	SANITARY SEWER MANHOLE
	STORM SEWER MANHOLE
	STORM SEWER CATCH BASIN (ROUND CASTING) ACCESS PORT
	STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
	PRECAST CONCRETE FLARED END SECTION
	CLEANOUT
	VALVE BOX
	FIRE HYDRANT
	SANITARY SEWER
	STORM SEWER
	TELEPHONE LINE
	WATER MAIN
	UTILITY CROSSING
	ELECTRICAL CABLE
	GAS MAIN
	OVERHEAD WIRES
	LIGHTING
	ELECTRICAL TRANSFORMER OR PEDESTAL
	POWER POLE
	POWER POLE WITH LIGHTS
	STREET SIGN

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OVERALL UTILITY PLAN

REVISIONS	

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PRELIMINARY STORMWATER MANAGEMENT PLAN

WILLOW CREEK

Village of Somers, Wisconsin



PEG Project Number: 1617.00-WI

March 28, 2025



TABLE OF CONTENTS

INTRODUCTION	2
DESIGN CRITERIA	2
EXISTING CONDITIONS	2
POST-DEVELOPMENT CONDITIONS	3
ANALYSIS METHODS	3
SUMMARY OF RESULTS	4
Runoff Rate Attenuation	4
Runoff Water Quality	5
Stormwater Infiltration	5
Protective Areas	5
CONCLUSION	5

APPENDICIES

APPENDIX 1 – MAPS

- Vicinity Map
- USDA SCS Soils Map
- National Flood Hazard Layer FIRMette

APPENDIX 2 – PRE-DEVELOPMENT CONDITIONS INFORMATION

- Hydrology Exhibit – Existing Conditions
- Hydrographs

APPENDIX 3 – POST-DEVELOPMENT CONDITIONS (RATE ATTENUATION)

- Hydrology Exhibit – Proposed Conditions
- Hydrographs

APPENDIX 4 – POST-DEVELOPMENT CONDITIONS (WATER QUALITY & INFILTRATION)

- WinSLAMM Modeling Input Data & Output Computations

APPENDIX 5 – GEOTECHNICAL REPORT

Questions and comments can be directed to:

Aaron E. Koch, P.E.

Principal

Phone: 262.754.8888 | Fax: 262.754.8850

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INTRODUCTION

The proposed project consists of a -lot subdivision and is located northeast of the intersection of 12th Street (CTH “E”) and 58th Avenue in the Village of Somers, Wisconsin. A location map that illustrates the tract of land is included in **Appendix 1**. The improvements will disturb more than 1 acre and thus will require stormwater management. The Village of Somers and the Wisconsin DNR have jurisdiction on the site with regards to stormwater goals. Pinnacle Engineering Group has prepared a plan which will meet these goals.

DESIGN CRITERIA

Village of Somers (Village): Chapter 17, Municipal Code of Ordinances

Wisconsin Department of Natural Resources (WDNR):..... NR 216 & NR 151

Water Quantity: The Village of Somers requires reduction in stormwater runoff such that the 100-year post-development runoff rate be less than or equal to the 10-year pre-development runoff rate, the 10-year post-development runoff rate be less than or equal to the 10-year pre-development runoff rate, the 2-year post-development runoff rate be less than or equal to the 2-year pre-development runoff rate, and the 1-year post-development runoff rate be less than or equal to the 1-year pre-development runoff rate.

Water Quality: The Village and DNR requirements are to remove 80% of the total suspended solids (TSS) load on an average annual basis from the runoff from the site.

Infiltration: The Village requires developments with more than 40 percent and up to 80 percent connected imperviousness, design practices to infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 75 percent of the pre-development infiltration volume, based on an average annual rainfall. Infiltration is not required where the infiltration rate of the soil measured is less than 0.6 inches per hour. Sites where infiltration rates are less than 0.6 inches per hour are exempt from infiltration requirements.

Protective Areas: The Village and DNR require protective areas where impervious areas are adjacent to and drain into wetlands.

EXISTING CONDITIONS

The site is currently an open farm field. The site currently slopes from east to west and to the Pike Creek, which is immediately to the west. The site is comprised of two drainage areas, an onsite area that slopes and drains into the creek and an offsite area to the east that slopes and drains onto the site. The onsite area is comprised of open farm field and the offsite area is a mix of farm fields and a portion of existing Green Bay Road. A Pre-Development Hydrology Exhibit can be found in **Appendix 2**.

A preliminary geotechnical report has been conducted by GESTRA (See **Appendix 5**) and found soils on site to be comprised mostly of sandy lean clay or clayey sand at the top lay with deeper soils found to be primarily silt, sandy silt, and silty sand. The USDA Web Soil Survey Map (**Appendix 1**) indicates a mixture of Hydrologic Soil Groups C, C/D, B, and B/D present on site with much of the site falling into the C/D classification. To account for this range of hydrologic

soil groups, soil group C was used for curve number analysis. A runoff curve number of 78 was used when analyzing the predevelopment conditions per the Village of Somers ordinance for cropland on Hydrologic Soil Group C.

POST-DEVELOPMENT CONDITIONS

The proposed development is a 69-lot subdivision with an associated road, Willow Creek Court, and utilities that also include the extension of 58th Avenue. All runoff will be conveyed to one of two ponds, the West Pond or the East Pond via the proposed storm sewer system. The proposed site is divided into four drainage areas: an Onsite West area that drains to the West Pond, and Onsite East area that drains to the East Pond, the Offsite area that drains onto the site and is passed through the East Pond, and an undetained area that drains directly to the creek. A Post-Development Hydrology Exhibit and Modeling can be found in **Appendix 3** and **Appendix 4**. Both the East and West Pond discharge directly to the Pike Creek.

The stormwater facilities and associated outlet structures have been designed to comply with the requirements for the Village of Somers and the Wisconsin DNR.

ANALYSIS METHODS

HydroCAD® (Version 10.20) software has been used to analyze stormwater characteristics for this stormwater management plan. HydroCAD uses the accepted TR-55 methodology for determining peak discharge runoff rates. Rainfall depths for the 1-year, 2-year, 10-year, and 100-year storm events are 2.39, 2.72, 3.83, and 5.95 inches in accordance with SEWRPC rainfall depths. MSE 3 24-hour rainfall distributions are used.

TSS reduction characteristics for the proposed water quality facilities were determined using WinSLAMM® (Version 10.4.1) Source Loading and Management Model.

SUMMARY OF RESULTS

Since there is an offsite flow into the East Pond that is not required to be detained, the allowable discharge rates are a combination of the onsite 10-year storm combined with the Offsite 100-year storm. This is done so that when looking at the proposed model, there is no detention being provided for the offsite area.

Existing Flows

Area	Area (ac)	CN	Tc (min)	Peak Flows 1-year (cfs)	Peak Flows 2-year (cfs)	Peak Flows 10-year (cfs)	Peak Flows 100-year (cfs)
EXISTING ONSITE	34.9	78	30.2	20.8	27.8	54.0	109.7
OFFSITE AREA	55.3	80	24.2	43.6	57.0	106.2	208.4
ALLOWABLE EXISTING DISCHARGE	---	---	---	63.0	83.0	262.4	---

***Allowable 1-yr = 63.0 cfs*

Allowable 2-yr = 83.0 cfs

Allowable 10-yr = 10-yr Ex Onsite (54.0) + 100-yr Offsite (208.4 cfs) = 262.4 cfs

Proposed Flows

Area	Area (ac)	CN	Tc (min)	Peak Flows 1-year (cfs)	Peak Flows 2-year (cfs)	Peak Flows 10-year (cfs)	Peak Flows 100-year (cfs)
PROPOSED EAST	17.2	82	6.0*	28.3	35.9	63.2	118.1
OFFSITE AREA	55.3	80	24.2	43.6	57.0	106.2	208.4
EAST POND	---	---	---	3.7	4.4	18.1	57.0
PROPOSED WEST	14.0	81	6.0*	21.6	27.7	49.6	94.0
WEST POND	---	---	---	0.6	0.8	1.2	6.2
UNDETAINED AREA	3.7	77	6.0*	4.3	5.8	11.2	22.6
Proposed Discharge	---	---	---	4.7	6.7	20.0	64.9

**A Tc of 6.0 min is used as it is the minimum allowed for TR55.*

Release Rate Summary Table

	1-year (cfs)	2-year (cfs)	100-year (cfs)
ALLOWABLE DISCHARGE	63.0	83.0	262.4
PROPOSED DISCHARGE	4.7	6.7	64.9

Basin Data

Pond	Bottom Elev.	Elev. 1-year	Elev. 2-year	Peak W.S.		Spillway Elev.	Top of Berm Elev.
				Elev. 10-year	Elev. 100-year		
EAST POND	665.0	666.6	667.1	668.4	670.7	671.0	672.0
WEST POND	668.0	668.9	669.2	670.1	671.4	672.0	673.0

Runoff Water Quality

Post-development water quality will be obtained in the onsite ponds. The ponds have been designed to provide a minimum of 80% TSS removal.

Water Quality Summary

Area/Pond	Pounds of TSS Incoming	Pounds of TSS Remaining	Percent Removal
EAST POND	3698	560	84.9%
WEST POND	2583	282	89.1%
UNDETAINED AREA	335	335	0%
Total	6616	1176	82.22%

The WinSLAMM modeling indicates a TSS removal of approximately 82.22% (**Appendix 4**). The stormwater devices will exceed the minimum TSS removal requirements for the Village and DNR.

Infiltration

The site is partially silty clay soils and partially silty sandy soils; however, the portions of the site that are comprised of silty sand have shallow groundwater levels. Due to the presence of clay soils on site and high groundwater levels, we believe the site is exempt from having to provide infiltration and thus it has not been incorporated into this stormwater management plan.

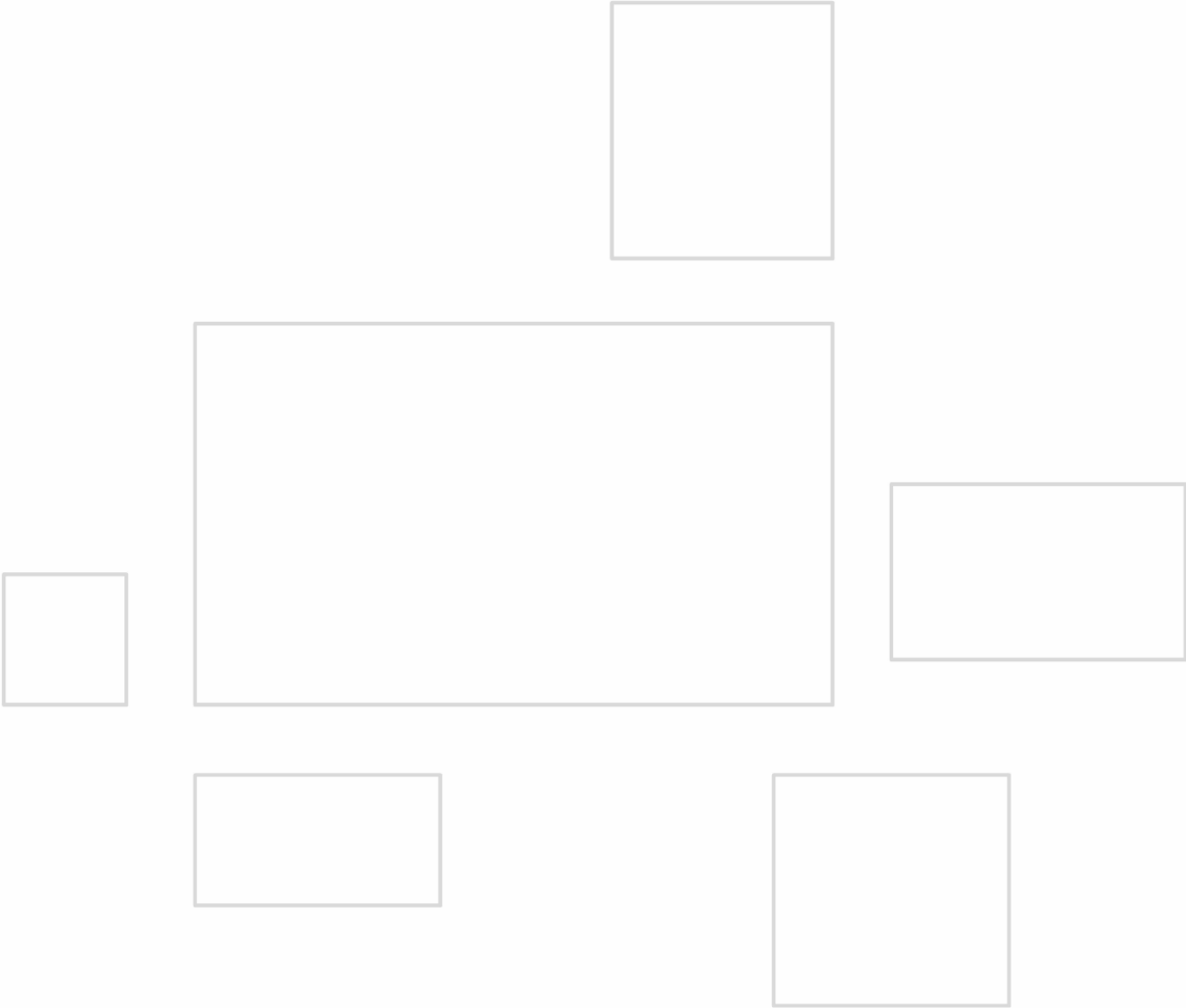
Protective Areas

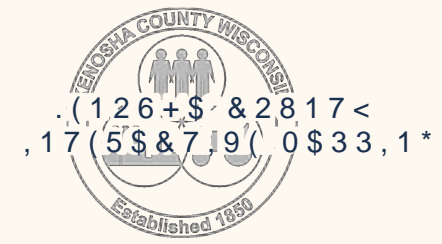
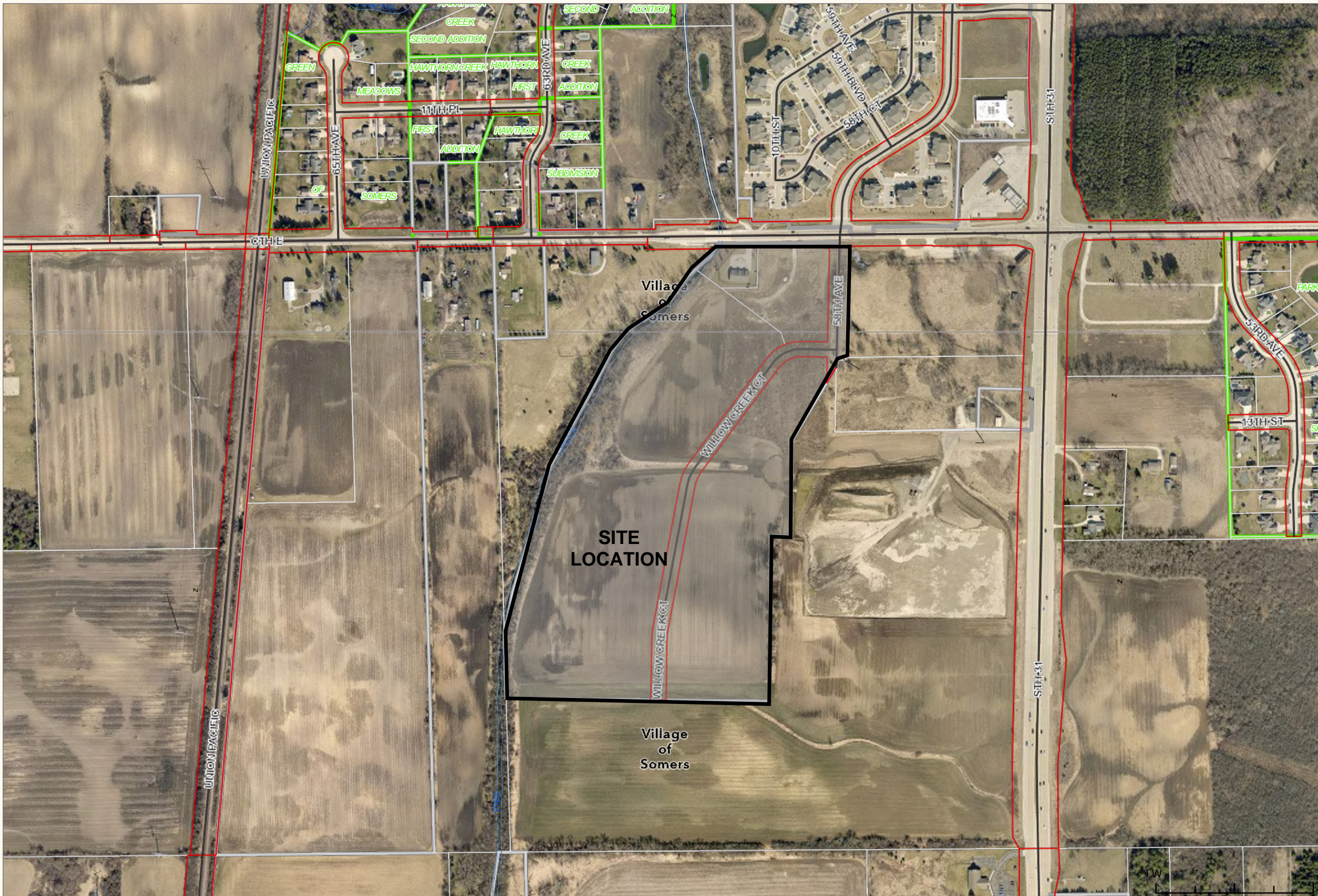
Protective areas are required along all wetlands in order to minimize the impacts of pollutants from untreated impervious sources. No impervious surfaces will drain directly to the wetlands; therefore, protective areas do not apply to this design.

CONCLUSION

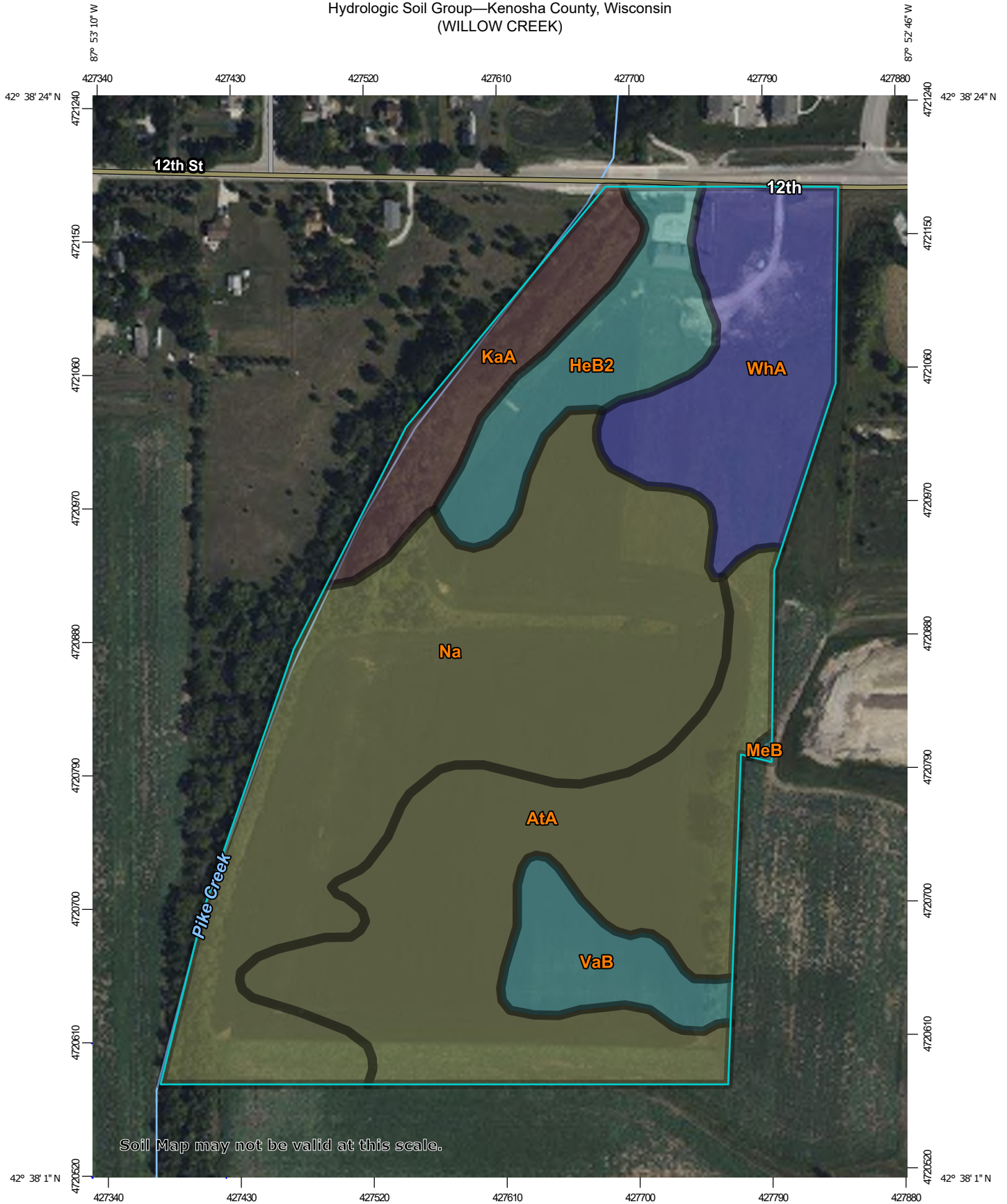
The stormwater management features for the development have been designed to comply with the requirements of the Village of Somers and the WDNR. This includes peak flow reduction, water quality, infiltration, and protective areas. The ponds will serve to meet all these goals. Maintenance is expected to occur on a regular basis. A maintenance agreement will be carried out to ensure this occurs.

APPENDIX 1 MAPS

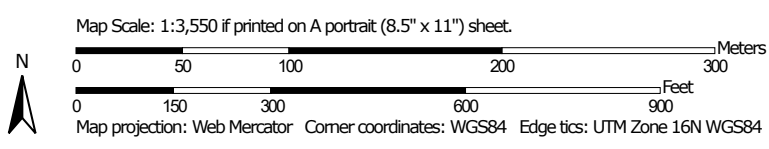




Hydrologic Soil Group—Kenosha County, Wisconsin
(WILLOW CREEK)




Soil Map may not be valid at this scale.



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: Kenosha County, Wisconsin
 Survey Area Data: Version 3, Dec 10, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 25, 2022—Aug 24, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AtA	Ashkum silty clay loam, 0 to 2 percent slopes	C/D	12.9	28.1%
HeB2	Hebron loam, 2 to 6 percent slopes, eroded	C	3.8	8.4%
KaA	Kane loam, 1 to 3 percent slopes	B/D	3.1	6.7%
MeB	Markham silt loam, 2 to 6 percent slopes	C	0.0	0.1%
Na	Navan silt loam	C/D	17.5	38.3%
VaB	Varna silt loam, 2 to 6 percent slopes	C	2.3	5.1%
WhA	Warsaw silt loam, 0 to 2 percent slopes	B	6.1	13.3%
Totals for Area of Interest			45.8	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

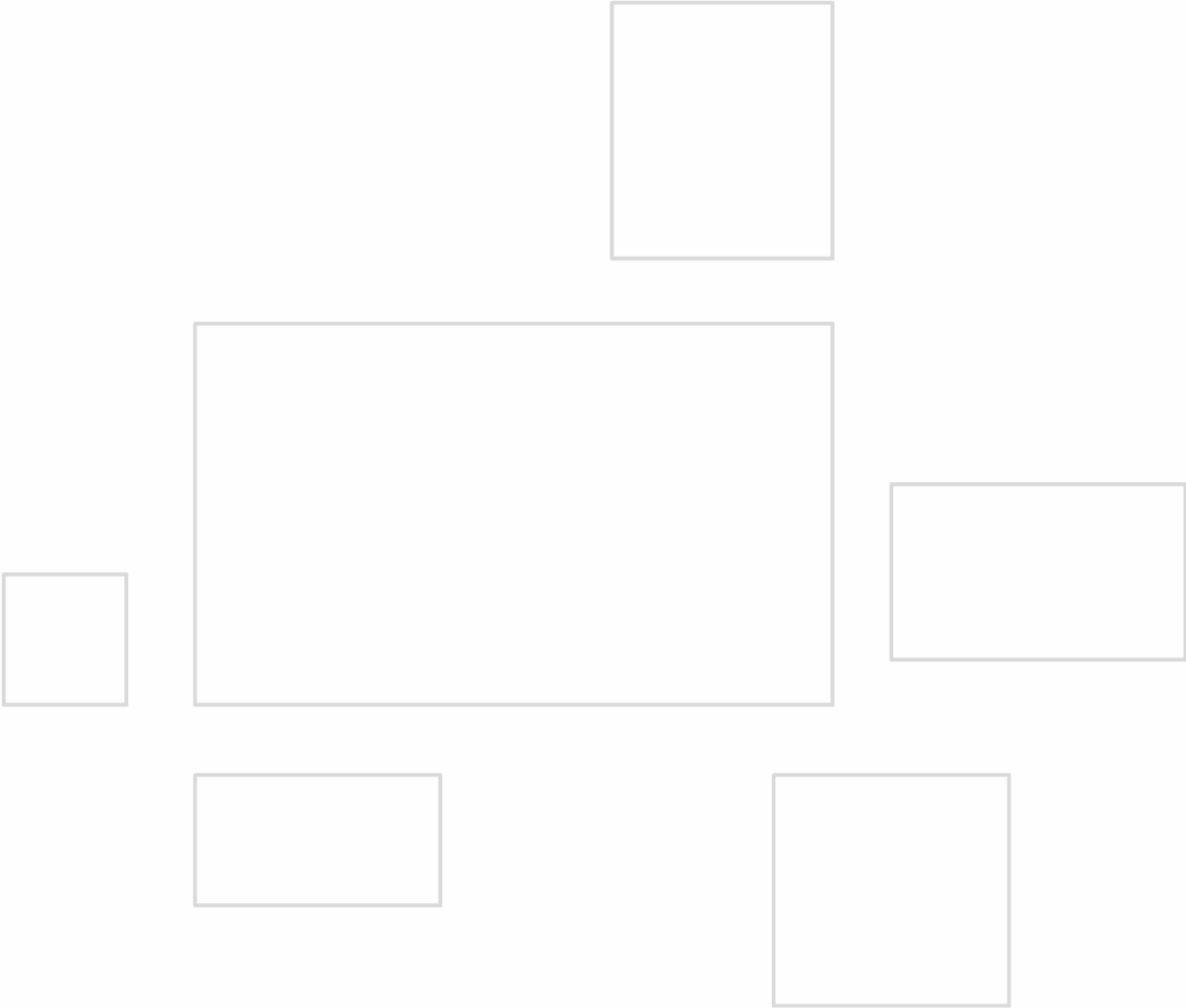
Aggregation Method: Dominant Condition

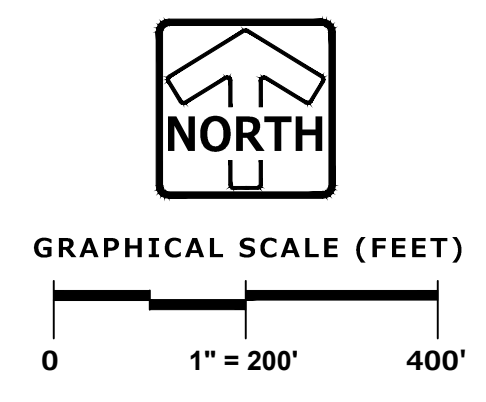
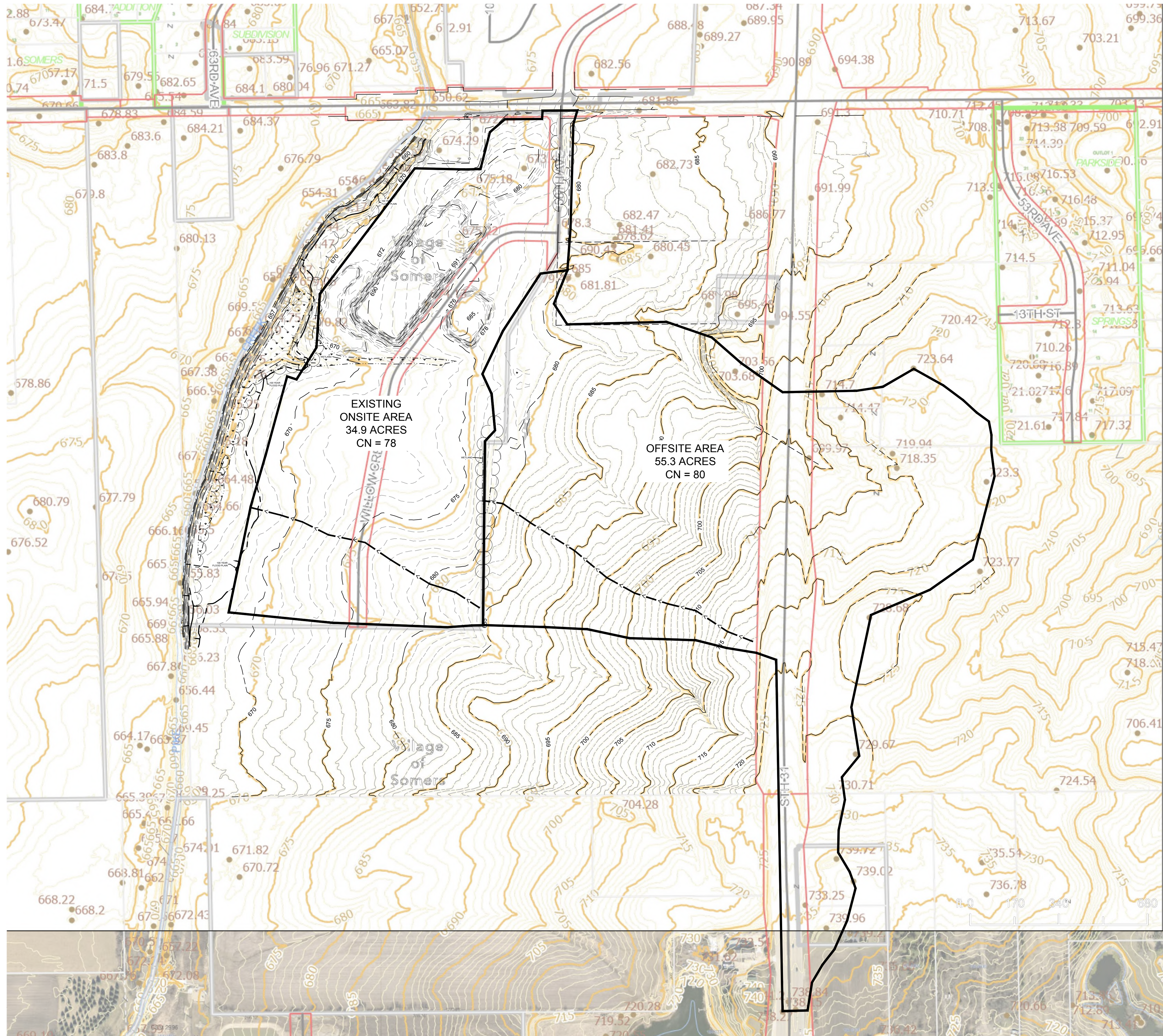
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX 2

PRE DEVELOPMENT CONDITIONS







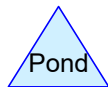
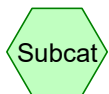
EX ONSITE AREA



EXISTING DISCHARGE



OFFSITE AREA



Routing Diagram for 1617 WILLOW CREEK
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1617 WILLOW CREEK

MSE 24-hr 3 1-YEAR Rainfall=2.39"

Prepared by Pinnacle Engineering Group

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Page 3

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX-ON: EX ONSITE AREA Runoff Area=34.900 ac 0.00% Impervious Runoff Depth>0.67"
Flow Length=980' Tc=30.2 min CN=78 Runoff=20.80 cfs 1.952 af

Subcatchment OFF: OFFSITE AREA Runoff Area=55.300 ac 12.12% Impervious Runoff Depth>0.77"
Flow Length=1,200' Tc=24.2 min CN=80 Runoff=43.64 cfs 3.529 af

Link EXIST: EXISTING DISCHARGE Inflow=63.03 cfs 5.481 af
Primary=63.03 cfs 5.481 af

Total Runoff Area = 90.200 ac Runoff Volume = 5.481 af Average Runoff Depth = 0.73"
92.57% Pervious = 83.500 ac 7.43% Impervious = 6.700 ac

1617 WILLOW CREEK

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MSE 24-hr 3 1-YEAR Rainfall=2.39"

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Page 4

Summary for Subcatchment EX-ON: EX ONSITE AREA

Runoff = 20.80 cfs @ 12.47 hrs, Volume= 1.952 af, Depth> 0.67"
 Routed to Link EXIST : EXISTING DISCHARGE

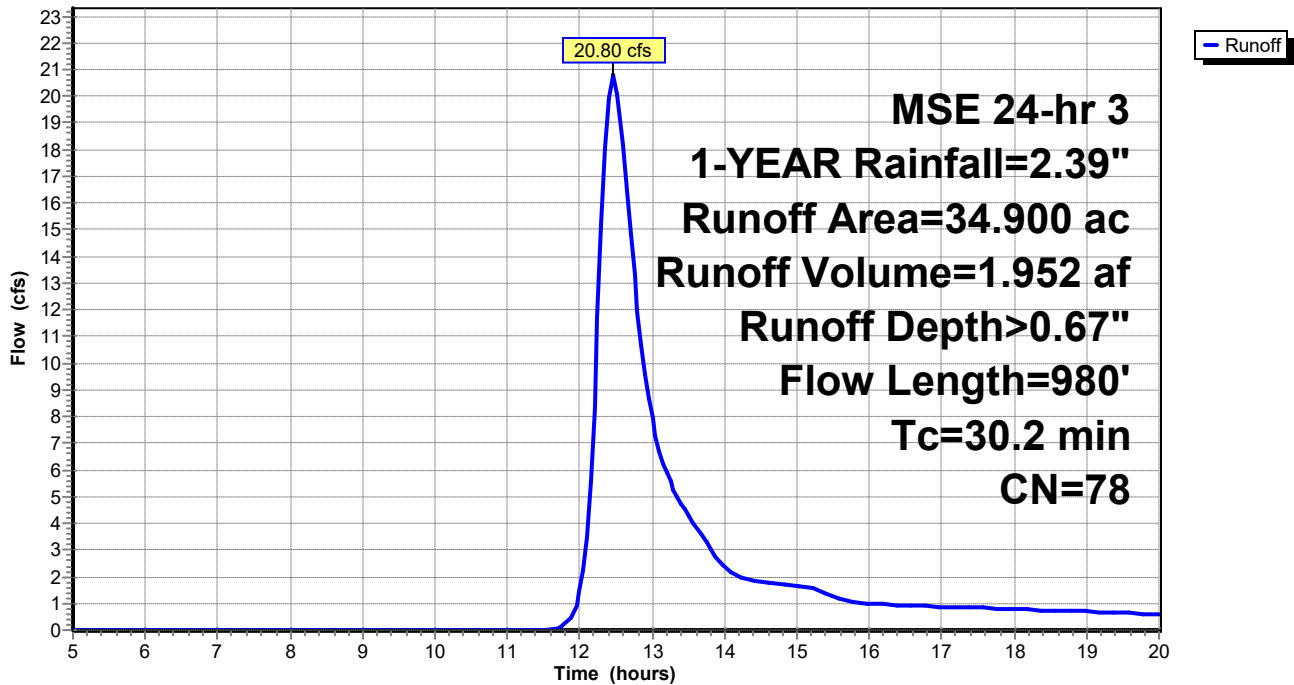
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-YEAR Rainfall=2.39"

Area (ac)	CN	Description
* 34.900	78	PER VILLAGE CODE
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	300	0.0167	0.20		Sheet Flow, SHEET Range n= 0.130 P2= 2.72"
5.7	680	0.0176	1.99		Shallow Concentrated Flow, SHALLOW Grassed Waterway Kv= 15.0 fps
30.2	980	Total			

Subcatchment EX-ON: EX ONSITE AREA

Hydrograph



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MSE 24-hr 3 1-YEAR Rainfall=2.39"

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Page 5

Summary for Subcatchment OFF: OFFSITE AREA

Runoff = 43.64 cfs @ 12.37 hrs, Volume= 3.529 af, Depth> 0.77"
 Routed to Link EXIST : EXISTING DISCHARGE

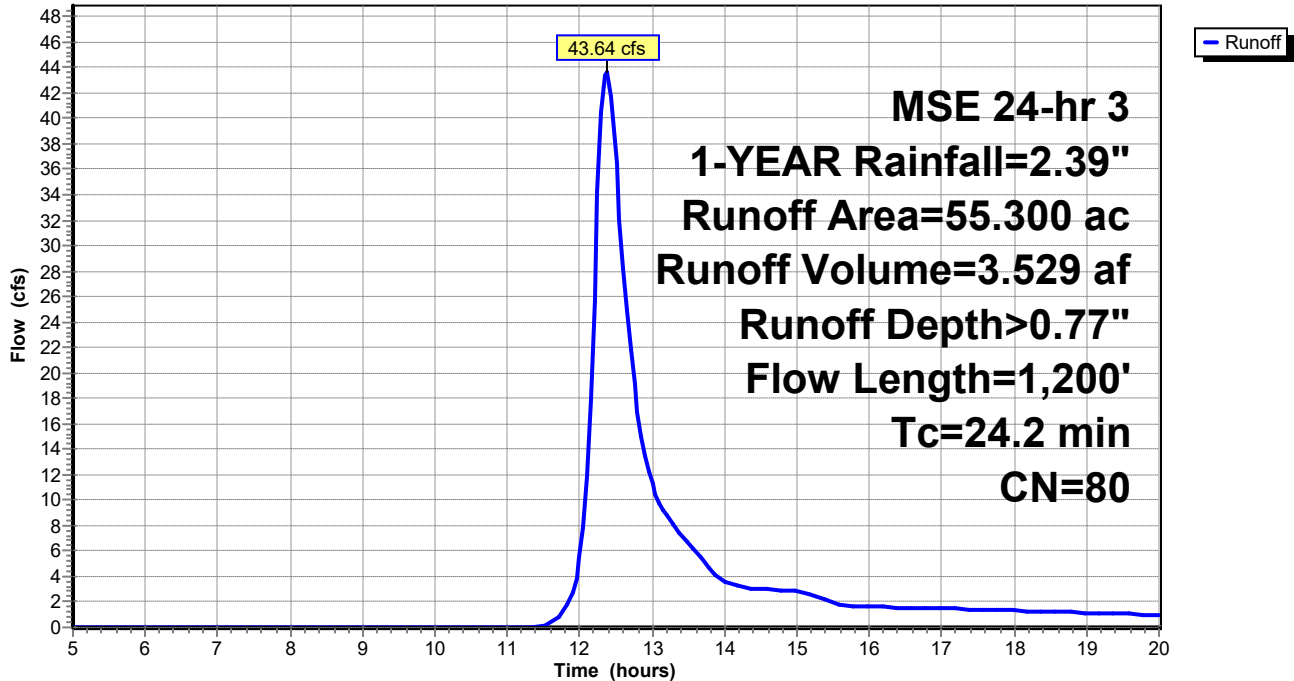
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-YEAR Rainfall=2.39"

Area (ac)	CN	Description
* 48.600	78	PER VILLAGE CODE
* 6.700	98	EX ROAD
55.300	80	Weighted Average
48.600		87.88% Pervious Area
6.700		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	300	0.0330	0.27		Sheet Flow, sheet Range n= 0.130 P2= 2.72"
5.5	900	0.0333	2.74		Shallow Concentrated Flow, SHALLOW Grassed Waterway Kv= 15.0 fps
24.2	1,200	Total			

Subcatchment OFF: OFFSITE AREA

Hydrograph

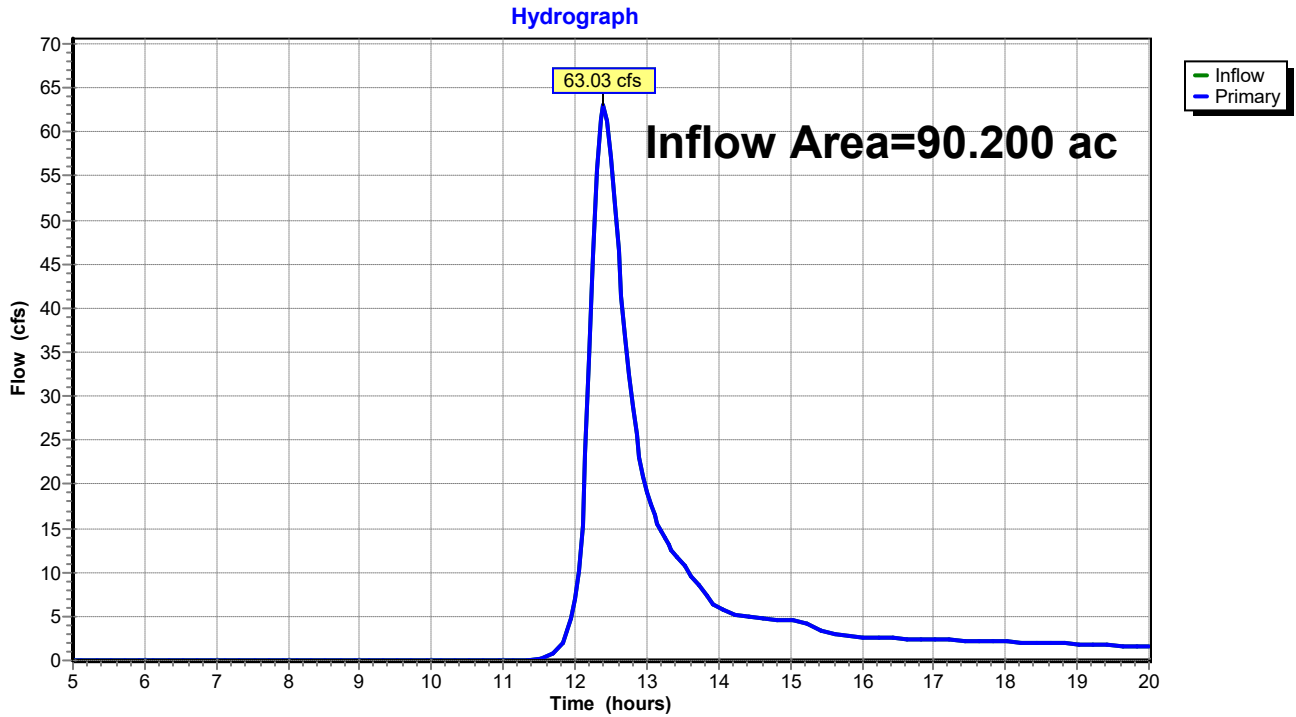


Summary for Link EXIST: EXISTING DISCHARGE

Inflow Area = 90.200 ac, 7.43% Impervious, Inflow Depth > 0.73" for 1-YEAR event
Inflow = 63.03 cfs @ 12.40 hrs, Volume= 5.481 af
Primary = 63.03 cfs @ 12.40 hrs, Volume= 5.481 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link EXIST: EXISTING DISCHARGE



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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX-ON: EX ONSITE AREA Runoff Area=34.900 ac 0.00% Impervious Runoff Depth>0.88"
Flow Length=980' Tc=30.2 min CN=78 Runoff=27.78 cfs 2.552 af

Subcatchment OFF: OFFSITE AREA Runoff Area=55.300 ac 12.12% Impervious Runoff Depth>0.99"
Flow Length=1,200' Tc=24.2 min CN=80 Runoff=57.00 cfs 4.544 af

Link EXIST: EXISTING DISCHARGE Inflow=83.00 cfs 7.096 af
Primary=83.00 cfs 7.096 af

Total Runoff Area = 90.200 ac Runoff Volume = 7.096 af Average Runoff Depth = 0.94"
92.57% Pervious = 83.500 ac 7.43% Impervious = 6.700 ac

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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 8

Summary for Subcatchment EX-ON: EX ONSITE AREA

Runoff = 27.78 cfs @ 12.46 hrs, Volume= 2.552 af, Depth> 0.88"
 Routed to Link EXIST : EXISTING DISCHARGE

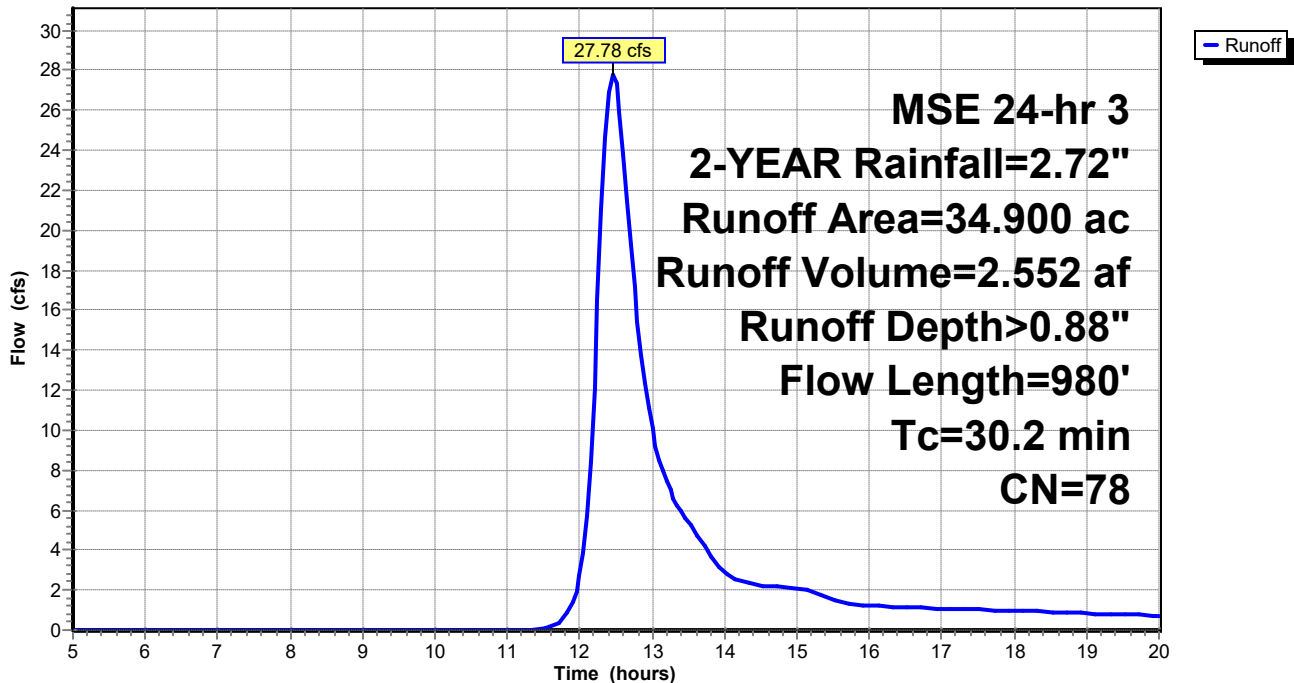
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-YEAR Rainfall=2.72"

Area (ac)	CN	Description
* 34.900	78	PER VILLAGE CODE
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	300	0.0167	0.20		Sheet Flow, SHEET
					Range n= 0.130 P2= 2.72"
5.7	680	0.0176	1.99		Shallow Concentrated Flow, SHALLOW
					Grassed Waterway Kv= 15.0 fps
30.2	980	Total			

Subcatchment EX-ON: EX ONSITE AREA

Hydrograph



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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 9

Summary for Subcatchment OFF: OFFSITE AREA

Runoff = 57.00 cfs @ 12.37 hrs, Volume= 4.544 af, Depth> 0.99"
 Routed to Link EXIST : EXISTING DISCHARGE

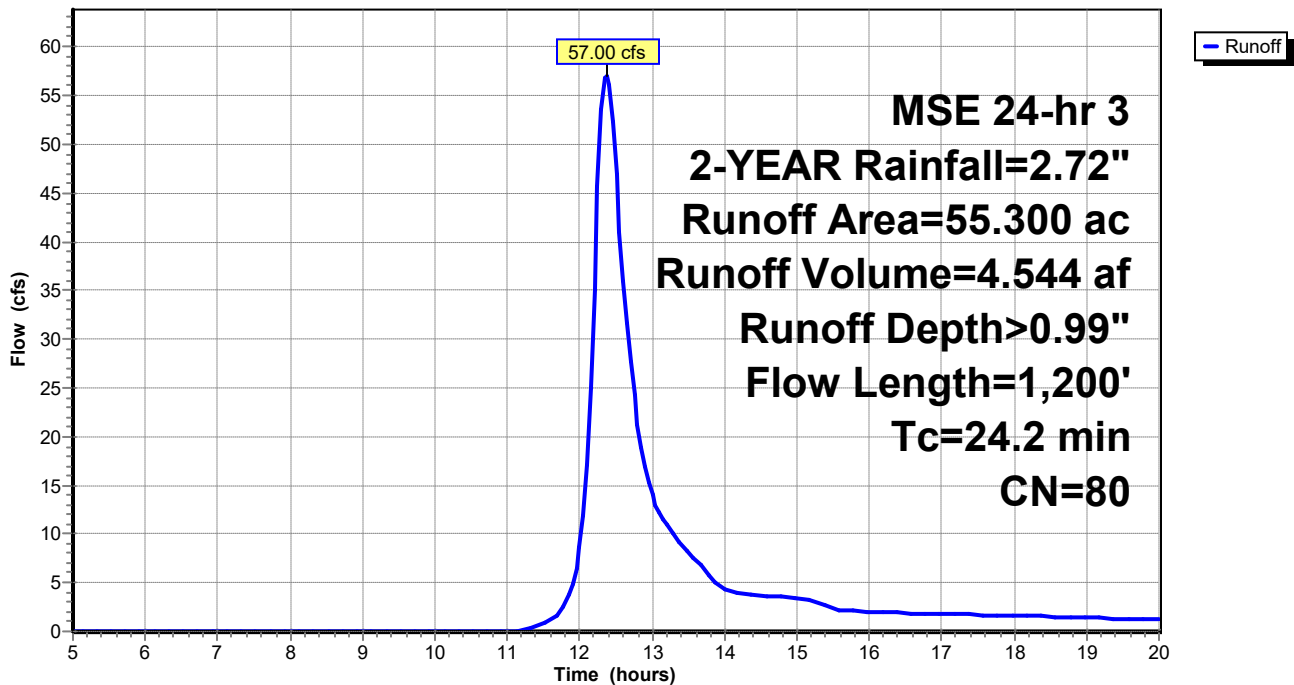
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-YEAR Rainfall=2.72"

Area (ac)	CN	Description
* 48.600	78	PER VILLAGE CODE
* 6.700	98	EX ROAD
55.300	80	Weighted Average
48.600		87.88% Pervious Area
6.700		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	300	0.0330	0.27		Sheet Flow, sheet
					Range n= 0.130 P2= 2.72"
5.5	900	0.0333	2.74		Shallow Concentrated Flow, SHALLOW
					Grassed Waterway Kv= 15.0 fps
24.2	1,200	Total			

Subcatchment OFF: OFFSITE AREA

Hydrograph



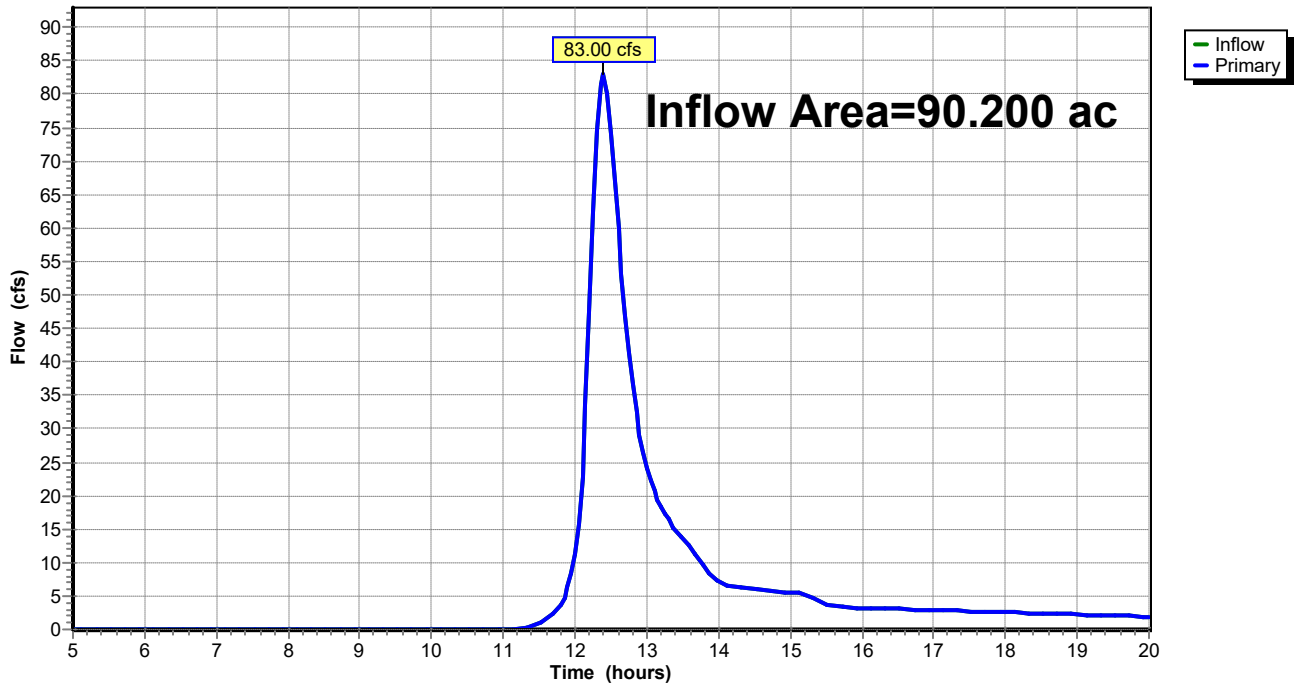
Summary for Link EXIST: EXISTING DISCHARGE

Inflow Area = 90.200 ac, 7.43% Impervious, Inflow Depth > 0.94" for 2-YEAR event
Inflow = 83.00 cfs @ 12.39 hrs, Volume= 7.096 af
Primary = 83.00 cfs @ 12.39 hrs, Volume= 7.096 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link EXIST: EXISTING DISCHARGE

Hydrograph



1617 WILLOW CREEK

MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX-ON: EX ONSITE AREA Runoff Area=34.900 ac 0.00% Impervious Runoff Depth>1.66"
Flow Length=980' Tc=30.2 min CN=78 Runoff=53.95 cfs 4.827 af

Subcatchment OFF: OFFSITE AREA Runoff Area=55.300 ac 12.12% Impervious Runoff Depth>1.81"
Flow Length=1,200' Tc=24.2 min CN=80 Runoff=106.16 cfs 8.337 af

Link EXIST: EXISTING DISCHARGE Inflow=157.03 cfs 13.164 af
Primary=157.03 cfs 13.164 af

Total Runoff Area = 90.200 ac Runoff Volume = 13.164 af Average Runoff Depth = 1.75"
92.57% Pervious = 83.500 ac 7.43% Impervious = 6.700 ac

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MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 12

Summary for Subcatchment EX-ON: EX ONSITE AREA

Runoff = 53.95 cfs @ 12.44 hrs, Volume= 4.827 af, Depth> 1.66"
 Routed to Link EXIST : EXISTING DISCHARGE

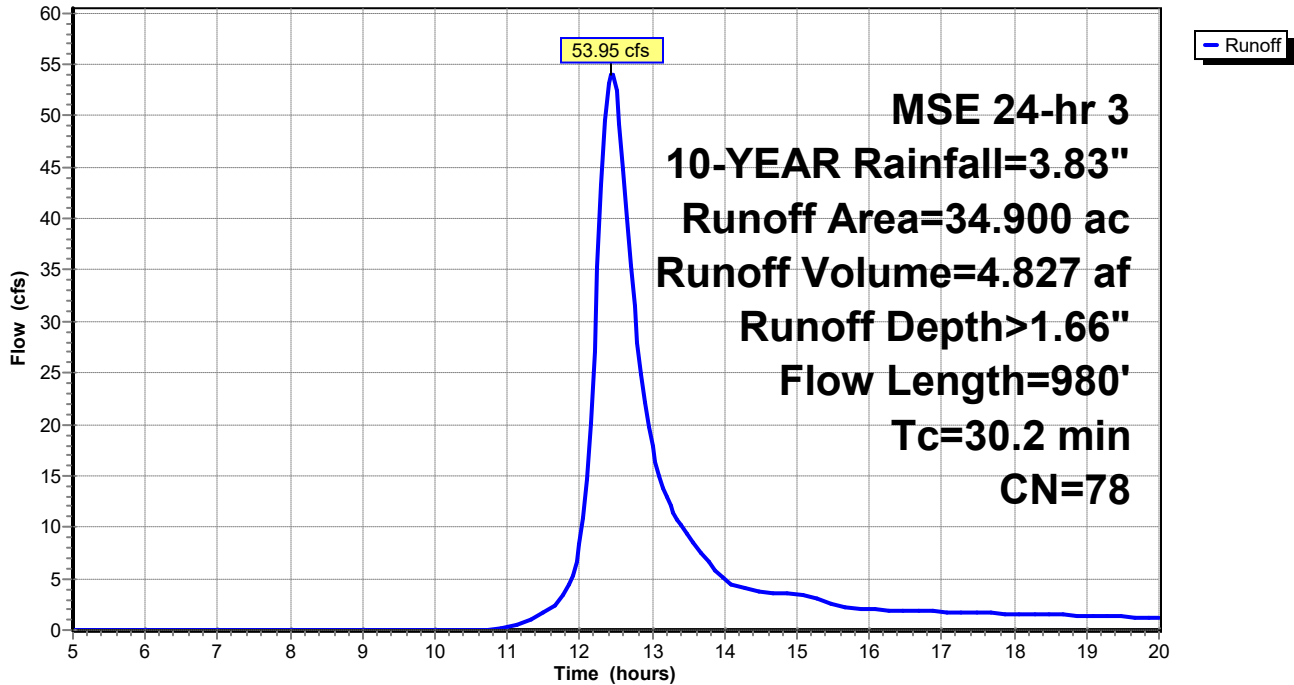
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 10-YEAR Rainfall=3.83"

Area (ac)	CN	Description
* 34.900	78	PER VILLAGE CODE
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	300	0.0167	0.20		Sheet Flow, SHEET Range n= 0.130 P2= 2.72"
5.7	680	0.0176	1.99		Shallow Concentrated Flow, SHALLOW Grassed Waterway Kv= 15.0 fps
30.2	980	Total			

Subcatchment EX-ON: EX ONSITE AREA

Hydrograph



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MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 13

Summary for Subcatchment OFF: OFFSITE AREA

Runoff = 106.16 cfs @ 12.36 hrs, Volume= 8.337 af, Depth> 1.81"
 Routed to Link EXIST : EXISTING DISCHARGE

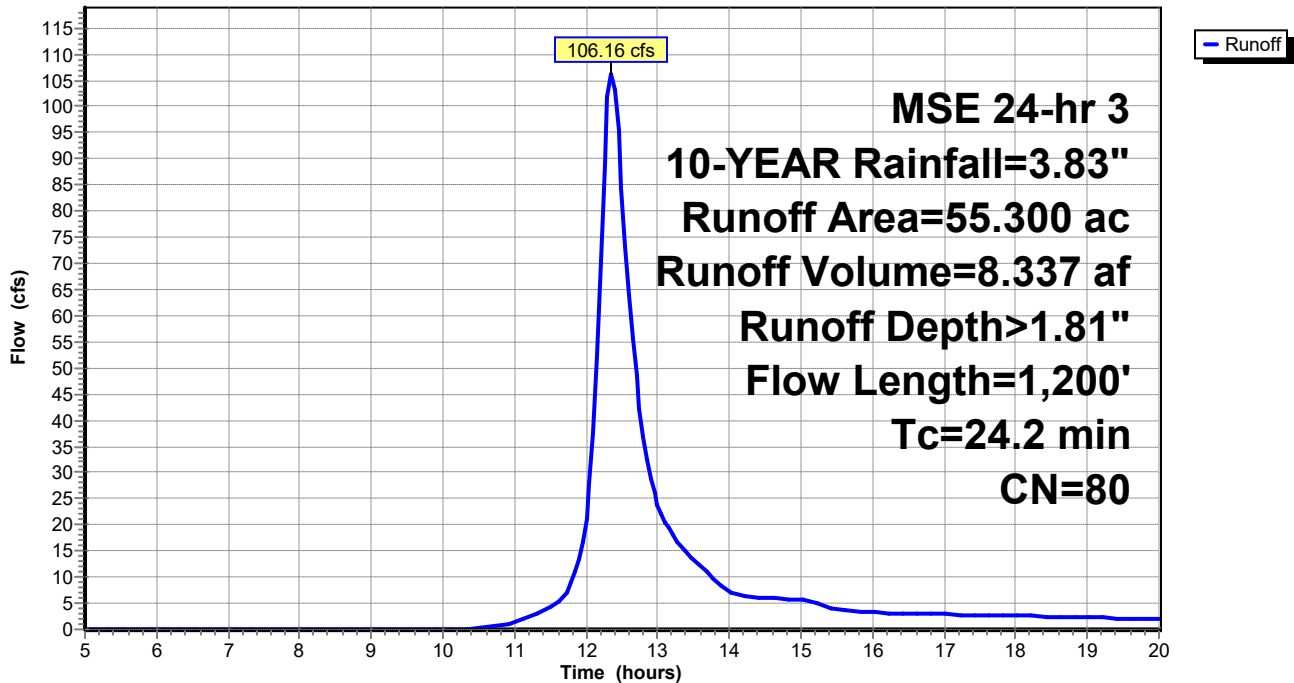
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 10-YEAR Rainfall=3.83"

Area (ac)	CN	Description
* 48.600	78	PER VILLAGE CODE
* 6.700	98	EX ROAD
55.300	80	Weighted Average
48.600		87.88% Pervious Area
6.700		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	300	0.0330	0.27		Sheet Flow, sheet Range n= 0.130 P2= 2.72"
5.5	900	0.0333	2.74		Shallow Concentrated Flow, SHALLOW Grassed Waterway Kv= 15.0 fps
24.2	1,200	Total			

Subcatchment OFF: OFFSITE AREA

Hydrograph

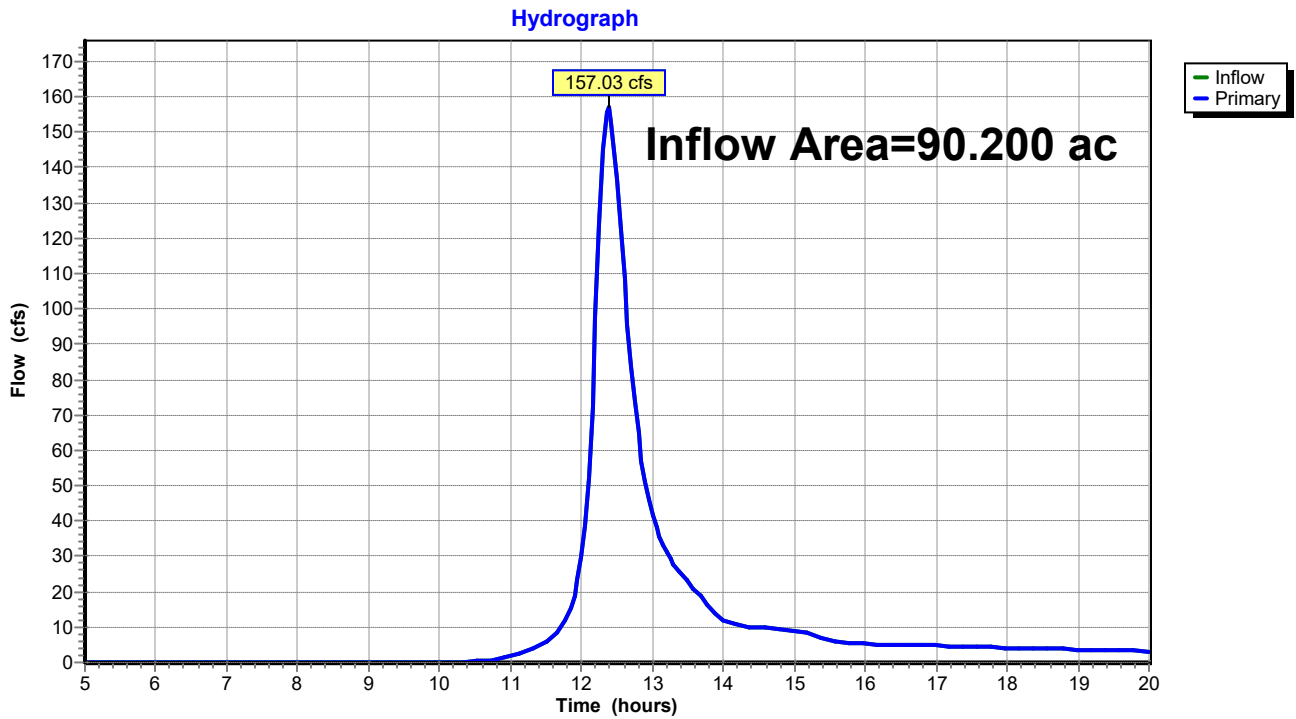


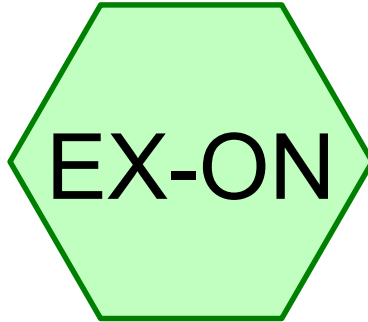
Summary for Link EXIST: EXISTING DISCHARGE

Inflow Area = 90.200 ac, 7.43% Impervious, Inflow Depth > 1.75" for 10-YEAR event
Inflow = 157.03 cfs @ 12.38 hrs, Volume= 13.164 af
Primary = 157.03 cfs @ 12.38 hrs, Volume= 13.164 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link EXIST: EXISTING DISCHARGE

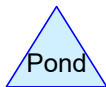
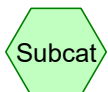




EX ONSITE AREA



OFFSITE AREA



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1617 WILLOW CREEK

MSE 24-hr 3 100-YEAR Rainfall=5.95"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment EX-ON: EX ONSITE AREA Runoff Area=34.900 ac 0.00% Impervious Runoff Depth>3.37"
Flow Length=980' Tc=30.2 min CN=78 Runoff=109.70 cfs 9.810 af

Subcatchment OFF: OFFSITE AREA Runoff Area=55.300 ac 12.12% Impervious Runoff Depth>3.58"
Flow Length=1,200' Tc=24.2 min CN=80 Runoff=208.44 cfs 16.481 af

Total Runoff Area = 90.200 ac Runoff Volume = 26.290 af Average Runoff Depth = 3.50"
92.57% Pervious = 83.500 ac 7.43% Impervious = 6.700 ac

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MSE 24-hr 3 100-YEAR Rainfall=5.95"

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Page 4

Summary for Subcatchment EX-ON: EX ONSITE AREA

Runoff = 109.70 cfs @ 12.43 hrs, Volume= 9.810 af, Depth> 3.37"

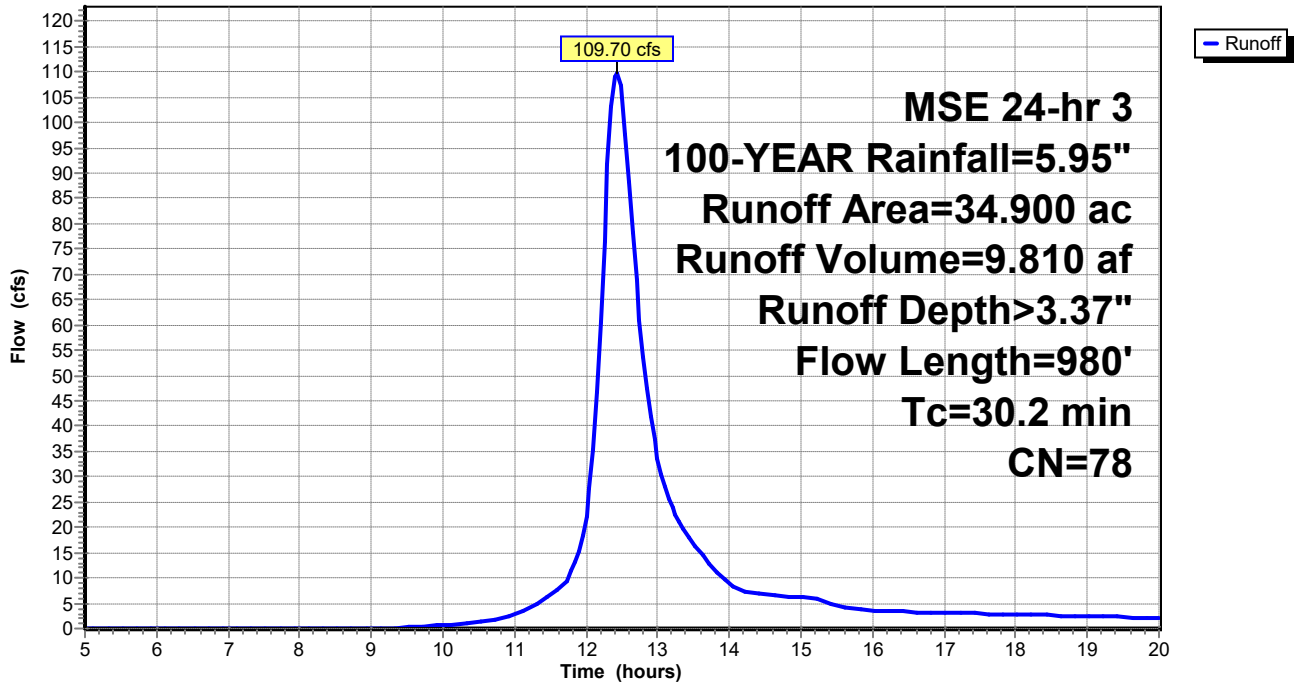
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-YEAR Rainfall=5.95"

Area (ac)	CN	Description
* 34.900	78	PER VILLAGE CODE
34.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.5	300	0.0167	0.20		Sheet Flow, SHEET
					Range n= 0.130 P2= 2.72"
5.7	680	0.0176	1.99		Shallow Concentrated Flow, SHALLOW
					Grassed Waterway Kv= 15.0 fps
30.2	980	Total			

Subcatchment EX-ON: EX ONSITE AREA

Hydrograph



1617 WILLOW CREEK

MSE 24-hr 3 100-YEAR Rainfall=5.95"

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Summary for Subcatchment OFF: OFFSITE AREA

Runoff = 208.44 cfs @ 12.35 hrs, Volume= 16.481 af, Depth> 3.58"

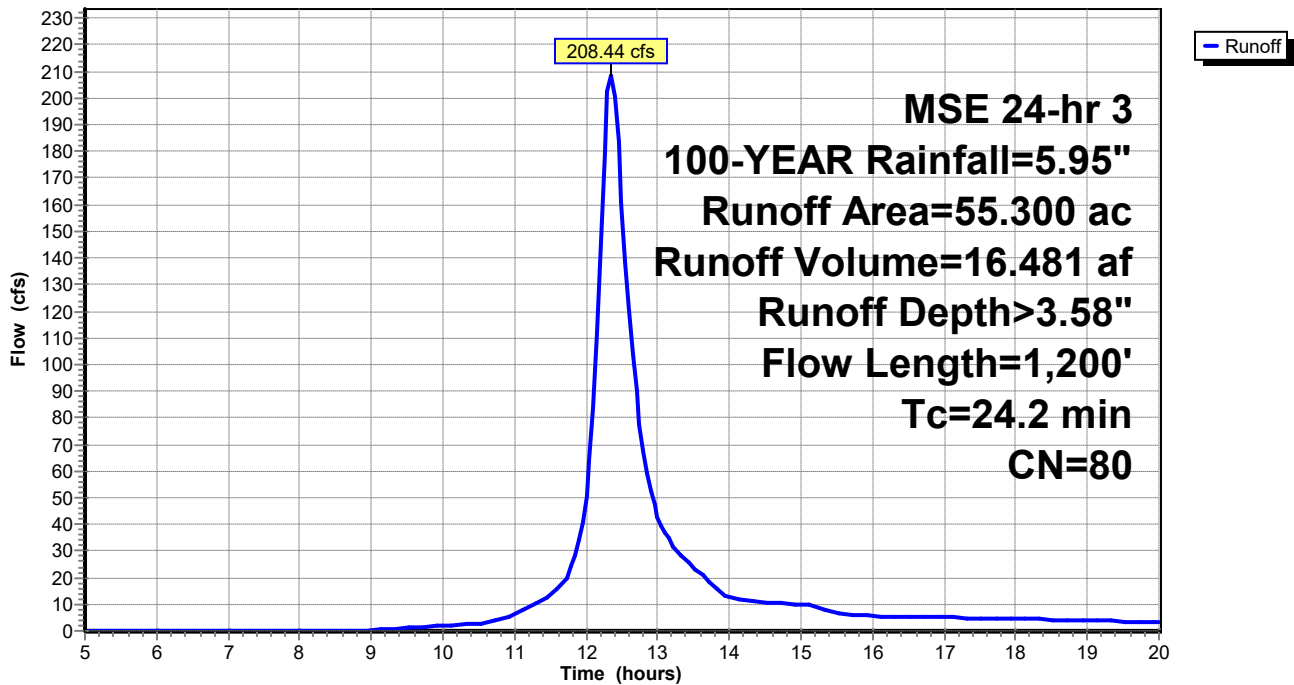
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-YEAR Rainfall=5.95"

Area (ac)	CN	Description
* 48.600	78	PER VILLAGE CODE
* 6.700	98	EX ROAD
55.300	80	Weighted Average
48.600		87.88% Pervious Area
6.700		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	300	0.0330	0.27		Sheet Flow, sheet Range n= 0.130 P2= 2.72"
5.5	900	0.0333	2.74		Shallow Concentrated Flow, SHALLOW Grassed Waterway Kv= 15.0 fps
24.2	1,200	Total			

Subcatchment OFF: OFFSITE AREA

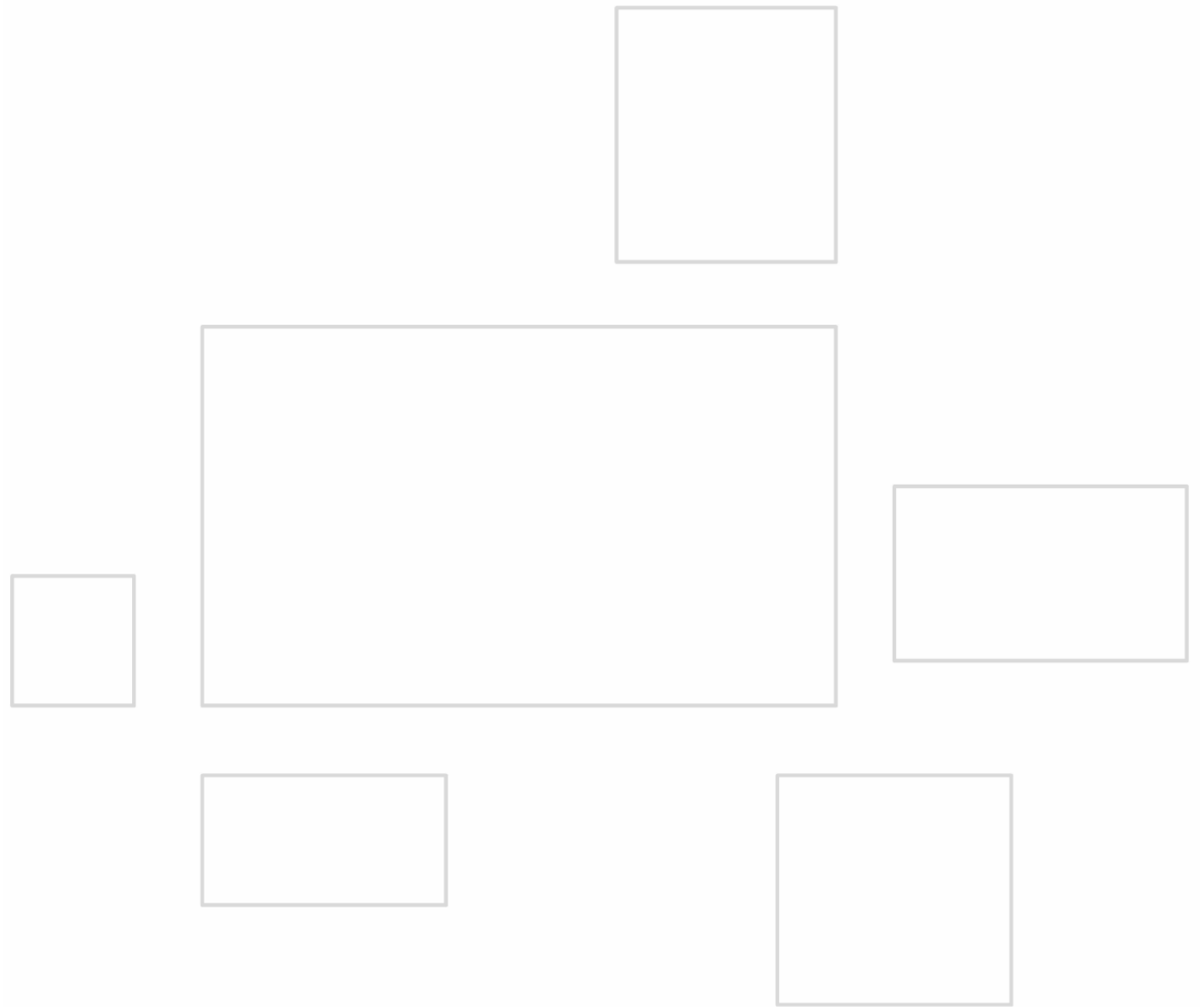
Hydrograph

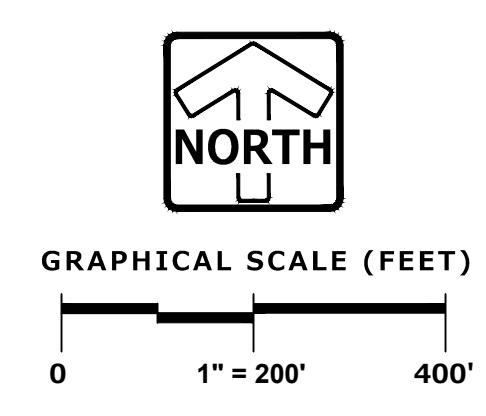
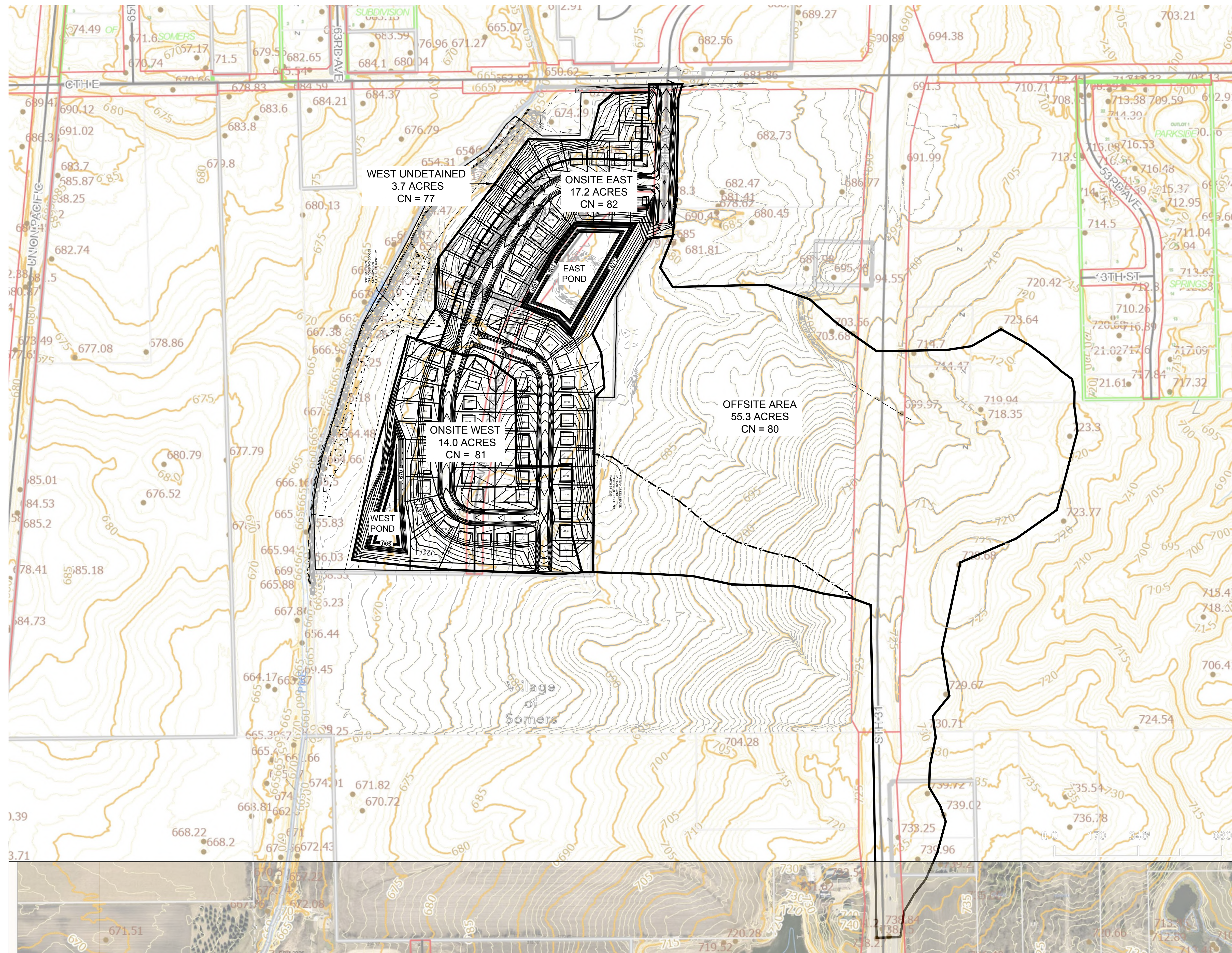


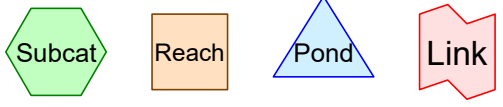
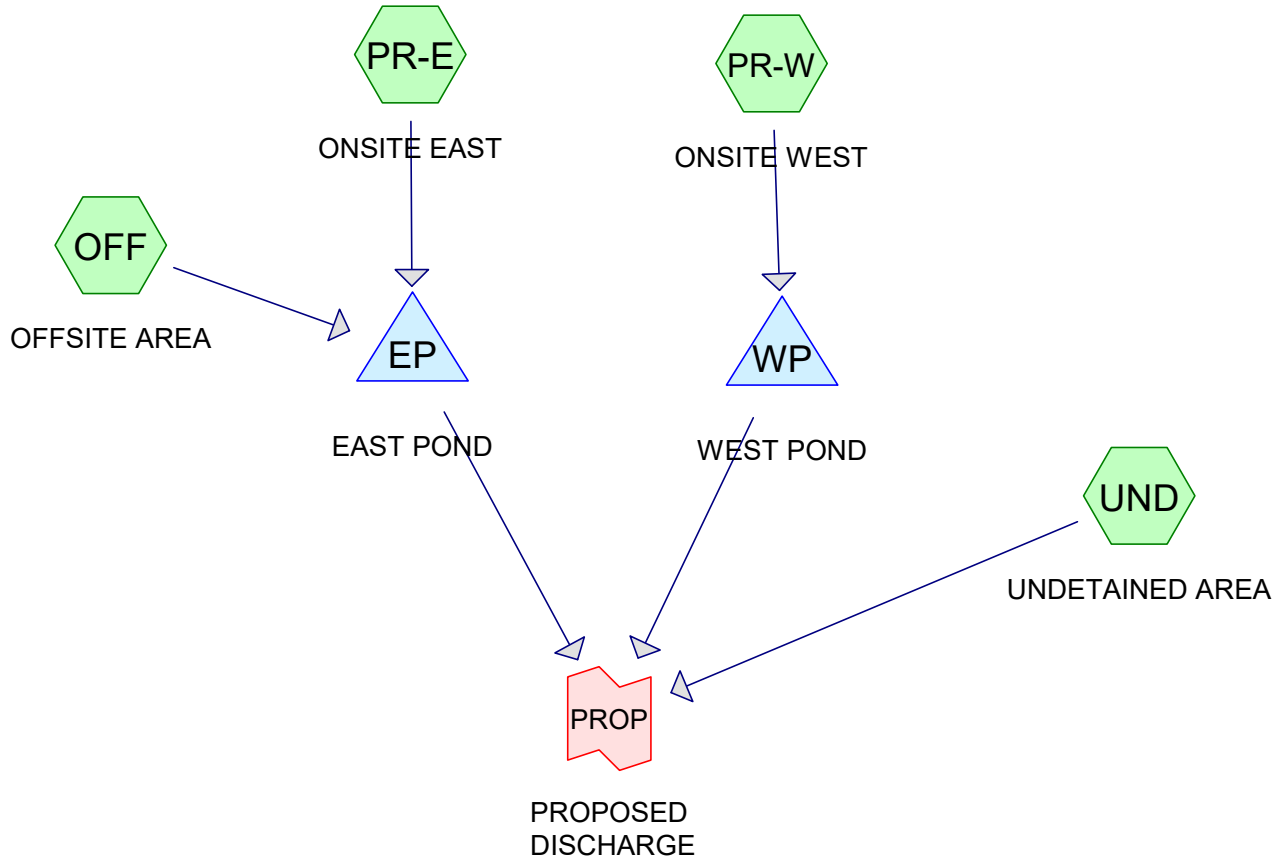
APPENDIX 3

POST DEVELOPMENT CONDITIONS

RATE ATTENUATION







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1617 WILLOW CREEK

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	1-YEAR	MSE 24-hr	3	Default	24.00	1	2.39	2
2	2-YEAR	MSE 24-hr	3	Default	24.00	1	2.72	2
3	10-YEAR	MSE 24-hr	3	Default	24.00	1	3.83	2
4	100-YEAR	MSE 24-hr	3	Default	24.00	1	5.95	2

1617 WILLOW CREEK

MSE 24-hr 3 1-YEAR Rainfall=2.39"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OFF: OFFSITE AREA Runoff Area=55.300 ac 12.12% Impervious Runoff Depth>0.77"
 Flow Length=1,200' Tc=24.2 min CN=80 Runoff=43.64 cfs 3.529 af

Subcatchment PR-E: ONSITE EAST Runoff Area=17.200 ac 32.56% Impervious Runoff Depth>0.87"
 Tc=6.0 min CN=82 Runoff=28.30 cfs 1.250 af

Subcatchment PR-W: ONSITE WEST Runoff Area=14.000 ac 27.86% Impervious Runoff Depth>0.82"
 Tc=6.0 min CN=81 Runoff=21.63 cfs 0.957 af

Subcatchment UND: UNDETAINED AREA Runoff Area=3.700 ac 10.81% Impervious Runoff Depth>0.63"
 Tc=6.0 min CN=77 Runoff=4.33 cfs 0.195 af

Pond EP: EAST POND Peak Elev=666.61' Storage=3.195 af Inflow=51.78 cfs 4.779 af
 Outflow=3.72 cfs 2.259 af

Pond WP: WEST POND Peak Elev=668.91' Storage=0.682 af Inflow=21.63 cfs 0.957 af
 Outflow=0.61 cfs 0.363 af

Link PROP: PROPOSED DISCHARGE Inflow=4.73 cfs 2.818 af
 Primary=4.73 cfs 2.818 af

Total Runoff Area = 90.200 ac Runoff Volume = 5.932 af Average Runoff Depth = 0.79"
81.60% Pervious = 73.600 ac 18.40% Impervious = 16.600 ac

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MSE 24-hr 3 1-YEAR Rainfall=2.39"

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Page 4

Summary for Subcatchment OFF: OFFSITE AREA

Runoff = 43.64 cfs @ 12.37 hrs, Volume= 3.529 af, Depth> 0.77"
 Routed to Pond EP : EAST POND

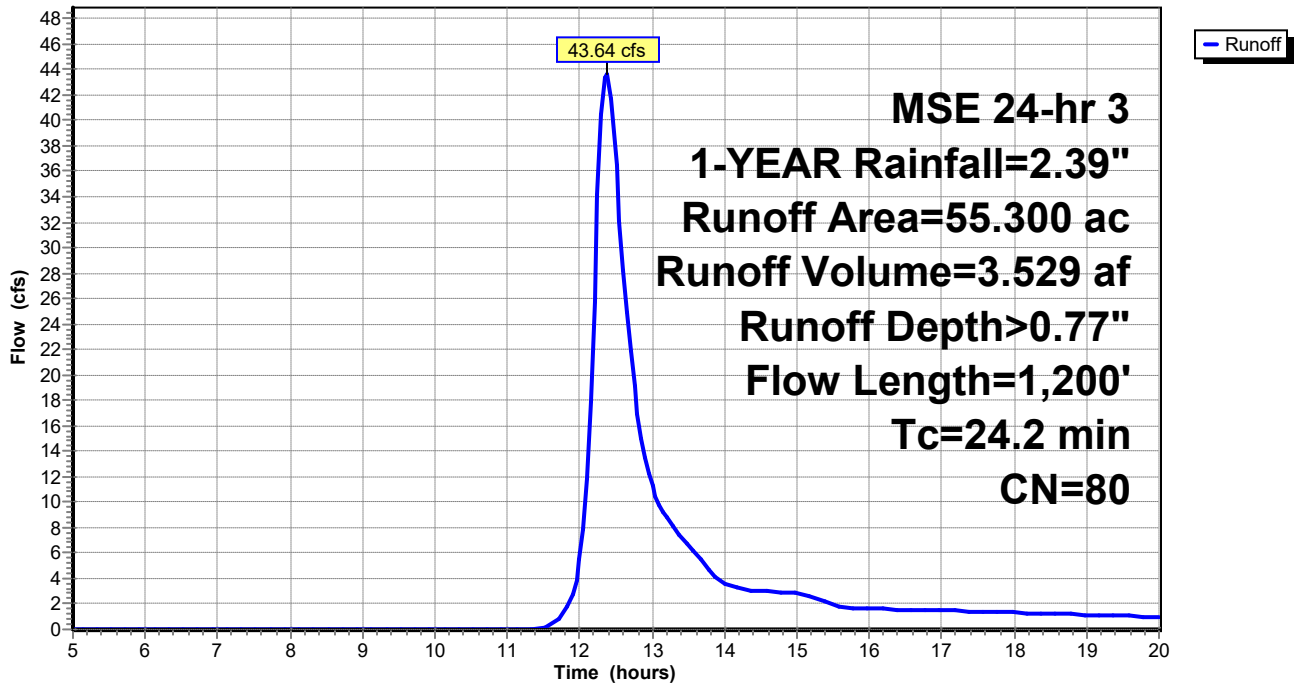
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-YEAR Rainfall=2.39"

Area (ac)	CN	Description
* 48.600	78	PER VILLAGE CODE
* 6.700	98	EX ROAD
55.300	80	Weighted Average
48.600		87.88% Pervious Area
6.700		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	300	0.0330	0.27		Sheet Flow, sheet
5.5	900	0.0333	2.74		Shallow Concentrated Flow, SHALLOW
					Grassed Waterway Kv= 15.0 fps
24.2	1,200	Total			

Subcatchment OFF: OFFSITE AREA

Hydrograph



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Page 5

Summary for Subcatchment PR-E: ONSITE EAST

Runoff = 28.30 cfs @ 12.14 hrs, Volume= 1.250 af, Depth> 0.87"
 Routed to Pond EP : EAST POND

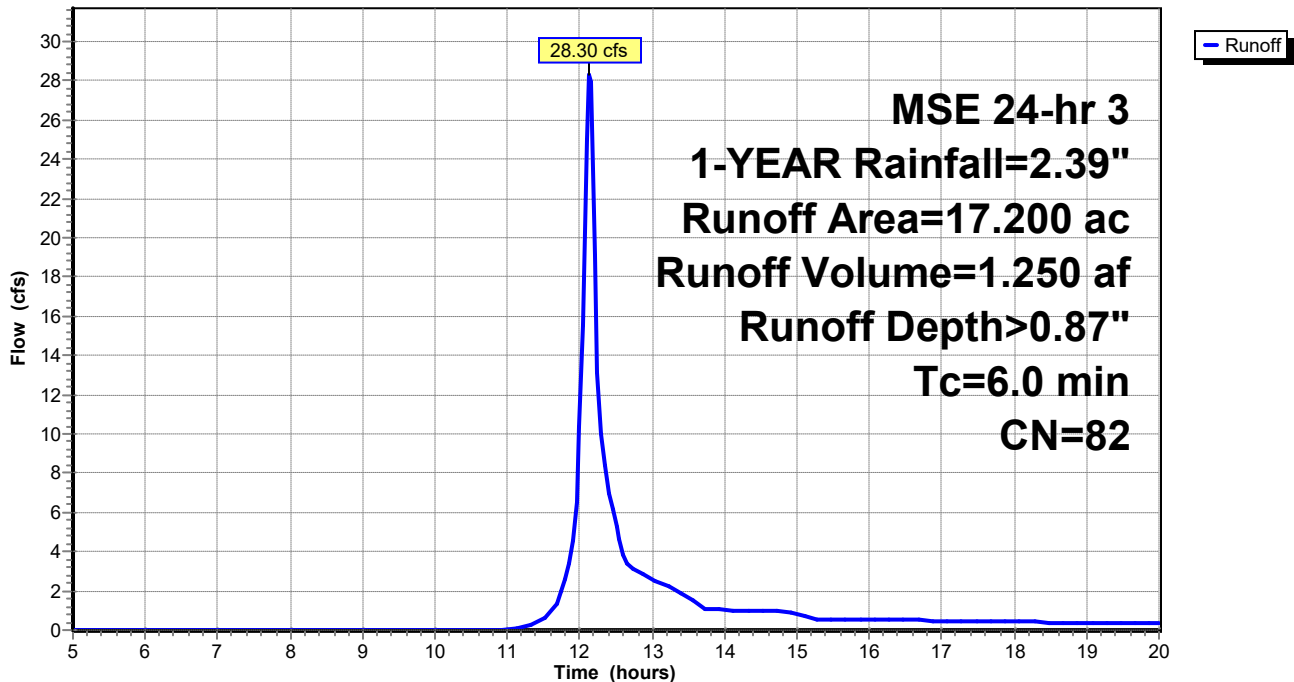
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-YEAR Rainfall=2.39"

Area (ac)	CN	Description
* 11.600	74	GRASS
* 2.800	98	PAVEMENT
* 0.900	98	DRIVEWAY
* 1.900	98	ROOF
17.200	82	Weighted Average
11.600		67.44% Pervious Area
5.600		32.56% Impervious Area

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

Subcatchment PR-E: ONSITE EAST

Hydrograph



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MSE 24-hr 3 1-YEAR Rainfall=2.39"

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Page 6

Summary for Subcatchment PR-W: ONSITE WEST

Runoff = 21.63 cfs @ 12.14 hrs, Volume= 0.957 af, Depth> 0.82"
 Routed to Pond WP : WEST POND

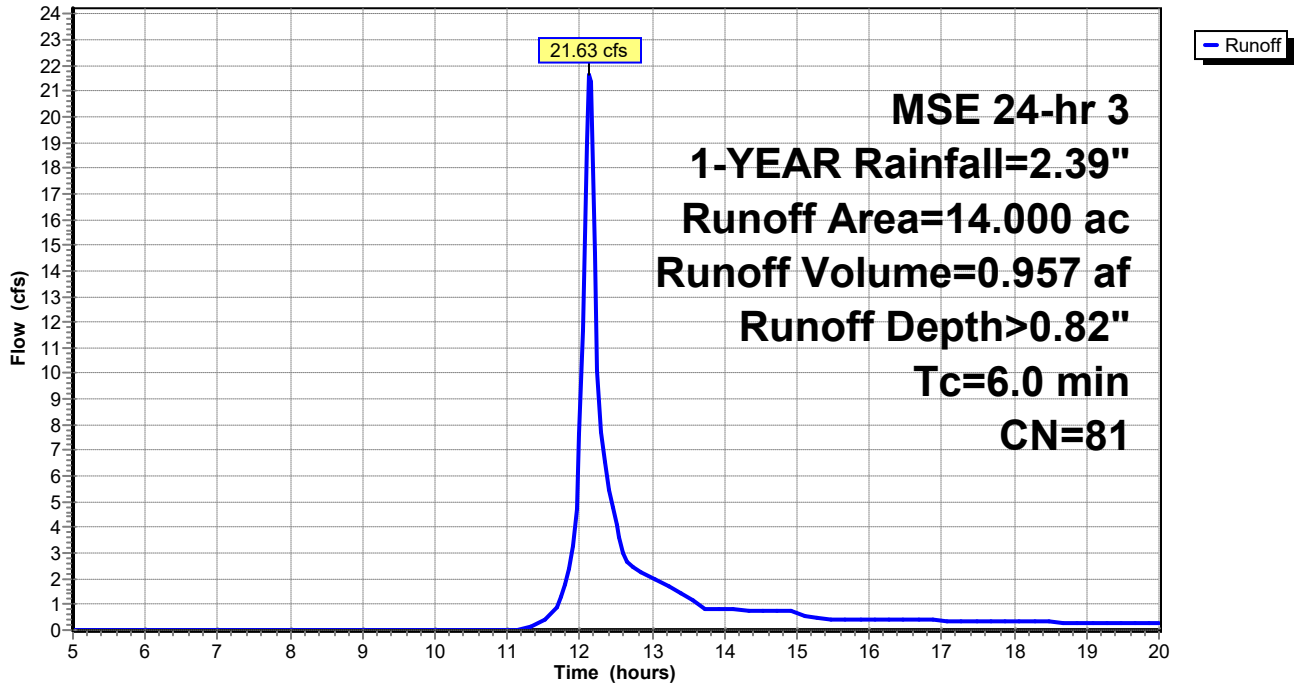
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-YEAR Rainfall=2.39"

Area (ac)	CN	Description
10.100	74	>75% Grass cover, Good, HSG C
* 1.500	98	PAVEMENT
* 0.700	98	DRIVEWAY
* 1.700	98	ROOF
14.000	81	Weighted Average
10.100		72.14% Pervious Area
3.900		27.86% Impervious Area

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

Subcatchment PR-W: ONSITE WEST

Hydrograph



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MSE 24-hr 3 1-YEAR Rainfall=2.39"

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Page 7

Summary for Subcatchment UND: UNDETAINED AREA

Runoff = 4.33 cfs @ 12.14 hrs, Volume= 0.195 af, Depth> 0.63"
 Routed to Link PROP : PROPOSED DISCHARGE

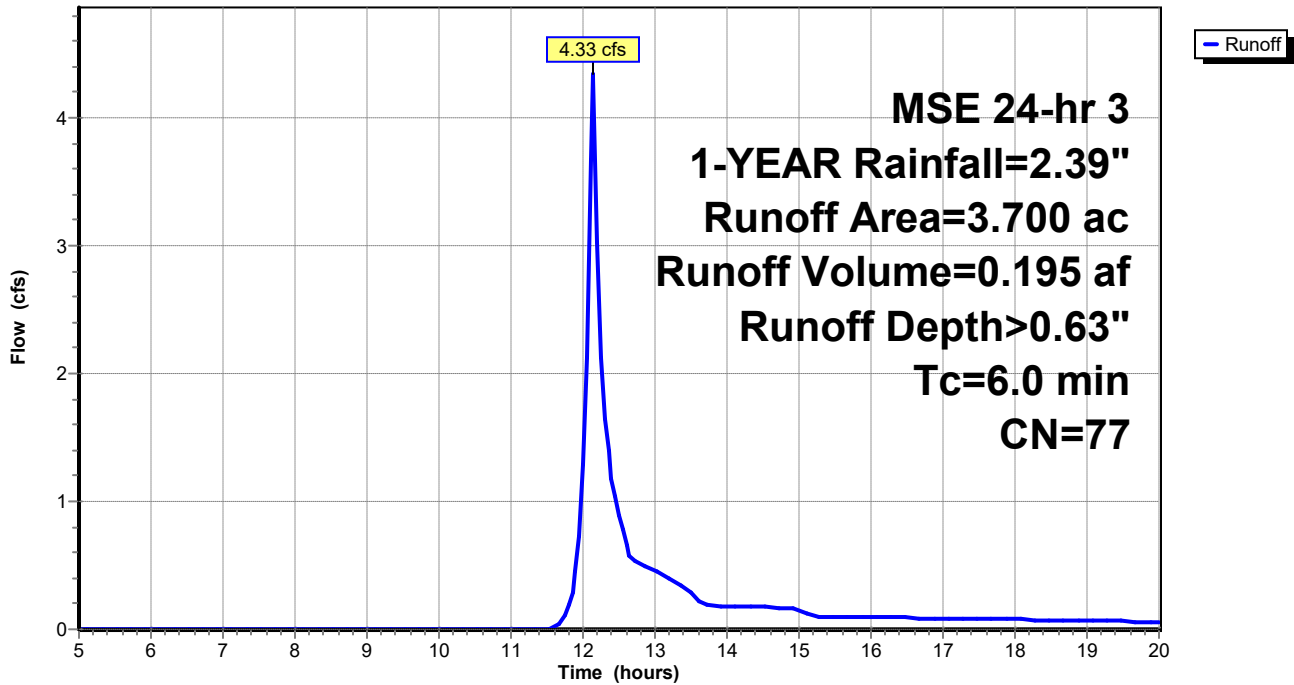
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 1-YEAR Rainfall=2.39"

Area (ac)	CN	Description
3.300	74	>75% Grass cover, Good, HSG C
* 0.400	98	ROOF
3.700	77	Weighted Average
3.300		89.19% Pervious Area
0.400		10.81% Impervious Area

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

Subcatchment UND: UNDETAINED AREA

Hydrograph



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MSE 24-hr 3 1-YEAR Rainfall=2.39"

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Page 8

Summary for Pond EP: EAST POND

Inflow Area = 72.500 ac, 16.97% Impervious, Inflow Depth > 0.79" for 1-YEAR event
 Inflow = 51.78 cfs @ 12.35 hrs, Volume= 4.779 af
 Outflow = 3.72 cfs @ 15.03 hrs, Volume= 2.259 af, Atten= 93%, Lag= 160.9 min
 Primary = 3.72 cfs @ 15.03 hrs, Volume= 2.259 af
 Routed to Link PROP : PROPOSED DISCHARGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 666.61' @ 15.03 hrs Surf.Area= 2.061 ac Storage= 3.195 af

Plug-Flow detention time= 233.1 min calculated for 2.259 af (47% of inflow)
 Center-of-Mass det. time= 160.4 min (969.6 - 809.2)

Volume	Invert	Avail.Storage	Storage Description
#1	665.00'	15.750 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
665.00	1.900	0.000	0.000
666.00	2.000	1.950	1.950
667.00	2.100	2.050	4.000
668.00	2.200	2.150	6.150
669.00	2.300	2.250	8.400
670.00	2.400	2.350	10.750
671.00	2.500	2.450	13.200
672.00	2.600	2.550	15.750

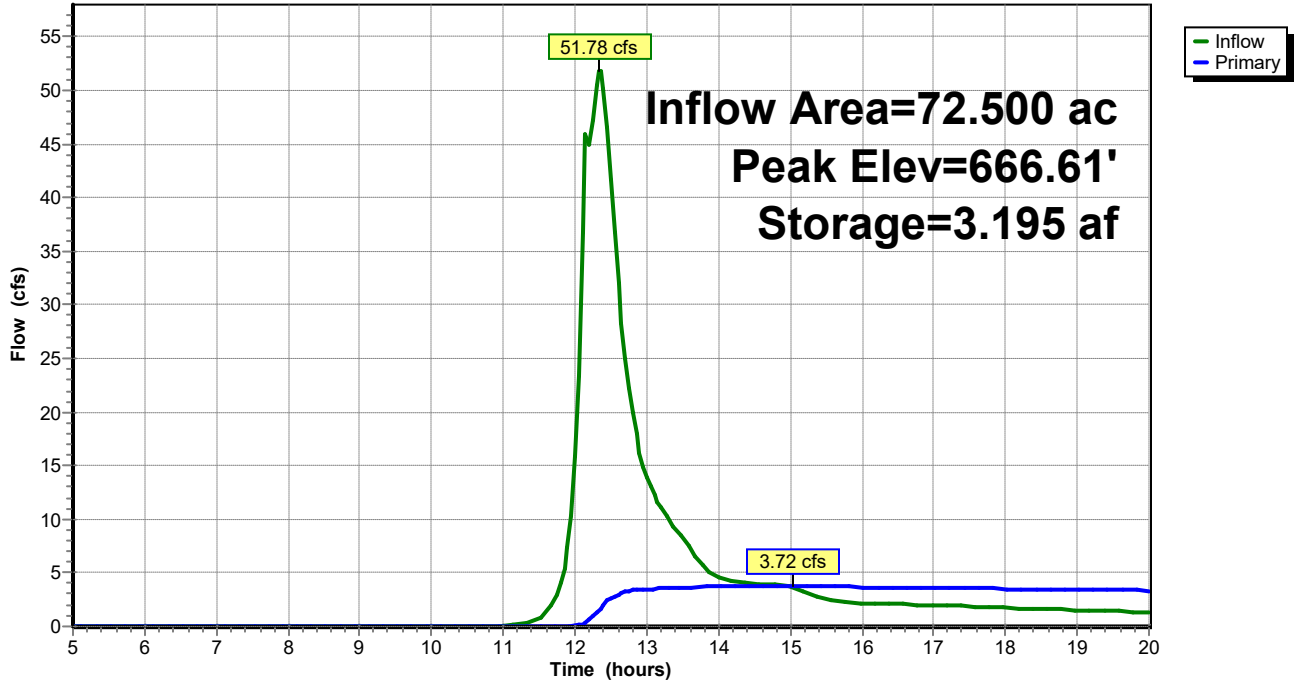
Device	Routing	Invert	Outlet Devices
#1	Primary	665.00'	12.0" Round Culvert L= 100.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 665.00' / 664.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	667.00'	36.0" Round Culvert L= 100.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 667.00' / 664.00' S= 0.0300 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=3.72 cfs @ 15.03 hrs HW=666.61' (Free Discharge)

- 1=Culvert (Barrel Controls 3.72 cfs @ 4.73 fps)
- 2=Culvert (Controls 0.00 cfs)

Pond EP: EAST POND

Hydrograph



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MSE 24-hr 3 1-YEAR Rainfall=2.39"

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Page 10

Summary for Pond WP: WEST POND

Inflow Area = 14.000 ac, 27.86% Impervious, Inflow Depth > 0.82" for 1-YEAR event
 Inflow = 21.63 cfs @ 12.14 hrs, Volume= 0.957 af
 Outflow = 0.61 cfs @ 15.08 hrs, Volume= 0.363 af, Atten= 97%, Lag= 176.3 min
 Primary = 0.61 cfs @ 15.08 hrs, Volume= 0.363 af
 Routed to Link PROP : PROPOSED DISCHARGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 668.91' @ 15.08 hrs Surf.Area= 0.791 ac Storage= 0.682 af

Plug-Flow detention time= 245.4 min calculated for 0.363 af (38% of inflow)
 Center-of-Mass det. time= 171.0 min (968.6 - 797.6)

Volume	Invert	Avail.Storage	Storage Description
#1	668.00'	4.900 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
668.00	0.700	0.000	0.000
669.00	0.800	0.750	0.750
670.00	0.900	0.850	1.600
671.00	1.000	0.950	2.550
672.00	1.200	1.100	3.650
673.00	1.300	1.250	4.900

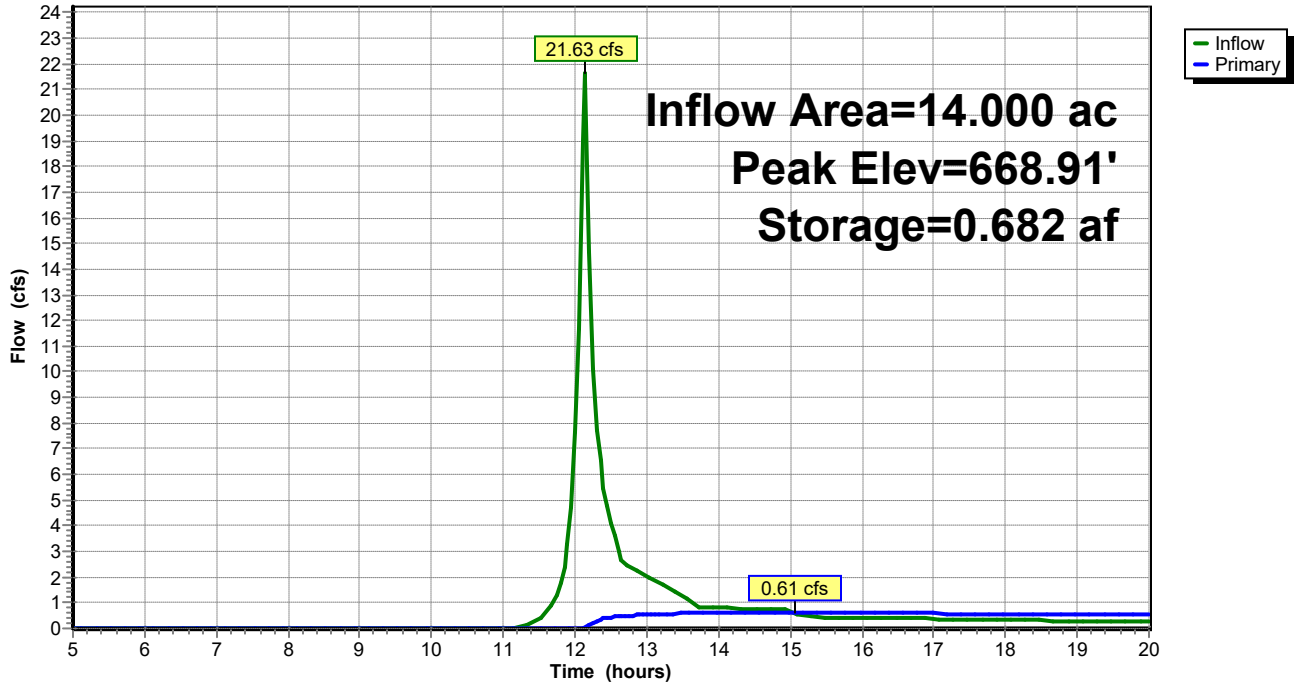
Device	Routing	Invert	Outlet Devices
#1	Primary	668.00'	12.0" Round Culvert L= 250.0' Ke= 0.500 Inlet / Outlet Invert= 668.00' / 660.00' S= 0.0320 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	668.25'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	671.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.61 cfs @ 15.08 hrs HW=668.91' (Free Discharge)

- ↑ **1=Culvert** (Passes 0.61 cfs of 2.45 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.61 cfs @ 3.10 fps)
- ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Pond WP: WEST POND

Hydrograph

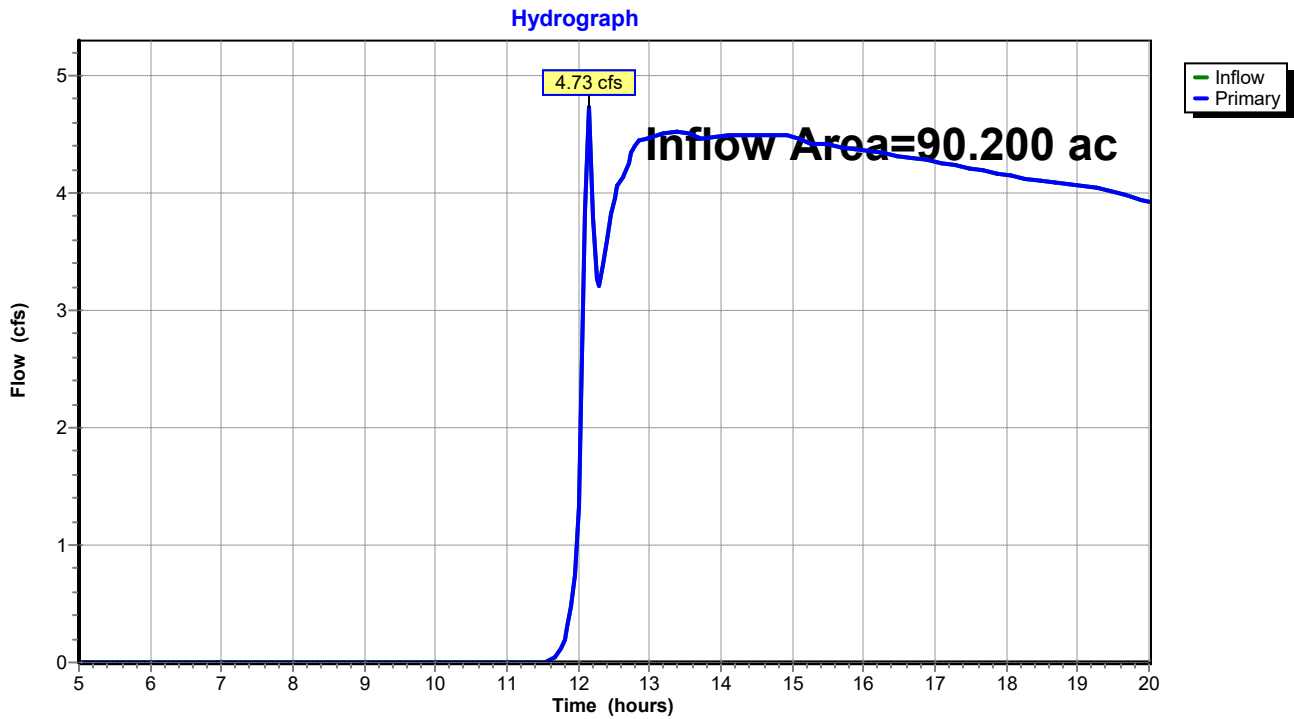


Summary for Link PROP: PROPOSED DISCHARGE

Inflow Area = 90.200 ac, 18.40% Impervious, Inflow Depth > 0.37" for 1-YEAR event
Inflow = 4.73 cfs @ 12.15 hrs, Volume= 2.818 af
Primary = 4.73 cfs @ 12.15 hrs, Volume= 2.818 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link PROP: PROPOSED DISCHARGE



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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 13

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OFF: OFFSITE AREA Runoff Area=55.300 ac 12.12% Impervious Runoff Depth>0.99"
Flow Length=1,200' Tc=24.2 min CN=80 Runoff=57.00 cfs 4.544 af

Subcatchment PR-E: ONSITE EAST Runoff Area=17.200 ac 32.56% Impervious Runoff Depth>1.11"
Tc=6.0 min CN=82 Runoff=35.93 cfs 1.587 af

Subcatchment PR-W: ONSITE WEST Runoff Area=14.000 ac 27.86% Impervious Runoff Depth>1.05"
Tc=6.0 min CN=81 Runoff=27.70 cfs 1.223 af

Subcatchment UND: UNDETAINED AREA Runoff Area=3.700 ac 10.81% Impervious Runoff Depth>0.83"
Tc=6.0 min CN=77 Runoff=5.78 cfs 0.257 af

Pond EP: EAST POND Peak Elev=667.11' Storage=4.234 af Inflow=67.26 cfs 6.131 af
Outflow=4.35 cfs 2.633 af

Pond WP: WEST POND Peak Elev=669.16' Storage=0.877 af Inflow=27.70 cfs 1.223 af
Outflow=0.77 cfs 0.468 af

Link PROP: PROPOSED DISCHARGE Inflow=6.66 cfs 3.358 af
Primary=6.66 cfs 3.358 af

Total Runoff Area = 90.200 ac Runoff Volume = 7.612 af Average Runoff Depth = 1.01"
81.60% Pervious = 73.600 ac 18.40% Impervious = 16.600 ac

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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 14

Summary for Subcatchment OFF: OFFSITE AREA

Runoff = 57.00 cfs @ 12.37 hrs, Volume= 4.544 af, Depth> 0.99"
 Routed to Pond EP : EAST POND

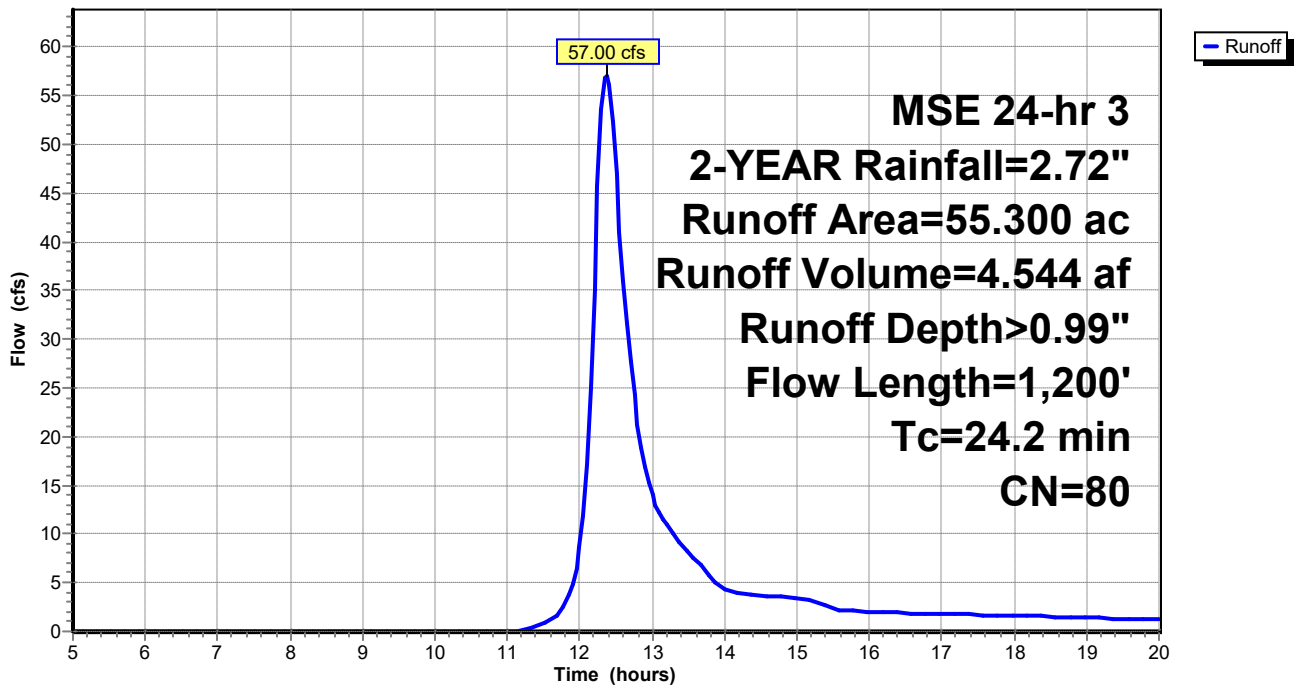
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-YEAR Rainfall=2.72"

Area (ac)	CN	Description
* 48.600	78	PER VILLAGE CODE
* 6.700	98	EX ROAD
55.300	80	Weighted Average
48.600		87.88% Pervious Area
6.700		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	300	0.0330	0.27		Sheet Flow, sheet
					Range n= 0.130 P2= 2.72"
5.5	900	0.0333	2.74		Shallow Concentrated Flow, SHALLOW
					Grassed Waterway Kv= 15.0 fps
24.2	1,200	Total			

Subcatchment OFF: OFFSITE AREA

Hydrograph



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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 15

Summary for Subcatchment PR-E: ONSITE EAST

Runoff = 35.93 cfs @ 12.14 hrs, Volume= 1.587 af, Depth> 1.11"
Routed to Pond EP : EAST POND

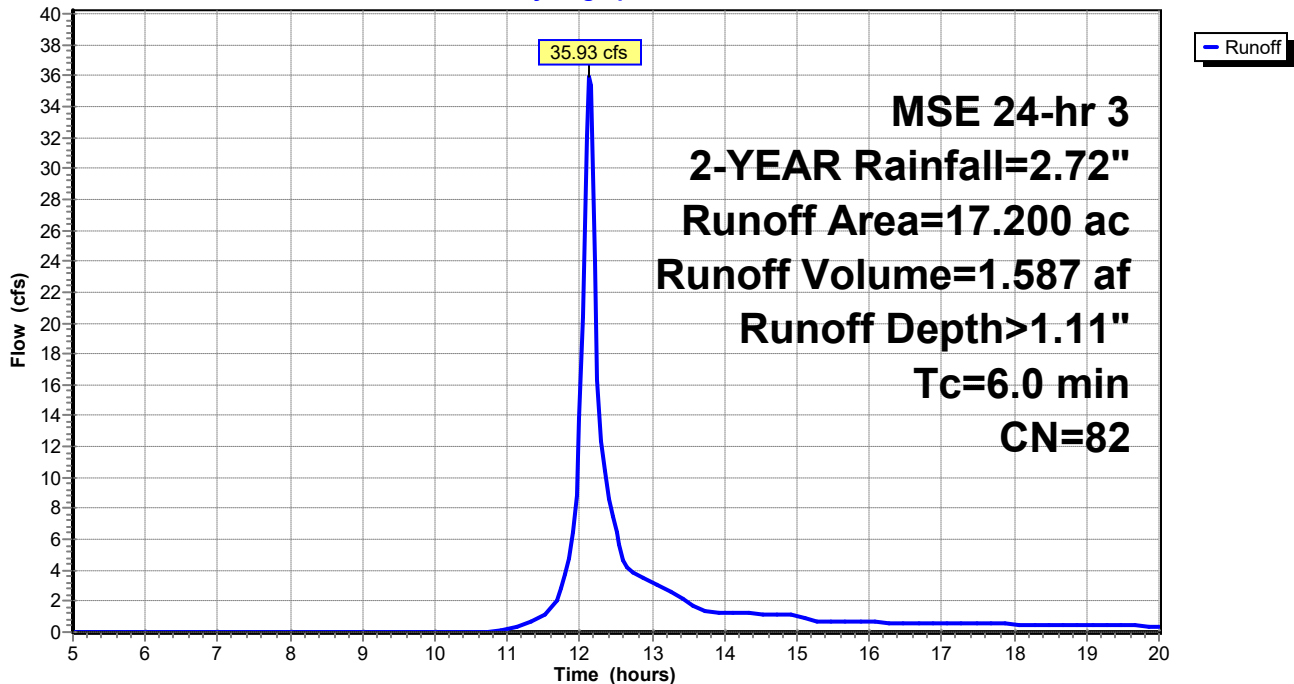
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-YEAR Rainfall=2.72"

Area (ac)	CN	Description
* 11.600	74	GRASS
* 2.800	98	PAVEMENT
* 0.900	98	DRIVEWAY
* 1.900	98	ROOF
17.200	82	Weighted Average
11.600		67.44% Pervious Area
5.600		32.56% Impervious Area

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

Subcatchment PR-E: ONSITE EAST

Hydrograph



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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 16

Summary for Subcatchment PR-W: ONSITE WEST

Runoff = 27.70 cfs @ 12.14 hrs, Volume= 1.223 af, Depth> 1.05"
 Routed to Pond WP : WEST POND

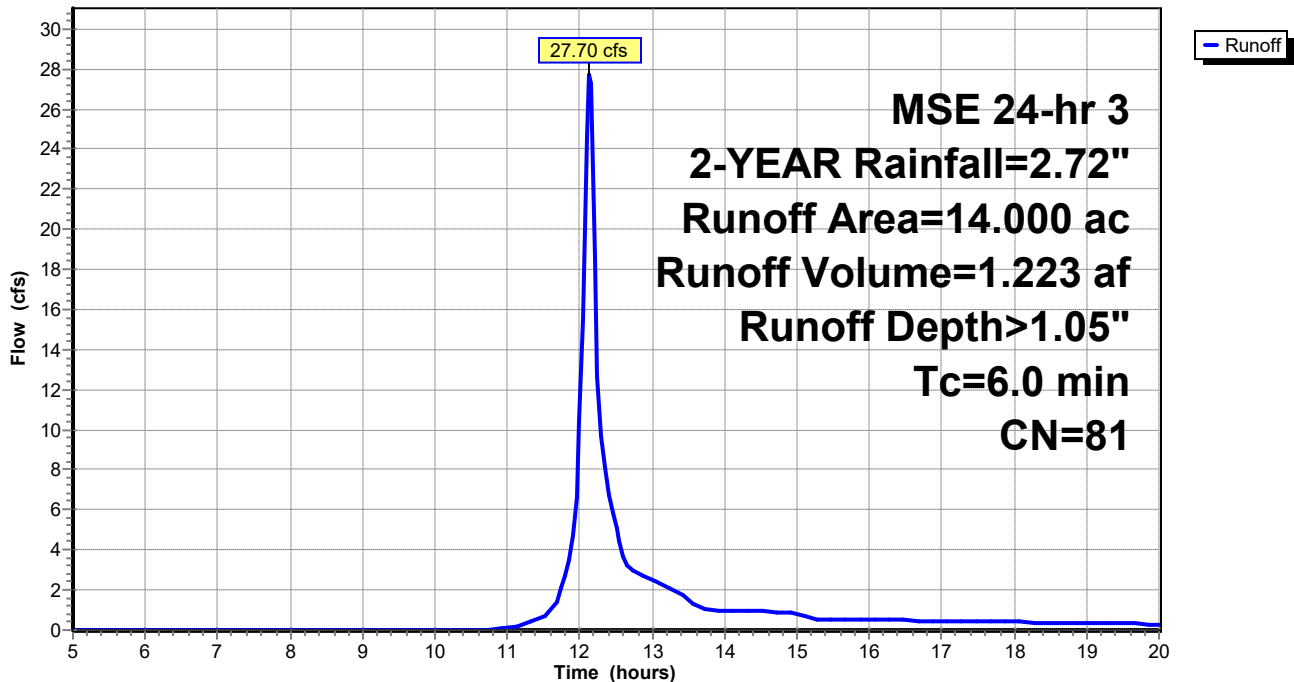
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-YEAR Rainfall=2.72"

Area (ac)	CN	Description
10.100	74	>75% Grass cover, Good, HSG C
* 1.500	98	PAVEMENT
* 0.700	98	DRIVEWAY
* 1.700	98	ROOF
14.000	81	Weighted Average
10.100		72.14% Pervious Area
3.900		27.86% Impervious Area

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

Subcatchment PR-W: ONSITE WEST

Hydrograph



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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 17

Summary for Subcatchment UND: UNDETAINED AREA

Runoff = 5.78 cfs @ 12.14 hrs, Volume= 0.257 af, Depth> 0.83"
 Routed to Link PROP : PROPOSED DISCHARGE

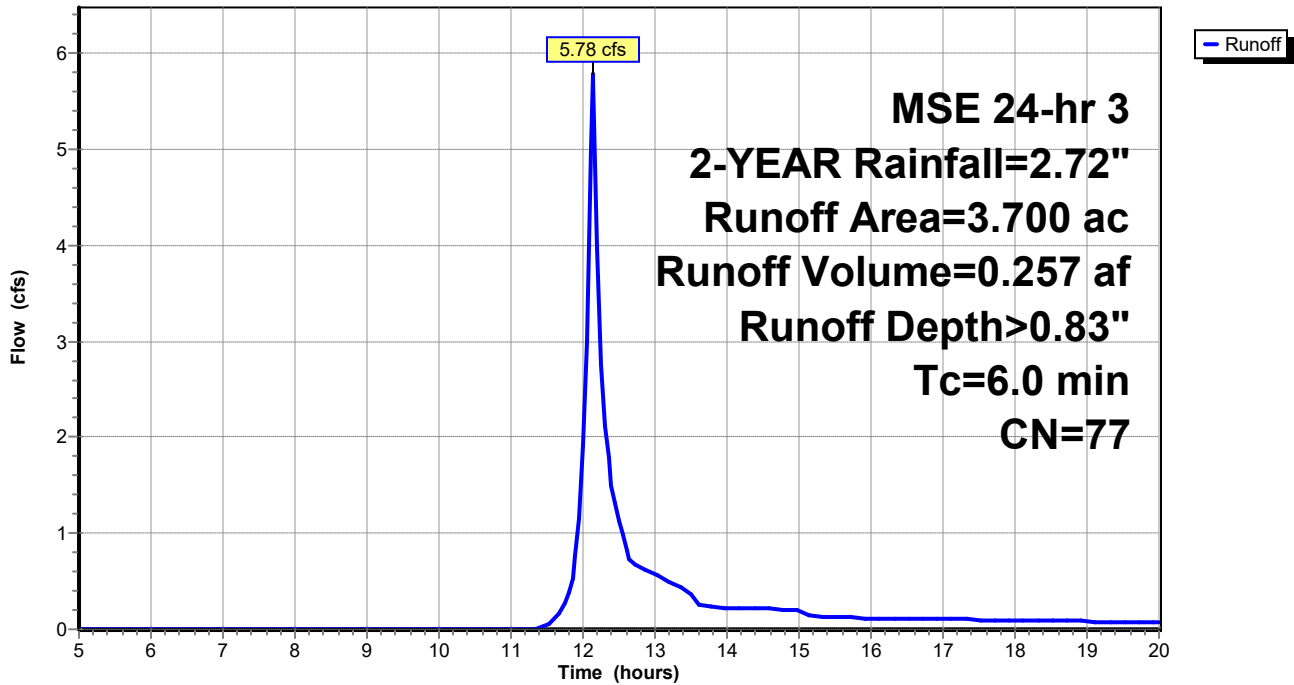
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 2-YEAR Rainfall=2.72"

Area (ac)	CN	Description
3.300	74	>75% Grass cover, Good, HSG C
* 0.400	98	ROOF
3.700	77	Weighted Average
3.300		89.19% Pervious Area
0.400		10.81% Impervious Area

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

Subcatchment UND: UNDETAINED AREA

Hydrograph



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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 18

Summary for Pond EP: EAST POND

Inflow Area = 72.500 ac, 16.97% Impervious, Inflow Depth > 1.01" for 2-YEAR event
 Inflow = 67.26 cfs @ 12.34 hrs, Volume= 6.131 af
 Outflow = 4.35 cfs @ 15.08 hrs, Volume= 2.633 af, Atten= 94%, Lag= 164.5 min
 Primary = 4.35 cfs @ 15.08 hrs, Volume= 2.633 af
 Routed to Link PROP : PROPOSED DISCHARGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 667.11' @ 15.08 hrs Surf.Area= 2.111 ac Storage= 4.234 af

Plug-Flow detention time= 234.5 min calculated for 2.625 af (43% of inflow)
 Center-of-Mass det. time= 162.9 min (968.0 - 805.1)

Volume	Invert	Avail.Storage	Storage Description
#1	665.00'	15.750 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
665.00	1.900	0.000	0.000
666.00	2.000	1.950	1.950
667.00	2.100	2.050	4.000
668.00	2.200	2.150	6.150
669.00	2.300	2.250	8.400
670.00	2.400	2.350	10.750
671.00	2.500	2.450	13.200
672.00	2.600	2.550	15.750

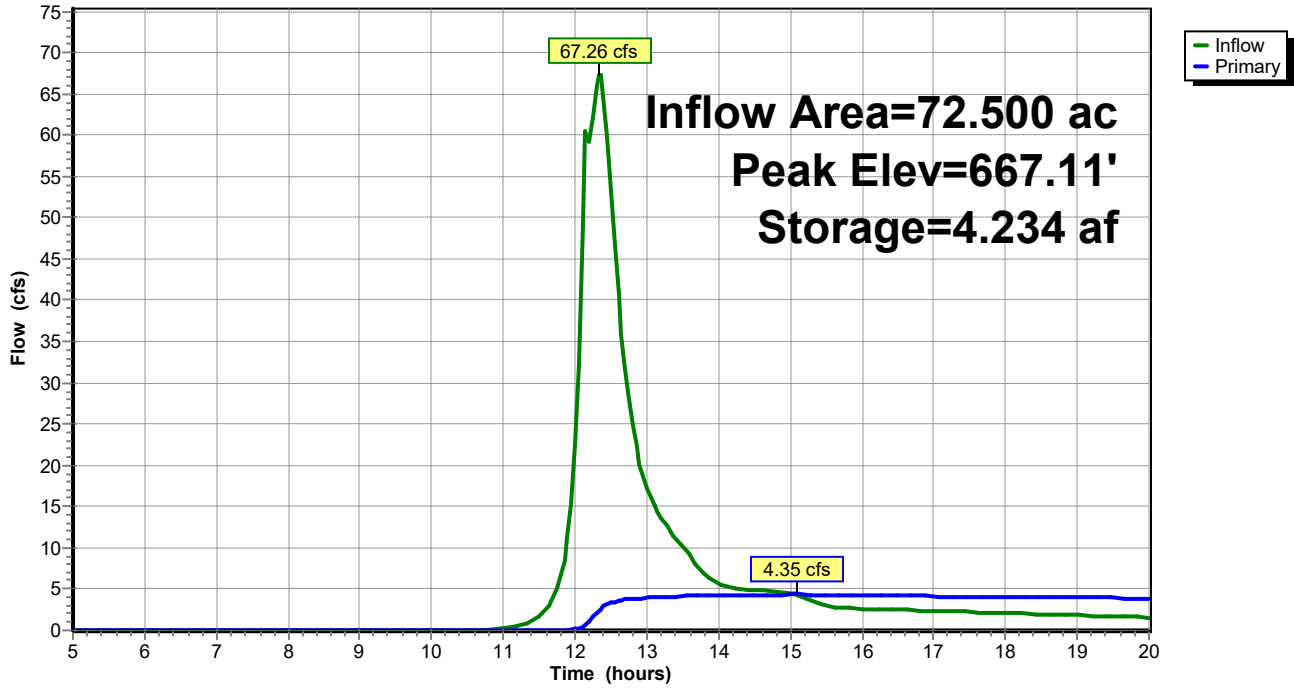
Device	Routing	Invert	Outlet Devices
#1	Primary	665.00'	12.0" Round Culvert L= 100.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 665.00' / 664.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	667.00'	36.0" Round Culvert L= 100.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 667.00' / 664.00' S= 0.0300 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=4.35 cfs @ 15.08 hrs HW=667.11' (Free Discharge)

- 1=Culvert (Barrel Controls 4.25 cfs @ 5.41 fps)
- 2=Culvert (Inlet Controls 0.10 cfs @ 1.13 fps)

Pond EP: EAST POND

Hydrograph



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MSE 24-hr 3 2-YEAR Rainfall=2.72"

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Page 20

Summary for Pond WP: WEST POND

Inflow Area = 14.000 ac, 27.86% Impervious, Inflow Depth > 1.05" for 2-YEAR event
 Inflow = 27.70 cfs @ 12.14 hrs, Volume= 1.223 af
 Outflow = 0.77 cfs @ 15.06 hrs, Volume= 0.468 af, Atten= 97%, Lag= 175.7 min
 Primary = 0.77 cfs @ 15.06 hrs, Volume= 0.468 af
 Routed to Link PROP : PROPOSED DISCHARGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 669.16' @ 15.06 hrs Surf.Area= 0.816 ac Storage= 0.877 af

Plug-Flow detention time= 244.3 min calculated for 0.466 af (38% of inflow)
 Center-of-Mass det. time= 172.8 min (966.3 - 793.5)

Volume	Invert	Avail.Storage	Storage Description
#1	668.00'	4.900 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
668.00	0.700	0.000	0.000
669.00	0.800	0.750	0.750
670.00	0.900	0.850	1.600
671.00	1.000	0.950	2.550
672.00	1.200	1.100	3.650
673.00	1.300	1.250	4.900

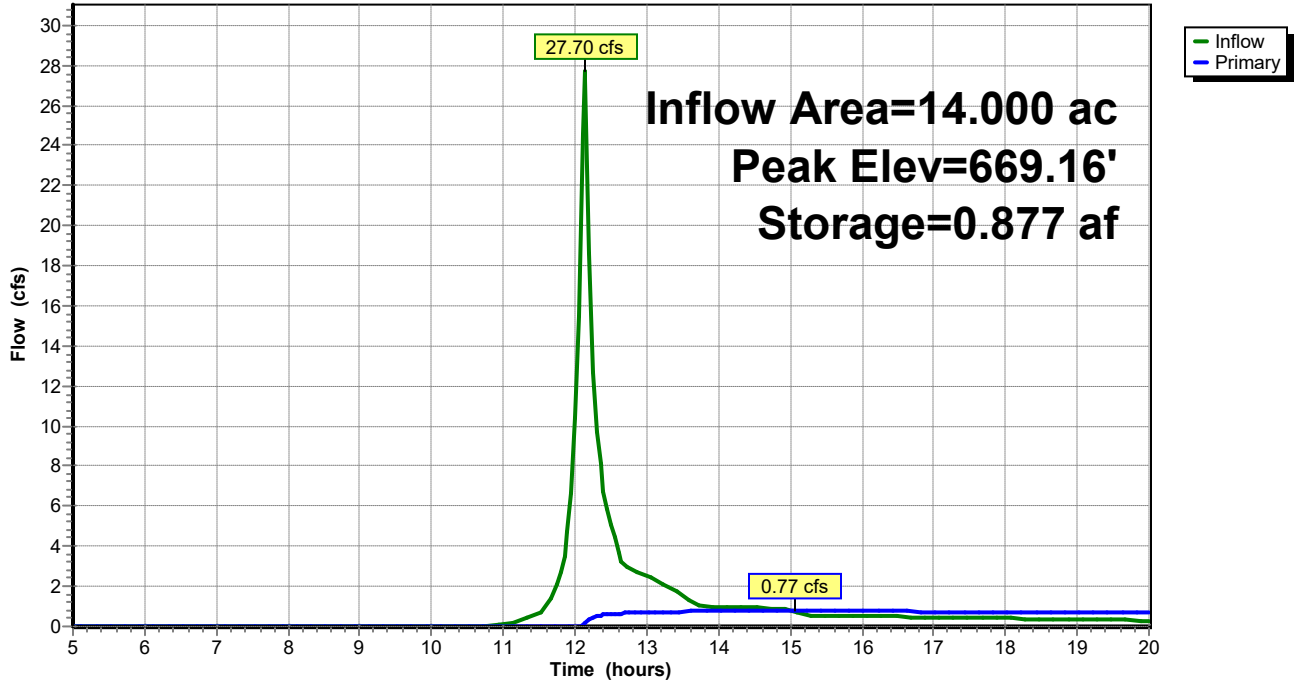
Device	Routing	Invert	Outlet Devices
#1	Primary	668.00'	12.0" Round Culvert L= 250.0' Ke= 0.500 Inlet / Outlet Invert= 668.00' / 660.00' S= 0.0320 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	668.25'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	671.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.77 cfs @ 15.06 hrs HW=669.16' (Free Discharge)

- ↑ **1=Culvert** (Passes 0.77 cfs of 3.07 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.77 cfs @ 3.90 fps)
- ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Pond WP: WEST POND

Hydrograph

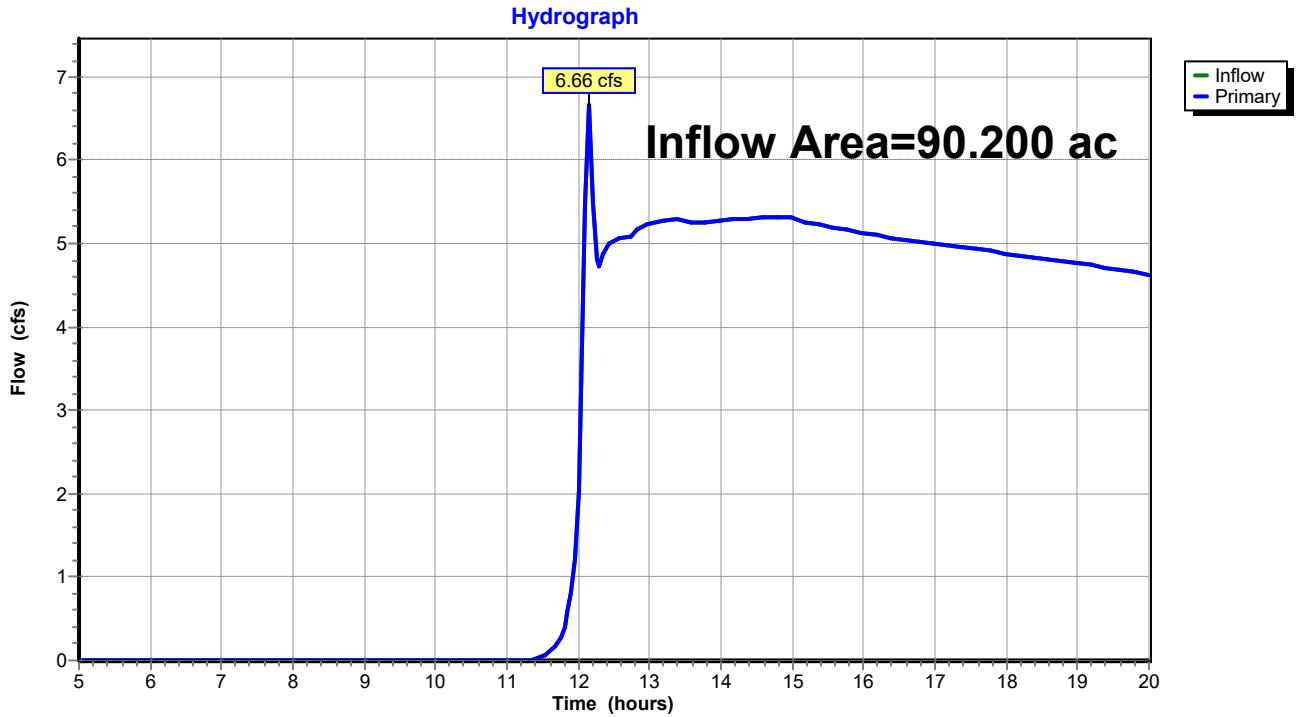


Summary for Link PROP: PROPOSED DISCHARGE

Inflow Area = 90.200 ac, 18.40% Impervious, Inflow Depth > 0.45" for 2-YEAR event
Inflow = 6.66 cfs @ 12.15 hrs, Volume= 3.358 af
Primary = 6.66 cfs @ 12.15 hrs, Volume= 3.358 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link PROP: PROPOSED DISCHARGE



1617 WILLOW CREEK

MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 23

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OFF: OFFSITE AREA Runoff Area=55.300 ac 12.12% Impervious Runoff Depth>1.81"
Flow Length=1,200' Tc=24.2 min CN=80 Runoff=106.16 cfs 8.337 af

Subcatchment PR-E: ONSITE EAST Runoff Area=17.200 ac 32.56% Impervious Runoff Depth>1.97"
Tc=6.0 min CN=82 Runoff=63.22 cfs 2.826 af

Subcatchment PR-W: ONSITE WEST Runoff Area=14.000 ac 27.86% Impervious Runoff Depth>1.89"
Tc=6.0 min CN=81 Runoff=49.60 cfs 2.210 af

Subcatchment UND: UNDETAINED AREA Runoff Area=3.700 ac 10.81% Impervious Runoff Depth>1.60"
Tc=6.0 min CN=77 Runoff=11.17 cfs 0.494 af

Pond EP: EAST POND Peak Elev=668.38' Storage=7.000 af Inflow=123.89 cfs 11.163 af
Outflow=18.13 cfs 6.547 af

Pond WP: WEST POND Peak Elev=670.06' Storage=1.652 af Inflow=49.60 cfs 2.210 af
Outflow=1.18 cfs 0.746 af

Link PROP: PROPOSED DISCHARGE Inflow=19.99 cfs 7.787 af
Primary=19.99 cfs 7.787 af

Total Runoff Area = 90.200 ac Runoff Volume = 13.867 af Average Runoff Depth = 1.84"
81.60% Pervious = 73.600 ac 18.40% Impervious = 16.600 ac

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MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 24

Summary for Subcatchment OFF: OFFSITE AREA

Runoff = 106.16 cfs @ 12.36 hrs, Volume= 8.337 af, Depth> 1.81"
 Routed to Pond EP : EAST POND

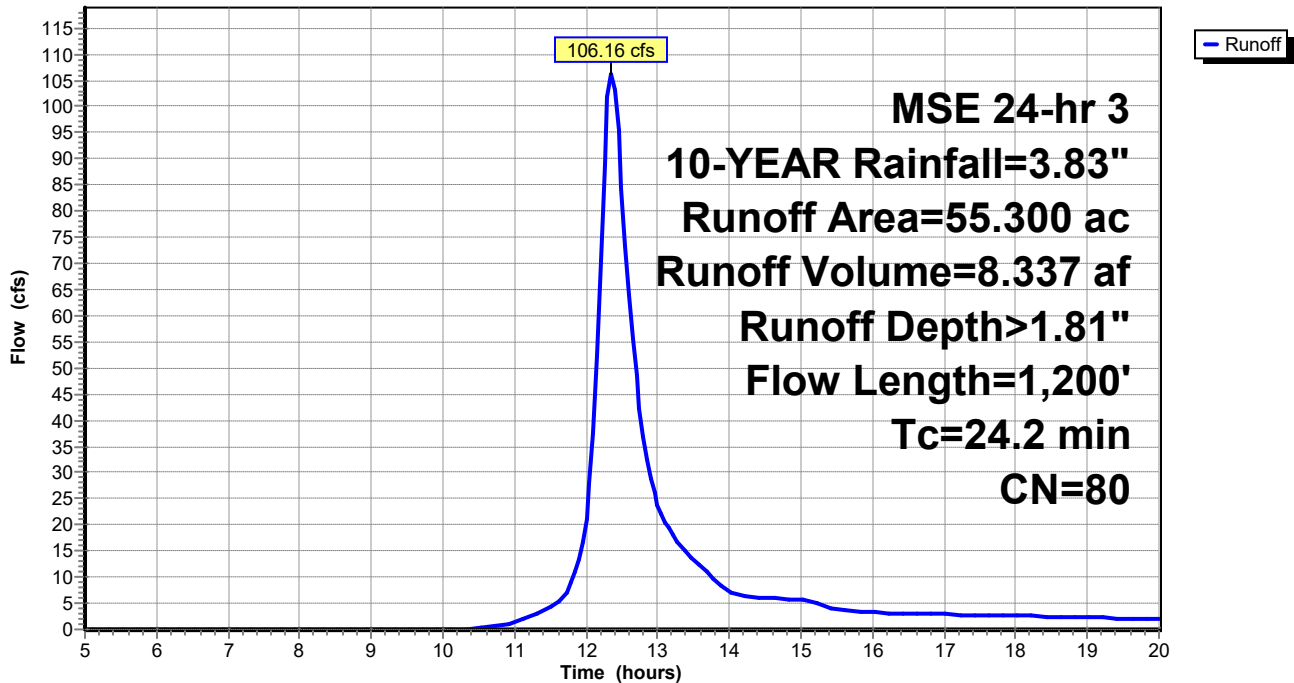
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 10-YEAR Rainfall=3.83"

Area (ac)	CN	Description
* 48.600	78	PER VILLAGE CODE
* 6.700	98	EX ROAD
55.300	80	Weighted Average
48.600		87.88% Pervious Area
6.700		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	300	0.0330	0.27		Sheet Flow, sheet Range n= 0.130 P2= 2.72"
5.5	900	0.0333	2.74		Shallow Concentrated Flow, SHALLOW Grassed Waterway Kv= 15.0 fps
24.2	1,200	Total			

Subcatchment OFF: OFFSITE AREA

Hydrograph



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MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 25

Summary for Subcatchment PR-E: ONSITE EAST

Runoff = 63.22 cfs @ 12.13 hrs, Volume= 2.826 af, Depth> 1.97"
 Routed to Pond EP : EAST POND

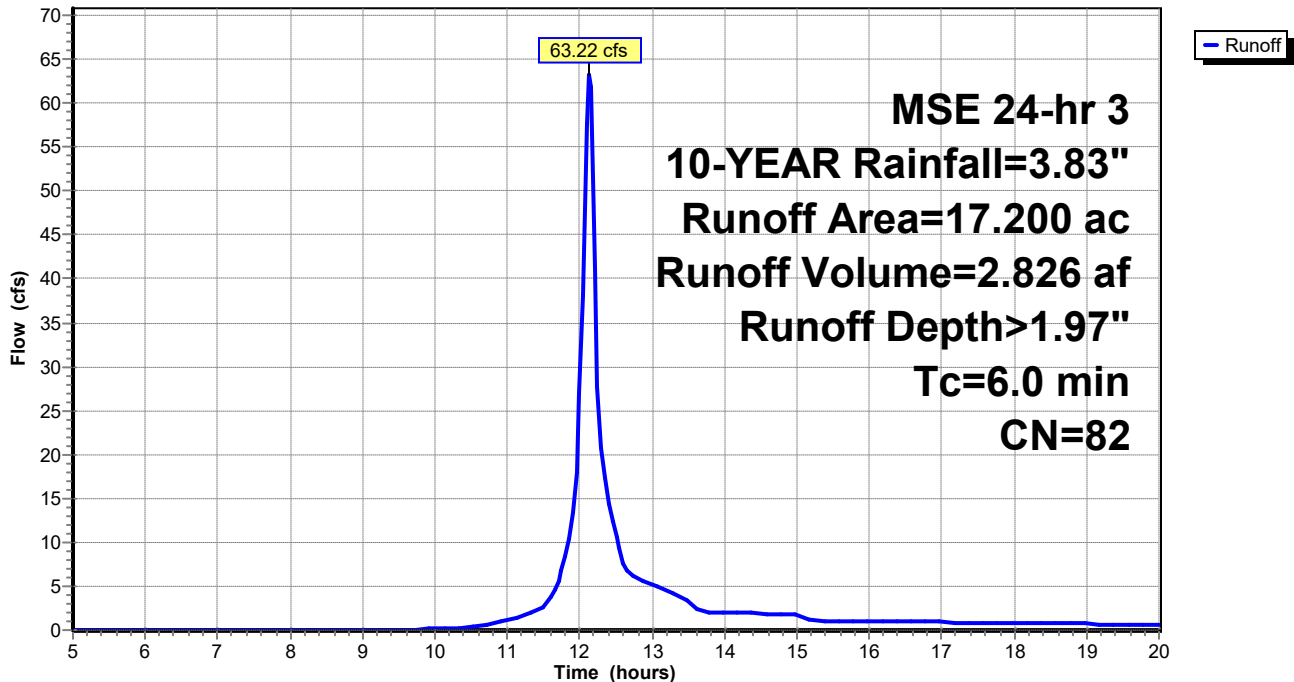
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 10-YEAR Rainfall=3.83"

Area (ac)	CN	Description
* 11.600	74	GRASS
* 2.800	98	PAVEMENT
* 0.900	98	DRIVEWAY
* 1.900	98	ROOF
17.200	82	Weighted Average
11.600		67.44% Pervious Area
5.600		32.56% Impervious Area

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

Subcatchment PR-E: ONSITE EAST

Hydrograph



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MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 26

Summary for Subcatchment PR-W: ONSITE WEST

Runoff = 49.60 cfs @ 12.13 hrs, Volume= 2.210 af, Depth> 1.89"
 Routed to Pond WP : WEST POND

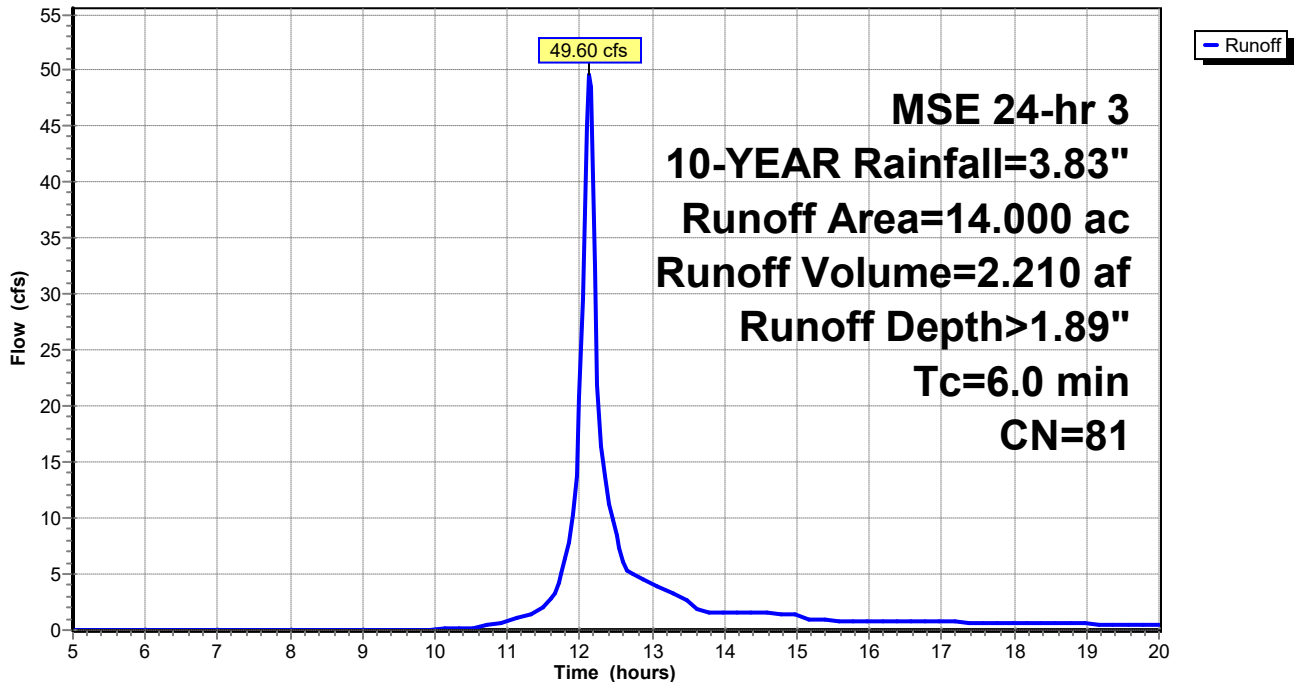
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 10-YEAR Rainfall=3.83"

Area (ac)	CN	Description
10.100	74	>75% Grass cover, Good, HSG C
* 1.500	98	PAVEMENT
* 0.700	98	DRIVEWAY
* 1.700	98	ROOF
14.000	81	Weighted Average
10.100		72.14% Pervious Area
3.900		27.86% Impervious Area

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

Subcatchment PR-W: ONSITE WEST

Hydrograph



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MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 27

Summary for Subcatchment UND: UNDETAINED AREA

Runoff = 11.17 cfs @ 12.14 hrs, Volume= 0.494 af, Depth> 1.60"
 Routed to Link PROP : PROPOSED DISCHARGE

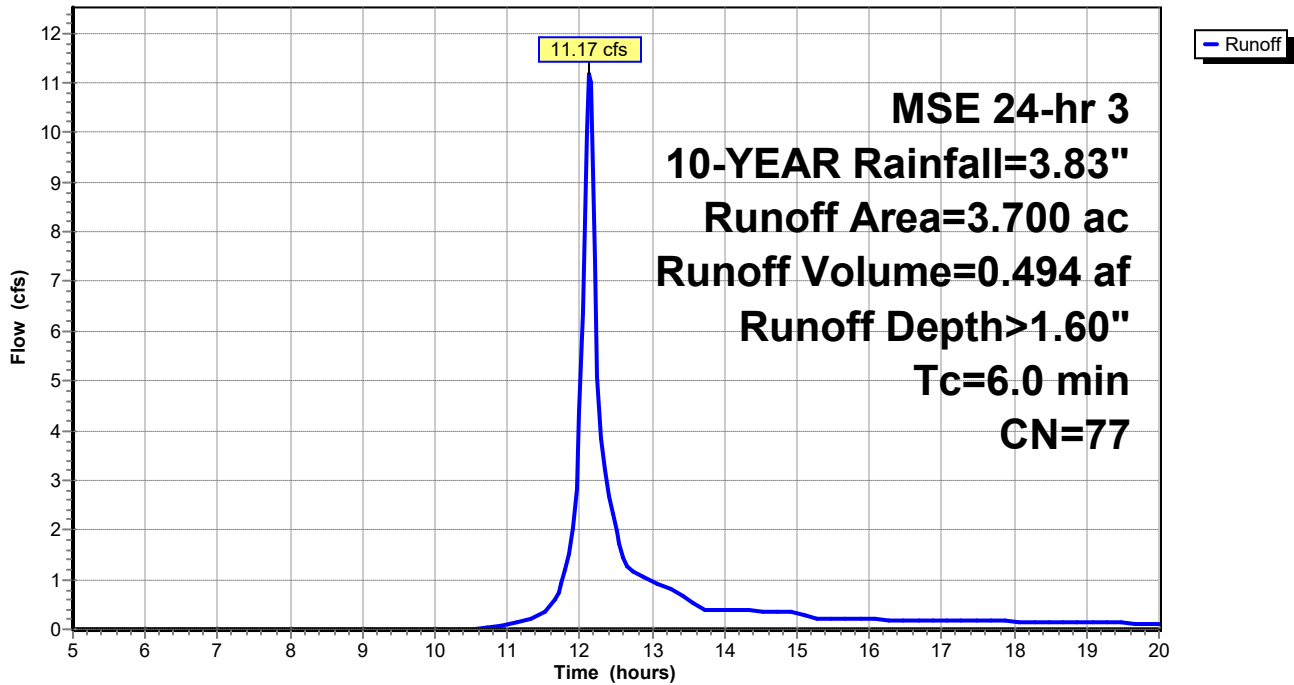
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 10-YEAR Rainfall=3.83"

Area (ac)	CN	Description
3.300	74	>75% Grass cover, Good, HSG C
* 0.400	98	ROOF
3.700	77	Weighted Average
3.300		89.19% Pervious Area
0.400		10.81% Impervious Area

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

Subcatchment UND: UNDETAINED AREA

Hydrograph



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MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 28

Summary for Pond EP: EAST POND

Inflow Area = 72.500 ac, 16.97% Impervious, Inflow Depth > 1.85" for 10-YEAR event
 Inflow = 123.89 cfs @ 12.33 hrs, Volume= 11.163 af
 Outflow = 18.13 cfs @ 13.42 hrs, Volume= 6.547 af, Atten= 85%, Lag= 65.3 min
 Primary = 18.13 cfs @ 13.42 hrs, Volume= 6.547 af
 Routed to Link PROP : PROPOSED DISCHARGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 668.38' @ 13.42 hrs Surf.Area= 2.238 ac Storage= 7.000 af

Plug-Flow detention time= 186.7 min calculated for 6.526 af (58% of inflow)
 Center-of-Mass det. time= 126.0 min (921.6 - 795.6)

Volume	Invert	Avail.Storage	Storage Description
#1	665.00'	15.750 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
665.00	1.900	0.000	0.000
666.00	2.000	1.950	1.950
667.00	2.100	2.050	4.000
668.00	2.200	2.150	6.150
669.00	2.300	2.250	8.400
670.00	2.400	2.350	10.750
671.00	2.500	2.450	13.200
672.00	2.600	2.550	15.750

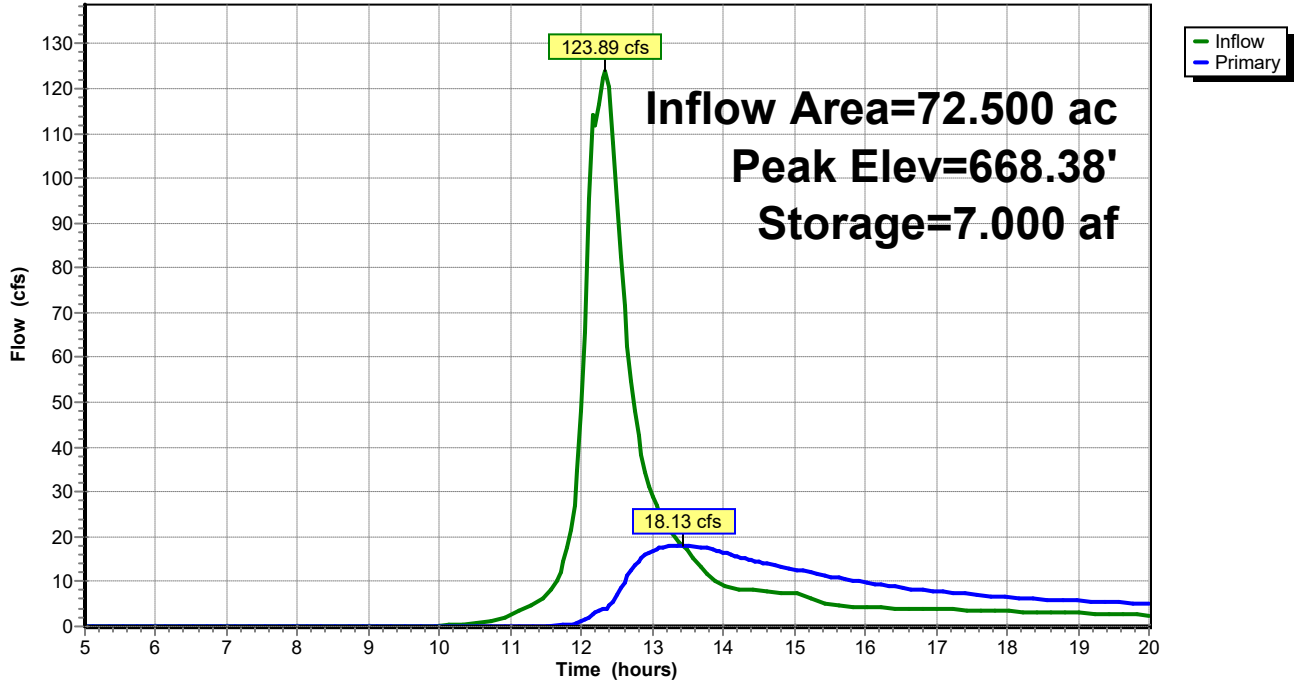
Device	Routing	Invert	Outlet Devices
#1	Primary	665.00'	12.0" Round Culvert L= 100.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 665.00' / 664.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	667.00'	36.0" Round Culvert L= 100.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 667.00' / 664.00' S= 0.0300 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=18.13 cfs @ 13.42 hrs HW=668.38' (Free Discharge)

- 1=Culvert (Barrel Controls 5.38 cfs @ 6.85 fps)
- 2=Culvert (Inlet Controls 12.74 cfs @ 4.00 fps)

Pond EP: EAST POND

Hydrograph



1617 WILLOW CREEK

MSE 24-hr 3 10-YEAR Rainfall=3.83"

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Page 30

Summary for Pond WP: WEST POND

Inflow Area = 14.000 ac, 27.86% Impervious, Inflow Depth > 1.89" for 10-YEAR event
 Inflow = 49.60 cfs @ 12.13 hrs, Volume= 2.210 af
 Outflow = 1.18 cfs @ 15.08 hrs, Volume= 0.746 af, Atten= 98%, Lag= 176.7 min
 Primary = 1.18 cfs @ 15.08 hrs, Volume= 0.746 af
 Routed to Link PROP : PROPOSED DISCHARGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 670.06' @ 15.08 hrs Surf.Area= 0.906 ac Storage= 1.652 af

Plug-Flow detention time= 250.4 min calculated for 0.743 af (34% of inflow)
 Center-of-Mass det. time= 180.6 min (964.3 - 783.8)

Volume	Invert	Avail.Storage	Storage Description
#1	668.00'	4.900 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
668.00	0.700	0.000	0.000
669.00	0.800	0.750	0.750
670.00	0.900	0.850	1.600
671.00	1.000	0.950	2.550
672.00	1.200	1.100	3.650
673.00	1.300	1.250	4.900

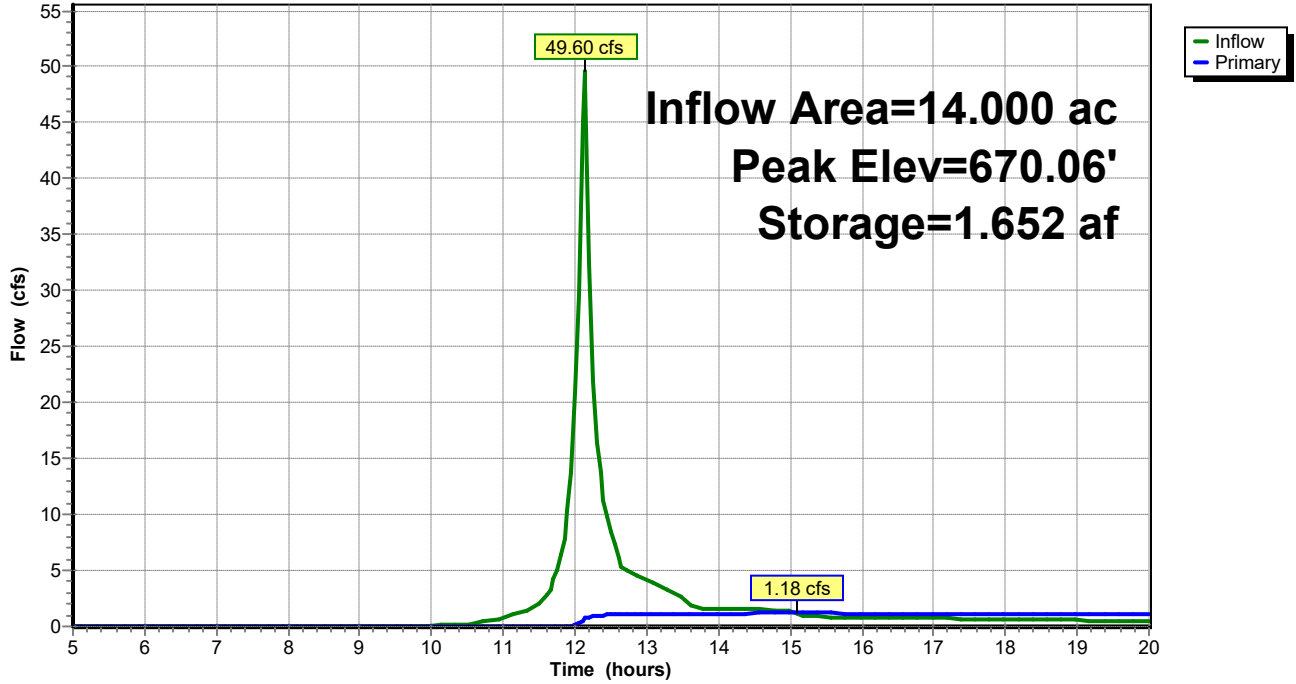
Device	Routing	Invert	Outlet Devices
#1	Primary	668.00'	12.0" Round Culvert L= 250.0' Ke= 0.500 Inlet / Outlet Invert= 668.00' / 660.00' S= 0.0320 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	668.25'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	671.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.18 cfs @ 15.08 hrs HW=670.06' (Free Discharge)

- ↑ **1=Culvert** (Passes 1.18 cfs of 4.72 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 1.18 cfs @ 6.01 fps)
- ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Pond WP: WEST POND

Hydrograph

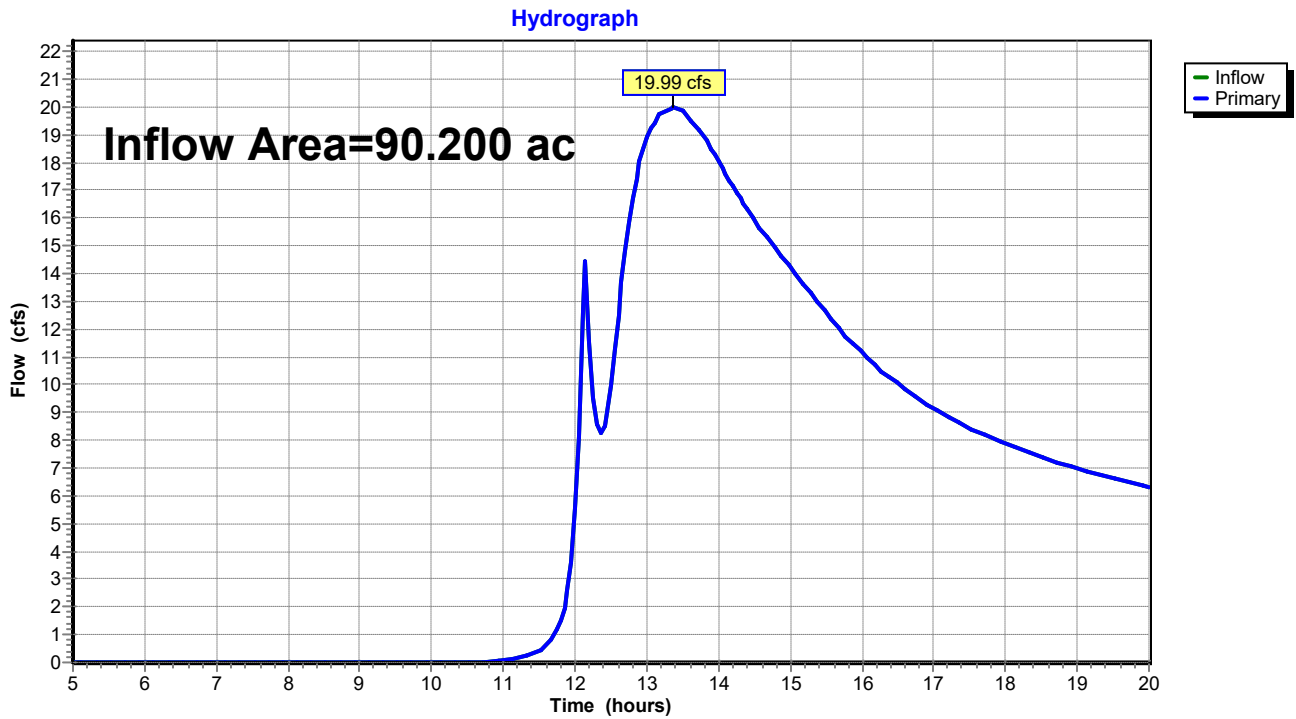


Summary for Link PROP: PROPOSED DISCHARGE

Inflow Area = 90.200 ac, 18.40% Impervious, Inflow Depth > 1.04" for 10-YEAR event
Inflow = 19.99 cfs @ 13.36 hrs, Volume= 7.787 af
Primary = 19.99 cfs @ 13.36 hrs, Volume= 7.787 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link PROP: PROPOSED DISCHARGE



1617 WILLOW CREEK

MSE 24-hr 3 100-YEAR Rainfall=5.95"

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Page 33

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment OFF: OFFSITE AREA Runoff Area=55.300 ac 12.12% Impervious Runoff Depth>3.58"
Flow Length=1,200' Tc=24.2 min CN=80 Runoff=208.44 cfs 16.481 af

Subcatchment PR-E: ONSITE EAST Runoff Area=17.200 ac 32.56% Impervious Runoff Depth>3.79"
Tc=6.0 min CN=82 Runoff=118.11 cfs 5.439 af

Subcatchment PR-W: ONSITE WEST Runoff Area=14.000 ac 27.86% Impervious Runoff Depth>3.69"
Tc=6.0 min CN=81 Runoff=94.04 cfs 4.309 af

Subcatchment UND: UNDETAINED AREA Runoff Area=3.700 ac 10.81% Impervious Runoff Depth>3.30"
Tc=6.0 min CN=77 Runoff=22.56 cfs 1.017 af

Pond EP: EAST POND Peak Elev=670.66' Storage=12.359 af Inflow=240.78 cfs 21.920 af
Outflow=57.00 cfs 16.630 af

Pond WP: WEST POND Peak Elev=671.38' Storage=2.939 af Inflow=94.04 cfs 4.309 af
Outflow=6.15 cfs 1.837 af

Link PROP: PROPOSED DISCHARGE Inflow=64.85 cfs 19.483 af
Primary=64.85 cfs 19.483 af

Total Runoff Area = 90.200 ac Runoff Volume = 27.246 af Average Runoff Depth = 3.62"
81.60% Pervious = 73.600 ac 18.40% Impervious = 16.600 ac

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MSE 24-hr 3 100-YEAR Rainfall=5.95"

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Page 34

Summary for Subcatchment OFF: OFFSITE AREA

Runoff = 208.44 cfs @ 12.35 hrs, Volume= 16.481 af, Depth> 3.58"
 Routed to Pond EP : EAST POND

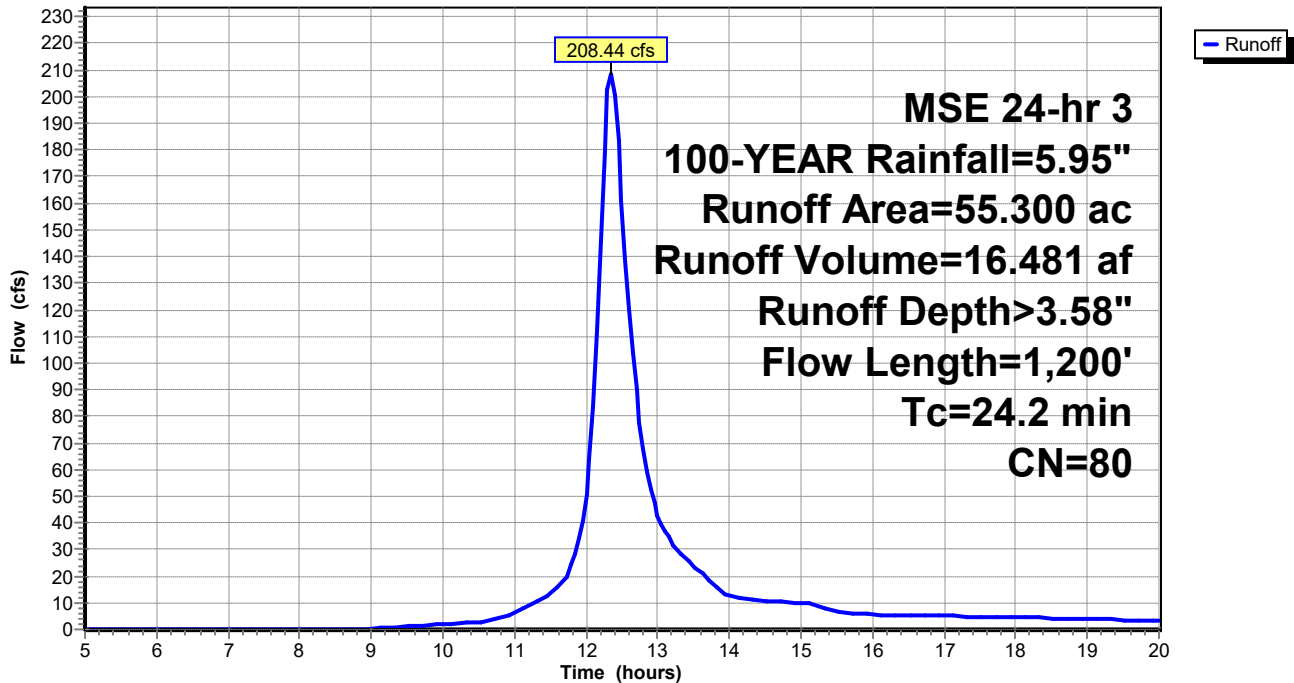
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-YEAR Rainfall=5.95"

Area (ac)	CN	Description
* 48.600	78	PER VILLAGE CODE
* 6.700	98	EX ROAD
55.300	80	Weighted Average
48.600		87.88% Pervious Area
6.700		12.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.7	300	0.0330	0.27		Sheet Flow, sheet Range n= 0.130 P2= 2.72"
5.5	900	0.0333	2.74		Shallow Concentrated Flow, SHALLOW Grassed Waterway Kv= 15.0 fps
24.2	1,200	Total			

Subcatchment OFF: OFFSITE AREA

Hydrograph



Summary for Subcatchment PR-E: ONSITE EAST

Runoff = 118.11 cfs @ 12.13 hrs, Volume= 5.439 af, Depth> 3.79"
 Routed to Pond EP : EAST POND

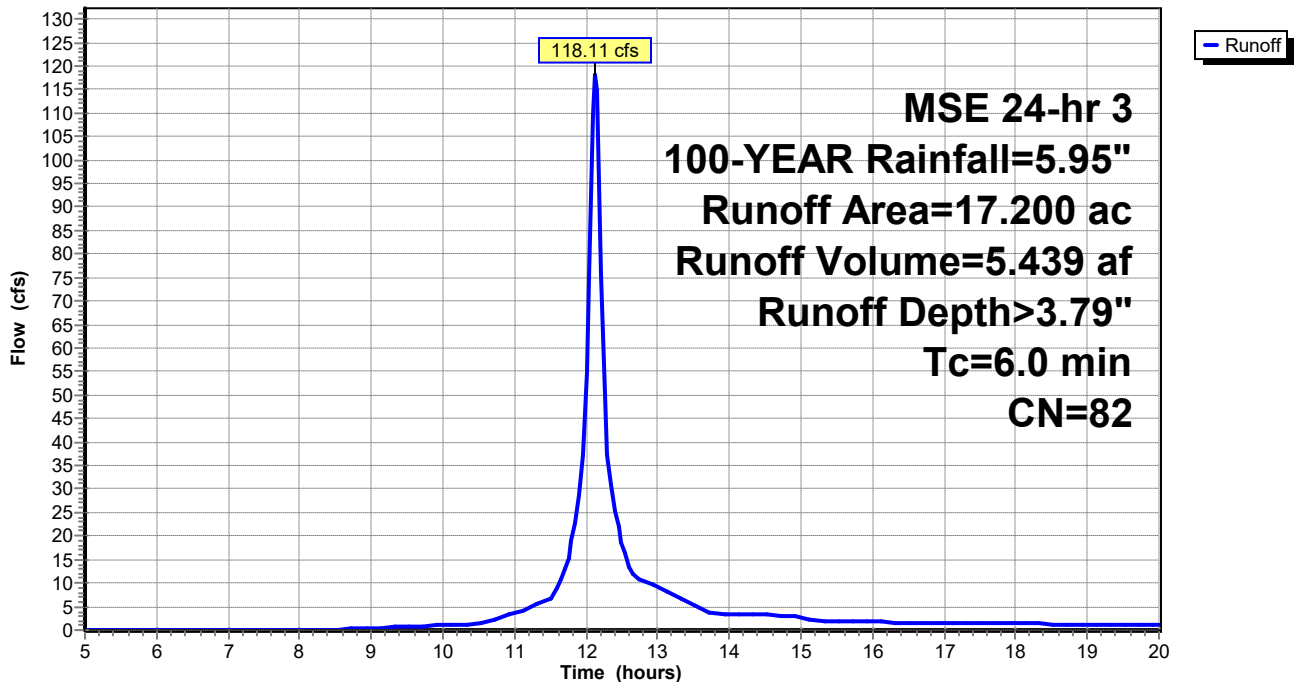
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-YEAR Rainfall=5.95"

Area (ac)	CN	Description
* 11.600	74	GRASS
* 2.800	98	PAVEMENT
* 0.900	98	DRIVEWAY
* 1.900	98	ROOF
17.200	82	Weighted Average
11.600		67.44% Pervious Area
5.600		32.56% Impervious Area

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

Subcatchment PR-E: ONSITE EAST

Hydrograph



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MSE 24-hr 3 100-YEAR Rainfall=5.95"

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Page 36

Summary for Subcatchment PR-W: ONSITE WEST

Runoff = 94.04 cfs @ 12.13 hrs, Volume= 4.309 af, Depth> 3.69"
 Routed to Pond WP : WEST POND

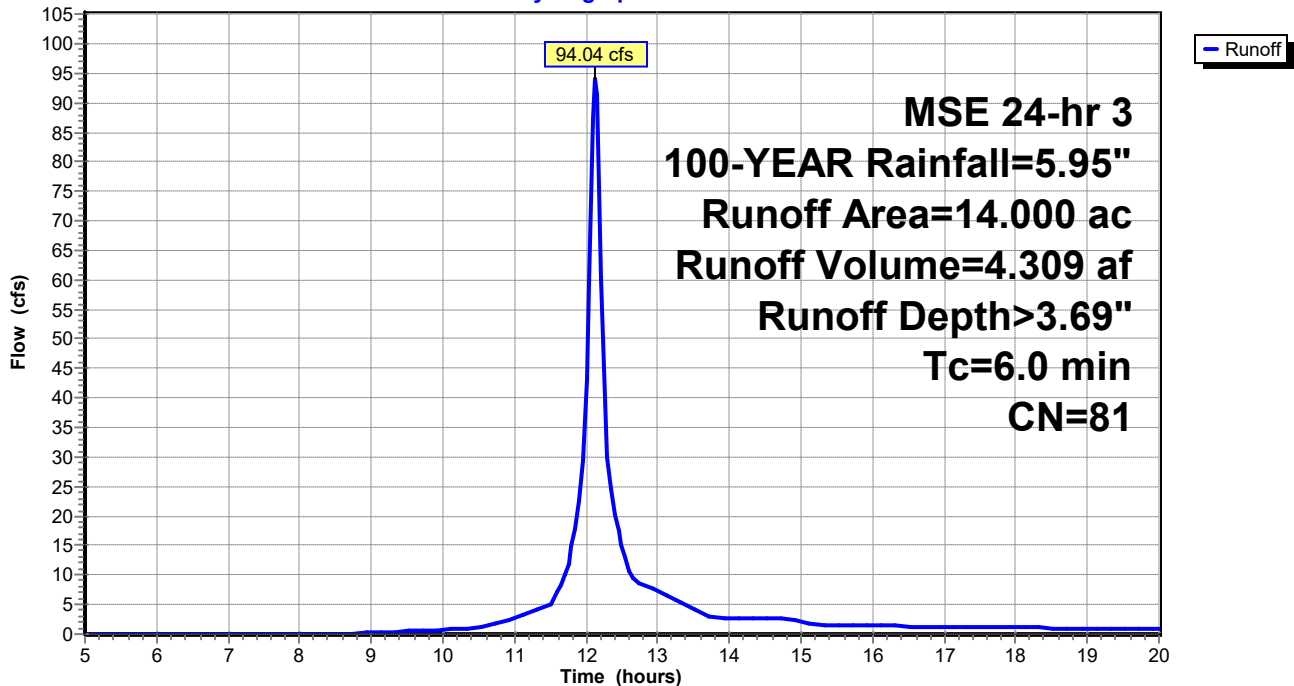
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-YEAR Rainfall=5.95"

Area (ac)	CN	Description
10.100	74	>75% Grass cover, Good, HSG C
* 1.500	98	PAVEMENT
* 0.700	98	DRIVEWAY
* 1.700	98	ROOF
14.000	81	Weighted Average
10.100		72.14% Pervious Area
3.900		27.86% Impervious Area

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

Subcatchment PR-W: ONSITE WEST

Hydrograph



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MSE 24-hr 3 100-YEAR Rainfall=5.95"

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Page 37

Summary for Subcatchment UND: UNDETAINED AREA

Runoff = 22.56 cfs @ 12.13 hrs, Volume= 1.017 af, Depth> 3.30"
 Routed to Link PROP : PROPOSED DISCHARGE

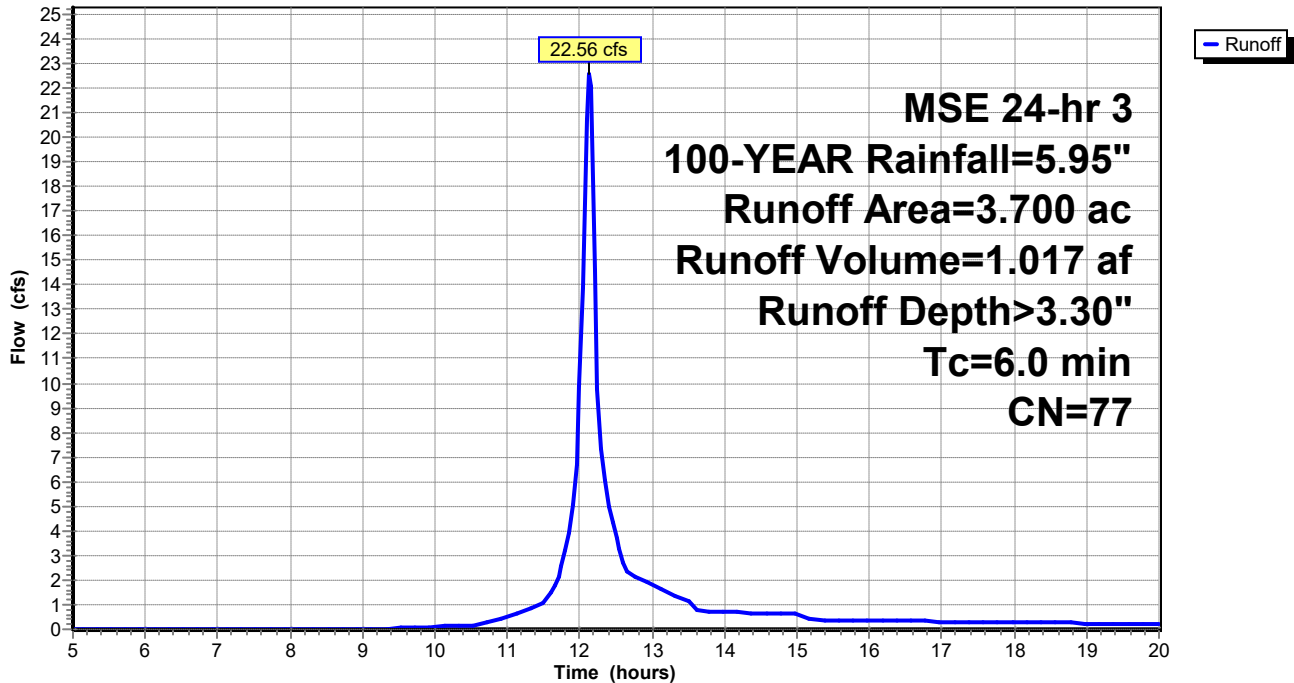
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 MSE 24-hr 3 100-YEAR Rainfall=5.95"

Area (ac)	CN	Description
3.300	74	>75% Grass cover, Good, HSG C
* 0.400	98	ROOF
3.700	77	Weighted Average
3.300		89.19% Pervious Area
0.400		10.81% Impervious Area

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

Subcatchment UND: UNDETAINED AREA

Hydrograph



1617 WILLOW CREEK

MSE 24-hr 3 100-YEAR Rainfall=5.95"

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Page 38

Summary for Pond EP: EAST POND

Inflow Area = 72.500 ac, 16.97% Impervious, Inflow Depth > 3.63" for 100-YEAR event
 Inflow = 240.78 cfs @ 12.32 hrs, Volume= 21.920 af
 Outflow = 57.00 cfs @ 12.95 hrs, Volume= 16.630 af, Atten= 76%, Lag= 37.6 min
 Primary = 57.00 cfs @ 12.95 hrs, Volume= 16.630 af
 Routed to Link PROP : PROPOSED DISCHARGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 670.66' @ 12.95 hrs Surf.Area= 2.466 ac Storage= 12.359 af

Plug-Flow detention time= 145.5 min calculated for 16.574 af (76% of inflow)
 Center-of-Mass det. time= 98.2 min (882.9 - 784.7)

Volume	Invert	Avail.Storage	Storage Description
#1	665.00'	15.750 af	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
665.00	1.900	0.000	0.000
666.00	2.000	1.950	1.950
667.00	2.100	2.050	4.000
668.00	2.200	2.150	6.150
669.00	2.300	2.250	8.400
670.00	2.400	2.350	10.750
671.00	2.500	2.450	13.200
672.00	2.600	2.550	15.750

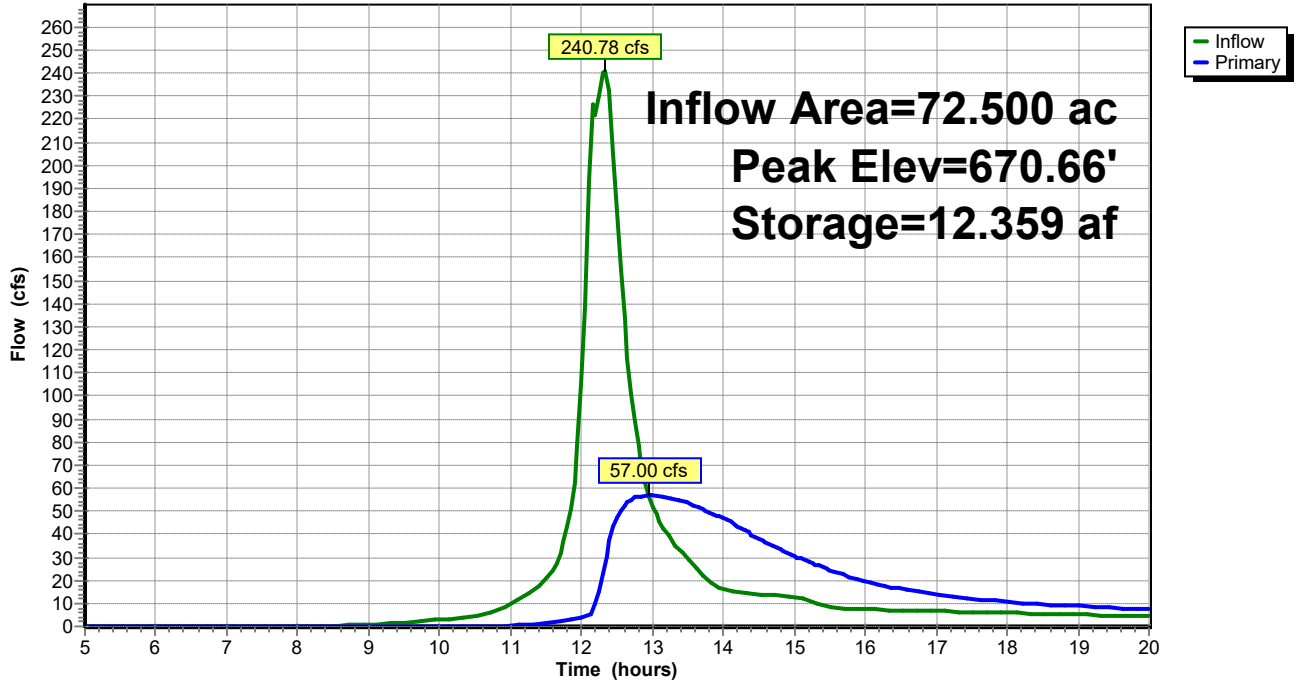
Device	Routing	Invert	Outlet Devices
#1	Primary	665.00'	12.0" Round Culvert L= 100.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 665.00' / 664.00' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Primary	667.00'	36.0" Round Culvert L= 100.0' RCP, end-section conforming to fill, Ke= 0.500 Inlet / Outlet Invert= 667.00' / 664.00' S= 0.0300 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=57.00 cfs @ 12.95 hrs HW=670.66' (Free Discharge)

- 1=Culvert (Barrel Controls 6.96 cfs @ 8.86 fps)
- 2=Culvert (Inlet Controls 50.03 cfs @ 7.08 fps)

Pond EP: EAST POND

Hydrograph



1617 WILLOW CREEK

MSE 24-hr 3 100-YEAR Rainfall=5.95"

Prepared by Pinnacle Engineering Group

Printed 3/26/2025

HydroCAD® 10.20-6a s/n 07894 © 2024 HydroCAD Software Solutions LLC

Page 40

Summary for Pond WP: WEST POND

Inflow Area = 14.000 ac, 27.86% Impervious, Inflow Depth > 3.69" for 100-YEAR event
 Inflow = 94.04 cfs @ 12.13 hrs, Volume= 4.309 af
 Outflow = 6.15 cfs @ 13.20 hrs, Volume= 1.837 af, Atten= 93%, Lag= 64.4 min
 Primary = 6.15 cfs @ 13.20 hrs, Volume= 1.837 af
 Routed to Link PROP : PROPOSED DISCHARGE

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 671.38' @ 13.20 hrs Surf.Area= 1.075 ac Storage= 2.939 af

Plug-Flow detention time= 195.0 min calculated for 1.831 af (42% of inflow)
 Center-of-Mass det. time= 130.1 min (902.8 - 772.7)

Volume	Invert	Avail.Storage	Storage Description
#1	668.00'	4.900 af	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
668.00	0.700	0.000	0.000
669.00	0.800	0.750	0.750
670.00	0.900	0.850	1.600
671.00	1.000	0.950	2.550
672.00	1.200	1.100	3.650
673.00	1.300	1.250	4.900

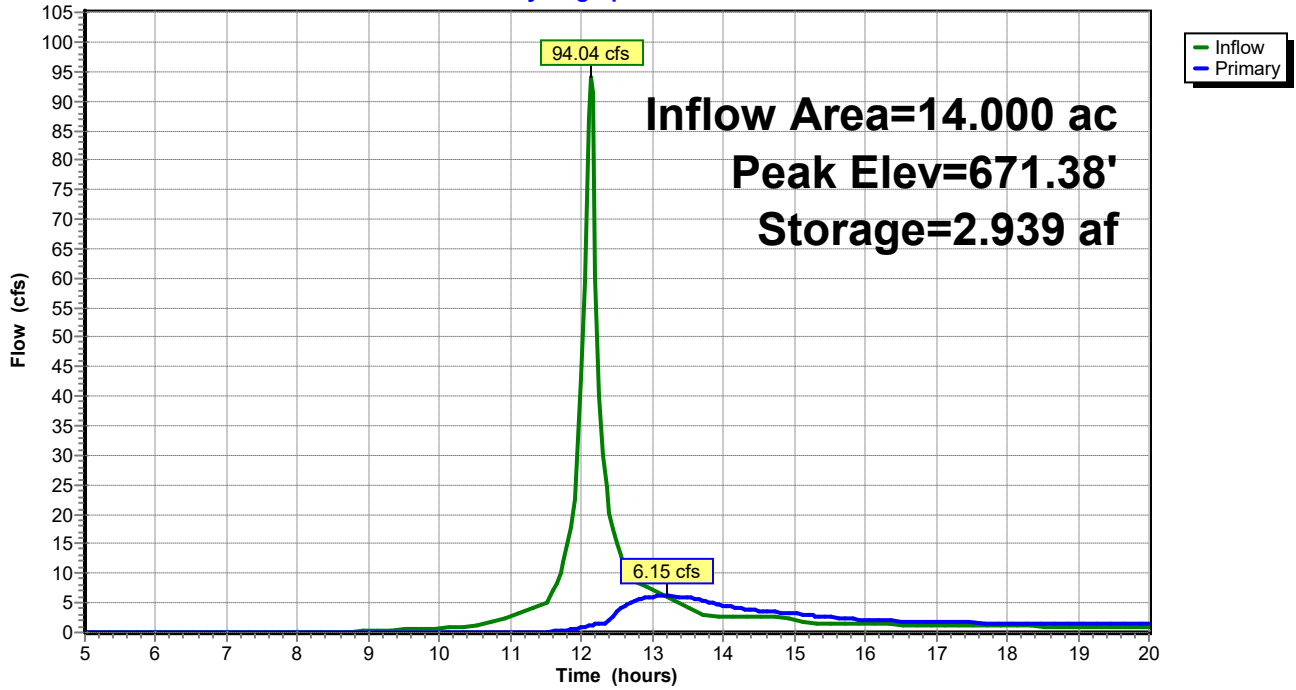
Device	Routing	Invert	Outlet Devices
#1	Primary	668.00'	12.0" Round Culvert L= 250.0' Ke= 0.500 Inlet / Outlet Invert= 668.00' / 660.00' S= 0.0320 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	668.25'	6.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	671.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.32 cfs @ 13.20 hrs HW=671.38' (Free Discharge)

- ↑ **1=Culvert** (Passes 6.32 cfs of 6.41 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 1.60 cfs @ 8.16 fps)
- ↑ **3=Orifice/Grate** (Weir Controls 4.72 cfs @ 2.00 fps)

Pond WP: WEST POND

Hydrograph

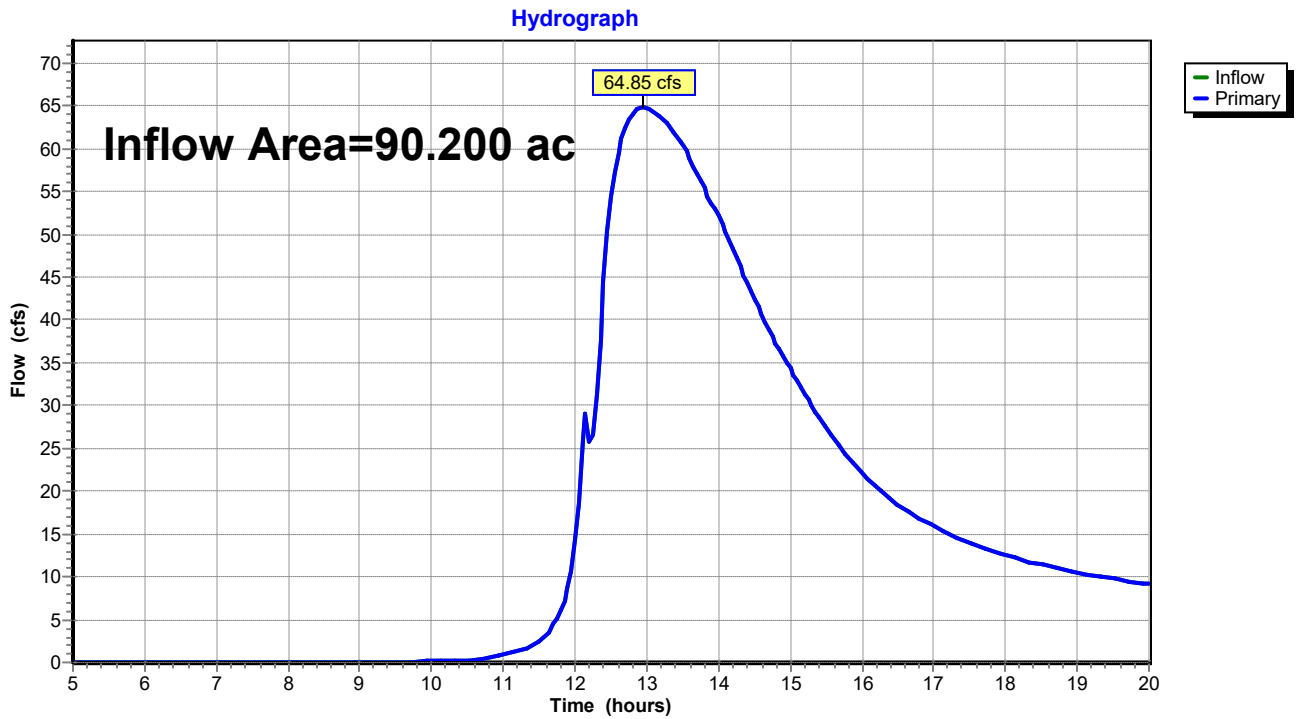


Summary for Link PROP: PROPOSED DISCHARGE

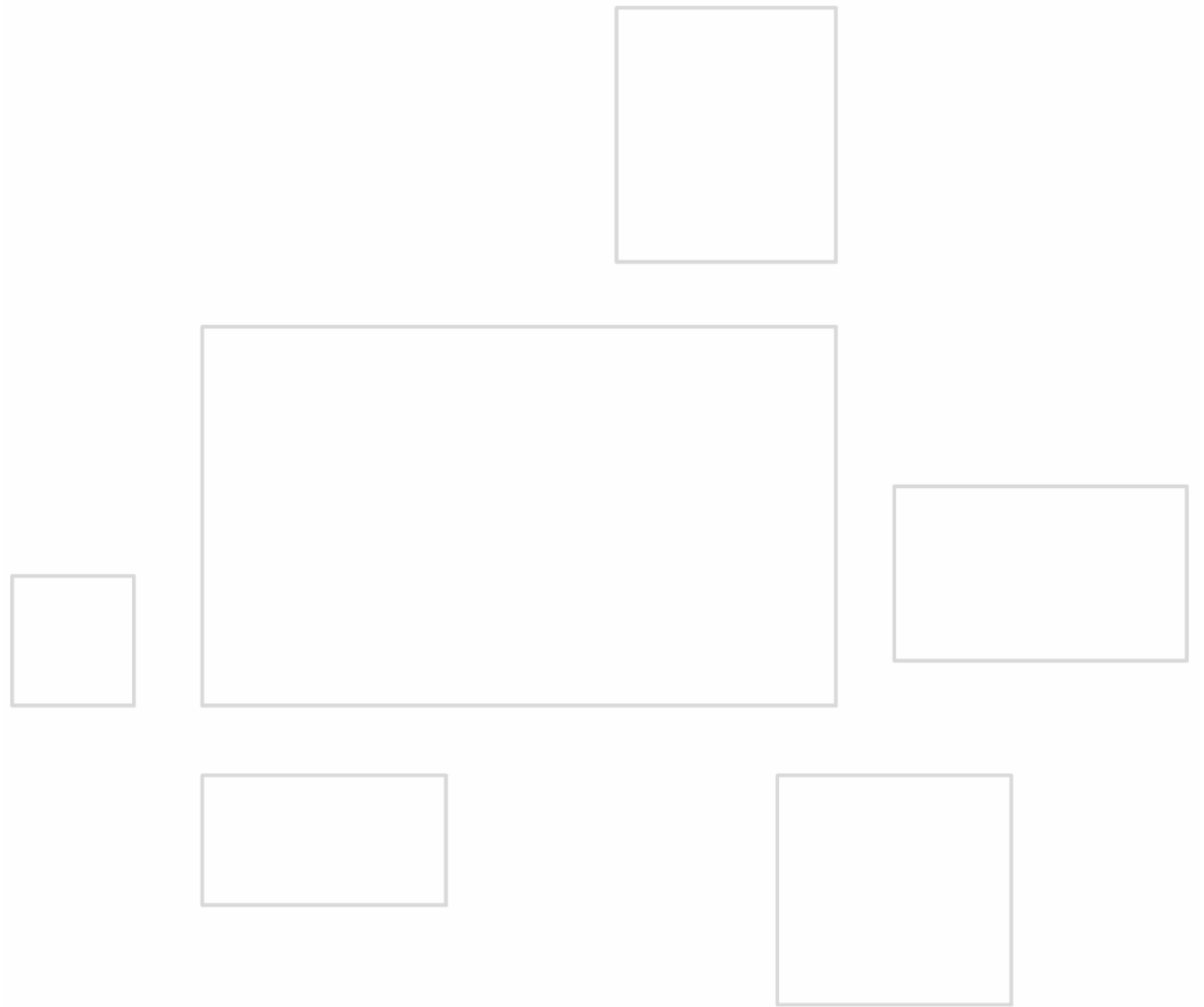
Inflow Area = 90.200 ac, 18.40% Impervious, Inflow Depth > 2.59" for 100-YEAR event
Inflow = 64.85 cfs @ 12.95 hrs, Volume= 19.483 af
Primary = 64.85 cfs @ 12.95 hrs, Volume= 19.483 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

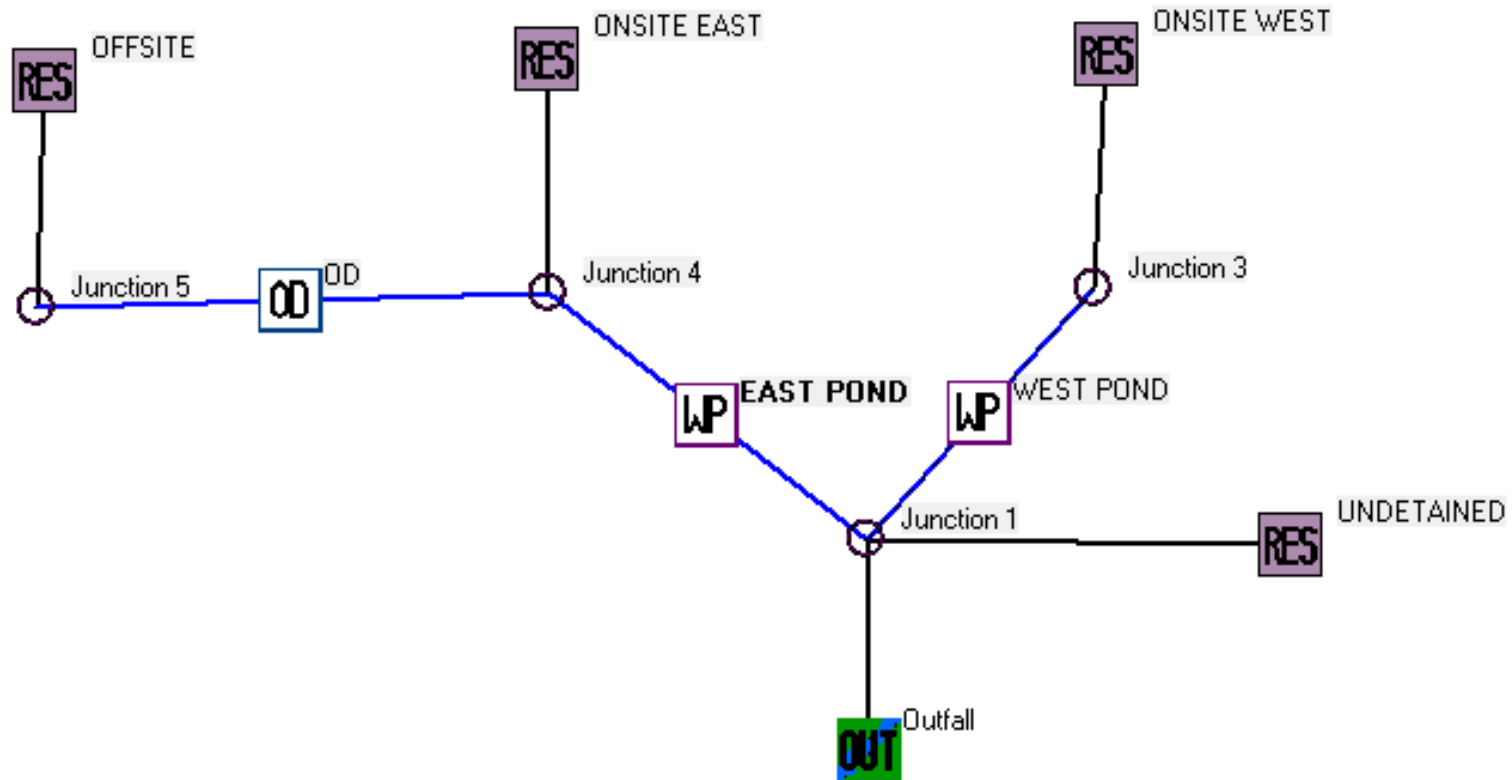
Link PROP: PROPOSED DISCHARGE



APPENDIX 4 POST DEVELOPMENT CONDITIONS WATER QUALITY



WinSLAMM Post-Development Water Quality Model



Data file name: Z:\Projects\2019\1617.00-WIDESIGN\SWMP\SLAMM\1617 WILLOW CREEK.mdb

WinSLAMM Version 10.4.1

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

Particulate Solids Concentration file name: C:\WinSLAMM Files\10.1 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.ppx

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: 03-26-2025

Time: 16:55:05

Site information:

LU# 1 - Residential: ONSITE WEST Total area (ac): 14.000

1 - Roofs 1: 1.700 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 1.500 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.700 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 10.100 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Residential: UNDETAINED Total area (ac): 3.700

1 - Roofs 1: 0.400 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 3.300 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 3 - Residential: ONSITE EAST Total area (ac): 17.200

1 - Roofs 1: 1.900 ac. Pitched Connected PSD File: C:\WinSLAMM Files\NURP.cpz

13 - Paved Parking 1: 2.800 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

25 - Driveways 1: 0.900 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 11.600 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 4 - Residential: OFFSITE Total area (ac): 55.300

13 - Paved Parking 1: 6.700 ac. Connected PSD File: C:\WinSLAMM Files\NURP.cpz

45 - Large Landscaped Areas 1: 48.600 ac. Normal Silty PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Wet Detention Pond CP# 1 (DS) - EAST POND

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 5

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 1

2. Number of orifices: 1

3. Invert elevation above datum (ft): 5

Outlet type: Orifice 2

1. Orifice diameter (ft): 3

2. Number of orifices: 1

3. Invert elevation above datum (ft): 7

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: 11.5

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	1.3200	0.00	0.00
2	1.00	1.3900	0.00	0.00
3	2.00	1.4700	0.00	0.00
4	3.00	1.5500	0.00	0.00
5	4.00	1.6300	0.00	0.00
6	5.00	1.9000	0.00	0.00
7	6.00	2.0000	0.00	0.00
8	7.00	2.1000	0.00	0.00
9	8.00	2.2000	0.00	0.00
10	9.00	2.3000	0.00	0.00
11	10.00	2.4000	0.00	0.00
12	11.00	2.5000	0.00	0.00
13	12.00	2.6000	0.00	0.00

Control Practice 2: Wet Detention Pond CP# 2 (DS) - WEST POND

Particle Size Distribution file name: Not needed - calculated by program

Initial stage elevation (ft): 5

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

Outlet type: Orifice 1

1. Orifice diameter (ft): 0.5
2. Number of orifices: 1
3. Invert elevation above datum (ft): 5.25

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: 9.5

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 2
2. Stand pipe height above datum (ft): 8

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	0.3000	0.00	0.00
2	1.00	0.3400	0.00	0.00
3	2.00	0.3800	0.00	0.00
4	3.00	0.4300	0.00	0.00
5	4.00	0.4900	0.00	0.00
6	5.00	0.7000	0.00	0.00
7	6.00	0.8000	0.00	0.00
8	7.00	0.9000	0.00	0.00
9	8.00	1.0000	0.00	0.00
10	9.00	1.2000	0.00	0.00
11	10.00	1.3000	0.00	0.00

Control Practice 3: Other Device CP# 1 (DS) - OD

Fraction of drainage area served by device (ac) = 1.00

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 1.00

Runoff volume reduction fraction = 0

Data file name: Z:\Projects\2019\1617.00-W\DESIGN\SWMP\SLAMM\1617 WILLOW CREEK.mdb

WinSLAMM Version 10.4.1

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

Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx

Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx

Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdX

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

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

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

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

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

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

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

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

Cost Data file name:

If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations

Seed for random number generator: -42

Study period starting date: 01/05/69 Study period ending date: 12/31/69

Start of Winter Season: 12/06 End of Winter Season: 03/28

Model Run Start Date: 01/05/69 Model Run End Date: 12/31/69

Date of run: 03-26-2025 Time of run: 16:52:23

Total Area Modeled (acres): 90.200

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:	1.742E+06	-	60.85	6616	-
Outfall Total with Controls:	1.736E+06	0.34%	10.85	1176	82.22%
Annualized Total After Outfall Controls:	1.760E+06			1192	

File Name:

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	1.742E+06		0.16	60.85 (1)	6616 (1)	
Outfall Total with Controls	1.736E+06	0.34 %	0.16	10.85	1176	82.22 %
Current File Output: Annualized Total After Outfall Controls	1.760E+06		Years in Model Run: 0.99		1192	

(1) Values reduced to remove off-site loadings due to setting Other Control Device Concentration Reduction values to 1.

Total Area Modeled (ac)

Receiving Water Impacts Due To Stormwater Runoff

(CW/P Impervious Cover Model)

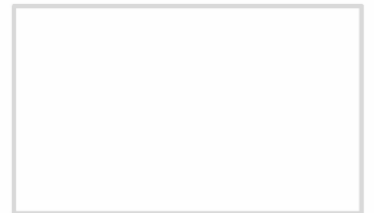
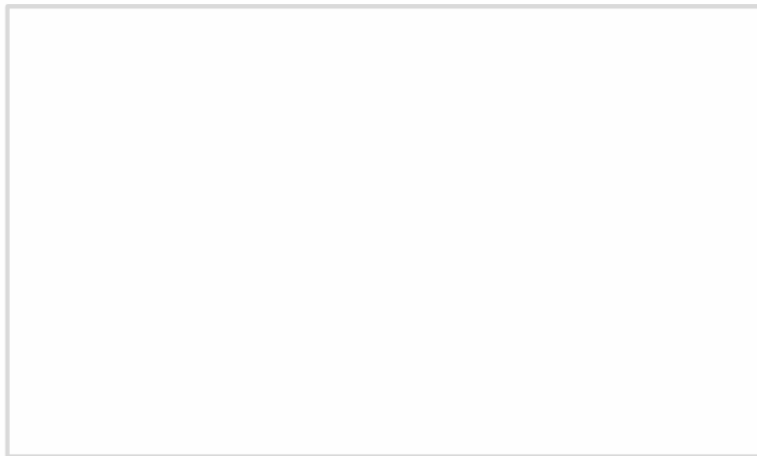
	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.16	Fair
With Controls	0.16	Fair

Total Control Practice Costs

Capital Cost	<input type="text" value="N/A"/>
Land Cost	<input type="text" value="N/A"/>
Annual Maintenance Cost	<input type="text" value="N/A"/>
Present Value of All Costs	<input type="text" value="N/A"/>
Annualized Value of All Costs	<input type="text" value="N/A"/>

APPENDIX 5

EXCERPT FROM GEOTECHNICAL REPORT



***PRELIMINARY GEOTECHNICAL ENGINEERING
REPORT***

***Proposed Willow Creek Residential Development
Somers, Wisconsin***

***GESTRA Project No.: 18282-10
October 11, 2018***

***Prepared For:
Bear Development, LLC
4011 80th Street
Kenosha, WI 53142***



Preliminary Geotechnical Engineering Report
Proposed Willow Creek Residential Development
Somers, Wisconsin

GESTRA Project No. 18282-10
October 11, 2018

Prepared For:

Bear Development, LLC
4011 80th Street
Kenosha, WI 53142

Prepared By:



GESTRA Engineering, Inc.
191 W. Edgerton Avenue
Milwaukee, WI 53207
(414) 933-7444

Table of Contents

1.0	INTRODUCTION	1
1.1	PROJECT INFORMATION	1
2.0	SCOPE OF WORK	1
3.0	EXPLORATION RESULTS	2
3.1	SITE CONDITIONS	2
3.2	SUBSURFACE SOIL PROFILE	2
3.3	GROUNDWATER OBSERVATIONS	3
4.0	ANALYSIS AND RECOMMENDATIONS.....	3
4.1	DISCUSSION.....	3
4.2	GENERAL SITE PREPARATION	4
4.3	FOUNDATION DISCUSSION	5
4.4	FLOOR SLAB RECOMMENDATIONS	6
4.5	STORM WATER BASINS.....	7
4.6	SEISMIC SITE CLASSIFICATION	7
4.7	CONSTRUCTION CONSIDERATIONS	7
5.0	EXPLORATION AND TESTING PROCEDURES.....	8
5.1	LAYOUT AND ELEVATION PROCEDURES.....	8
5.2	FIELD TESTING PROCEDURES.....	8
5.3	LABORATORY TESTING PROCEDURES	9
	STANDARD OF CARE	10
APPENDIX I	SITE LOCATION MAP, BOREHOLE LAYOUT PLAN, TEST BORING LOGS, SOIL AND SITE EVALUATION-STORM FORMS, GENERAL NOTES AND SOILS CLASSIFICATION	
APPENDIX II	LABORATORY TEST RESULTS	

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Preliminary Geotechnical Engineering Report
Proposed Willow Creek Residential Development
Somers, Wisconsin

1.0 INTRODUCTION

GESTRA Engineering, Inc. (GESTRA) was authorized by Bear Development, LLC (Bear) to complete a subsurface exploration and preliminary geotechnical report for the Proposed Willow Creek Residential project located in Somers, Wisconsin. This report presents the results from the subsurface soil exploration and describes the field exploration, laboratory test results, and provides preliminary recommendations pertaining to the design and construction of future development.

The engineering recommendations and analysis contained within this report should be considered preliminary and is intended to be used for site assessment purposes. As the project plans develop, we recommend GESTRA should be contacted so that we can review our recommendations in light of any new information.

1.1 PROJECT INFORMATION

The project is a new residential development south of County Highway E and east of the Pike River. Currently, the property is an undeveloped field with a sanitary easement along the west side of the site and gas line along the south end of the property. The conceptual plans for the development include:

- Eleven, 3-story, slab on grade, multi-family apartment buildings
- Eighteen, 1 to 2-story, slab on grade, duplex apartment buildings
- Twenty-two single family residential lots
- Six storm water management features
- Two primary roads, two cul-de-sacs and pavement/parking in the multi-family portion of the development

2.0 SCOPE OF WORK

GESTRA has performed the following services for the project:

- Contacted Diggers Hotline to locate the public utilities at the site prior to drilling.
- Provided layout of the boring locations and recorded ground surface elevations using GPS survey equipment. The layout and elevations were not performed by a licensed surveyor.
- Completed twelve (12) standard penetration test (SPT) soil borings, each to a depth of 20 feet. Borings B-1 through B-7 were evaluated for site development and storm water management and were sampled at continuous 2-foot intervals. Borings B-8 through B-12 were considered structure/pavement borings and were sampled at 2 ½ foot intervals to 15 feet and 5-foot intervals thereafter. Our site work included abandonment of the boreholes per WDNR requirements.

- Performed laboratory soil testing to assign classification and engineering properties to the soils encountered. The laboratory testing included hand penetrometer, moisture contents, Atterberg limits and mechanical analysis.
- Prepared this preliminary geotechnical engineering report presenting the results of the field testing as well as providing general recommendations pertaining to proposed development including site preparation, earthwork concerns and consideration, suitability for spread foundations; discussion of stormwater infiltration, and presence of groundwater.

3.0 EXPLORATION RESULTS

3.1 SITE CONDITIONS

The proposed development site is an undeveloped field that was planted in soybeans at the time of our drilling with a sanitary easement along the west side of the site and gas line along the south end of the property. The site generally slopes downward from the east to the west with localized changes in elevations and lower elevation swales. Along the western side, near the Pike River, the downward slope is more significant and wetlands have been mapped adjacent to the river. Ground surface elevations at our borings ranged from 679.1 feet (B-12) near the southeast corner to 666.9 feet (B-3) along the west side of the site.

3.2 SUBSURFACE SOIL PROFILE

Based on field exploration, the subsurface profile generally consists of 8 inches to 24 inches of topsoil underlain by native soils to the termination depth of the borings. The native soils primarily consisted of cohesive soils below the topsoil that extended to the depth of the borings and were characterized with interbedded granular soil layers. The exception was boring B-12, where possible fill or disturbed soils were encountered to a depth of 6 feet. The following is an additional description of the soils encountered at the boring locations below the topsoil.

Native soils: At the majority of the boring locations, a layer of lower strength sandy lean clay or clayey sand was encountered below the topsoil which extended to typical depths of 2 feet to 4 feet. However, the predominate deeper soil was stiff to hard lean clay that included seams and layers of silt, silty sand, clayey sand. Moisture contents of samples of the native cohesive soils tested ranged from approximately 12% to 34%. Soil borings were terminated in granular soil layers in boring B-1, B-2, B-3, B-8 and B-9. These granular soil layers were primarily silt, sandy silt and silty sand.

Results of the field and laboratory tests and observations are depicted on the individual boring logs included in the Appendix I this report. Soils were grouped together based on similar observed properties. The stratification lines were estimated by the reviewing engineer based on the available data and experience. The actual in-situ changes between layers may differ slightly and may be more gradual than depicted on the boring logs. Subsurface and groundwater conditions can vary between borehole locations and in areas not explored.

It is important to note that the soil observations, topsoil and strata thickness estimates were made in small diameter boreholes. Therefore, it should be understood that thicker or thinner deposits of the individual strata are likely to be encountered within other portions of the project. Furthermore, the estimation of strata thickness at a particular location can differ from person to person due to a sometimes indistinct transition between the soils encountered. Additionally, it must be recognized

that in the absence of foreign substances and/or debris within the soil samples obtained, it is sometimes difficult to distinguish between natural soils and clean soil fill.

3.3 GROUNDWATER OBSERVATIONS

Groundwater observations were typically made during and at the completion of drilling operations. In addition, some borings were left open for extended water level readings. Groundwater depths and elevations observed at the borehole locations are provided in Table 3-1.

Table 3-1 - Groundwater Measurements ^a

Boring Number	Ground Surface Elevation (ft)	Groundwater depths (ft)					
		During Drilling	Elevation	After Drilling	Elevation	Day After Drilling	Elevation
B-1	673.5	NE	-	NE ^a	-	NMR	NMR
B-2	671.3	17.5	653.8	NE ^a	-	NMR	NMR
B-3	666.9	17.5	649.4	NE ^a	-	NMR	NMR
B-4	669.7	NE	-	NE ^a	-	10	659.7
B-5	665	8	657	NE ^a	-	5	660
B-6	668.1	NE	-	NE ^a	-	6	662.1
B-7	667	13	654	NE ^a	-	9	658.0
B-8	675.7	19.5	656.2	NMR	-	1	674.7
B-9	675.1	19.5	655.6	NMR	-	NE ^a	-
B-10	675.6	NMR	-	NMR	-	2	673.6
B-11	674.5	9	665.5	9	665.5	0	674.5
B-12	679.1	NE	-	12	667.1	4	675.1

a Groundwater readings may have been obscured by bore hole cave in.

NE: Not encountered

NMR: No measurement recorded.

The water levels encountered are representative of the conditions at the time of drilling. The depth of groundwater significantly varied between the boring locations. The sloping terrain combined with the variation in soil conditions may result in a fluctuation of the depth to groundwater in other parts of the site not explored by GESTRA. Installation and monitoring of observation wells would be required to assess true groundwater elevations across the site.

Groundwater level fluctuations may occur with time and seasonal changes due to variations in precipitation, evaporation, surface water runoff and local dewatering. Perched water pockets and a higher water table may also be encountered during wet weather periods, particularly in more permeable clayey sand, silt and sand seams or granular fill material overlying less permeable clays.

4.0 ANALYSIS AND RECOMMENDATIONS

4.1 Discussion

The recommendations provided in the following sections are preliminary and are not intended for use in final design or construction. The information collected and presented herein should be used

to help develop future geotechnical services and re-evaluated when additional design information is available.

Based on conditions encountered at the site, a primary geotechnical concern identified in the borings is the presence of higher moisture content, lower strength (Q_p of 1 tsf or less) clay and clayey sand generally located immediately below the topsoil. The higher moisture/lower strength material was variable but generally extended to depths of 2 feet to 4 feet below ground surface (bgs). Typically, this type of material will show instability during topsoil removal, especially during times of higher precipitation and spring thaw, and will likely require additional earthwork effort to provide a stable base for additional fill placement.

Boring B-12 encountered possible fill and trace organics at a depth of 5 to 6 feet. This may be an indication of previous fill placement or could be disturbed as a result of farming practices or drain tile. Additional exploration is recommended in this area when detailed design information is available.

Several borings were left open for extended water level readings and water levels measured were higher than during drilling operations. This included 3 boring locations, (B-8, B-10 and B-11), where water was measured within 2 feet of the existing ground surface. At the time of drilling, significant rains had occurred in the area. The typical soil profile encountered consisted of a layer of lower strength sandy lean clay or clayey sand over stiff to hard lean clay. Based on the soil conditions encountered in the borings, the extended water levels are likely the result of perched water above the stiff to hard lean clay that migrated to the borehole when it was left open and is probably not an indication of the long-term groundwater table. Further subsurface exploration is recommended when additional design information is available which may include test pits and groundwater monitoring wells especially in areas of deeper excavation or below grade structures. However, the water encountered is an indication that wet soils or isolated areas of wet or saturated soils may be present.

4.2 General Site Preparation

Site preparation should start with removal of any trees/bushes and vegetation, organic soils and topsoil. Any additional unsuitable soil/materials exposed such as buried topsoil, excessive vegetation, roots, deleterious material, soil that contains significant amounts of organics, or other unsuitable material should be removed entirely from the footprint of future buildings and pavement areas. In addition, all unused utilities (if present) should be properly removed or abandoned. Field drain tile (if present) should be properly removed or abandoned or redesigned/reconnected. Material removed from the project site should be disposed in accordance with all applicable federal, state, and local regulations. Soil should not be stockpiled near or adjacent to the excavations.

In the building slab on grade area and pavement areas, after the initial site preparation described above, we recommend a proof roll with a minimum 20-ton tri-axle dump truck, or like machinery imparting similar static loading on the soil and moving at no more than walking speed. Any areas of significant deflection during re-compaction may be disked, dried, and re-compacted if weather permits, or removed and replaced with engineered fill. A geotechnical engineer or their designated representative should be present during the proof roll in order to identify soft or unstable areas, if any, and subsequently recommend remediation procedures.

The native clay and clayey sand soils encountered below the topsoil is generally a higher moisture content, lower strength material. If the conditions observed in our borings are present throughout the site, unstable subgrade conditions may be encountered in a large portion of the project site area. Assuming conditions are similar across the site, the unstable layer exposed after topsoil removal could be between 12 inches to 24 inches thick. Difficulty may be encountered in trying to stabilize these soils, especially during wet and cold times of the year. If the project construction schedule does not allow for adequate time to rework site subgrade soils, excavation and replacement will likely be required or alternate site preparations could be considered such as chemical stabilization or utilizing geotextile fabric or geogrid and granular fill to provide a stable pavement subgrade. It should be noted that final design elevations will also impact the amount of soil correction as deeper excavations or cuts necessary for plan grades may result in removal of soft or unstable soils.

Chemical stabilization with fly ash or cement can be an effective method of creating a stable subgrade for large areas of soft unstable areas. The stabilization could be considered prior to the initial lift of fill if the native soils cannot be effectively dried or drained of water. Alternatively, the project could consider a reduced compaction requirement and include chemical stabilization at subgrade elevation.

As a general rule for new fill placement, the lift thickness should not exceed 12 inches for granular soils and 9 inches for cohesive soil and the maximum particle size should be limited to 25% of the lift thickness. New structural engineered fill should be compacted to a minimum of 95% of the modified Proctor maximum dry density value. Alternate compaction requirements, such as reduced compaction levels for lightly loaded structures, could be considered as the design elevations and structure loading is determined.

Structural soil fill should be placed a minimum of five feet beyond the edges of the new building and pavement areas, and an additional foot horizontally for each vertical foot of new fill to be placed to provide adequate lateral confinement. The inorganic site soils free of any deleterious material and debris that would be removed from excavations could be reused as structural fill; however, moisture conditioning of the material may be necessary and sorting of unsuitable soils from existing material may be required before it is placed as engineered fill.

4.3 Foundation Discussion

For preliminary planning purposes, the foundations for the proposed buildings can be supported on a typical shallow spread/strip footing system designed for a maximum net allowable soil bearing pressure of 3,000 pounds per square foot (psf) provided the recommendations in this report are followed. Spread foundations designed for a maximum net allowable soil bearing capacity of 3,000 psf should be supported by the native lean clay with a minimum Q_p of 1.5 tsf or new engineered fill placed over suitable material. This recommended allowable bearing capacity is for preliminary planning purposes and alternate bearing pressures could be considered when additional design and subsurface information is available. Table 4-1 provides the depths at each of the test boring locations to the soil recommended for an allowable bearing capacity of 3,000 psf.

Table 4-1: Depth to Recommended Bearing Capacity

Boring Location	Existing Surface Ground Elevation	Estimated Depth to 3,000 psf Allowable Bearing Capacity	
		Depth (ft)	Elevation (ft)
B-1	673.5	2	671.5
B-2	671.3	2	669.3
B-3	666.9	2	664.9
B-4	669.7	2	667.7
B-5	665	2	663
B-6	668.1	2	666.1
B-7	667	1.5	665.5
B-8	675.7	4 ^a	671.7
B-9	675.1	2	673.1
B-10	675.6	1.5 ^a	674.1
B-11	674.5	6.5 ^a	668
B-12	679.1	6 ^a	673.1

a Excavation depth is below extended water level reading.

The estimated depths in the above Table provide a general idea of the depth to suitable foundation soil. The boring locations did not explore the entire property and variations from the conditions encountered in the borings should be expected. The site grading may significantly change elevations and may impact the final foundation recommendations. The final foundation recommendations should also consider the groundwater levels encountered and ability to excavate below grade.

4.4 Floor Slab Recommendations

The subgrade material evaluated and prepared according to the recommendations in this report should be suitable to support slab on grade concrete. For preliminary planning purposes, we recommend that a subgrade reaction modulus of 125 pounds per square inch per inch of deflection (pci) be used in the design of the floor slab at grade. The modulus value assumes the subgrade conditions are prepared according to the recommendations of this report and also assumes a 1-foot plate is used to determine the modulus and should be adjusted for the size of the foundation and confinement effect. We recommend that the floor slabs be suitably reinforced and designed to be separate from the foundation system in order to allow for separate movements.

We recommend the installation of a capillary moisture break directly below the slab. It should consist of at least 6 inches of clean sand or gravel with a maximum particle size of 1 inch containing no more than 10% passing the number 200 sieve (fines) and follow the recommendations of ACI 302.1, Section 4.1. If the floor slab is to include floor coverings, we recommend that the manufacturer be consulted to verify the proper incorporation of a vapor retarder. If a vapor retarder is used, we recommend it be placed in accordance with ACI 302.1 Section 3.2 and should meet the requirements of ASTM E1745. The vapor retarder should include proper sealing at

penetrations, overlap at joints, and sealing at the interface of the wall and slab and may require an adequate cushion material to prevent damage.

4.5 Storm Water Basins

We understand the project will include storm water basins, likely located along the west side for the site. However, detailed design information is not available at this time. The soil for borings B-1 through B-7 was evaluated in accordance with WDNR Conservation Practice Standard 1002 (WDNR CPS 1002), "Site Evaluation for Storm Water Infiltration". Infiltration rates for the observed soil textures were estimated based on the information provided in WDNR CPS 1002, Table 2 (dated September 2017), and are presented in the Soil-Evaluation Storm form included in Appendix I. Based on our interpretation of WDNR NR 151.12(5)(c)6.a and WDNR CPS 1002, if sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, or clay or soil with a measured infiltration rate less than 0.6 inches per hour is located within 5 feet of the native soil interface, the site is exempt from infiltration requirements. Based on the predominate soil types encountered in the borings, we anticipate the site would be classified as being exempt from infiltration. The information presented should be reviewed when final storm water basin locations and elevations are determined. Final design may require additional exploration and should also consider groundwater elevations.

4.6 Seismic Site Classification

Section 1613 of the International Building Code 2015 (IBC) was used to assign a soil site classification. Based on the native soil conditions observed and assuming these are consistent or better to a depth of 100 feet, the soil site classification **D** (stiff soil) should be used in the structural design of the proposed building. Based on site class C, and mapped spectral response acceleration S_s and S_1 for Somers, Wisconsin, the site coefficient F_a and F_v are 1.6 and 2.4, respectively.

4.7 Construction Considerations

The detailed means and method of excavation and construction should be decided by the contractor and approved by the project design team. Based on the specific site information, geotechnical exploration results and requirements for the proposed structure, the following issues should be taken in consideration during construction.

Dewatering

Water from other sources such as surface runoff from rain events should be controlled and prevented from entering site excavations. The contractor should be prepared to control the water and prevent it from accumulating in excavations or otherwise affecting construction.

During mass grading, shallow perched or trapped water should be anticipated, which can affect the grading work and the contractor should have means and methods for correcting and working with soft and/or wet subgrade soils. The contractors should also have construction dewatering plans for below grade excavations.

Excavation Stability

Caving is a common issue for excavation side walls during construction, especially if fill material, granular soils, and/or water seepage are observed. An excavation plan should be developed and the length of excavation left open should be limited to prevent caving soil from covering the suitable bearing soils.

A temporary soil retention system may also be necessary in order to prevent caving or provide support of surrounding structures or utilities during construction. Providing recommendations or designing the retention system is out of the scope for GESTRA. The contractor must comply with the federal, state, local and updated OSHA regulations during excavation and in retention system design to ensure excavation safety.

Occupational Safety and Health Act (OSHA) has instituted strict standards for temporary construction excavations. These standards are outlined in 29 CFR Part 1926 Subpart P. Excavations within unstable soil conditions or extending five feet or more in depth should be adequately sloped or braced according to these standards. Excavation safety is the responsibility of the contractor. Material stockpiles or heavy equipment should not be placed near the edge of the excavation slopes. The actual stable slope angle should be determined during construction and will depend upon the loading, soil, and groundwater conditions encountered.

Weather Implications

The subgrade soil or the soil at foundation level might become unstable with exposure to adverse weather such as rain, snow and freezing temperatures. The unstable areas due to weather exposure may require an additional undercut or stabilization and the representative geotechnical engineer should assist with the determination of the depth of additional undercut or stabilization procedure based on observation of the field condition.

Soil Sensitivity

Soil at the construction site will be exposed to moisture and disturbance from construction traffic, construction equipment and human factors. Due to the disturbance, soil may become sensitive with contact of water. Contractor should try to lessen the exposure the soil at the construction site may encounter to moisture and disturbances. Therefore, the foundations, floor slabs and pavements should be constructed immediately after the review of the representative geotechnical engineer.

5.0 EXPLORATION AND TESTING PROCEDURES

5.1 Layout and Elevation Procedures

A total of twelve (12) soil borings were completed at the locations shown on the attached Borehole Location Plan in Appendix I. GESTRA selected the boring locations, reviewed the locations with our client, and located the borings in the field. Ground surface elevations and locations were recorded by GESTRA using GPS survey equipment and referenced to NAVD83 and WISCORS Kenosha County Coordinates, respectively.

5.2 Field Testing Procedures

The boreholes were drilled using an ATV Diedrich D50 drill rig. The boreholes were initiated and advanced by using hollow stem augers. A 24-inch split spoon sample was typically collected at the surface. Borings B-1 through B-7 were sampled at continuous 2-foot intervals to depth and borings B-8 through B-12 were sampled at 2 ½ foot intervals to 15 feet and 5-foot intervals thereafter.

All representative soil samples were taken in general accordance with the “Standard Method for Penetration Test and Split-Barrel Sampling of Soils” (ASTM D1586) or “Standard Practice for Thin-Walled Tube Sampling of Soils for Geotechnical Purposes” (ASTM D1587). After each

sampling, a soil sample was retained and placed in a jar and recorded for type, color, consistency, and moisture, sealed and then transported to the laboratory for further review and testing, if required. The specific drilling method used including the depths, rig type, crew chief, are included on each of the individual boring logs as it may change for each borehole.

5.3 Laboratory Testing Procedures

After completion of drilling operations, all of the retained soil samples were transported to GESTRA's laboratory and classified by a geotechnical engineer using the Unified Soil Classification System (USCS). A chart describing the classification system used is included in Appendix I of this report. The engineer assigned laboratory testing suited to extract important index properties of the soil layers. These tests included hand penetrometer, moisture contents, Atterberg limits and mechanical analysis.

STANDARD OF CARE

Our exploration was limited to evaluating subsurface soil and groundwater conditions pertaining to the proposed project. GESTRA did not perform any environmental, chemical, or hydrogeologic testing as these were not part of our work scope.

This report should be made available in its entirety to bidding contractors for information purposes. The soil borings and site sketch should not be detached from this report. Our report is not valid if used for purposes other than what is described in the report.

All OSHA regulations such as those regarding proper sloping and temporary shoring of excavations should be followed during the entire construction process.

GESTRA has presented our professional opinions in this report in the form of recommendations. Our opinions are based on our understanding of current project information and related accepted engineering practices at the time of this report. Other than this, no warranty is implied or intended.

Sincerely,

GESTRA Engineering, Inc.

Report Prepared By:

Report Reviewed By:

Douglas Dettmers, P.E.
Senior Engineer

Md. Masud Alam, P.E.
Principal Engineer

APPENDIX I

**SITE LOCATION MAP, BOREHOLE LAYOUT PLAN, TEST BORING LOGS, SOIL AND SITE
EVALUATION-STORM FORMS, GENERAL NOTES AND SOILS CLASSIFICATION**



Map obtained from Kenosha County GIS

 = Project Site Location

GESTRA GESTRA Engineering, Inc.
 191 W. Edgerton Avenue
 Milwaukee, WI 53207
 Phone: (414) 933-7444
 Fax: (414) 933-7844

Project Name & Location:
 Proposed Willow Creek Residential
 Development
 Somers, WI

Drawing Title:
 Site Location Map

Project No.: 18282-10

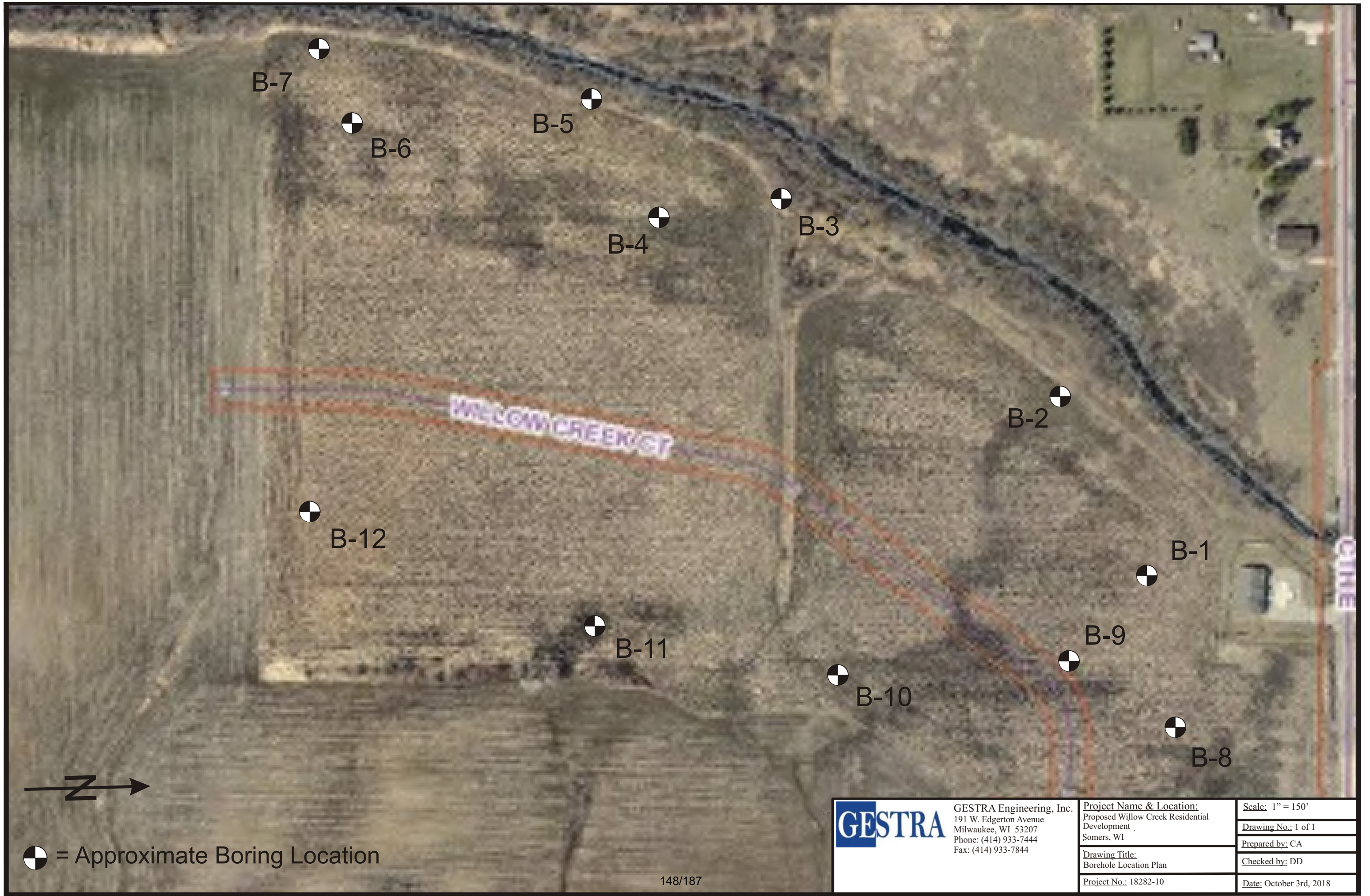
Scale: Not to Scale


Drawing No.: 1 of 1


Prepared by: CA

Checked by: MA

Date: October 3rd, 2018



 = Approximate Boring Location

 GESTRA Engineering, Inc. 191 W. Edgerton Avenue Milwaukee, WI 53207 Phone: (414) 933-7444 Fax: (414) 933-7844	Project Name & Location: Proposed Willow Creek Residential Development Somers, WI	Scale: 1" = 150'
	Drawing Title: Borehole Location Plan	Drawing No.: 1 of 1
	Project No.: 18282-10	Prepared by: CA
		Checked by: DD
		Date: October 3rd, 2018



SOIL BORING LOG

PAGE NUMBER
1 of 1

BORING NUMBER
B-1

PROJECT NUMBER
18282-10

DRILLING RIG
Diedrich D50 ATV

DRILLING METHOD
3 1/4" HSA

SURFACE ELEVATION
673.5 ft

Gestra Engineering Inc.
191 W. Edgerton Avenue
Milwaukee, WI 53207
Phone: 414-933-7444, Fax: 414-933-7844

PROJECT NAME
Willow Creek Residential

DATE DRILLING STARTED
9/20/2018

PROJECT LOCATION
Somers, WI

DATE DRILLING ENDED
9/20/2018

BORING DRILLED BY
FIRM: Gestra
CREW CHIEF: M. Rhodes

FIELD LOG
A. Mughal

NORTHING
153785

LAB LOG / QC
D. Dettmers

EASTING
613416

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	24	2 2 4 4 6	6		TOPSOIL (8"), LEAN CLAY, black, moist								
					0.7 (672.8) SANDY LEAN CLAY, brown, moist, medium stiff	CL						21.7	P200 = 82%
SS - 2	24	4 7 7 9	14	670.0	LEAN CLAY, brown gray mottled to brown, moist, hard, trace sand				4.5+			16.5	
	SS - 3	24	4 6 9 9	15	5		CL			4.5+			16.6
SS - 4		24	8 12 10 20	22					4.5				17.1
	SS - 5	24	4 8 9 13	17	665.0	LEAN CLAY, gray, moist, stiff to very stiff				2.5			17.6
SS - 6		24	4 5 7 8	12			CL			1.5			20.7
	SS - 7	24	4 6 8 12	14	660.0	With sand at 12ft.				1.0			11.9
SS - 8		24	7 13 16 10	29	15	LEAN CLAY, gray, moist. hard, trace sand	CL			4.5+			11
	SS - 9		8 12 20 10	32									
SS - 10			8 13 16 12	29	655.0	SANDY SILT, gray, moist to very moist, medium dense to dense	ML						
					20	20 (653.5)							
End of Boring at 20.0 ft.													
				650.0									
				25									
				645.0									
				30									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING: NE ft.	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
WATER LEVEL AT COMPLETION: NE	CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
WATER LEVEL AFTER 24 HOURS: NMR		WET <input type="checkbox"/>
		DRY <input type="checkbox"/>

149/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



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SOIL BORING LOG

PAGE NUMBER		1 of 1
BORING NUMBER	B-2	
PROJECT NUMBER	18282-10	
DRILLING RIG	Diedrich D50 ATV	
DRILLING METHOD	3/4" HSA	
SURFACE ELEVATION	671.3 ft	

PROJECT NAME	DATE DRILLING STARTED
Willow Creek Residential	9/20/2018
PROJECT LOCATION	DATE DRILLING ENDED
Somers, WI	9/20/2018

BORING DRILLED BY
FIRM: Gestra
CREW CHIEF: M. Rhodes

FIELD LOG	NORTHING
A. Mughal	153631
LAB LOG / QC	EASTING
D. Dettmers	613099

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	24	2 3 4 6	7	670.0	TOPSOIL (8") 0.7 (670.6) SANDY LEAN CLAY, brown, moist, medium stiff to stiff, trace to with gravel							14.3	
SS - 2	24	6 6 10 8	16			CL						13.6	
SS - 3	24	4 6 6 6	12	5	wet silt seam at 4 ft.							13.8	
SS - 4	24	5 8 10 13	18	665.0	LEAN CLAY, brown, moist, hard	CL		4.0				21.1	
SS - 5	24	5 8 8 8	16	10	SANDY LEAN CLAY, brown, very moist, very stiff, silt seams	CL		2.0				16	P200 = 73%
SS - 6	24	3 4 5 9	9	660.0	LEAN CLAY, gray, moist, hard	CL		4.0				11.8	
SS - 7	24	7 16 25 23	41		SILT WITH SAND, gray, moist, dense	ML							
SS - 8	24	7 12 16 23	28	15	SILTY SAND, gray, moist to wet, medium dense to dense								
SS - 9	24	8 12 14 16	26	▽		SM							
SS - 10	24	4 4 8 12	12	20									
					End of Boring at 20.0 ft.								
					650.0								
					25								
					645.0								
					30								

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: 17.5 ft.	☒	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
▽	WATER LEVEL AT COMPLETION: NE		CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
▽	WATER LEVEL AFTER 24 HOURS: NMR			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

150/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



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SOIL BORING LOG

PAGE NUMBER	1 of 1
BORING NUMBER	B-3
PROJECT NUMBER	18282-10
DRILLING RIG	Diedrich D50 ATV
DRILLING METHOD	3 1/4" HSA
SURFACE ELEVATION	666.9 ft

PROJECT NAME	Willow Creek Residential	DATE DRILLING STARTED	9/20/2018
PROJECT LOCATION	Somers, WI	DATE DRILLING ENDED	9/20/2018

BORING DRILLED BY
FIRM: Gestra
CREW CHIEF: M. Rhodes

FIELD LOG	A. Mughal	NORTHING	153164
LAB LOG / QC	D. Dettmers	EASTING	612758

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	12	0 1 3 4	7	665.0	TOPSOIL (8"), LEAN CLAY, dark brown, moist 0.7 (666.2)	SC						22.8	
SS - 2	24	5 7 8 10	15		CLAYEY SAND, brown, moist, loose 2 (664.9)								
SS - 3	24	3 6 13 15	19	5	LEAN CLAY, brown with gray mottled to brown, hard, trace sand	CL			4.5			16.3	
SS - 4	24	10 11 15 17	26	660.0					4.5+			16.2	
SS - 5	24	6 8 8 9	16	10	LEAN CLAY, gray, moist, stiff to very stiff, trace sand 7.5 (659.4)				4.5			16.2	
SS - 6	24	2 3 5 6	8	655.0		CL			3.5			17.9	
SH - 7	15				Sand seams 5" silty clay layer				1.0			14.2	
SS - 8	24	4 7 10 8	17	15					0.5			14.4	
SS - 9	24	12 12 12 12	24	650.0	SILT, gray, moist to wet, medium dense 15.5 (651.4)	SM			2.75			12.7	
SS - 10	24	12 10 10 11	20	20	SILT, gray, moist to wet, medium dense 16 (650.9)	ML							
					End of Boring at 20.0 ft.								
					645.0								
					25								
					640.0								
					30								

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: 17.5 ft.	☒	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
▽	WATER LEVEL AT COMPLETION: NE		CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
▽	WATER LEVEL AFTER 24 HOURS: NMR			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

151/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



SOIL BORING LOG

PAGE NUMBER
1 of 1

BORING NUMBER
B-4

PROJECT NUMBER
18282-10

DRILLING RIG
Diedrich D50 ATV

PROJECT NAME
Willow Creek Residential

DATE DRILLING STARTED
9/19/2018

PROJECT LOCATION
Somers, WI

DATE DRILLING ENDED
9/19/2018

Gestra Engineering Inc.
191 W. Edgerton Avenue
Milwaukee, WI 53207
Phone: 414-933-7444, Fax: 414-933-7844

BORING DRILLED BY

FIRM: Gestra
CREW CHIEF: M. Rhodes

FIELD LOG
J. Martinez

NORTHING
152915

LAB LOG / QC
D. Dettmers

EASTING
612802

DRILLING METHOD
3 1/4" HSA

SURFACE ELEVATION
669.7 ft

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	12	1 2 4 6	6		TOPSOIL (10"), LEAN CLAY, black, moist 0.8 (668.9)	CL			1.0			21.1	
SS - 2	12	4 6 8 11	14		SANDY LEAN CLAY, brown, light brown, moist, stiff, with gravel 2 (667.7)	CL			4.5+			17.2	
SS - 3	24	5 6 11 14	17	665.0	LEAN CLAY, brown, moist, very stiff to hard Silt seams at 4ft.	CL			3.5			14.2	
SS - 4	24	7 7 7 13	14		LEAN CLAY, gray, moist, very stiff to hard 7 (662.7)	CL			4.0			16.6	
SS - 5	24	13 13 12 9	25	660.0		CL			2.5			21.8	
SS - 6	24	4 4 6 10	10			CL			2.5			21.8	
SS - 7	24	6 8 11 8	19		CLAYEY SAND, gray, very moist, medium dense 12 (657.7)	SC						10.7	
SS - 8	24	2 3 4 4	7	655.0	SANDY LEAN CLAY, gray, very moist, stiff 14 (655.7)	CL			1.0			13.5	
SS - 9	24	5 5 4 4	9		CLAYEY SAND layer at 16 ft. LEAN CLAY, gray, moist, very stiff to hard, with sand and gravel 16.8 (652.9)	CL			2.5			18.3	
SS - 10	24	5 5 8 15	13	650.0	LEAN CLAY, gray, moist, very stiff to hard, with sand and gravel 20 (649.7)	CL			4.5+			10.4	
End of Boring at 20.0 ft.													
				25	645.0								
				30	640.0								

WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: NE ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: NE		CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 24 HOURS: 10 ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

152/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



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Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER		1 of 1
BORING NUMBER	B-5	
PROJECT NUMBER	18282-10	
DRILLING RIG	Diedrich D50 ATV	
DRILLING METHOD	3/4" HSA	
SURFACE ELEVATION	665 ft	

PROJECT NAME	DATE DRILLING STARTED
Willow Creek Residential	9/19/2018
PROJECT LOCATION	DATE DRILLING ENDED
Somers, WI	9/19/2018

BORING DRILLED BY	FIELD LOG	NORTHING
	J. Martinez	152803
FIRM: Gestra	LAB LOG / QC	EASTING
CREW CHIEF: M. Rhodes	D. Dettmers	612576

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	12	2	7	1 (664)	TOPSOIL (12"), LEAN CLAY, black, moist								
		3			LEAN CLAY, brown with gray mottled, moist, stiff to very stiff	CL		1.0		20.8			
SS - 2	12	3	7	4 (661)	LEAN CLAY, brown, moist, hard								
		4				CL		2.5		22.3			
SS - 3	18	3	10	5 660.0	LEAN CLAY, gray, moist, very stiff, trace gravel ribboning in sample SS-5								
		4				CL		4.0		20.2			
SS - 4	24	8	20	6 (659)	LEAN CLAY, gray, moist, very stiff, trace gravel ribboning in sample SS-5								Ribboning in sample SS-5
		12				CL		3.0		20			
SS - 5	24	3	10	9 (656)	SILTY SAND, gray, wet, medium dense, clay seams (SS-5B)								P200 = 47%
		4				SM		1.0		18.7			
SS - 6	24	3	12	10 (655)	SILTY CLAY, gray, very moist, stiff to very stiff, wet sandy clay layers								
		4				CL-ML		1.0	19	7	14		
SS - 7	18	3	17	13.5 (651.5)	8 inches of silty sandy clay at 12 ft. (SS-7A)								P200 = 55% (SS-7A)
		7				CL		2.0		14.1			
SS - 8	24	4	13	15 650.0	LEAN CLAY, gray, moist, stiff to hard, trace sand								
		6				CL		4.5+		12.9			
SS - 9	18	3	13	18 645.0									
		5				CL		1.0		20.1			
SS - 10	18	5	15	20 (645)									
		7				CL		3.5-4.5		13.8			
				20	End of Boring at 20.0 ft.								
				25									
				30									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING: 8 ft.	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
WATER LEVEL AT COMPLETION: NE	CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
WATER LEVEL AFTER 24 HOURS: 5 ft.		WET <input type="checkbox"/>
		DRY <input type="checkbox"/>

153/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



SOIL BORING LOG

PAGE NUMBER
1 of 1

BORING NUMBER
B-6

PROJECT NUMBER
18282-10

DRILLING RIG
Diedrich D50 ATV

DRILLING METHOD
3 1/4" HSA

SURFACE ELEVATION
668.1 ft

Gestra Engineering Inc.
191 W. Edgerton Avenue
Milwaukee, WI 53207
Phone: 414-933-7444, Fax: 414-933-7844

PROJECT NAME
Willow Creek Residential

DATE DRILLING STARTED
9/19/2018

PROJECT LOCATION
Somers, WI

DATE DRILLING ENDED
9/19/2018

BORING DRILLED BY
FIRM: Gestra
CREW CHIEF: M. Rhodes

FIELD LOG
J. Martinez

NORTHING
152378

LAB LOG / QC
D. Dettmers

EASTING
612622

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	9	1 4 4 4	8		TOPSOIL (24"), LEAN CLAY, black, moist							18.7	
SS - 2	18	2 3 3 4	6	665.0	LEAN CLAY, brown with gray mottled, moist, very stiff, with sand	CL			3.0			20	
SS - 3	24	3 7 9 11	16	5	LEAN CLAY, brown, moist, hard	CL			4.5			17.6	
SS - 4	24	5 7 7 10	14	660.0	LEAN CLAY, gray, moist, medium stiff to very stiff				3.0			18.3	
SS - 5	24	3 3 4 5	7	10					2.5			20.1	
SS - 6	18	4 5 7 6	12		With gravel at 10-12 ft.				1.0			33.6	
SS - 7	18	1 2 5 7	7	655.0	Sandy clay layer at 12-14 ft.	CL			0.5			13.5	P200 = 65 %
SS - 8	18	4 5 6 6	11	15					1.0			12.5	
SS - 9	18	4 5 6 7	11	650.0					2.0			15.3	
SS - 10	24	2 2 4 5	6	20	20 (648.1)							17.5	
					End of Boring at 20.0 ft.								
					645.0								
					25								
					640.0								
					30								

WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: NE ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: NE		CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 24 HOURS: 6 ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

154/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



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191 W. Edgerton Avenue
Milwaukee, WI 53207
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER	1 of 1
BORING NUMBER	B-7
PROJECT NUMBER	18282-10
DRILLING RIG	Diedrich D50 ATV
DRILLING METHOD	3/4" HSA
SURFACE ELEVATION	667 ft

PROJECT NAME	Willow Creek Residential	DATE DRILLING STARTED	9/19/2018
PROJECT LOCATION	Somers, WI	DATE DRILLING ENDED	9/19/2018

BORING DRILLED BY
FIRM: Gestra
CREW CHIEF: M. Rhodes

FIELD LOG	J. Martinez	NORTHING	152300
LAB LOG / QC	D. Dettmers	EASTING	612484

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	20	1	8	665.0	TOPSOIL (16"), LEAN CLAY, black, moist								Boring offset 20 ft. north from staked location due to gas line
		4			1.3 (665.7)								
SS - 2	24	3	17	665.0	LEAN CLAY, brown with gray mottled, moist, very stiff with sand	CL			2.5	4.5+		17.9	
		5											
SS - 3	24	6	18	660.0	LEAN CLAY, brown, moist, hard, trace sand	CL			4.5+			21.8	
		8											
SS - 4	24	9	32	660.0		CL			4.5+			18.7	
		15											
SS - 5	24	17	26	660.0	LEAN CLAY, gray, moist, hard	CL			4.5			18.4	
		20											
SS - 6	24	13	20	655.0	SAMPLER DROVE STONE SS-6	CL						18	
		11											
SS - 7	24	8	23	655.0	CLAYEY SAND, gray, moist, medium dense	SC						11.1	
		10											
SS - 8	24	11	12	655.0	SILTY SAND, gray, wet, medium dense	SM						15.6	
		12											
SS - 9	10	1	11	650.0	SANDY LEAN CLAY, gray, moist, stiff	CL						13.8	
		2											
SS - 10	24	5	20	650.0	LEAN CLAY, gray, moist, very stiff, trace sand	CL			2.0			14.9	
		7											
				20	5 inch layer of red silt	CL							
				20	20 (647)								
				25	End of Boring at 20.0 ft.								
				30									

WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: 13 ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: NE		CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 24 HOURS: 9 ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

155/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



Gestra Engineering Inc.
191 W. Edgerton Avenue
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Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER		1 of 1
BORING NUMBER	B-9	
PROJECT NUMBER	18282-10	
DRILLING RIG	Diedrich D50 ATV	
DRILLING METHOD	3/4" HSA	
SURFACE ELEVATION	675.1 ft	

PROJECT NAME	DATE DRILLING STARTED
Willow Creek Residential	9/17/2018
PROJECT LOCATION	DATE DRILLING ENDED
Somers, WI	9/17/2018

BORING DRILLED BY	FIELD LOG	NORTHING
FIRM: Gestra	S. Gonyer	153620
CREW CHIEF: S. Gonyer	LAB LOG / QC	EASTING
	D. Dettmers	613591

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	2	8	1	TOPSOIL (12")								
		4			1 (674.1)								
SS - 2	18	4	19	2	SILTY CLAY, brown with gray mottled, moist	CL-ML		1.0			19.6		
		4			2 (673.1)								
SS - 3	18	7	17	5	CLAYEY SAND, brown, moist, medium dense, trace gravel, clay seams	SC					17.6		
		12			4 (671.1)								
SS - 4	8	5	22	6	LEAN CLAY, brown, moist, hard, trace sand	CL		4.5+			15.7		
		6			6.5 (668.6)								
SS - 5	18	8	15	10	LEAN CLAY, gray, moist, very stiff, trace to with sand	CL		3.0			15.7		
		8											
SS - 6	18	5	13	15				3.0			16.4		
		6											
SS - 7	18	6	37	20				2.5			12.2		
		7											
		11		20	SILTY SAND, gray, moist to wet, dense, clay seams	SM							
		14		21									
		23		21	End of Boring at 21.0 ft.								
				25									
				30									

WATER & CAVE-IN OBSERVATION DATA

▽	WATER ENCOUNTERED DURING DRILLING: 19.5 ft.	☒	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
▽	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
▽	WATER LEVEL AFTER 24 HOURS: NE			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

157/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



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191 W. Edgerton Avenue
Milwaukee, WI 53207
Phone: 414-933-7444, Fax: 414-933-7844

SOIL BORING LOG

PAGE NUMBER		1 of 1
BORING NUMBER	B-10	
PROJECT NUMBER	18282-10	
DRILLING RIG	Diedrich D50 ATV	
DRILLING METHOD	3/4" HSA	
SURFACE ELEVATION	675.6 ft	

PROJECT NAME	DATE DRILLING STARTED
Willow Creek Residential	9/17/2018
PROJECT LOCATION	DATE DRILLING ENDED
Somers, WI	9/17/2018

BORING DRILLED BY	FIELD LOG	NORTHING
	LAB LOG / QC	EASTING
FIRM: Gestra CREW CHIEF: S. Gonyer	S. Gonyer	153240
	D. Dettmers	613591

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	3 4 5 6	9	675.0	TOPSOIL (12") 1 (674.6)								
SS - 2	18	2 3 3	6	674.6	LEAN CLAY, gray with brown mottled, moist, very stiff	CL			2.0	49	33	27.5	
SS - 3	18	2 3 3	6	670.0	CLAYEY SAND, gray, very moist, loose, silty sand layers 4 (671.6)	SC			2.0			27.3	
SS - 4	18	6 8 11	19	669.1	LEAN CLAY, gray, moist, stiff to hard 6.5 (669.1)				1.5			17.1	
SS - 5	18	3 5 8	13	665.0	Sand seams in SS-4, SS-5				4.0			17.3	
SS - 6	18	3 5 7	12	660.0		CL			4.5			15.9	
SS - 7	18	3 3 6	9	655.0	21 (654.6)				2.0			18.6	
				21.0	End of Boring at 21.0 ft.								
				25	650.0								
				30									

WATER & CAVE-IN OBSERVATION DATA

<input checked="" type="checkbox"/>	WATER ENCOUNTERED DURING DRILLING: NMR ft.	<input checked="" type="checkbox"/>	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AT COMPLETION: NMR		CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
<input checked="" type="checkbox"/>	WATER LEVEL AFTER 24 HOURS: 2 ft.			WET <input type="checkbox"/>
				DRY <input type="checkbox"/>

158/187

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SOIL BORING LOG

PAGE NUMBER		1 of 1
BORING NUMBER	B-11	
PROJECT NUMBER	18282-10	
DRILLING RIG	Diedrich D50 ATV	
DRILLING METHOD	3 1/4" HSA	
SURFACE ELEVATION	674.5 ft	

PROJECT NAME	DATE DRILLING STARTED
Willow Creek Residential	9/17/2018
PROJECT LOCATION	DATE DRILLING ENDED
Somers, WI	9/17/2018

BORING DRILLED BY
FIRM: Gestra
CREW CHIEF: S. Gonyer

FIELD LOG	NORTHING
S. Gonyer	152809
LAB LOG / QC	EASTING
D. Dettmers	613512

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	18	3 4 4 4	8		TOPSOIL (12")								
					1 (673.5)								
SS - 2	18	2 4 5	9		SANDY CLAY, brown with gray mottled, moist, stiff, trace gravel	CL			1.0			29.5	P200 = 60%
					2 (672.5)							14	
SS - 3	18	2 2 5	7	5	SANDY LEAN CLAY, gray, very moist, medium stiff, trace gravel	CL							
					4 (670.5)								
				670.0	SILTY SAND, gray, very moist, loose	SM							
					6.5 (668)								
SS - 4	18	1 4 6	10		LEAN CLAY, gray, moist, stiff to very stiff				3.0			15	
SS - 5	18	3 5 8	13	10					3.5			16.3	
				665.0									
SS - 6	18	2 5 6	11	15		CL			2.0			19.3	
				660.0									
SS - 7	18	2 5 6	11	20					1.5			22.4	
					21 (653.5)								
					End of Boring at 21.0 ft.								
				655.0									
				25									
				650.0									
				30									
				645.0									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING: 9 ft.	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
WATER LEVEL AT COMPLETION: 9 ft.	CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
WATER LEVEL AFTER 24 HOURS: 0		WET <input type="checkbox"/>
		DRY <input type="checkbox"/>

159/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



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SOIL BORING LOG

PAGE NUMBER	
1 of 1	
BORING NUMBER	B-12
PROJECT NUMBER	18282-10
DRILLING RIG	Diedrich D50 ATV
DRILLING METHOD	3 1/4" HSA
SURFACE ELEVATION	679.1 ft

PROJECT NAME	Willow Creek Residential	DATE DRILLING STARTED	9/19/2018
PROJECT LOCATION	Somers, WI	DATE DRILLING ENDED	9/19/2018

BORING DRILLED BY
FIRM: Gestra
CREW CHIEF: M. Rhodes

FIELD LOG	J. Martinez	NORTHING	152283
LAB LOG / QC	D. Dettmers	EASTING	613305

Number and Type	Recovery (in)	Blow Counts	N - Value	Depth (ft) Elevation	Soil Description and Geological Origin for Each Major Unit	USCS Classification	Graphic	Well Diagram	Unconfined Comp. Strength (Q _u or Q _p) (tsf)	Liquid Limit	Plasticity Index	Moisture Content (%)	Comments
SS - 1	8	2 4 4	8		TOPSOIL (12"), Lean clay, black, moist 1 (678.1)								Boring offset 20ft. north of staked location due to gas line
SS - 2	18	5 5 5	10	675.0	CLAYEY SAND, brown, moist, loose, trace gravel, medium stiff (Possible FILL)							13.1	
SS - 3	5	5 7 11	18	5	Possible rock at 4.5 ft. , trace to with black lean clay in SS-3							18.7	
SS - 4	18	3 7 11	18	670.0	LEAN CLAY, gray, moist, stiff to very stiff, trace sand 6 (673.1)				2.5-3.5			16.5	
SS - 5	18	4 5 7	12	10					2.5			18	
SS - 6	18	5 9 13	22	665.0		CL			3.0			17.5	
SS - 7	18	4 5 7	12	15					3.0			18.5	
SS - 8	18	4 6 11	17	20	With gravel in SS-8 21 (658.1)				1.0-2.0			19.3	
					End of Boring at 21.0 ft.								
				25									
				30									

WATER & CAVE-IN OBSERVATION DATA

WATER ENCOUNTERED DURING DRILLING: NE ft.	CAVE DEPTH AT COMPLETION: NMR	WET <input type="checkbox"/>
WATER LEVEL AT COMPLETION: 12 ft.	CAVE DEPTH AFTER 0 HOURS: NMR	DRY <input type="checkbox"/>
WATER LEVEL AFTER 24 HOURS: 4 ft.		WET <input type="checkbox"/>
		DRY <input type="checkbox"/>

160/187

NOTE: Stratification lines between soil types represent the approximate boundary; gradual transition between in-situ soil layers should be expected.



SOIL AND SITE EVALUATION – STORM

In accordance with SPS 382.365, 385, Wis. Adm. Code, and WDNR Standard 1002

Attach a complete site plan on paper not less than 8 ½ x 11 inches in size. Plan must include, but not limited to: vertical and horizontal reference point (BM), direction and percent of slope, scale or dimensions, north arrow, and BM referenced to nearest road <p style="text-align: center;">Please print all information</p> Personal information you provide may be used for secondary purposes [Privacy Law, s. 15.04(1)(m)]		County Kenosha Parcel I.D. Multiple Reviewed by: DD Date: 9/27/18
Property Owner Bear Development	Property Location Govt. Lot $\frac{1}{4}$ $\frac{1}{4}$ S 15 T 2 N R 22 E (or) W	
Property Owner' Mail Address 4011 80th Street	Lot #	Block #
City State Zip Code Phone Number Kenosha WI 53142	<input type="checkbox"/> City <input checked="" type="checkbox"/> Village <input type="checkbox"/> Town Nearest Road Sommers County Highway E	
Drainage area _____ <input type="checkbox"/> sq .ft <input type="checkbox"/> acres Test site suitable for (check all that apply): <input type="checkbox"/> Site not suitable: <input type="checkbox"/> Bioretention; <input type="checkbox"/> Subsurface Dispersal System; <input type="checkbox"/> Reuse; <input type="checkbox"/> Irrigation; <input type="checkbox"/> Other _____	Hydraulic Application Test Method <input checked="" type="checkbox"/> Morphological Evaluation <input type="checkbox"/> Double Ring Infiltrometer <input type="checkbox"/> Other: (specify) _____	Soil Moisture Date of soil borings: <u>9/19/18-9/20/18</u> USDA-NRCS WETS Value: <input type="checkbox"/> Dry = 1; <input checked="" type="checkbox"/> Normal = 2; <input type="checkbox"/> Wet = 3.

B-1	#OBS. <input type="checkbox"/> Pit <input checked="" type="checkbox"/> Boring	Ground surface elevation. 673.5 ft.	Elevation of limiting factor 657.5 ft.							
Horizon	Depth ft.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
	0.7	10YR2/1	-	SiCL	1, F, GR	mFR	-	0-10	-	0.04
	2	10YR3/4	-	C	0, M	mFR	-	0-15	-	0.07
C	8	10YR4/3	-	C	0, M	mVFI	-	0-10	-	0.07
C	16	10YR4/1	-	C	0, M	mFI	-	0-10	-	0.07
C	20	10YR4/1	-	LS	0, SG	mFR	-	0-10	-	3.60
Comments:										

B-2	#OBS. <input type="checkbox"/> Pit <input checked="" type="checkbox"/> Boring	Ground surface elevation. 671.3 ft.	Elevation of limiting factor Exempt ft.							
Horizon	Depth ft.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
	6	10YR4/4	-	SL	1, F, SBK	mFR	-	5-20	-	0.50
B	8	10YR4/3	-	C	2, M, ABK	mFI	-	0-10	-	0.07
C	10	10YR5/3	-	CL	0, M	mFR	-	0-10	-	0.03
C	12	10YR4/1	-	SC	0, M	mFI	-	0-15	-	0.04
C	20	10YR4/1	-	SL	0, M	mFR	-	0-10	-	0.50
Comments: Wet at 17.5'										
Name (Please Print) Jeffrey Bruesewitz					Signature			Credential Number PG-1333		
Address 191 W. Edgerton Ave, Milwaukee, WI 53207					Date Evaluation Conducted 9/25/18			Telephone Number 414-933-7444		

SBD-10793 (R01/17)

WDNR
September 2017

B-3 #OBS. Pit Boring Ground surface elevation. 666.9 ft. Elevation of limiting factor 659.4 ft. Page 2 of 3

Horizon	Depth ft.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
	0.7	10YR2/1	-	CL	0, M	mFR	-	0-10	-	0.03
	2	10YR4/6	-	L	0, M	mFR	-	5-20	-	0.24
C	7.5	10YR4/3	-	C	0, M	mVFI	-	0-10	-	0.07
C	12.8	10YR4/1	-	C	0, M	mFI	-	0-10	-	0.07
C	15.5	10YR4/1	-	SiL	0, M	mFR	-	0-10	-	0.13
C	20	10YR4/1	-	SL	0, M	mFR	-	0-10	-	0.50
Comments: Wet at 17.5', with sand lenses from 15.5' to 16'										

B-4 #OBS. Pit Boring Ground surface elevation. 669.7 ft. Elevation of limiting factor Exempt ft.

Horizon	Depth ft.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
	0.8	10YR2/1	-	CL	1, F, GR	mFR	-	0-10	-	0.03
	2	10YR3/4	-	C	0, M	mFR	-	5-20	-	0.07
C	7	10YR4/3	-	C	0, M	mVFI	-	0-10	-	0.07
C	12	10YR4/1	-	C	0, M	mFI	-	0-10	-	0.07
C	14	10YR4/1	-	GRSL	1, F, SBK	mL	-	15-25	-	0.50
C	16.8	10YR4/1	-	C	0, M	mFR	-	0-10	-	0.07
C	20	10YR4/1	-	C	0, M	mFI	-	0-15	-	0.07
Comments:										

B-5 #OBS. Pit Boring Ground surface elevation. 665.0 ft. Elevation of limiting factor 664.0 ft.

Horizon	Depth ft.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
A	1	10YR2/1	-	SiCL	1, F, GR	mFR	-	0-10	-	0.04
B	4	2.5YR6/2	C, 3, P, 10YR5/6	C	1, F, ABK	mFR	-	0-15	-	0.07
C	9	10YR4/2	-	C	0, M	mVFI	-	0-10	-	0.07
C	10	10YR4/1	-	SL	0, M	mL	-	0-10	-	0.50
C	13.5	10YR4/1	-	SCL	0, M	mFR	-	0-15	-	0.11
C	20	10YR4/1	-	C	0, M	mFI	-	0-10	-	0.07
Comments: Water at 8'										

B-6 #OBS. Pit Boring Ground surface elevation. 668.1 ft. Elevation of limiting factor Exempt ft.

Horizon	Depth ft.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
A	2	10YR2/1	-	CL	1, F, GR	mFR	-	0-15	-	0.03
B	4	10YR4/3	-	CL	0, M	mFI	-	0-15	-	0.03
B	6	10YR4/2	-	C	0, M	mVFI	-	0-10	-	0.07
C	10	10YR4/1	-	C	0, M	mFI	-	0-10	-	0.07
C	14	10YR4/1	-	SC	0, M	mFR	-	5-15	-	0.04
C	20	10YR4/1	-	C	0, M	mFR	-	0-10	-	0.07
Comments: With sand seams from 10' to 14'										

SBD-10793 (R 7/17)

Overall Site Comments: _____

WDNR
September 2017

B-7 #OBS. Pit Boring Ground surface elevation. 667.0 ft. Elevation of limiting factor 658.5 ft. Page 3 of 3

Horizon	Depth ft.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frags.	% Fines	Hydraulic App Rate Inches/Hr
	1.3	10YR2/1	-	CL	1, F, GR	mFR	-	0-15	-	0.03
	2	2.5YR4/6	-	GRSCL	1, M, ABK	mFI	-	15-25	-	0.11
B	8.5	10YR5/3	C, 2, F, 10YR5/6	C	1, M, ABK	mVFI	-	0-10	-	0.07
C	12	10YR4/1	-	C	0, M	mFI	-	0-10	-	0.07
C	14	10YR4/1	-	SL	0, M	mFR	-	0-10	-	0.50
C	20	10YR4/1	-	C	0, M	mFR	-	0-15	-	0.07

Comments:
Wet at 13'

#OBS. Pit Boring Ground surface elevation. _____ ft. Elevation of limiting factor _____ ft.

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

Comments:

#OBS. Pit Boring Ground surface elevation. _____ ft. Elevation of limiting factor _____ ft.

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

Comments:

#OBS. Pit Boring Ground surface elevation. _____ ft. Elevation of limiting factor _____ ft.

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

Comments:

SBD-10793 (R 7/17)

Overall Site Comments: _____

WDNR
September 2017

GENERAL NOTES

DRILLING AND SAMPLING SYMBOLS		TEST SYMBOLS	
SYMBOL	DEFINITION	SYMBOL	DEFINITION
HSA	Hollow Stem Auger	MC	Moisture Content - % of Dry Wt. – ASTM D 2216
RWB	Rotary Wash Boring (Mud Drilling)	OC	Organic Content - % of Dry Wt. – ASTM D 2974
_FA	4", 6" or 10" Diameter Flight Auger	DD	Dry Density – Pounds Per Cubic Foot
_HA	2", 4" or 6" Hand Auger	LL, PL	Liquid and Plastic Limit – ASTM D 4318
_DC	2 1/2", 4", 5" or 6" Steel Drive Casing		
_RC	Size A, B, or N Rotary Casing		
PD	Pipe Drill or Cleanout Tube		
CS	Continuous Split Spoon Sampling		
DM	Drill Mud		
JW	Jetting Water		
SS	2" O.D. Split Spoon Sample		
_L	2 1/2" or 3 1/2" O.D. SB Liner Sample		
ST	3" Thin Walled Tube Sample (Shelby Tube)		
3TP	3" Thin Walled Tube (Pitcher Sampler)		
_TO	2" or 3" Thin Walled Tube (Osterberg Sampler)		
W	Wash Sample		
B	Bag Sample		
P	Test Pit Sample		
_Q	BQ, NQ, or PQ Wireline System		
_X	AX, BX, or NX Double Tube Barrel		
CR	Core Recovery – Percent		
NSR	No Sample Recovered, classification based on action of drilling, equipment and/or material noted in drilling fluid or on sampling bit.		
NMR	No Measurement Recorded, primarily due to presence of drilling or coring fluid.		
▽	Water Level Symbol		

Additional Insertions

Qu	Unconfined Comp. Strength-psf – ASTM D 2166
Qp	Penetrometer Reading – Tons/Square Foot
Ts	Torvane Reading – Tons/Square Foot
G	Specific Gravity – ASTM D 854
SL	Shrinkage Limits – ASTM D 427
OC	Organic Content – Combustion Method
SP	Swell Pressure - Tons/Square Foot
PS	Percent Swell
FS	Free Swell – Percent
pH	Hydrogen Ion Content. Meter Method
SC	Sulfate Content – Parts/ Million, same as mg/L
CC	Chloride Content - Parts/ Million, same as mg/L
C*	One Dimensional Consolidation – ASTM D 2453
Qc*	Triaxial Compression
D.S.*	Direct Shear – ASTM D 3080
K*	Coefficient of Permeability – cm/sec
D*	Dispersion test
DH*	Double Hydrometer – ASTM D 4221
MA*	Particle Size Analysis – ASTM D 422
R	Laboratory Receptivity, in ohm – cm – ASTM G 57
E*	Pressuremeter Deformation Modulus – TSF
PM*	Pressuremeter Test
VS*	Field Vane Shear – ASTM D 2573
IR*	Infiltrometer Test – ASTM D 3385
RQD	Rock Quality Designation – Percent

*See attached data sheet or graph

WATER LEVEL

Water levels shown on the boring logs are the levels measured in the borings at the time and under the conditions indicated. In sand, the indicated levels may be considered reliable ground water levels. In clay soil, it may not be possible to determine the ground water level within the normal time required for test borings, except where lenses or layers of more pervious waterbearing soil are present. Even then, an extended period of time may be necessary to reach equilibrium. Therefore, the position of the water level symbol for cohesive or mixed texture soils may not indicate the true level of the ground water table. Perched water refers to water above an impervious layer, thus impeding in reaching the water table. The available water level information is given at the bottom of the log sheet.

DESCRIPTIVE TERMINOLOGY

DENSITY TERM	“N” VALUE	CONSISTENCY TERM	Unconfined Compressive Strength, (tsf)	“N” VALUE	Lamination	Up to 1/2" thick stratum
Very Loose	0-4				Layer	1/2" to 6" thick stratum
Loose	4-10	Very Soft	<0.25	0-2	Lens	1/2" to 6" discontinuous stratum
Medium Dense	10-30	Soft	0.25 - 0.49	2-4	Varved	Alternating laminations
Dense	30-50	Medium Stiff	0.5 - 0.99	4-8	Dry	Powdery, no noticeable water
Very Dense	Over 50	Stiff	1.0 - 1.99	8-16	Moist	Below saturation
		Very Stiff	2.0 - 3.99	16-30	Wet	Saturated, above liquid limit
		Hard	4.0+	Over 30	Water bearing	Pervious soil below water

Standard “N” Penetration: Blows per Foot of a 140 Pound Hammer
Falling 30 inches on a 2 inch OD Split Barrel Sampler

RELATIVE GRAVEL PROPORTIONS

CONDITION	TERM	RANGE
Coarse Grained Soils	trace of gravel	2-14%
	with gravel	15-49%
Fine Grained Soils	trace of gravel	2-14%
	with gravel	15-29%
30% + No. 200	trace of gravel	2-14%
30% + No. 200	with gravel	15-24%
30% + No. 200	gravelly	25-49%

RELATIVE SIZES

Boulder	Over 12"
Cobble	3" - 12"
Gravel	
Coarse	3/4" - 3"
Fine	#4 - 3/4"
Sand	
Coarse	#4 - #10
Medium	#10 - #40
Fine	#40- #200
Silt & Clay	- # 200, Based on Plasticity

SOILS CLASSIFICATION FOR ENGINEERING PURPOSES

ASTM Designation: D 2487 - 83

(Based on Unified Soil Classification System)

SOIL ENGINEERING

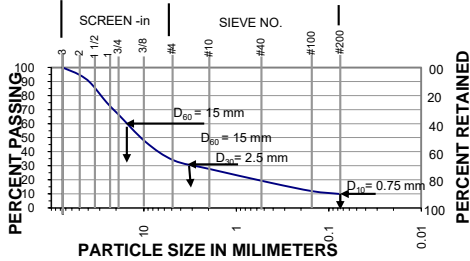
Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A			Soil Classification ^B		
			Group Symble	Group Name	
Coarse-Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% coarse fraction retained on No. 4 sieve	Clean Gravels	$Cu \geq 4$ and $1 \leq Cc \leq 3^E$	GW	Well graded gravel ^F
		Less than 5% fines ^C	$Cu < 4$ and/or $1 > Cc > 3^E$	GP	Poorly graded gravel ^F
		Gravels with Fines more than 12% fines ^C	Fines Classify as ML or MH Fines classify as CL or CH	GM GC	Silty gravel ^{F,G,H} Clayey gravel ^{F,G,H}
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean sands	$Cu \geq 6$ and $1 \leq Cc \leq 3^E$	SW	Well graded sand ^I
		Less than 5% fines ^D	$Cu < 6$ and/or $1 > Cc > 3^E$	SP	Poorly graded sand ^I
		Sands with Fines more than 12% fines ^D	Fines Classify as ML or MH Fines classify as CL or CH	SM SC	Silty sand ^{G,H,I} Clayey sand ^{G,H,I}
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid Limit less than 50	inorganic	PI > 7 and plots on or above "A" line PI < 4 or plots below "A" line	CL ML	Lean clay ^{K,L,M} Silt ^{K,L,M}
		organic	Liquid limit - oven dried Liquid limit - not dried < 0.75	OL	Organic clay ^{K,L,M,N} Organic Silt ^{K,L,M,O}
		inorganic	PI plots on or above "A" line PI plots below "A" line	CH MH	Fat clay ^{K,L,M} Elastic silt ^{K,L,M}
		Organic	Liquid limit - oven dried Liquid limit - not dried < 0.75	OH	Organic clay ^{K,L,M,P} Organic Silt ^{K,L,M,Q}
	Highly organic Soils	Primarily organic matter, dark in color, and organic odor		PT	Peat
		Fibric Peat > 67% Fibers	Hemic Peat 33% - 67% Fibers	sapric	Peat < 33% Fibers

- ^A Based on the material passing the 3-in (75-mm) sieve
- ^B If field sample contained cobbles or boulders, or both, add with cobbles or boulders, or both to group name
- ^C Gravels with 5 to 12% fines require dual symbols:
 GW - GM well-graded gravel with silt
 GW - GC well-graded gravel with clay
 GP - GM poorly-graded gravel with Silt
 GP - GC poorly-graded gravel with clay
- ^D Sands with 5 to 12% fines require dual symbols:
 SW - SM well-graded sand with silt
 SW - SC well-graded sand with clay
 SP - SM poorly-graded sand with Silt
 SP - SC poorly-graded sand with clay

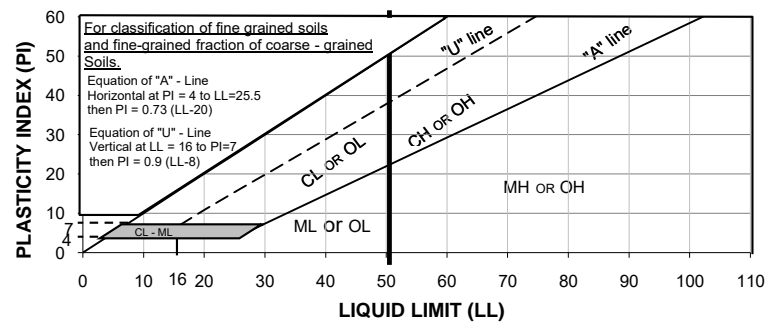
- ^E $Cu = \frac{D_{60}}{D_{10}}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
- ^F If soil contains $\geq 15\%$ sand, add "with sand" to group name
- ^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM
- ^H If fines are organic, add "with organic fines" to group name.
- ^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

- ^J If Atterberg limits plot in hatched area, soil is a CL_{ML} silty clay
 If soil contains 15 to 29% plus No. 200, add, "with sand" or "with gravel", whichever is predominant
- ^L If soil contains $\geq 30\%$ plus No.200, predominantly sand, add "sandy" to the group name
- ^M If soil contains $\geq 30\%$ plus No.200, predominantly gravel add "gravelly" to the group name
- ^N PI ≥ 4 and plots on or above "A" Line
- ^O PI < 4 or plots below "A" Line
- ^P PI plots on or above "A" Line
- ^Q PI plots below "A" Line

SIEVE ANALYSIS



$$Cu = \frac{D_{60}}{D_{10}} = \frac{15}{0.75} = 200 \quad Cc = \frac{(D_{30})^2}{D_{60} \times D_{10}} = \frac{(2.5)^2}{15 \times 0.75} = 5.6$$



SOILS CLASSIFICATION FOR ENGINEERING PURPOSES

(Based on U.S. Dept. of Agriculture & Natural Resources Conservation Service)

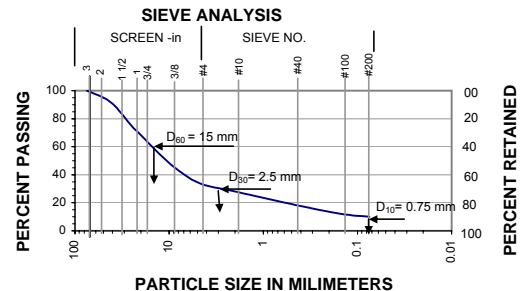
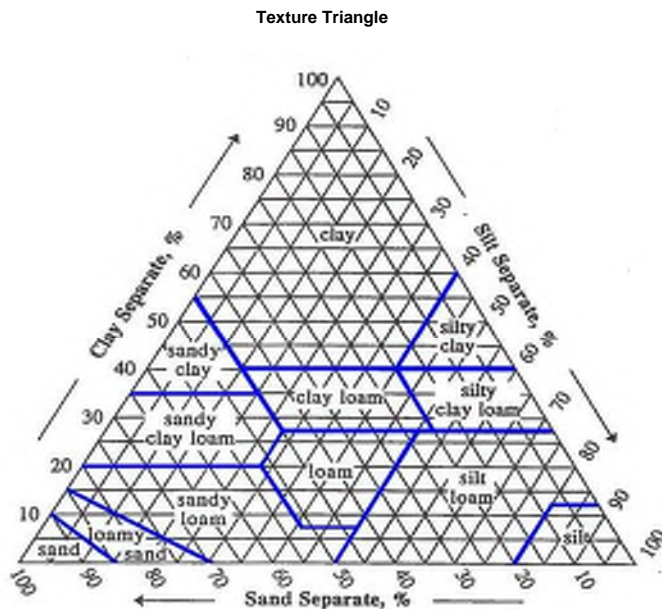
SOIL ENGINEERING

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests			Soil Classification	
			Group Symble	Group Name
Coarse-Grained Soils More than 15% retained on No. 10 sieve	Rock Fragments	≥ 15% but < 35% rock fragments	> 25"	BY Boulders
			10" < 25"	ST Stones
			3" < 10"	CB Cobbles
	Gravels	≥ 15% but < 35% gravel	3/4" < 3"	CGR Coarse Gravel
			# 4 < 3/4"	MGR Medium Gravel
		# 10 < # 4	FGR Fine Gravel	
Sands	Texture class based on Texture Triangle	Use rock fragment modifiers if > 15% retained on # 10	# 18 < # 10	VCOS Very Coarse Sand
			# 35 < # 18	COS Coarse Sand
			# 60 < # 35	S Sand
			# 140 < # 60	FS Fine Sand
			# 300 < # 140	VFS Very Fine Sand
Fine-Grained Soils 50% or more passes the No. 300 sieve	Silts and Clays Texture class based on Texture Triangle	Use rock fragment modifiers if > 15% retained on # 10	.02 mm < .05 mm	Coarse Silt
			.002 mm < .02 mm	Fine Silt
			.0002 mm < .002 mm	Coarse Clay
			< .0002 mm	Fine Clay

^F Use Field Book for Describing and Sampling Soils V 2.0

Texture Classes ^F	Code
Loamy Coarse Sand	LCOS
Loamy Sand	LS
Loamy Fine Sand	LFS
Loamy Very Fine Sand	LVFS
Coarse Sandy Loam	COSL
Sandy Loam	SL
Fine Sandy Loam	FSL
Very Fine Sandy Loam	VFSL
Loam	L
Silt Loam	SIL
Silt	SI
Sandy Clay Loam	SCL
Clay Loam	CL
Silty Clay Loam	SICL
Sandy Clay	SC
Silty Clay	SIC
Clay	C

15 < 35 % size adjective
35 < 60 % Very (size adj.)
60 < 90 % Extremely (size adj.)



APPENDIX II
LABORATORY TEST RESULTS



Laboratory Test Results of Atterberg Limits of Soil

Project Name: Willow Creek Date: October 9, 2018
 Project Number: 18282-10 Client: Bear Development
 Project Location: Somers, WI
 ASTM Designation: D4318

Sample Information

Type of Sample Split Spoon
 Boring Number B-5
 Sample Number 6
 Depth of Sample 10'-12'

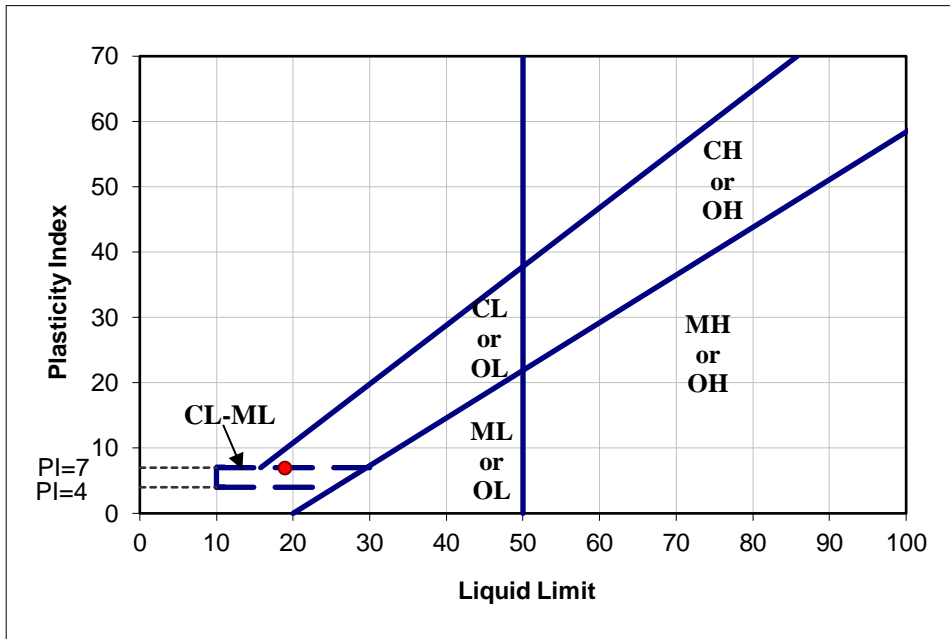
Determination of Liquid Limit

Cup Number	D17	D21	D16
Weight of Cup (g)	14.72	14.55	14.72
Weight of Wet Soil and Cup (g)	33.76	39.88	38.06
Weight of Dry Soil and Cup (g)	30.83	35.80	34.19
Moisture Content (%)	18.2	19.2	19.9
Blow Counts	31	23	17

Determination of Plastic Limit

Cup Number	D28	D8
Weight of Cup (g)	7.45	7.21
Weight of Wet Soil and Cup (g)	14.17	13.42
Weight of Dry Soil and Cup (g)	13.47	12.77
Moisture Content (%)	11.6	11.7

Compilation of Test Results



Liquid Limit 19
 Plastic Limit 12
 Plasticity Index 7
 USCS Symbol CL-ML

Performed by: B. Bills

Reviewed By: D. Dettmers



Laboratory Test Results of Atterberg Limits of Soil

Project Name: Willow Creek Date: September 28, 2018
 Project Number: 18282-10 Client: Bear Development
 Project Location: Somers, WI
 ASTM Designation: D4318

Sample Information

Type of Sample Split Spoon
 Boring Number B-10
 Sample Number 2
 Depth of Sample 2'-3.5'

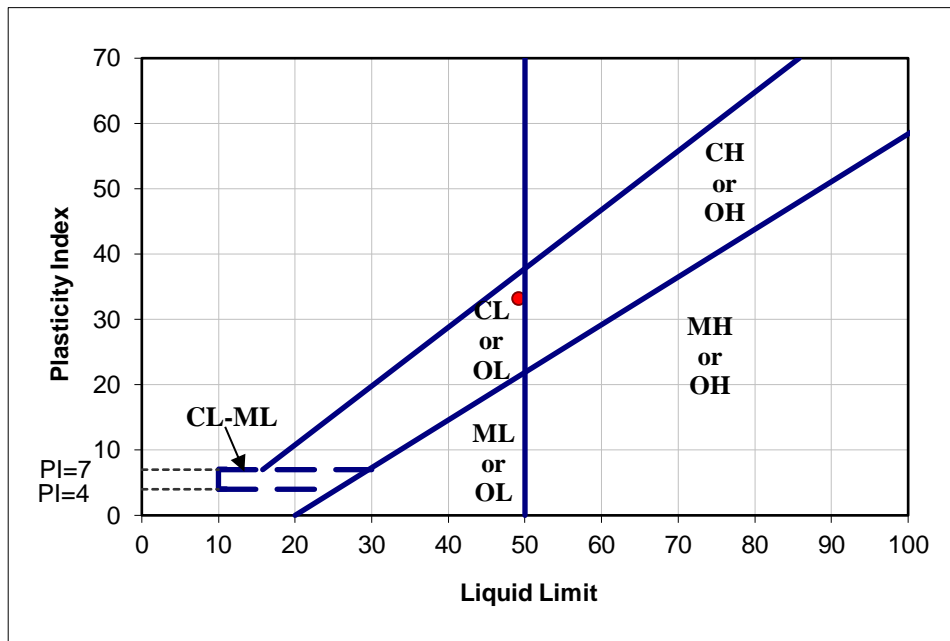
Determination of Liquid Limit

Cup Number	D11	D15	B11
Weight of Cup (g)	14.82	14.57	14.37
Weight of Wet Soil and Cup (g)	35.05	35.55	37.14
Weight of Dry Soil and Cup (g)	28.53	28.63	29.46
Moisture Content (%)	47.6	49.2	50.9
Blow Counts	35	24	15

Determination of Plastic Limit

Cup Number	D28	D13
Weight of Cup (g)	7.44	7.18
Weight of Wet Soil and Cup (g)	13.49	13.49
Weight of Dry Soil and Cup (g)	12.67	12.61
Moisture Content (%)	15.7	16.2

Compilation of Test Results



Liquid Limit 49
 Plastic Limit 16
 Plasticity Index 33
 USCS Symbol CL

Performed by: B. Bills

Reviewed By: D. Dettmers



**VILLAGE OF SOMERS
VILLAGE BOARD
MEETING ITEM MEMORANDUM**

MEETING DATE: May 27, 2025

TO: Village President Stoner and Village Trustees

PREPARED BY: Kevin Poirier, Assistant Administrator

AGENDA ITEM: #8 Action on proposed Ordinance 2025-002 an Ordinance to repeal and recreate sections 18.30(E) and (F) of the code of Ordinances of the Village of Somers relating to preliminary plat and final plat fees.

BACKGROUND:

The Village list development fees in Chapter 18.30 of its Ordinances.
<https://ecode360.com/37202758>

While reviewing the Development Process, it came to Staff's attention that some of the fees were incorrect. After discussions with Kenosha County Planning and Zoning Staff and in an effort to streamline the fee process for developers, staff will be updating several of the fees listed throughout the review process and as time allows.

While the Village had not seen any Plat development in years, there are now several going through the approval process. The Preliminary Plat and Final Plat applications fees listed in Chapter 18,30(E) and (F) need to be corrected as to provide clarity and consistency to developers.

PRIOR ACTION TAKEN:

This item was discussed at the May 20 Village Work Session.

SUGGESTED ACTION/ACTION REQUESTED/COMMENTS:

In the event that the Village Board agrees with the suggested action, a suggested motion to approve would be as follows:

“Motion to waive first reading of Ordinance No. 2025-002”

“Motion to approve proposed Ordinance 2025-002, an Ordinance to repeal and

recreate sections 18.30(E) and (F) of the code of Ordinances of the Village of Somers relating to preliminary plat and final plat fees.”

ATTACHMENTS:

Proposed Ordinance 2025-002

ORDINANCE NO. 2025- 002

AN ORDINANCE TO REPEAL AND RECREATE SECTIONS 18.30(E) AND (F)
OF THE CODE OF ORDINANCES OF THE VILLAGE OF
SOMERS RELATING TO PRELIMINARY PLAT AND FINAL PLAT FEES

The Village Board of Trustees of the Village of Somers, Kenosha County,

Wisconsin, hereby repeals and recreates Sections 18.30(E) and (F) of the Code of Ordinances of
the Village of Somers to read as follows:

(E) **Preliminary Plat Fee.** The developer shall pay to the Village Clerk/Treasurer at the time of filing a preliminary plat, planned unit development, multi-unit dwelling plan or condominium plat an initial fee of Three Thousand (\$3,000.00) Dollars plus Twenty-five (\$25.00) Dollars for each lot or unit included in the preliminary plat, planned unit development, multi-unit dwelling plan or condominium plat to be applied to the cost of review and evaluation. If it is determined that resubmittal of the preliminary plat, planned unit development, multi-unit dwelling plan or condominium plat is required, then a resubmittal fee of Two Hundred Fifty (\$250.00) Dollars shall be due and payable. Additional costs of review and evaluation and additional costs of review and evaluation of modifications to a previously filed preliminary plat, planned unit development, multi-unit dwelling plan or condominium plat shall be invoiced to and paid by the developer on a monthly basis.

(F) **Final Plat Fee.** The developer shall pay to the Village Clerk/Treasurer at the time of filing a final plat, planned unit development, multi-unit dwelling plan or condominium plat an initial fee of Three Thousand (\$3,000.00) Dollars plus Twenty-five (\$25.00) Dollars for each lot or unit included in the final plat, planned unit development, multi-unit dwelling plan or condominium plat to be applied to the cost of review and evaluation. If it is determined that resubmittal of the final plat, planned unit development, multi-unit dwelling plan or condominium plat is required, then a resubmittal fee of Two Hundred Fifty (\$250.00) Dollars shall be due and payable. Additional costs of review and evaluation and additional costs of review and evaluation of modifications to a previously filed final plat, planned unit development, multi-unit dwelling plan or condominium plat shall be invoiced to and paid by the developer on a monthly basis.

Dated at Somers, Wisconsin, this _____ day of _____, 2025.

VILLAGE OF SOMERS

By: _____
George Stoner, President

Attest: _____
Wendy Burnette, Clerk/Treasurer



**VILLAGE OF SOMERS
VILLAGE BOARD
MEETING ITEM MEMORANDUM**

MEETING DATE: May 27, 2025

TO: Village President Stoner and Village Trustees

PREPARED BY: Kevin Poirier, Assistant Administrator

AGENDA ITEM: #9 Discussion and possible action on awarding bid received for Public Improvements for Golden Oil – Somers Gateway Center Project to PTS Contractors, Inc. in the amount of \$332,270.00.

BACKGROUND:

In April 2025, Golden Oil granted an easement to the Village for Municipal Utilities to reach the site of the proposed travel center on the northeast corner of Highway E and the East Frontage Road.

Staff has worked with Golden Oil’s engineers to design the project. These improvements would be paid for by the Developer but due to the fact the crossing would need to be public utilities the work needed to be publicly bid.

In May of 2025, the Board approved a Development Agreement. This agreement has been executed and recorded. After the amendment was in place a request for bids was prepared by our Engineers.

The original request for bids for the project were published in the Kenosha News May 8 and May 15. Bids were opened on May 22. The Village received two bids from the project:

PTS Contractors, Inc. Green Bay, WI	\$332,270.00
Globe Contractors, Inc. Pewaukee, WI	\$497,777.00

PRIOR ACTION TAKEN:

Bids have not previously been reviewed by the Board.

SUGGESTED ACTION/ACTION REQUESTED/COMMENTS:

Engineer Biwer recommends approval of the bid. If the Board approves the bid, a contract will be signed with PTS Contractors, Inc, after the Village receives a letter of credit from Golden Oil. In the event that the Village Board agrees with the suggested action, a suggested motion to approve would be as follows:

“Motion to approve bid from PTS Contractors, Inc. for the proposed Public Improvements for Golden Oil – Somers Gateway Center Project in the amount of \$332,270.00.”

ATTACHMENTS:

Engineer Biwer’s Recommendation Letter dated May 22. 2025 with bid tabulations

May 22, 2025

Village President and Board Members
Village of Somers
7511 12th Street
Somers, WI 53171

Subject: Village of Somers – Public Improvements for Golden Oil – Somers Gateway Center

Dear Village President and Board Members:

The following bids were received for the Public Improvements for Golden Oil – Somers Gateway Center Project on May 22, 2025, at 10:00 am. Enclosed is a copy of the Bid Tabulation.

<u>Bidders</u>	<u>Amount of Bid</u>
PTS Contractors, Inc. Green Bay, WI	\$332,270.00
Globe Contractors, Inc. Pewaukee, WI	\$497,777.00

After analyzing the bids, we find PTS Contractors, Inc. to be the lowest responsive and responsible bidder. Due to our past working relationship with PTS Contractors, Inc., we feel they are able to complete the Project.

We recommend award of the Contract to PTS Contractors, Inc. in the amount of \$332,270.00.

Please advise us of your decision.

Sincerely,

BAXTER & WOODMAN, INC.
CONSULTING ENGINEERS



Brett D. Biver, PE

Encs.

C: Wendy Burnette, Clerk-Treasurer
Doug Snyder, Baxter & Woodman, Inc.

P:\SOMEV\2325743-CTH E Golden Oil Review\Bidding\2325743.00_RecommendationLetter.docx

Village of Somers, Wisconsin
Public Improvements for Golden Oil - Somers Gateway Center

Bid Date/Time: May 22, 2025 @ 10:00
Engineer's Job No. 2325743.00

No.	Item	Quantity	Unit	PTS Contractors, Inc.		Globe Contractors, Inc.	
				Unit Price	Total	Unit Price	Total
1	Mobilization	1	LS	\$ 16,000.00	\$ 16,000.00	\$ 15,000.00	\$ 15,000.00
2	Construction Layout and Staking	1	LS	\$ 2,650.00	\$ 2,650.00	\$ 5,000.00	\$ 5,002.00
3	Utility Investigation Pothole	12	EA	\$ 1.00	\$ 12.00	\$ 650.00	\$ 7,800.00
4	12-Inch Sanitary Sewer (Open Cut)	316	LF	\$ 180.00	\$ 56,880.00	\$ 260.00	\$ 82,160.00
5	10-Inch Sanitary Sewer (Trenchless)	201	LF	\$ 675.00	\$ 135,675.00	\$ 1,051.00	\$ 211,251.00
6	Sanitary Sewer Manhole Connection	1	EA	\$ 9,000.00	\$ 9,000.00	\$ 14,500.00	\$ 14,500.00
7	48-Inch Sanitary Sewer Manhole	2	EA	\$ 14,245.00	\$ 28,490.00	\$ 10,300.00	\$ 20,600.00
8	Televise Sanitary Sewer	517	LF	\$ 4.00	\$ 2,068.00	\$ 12.00	\$ 6,204.00
9	12-Inch Water Main (Trenchless)	195	LF	\$ 236.00	\$ 46,020.00	\$ 460.00	\$ 89,700.00
10	12-Inch Connect to Water Main (Non-Pressure)	1	EA	\$ 8,375.00	\$ 8,375.00	\$ 11,500.00	\$ 11,500.00
11	12-Inch Gate Valve and Box	2	EA	\$ 5,000.00	\$ 10,000.00	\$ 6,500.00	\$ 13,000.00
12	Erosion and Sedimentation Control	1	LS	\$ 2,600.00	\$ 2,600.00	\$ 2,500.00	\$ 2,500.00
13	Restoration of Lawns and Parkways	1	LS	\$ 9,200.00	\$ 9,200.00	\$ 11,060.00	\$ 11,060.00
14	Traffic Control and Protection	1	LS	\$ 5,300.00	\$ 5,300.00	\$ 7,500.00	\$ 7,500.00
	TOTAL AMOUNT OF BID				\$ 332,270.00		\$ 497,777.00



**VILLAGE OF SOMERS
VILLAGE BOARD
MEETING ITEM MEMORANDUM**

MEETING DATE: May 27, 2025

TO: Village President Stoner and Village Trustees

PREPARED BY: Kevin Poirier, Assistant Administrator

REVIEWED BY: Wendy Burnette, Clerk-Treasurer

AGENDA ITEM: #10 Discussion and possible action to share cost with other municipalities to hire a lobbyist to advance Bills in Congress to have municipalities get their own ZIP Code.

BACKGROUND:

Addressing the Village’s ZIP Code issues was a 2022 Goal for the Village. As you are aware, Somers’ residents have 13 different ZIP Codes from seven different municipalities.

On Oct. 25, 2022, the Village adopted resolution 2022-017 requesting a ZIP Code Boundary Review. That application was submitted to the United States Postal Service that fall. The Boundary Review was officially denied November 2024. In December of that year, an appeal was filled with the USPS.

At the March 26, 2024, the Village voted to hire a lobbyist and shared cost with other municipalities up to \$10,000 for a duration of two months. The Village was billed \$9,375.00. At that time, the ZIP Code Bill was stuck in the Oversight Committee. The combined efforts of the lobbyist we retained and the visit that Trustee Ostby and other representatives from our ZIP Code Advocacy Coalition was invaluable in moving the Bill out of committee. It was brought to the floor of the house. At that time, Congresswoman Boebert spoke on the floor in favor of the Bill and mentioned Somers by name. A video is available at this link:

<https://www.instagram.com/reel/DCnWwY-pT5U/>

US Congressman Steil requested new resolutions from the Village to help move the Bills out of Committee. The Village and the Town approved Resolutions supporting Bills introduced in the 119th Congress at their respective meetings on May 13. Those new resolutions have been sent to the Congressman’s office as he renews his efforts to bring our Bill to a vote.

We have held regular meetings with other municipalities with ZIP Code issues to coordinate efforts. We have gathered national attention. Our coalition has grown and now include additional municipalities facing the same issue as Somers. Some of those have expressed strong interest in hiring a lobbyist again.

Should the hiring of a lobbyist move forward, the process would be done through a Request for Proposal in which all participating municipalities would help select a lobbyist. This would be the same process as 2024, with likely more participating municipalities.

UPDATE

On May 21, Bill H.R. 3095, which includes the Village of Somers and more than 60 other communities, passed the Oversight Committee and will proceed in the legislative review process

PRIOR ACTION TAKEN:

The Board discussed this item in the May 20 Work Session. Trustees seem to indicate a willingness to spend up to \$10,000 on a lobbyist.

FINANCIAL OR BUDGET CONSIDERATION:

This amount is an estimate and will depend on the numbers of municipalities participating in this effort. This item was not accounted for in the 2025 budget.

SUGGESTED ACTION/ACTION REQUESTED/COMMENTS:

Per our Work Session of May 20, Staff is looking for direction from the Board as to the amount, if any, the Village would be willing to contribute. In the event that the Village Board wishes to move forward, suggested motion to approve would be as follows:

“Motion to direct Administration to enter into agreement to hire a lobbyist to advance Bills in Congress to have municipalities get their own ZIP Code, Village of Somers cost not to exceed \$_____.”

ATTACHMENTS:

2025 National ZIP Code Advocacy Coalition Lobbyist Preliminary Scope of Work

119th Congress Bill H.R. 3095



CITY OF EASTVALE

12363 Limonite Avenue | Suite 910 | Eastvale, CA 91752
951.361.0900

2025 National ZIP Code Advocacy Coalition Lobbyist Preliminary Scope of Work Draft Document

BACKGROUND

H.R. 3095 was introduced by Congressman Lauren Boebert on April 30, 2025 to require the United States Postal Service (USPS) to designate single and unique ZIP codes for 75 cities and communities across the nation. The bill is co-sponsored by at least 26 Democrat and Republican Congressmembers. H.R. 3095 is currently referred to the House Oversight and Government Reform Committee.

Several cities listed in the bill, including the Cities of Burr Ridge, IL; Canyon Lake, CA; Castle Pines, CO; Eastvale, CA; Frederick, CO; Goose Creek, SC; Green, OH; Greenfield, WI; Industry, CA; Kinnelon, NJ; Lone Tree, CO; Mills, WY; Mount Pleasant, WI; Ocoee, FL; Somers, WI; Tehachapi, CA; Urbandale, IA; and Wilton Manors, FL, desire to collaborate with a qualified lobbyist and seek passage of H.R. 3095 in the House of Representatives, in the Senate, and then through the White House. Particularly, the interested cities are looking for a lobbyist specializing in engaging with key legislators and staffers in the House of Representatives and in the Senate.

NATIONAL ZIP CODE ADVOCACY COALITION

After facing multiple challenges in advocating for their own independent ZIP codes, the City of Castle Pines, Colorado and the City of Eastvale, California established an informal National ZIP Code Advocacy Coalition to partner with other similarly impacted jurisdictions to raise awareness. The Coalition, now chaired by both Castle Pines and Eastvale, includes more than five dozen municipalities across the nation.

Since 2023, the Coalition has been partnering with federal legislators to introduce bills in Congress, providing opportunities for impacted jurisdictions to pool together funds and resources to coordinate lobbying trips and hiring federal lobbyists, and developing resources and tools for impacted jurisdictions to garner support. Additional information regarding the Coalition can be found at <https://www.eastvaleca.gov/community/national-zip-code-advocacy-coalition>.

To provide additional context, Congresswoman Lauren Boebert (R-CO) introduced H.R. 8753 last year to direct the USPS to designate single and unique ZIP codes for 51 cities and communities across the nation. The bill successfully passed the House of Representatives via suspension of rules on December 11, 2024; however, the bill failed to pass the Senate via unanimous consent due to limited time before the end of the 118th Congress and due to other Senators' interest in adding their respective impacted jurisdictions to the language.

Other ZIP code bills that were introduced in the previous Congress included:

Bill (118 th Congress)	Cities
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H.R. 169	Fairlawn, VA
H.R. 696	Eastvale, CA
H.R. 860	Caledonia, WI Castle Pines, CO Eastvale, CA Hollywood, FL Miami Lakes, FL Mount Pleasant, WI Somers, WI
H.R. 3441	Silver Cliffs, CO
H.R. 4291	Goose Creek, SC
H.R. 7800	Scotland, CT
S. 278	Estero, FL Hollywood, FL Miami Lakes, FL Oakland, FL Ocoee, FL The Villages, FL
S. 4052	Scotland, CT

Regrettably, only H.R. 8753 advanced beyond the first committee, while other ZIP code bills did not progress in the previous Congress.

SCOPE OF WORK

Task 1: Lobbying Strategy Implementation

Lobbyist shall collaborate with National ZIP Code Advocacy Coalition’s participating cities (Participating Cities) to implement a successful strategy with key legislators and Congressional staff to boost support of H.R. 3095 in the House of Representatives and in the Senate.

Lobbyist shall serve as the Participating Cities’ advocate and liaison, helping foster and maintain strong bipartisan working relationships between the these cities and their representatives in the State legislature, with legislative committee members, State agencies and Governors’ Office representatives; scheduling and facilitating meetings, preparing briefing papers and talking points, presenting testimony, preparing and submitting letters and facilitating direct communication with city officials.

On behalf of the Participating Cities, fulfill State registration and reporting requirements imposed on lobbyists as required by law.

Task 2: Lobbying Trip Coordination

The Lobbyist shall collaborate with participating cities to coordinate a lobbying trip in Washington, D.C. for the participating cities’ elected officials and city officials to meet with key legislators and Congressional staff to boost support of H.R. 3095 in the House of Representatives and in the Senate. The lobbying trip shall take place before the end of Fall 2025.

Lobbyist's logistical support for lobbying trip(s) shall include developing proposed agenda and scheduling meetings with the appropriate key figures in the House of Representatives.

Task 3: Meetings and Communications

The Lobbyist shall communicate in biweekly virtual meetings with participating cities to provide updates and obtain directions when necessary. Given that the participating cities are located in different time zones across the country, evening and/or weekend meetings may be required.

Lobbyist shall provide periodic written reports (at least monthly) and present such reports to the Participating Cities' City Council/Board meetings as requested.

Task 4: Invoicing and Contract Management

The nature of this project is unique in that it includes municipalities from multiple states. While this is treated as the same project with the same Scope of Work, Lobbyist shall execute Professional Services Agreements or contracts individually with each of the Participating Cities and issue invoices to each of the participating cities separately. Lobbyist must comply with the contract terms and conditions, and invoicing requirements of each awarding agency/Participating City.

Lobbyist must fulfill any state and/or federal registration and reporting requirements imposed on lobbyists as required by law.

PROJECT TIMELINE

Once a qualified lobbyist or consultant firm is selected, the participating cities will need several weeks to obtain approval from their respective City Councils and/or City Administrators given that this project involves multiple municipalities. It is anticipated that the effective contract timeline will be from July 1, 2025 to June 30, 2026, with an option to extend for up to one additional calendar year. Participating cities may elect to amend the Professional Services Agreements to extend the project timeline if necessary.

IMPORTANT NOTES

The participating cities will equally split the total cost of the contract. Please note that not all H.R. 3095 cities may end up as participating cities. In that case, the lobbyist is only expected to report to the cities that are participating in this contract and represent the participating cities' best interest throughout the term of this contract.

PROPOSAL SUBMISSION AND REVIEW PROCESS

Interested parties and entities are encouraged to submit a proposal, which includes a detailed cost breakdown, the stated Scope of Work, and the stated project timeline, by XXX.

Commented [AF1]: Once the Scope of Work is finalized, it will be included in the formal RFP document.

119TH CONGRESS
1ST SESSION

H. R. 3095

To direct the United States Postal Service to designate single, unique ZIP Codes for certain communities, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 30, 2025

Ms. BOEBERT (for herself, Mrs. KIM, Ms. PETTERSEN, Mr. CROW, Mr. EVANS of Colorado, Mr. COURTNEY, Mr. DONALDS, Ms. SHERRILL, Ms. MACE, Mr. MOSKOWITZ, Mr. SELF, Mr. GILL of Texas, Mr. GRIFFITH, Mr. STEIL, Ms. MOORE of Wisconsin, Mr. FITZGERALD, Ms. HAGEMAN, Mrs. SYKES, Mr. BARR, Mr. LANGWORTHY, Mr. LALOTA, Mr. NEHLS, Mr. HARRIS of North Carolina, Mr. FALLON, Mr. HIGGINS of Louisiana, and Mr. AMODEI of Nevada) introduced the following bill; which was referred to the Committee on Oversight and Government Reform

A BILL

To direct the United States Postal Service to designate single, unique ZIP Codes for certain communities, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SINGLE, UNIQUE ZIP CODES FOR CERTAIN**
4 **COMMUNITIES.**

5 Not later than 270 days after the date of the enact-
6 ment of this Act, the United States Postal Service shall

1 designate a single, unique ZIP Code for each of the fol-
2 lowing communities:

- 3 (1) Canyon Lake, California.
- 4 (2) Eastvale, California.
- 5 (3) Hidden Hills, California.
- 6 (4) Industry, California.
- 7 (5) North Tustin, California.
- 8 (6) Tehachapi, California.
- 9 (7) Castle Pines, Colorado.
- 10 (8) Centennial, Colorado.
- 11 (9) Cherry Hills Village, Colorado.
- 12 (10) Greenwood Village, Colorado.
- 13 (11) Highlands Ranch, Colorado.
- 14 (12) Keystone, Colorado.
- 15 (13) Lone Tree, Colorado.
- 16 (14) Mountain Village, Colorado.
- 17 (15) Mt. Crested Butte, Colorado.
- 18 (16) Severance, Colorado.
- 19 (17) Silver Cliff, Colorado.
- 20 (18) Sterling Ranch, Colorado.
- 21 (19) Superior, Colorado.
- 22 (20) Telluride, Colorado.
- 23 (21) Scotland, Connecticut.
- 24 (22) Estero, Florida.
- 25 (23) Ft. Myers, Florida.

- 1 (24) Hollywood, Florida.
- 2 (25) Oakland Park, Florida.
- 3 (26) Lighthouse Point, Florida.
- 4 (27) Coconut Creek, Florida.
- 5 (28) Parkland, Florida.
- 6 (29) Deerfield Beach, Florida.
- 7 (30) Wilton Manors, Florida.
- 8 (31) Burr Ridge, Illinois.
- 9 (32) Carmel, Indiana.
- 10 (33) Noblesville, Indiana.
- 11 (34) Westfield, Indiana.
- 12 (35) Zionsville, Indiana.
- 13 (36) Urbandale, Iowa.
- 14 (37) Louisiana State University, Baton Rouge,
15 Louisiana.
- 16 (38) Montz, Louisiana.
- 17 (39) Springwater Township, Minnesota.
- 18 (40) Grass Valley, Nevada.
- 19 (41) Swanzey, New Hampshire.
- 20 (42) Kinnelon, New Jersey.
- 21 (43) Mendham Township, New Jersey.
- 22 (44) Flanders, New York.
- 23 (45) Glendale, New York.
- 24 (46) Riverside, New York.
- 25 (47) Pendelton, New York.

- 1 (48) Northampton, New York.
- 2 (49) Harnett County, North Carolina.
- 3 (50) Weddington, North Carolina.
- 4 (51) Goose Creek, South Carolina.
- 5 (52) Fairview, Texas.
- 6 (53) Fate, Texas.
- 7 (54) Heath, Texas.
- 8 (55) Murphy, Texas.
- 9 (56) Northlake, Texas.
- 10 (57) Parker, Texas.
- 11 (58) Sargent, Texas.
- 12 (59) Fairlawn, Virginia.
- 13 (60) Caledonia, Wisconsin.
- 14 (61) Franklin, Wisconsin.
- 15 (62) Glendale, Wisconsin.
- 16 (63) Greenfield, Wisconsin.
- 17 (64) Village of Mount Pleasant, Wisconsin.
- 18 (65) Village of Somers, Wisconsin.
- 19 (66) Village of Harrison, Wisconsin.
- 20 (67) Mills, Wyoming.
- 21 (68) Hochatown, Oklahoma.
- 22 (69) North Enid, Oklahoma.
- 23 (70) Green, Ohio.
- 24 (71) Rochester, Wisconsin.
- 25 (72) Quartzite Township, Minnesota.

1 (73) Frederick, Colorado.

2 (74) Camargo, Kentucky.

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**VILLAGE OF SOMERS
VILLAGE BOARD
MEETING ITEM MEMORANDUM**

MEETING DATE: May 27, 2025

TO: Village President Stoner and Village Trustees

PREPARED BY: Wendy Burnette-Clerk/Treasurer

AGENDA ITEM: Action on Operator's Licenses: Ella Cater, Himabahen Joshi,
Rakesh Joshi, Carla Lamos, and Anna Vignali

BACKGROUND:

Ella Cater, Himabahen Joshi, Rakesh Joshi, Carla Lamos, and Anna Vignali have applied for operator's licenses for the Village of Somers.

No discrepancies with these applications.

SUGGESTED ACTION/ACTION REQUESTED/COMMENTS:

Staff recommends approval. In the event that the Village Board agrees with the recommendation to approve: Operators' applications, a suggested motion would be as follows:

"Motion to approve Operator License for Ella Cater, Himabahen Joshi, Rakesh Joshi, Carla Lamos, and Anna Vignali"

ATTACHMENTS:

None