



PUBLIC SPEAKING INSTRUCTIONS

WRITTEN COMMENTS: You can send comments to the Town Board on any matter, either on or not on the agenda, by emailing mgeller@town.verona.wi.us or twithee@town.verona.wi.us or in writing to Town Board Chair, 7669 County Highway PD, Verona, WI, 53593.

- 1) Call to Order/Approval of the Agenda
- 2) Pledge of Allegiance
- 3) Public Comment – Comments on matters not listed on this agenda could be placed on a future meeting agenda. If the Chair or staff has received written comments for items not on the agenda, these may be read.
- 4) Approval of minutes from February 6, 2024
- 5) Committee Reports
 - A. Plan Commission
 1. Discussion and Possible Action: Land Use Application 2023-01 Sugar River Road Properties Concept Plan and Rezone Approval
 2. Discussion and Possible Action: Land Use Application 2024-02 Riverside Vista (062/0608-303-9000-8 east of 7906 Riverside Road) Preliminary Plat
 - B. Public Works
 1. Discussion and Possible Action: 2024 Road Maintenance Project Bid Award Review
 - C. Finance Committee
 - D. Natural and Recreational Areas Committee
 - E. EMS Commission
 - F. Senior Services Committee
- 6) Town Chair's Business
- 7) Supervisor Announcements
- 8) Staff Reports
 - A. Administrator/Planner Report
 - B. Public Works Director Report
 - C. Clerk/Treasurer Report
- 9) Unfinished Business
 - A. Discussion and Possible Action: Resolution 2024-1 Discontinuance of a Portion of Hidden River Road

10) New Business

11) Check Register Review

12) Other

13) Adjournment

Regular board agendas are published in the Town's official newspaper, The Verona Press. Per Resolution 2016-2 agendas are posted at the Town Hall and online at www.town.verona.wi.us. Use the 'subscribe' feature on the Town's website to receive agendas and other announcements via email. Notice is also given that a possible quorum of the Plan Commission and/or Public Works, Ordinance, Natural and Recreational Areas, and Finance Committees could occur at this meeting for the purposes of information gathering only.

If anyone having a qualifying disability as defined by the American with Disabilities Act needs an interpreter, materials in alternate formats, or other accommodations to access these meetings, please contact the Town of Verona @ 608-845-7187 or twithee@town.verona.wi.us. Please do so at least 48 hours prior to the meeting so that proper arrangements can be made.

Mark Geller, Town Chair, Town of Verona

Sent to VP: 02/23/2024

Posted 03/01/2024



Town of Verona Strategic Planning Summary

Two strategic planning sessions held by the Town Board, committees, and commissions on November 11, 2017 and February 17th, 2018. The purpose of these sessions was to develop an updated vision statement and outline guiding principles for work going forward.

Town of Verona Vision Statement

To maintain the Town as an independent, financially sustainable, safe,
and healthy rural community

Guiding principles

- Create a welcoming and inclusive community
- Provide efficient services
- Be fiscally responsible
- Anticipate and plan for growth
- Protect and enhance cultural and natural resources
- Maintain open and transparent government
- Coordinate and collaborate with neighboring jurisdictions/key partners

Town of Verona
Town Board Meeting Minutes
Tuesday, February 6, 2024 – 6:30 pm

Town Board Members Present: Chair Mark Geller, Tom Mathies, Dave Lonsdorf, Deb Paul, Mike Duerst
Staff Present: Administrator/Planner Sarah Gaskell, Clerk/Treasurer Teresa Withee, Public Works Director Chris Barnes and Road Patrolman, Mark Judd

1. Call to Order/Approval of the Agenda – Chair Geller called the meeting to order at 6:30 pm. Motion by Duerst to approve the agenda, second by Mathies. Motion carried by voice vote.
2. Pledge of Allegiance
3. Public Comment – Mike & Pat Ehly, 6370 Demarco Trail, submitted a list of questions regarding the Fitchrona Road reconstruction project.
4. Approval of minutes from January 2, 2024. Motion by Mathies to approve the minutes from January 2, 2024, second by Lonsdorf. Motion carried by voice vote.
5. Public Hearing: Discontinuance of a Portion of Hidden River Road
 - a. Motion to open Public Hearing by Geller at 6:38 pm
 - b. Dusty Post, 1990 Hidden River Road; he asked if the discontinuance is complete after the board meeting tonight
 - c. Public hearing closed at 6:41 pm by Geller
6. Committee Reports
 - A. Plan Commission
 1. Discussion and Possible Action: 2023-OA-068 Amending Chapter 10 of the Dane County Code of Ordinances Regarding the Review Process for Conditional Use Permits. Gaskell introduced the ordinance changes from the county. The Plan Commission voted to recommend approval at their January meeting. Motion by Geller to approve Dane County 2023-OA-068 Amending Chapter 10 of the Dane County Code of Ordinances Regarding the Review Process for Conditional Use Permits, second by Mathies. Discussion by board. Motion carried by voice vote.
 2. Discussion and Possible Action: Land Use Application 2024-01 Rezone of 2744 Cross Country Circle submitted by the Town of Verona to correct a zoning clerical error. Gaskell reviewed the rezone application. The Plan Commission voted to recommend approval of the rezone at their January meeting. Motion by Mathies to approve Land Use Application 2024-01 Rezone of 2744 Cross Country Circle to correct a clerical error that occurred after county board approval of the Town's Blanket Rezone Petition 11772, second by Duerst. Discussion by board. Motion carried by voice vote.
 - B. Public Works

1. Discussion and Possible Action: Inter-Governmental Agreement with the City of Fitchburg for Design Engineering Cost Sharing re: the Fitchrona Road Reconstruction Project. Barnes introduced the agreement. He addressed all of the Ehly's questions. Discussion by board. Motion by Geller to approve Inter-Governmental Agreement with the City of Fitchburg for Design Engineering Cost Sharing re: the Fitchrona Road Reconstruction Project, second by Duerst. Motion carried by voice vote.
 2. Discussion and Possible Action: Resolution 2024-1 Discontinuance of a Portion of Hidden River Road. Motion by Duerst to refer Resolution 2024-1 Discontinuance of a Portion of Hidden River Road to the Town of Verona Plan Commission for consideration at their next regularly scheduled Plan Commission meeting, second by Mathies. Motion carried by voice vote.
 3. Discussion and Possible Action: Motion by the Public Works Committee to recommend to the board that the town purchase a tractor boom mower combination unit (used tractor) not to exceed \$160,000 based on the best value of combination of available equipment. Duerst explained the options for purchasing the boom mower. Motion by Duerst to approve ordering a boom mower for \$160,000, second by Mathies. Discussion by board. Mathies asked how much will this be used annually– Duerst stated we only rent one once per year. Barnes stated that we mow right of ways 3 times per year, it is difficult to mow, this would replace the ditch bank mower. Lonsdorf is concerned about oak wilt damage and asked about how this will pay for itself over time. Barnes stated the 6-to-9-year payback is based on 200 hours per year. Lonsdorf feels this isn't really a cost saving but is allowing the town more service ability. Geller wants to budget for the maintenance of the mower. Barnes stated that he estimated about \$5,000 per year for maintenance. Geller respects the public works decision to purchase but feels more information is needed.
Motion to table by Mathis, second by Paul. Motion carried by voice vote.
 4. Discussion and Possible Action: Motion by the Public Works Committee to recommend to the Board to add Flint Lane to the 2024 Road Projects for bidding. Barnes explained that estimate is under budget and stated this is a good road to add to this year's projects. Motion by Geller to add Flint Lane to the 2024 road projects for bidding, second by Duerst. Discussion by board. Motion carried by voice vote.
- C. Finance Committee – no meeting
- D. Natural and Recreational Areas – no meeting
- E. EMS Commission – Lonsdorf was unable to attend
- F. Senior Services Committee – Paul stated meeting scheduled for February 13th at 5:45 pm
7. Town Chair's Business – Geller stated that Country View Road will be closed the end of February for at least 10 months. Annual Town Board Workshop will be held in May.
 8. Supervisor Announcements - none

9. Staff Reports

- A. Administrator/Planner Report was included in the packet. Gaskell stated that we will need to reschedule April meeting due to the election.
- B. Public Works Director Report was included in the packet. Barnes stated that this is his 5th year and he really appreciates working for the town. Mathies asked about the MMSD stakeholder meeting, Barnes stated that this month they will be combining ideas and will look at what the objective is and what is necessary to achieve that objective.
- C. Clerk/Treasurer Report was included in the packet.

10. Unfinished Business

11. New Business

- A. Discussion and Possible Action: Amendment to the Town of Verona Employee Manual to address sick time accrual. Gaskell introduced the proposal and is requesting changing the employee manual to 4 hours for part-time employees and 8 hours for full time. Motion by Geller to update the employee to 2 hours per 40 hours worked, equal to 8 hours per month, second by Duerst. Motion carried by voice vote.
- B. Discussion and Possible Action: Resolution 2024-02 Amendment to Chapter 1 of the Town of Verona Code of Ordinances. Gaskell stated she spoke to the town attorney regarding updating the order of business. Mathies states that this should be an ordinance change not a resolution. Lonsdorf requested that Reports from Department Heads be changed to Staff Reports. Geller suggested that this be cleaned up and brought back to board. Item L needs to remain per town attorney. Discussion by board.
- C. Discussion and Possible Action: Letter from Allen D. Reuter regarding the Intergovernmental Road Maintenance Agreement between the Towns of Verona and Middleton. Motion by Mathies to approve letter from town attorney regarding the intergovernmental road maintenance agreement between the Towns of Verona and Middleton, second by Duerst. Motion carried by voice vote.

12. Check Register Review

13. Other

- 14. Motion by Mathies to adjourn, second by Duerst, meeting adjourned without objection at 8:54 pm.

Prepared by Teresa Withee, Town Clerk

Approved:

TOWN OF VERONA

TO: Plan Commission

FROM: Sarah Gaskell, Planner/Administrator

DATE: March 5th, 2024

RE: Administrator's Memo – March Town Board Meeting

Agenda items

1. Plan Commission

a. Discussion and Possible Action: Land Use Application 2023-01 Sugar River Road Properties Concept Plan and Rezone Approval

The applicant is seeking approval for the Concept Plan and rezone for this project. They have met the Town requirements for the Concept Plan application and rezone. The Plan Commission reviewed the application at their February 2024 meeting and recommended approval of both the Concept Plan and the rezone. The design is for a conservation subdivision with 90+% infiltration rates and 35% open space. The open space will be comprised of an existing large woodlot and restored prairies.

b. Discussion and Possible Action: Land Use Application 2024-02 Riverside Vista (062/0608-303-9000-8 east of 7906 Riverside Road) Preliminary Plat

The applicant is seeking approval for a Preliminary Plat for Riverside Vista. The application is complete and has met the Town requirements for such an application. The Plan Commission reviewed the application at their February 2024 meeting and recommended approval condition upon approval of the Development Agreement and the Declaration of Covenants.

2. Public Works

a. Discussion and Possible Action: 2024 Road Maintenance Project Bid Award Review

The board is asked to consider the following in regard to the 2024 Town budget for road maintenance of \$342,667:

- Award a contract to Payne and Dolan, Inc. for paving and chip seal of various roads as listed in the 2024 CIP for the amount of \$258,384.16.

- Execute an agreement with Dane County for pavement striping for the approximate amount of \$5,000.00.
- Authorize the purchase of new regulatory and warning signs from Decker Supply Co. Inc. for the amount of \$5,500.00.
- Add Horseshoe Bend to the 2024 CIP project for an approximate cost of \$20,000.00.

3. Unfinished Business

a. Discussion and Possible Action: Resolution 2024-1 Discontinuance of a Portion of Hidden River Road

The board is being asked to consider the adoption of Resolution 2024-10 in order to vacate a portion of Hidden River Road. The Plan Commission recommended approval of resolution 2024-10 at their February meeting. The required public hearing was held February 6th, 2024.



TOWN OF VERONA
APPLICATION FOR LAND USE CHANGE

2023-01

Please review the Town of Verona Comprehensive Land Use Plan and Subdivision and Development Ordinance 05-04 (found on the Town website: www.town.verona.wi.us) and Dane County Ordinances Chapter 10 – Zoning, Chapter 11 – Shoreland, Shoreland-Wetland and Inland-Wetland Regulations, and Chapter 75 – Land Division and Subdivision Regulations prior to application. A pre-application meeting or initial review should be scheduled with Town Staff and/or Plan Commission Chair if you have any questions or concerns and to determine the fees associated with the application.

Proposed land use change for (property address/legal description): _____

2313, 2325, & 2191 SUGAR RIVER ROAD
MISHAPACHA, SUGAR RIVER INVESTORS, SWEETWATER

Please check all that apply:

- comprehensive plan amendment – please see specific submittal requirement
- rezone petition
 - current zoning category _____
 - new zoning category _____
- conditional use permit
conditional use requested _____
- certified survey map
- preliminary plat
- final certified survey map
- concept plan
- site plan
- request for Town road access

Property Owner Phone MULTIPLE

Address _____ E-Mail _____

Applicant, if different from the property owner RON KLAAS, D'ONOFRIO KOTKE

Applicant's Phone (608) 833-7530 E-mail RKLAAS@DONOFRIO.CC

If the applicant is different from property owner, please sign below to allow the agent to act on behalf of property owner.

I hereby authorize _____
to act as my agent in the application process for the above indicated land use change.

Signature _____ Date _____

Description of Land Use Change requested: (use reverse side if additional space is needed)
DEVELOP SINGLE FAMILY NEIGHBORHOOD

I certify that all information is true and correct. I understand that failure to provide all required information and any related fees will be grounds for denial of my request.

[Signature] _____ Date 5-10-23
Applicant Signature _____ Date _____

Print Name RONALD R KLAAS

RETURN COMPLETED APPLICATION TO MAP/PLAN AND ANY OTHER INFORMATION VIA EMAIL TO:
Sarah Gaskell, Administrator, Town of Verona
7669 County Highway PD, Verona, WI 53593
sgaskell@town.verona.wi.us
(608) 845-7187

OFFICE USE ONLY
Application # _____
Fee _____
Paid by _____
Date _____ Check # _____
Receipt # _____

TOWN OF VERONA
APPLICATION FOR LAND USE CHANGE

Please review the Town of Verona Comprehensive Land Use Plan and Subdivision and Development Ordinance 05-04 (found on the Town website: (www.town.verona.wi.us)) and Dane County Ordinances Chapter 10 – Zoning, Chapter 11 – Shoreland, Shoreland-Wetland and Inland-Wetland Regulations, and Chapter 75 – Land Division and Subdivision Regulations prior to application. A pre-application meeting or initial review should be scheduled with Town Staff and/or Plan Commission Chair if you have any questions or concerns and to determine the fees associated with the application.

Proposed land use change for (property address/legal description): Lot 4 and part of Lots 2 and 3, Certified Survey Map No. 8957

and part of the West 1/2 of the SW1/4 of Section 20 and part of the East 1/2 of the SE1/4 of Section 19, all in T6N, R8E, Town of Verona, Dane County, WI.

Please check all that apply:

- comprehensive plan amendment – please see specific submittal requirement**
- rezone petition**
 - current zoning category AT-35
 - new zoning category SFR-1, SFR-2, NR-C
- conditional use permit**
 - conditional use requested _____
- certified survey map**
- preliminary plat**
- final certified survey map**
- concept plan**
- site plan**
- request for Town road access**

Property Owner Phone 608-206-5947

Address 1622 Lindale Lane, Green Bay, WI 54313

E-Mail klembin152@gmail.com

Applicant, if different from the property owner _____

Applicant's Phone _____ E-mail _____

If the applicant is different from property owner, please sign below to allow the agent to act on behalf of property owner.

I hereby authorize Jeff Lee
to act as my agent in the application process for the above indicated land use change.
Signature Jeff Lee Date 2/15/24

Description of Land Use Change requested: (use reverse side if additional space is needed)

Rezoning the property from AT-35 to SFR-1, SFR-2 and NR-C for a new subdivision.

I certify that all information is true and correct. I understand that failure to provide all required information and any related fees will be grounds for denial of my request.

Applicant Signature Jeffrey Lee Authorized Representative _____ Date 2-15-24
Print Name Jeffrey Lee

RETURN COMPLETED APPLICATION TO MAP/PLAN AND ANY OTHER INFORMATION VIA EMAIL TO:
Sarah Gaskell, Administrator, Town of Verona
7669 County Highway PD, Verona, WI 53593
sgaskell@town.verona.wi.us
(608) 845-7187

OFFICE USE ONLY
Application # _____
Fee _____
Paid by _____
Date _____ Check # _____
Receipt # _____

TOWN OF VERONA
APPLICATION FOR LAND USE CHANGE

Please review the Town of Verona Comprehensive Land Use Plan and Subdivision and Development Ordinance 05-04 (found on the Town website: (www.town.verona.wi.us) and Dane County Ordinances Chapter 10 – Zoning, Chapter 11 – Shoreland, Shoreland-Wetland and Inland-Wetland Regulations, and Chapter 75 – Land Division and Subdivision Regulations prior to application. A pre-application meeting or initial review should be scheduled with Town Staff and/or Plan Commission Chair if you have any questions or concerns and to determine the fees associated with the application.

Proposed land use change for (property address/legal description): Part of Lot 1, Certified Survey Map No. 8957, Certified Survey Map No. 8957, located in the East 1/2 of the SE1/4 of Section 19 and in the NE1/4 of the NE1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin

Please check all that apply:

- comprehensive plan amendment – please see specific submittal requirement**
- rezone petition**
 - current zoning category RM-16, RR-2
 - new zoning category SFR-1, RM-8
- conditional use permit**
 - conditional use requested _____
- certified survey map**
- preliminary plat**
- final certified survey map**
- concept plan**
- site plan**
- request for Town road access**

Property Owner Phone 608-255-5060

Address 150 E. Gilman Street, Ste 1600, Madison, WI 53703 E-Mail dkruger@fioreco.com

Applicant, if different from the property owner _____

Applicant's Phone _____ E-mail _____

If the applicant is different from property owner, please sign below to allow the agent to act on behalf of property owner.


I hereby authorize _____
to act as my agent in the application process for the above indicated land use change.

Signature Date

Description of Land Use Change requested: (use reverse side if additional space is needed)

The request is to rezone the property from RM-16 and RR-2 to SFR-1 and RM-8 for a proposed subdivision.

I certify that all information is true and correct. I understand that failure to provide all required information and any related fees will be grounds for denial of my request.

 1-11-24
Applicant Signature Date

Print Name Sugar River Investors, LLC By: David Kruger

RETURN COMPLETED APPLICATION TO MAP/PLAN AND ANY OTHER INFORMATION VIA EMAIL TO:
Sarah Gaskell, Administrator, Town of Verona
7669 County Highway PD, Verona, WI 53593
sgaskell@town.verona.wi.us
(608) 845-7187

OFFICE USE ONLY
Application # _____
Fee _____
Paid by _____
Date _____ Check # _____
Receipt # _____

TOWN OF VERONA
APPLICATION FOR LAND USE CHANGE

Please review the Town of Verona Comprehensive Land Use Plan and Subdivision and Development Ordinance 05-04 (found on the Town website: (www.town.verona.wi.us)) and Dane County Ordinances Chapter 10 – Zoning, Chapter 11 – Shoreland, Shoreland-Wetland and Inland-Wetland Regulations, and Chapter 75 – Land Division and Subdivision Regulations prior to application. A pre-application meeting or initial review should be scheduled with Town Staff and/or Plan Commission Chair if you have any questions or concerns and to determine the fees associated with the application.

Proposed land use change for (property address/legal description): 2191 Sugar River Road

Part of the SE1/4 of the SW1/4 of Section 20, T6N, R8E, Town of Verona, Dane County, Wisconsin

Please check all that apply:

- comprehensive plan amendment – please see specific submittal requirement
- rezone petition
 - current zoning category RM-16
 - new zoning category SFR-1, RR-4, NR-C
- conditional use permit
 - conditional use requested _____
- certified survey map
- preliminary plat
- final certified survey map
- concept plan
- site plan
- request for Town road access

Property Owner Phone (314) 503-6948

Address 2191 Sugar River Road, Verona, WI 53593 E-Mail dansarbacker@gmail.com

Applicant, if different from the property owner _____

Applicant's Phone _____ E-mail _____

If the applicant is different from property owner, please sign below to allow the agent to act on behalf of property owner.

I hereby authorize _____
to act as my agent in the application process for the above indicated land use change.

Signature Date

Description of Land Use Change requested: (use reverse side if additional space is needed)
Rezone the property to RM-16 to SFR-1 and RR-4 for a new subdivision.

I certify that all information is true and correct. I understand that failure to provide all required information and any related fees will be grounds for denial of my request.

[Signature] _____ 11 Jan 2024 _____
Applicant Signature Date

Print Name Sweetwater LLC by: Dan Sarbacker

RETURN COMPLETED APPLICATION TO MAP/PLAN AND ANY OTHER INFORMATION VIA EMAIL TO:
Sarah Gaskell, Administrator, Town of Verona
7669 County Highway PD, Verona, WI 53593
sgaskell@town.verona.wi.us
(608) 845-7187

OFFICE USE ONLY
Application # _____
Fee _____
Paid by _____
Date _____ Check # _____
Receipt # _____

Planning Report

Town of Verona

February 26th, 2024

2313, 2325, 2191 Sugar River Road

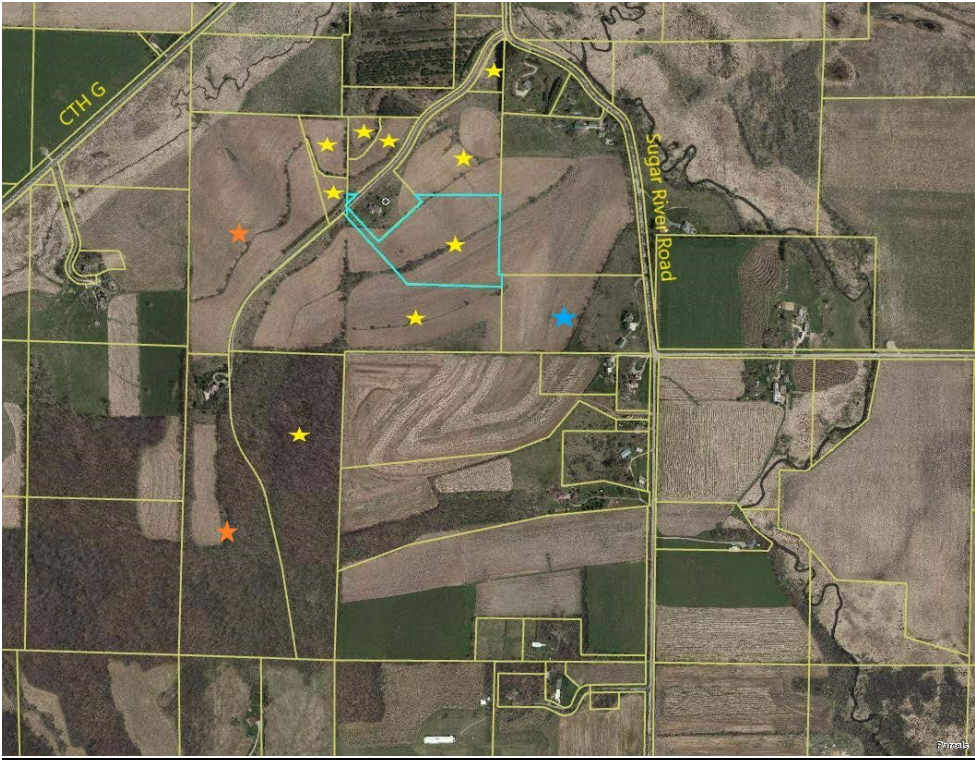
Summary: The property owners are seeking approval of the Concept Plan and subsequent rezone for a new Conservation Subdivision Plat. The properties to be platted total approximately 210 acres located in the southwest portion of the town.

Property Owners: Mishpacha Deux LLC, Sugar River Investors, Sweetwater LLC

- Parcels:**
- 062/0608-203-8513-0
 - 062/0608-203-8723-0
 - 062/0608-203-9003-0
 - 062/0608-301-8375-0
 - 062/0608-301-8250-0
 - 062/0608-203-9700-2
 - 062/0608-301-8001-1
 - 062/0608-301-8125-2
 - 062/0608-203-9110-0

Applicant: Ron Klass
D’Onofrio Kottke

Location Map



Comprehensive Plan Guidance:

These lands were identified in the 2018 Town of Verona Comprehensive Plan as an area for future development. The proposed parcels are in the RR 2-4-acre Future Land Use Category on Map 9.6: Future Land Use. The Land Division and Development Ordinance requires a Conservation Subdivision for this property which allows for lot sizes smaller than 2 acres. Some rezones will be required as a condition of final plat approval.

Current and Proposed Zoning: Current zoning varies but the majority of the acreage is zoned AT-35, with two RM-16 parcels and two RR-2 spot zones and one RR-4 parcel. The proposed rezones would be to SFR-1, SFR-2, RR-4, RM-8, and NR-C. The existing RR-4 and the AT-35/RR-2 spot zones would remain unchanged.

Extra-territorial Review/Boundary Agreement Authority: Joint Committee provisions for review apply to only “land remaining in the Town and located in Areas A, B, and D.” These parcels are in Area C and are therefore not subject to review/approval by the JPC.

Surrounding Land Use and Zoning: The proposed development parcels are surrounded by FP, AT, NR-C, RR-8, RR-4 and RR-2 zoning land categories. The majority of the surrounding parcels are currently in agricultural use.

Site Features: Features include rolling topography, a prominent ridgeline, and a 36-acre wooded area.

Driveway Access: Access to the parcels is via an existing driveway off Sugar River Road. This driveway will be incorporated into the plat as a Town Road and improved as required.

Other:

Concept Plan Highlights:

- The plan utilizes the conservation design option for an infiltration rate of 90+% (this project is subject to the guidelines of the March 2022 Land Division and Development Ordinance due to date of application submission).
- The neighborhood concept plan map depicts the overall design for the entire area, with approval from adjacent landowners. The preliminary plat includes only the properties depicted on the proposed Plat map.
- A trail system has been designed to connect the open spaces, which will consist of the stormwater system, woodlands and restored prairie areas.
- New residential structures located on the ridgeline lots may be restricted to a single-story height to minimize visual impact.
- Smallest lot size is 1.3 acres, largest is 2.8 acres for new development lots.
- The existing residences in the Proposed Plat Area will be included in the plat per county requirements but will not be subject to inclusion in the HOA Covenants for the development

The required neighborhood meeting was held on May 3rd, 2023 and the attendee list and comments have been provided to the Town.

The Plan Commission discussed the Concept Plan at their May 18th 2023 meeting. Commissioner comments on the draft were as follows:

- Proposed intersection appears to be in a flood zone – further investigation is necessary

-
- via emergency management personnel
 - shoreland zoning issues
 - more connectivity of green space
 - change the access to the wooded area to provide for machinery access if needed
 - define what the ridgeline is
 - wants trees included in landscape plan for screening purposes – consistent with rural character
 - Is one access point sufficient
 - mailbox location could cause congestion issues
 - cul-de-sacs could be hammerhead for future connections
 - Access concerns and possible floodplain issues
 - impact on current manure spreading should be considered
 - concept plan is consistent with the comp plan and future land use map
 - access is public – would provide a place for local residents to walk
 - more connectivity of trail system
 - addition of trees and prairie restoration

The Plan Commission also discussed the Concept Plan at their August 22nd 2023 meeting. Commissioner comments were as follows:

- connectivity is an issue and there should be more than one way to access adjacent roads
- consideration of the required setbacks between actively farmed fields where manure is spread and private wells
- concern regarding storm water management for proposed lots 15-22
- request for more information on the potential impact to adjacent existing agricultural use of manure spreading

Updates/edits to the Concept Plan since August 2023:

- greater connectivity of green space
- completion of the traffic impact analysis
- research on floodplain and waterway issues
- research on location of wells adjacent to manure spreading operations
- change in access to Outlot 6 (wooded area)
- depiction of wetland
- inclusion of all parcels in the plat, including existing residential parcels
- consultation with Dane County Conservationist Amy Piaget regarding manure spreading operations of adjacent farmlands
- consultation with Chief Dan Machotka regarding neighborhood access and public safety

The Plan Commission discussed the Concept Plan and Rezone at their January 18th 2024 meeting. Commissioner comments were as follows:

Concept Plan

- Application needs to include vision triangle, floodplain, slopes between 12 and 20%, existing wells and septic fields on the existing conditions map
- Generally supportive of the design
- Design changes made to date are favorable and reflective of the Comprehensive Plan

Rezone

- More specific information is needed like a map depicting the proposed changes

The Plan Commission discussed the Concept Plan and Rezone at their February 15th 2024 meeting and recommended approval of the Concept Plan. They also recommended approval of the rezone subject to final plat recordation.

Staff Comments: Staff has met several times with the applicant to address both public and commissioner concerns. Staff has additionally consulted with the Verona Fire Department and the Land Conservation Division staff regarding site access and impact to adjacent agricultural uses.

Note: This application was submitted under the March 2022 Land Division and Development Ordinance and therefore uses the standards outlined in that iteration for determining average and minimum lot sizes. They are listed below for reference.

Table 8.1: Conservation Subdivision Lot/Unit Size for less than 100% Infiltration Rates

Density Comp. Plan*	Maximum # Lots/Units	Average Lot/Unit size	Minimum Lot/Unit size
1 house/2-4 acres	Gross area/2	1.5 acres	1.3 acres
1 house/4-8 acres	Gross area/4	1.5 acres	1.3 acres
1 house/8-16 acres	Gross area/8	1.5 acres	1.3 acres

Timeline for Subdivision Plat Approval Process by the Town of Verona (Dane County process for approval is also required)

(1) CONCEPT PLAN APPROVAL.

- Prior to the filing of an application for approval of a Concept, the Applicant shall consult with Town Staff in order to obtain their advice and assistance.
- Once the Concept Plan has been developed, the Applicant shall file an application for approval of the Concept Plan.
- The Concept Plan may be distributed to any appropriate committees and Fire District staff for comments and recommendations, in addition to the Plan Commission.
- The Plan Commission shall provide a recommendation to the Town Board regarding the zoning and the Concept Plan.
- The Plan Commission's recommendation shall be either to approve, to approve with conditions, or to reject the map and shall include the reasons for rejection or the imposition of conditions. The Town Board shall vote on approval of the zoning and the Concept Plan.

(2) PRELIMINARY PLAT APPROVAL

- After approval of the Concept Plan, the Applicant shall file an application for Preliminary Plat approval. These may be distributed to the Plan Commission, appropriate committees, and the Town Engineer for comments and recommendations.
- The Town Plan Commission shall review the Plat and shall forward its recommendation to the Town Board for final action. The Plan Commission's recommendation shall be to approve, approve with conditions, or reject the Plat and shall include the reasons for rejection or the imposition of conditions.
- The Town Board, within 90 days of the date of the filing of a Preliminary Plat application, shall approve, approve conditionally, or reject the Preliminary Plat unless an extension is granted by mutual agreement with the Applicant.
- Approval of a Preliminary Plat shall expire twelve (12) months after the date of approval or conditional approval by the Town Board unless within such period an application for final Plat approval is filed as provided in subsection (3).
- Draft Development Agreement, Declaration of Covenant and Open Space Stewardship Plans are submitted for review during this stage of the process.

(3) FINAL PLAT APPROVAL

- Prior to the filing of an application for approval of a final Plat, the Applicant shall meet with Town Staff to obtain their advice and assistance. This consultation shall be informal and is intended to inform the Applicant of the consistency of the draft final Plat with the conditional approval of the preliminary Plat. The Applicant shall file an application for final Plat approval.
- The Town Plan Commission shall review the draft final Plat for conformance with the approved preliminary Plat and all applicable ordinances and statutes, and the Plan

Commission shall forward its recommendation to the Town Board for final action. The Plan Commission's recommendation shall be to approve, approve with conditions, or reject the Plat and shall include the reasons for rejection or the imposition of conditions.

- The Town Board shall, within 60 days of the date of filing the original final Plat with the Clerk/Treasurer, approve or reject such Plat unless the time is extended by mutual agreement with the Applicant.
- The Development Agreement, Declaration and Covenants and Open Space Stewardship Plan are also finalized and recorded at this stage as a condition of final plat approval.
- Recordation. After the final Plat has been approved by the Town Board, the Town Clerk/Treasurer shall cause the certificate inscribed upon the Plat attesting to such approval to be duly executed and the Plat returned to the Applicant for the purpose of recording with the Dane County Register of Deeds. The Plat shall be submitted for recording within six (6) months from the date of the last approval and within 24 months from the first approval, or the approval shall be deemed void.

Sugar River Road Properties

Sugar River Road Properties would like the Town to complete a conceptual review for a single family home project in the Town of Verona. There are four properties within this area that could someday be developed, with a total ownership of over 250 acres. The location of the project within the Town, along with the designated land use, can be seen on the attached "Future Land Use" map from the Town's Comprehensive Plan.

Along with this narrative, there are 4 maps that are being provided per the Town guidelines;

1. Context Map
2. Existing Conditions
3. Neighborhood Plan for all 4 properties
4. Concept plan for the lands to initially be platted

As can be seen by the Comp Plan map and the Context Map, the project is located in the west central portion of the Town, in an area designated for Rural Residential. There are scattered residential lots near the project, and the new Twin Rock residential development is about a half mile to the west. Most of the area around the project is farmland.

The Existing Conditions Map shows the project area to have 4 residences. There are approximately 80 acres of woods at the south end, and the remaining land is currently being farmed. There is a small triangle of wetlands in the NW corner, and that triangle along with a small area at the Sugar River Road connection point are within the 100 year flood plain. There are no historical features and no known archeological sites mapped in the project area.

Although not all of the property is being proposed for development at this time, the Town asked that an overall Neighborhood Plan be developed to see how it would all fit together in the future. This plan illustrates how a second access point will be established on Sugar River Road, and how there would be a connected greenspace throughout with a series of stormwater management basins.

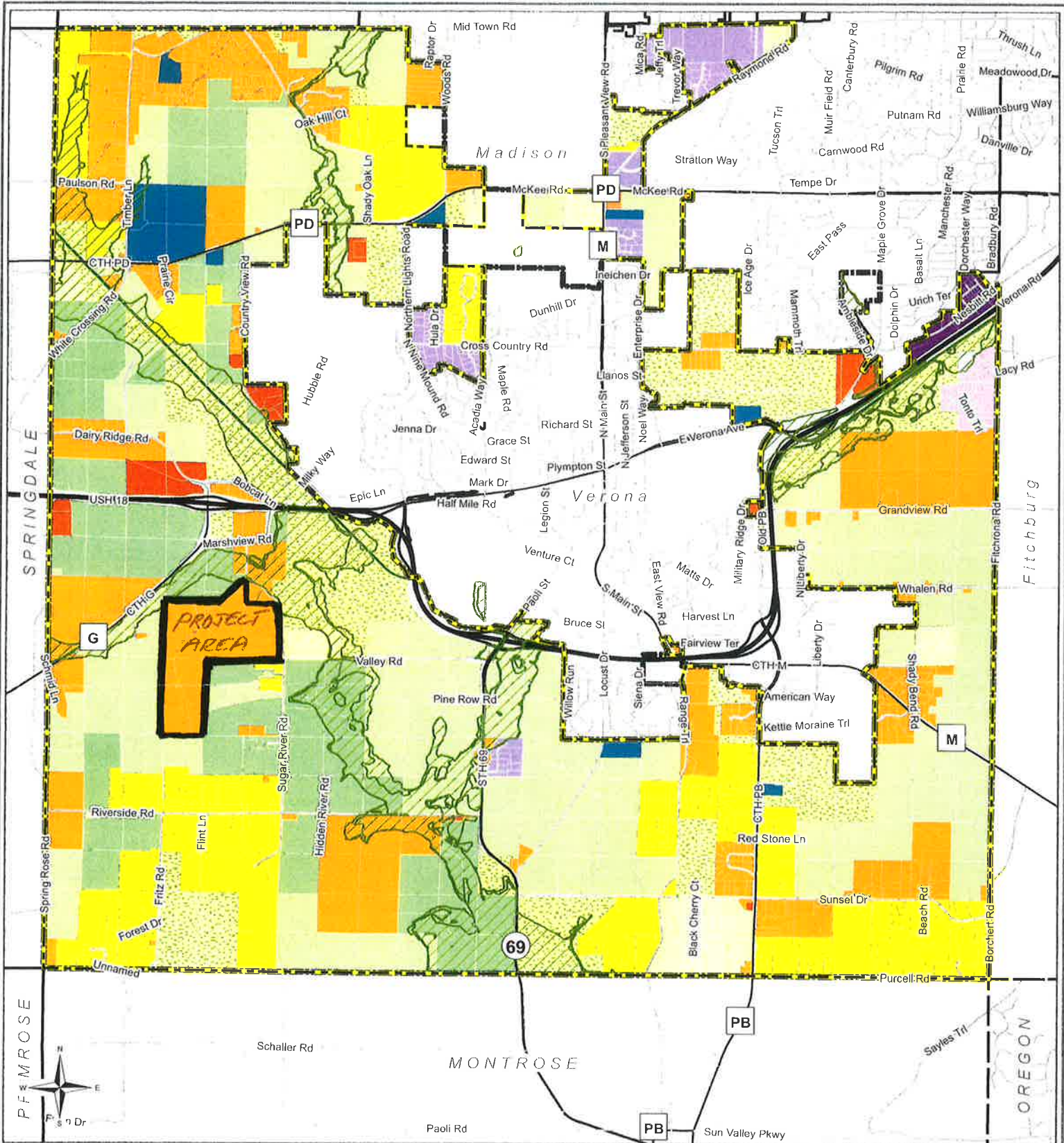
The fourth map is the Concept Plan for the lands that would initially be developed. The southwesterly 40 acres is not being developed at this time, nor is the property in the NE corner (36.7 acres) along Sugar River Road. The project is being proposed as a Conservation Subdivision per the Town's Land Division Ordinance. This requires a minimum of 30% open space, and allows a minimum lot size of 1.3 acres. The open space will consist of stormwater basins, hiking trails, and prairie areas in the current farmed areas in the north portion along with the existing woods to the south.

Stormwater Management will meet the DNR and Dane County requirements, whereby peak flows cannot exceed existing runoff. Infiltration and sediment reduction standards must be met as well. Stormwater basins will be incorporated throughout the project, and the open space areas will be converted to prairie instead of corn field.

Traffic is expected to primarily go north on Sugar River Road to Marshview Road and County G, and then to Hwy 151. Some traffic would likely use Valley Road for accessing Hwy 151 and other points south on Hwy 69. It is anticipated that the Town's road maintenance program will include Sugar River Road within the next several years.

Setbacks for the homes will far exceed Dane County standards. Front setbacks will be a minimum of 50', and rear setbacks will be 100'. Side yards will be 50' on the majority of lots, which provides a minimum of 100' between homes. Green space will be incorporated in many instances along the borders with adjacent farmlands to provide additional buffer. For the lots on the ridge (on the upper area of the existing driveway), there will be a limitation on how high the roof peak can be in order to help reduce the visual impact from surrounding lands. Building envelopes in the woods are limited to 30,000 sf or less.

The roads within the project will be built to Town Road standards by the Developer and dedicated to the Town. Road maintenance will be by the Town, and trash pickup handled with curbside pickup. Verona Area Fire and EMS will provide emergency services, and the Dane County Sheriff's Office will patrol the area. We will work with local phone companies to provide high speed internet service.



Map 9.6: Future Land Use

Town of Verona

- | | | | |
|--|--------------------------------|--|---|
| | Trail | | Urban Residential: SFR Neighborhoods Public Septic |
| | Farmland Preservation | | Urban Residential: SFR Neighborhoods Private Septic |
| | Transitional Agricultural | | Urban Mixed Use Neighborhood |
| | Natural/Recreational Resources | | Institutional |
| | Rural Residential, 8+ acres | | Commercial |
| | Rural Residential, 4-8 acres | | Utilities |
| | Rural Residential, 2-4 acres | | Environmental Respires Protection Corridor |

Date Created: 8/20/2018
Date Amended: 11/16/2018



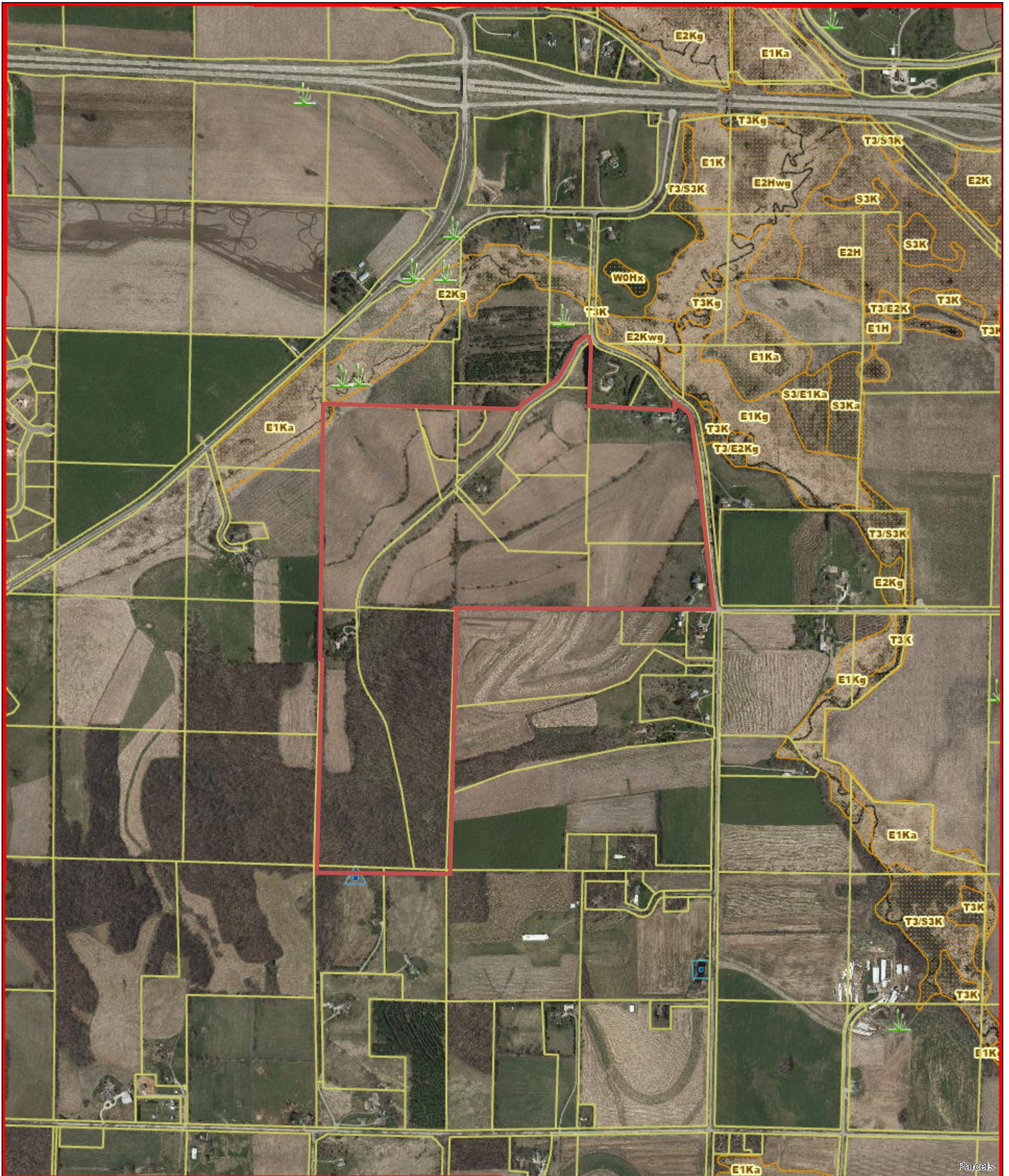
Miles Note: see Cities authorities on the subject Town of Verona lands



vierbicher
planners engineers advisors

REDSBURG - MADISON - PRAIRIE DU CHIEN - MILWAUKEE METRO
999 Fourier Drive, Suite 201, Madison, WI 53717
Phone: (608) 826-0532 Fax: (608) 826-0530






Sugar River Road Properties--Context Map



May 10, 2023

-  Parcels
-  Wetland Class Areas

Wetland Class Points

-  Dammed pond
-  Excavated pond
-  Filled/draind wetland
-  Wetland too small to delineate
-  Filled excavated pond

Filled Points

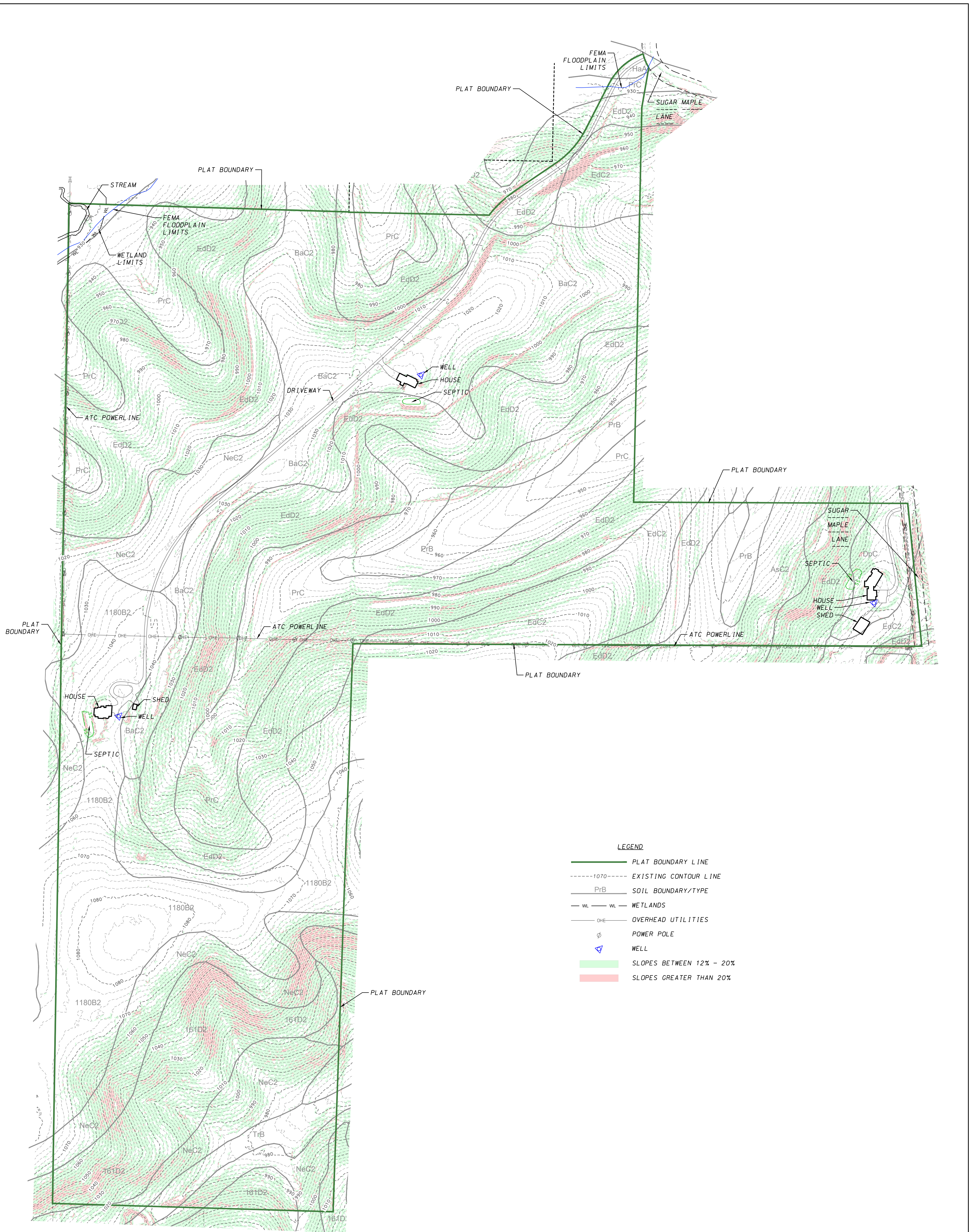
-  Yes
-  Wetland Class Areas

Filled Areas

-  Y

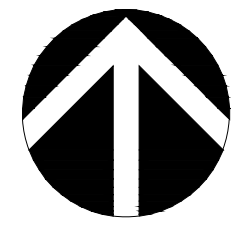

0 625 1,250 2,500 Feet





DATE: 02-02-24
 REVISED:
 FN: 22-07-109
 Sheet Number:
 1 of 1

SCALE: 1" = 200'
 (PAGE SIZE: 24x36)

EXISTING CONDITIONS MAP

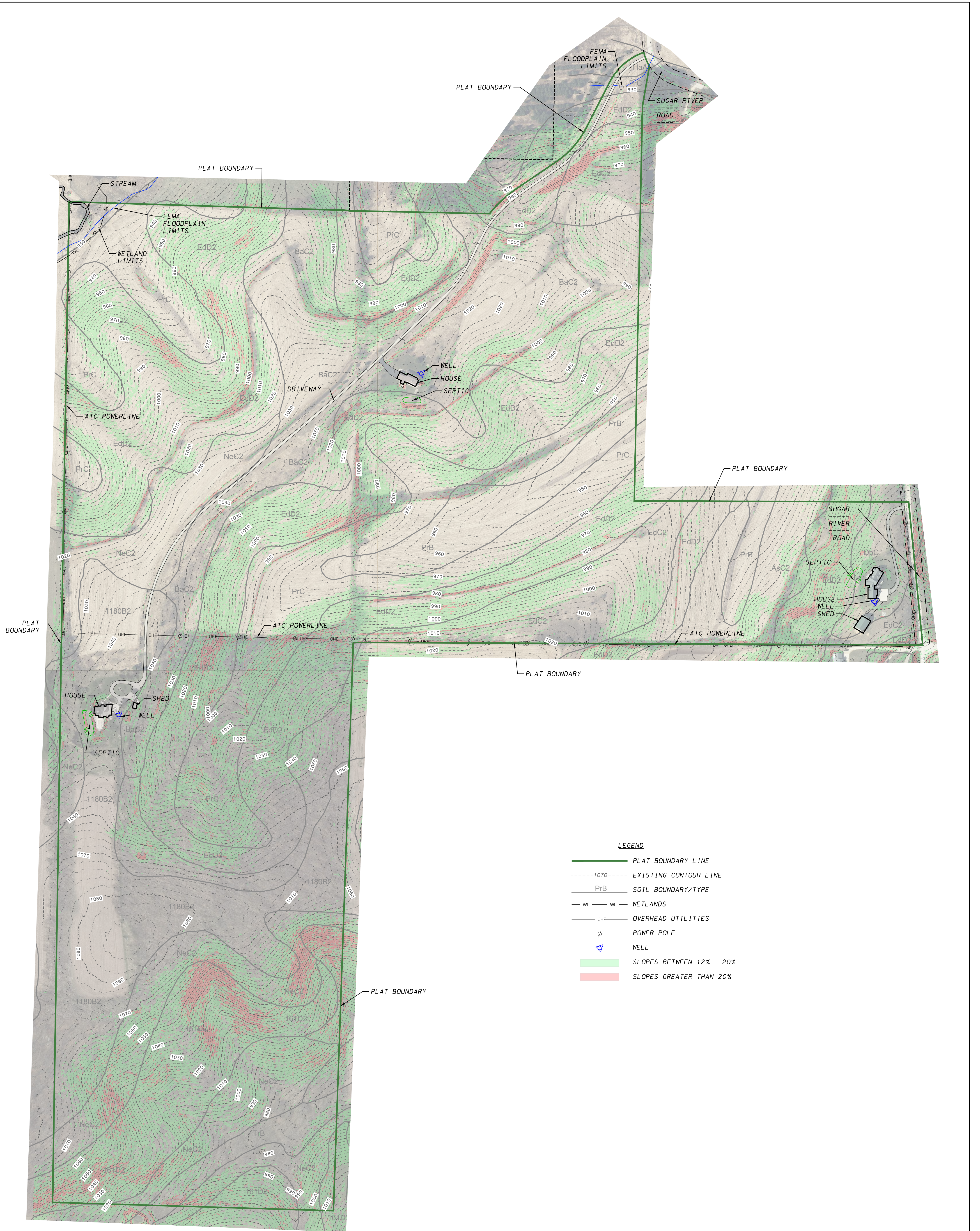
SUGAR RIVER ROAD PROPERTIES

TOWN OF VERONA, DANE COUNTY, WISCONSIN



D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
 7530 Westward Way, Madison, WI 53717
 Phone: 608.833.7530 • Fax: 608.833.1089
 YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

Feb 05, 2024 - 8:42am U:\User\2207109\Drawings\2207109 Existing Conditions Map.dwg 24x36



DATE: 02-05-24
 REVISED:
 FN: 22-07-109
 Sheet Number:
 1 of 1

SCALE: 1" = 200'
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EXISTING CONDITIONS MAP

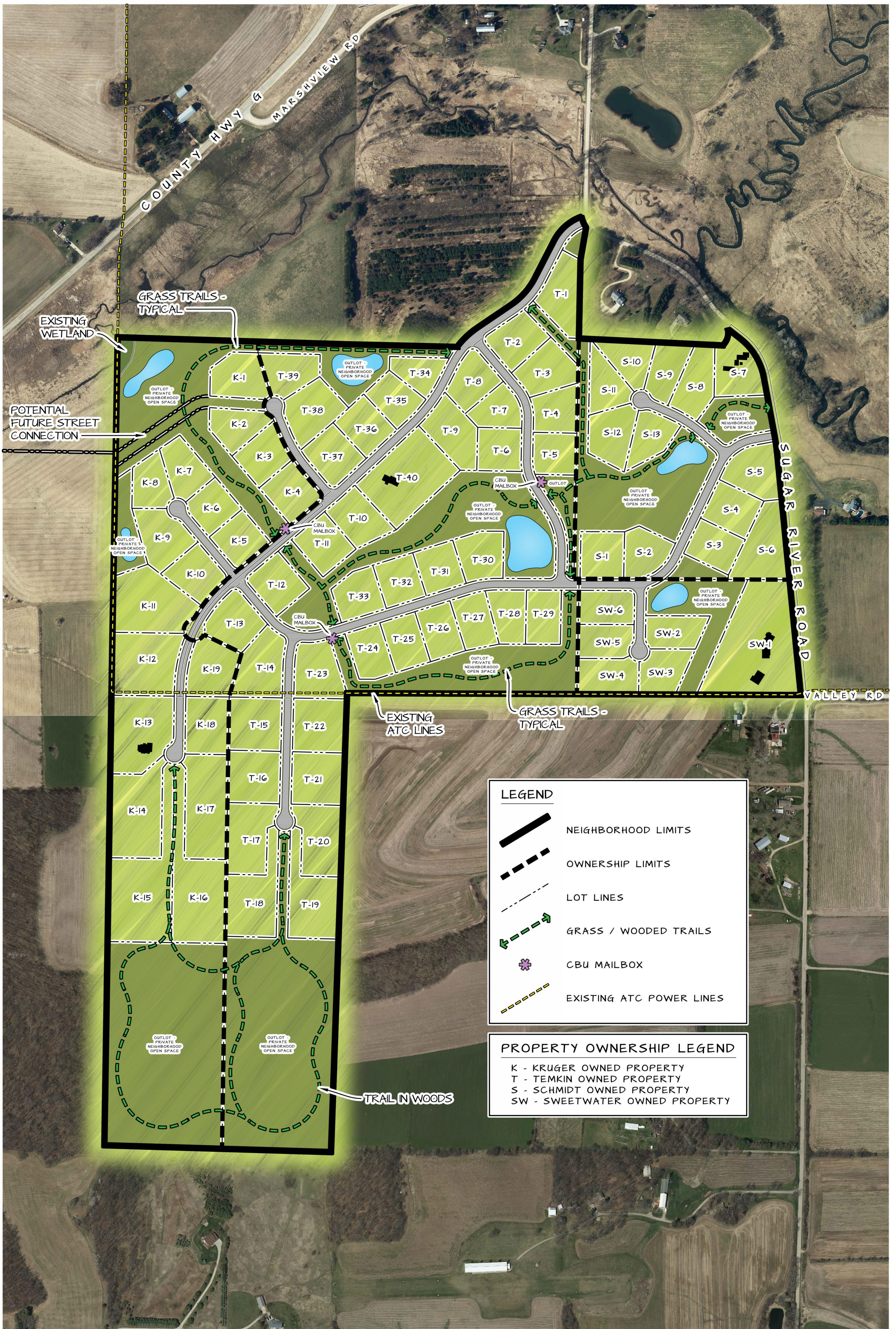
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Feb 05, 2024 - 3:45pm U:\User\2207109\Drawings\2207109 Existing Conditions Map.dwg 24x36



LEGEND

- NEIGHBORHOOD LIMITS
- OWNERSHIP LIMITS
- LOT LINES
- GRASS / WOODED TRAILS
- CBU MAILBOX
- EXISTING ATC POWER LINES

PROPERTY OWNERSHIP LEGEND

- K - KRUGER OWNED PROPERTY
- T - TEMKIN OWNED PROPERTY
- S - SCHMIDT OWNED PROPERTY
- SW - SWEETWATER OWNED PROPERTY

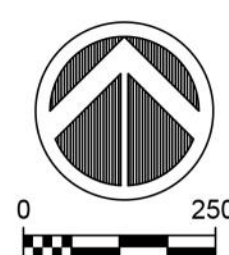
SUGAR RIVER ROAD PROPERTIES

POTENTIAL FUTURE NEIGHBORHOOD BUILD-OUT

TOWN OF VERONA, WISCONSIN

FEBRUARY 23, 2024

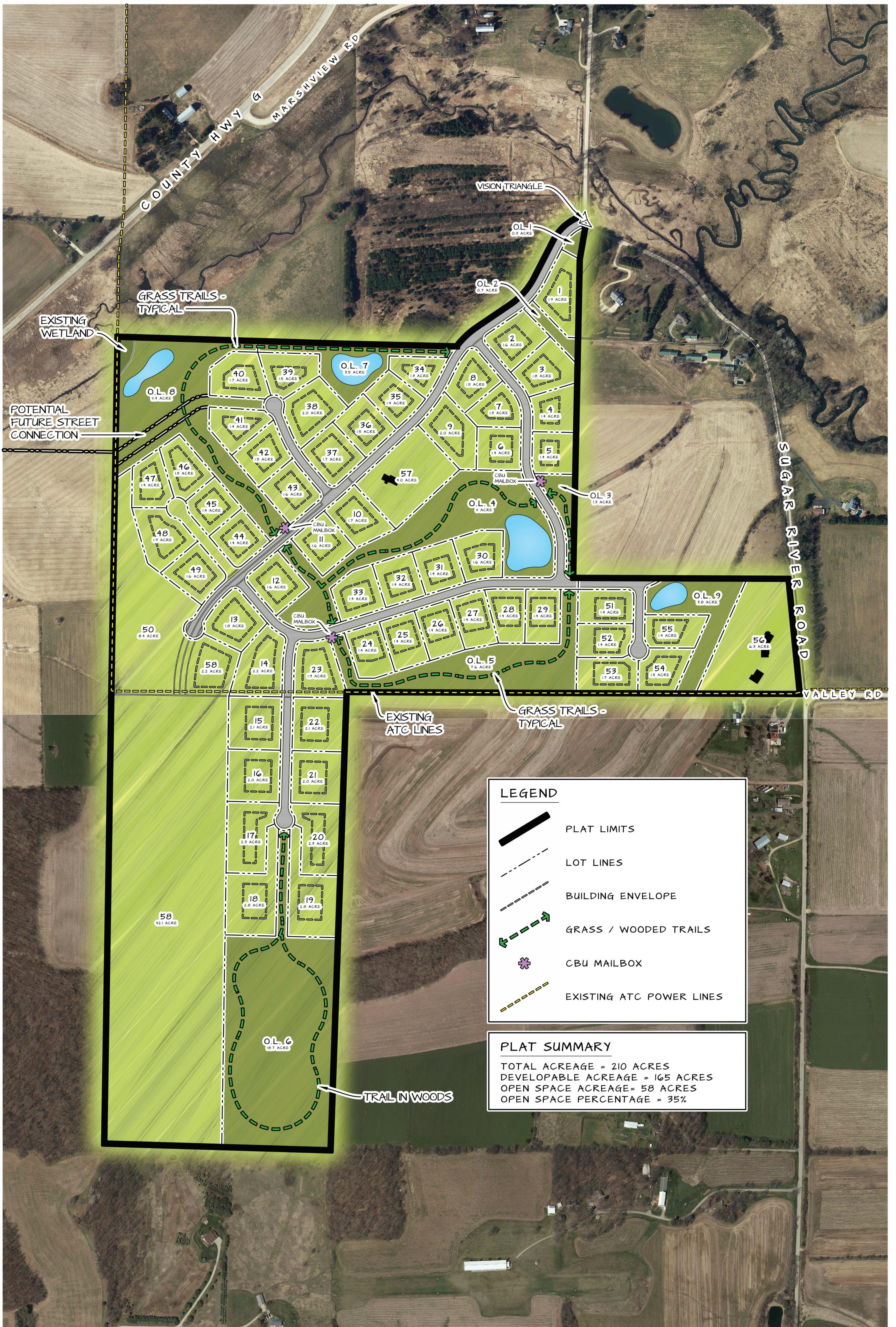
22-07-109



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LEGEND

- PLAT LIMITS
- LOT LINES
- BUILDING ENVELOPE
- GRASS / WOODED TRAILS
- CBU MAILBOX
- EXISTING ATC POWER LINES

PLAT SUMMARY

TOTAL ACREAGE = 210 ACRES
 DEVELOPABLE ACREAGE = 165 ACRES
 OPEN SPACE ACREAGE = 58 ACRES
 OPEN SPACE PERCENTAGE = 35%

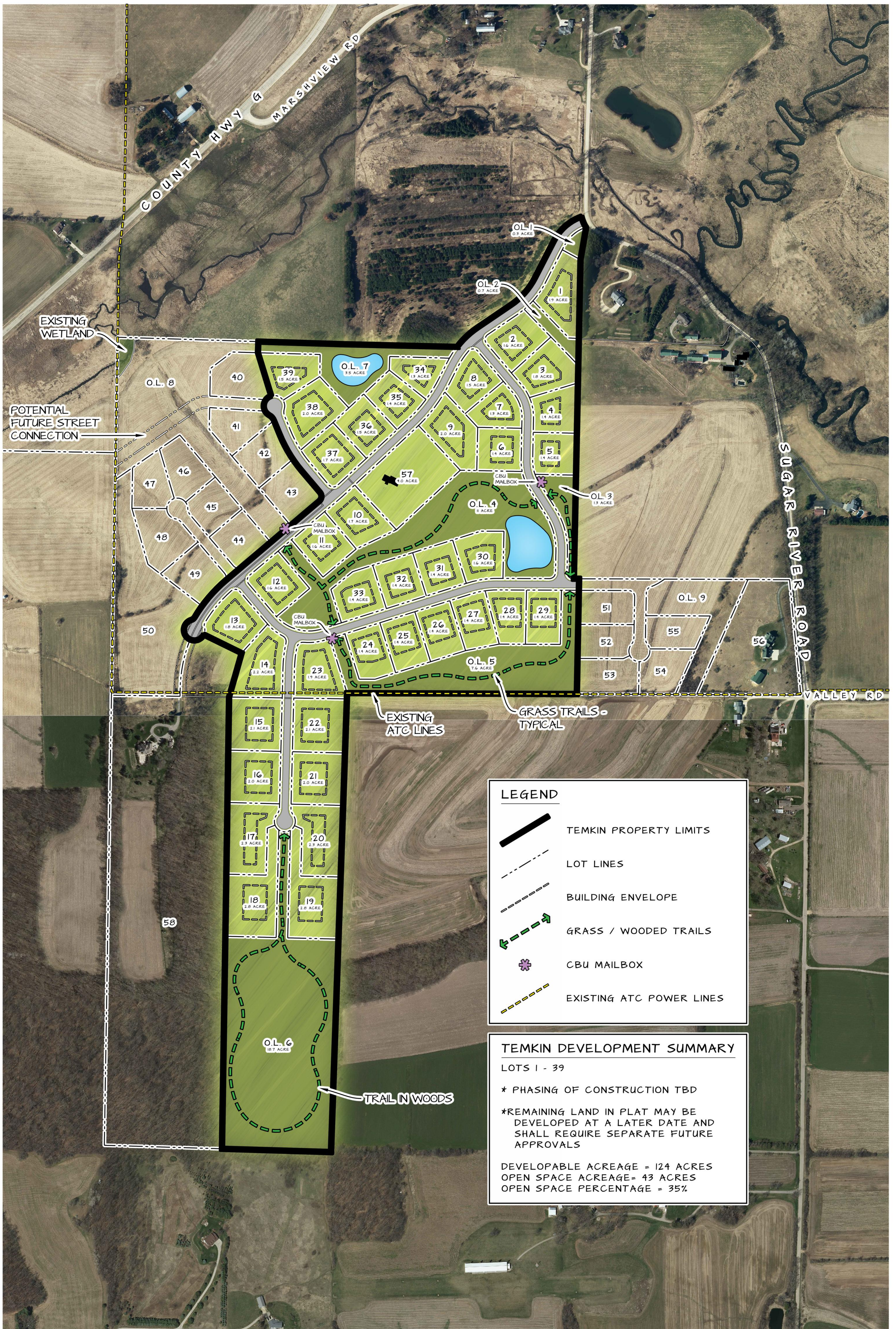
SUGAR RIVER ROAD PROPERTIES

CONCEPTUAL PLAT
 TOWN OF VERONA, WISCONSIN

FEBRUARY 23, 2024 22-07-109



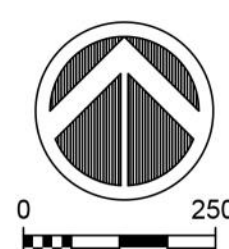
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SUGAR RIVER ROAD PROPERTIES

TEMKIN PROPERTY
 TOWN OF VERONA, WISCONSIN
 FEBRUARY 23, 2024

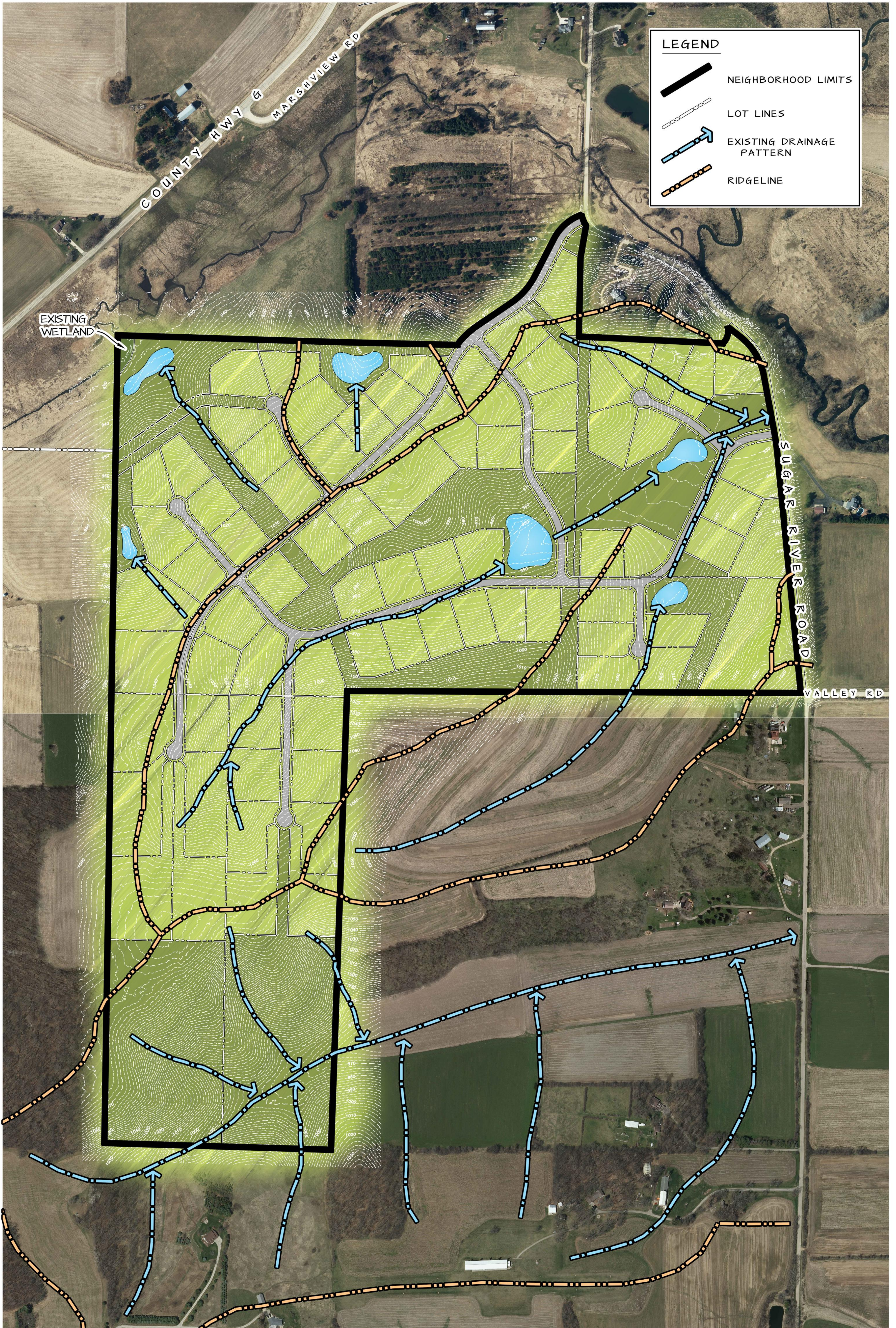
22-07-109



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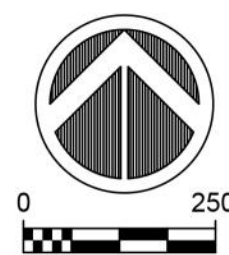
SUGAR RIVER ROAD PROPERTIES

EXISTING DRAINAGE PATTERN MAP

TOWN OF VERONA, WISCONSIN

FEBRUARY 23, 2024

22-07-109

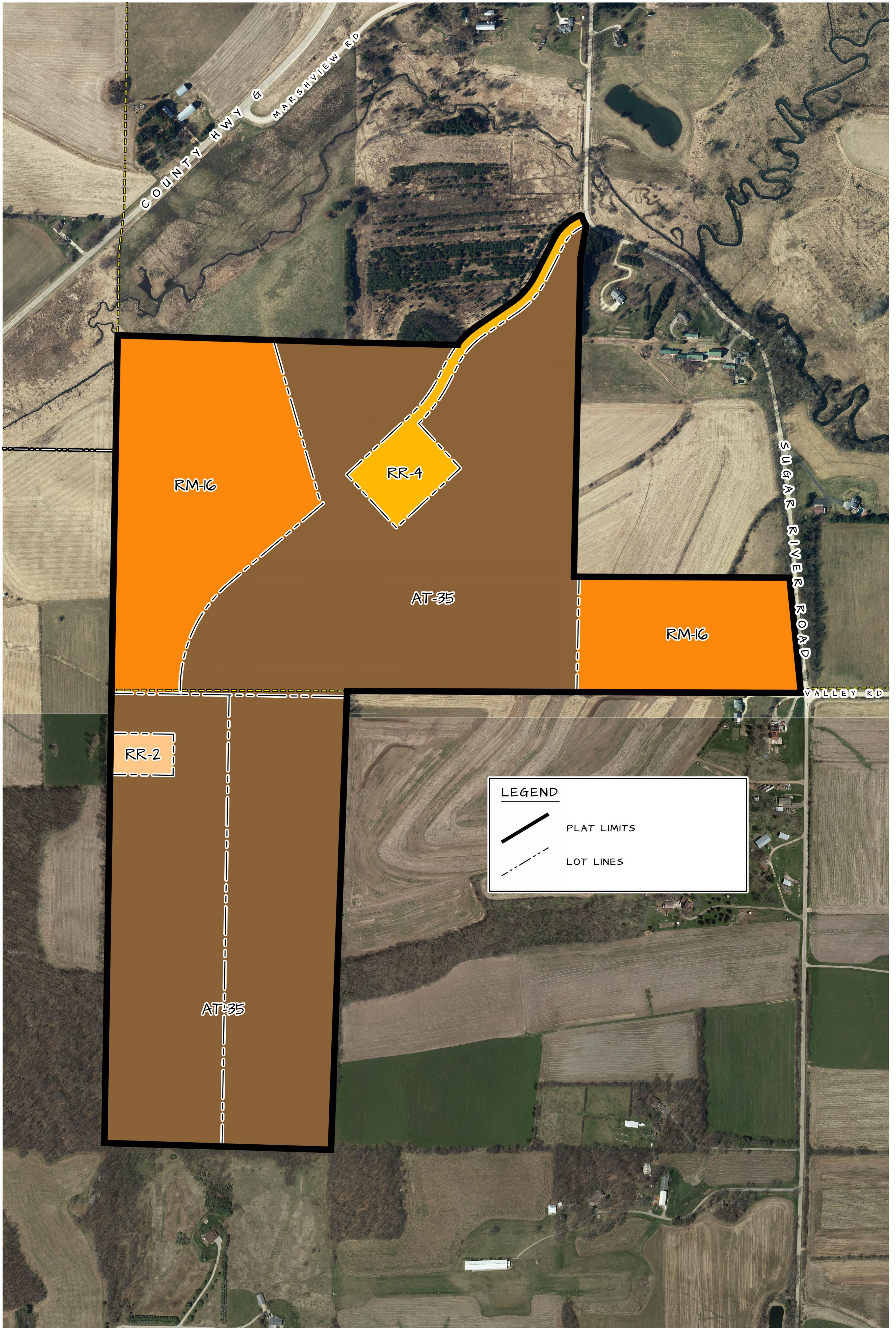


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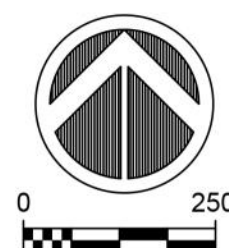
SUGAR RIVER ROAD PROPERTIES

EXISTING ZONING MAP

TOWN OF VERONA, WISCONSIN

FEBRUARY 5, 2024

22-07-109

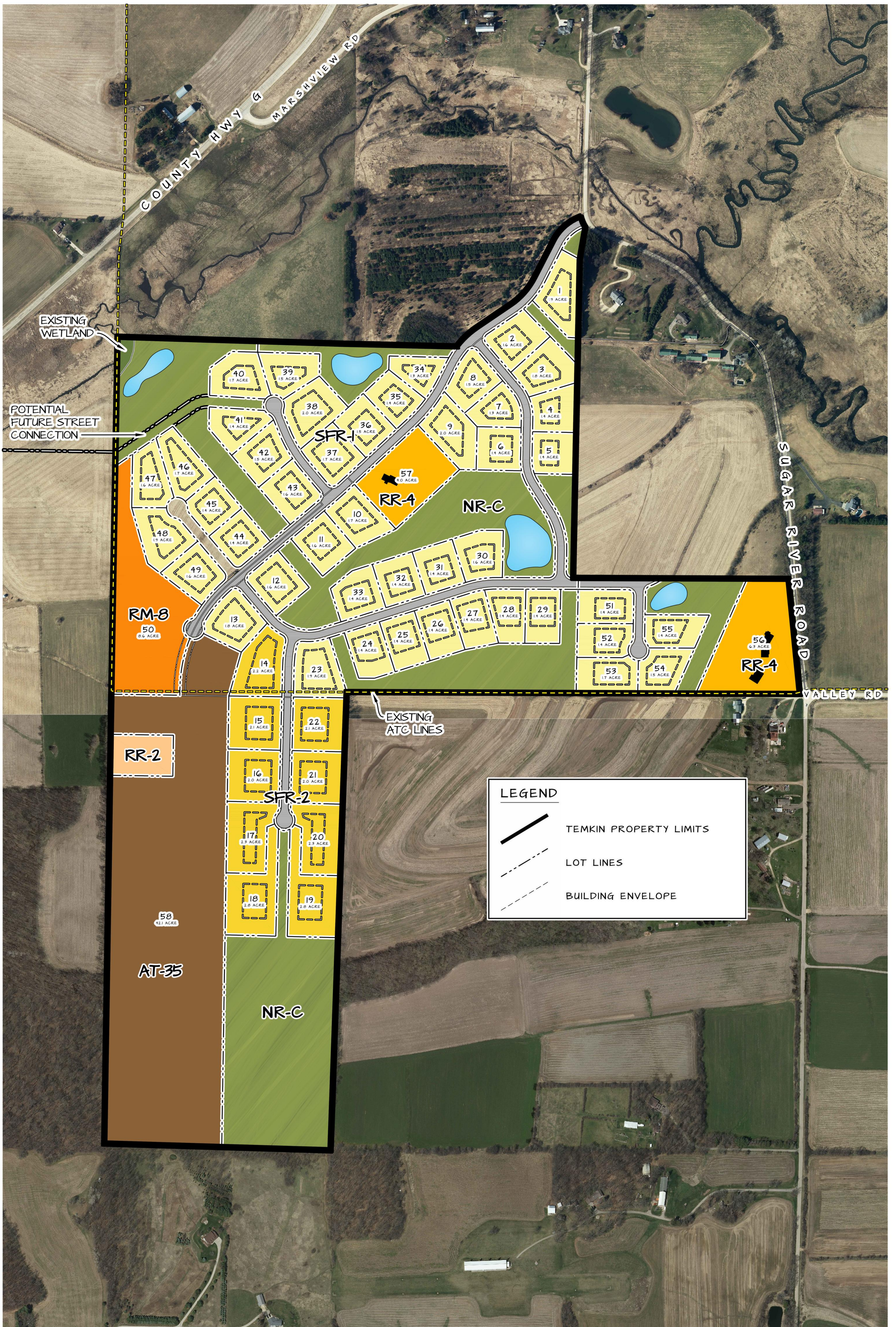


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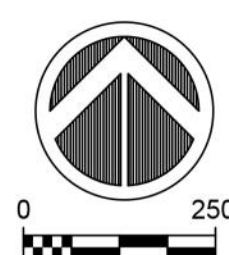
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SUGAR RIVER ROAD PROPERTIES

REZONING MAP
TOWN OF VERONA, WISCONSIN
FEBRUARY 5, 2024

22-07-109



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YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

Sugar River Road Properties Concept Plan Neighborhood Meeting Comments
May 3, 2023

- Concerns were expressed related to the interaction of “rural living / farming” being immediately adjacent to single-family neighborhood living, such as:
 - Impacts of manure spreading
 - Hunting and shooting activities (nighttime coyote hunting in particular)
 - Kids and others trespassing onto active farms
 - Trees from the woods falling onto farmland

- Concerns related to the following were expressed:
 - Stormwater runoff / flooding control
 - Traffic impacts and biker/pedestrian safety
 - The impact to existing wells/aquifer from new wells
 - New septic impacts to water quality
 - Road and driveway salt ending up in Sugar River
 - Condition of Sugar River Road and what improvements will be made (expanded for bike lanes, new bridge?)
 - What happens to neighborhood access when the road is closed for Ironman?
 - Lack of high-speed internet

- Comments related to planning and general development in the Town:
 - Doesn't the Town have a “mixed” housing goal? If “high-end” single-family housing is going here, where will there be affordable housing?
 - This development should connect to Hwy G
 - Dense neighborhoods like this should be in or closer to City of Verona and have municipal sewer and water
 - People moved to the Town to be in the country and not to be next to neighborhoods
 - What will happen to property values and real estate taxes of surrounding lands?
 - People moving into new neighborhoods in the Town will forever change the “feel” of the Town
 - Why is the Town allowing a new neighborhood when there are lots in other neighborhoods not yet built upon?
 - Why are these landowners allowed to develop houses on their land but other Town landowners are not allowed to?

To: Town of Verona Plan Commission
May 16th, 2023

I have several concerns pertaining to the Sugar River Road Properties Concept Plan Review scheduled May 18, 2023.

1. Protect farmland is a common statement appearing in the Town of Verona Land Use Plan (pg.17obj 2, pg. 38 issues 2, 3, pg.39 obj 2, 4, pg. 71, policies f). The proposed subdivision removes farmland from production. These high quality croplands have been identified as some of the most productive in the Town of Verona by the Town of Verona Land Use Plan (pg.38 item 4, pg. 63 item 9.2 Goals, Objectives and Policies). Also appearing in the Town of Verona Land Use Plan are statements that new housing will not conflict with existing agricultural uses or environmentally sensitive areas (pg. 17 Goal 2 item 2).

Question—How do you justify what was written about the value of agriculture to the Town with what the subdivision will remove?

2. Siting of housing for overall compatibility with keeping the Towns rural character and view also appears in the Land Use Plan (pg. 17 policies 2, 3, pg. 64 item 3). The subdivision shows houses placed on the ridge line. This placement is at odds with the Land Use Plan. A compromise of 1 story homes built on the ridge is still homes put where the Land Use Plan says they should not be.

Question—How do you justify what was written about incompatibility of home placement on ridge tops in the Land Use Plan with what the developer is proposing?

3. Long term cumulative effects or urbanization on water quality and in-stream habitat of the Sugar River is a major concern of DNR as stated in the Land Use Plan (pg. 42, item Sugar River Watershed). This is also a major concern wrt to the MMSD proposal to no longer return treated wastewater to the Badger Mill Creek (correspondence, Upper Sugar River Association). This part of the Sugar River that sits directly downslope from the proposed subdivision is classified as Exceptional Resource Waters. Quite a prize for Town of Verona residents to take pride in. However, if urban growth continues, water quality, fisheries and in-stream habitat may significantly degrade as a result of lowered ground water base flow to the river. Creating more wells in this area combined with the loss of MMSD water recharge to the Badger Mill Creek could very easily damage this Exceptional Resource Water.

Question—How do you justify the risk to an Exceptional Water Resource enjoyed by many for the short-term desire for building homes in a vulnerable area?

4. The Land Division and Development Ordinance states that road designs are encouraged to reduce traffic speeds, increase safety and access of pedestrians and bicyclists (pg. 31 purpose 8). That may be true within the subdivision but it is not true for Sugar River Road, Valley Road and Marshview Road. The increased traffic on these roads will deter residents from walking as many currently enjoy to do, children biking to school and others training for the Ironman will be at much increased risk and movement of farm equipment becomes more difficult.

Question—It seems all of the 'good' traffic concerns of speed, safety and access has been considered within the subdivision. What about the Town residents who use Sugar River, Valley and Marshview Roads? They are faced with all the 'bad' resulting from increased traffic from subdivision residents, construction equipment, and associated services used by these residents (cleaning, lawncare, delivery, others). How do you justify this unequal tradeoff?

5. Sugar River Road is to be upgraded in 2029. If the upgrade is to include widening and bridge replacement there will be significant mature tree removal and change to easements. There may also be infill needed in natural wetland areas because of flooding.

Question—The Land Use Plan states in many places the desire to keep the Town of Verona 'rural'. Taking away wetlands, widening a road, removing mature trees, changing easements is not keeping 'rural'. How do you justify the cost and changes that suit a few but negatively impact other Town residents?

Summary

There is a need for housing in the Town. The unfair inability to site/cluster housing in more suitable areas near the City/Town border because of the City wanting no constraints to annexation makes this difficult. The Town should not take the 'easy' way and compromise their original vision in order to expediate a developer's desire. Farmland never returns, exceptional waters are hard to restore and town residents trust in their local government to be transparent and fair is easily damaged. I leave the Town of Verona Plan Commission with this question—do written words matter? Why write a plan is the written words in it are considered just suggestions instead of the framework developers need to adhere to.

Sherry Combs
7454 Valley Road
Verona resident since 1985

Submitted Anonymously 4-30-2023 By Neighbor Resident Taxpayer

Mishpacha Lands Proposed Project

This land has some very steep slopes and with the addition of streets, driveways and rooftops the plan does not seem to address the increased runoff onto neighboring lands due to the addition of all this non permeable surface. The paved roads and driveways running up the slopes will only speed the flow. This will especially be a problem during major rain events which are increasingly becoming more frequent. Fewer houses and driveways in the plan or restrictions on driveways and roof area/size might be partial options, much larger greenbelts adjacent to neighboring lands might help. Berms like they have in the fields in Western Iowa to slow the flow? Overall, the plan seems significantly deficient in not addressing runoff and its impacts on neighbors and the watershed. Something needs to be added to slow and hold the added runoff from the new nonpermeable areas (roofs, driveways, roads) being added on the property and not add to damaging runoff across neighbors' land.

A development of this size, with this many lots does not maintain rural character. Project seems way over the top in terms of density for the area.

Way too many little lots. We will be looking at a sea of rooftops. Lots should be bigger so houses are more spread out. This would also help with the runoff, sewage and water problems.

There will be a lot of added traffic on Sugar River Road and other area Town roads.

Sounds like the roads in this subdivision will be town roads? Is the developer funding the maintenance of common areas, green spaces, trails into perpetuity or will that cost also fall on the Town?

When each of the landowners bought a portion of the former Sisk farms it was with the understanding that the minimum lot size would be 35 acres. Hard to see how 4 splits have become 40?

At the time the belief was that these rural unsewered subdivisions were a sanitary sewer and water quality problem, but here we are actually promoting them. I am not sure what has changed in the technology since then that addresses sewage and clean water from unsewered subdivisions? Our groundwater quality is already under increased stress.

The underlying rock layers, where they are not already visible, lie just below the soil surface in this area: can private septic systems operate safely on all of these lots? Bigger lots provide more options to properly site these systems.

It is hard now to see how we are better off than if we had merged with the city. With the City of Verona this kind of intense development would be on city water and sewer and be confined to city subdivisions and not overrun the rural landscape.

With the development of all the ag land in this proposal, we are destroying the value of any remaining ag land in the area. Any remaining ag land will become uneconomic remnants. I bought a corn planter two years ago from an elderly farmer in Sussex, Wisconsin. He rents over 200 acres of land but pays no rent because the bigger farmers with modern large machinery are not interested in working these small patches of remaining ag land in the midst of the suburban sprawl. The owners let him farm the land for free to keep the use value assessments.

So, let's quit pretending there will be any land to protect for ag uses in the Town of Verona. Ag land preservation is now just an excuse "for a taking" for public benefit from those landowners who are forbidden from developing their land with the Town's Land Use Planning.

Very much opposed to this development proposal. It seems to be the worst example of suburban sprawl.

June 15, 2023 Updated Submission by Arnold Jennerman 7621 Marsh View Road Town Resident since 1991

As noted previously this land has some very steep slopes and with the addition of new nonpermeable areas (streets, driveways and rooftops) and closely manicured lawns there will be very little holding water on the property during heavy rains. In fact, everything in the current design will accelerate the flow of excess runoff.

I had a phone conversation with Ronald Klass of D'Onofrio and Kottke and Associates, Inc. on Tuesday June 13 in which I raised this concern and suggested the orientation of the cul de sac roadways, especially on the North side of the property where they seem to be oriented directly up and down the slopes, should be reoriented to run along the slopes. This current design will just gather all the runoff from roofs, driveways and lawns and direct it down the hillside onto the neighboring property and ultimately into the creek and river. We don't farm up and down the slopes, why would we orient streets that way as they have with this design. I also raised the concern that the retention ponds in the plan were not properly located or of an adequate size to address these issues.

This raises an additional concern of the runoff of lawn care chemicals as all of these lots will now become massive lawns mowed, and fertilized with a significantly higher concentration of chemicals than any farmer can afford to put on their fields. All the excess being prone to runoff into the Sugar River watershed.

Any thoughts about restricting lawn areas on these lots.

Thank you for your consideration.

Submitted Anonymously 4-30-2023 By Neighbor Resident Taxpayer

Mishpacha Lands Proposed Project

This land has some very steep slopes and with the addition of streets, driveways and rooftops the plan does not seem to address the increased runoff onto neighboring lands due to the addition of all this non permeable surface. The paved roads and driveways running up the slopes will only speed the flow. This will especially be a problem during major rain events which are increasingly becoming more frequent. Fewer houses and driveways in the plan or restrictions on driveways and roof area/size might be partial options, much larger greenbelts adjacent to neighboring lands might help. Berms like they have in the fields in Western Iowa to slow the flow? Overall, the plan seems significantly deficient in not addressing runoff and its impacts on neighbors and the watershed. Something needs to be added to slow and hold the added runoff from the new nonpermeable areas (roofs, driveways, roads) being added on the property and not add to damaging runoff across neighbors' land.

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At the time the belief was that these rural unsewered subdivisions were a sanitary sewer and water quality problem, but here we are actually promoting them. I am not sure what has changed in the

Comments for 1/17/24 Plan Commission Meeting--Sugar River Proposal

1. I have concerns about the information or more correctly the continued lack of information submitted for the proposed Sugar River Road subdivision. It is interesting to compare the almost overwhelming amount of detailed information submitted for the initial Riverside Rd/Spring Rose Rd proposed development to the minimal supplied 9 months after the initial proposal. Why is this minimal approach acceptable? Aren't the rules of what information must be addressed contained in TOV documents? Minimizing information creates a lack of transparency as to what will actually be put in place. The burden of identifying potential problems is shifted to others when insufficient information is intentionally submitted. Lack of transparency is not good business.
2. The 50 plus page traffic study based on a single observation day does not do justice to the concerns that have been previously expressed. The observation was done right after the Ironman Race—bicyclists were not riding that soon after the race, so those numbers were under-represented. It also was after third crop hay and before grain harvest when little/no farm equipment was moving. A single point in time is not statistically important nor representative. The blind corner that is proposed as the entrance/exit is a safety concern under many situations that may not have been observed on that one day. Has fire and EMS been contacted and if so, what are their concerns?
3. The audience has brought to the Plan Commissions attention many questions and concerns about this project. What assurance do we have that these concerns have been considered by the Plan Commission? Will our questions be answered? How is the developer incorporating these concerns into his plans? Nothing seems to have changed—the same no conservation plat is now plopped onto an elevation map with no redesign. How has the need for manure application to adjacent land been addressed in the design? How will runoff from the entrance road into the subdivision be handled to prevent runoff downhill into the wetland/Sugar River? Houses placed on the ridge may be restricted to 1 story—why is it 'may' and under what circumstances will that be enforced?
4. It is difficult to follow the discussion of the Plan Commission members during real time because of being unfamiliar with the technical and specific language of building, platting, etc. Every profession has language specific to itself. But in order for those discussions to be meaningful to a broader audience, either less technical, specific language should be used or a glossary developed that defines the technical terms used. I'm sure other audiences attending Plan Commission meetings would benefit from such a glossary. I would like to ask the Town of Verona to construct such a glossary to help its residents better understand meeting proceedings.

I think most of us living in the surrounding area want to have honest, complete information presented at these meetings. Having to read between the lines and guess at the real meaning

makes it difficult to properly assess the proposal. Transparency is important. We would like to know that our concerns are being considered. How can that happen if complete information is not submitted or some design changes shown or reasons that changes can't happen be addressed?

Town of Verona Plan Commission Meeting 2/15/24
Comments—Sugar River Road Subdivision

The TOV Land Use Plan was written in good faith about a need to preserve what makes the town a desirous place to live—open space and agriculture being two important ones. The Land Use Plan was voted on and approved by the residents as written because of these things. Open space means just that—open and free of structures placed in close proximity that dominate the landscape. Maintaining robust farming is vital to having the ‘open space’ that we all enjoy. When subdivisions are placed in prominent locations and take away agricultural land we are removing the very things stated in the Land Use Plan that the TOV residents want to maintain.

The Land Use Plan states that rural subdivisions be ‘conservation’. This is a very progressive and welcomed concept that the TOV could showcase itself by. But is this plan really ‘conservation’ as envisioned in the Land Use Plan? The TOV has a chance to set precedent for future rural housing by following the words written in the Land Use Plan.

Words matter. Residents of the TOV have brought to the Plan Commission valid concerns about this proposal not adhering to the Land Use Plan. It should.

Sherry Combs
7454 Valley Rd

Heidi Disch, 2355 Sugar River Road - Comments for 2/15/24 Plan Commission Meeting – Sugar River Proposal:

My primary feedback is the proposed development is too dense for this location and creates environmental (Sugar River), safety and rural character concerns. I am not anti-development but feel a development of this density is not right for this location and creates the following questions / concerns:

- High-density subdivision placement – How does the proposed development align with the following section of the Town’s Comprehensive Plan?

Land Use Conflicts - The Town should encourage higher density residential land uses within and near existing residential and urban areas and lower residential densities near agricultural and environmentally sensitive lands in order to minimize land use conflicts and to retain the rural character of the Town. (Page 17 / Policies)

- Sugar River – Environmental Impact / Flooding – A development of this size will undoubtedly introduce new chemicals (yard chemicals, salt, etc.) and possibly increased runoff into the Sugar River. This creates concerns for quality of the Sugar River itself and potential for increased flooding on surrounding wetland areas and possibly residences. (We were directly impacted by the 2018 flood as water came very close to our driveway.)

Preserving the quality of the Sugar River and putting in place features that address erosion, water runoff, etc. seems critical for this location. We don’t know what the future holds weather-wise so more stringent requirements may be advisable.

Per the current Land Use Plan:

- The Sugar River is a main factor in determining the rural character of the Town and as such all efforts should be made to preserve this natural resource. Currently, it is used for recreation including boating and fishing.
- Protect, preserve, and enhance the Town’s unique renewable and non-renewable natural environmental resources, including but not limited to physical geography, soils, surface waters and wetlands, woodlands, and grasslands. (page 48 / Objectives)

Safety – Increased traffic, location and current usage for walking, biking – Current residents walk in the area and biking is commonplace on Sugar River Road.

- Traffic – The volume of traffic generated by this development will forever change the area and its rural character. Safety is a major consideration. Has impact of this proposal been viewed under the lens of the traffic volumes set out in the following section of the Comprehensive Plan?

The Institute of Transportation Engineers (ITE)... states that:

A single-family dwelling generates about 10 vehicle trips per day. A trip is defined as a one-way journey from a production end (origin) to an attraction end (destination). On a local road, one new home may not make much difference, but 10 new homes can have quite an impact on safety and mobility. Thus, the connection between roadway planning and land use is important for the Town to consider. (pages 20-21)

- Biking – Are bicycling references set out in the Comprehensive Plan (on pages 24-26) impacted by this proposed development?

The proposal has trail systems, etc. for the proposed subdivision, but with current density, at what cost to current residents who walk and bike near our homes?

Town officials have an awesome responsibility as stewards of this land to make decisions right for the Township, both current and future generations. Please make decisions regarding this development in a thoughtful and transparent manner for the benefit of us all. Thank you, Heidi Disch

PUBLIC COMMENTS FOR 2/15/2024 TOWN OF VERONA PLAN COMMISSION MEETING

The Plan Commission is reviewing and discussing two new developments tonight, one on Sugar River Road and one on Riverside Road. My comments pertain to both, as well as other, future developments in the Town.

The Town is developing at a fast pace, compared to historical levels. Large homes are being constructed in rural subdivisions, requiring ever-increasing use of resources – construction equipment, building materials, home energy consumption, traffic to and from services, etc. This is a carbon-intensive living pattern, being perpetuated in every new subdivision. I want to strongly encourage the Town to be proactive and responsible about the energy footprint of these developments.

The homes constructed this year will likely be around for decades. It is generally much easier to start with energy efficiency than to retrofit. And the need is immediate – we shouldn't wait for years to pass before considering how to encourage energy efficiency in new homes in the Town. A home designer using a whole-building systems approach from the beginning of the design process can perform a whole-house computer simulation that compares multiple combinations of variables to arrive at the most cost-effective and energy-efficient solution. It makes sense to require or strongly encourage builders and owners to consider techniques like advanced house framing, cool roofs, passive solar home design, and renewable energy for electricity, heating and cooling, and water heating.

Let's at least encourage developers and builders in the Town to work with Focus on Energy specialists (contacts shown below) during design, and even better let's strongly recommend the use of a whole-building systems approach for each home.

Thank you.

Jo Tucker,
Shady Oak Lane

- Residential Heating & Cooling contact:
 - Scott Sailor
 - [608-509-2291](tel:608-509-2291)
 - scott.sailor@focusonenergy.com

- Residential Insulation & Air Sealing
 - Jason Kempen
 - [262-227-3932](tel:262-227-3932)
 - jason.kempen@focusonenergy.com

The Benefits of Prairie



Aerial view of a hilly native Minnesota prairie. © Dale Bohlke

Prairie is important in and of itself as an ecosystem that is both complex and diverse. It has evolved over millennia to be ideally adapted to the mid-continental climate of North America. Prairie ecosystems provide essential habitat for native plants and wildlife. They also provide an array of benefits to people, many of which reach beyond property lines. An appreciation of prairie has grown with greater understanding of the intrinsic and societal benefits (ecosystem services) it provides. Prairie that is within a connected complex of natural lands has an enhanced ability to provide the following benefits.

</prairie/why-important/biodiversity.html> (the variety of life and its processes)

- Support a wide diversity of native species that all contribute to a more stable and resilient ecosystem, which is a rich part of Minnesota's natural heritage.
- Learn about Minnesota's [sites of biodiversity significance \(/eco/mbs/biodiversity_guidelines.html\)](/eco/mbs/biodiversity_guidelines.html) and see a [map of these sites \(PDF\)](https://files.dnr.state.mn.us/eco/mcbs/maps/areas_of_biodiversity_significance.pdf). (https://files.dnr.state.mn.us/eco/mcbs/maps/areas_of_biodiversity_significance.pdf).

Habitat

- Produces food, cover, and nesting sites for a wide variety of wildlife
 - Insects have a vital role in the prairie food chain
 - Of special note is the critical habitat prairie provides for [pollinators \(/pollinators/index.html\)](/pollinators/index.html) (bees, butterflies, moths, flies, wasps, beetles, etc.)
- Wildlife and native plants have developed together over thousands of years
- More about [prairie habitat \(/privatelandhabitat/prairie-habitat.html\)](/privatelandhabitat/prairie-habitat.html).

Clean Water

- Prairie vegetation captures precipitation carrying it down to the roots, which trap and filter both nutrients and sediment
- Promotes water infiltration and storage
 - Recharges and filters groundwater
 - Reduces erosion and nutrient runoff
 - Moderates flooding by slowing run-off and maintaining a large water storage capacity
- Learn about the [health of your local watershed \(/whaf/about/scores/index.html\)](/whaf/about/scores/index.html), and its [health score \(/whaf/scores/combined/index.html\)](/whaf/scores/combined/index.html).

Healthy Soils

- Following each growing season, prairie plants and roots begin to break down into rich organic matter.
- Water holding capacity of these rich soils is very high.
- Extensive root systems deposit carbon into deep soil layers providing [carbon sequestration \(https://bwsr.state.mn.us/carbon-sequestration-grasslands\)](https://bwsr.state.mn.us/carbon-sequestration-grasslands) .

Cultural Values

- Prairies share a long history with Native American communities, this powerful connection to the land continues to have sacred and spiritual significance.
- Provides a sense of place for people to connect physically, intellectually, emotionally, and spiritually with the prairie's past, present, and future.
- Prairie plants have long been and continue to be used as a source of foods and medicines.

Recreation

- Both residents and visitors to Minnesota's prairies enjoy hiking, camping, birdwatching, hunting, fishing, photography, and other recreational pursuits.

Rural Economies

- [Prairie STRIPS \(https://www.nrem.iastate.edu/research/STRIPS/content/what-are-prairie-strips\)](https://www.nrem.iastate.edu/research/STRIPS/content/what-are-prairie-strips) planted into crop fields can increase agricultural productivity and reduce sediment, phosphorus, and nitrogen runoff.
- Livestock grazing and haying can benefit both the prairie and agriculture production.
- Visitors coming to the prairie to hunt, fish, and view wildlife spend money on food, lodging, and gas.

Questions?

Call 651-296-6157 or 888-646-6367

Email us: info.dnr@state.mn.us

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TOWN OF VERONA, WISCONSIN

Sugar River Residential Traffic Impact Analysis

October 27, 2023



Prepared for:
Town of Verona



ABBREVIATED TRAFFIC IMPACT ANALYSIS FOR:

SUGAR RIVER RESIDENTIAL DEVELOPMENT

TOWN OF VERONA, WISCONSIN

DATE SUBMITTED:

OCTOBER 27, 2023

PREPARED BY:

MSA Professional Services Inc.

1702 Pankratz Street

Madison, WI 53704

Phone: (608) 242-7779

Contact: Ethan Morrison, EIT
Brian Huibregtse, PE, PTOE

"I certify that this Traffic Impact Memo has been prepared by me or under my immediate supervision and that I have experience and training in the field of traffic and transportation engineering."

Brian Huibregtse, PE, PTOE
Wisconsin Registration # 40465
Professional Traffic Operations Engineer # 4597
WisDOT TIA Certification # SE05-804-60
MSA Professional Services, Inc. day



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LIST OF APPENDICES

Appendix A.....	Traffic
<ul style="list-style-type: none">• Summary of PHF and Percent Heavy Vehicles• Turning Movement Count Data• Left/Right turn Lane Warrant Calculations• Intersection Sight Distance Calculations	
Appendix B	Existing Transportation System with Background and Build Traffic Operational Analysis
<ul style="list-style-type: none">• 2023 Background Traffic, Existing Transportation System: Synchro 11 Output• 2023 Build Traffic, Existing Transportation System: Synchro 11 Output	
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<ul style="list-style-type: none">• Pictures Collected During Field Visit	

INTRODUCTION

This report contains the results of a traffic study in the Town of Verona in Dane County; at the intersection of Sugar River Road and a proposed public road called Access 1. The Town of Verona has contracted with MSA Professional Services, Inc (MSA) to study the operations of the intersection and evaluate available sight distance.

PROPOSED DEVELOPMENT

PART A – ON-SITE DEVELOPMENT

A1. Development Description and Site Location

The neighborhood plan is associated with the development of approximately 143-acres on the South-West corner of the Town of Verona, Dane County Wisconsin, to the West of Sugar River Road, as shown in *Exhibit 1, Site Location Map*.

A2. Land Use and Intensity

The initial conceptual plan contains primarily agricultural fields and three existing houses that will remain after the development is complete. The existing agricultural land use will be discontinued in favor of the proposed development, and the existing private drive will be converted into a new public road. As shown in *Exhibit 2, Site Plan*, the future neighborhood concept plan is for the entire 143-acres, which includes up to 78 total lots and the construction of a secondary access. For the purpose of the traffic study, the full development of the Concept Plan is being considered which will include 65 total lots (62 new lots) and only one primary access (Access 1).

Currently, the full neighborhood plan-of the approximate 143-acre site will consist of:

- 78-units of single-family detached housing
- Green space comprising a mix of prairie land, woods, hiking trails and stormwater ponds

A3. Development Phasing and Timing

The initial phase of the Concept plan is anticipated to be completed within three sub-phases. The initial sub-phase is proposed to contain approximately 10 lots (1 existing lot), and the second sub-phase may include approximately 15 lots, and the third sub-phase will include approximately 15 lots containing a total of 40 lots (1 existing lot). The final build phase of the Concept Plan, whose timing is unknown, would include the remaining 25 lots (2 existing lots).

As part of the future Neighborhood Concept plan, which includes the remaining 13 lots (1 existing lot), a secondary access to the south will be considered. At this time the final Neighborhood Concept phase will not be considered in the final report; in other words, only the 65 lots identified in the Concept Plan will form the basis for this traffic study.

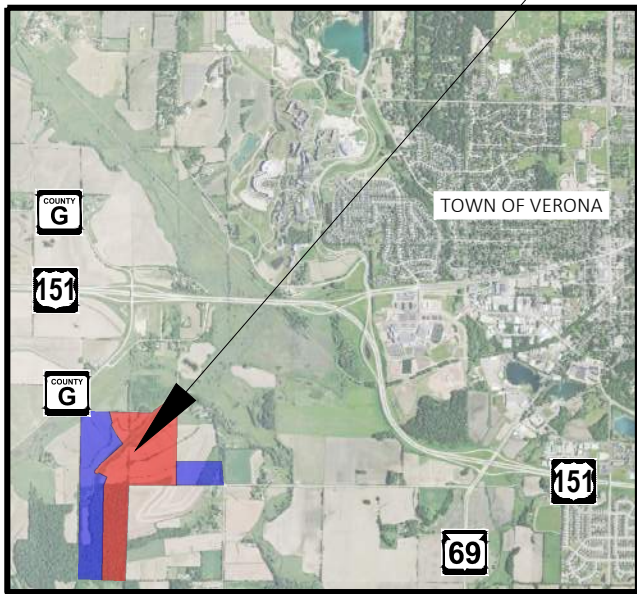
PART B – SITE ACCESSIBILITY

Sugar River Road is the only access road to this development. As previously discussed, only the northern development access to Sugar River Road will be considered in this report. Town officials noted that Sugar River Road does service a notable number of bicycle traffic.

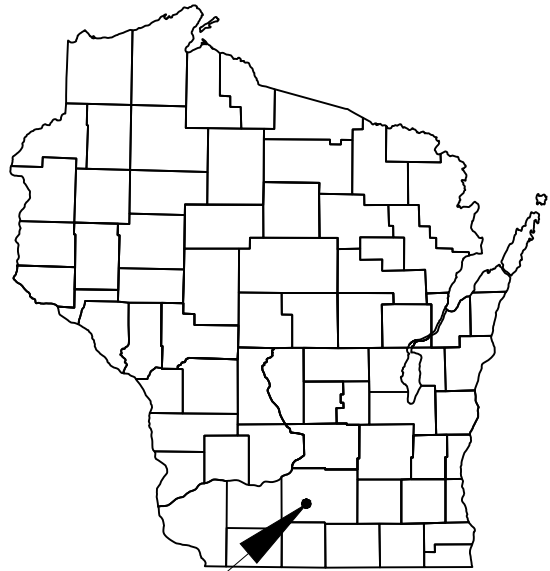
PART C – OFF-SITE LAND USE AND DEVELOPMENT

No off-site development is proposed to be reviewed as part of this study. No future neighboring/adjacent development projects are known at the time of this report.

PROJECT AREA

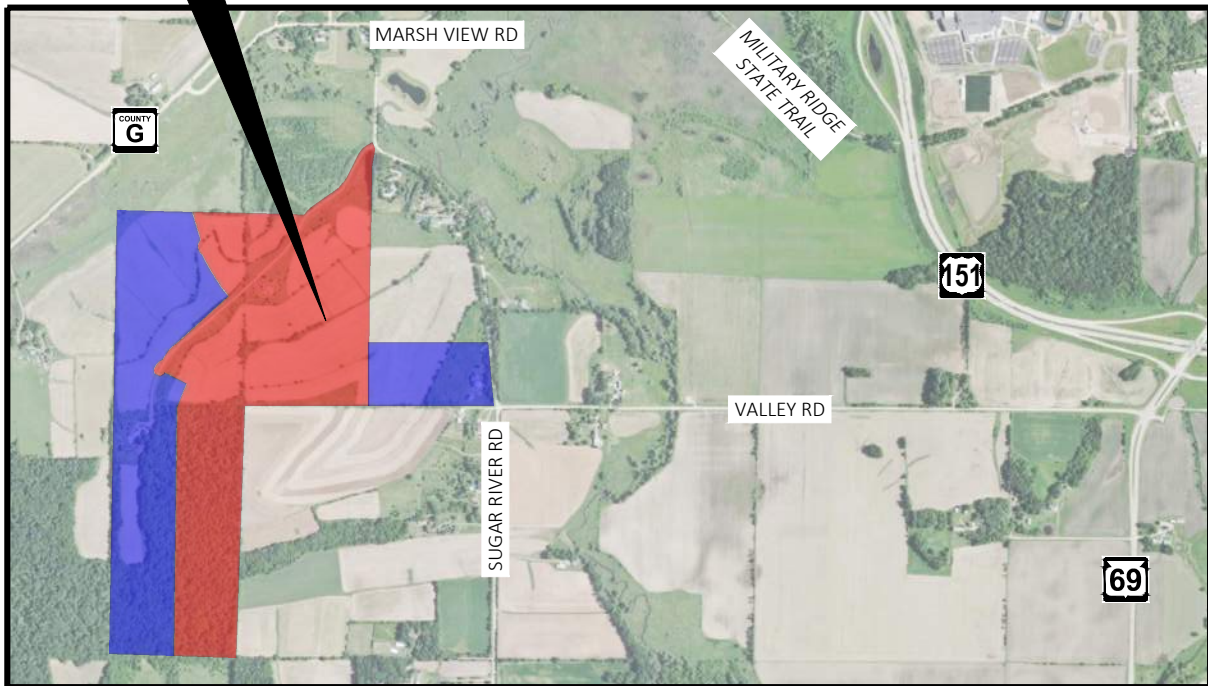


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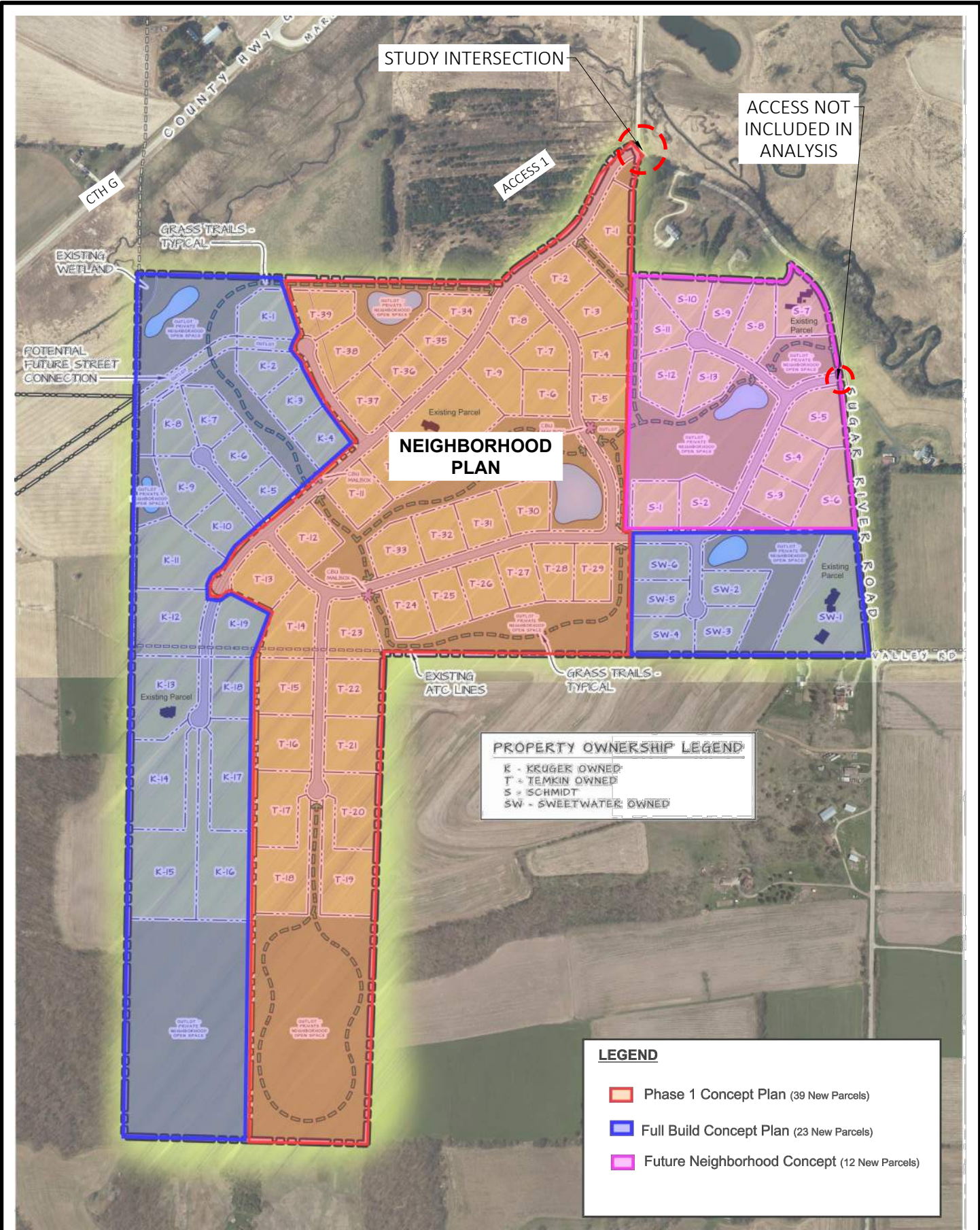
PROJECT LOCATION

CITY OF VERONA (AND ADJACENT TOWNSHIPS)



SCALE: 1:2000





STUDY INTERSECTION

ACCESS NOT INCLUDED IN ANALYSIS

ACCESS 1

CTH G

GRASS TRAILS - TYPICAL

EXISTING WETLAND

POTENTIAL FUTURE STREET CONNECTION

NEIGHBORHOOD PLAN

SUGAR RIVER ROAD

VALLEY RD

EXISTING ATC LINES

GRASS TRAILS - TYPICAL

PROPERTY OWNERSHIP LEGEND
 K - KRÜGER OWNED
 T - TEMKIN OWNED
 S - SCHMIDT
 SW - SWEETWATER OWNED

LEGEND

- Phase 1 Concept Plan (39 New Parcels)
- Full Build Concept Plan (23 New Parcels)
- Future Neighborhood Concept (12 New Parcels)



Exhibit 2, Site Plan
 SUGAR RIVER RESIDENTIAL DEVELOPMENT
 TOWN OF VERONA, DANE COUNTY

ANALYSIS OF EXISTING CONDITION

The analysis of existing conditions provides a base against which the incremental traffic impacts of the proposed development can be measured. This chapter includes the following topics:

- Physical characteristics of the existing intersection
- Traffic volumes
- Sources of Data

PART A – PHYSICAL CHARACTERISTICS

A1. Existing Area Roadway System

The study area roadway characteristics, are as follows:

Sugar River Road

- Two-lane undivided roadway
- Rural collector
- 45 mph posted speed limit
- No sidewalk is located on both sides of the road
- Existing shoulders are not wide enough to accommodate cyclists

Access 1

- Currently a private access road / driveway

A2. Planned Transportation System

Currently the private drive is located in the area that will become Access 1. Once the private drive is reconstructed into a public road, a stop sign will be added to the intersection.

PART B – TRAFFIC VOLUMES

Background traffic volumes were collected on September 9th, 2023. Data collection was performed at Sugar River Road and Access 1. Raw data traffic volumes are included in **Appendix A**. Collected counts indicate 11 bikes travelling northbound and three travelling southbound during the observed 12-hours of data collection.

Residential developments, particularly single family detached homes, generate the highest amount of peak hour traffic during the AM and PM weekdays time periods, and thus only these two peak hour scenarios are evaluated as part of this study. A summary of the collected turn movement counts, is also included in **Appendix A**.

PART C – SOURCES OF DATA

- Intersection Turning Movement Counts – MSA Professional Services, Inc.
- Aerial Imagery – Google Earth
- Intersection Sightline Analysis - MSA Professional Services, Inc.

PROJECTED TRAFFIC

For developments that are expected to generate trips below a certain threshold, it is industry practice to focus traffic studies on the build year, and forgo traffic growth estimations, as the difference from those growth rates is negligible. As a result, this section will focus only on trips generated by the development.

PART A – ON-SITE AND OFF-SITE DEVELOPMENT TRAFFIC FORECASTING

To determine the impact of the proposed development on the existing traffic operating conditions, it is necessary to estimate the general characteristics of the additional traffic that will be generated by the proposed development and the distribution of this traffic on the area roadway network. This requires five steps:

1. Trip generation
2. Mode split
3. Determination of internally linked and pass-by trip traffic (if applicable)
4. Trip distribution
5. Trip assignment

A1. Trip Generation

Development trip generation is based on land use types and sizes as provided by the developer. Utilizing *ITE Trip Generation Manual, 11th Edition*, trip generation rates will be applied for the proposed land uses. Trip generation was calculated for AM and PM peak periods as well as for the 24-hour weekday period.

The resulting on-site development trip generation values are shown in **Table 1**.

Table 1) Trip Generation Table.

Sugar River Residential Development														
ITE Land Use	ITE Land Use Code	Parcel Acres	FAR Density	Size	Units		Weekday Two-way	AM Peak Hour			PM Peak Hour			
								Total	In	Out	Total	In	Out	
Single Family Detached Housing	210	--	--	62	Dwelling Units	Rate		0.00	0.00		0.00	0.00		
						Percentage		25%	75%		63%	37%		
						Raw Trips	650	50	15	35	65	40	25	
						Minus Linked Trips	0%	Trips	0	0	0	0	0	0
						Driveway Trips	650	50	15	35	65	40	25	
						Minus Pass-by Trips	0%	Trips	0	0	0	0	0	0
					New Trips	650	50	15	35	65	40	25		
Development Trip Generation Summary							Weekday Two-way	AM Peak Hour			PM Peak Hour			
								Total	In	Out	Total	In	Out	
Raw Trip Generation							650	50	15	35	65	40	25	
Linked Trips							0	0	0	0	0	0	0	
Total Driveway Trips							650	50	15	35	65	40	25	
Pass-by Trips							0	0	0	0	0	0	0	
Total New Trips							650	50	15	35	65	40	25	

All land uses shown in this exhibit use trip generation rates from the *ITE Trip Generation Manual, 11th Edition*
 Unless otherwise noted fitted curve equation used when Total Rate is not shown
 All trips rounded to the nearest 5

A2. Mode Split

Though Sugar River Road is used by recreational and potentially some commuter bicyclists, a reduction of vehicle trips generated due to anticipated bicycle trips, was determined to be negligible and not included.

A3. Determination of Linked, Diverted Pass-by, and Pass-by Trip Traffic

Internally linked trips occur when patrons visit more than one land use without leaving the overall development site, (e.g., a person refuels their vehicle after having a meal at an adjacent restaurant). Pass-by trips are vehicles that are traveling in one direction, stop at the site, and then continue to their original destination. Since all the proposed land use is residential, linked and pass by trips will not be included in this analysis.

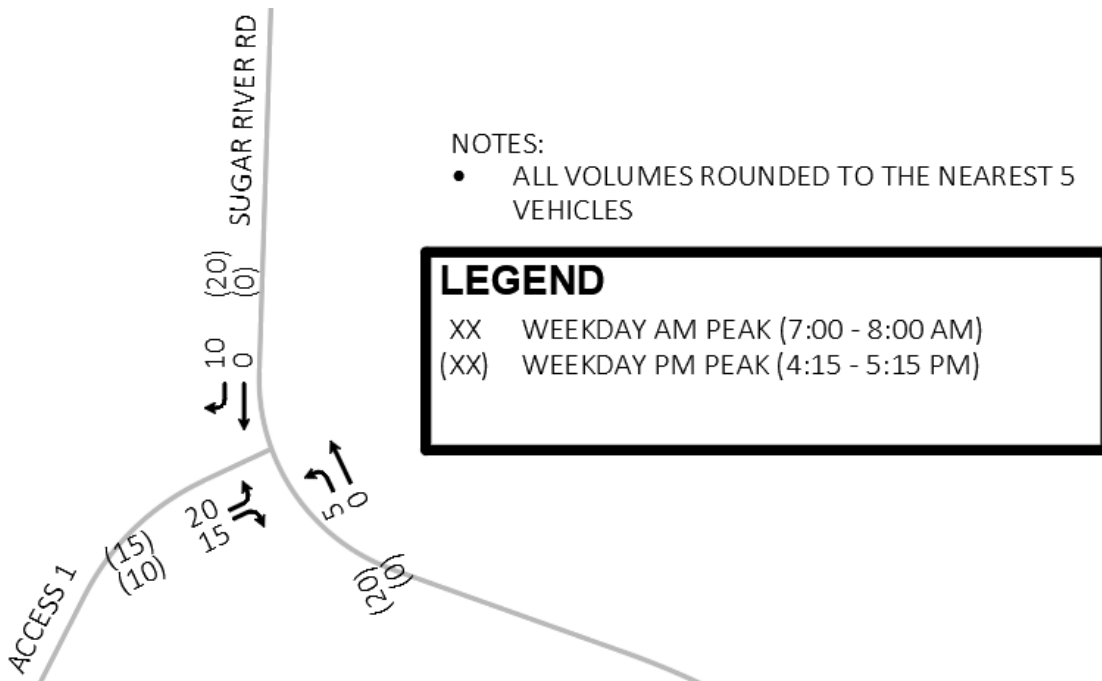
A4. Trip Distribution

Trip distribution percentages were sourced from the background traffic volumes, surrounding land uses, and engineering judgement. It was assumed that majority of trips will utilize USH 151 or travel into the City of Verona. Based on collected traffic patterns, a marginally higher number of trips were heading north on Sugar River Road. As such, a slightly greater percentage of trips (55%) are expected to travel north on Sugar River Road to Marsh View Road while 45% of trips are expected to travel on Sugar River Road southward to Valley Road heading to STH 69 and then potentially northward to USH 151.

A4. Trip Assignment

The trips generated by the development were assigned to the intersection using the trip distribution percentages from A4. A summary of the new trips is shown below in **Figure 2**.

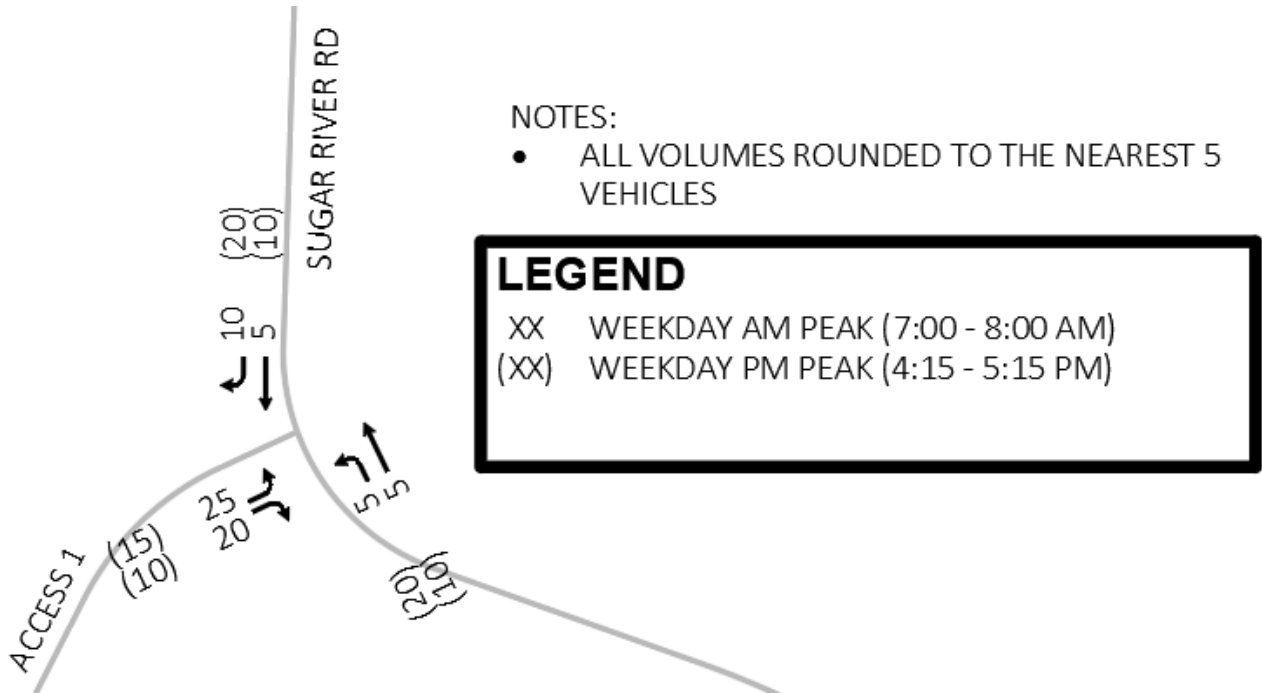
Figure 2) New Trips.



PART C – BUILD AND TOTAL TRAFFIC

The *total build volumes* are the sum of the existing traffic volumes and the number of trips generated by the development, as identified in **Figure 2**. The total build volumes are summarized below in **Figure 3**. In addition to the shown volumes, existing traffic counts found a total of three bike movements traveling northbound in the interaction during the peak hour. All other bike movements had negligible volume in the peak hour.

Figure 3) Build Development Traffic.



TRAFFIC ANALYSIS

PART A – TURN LANE WARRANTS

Turn Lane Warrants

The existing intersection of Sugar River Road and Access 1 was reviewed for mainline left and right turn lane needs based on the criteria listed in the WisDOT *Facilities Development Manual (FDM) 11-25-5* and *NCHRP 457* and build development traffic volumes. Based on a review of the results the intersection of Sugar River Road and Access 1, neither a northbound left turn lane, nor southbound right turn lane are warranted based on the projected volumes for Sugar River Road in the build year development traffic scenario.

Consideration should be given to providing both a left turn lane and right turn on Access 1 at its intersection with Sugar River Road. The dedicated turn lanes would allow for additional capacity if the volume of vehicles on Sugar River Road increases in the near future.

PART B – CAPACITY/LEVEL OF SERVICE ANALYSIS

An operational and capacity analysis was completed for the intersections using Synchro 11, utilizing the *Highway Capacity Manual (HCM) 6th Edition* methodologies for the two way stop control intersection. This type of analysis assigns a level of service (LOS) to each movement. LOS is a quantitative measure that refers to the overall quality of flow at an intersection ranging from very good, LOS “A,” to very poor, LOS “F”. The delay is measured in seconds per vehicle, which can be used to determine the level of service for the intersection. While determining the scope of this study, it was agreed that a LOS below that of LOS C was low enough to warrant the analysis of an improvement scenario. **Table 2** represents the delay criteria used for determining the LOS at an intersection.

Table 2: Highway Capacity Manual Level of Service


LOS	Unsignalized Average Control Delay (seconds/vehicle)	Signalized Average Control Delay (seconds/vehicle)	Delay Type
A “Best”	0–10	0–10	Short
B	>10–15	>10–20	
C	>15–25	>20–35	
D Improvement threshold	>25–35	>35–55	Moderate
E	>35–50	>55–80	
F “Worst”	>50	>80	Long

Queues are reported at the 95th-percentile level, unless otherwise noted. Calculated queue lengths less than one vehicle were rounded to one vehicle (25-feet).

B1. Year 2023 Background Traffic Operations

Table 3, Level of Service/Queue Length Comparison shows the build traffic operational analysis for the existing transportation system with the addition of Access 1 as a public road. All approaches of the subject intersection are expected to operate at LOS A or better for both daily peak hours and are anticipated to have little or no queuing and an abundance of capacity.

Table 3, Level of Service/Queue Length Comparison

Node 100	2023 Build LOS and Queue Analysis				Control TWSC
	Sugar River Road	at	Access 1		
Peak	Approach	EB →	NB ↑	SB ↓	INT
		All	L/T	T/R	
	# of Lanes	1	1	1	
	Storage (ft)	---	---	---	
AM	LOS	A	A	A	A 6.2
	Delay (s)	8.7	7.3	0.0	
	v/c	0.05	0.00	0.00	
	Queue (ft)	25	25	25	
PM	LOS	A	A	A	A 4.4
	Delay (s)	9.0	7.3	0.0	
	v/c	0.04	0.02	0.00	
	Queue (ft)	25	25	25	

Red indicates altered/improved condition from previous state

95th percentile queues reported

Queues rounded to the nearest 25 ft

B2. Improvement Scenarios

The operational analysis does not show that additional improvements are needed to accommodate delay or queueing from the development.

B3. Secondary Access

When the complete Future Neighborhood Concept Plan is eventually developed, a secondary access should be constructed. Based on the completed operational analysis in Section B1, the addition of a second access will rebalance traffic from the entire development to the two access points. It is assumed that based on the new rebalanced trips, that delay and queuing will improve at Access 1. The new secondary access point is also assumed to see better operational results than those shown in Table 3 when only one access existed. This secondary access is recommended as a safety improvement to the development in case one of the two public roadway connections to Sugar River Road is blocked.

PART C – SPEED CONSIDERATIONS/SIGHT DISTANCE

To examine sightlines, MSA conducted a field visit to evaluate the intersection sight distance (ISD) at the proposed intersection. Given the existing foliage and road geometry to the South of the intersection, measurements determined the existing max sight distance without any improvements is 677-Feet (**Figure 5**) to the south and +785-Feet to the north (**Figure 6**). The max site triangles determined by that field visit are also summarized **Exhibit 3**. During the field visit, it was observed that the foliage on the east side of Sugar River Road prevents a driver from maintaining a continuous sightline of a vehicle approaching from the south, resulting with a potential safety concern. **Table 4** summarizes the ISD criteria that was evaluated as part of the field investigation.

Table 4, Controlling Intersection Sight Distance Values (Intersection sight distances not met are highlighted in red)

Posted Speed Limit (Design Speed is 5 mph over posted)	Design Vehicle	Movement from Minor Street			
		ISD to Left (ft)		ISD to Right (ft)	
		Min.	Desirable	Min.	Desirable
45 mph	P	515	625	550	735
	SU	675	785	700	880
35 mph	P	415	500	440	590
	SU	540	630	560	705

The posted speed of Sugar River Road is 45 mph. At this speed, the existing sightlines will not accommodate the minimum ISD for a single unit truck (700-Feet) but will accommodate the minimal ISD for a passenger car (550-Feet). Given that 5 Single Unit Trucks/Buses and 1 Semi truck was observed over the entire 12-hour count it is arguable that the existing geometry and sight distance may be adequate under current conditions but should continue to be monitored by the town moving forward. Should the developer expect a large increase in single unit truck volume or roadway characteristic change, the town may want to consider completing a Speed Study to evaluate a reduction in speed limit below 45mph. It is recommended that the foliage on the opposite side of Sugar River Road be removed as to maintain consistent sight lines to the south as vehicles approach the new access point. The existing tree on the north side of Access 1 should also be removed when the new public road is being constructed.

Full sight distance calculations are shown in **Appendix A**.

Figure 5: Max ISD to the South, 677-Feet.

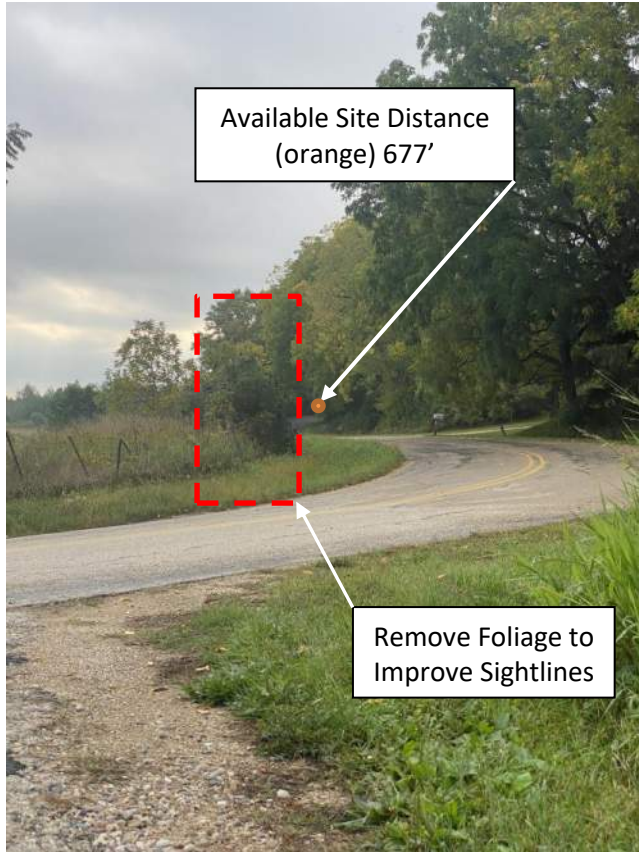
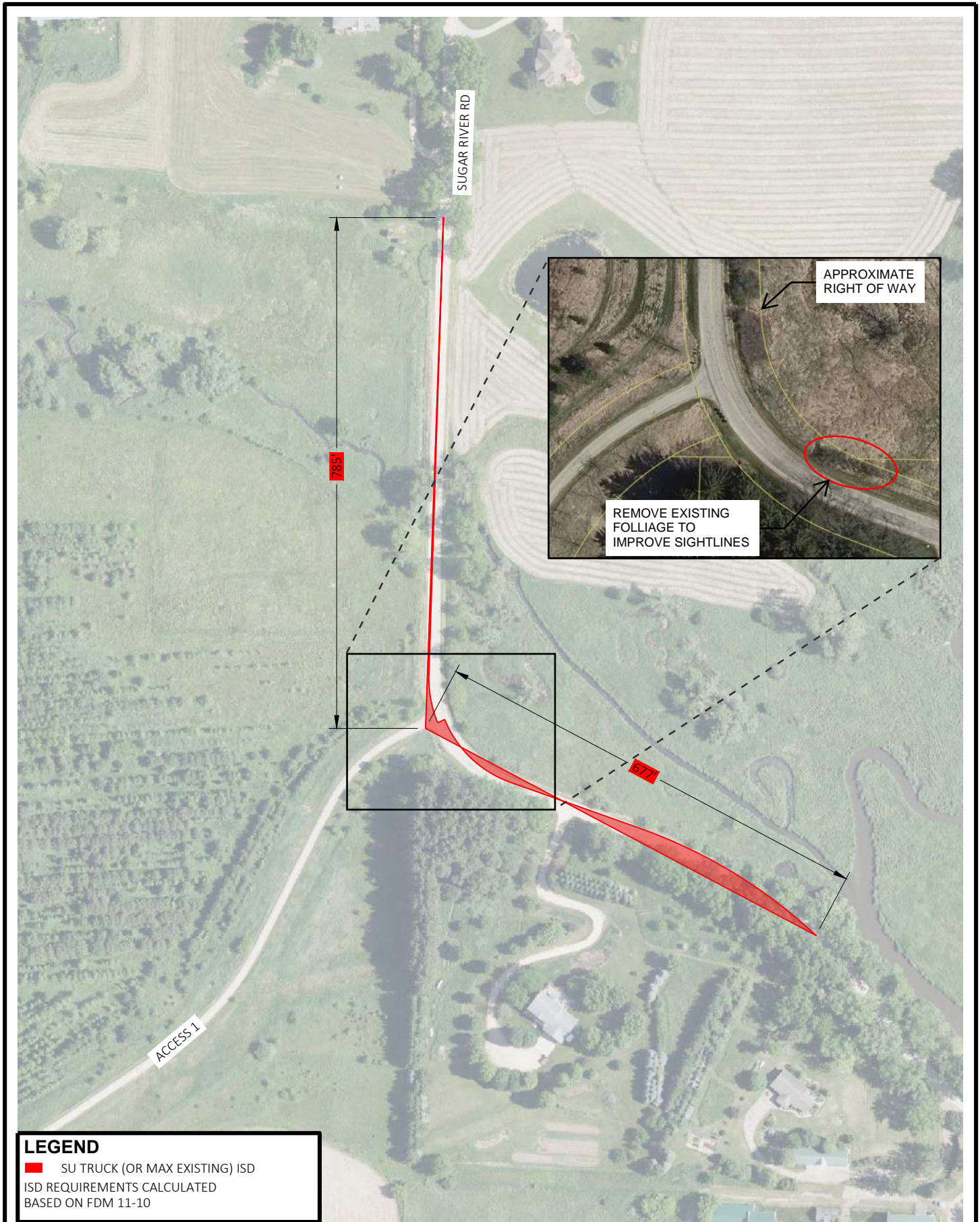


Figure 6: Uninterrupted Sightlines to the North, Beyond 785-Feet.





LEGEND
 ■ SU TRUCK (OR MAX EXISTING) ISD
 ISD REQUIREMENTS CALCULATED
 BASED ON FDM 11-10



Exhibit 3, Intersection Sight Distance
 SUGAR RIVER RESIDENTIAL DEVELOPMENT
 TOWN OF VERONA, DANE COUNTY

CONCLUSIONS AND RECOMMENDATIONS

This chapter contains the conclusions that were drawn regarding the analysis of the development conditions.

PART A – CONCLUSIONS

A1. DEVELOPMENT TRAFFIC

The results of the operational analysis indicate that the intersection of Sugar River Road and Access 1 currently operates acceptably with minimal queueing and acceptable delay (above LOS A for all movements) during the 2023 build scenario (development trips + existing trips).

A2. BUILD DEVELOPMENT TRAFFIC

Sugar River Road at Access 1

Currently the private drive is located in the area that will become Access 1. Once the private drive is reconstructed into a public road, a stop sign will be added to the intersection.

PART B – RECOMMENDATIONS

The posted speed of Sugar River Road is 45 mph. Given the existing road geometry to the south of the intersection, a field visit determined the existing max sight distance without any improvements is 677-Feet (Figure 1). This value will not accommodate the minimum ISD for a single unit truck (700-Feet) but will accommodate the minimal ISD for a passenger car (550-Feet). Given that 5 Single Unit Trucks/Buses and 1 Semi truck was observed over the entire 12-hour count, it is arguable that the existing geometry and sight distance may be adequate under current conditions but should continue to be monitored by the town moving forward. Should the developer expect a large increase in single unit truck volume or roadway characteristic change, the town may want to consider completing a Speed Study to evaluate a reduction in speed limit. It is recommended that the foliage on the opposite side of Sugar River Road be removed as to maintain consistent sight lines to the south as vehicles approach the new access point. The existing tree on the north side of Access 1 should also be removed when the new public road is being constructed.

When Access 1 is constructed, design plans will need to take into account how the superelevation of Sugar River Road connects into the new public roadway. Alignment of Access 1 should intersect with Sugar River Road to as close to 90-Degrees and geometrically possible.

Consideration should also be given to providing both a left turn lane and right turn on Access 1 at its intersection with Sugar River Road. The dedicated turn lanes would allow for additional capacity if the volume of vehicles on Sugar River Road increases in the future.

When the complete Future Neighborhood Concept plan is eventually developed, a secondary access should be constructed to Sugar River Road. This secondary access is recommended as a safety improvement to the development in case one of the two public roadway connections to Sugar River Road is blocked.

Appendix A Traffic

- Summary of PHF and Percent Heavy Vehicles
- Turning Movement Count Data
- WisDOT Traffic Forecast Report
- Left/Right-turn Lane Warrant Calculations
- Intersection Sight Distance Calculations

Summary of PHF and Percent Heavy Vehicles

Node	Intersection	Peak	HV%				PHF
			EB	WB	NB	SB	
100	Sugar River Rd at Access 1	AM	1%*		1%*	14%	0.70
		PM	1%*		1%*	1%*	0.71

Note:
 *Using a HV floor of 1%

Intersection Traffic Volume Report

Count Basics		Version 2023.05.03		Page 1 of 13	
Start Date:	Thursday, September 21, 2023	Weekday		Schools in Session	
Total Number of Hours Counted:	12.5	Non-Holiday		No Special Events	



Base Information, Observed (12.5) Hour and Estimated (24) Hour Volume Summaries

Major St: Sugar River Rd
 Minor St: Access 1
 Intersection of: Sugar River Rd & Access 1

IX_ID:

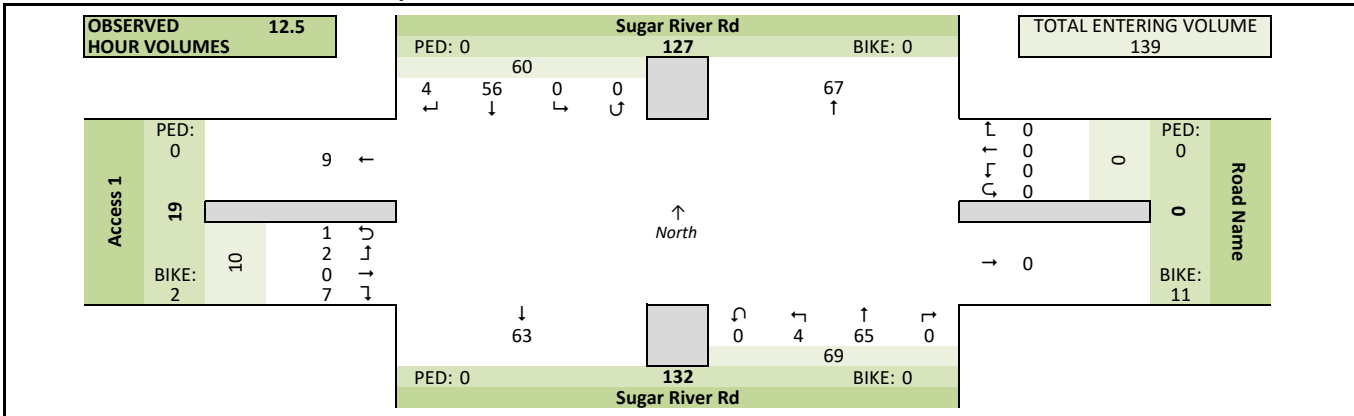
Site Information

Municipality	City of Verona		
County	13 - Dane	WisDOT Region	SW-M
Traffic Control	Uncontrolled		
Roadway Names	North Direction	↑	
North Leg	Sugar River Rd		
East Leg	Road Name		
South Leg	Sugar River Rd		
West Leg	Access 1		
Special Considerations			
Schools	In Session		
Holidays	None		
Special Events	None		
Special Pedestrians Observed			
	Pre-school children	None	
	Elementary school age children	None	
	Visually impaired (white cane/helper dog)	None	
	Elderly/disabled (except wheelchairs)	None	
	Wheelchairs/electric scooters	None	
Other (describe)	None	None	

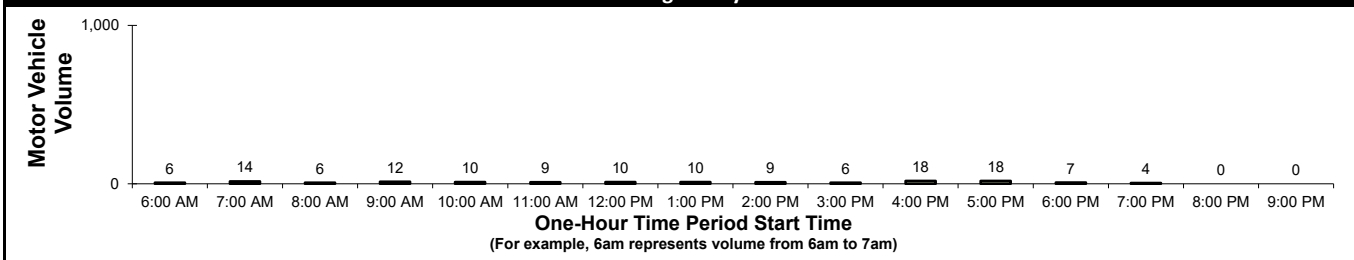
Count Information

Hrs Counted:	06:15 AM-01:00 PM, 01:15 PM-02:45 PM, and 03:00 PM-03:15 PM		
1st Day of Count	Thursday, September 21, 2023		Weather
AM Peak Period	Thursday, September 21, 2023		Clear & Dry
Midday Peak Period	Thursday, September 21, 2023		Clear & Dry
PM Peak Period	Thursday, September 21, 2023		Clear & Dry
Calculated Peak Hours			
	AM	7:00-8:00am	MD
		11:45-12:45pm	PM
		4:15-5:15pm	
Peak Hours Selected for Analysis			
	AM	7:00-8:00am	MD
		11:45-12:45pm	PM
		4:15-5:15pm	
Daily/Seasonal Adjustment Group	(4) Rural Arterials & Collectors		
Count Expansion Group	(4) Rural Arterials & Collectors		
Daily/Seasonal Adjustment Factor	0.869	Count Expansion Factor	1.254
Company Name	MSA Professional Services, Inc.		Manual Adj.
			1.000
Observers	AM Peak Period	Miovision	
	Midday Peak Period	Miovision	
	PM Peak Period	Miovision	
Comments	2021 DOT Daily & Seasonal Factors		

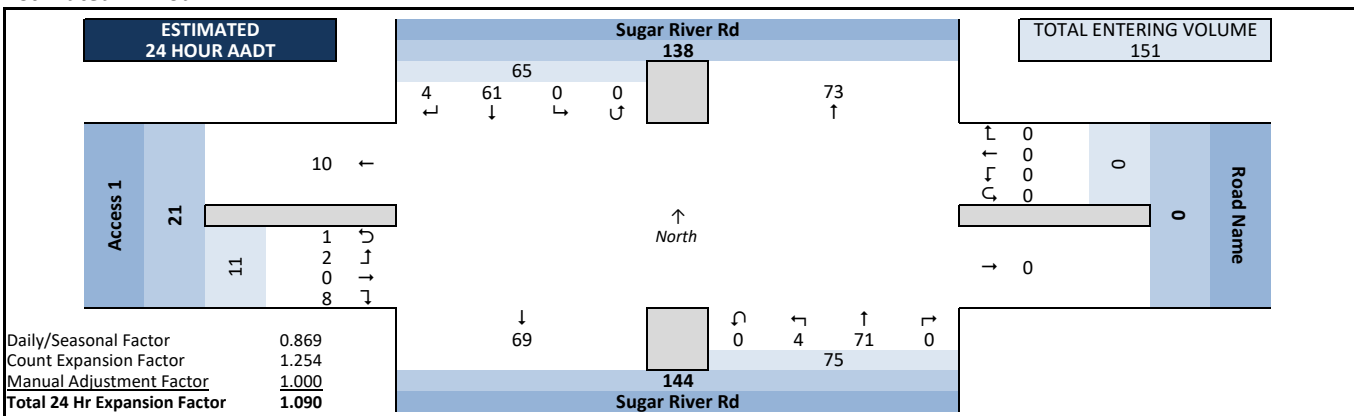
Observed 12.5 Hour Volume Summary



Total Entering Hourly Volume



Estimated 24 Hour AADT



Intersection Traffic Volume Report

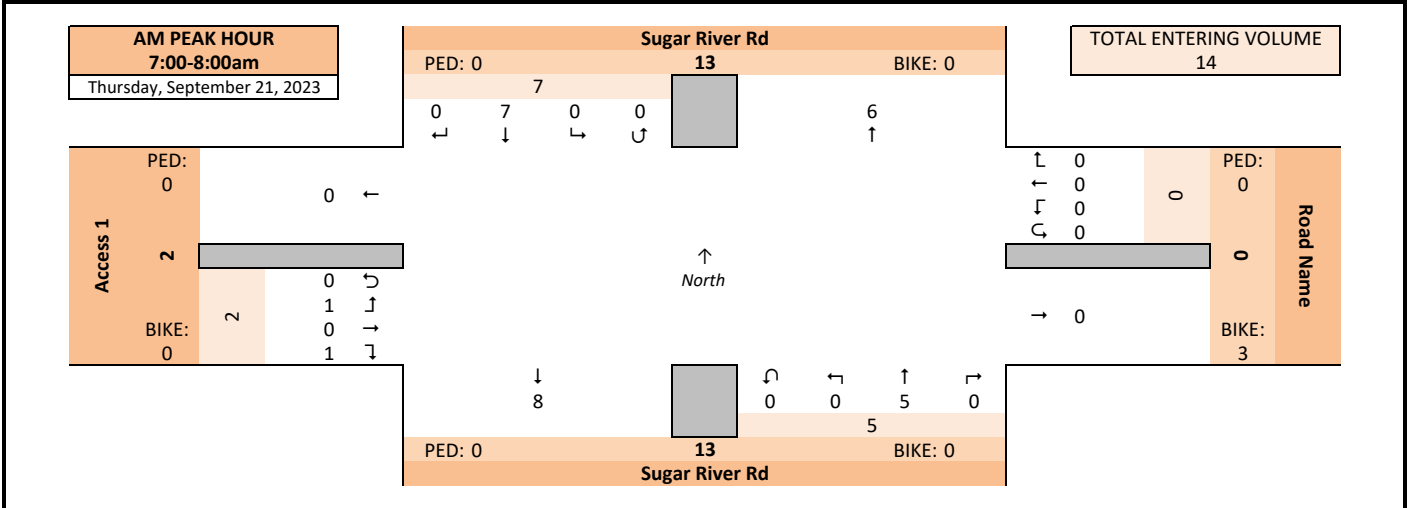
Count Basics		Page 2 of 13	
Start Date:	Thursday, September 21, 2023	Weekday	Schools in Session
Total Number of Hours Counted: 12.5		Non-Holiday	No Special Events

Peak Hour Volume Graphical Summary

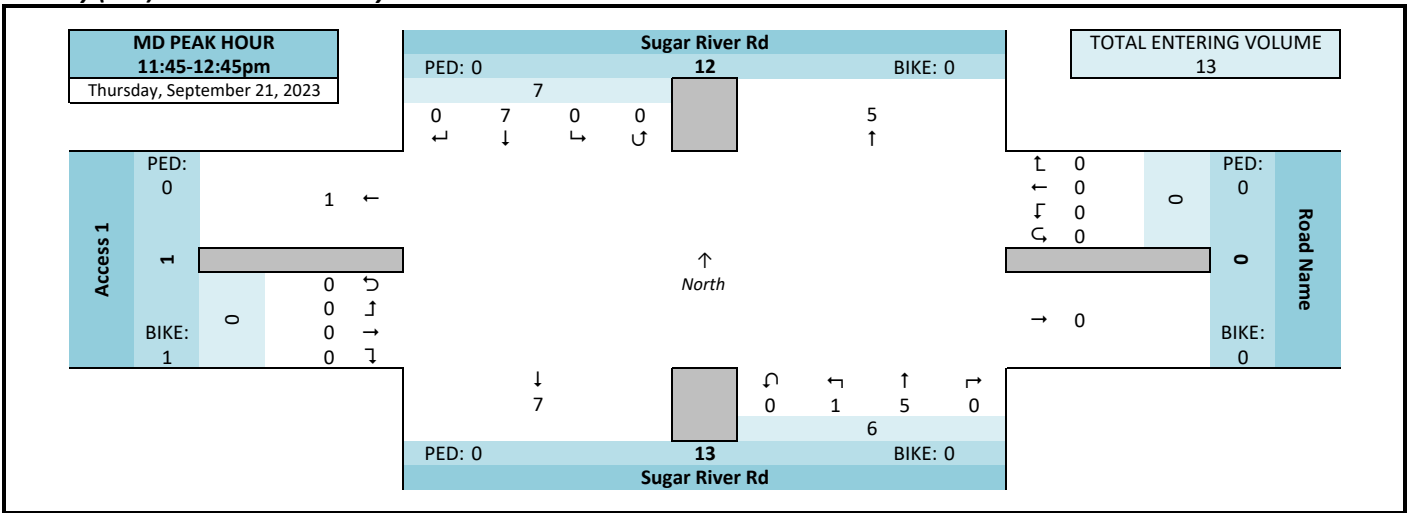
Sugar River Rd & Access 1



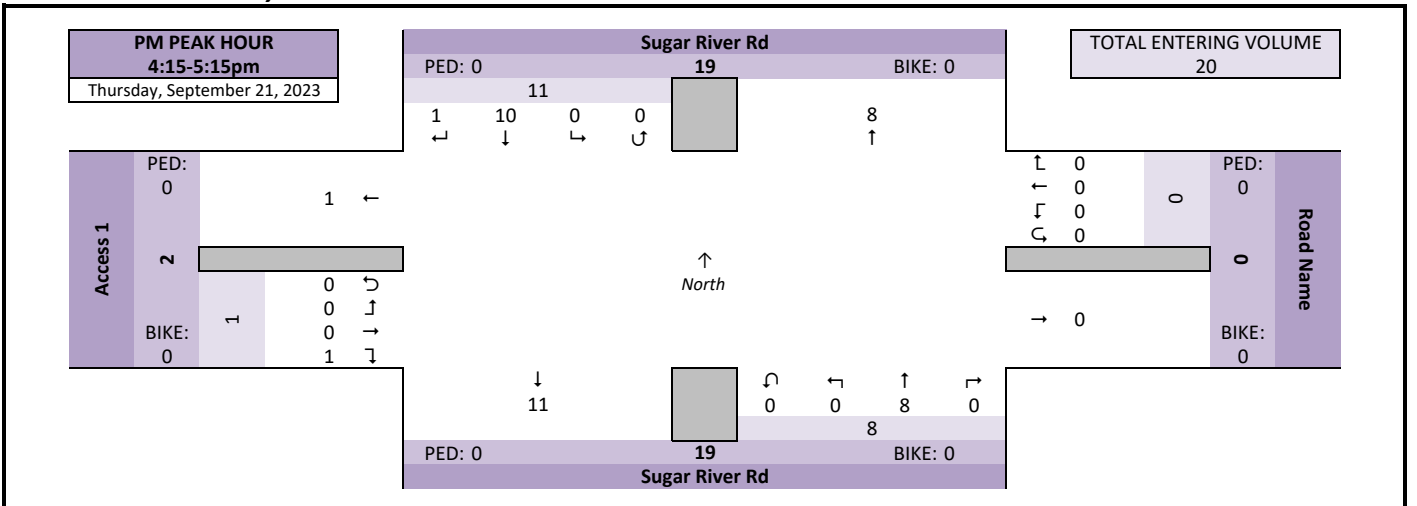
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary

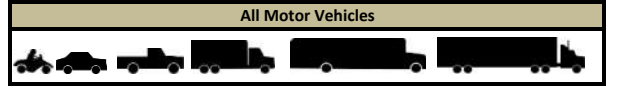


Intersection Traffic Volume Report

Count Basics			Page 3 of 13
Start Date:	Thursday, September 21, 2023	Weekday	Schools in Session
Total Number of Hours Counted:	12.5	Non-Holiday	No Special Events

Peak Hour Volume Summary

Sugar River Rd & Access 1



Peak Hour Volumes, Truck Percentages, and PHFs

Thursday, September 21, 2023	From North					From East					From South					From West					Totals				
	Sugar River Rd					Road Name					Sugar River Rd					Access 1									
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total					
AM Peak Hour																									
Start Time																									
7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	2	0	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	1	0	0	0	0	0	0
7:45 AM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0
Peak Hour Volume	0	7	0	0	7	0	0	0	0	0	0	0	5	0	5	1	0	1	0	0	2	0	0	0	2
Rounded Hourly Volume	0	5	0	0	5	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0
% Single Unit Trucks	0.0	14.3	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	14.3	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Factor (PHF)	0.00	0.58	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.62	0.25	0.00	0.25	0.00	0.50	0.70				

Thursday, September 21, 2023	From North					From East					From South					From West					Totals				
	Sugar River Rd					Road Name					Sugar River Rd					Access 1									
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total					
Midday (MD) Peak Hour																									
Start Time																									
11:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
Peak Hour Volume	0	7	0	0	7	0	0	0	0	0	0	0	5	1	6	0	0	0	0	0	0	0	0	0	0
Rounded Hourly Volume	0	5	0	0	5	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0
% Single Unit Trucks	0.0	14.3	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	14.3	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Factor (PHF)	0.00	0.58	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.25	0.50	0.00	0.00	0.00	0.00	0.00	0.81				

Thursday, September 21, 2023	From North					From East					From South					From West					Totals				
	Sugar River Rd					Road Name					Sugar River Rd					Access 1									
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total					
PM Peak Hour																									
Start Time																									
4:15 PM	0	1	0	0	1	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	4	0	0	5	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	1	1	0	0	1
5:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
Peak Hour Volume	1	10	0	0	11	0	0	0	0	0	0	0	8	0	8	1	1	0	0	0	1	2	0	0	2
Rounded Hourly Volume	0	10	0	0	10	0	0	0	0	0	0	0	10	0	10	0	0	0	0	0	0	0	0	0	0
% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Peak Hour Factor (PHF)	0.25	0.62	0.00	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.67	0.25	0.00	0.00	0.00	0.25	0.71				

Peak Hour Pedestrian and Bicyclist Volumes

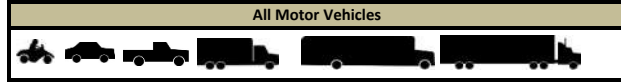
Pedestrians and Bicyclists	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
	Sugar River Rd			Road Name			Sugar River Rd			Access 1			
	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM													
15-Minute Start Time													
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	2	2	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	3	3	0	0	0	0	0	0	0
MD													
11:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	1
PM													
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics		Page 4 of 13
Start Date:	Thursday, September 21, 2023	Weekday
Total Number of Hours Counted:	12.5	Schools in Session Non-Holiday No Special Events

Hourly Volume Summary - Motor Vehicle Data

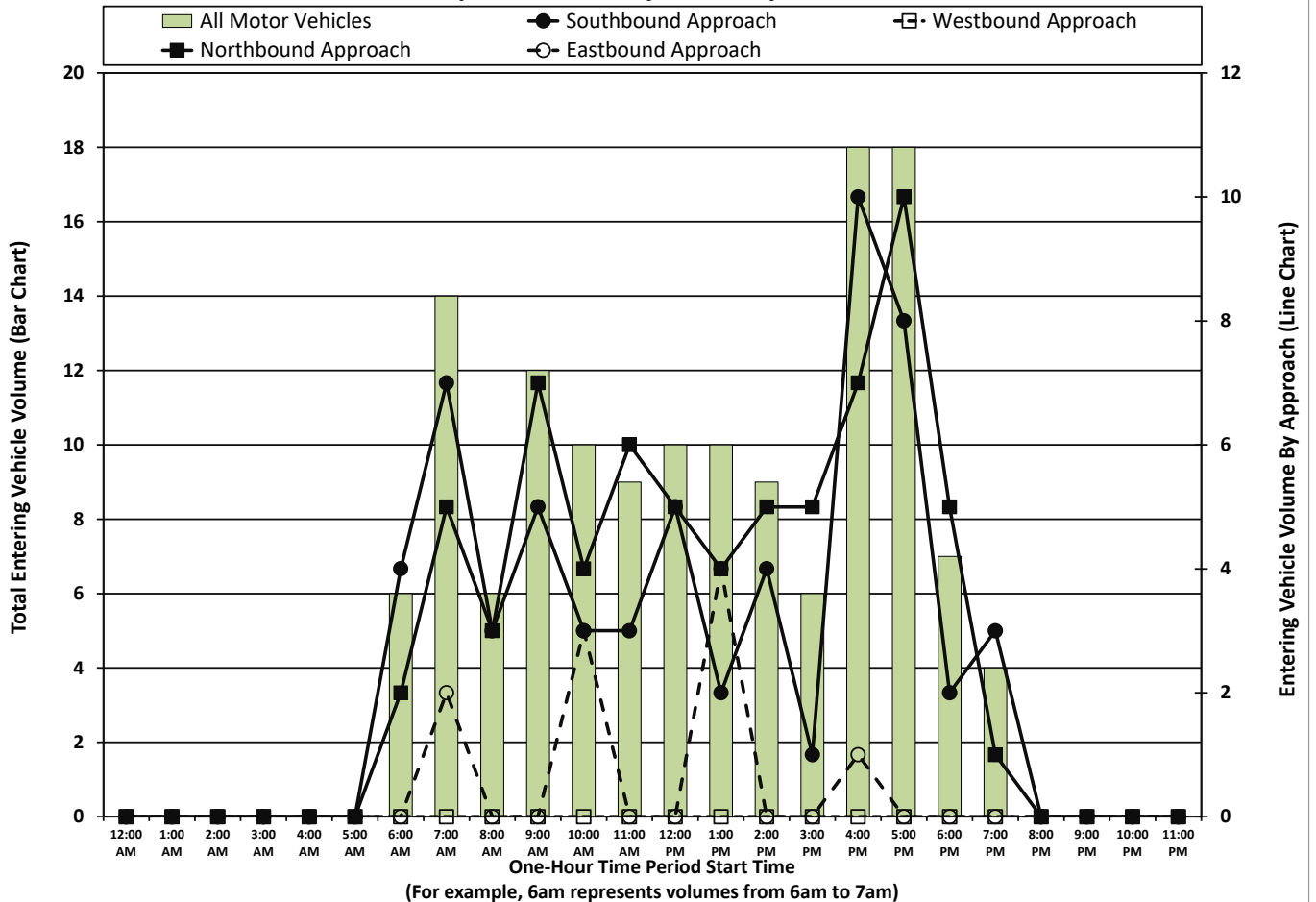
Sugar River Rd & Access 1



One-Hour Motor Vehicle Data

One-Hour Time Period	From North					From East					From South					From West					Total Vehicle Volume	Directional Volume Totals							
	Sugar River Rd					Road Name					Sugar River Rd					Access 1						E/W	N/S						
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total									
Pre-AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 AM	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	6	0	
7:00 AM	0	7	0	0	7	0	0	0	0	0	0	5	0	0	5	1	0	1	0	0	0	0	0	0	2	14	2	12	
8:00 AM	0	3	0	0	3	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	6	0	
9:00 AM	0	5	0	0	5	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	12	0	
10:00 AM	0	3	0	0	3	0	0	0	0	0	0	3	1	0	4	1	0	1	1	1	1	3	10	3	7	0	0		
11:00 AM	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	9	0	9	
12:00 PM	0	5	0	0	5	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	10	0	10	
1:00 PM	1	1	0	0	2	0	0	0	0	0	0	4	0	0	4	4	0	0	0	0	0	0	0	0	4	10	4	6	
2:00 PM	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	9	0	9	
3:00 PM	1	0	0	0	1	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	6	0	6	
4:00 PM	1	9	0	0	10	0	0	0	0	0	0	7	0	0	7	1	0	0	0	0	0	0	0	1	18	1	17	0	
5:00 PM	1	7	0	0	8	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	18	0	18	
6:00 PM	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	7	0	7	
7:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4	0	4	
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	4	56	0	0	60	0	0	0	0	0	0	65	4	0	69	7	0	2	1	10	139	10	129						

Graphical Summary of Hourly Volumes

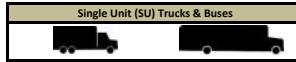


Intersection Traffic Volume Report

Count Basics	Thursday, September 21, 2023		Weekday	Page 7 of 13
Start Date	Thursday, September 21, 2023		Weekday	Schools In Session
Total Number of Hours Counted:	12.5		Non-Holiday	No Special Events

15-Minute Single Unit (SU) Truck & Bus Data

Sugar River Rd & Access 1



15-Minute Single Unit (SU) Truck & Bus Data

15-Minute Time Period Start Time	From North				From East				From South				From West				15-Min Totals	Hourly Sum			
	Sugar River Rd				Road Name				Sugar River Rd				Access 1								
	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn					
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:15 AM	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0																	

Intersection Traffic Volume Report

Count Basis		Page 8 of 13	
Start Date	Thursday, September 21, 2023	Weekday	Schools in Session
Total Number of Hours Counted:	12.5	Non-Holiday	No Special Events

15-Minute Semi-Truck Data

Sugar River Rd & Access 1



15-Minute Semi-Truck Data

15-Minute Time Period	From North				From East				From South				From West				15-Min Totals	Hourly Sum			
	Sugar River Rd				Road Name				Sugar River Rd				Access 1								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right			Thru	Left	U-Tn
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0																

Intersection Traffic Volume Report

Count Basis	Thursday, September 21, 2023	Weekday	Page 9 of 13
Start Date	Thursday, September 21, 2023	Weekday	Schools in Session
Total Number of Hours Counted:	12.5	Non-Holiday	No Special Events

15-Minute Heavy Vehicle Data

Sugar River Rd & Access 1



15-Minute Heavy Vehicle Data

15-Minute Time Period	From North				From East				From South				From West				15-Min Totals	Hourly Sum
	Sugar River Rd				Road Name				Sugar River Rd				Access 1					
	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn		
Start Time																		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	5	0	0	5	0	0	0	0	0	2	0	2	0	0	0	0	7

Peak Hour Heavy Vehicle Volume Summary

Hourly Time Period	From North				From East				From South				From West				Total Hourly Volume
	Sugar River Rd				Road Name				Sugar River Rd				Access 1				
	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn	Right	Thru	Left	U-Tn	
AM 7:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
MD 11:45 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
PM 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Traffic Volume Report

Count Basics		Page 11 of 13	
Start Date:	Thursday, September 21, 2023	Weekday	Schools in Session
Total Number of Hours Counted:	12.5	Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

Sugar River Rd & Access 1



15-Minute Pedestrian and Bicyclist Data

15-Minute Time Period Start Time	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			15-Min Totals	Hourly Sum
	Sugar River Rd			Road Name			Sugar River Rd			Access 1				
	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:15 AM	0	0	0	0	2	2	0	0	0	0	0	0	2	3
7:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	1	1	1	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
10:30 AM	0	0	0	0	1	1	0	0	0	0	0	0	1	3
10:45 AM	0	0	0	0	2	2	0	0	0	0	0	0	2	2
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0	0	1	1	1	1	1
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
3:45 PM	0	0	0	0	3	3	0	0	0	0	0	0	3	5
4:00 PM	0	0	0	0	2	2	0	0	0	0	0	0	2	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	11	11	0	0	0	0	2	2	13	

Special Pedestrians

Pedestrian Type	None	1 or 2	A Few	Several	Many	Unknown
Pre-school Children	x					
Elementary School Age Children	x					
Visually Impaired (white cane/hel	x					
Elderly/Disabled (except wheelcha	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					

Intersection Traffic Volume Report

Count Basics				Page 12 of 13
Start Date:	Thursday, September 21, 2023	Weekday	Schools in Session	
Total Number of Hours Counted:	12.5	Non-Holiday	No Special Events	

15-Minute Adult & Children Count (Manual Entry)

Sugar River Rd & Access 1



15-Minute Adult & Children Pedestrian Data

15-Minute Time Period	Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			15-Min Totals	Hourly Sum
	Sugar River Rd			Road Name			Sugar River Rd			Access 1				
	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total	Adults	Children	Total		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

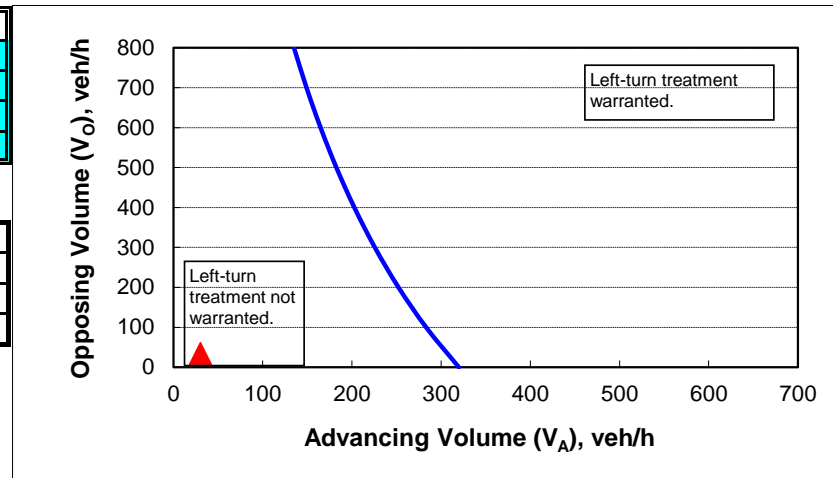
2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	50
Percent of left-turns in advancing volume (V_A), %:	67%
Advancing volume (V_A), veh/h:	30
Opposing volume (V_O), veh/h:	35

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	306
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



Note:
This table assumes the 85th percentile speed to equal the posted speed plus 5 mph to correlate with the operating speeds used in FDM 11-25 Table 5.1. Results above may differ slightly from the FDM thresholds.

Right-Turn Lane Warrant Analysis

2023 Build Volume
PM Peak

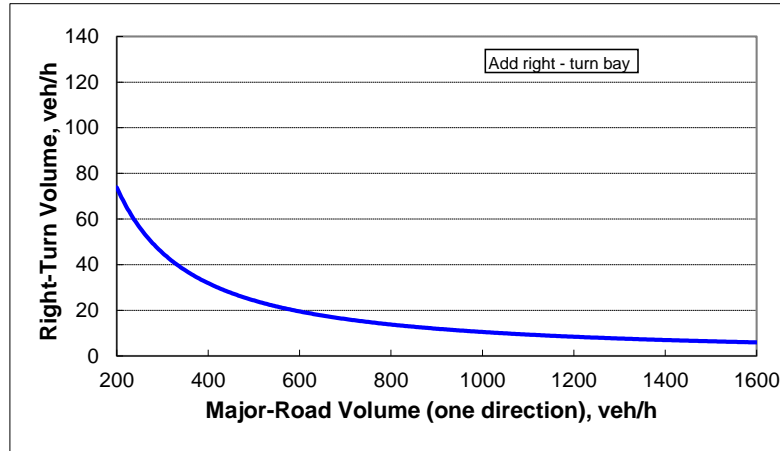
Sugar River Road At Access 1

INPUT

Roadway geometry:	2-lane roadway
Variable	Value
Major-road speed, mph:	50
Major-road volume (one direction), veh/h:	35
Right-turn volume, veh/h:	25

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	610
Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:	
Do NOT add right-turn bay.	



Intersection Sight Distance Calculations

Intersection *Sugar River at Access 1*
 City *Verona*
 State *Wisconsin*
 Project ID *376039*
 Performed By *EGM*
 Checked By *EGM*
 Date *10/9/2023*

Major Street *Sugar River Road*
 Minor Street *Access 1*

T-Intersection *Yes*
 Design Speed from Left *50* (mph)
 Design Speed from Right *50* (mph)
 Median Width *0* (feet)

Number of Lanes/Tapers

Near Side Right-Turn *1* Lane/Taper
 Near Side Thru *1* Lane(s)
 Far Side Thru *1* Lane(s)
 Far Side Right-Turn *0* Lane/Taper

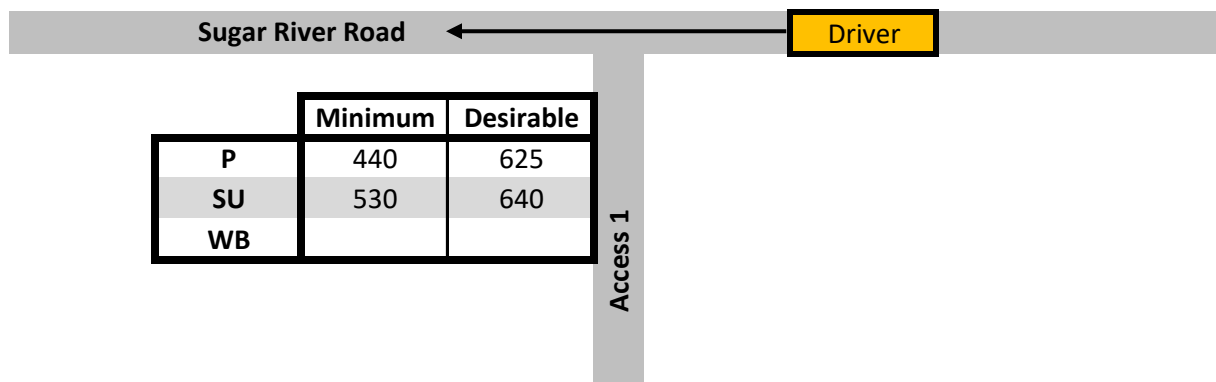
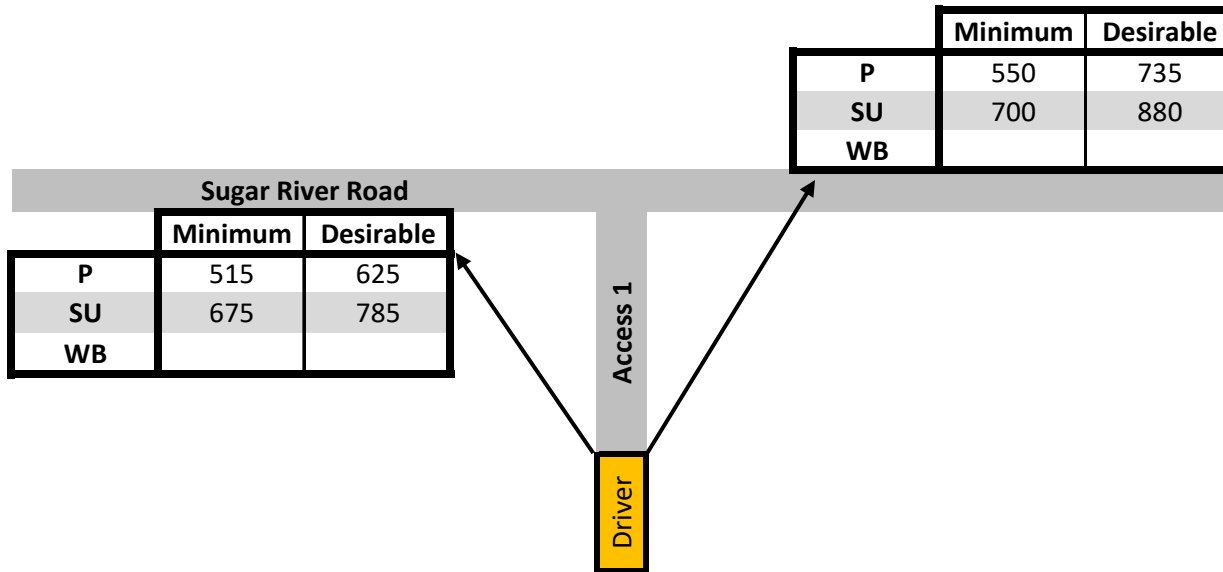
Design Vehicle(s) Reviewed

	P	SU	WB	
Enter "x" for vehicle type	x	x	x	
Minimum Median Width Required	19	30	65	(feet)

Controlling ISD (feet)

Sight Direction	Minimum ISD			Desirable ISD		
	P	SU	WB	P	SU	WB
To Left of Minor Street	515	675		625	785	
To Right of Minor Street	550	700		735	880	
Left-Turn from Major to Minor Street	440	530		625	640	

Intersection Sight Distance Calculations



Intersection Sight Distance Calculations

Design Speed from Left (fps) 73.3333

Design Speed from Right (fps) 73.3333

Median Equivalent Lanes 0

Case B1: Left-Turn from Minor Street or Median (Driver Looking Right)

	Minimum ISD			Desirable ISD		
	P	SU	WB	P	SU	WB
Vehicle Type	P	SU	WB	P	SU	WB
Base Time Gap (sec)	7.5	9.5	11.5	10	12	13
Additional Time Gap (sec)	0	0	0	0	0	0
Total Time Gap (sec)	7.5	9.5	11.5	10	12	13
Case B1 ISD (feet)	550	696.667	843.333	733.333	880	953.333
Rounded Case B1 ISD (feet)	550	700	845	735	880	955

Case B2: Right-Turn from Minor Street (Driver Looking Left)

	Minimum ISD			Desirable ISD		
	P	SU	WB	P	SU	WB
Vehicle Type	P	SU	WB	P	SU	WB
Base Time Gap (sec)	6.5	8.5	10.5	8	10	12
Additional Time Gap (sec)	0.5	0.7	0.7	0.5	0.7	0.7
Total Time Gap (sec)	7	9.2	11.2	8.5	10.7	12.7
Case B2 ISD (feet)	513.333	674.667	821.333	623.333	784.667	931.333
Rounded Case B2 ISD (feet)	515	675	825	625	785	935

Case B3: Crossing from Minor Street (Driver Looking Left)

	Minimum ISD			Desirable ISD		
	P	SU	WB	P	SU	WB
Vehicle Type	P	SU	WB	P	SU	WB
Base Time Gap (sec)	0	0	0	0	0	0
Additional Time Gap (sec)	0	0	0	0	0	0
Total Time Gap (sec)	0	0	0	0	0	0
Case B3 ISD (feet)	0	0	0	0	0	0
Rounded Case B3 ISD (feet)	-	-	-	-	-	-

Case B3: Crossing from Minor Street or Median (Driver Looking Right)

	Minimum ISD			Desirable ISD		
	P	SU	WB	P	SU	WB
Vehicle Type	P	SU	WB	P	SU	WB
Base Time Gap (sec)	0	0	0	0	0	0
Additional Time Gap (sec)	0	0	0	0	0	0
Total Time Gap (sec)	0	0	0	0	0	0
Case B3 ISD (feet)	0	0	0	0	0	0
Rounded Case B3 ISD (feet)	-	-	-	-	-	-

Case F: Left-Turn from Major Street to Minor (Driving Looking to Left of Minor)

	Minimum ISD			Desirable ISD		
	P	SU	WB	P	SU	WB
Vehicle Type	P	SU	WB	P	SU	WB
Base Time Gap (sec)	5.5	6.5	7.5	8	8	8
Additional Time Gap (sec)	0.5	0.7	0.7	0.5	0.7	0.7
Total Time Gap (sec)	6	7.2	8.2	8.5	8.7	8.7
Case F ISD (feet)	440	528	601.333	623.333	638	638
Rounded Case F ISD (feet)	440	530	605	625	640	640

Appendix B

Existing Transportation System with Background and Build Traffic Operations

- 2023 Background Traffic, Existing Transportation System: Synchro 11 Output
- 2023 Build Traffic, Existing Transportation System: Synchro 11 Output

Lanes, Volumes, Timings
100: Sugar River Rd & Access 1

AM Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	5	0	5	5	0
Future Volume (vph)	5	5	0	5	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	30			45	45	
Link Distance (ft)	333			682	1249	
Travel Time (s)	7.6			10.3	18.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	14%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	7	7	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	5	5	0	5	5	0
Future Vol, veh/h	5	5	0	5	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	1	1	1	1	14	14
Mvmt Flow	7	7	0	7	7	0

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	14	7	7	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	1008	1078	1620	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1008	1078	1620	-	-	-
Mov Cap-2 Maneuver	1008	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1620	-	1042	-	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings
100: Sugar River Rd & Access 1

PM Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	5	0	10	10	5
Future Volume (vph)	0	5	0	10	10	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	30			45	45	
Link Distance (ft)	333			682	1249	
Travel Time (s)	7.6			10.3	18.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	0	14	21	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	0	10	10	5
Future Vol, veh/h	0	5	0	10	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	0	7	0	14	14	7

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	32	18	21	0	0
Stage 1	18	-	-	-	-
Stage 2	14	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-
Pot Cap-1 Maneuver	984	1063	1601	-	-
Stage 1	1007	-	-	-	-
Stage 2	1011	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	984	1063	1601	-	-
Mov Cap-2 Maneuver	984	-	-	-	-
Stage 1	1007	-	-	-	-
Stage 2	1011	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1601	-	1063	-	-
HCM Lane V/C Ratio	-	-	0.007	-	-
HCM Control Delay (s)	0	-	8.4	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings
100: Sugar River Rd & Access 1

AM Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	15	5	5	5	10
Future Volume (vph)	20	15	5	5	5	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	30			45	45	
Link Distance (ft)	333			682	1249	
Travel Time (s)	7.6			10.3	18.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	14%	14%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	0	0	14	21	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	15	5	5	5	10
Future Vol, veh/h	20	15	5	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	1	1	1	1	14	14
Mvmt Flow	29	21	7	7	7	14

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	35	14	21	0	0
Stage 1	14	-	-	-	-
Stage 2	21	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-
Pot Cap-1 Maneuver	980	1069	1601	-	-
Stage 1	1011	-	-	-	-
Stage 2	1004	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	976	1069	1601	-	-
Mov Cap-2 Maneuver	976	-	-	-	-
Stage 1	1007	-	-	-	-
Stage 2	1004	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	3.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1601	-	1014	-	-
HCM Lane V/C Ratio	0.004	-	0.049	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Lanes, Volumes, Timings
 100: Sugar River Rd & Access 1

PM Peak



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	10	20	10	10	20
Future Volume (vph)	15	10	20	10	10	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	100		100			
Link Speed (mph)	30			45	45	
Link Distance (ft)	333			682	1249	
Travel Time (s)	7.6			10.3	18.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.71	0.71	0.71	0.71	0.71	0.71
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	0	42	42	0
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	4.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	10	20	10	10	20
Future Vol, veh/h	15	10	20	10	10	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	21	14	28	14	14	28

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	98	28	42	0	0
Stage 1	28	-	-	-	-
Stage 2	70	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-
Pot Cap-1 Maneuver	903	1050	1573	-	-
Stage 1	997	-	-	-	-
Stage 2	955	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	887	1050	1573	-	-
Mov Cap-2 Maneuver	887	-	-	-	-
Stage 1	979	-	-	-	-
Stage 2	955	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	4.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1573	-	946	-	-
HCM Lane V/C Ratio	0.018	-	0.037	-	-
HCM Control Delay (s)	7.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Appendix C Sightlines

- Pictures Collected During Field Visit

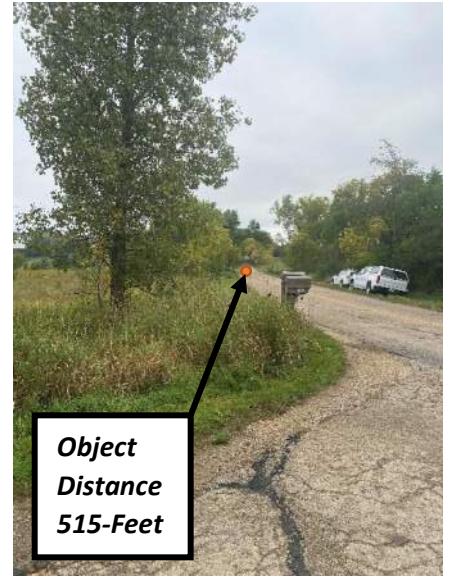
Appendix C- 1) 35 mph posted speed, minimum passenger car ISD from the north. 415-Feet



Appendix C- 2) 35 mph posted speed, desirable passenger car ISD from the North. 500-Feet



Appendix C- 3) 45 mph posted speed, minimum passenger car ISD from the North. 515-Feet



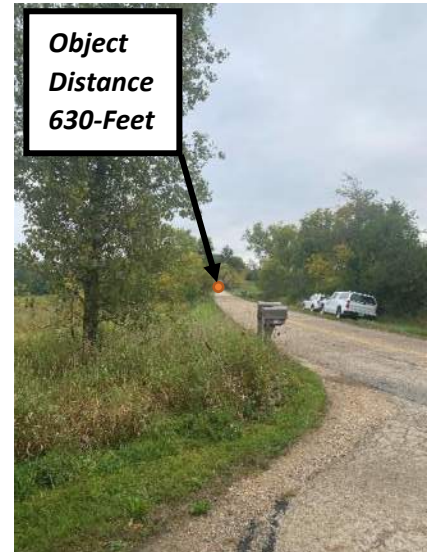
Appendix C- 4) 35 mph posted speed, minimum SU truck ISD from the North. 540-Feet



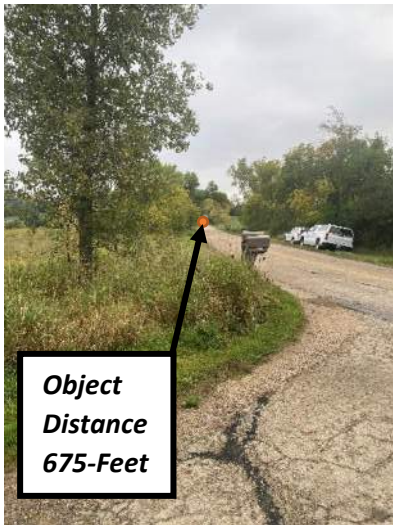
Appendix C- 5) 45 mph posted speed, desirable passenger car ISD from the north. 625-Feet



Appendix C- 6) 35 mph posted speed, desirable SU truck ISD from the North. 630-Feet



Appendix C- 7) 45 mph posted speed, minimum SU truck ISD from the north. 675-Feet



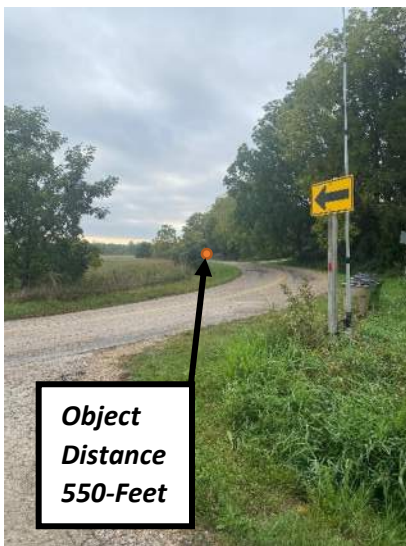
Appendix C- 8) 45 mph posted speed, desirable SU truck ISD from the North. 785-Feet



Appendix C- 9) 35 mph posted speed, minimum passenger car ISD from the South. 440-Feet



Appendix C- 10) 45mph posted speed, minimum passenger car ISD from the South. 550-Feet



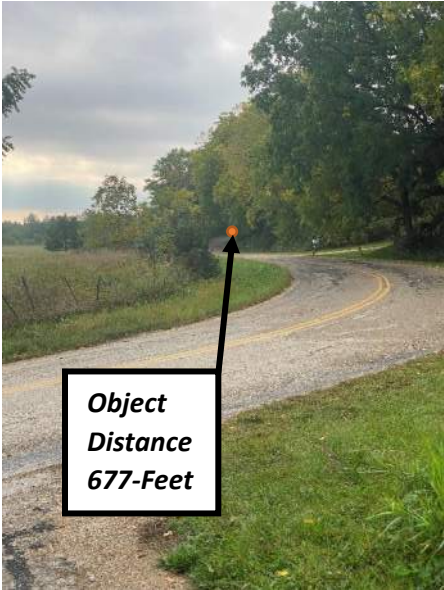
Appendix C- 11) 35 mph posted speed, minimum SU Truck ISD from the South. 560-Feet



Appendix C- 12) 35 mph posted speed, desirable passenger car ISD from the South. 590-Feet



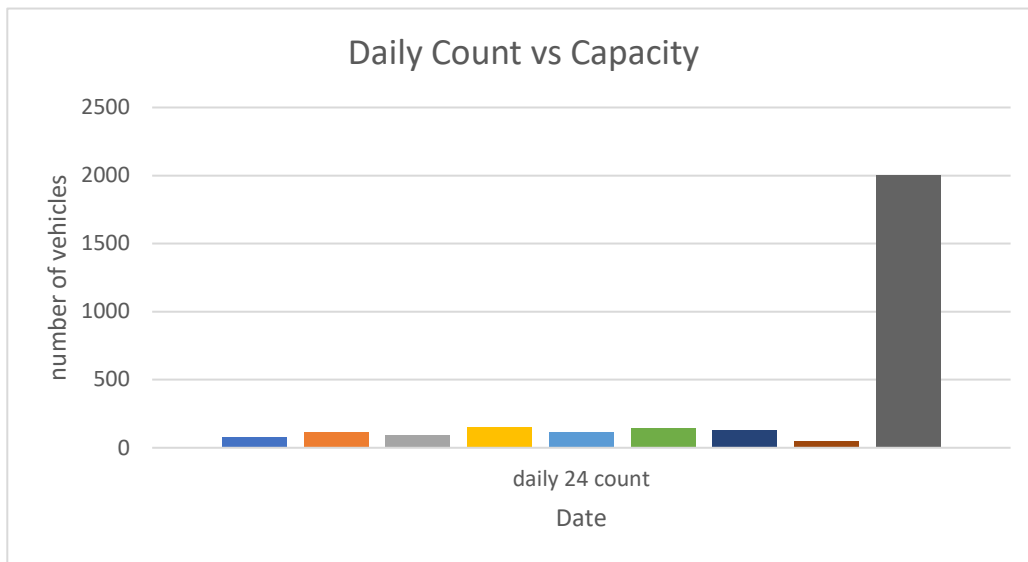
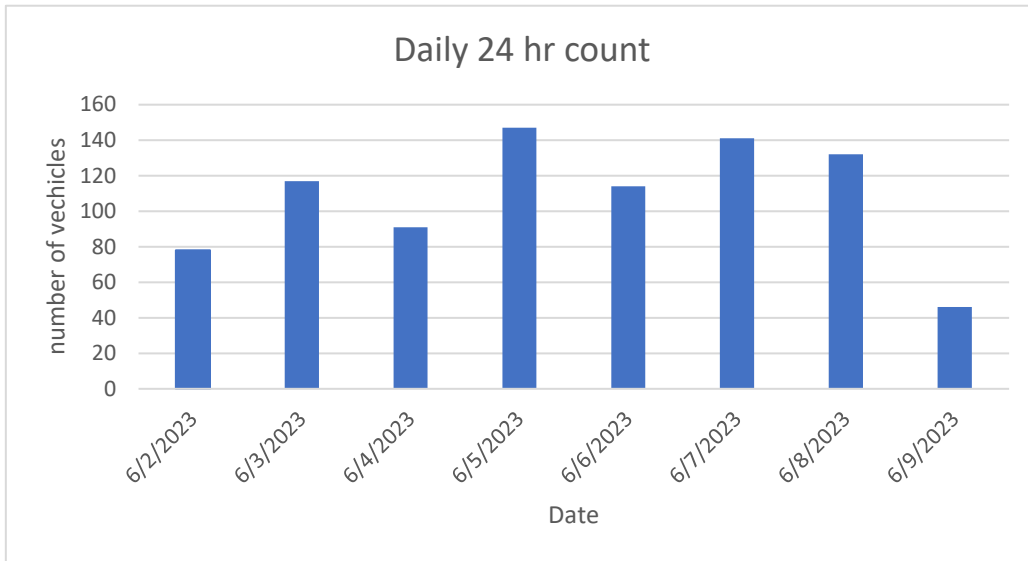
**Appendix C- 13) Max sightlines
to the north, 677-Feet**



**Appendix C- 14) Max sightlines
to the north zoomed in view**



Sugar River Traffic Counts June 2-9 2023



TOWN OF VERONA
APPLICATION FOR LAND USE CHANGE

Please review the Town of Verona Comprehensive Land Use Plan and Subdivision and Development Ordinance 05-04 (found on the Town website: www.town.verona.wi.us) and Dane County Ordinances Chapter 10 – Zoning, Chapter 11 – Shoreland, Shoreland-Wetland and Inland-Wetland Regulations, and Chapter 75 – Land Division and Subdivision Regulations prior to application. A pre-application meeting or initial review should be scheduled with Town Staff and/or Plan Commission Chair if you have any questions or concerns and to determine the fees associated with the application.

Proposed land use change for (property address/legal description): A parcel of land located in part of the Southwest 1/4 of the Southwest 1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin.

Please check all that apply:

- comprehensive plan amendment – please see specific submittal requirement**
- rezone petition**
current zoning category _____
new zoning category _____
- conditional use permit**
conditional use requested _____
- certified survey map**
- preliminary plat**
- final certified survey map**
- concept plan**
- site plan**
- request for Town road access**

Property Owner Phone 608-444-4407

Address 1827 Locust Dr, Verona, WI 53593 E-Mail jcoonsconstruction@gmail.com

Applicant, if different from the property owner _____

Applicant's Phone _____ E-mail _____

If the applicant is different from property owner, please sign below to allow the agent to act on behalf of property owner.

I hereby authorize _____
to act as my agent in the application process for the above indicated land use change.

Signature _____

Date _____

Description of Land Use Change requested: (use reverse side if additional space is needed)

Submittal of Preliminary Plat based on prior approved Concept Plan and Rezone.

I certify that all information is true and correct. I understand that failure to provide all required information and any related fees will be grounds for denial of my request.

Applicant Signature 

Date 2/1/2024

Print Name Jim Coons

RETURN COMPLETED APPLICATION TO MAP/PLAN AND ANY OTHER INFORMATION VIA EMAIL TO:

Sarah Gaskell, Administrator, Town of Verona
7669 County Highway PD, Verona, WI 53593
sgaskell@town.verona.wi.us
(608) 845-7187

OFFICE USE ONLY

Application # _____
Fee _____
Paid by _____
Date _____ Check # _____
Receipt # _____

Planning Report

Town of Verona

November 9, 2023

Riverside Road and Spring Rose Road – Riverside Vista **062/0608-303-9000-8**

Summary: The property owner is applying for a Concept Plan Review and rezone to create a 38.68-acre neighborhood comprised of 17 lots and open space, rezoned from AT-35 to SFR-1 and NR-C.

Property Owner: Coons Construction

Property Address: SEC 30-6-8 FR SW1/4SW1/4 EXC CSM 1281 (NE corner of
Riverside Road and Spring Rose Road
Verona WI 53593

Applicant: Adam Carrico
Carrico Engineering
8177 County Road G
Verona WI 53593

Location Map



Comprehensive Plan Guidance:

Land is currently zoned AT-35 and is shown as RR 2-4 on the Future Land Use Map from the Comprehensive Plan. The plat and subsequent rezones are consistent with the future land use for this parcel. The proposed design utilizes the Land Division and Development Ordinance Conservation Subdivision guidelines for developments with 100% and 35% Open Space.

Current and Proposed Zoning: The current zoning is AT-35. The new zoning would be a combination of SFR-1 and NR-C. The rezone is for the proposed plat where the open space will remain as NR-C and the new single-family lots are rezoned to SFR-1 and SFR-2.

Extra-territorial Review/Boundary Agreement Authority: Joint Committee provisions for review apply to “land remaining in the Town and located in Areas A, B, and D.” This parcel is in Area C and is not subject to review/approval of the JPC.

Surrounding Land Use and Zoning: The property is located on the border of the Towns of Verona and Springdale. The lands to the north as east contain residences surrounded by wooded and farmed acreage and the parcels to the south are wooded residential lots.

Site Features: There is a large woodlot on the parcel but it is not of significant quality.

Driveway Access: Access to the site will be provided via a new town road.

Staff Comments: The Plan Commission recommended approval of the concept plan and subsequent rezone at their November 2023 meeting. The proposed design meets all of the requirements of the Land Division and Development Ordinance for a Conservation Subdivision. The Town Board approved the concept plan and rezone with conditions at their December 5th 2023 regular board meeting.

February 15th, 2024

Summary: The property owner is applying for a Preliminary Plat, Developer’s Agreement and Declaration of Covenants Approval.

Materials Submitted for Preliminary Plat Review

1. Letter to Plan Commission
2. Land Use Application - 2023-06a
3. **Preliminary Plat Narrative***
4. Preliminary Plat with Contours
5. **Preliminary Plat – No contours**
6. **Building Envelope Exhibit**
7. Preliminary Stormwater Report
8. **Draft Stewardship Plan**

- 9. Preliminary Engineering Drawings
- 10. Development Agreement**
- 11. Declaration of Covenants**

Preliminary Plat

- All requirements for the Preliminary Plat drawing have been provided
- There are no changes to the property lines and ROW lines from the approved concept plan

Building Envelope Exhibit

- This map is provided to illustrate the County requirements for zoning setbacks for primary structures, and the proposed building envelopes which incorporate the actual setbacks as provided in the Declaration of Covenants and below:

SETBACKS
(The below Setbacks are measured in feet)

Lot Number	Front	Rear	Left Side	Right Side
1	35	50	35	35
2	45	50	35	35
3	50	50	25	30
4	40	50	25	25
5	35	50	25	25
6	30	50	25	25
7	40	50	25	25
8	35	50	25	25
9	30	50	25	25
10	40	50	25	25
11	60	50	25	25
12	45	50	25	25
13	50	50	25	25
14	50	50	25	25
15	50	50	25	25
16	45	50	25	25
17	40	50	25	25

The building envelope as defined by the TOV Land Division and Development Ordinance is *“the area of the lot identified as delineating the allowed limits of clearing and grading, and within which all structures and any well and septic systems with the tank and leach field, shall be located.”*

The intent of the definition in the ordinance was to limit the amount of potential disturbance to a lot, especially those lots that contain existing woodlands or prairie cover. Dane County

ordinances allow for the placement of leach fields within 5 feet of property boundaries and typically, the placement of a mound system is dictated by topography. Septic plans typically must account for an area approximately 30 feet by 120 feet for a mound system. This includes a 10-foot-wide leach area underground. Therefore, it is difficult to place mound systems within a small building footprint area where topography is challenging such as in Riverside Vista. For this plat, with the building envelope requirement to include area for up to two leach fields plus area for a primary residence, the applicant is proposing that for many lots, the building envelope be within 5 feet of some property lines. The building envelopes for Lots 10-17 have been moved to be outside of the small, wooded areas on those lots to ensure that wooded areas are not disturbed by leach fields on these lots. To accommodate the Town's desire for rural, conservation subdivision design, the applicant has proposed increased front and side yard setbacks. This allows for increased space between primary residences, staggered building placement from the roadway and flexibility of leach field placement.

Lots 1-3 have building envelopes of exactly 30,000 to adhere to the Land Division and Development Ordinance. The table on page 4 of the Preliminary Plat Submittal Summary document depicts the actual proposed sizes of the building envelope for each lot.

Draft Stewardship Plan

The applicant's qualified professional ecological service firm, Sparrow Land Planning, has been approved by Town staff. The stewardship plan outlines the restoration, management and maintenance practices for Outlot 1, which is comprised of a woodlot and an eventual restored prairie. The Development Agreement will include specific details on the establishment of these open spaces.

The wooded area will be mowed annually to remove any vegetated growth. Removal of wooded vegetation will be on an as needed basis.

The Prairie will be managed via three site visits per year for the first three growing seasons. Trails in the prairie will be mowed bimonthly. The prairie will be burned in year 4 by a specialist.

Stormwater Facility Management will be accomplished via yearly inspections by a professional Engineer.

Development Agreement

This document outlines the obligations of both parties, the Town and the Developer with relation to the standards and conditions of the development of the property. This includes any required public and private improvements, specifics for road construction, assignment of financial obligations, and insurance requirements. This document has yet to be reviewed by the Town Attorney.

Declaration of Covenants

This document outlines the covenants, conditions, and restrictions as they may apply to the development to ensure that "Riverside Vista becomes and remains a high-quality residential community." Specific to the Land Division and Development Ordinance requirements of a Conservation subdivision as listed on page 35, this document defines the responsibilities of the Homeowners Association for the management and maintenance of the Common Open Space. This document has yet to be reviewed by the Town Attorney.

The Plan Commission recommended approval of the preliminary plat at their February 2024 meeting. The Preliminary Plan meets all of the requirements of the Land Division and



8177 County Highway G
Verona, WI 53593
(608) 832-6352
carricoengineering.com

February 5, 2024

Chairman and Members of the Town Plan Commission
Town of Verona
7669 County Highway PD
Verona, WI 53593

RE: Preliminary Plat Submittal
Riverside Vista, Town of Verona

Dear Chair Geller, Plan Commission Members and Town Staff:

On behalf of Mr. Jim Coons, please accept the accompanying submitted material for discussion at the scheduled Plan Commission meeting on Thursday February 15, 2024.

This submittal reflects the concept plan that was approved by the Town Board at the meeting on December 5, 2023. The property lines, lot and outlot sizes and right-of-way for the proposed town road have not changed for this preliminary plat submittal. We look forward to hearing the Town's input and addressing any concerns and/or comments you may have.

Along with the submittal of the preliminary plat, we are submitting preliminary engineering drawings for the project, the draft HOA Covenants, the draft Development Agreement, the draft stormwater report, the draft Stewardship Plan, an exhibit showing the proposed building envelopes and a narrative.

We look forward to a discussion with you regarding the development on February 15.

Thank you,

A handwritten signature in black ink, appearing to read "Adam L Carrico".

Adam L Carrico, PE

Enclosure: Preliminary Plat Submittal Materials

cc: Jim Coons – via email
Noa Prieve – via email

K:\Carrico Engineering\Projects\2023\230019 Coons Construction - Town of Verona Land\Design Development\Preliminary Plat\Working Documents\2024-02-05_Letter to Plan Commission.docx

Riverside Vista

Preliminary Plat Submittal

We look forward to input from the Town of Verona staff, Plan Commission members, Town Board Members and the community. We believe this exciting new development in the Town of Verona will create a high-quality residential neighborhood that will enhance the Town of Verona.

General narrative on submittal items to note:

Preliminary Plat

- Two versions of the preliminary plat are being submitted for review. These two versions are identical with the exception of existing contours removed from one version for clarity in review.
- Please note that language has been added to the "Notes" section to indicate driveway access requirements and joint access requirements.
- Dane County Zoning required setbacks for primary structures are indicated on the preliminary plat along with proposed building envelopes. An exhibit and further narrative below are included regarding building envelopes.
- All proposed property lines and right-of-way lines are unchanged from the approved Concept Plan.

Preliminary Engineering Drawings

- Preliminary engineering drawings are included that indicate the proposed road layout with plan and profile drawings and cross sections.
 - Care was taken when designing the roadway, drainage patterns and back slopes to create a safe roadway into the proposed development by following Town of Verona, Dane County and Wisconsin Department of Transportation guidelines. Additionally, the roadway was designed in a manner in which drainage is appropriate and such that driveways to each of the lots that gain access to the new town road be able to follow Town Ordinance for driveway design and construction.

- The stormwater facility sizing was done such that the smallest basins possible were designed in order to meet Town, County and WDNR Ordinances/Statutes while limiting the disturbance with the outlet.
 - With this design, we are able to not only meet the 100% infiltration standards of the Town for a Conservation Subdivision with the smallest allowable lot sizes, but also meet the County and WDNR standards for peak rate control, sediment control and thermal control.
- The grading is balanced on the site where no fill material will be required to be hauled in or trucked away from the site.

Declaration of Covenants

- This document was prepared by Mr. Coons' attorney, Robert Proctor and Adam Carrico and based on a previously approved development in the Town of Verona with additions and subtractions specific to Riverside Vista.
- Setbacks are discussed and shown in a table starting on Page 6 of the document. An exhibit and further narrative below are included regarding building envelopes.

Preliminary Stormwater Report

- The preliminary stormwater report includes the modeling that has been completed based on the design of the site and the assumptions made. The post-developed conditions assume a complete build-out of the development with new town road and 17 new homes constructed.
 - Assumptions were made for total impervious surfaces for each lot including 6,000 sq. ft. of roof area, 3,000 sq. ft. for driveway and 3,000 sq. ft. for sidewalk, patios, decks, etc. for a total of 12,000 sq. ft. of impervious surfaces for each lot.
 - These totals are based on many floor plans of larger homes that have been constructed in the past few years. While it is not an exact science, we believe that this would tend to be an average for rural homes on lots of this size. Some homes may be slightly over, while some may be slightly under. For example, a two-story home will typically have a little less roof area than a single-story home.
- Additional exhibits, recorded stormwater maintenance agreement, calculations for riprap sizing, shear stress, maps, etc. will be included in the final report that will be submitted to the Town and County with the Final Plat and Final Engineering drawings.

Open Space Stewardship Plan

- The initial draft of the stewardship plan was created by Carrico Engineering for input from the Town of Verona staff, Plan Commission and Town Board. The developer has procured the services of a reputable ecological specialist, Sparrow Land Planning to complete the Stewardship Plan that will be revised and submitted prior to the Final Plat being recorded per the Subdivision Ordinance. Sparrow Land Planning was approved as an ecological specialist by the Town of Verona Staff in February 2024.

Building Envelope Exhibit

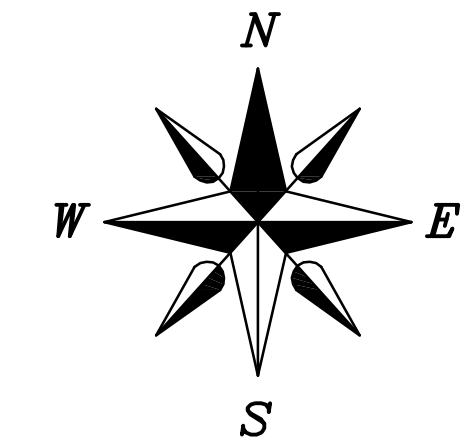
- In addition to the preliminary plat which shows the County zoning setbacks for a primary structure and proposed building envelope, we have included an exhibit showing all of these together along with the proposed increased setbacks as indicated in the table of the Covenants.

- We understand the intent of the Town's ordinance to create a building envelope to limit the overall disturbance of natural areas such as wooded lots and existing natural prairies.
- The preliminary plat and as shown in the submitted exhibit shows the building envelopes that are typically a little larger, except for Lots 1, 2 and 3.
 - Lots 1, 2 and 3 are completely wooded. The building envelopes for these lots is limited to 30,000 sq. ft. per the Ordinance.
- The definition of a building envelope per the Town's Ordinance states that a building envelope is the area of the lot identified as delineating the allowed limits of clearing and grading, and within which all structures and any well and septic systems with the tank and leach field, shall be located. Furthermore, the setback section of the Conservation Subdivision 8.2(2) indicates that setbacks for each lot will be determined to provide for protection of natural areas and flora, and to reflect rural design characteristics within the subdivision.
- With the building envelope required on the plat and to include area for up to two leach fields plus area for a primary residence, we are proposing on many lots for the building envelope to be within 5 feet of some property lines. Additionally, we have moved the building envelopes for Lots 10-17 to be outside of the small wooded areas on these lots to ensure that the wooded areas are not disturbed by leach fields on these lots.
 - The neighbor to the east expressed concern with removal of the trees in between Riverside Vista and their home. While much of the trees are on their property line, there is an area at the backs of these lots that contain trees. This will be protected by shifting the building envelope outside of the wooded area.
- The owners will still need to adhere to Dane County zoning regulations as far as primary residence setbacks. Therefore, no owner would be able to construct a residence within 5 feet of a property line up to the building envelope. However, the leach field could be placed within 5 feet of a property line per Wisconsin Statutes.
 - Septic leach field placement is mainly reliant on topography. Per a local septic designer, a plan must account for an area approximately 30 feet by 120 feet for a mound system. This includes a 10 foot wide leach area underground. Therefore, it is difficult to place mound systems within a small building footprint area where topography is challenging such as in Riverside Vista.
- To ensure that future primary residences still meet the Town's requirements to reflect rural design, we are proposing additional/increased front and side yard setbacks for the primary residences as per the Covenants documents. This will ensure that primary residences be placed in a location on the lots that the topography dictates, but not close to their neighbors and staggered from the new town road. Finally, this allows for some flexibility to place leach fields on the lots where best suited.
- Lots 1-3 have been given building envelope sizes exactly 30,000 sq. ft., which is the maximum for a wooded lot. The wooded areas of lots 4-9 are mostly less than 20,000 sq. ft., with the exception of Lot 7 which has 21,426 sq. ft. of wooded area within the building envelope. This will ensure that no more than 30,000 sq. ft. of wooded area is disturbed/cleared for the building of a house or septic field. It should be noted that the non-wooded areas of lots 4-9 are primarily made up of a hay field which appears to be planted with alfalfa that has been inundated with weeds. Therefore, this is not really a pristine natural prairie area.
- A table has been created based on the attached exhibit to indicate the total areas of each lot's building area:

Riverside Vista Setbacks and Building Envelopes				
Size (sq. ft.)				
Lot #	Dane County Zoning Primary Residence Setbacks	Building Envelope on Preliminary Plat for Primary Residence, Well and Two Septic Leach Fields	Area of Building Envelope on Preliminary Plat for Primary Residence, Well and Two Septic Leach Fields that is Wooded	Neighborhood Covenants Primary Residence Setbacks
1	35,644	30,000	30,000	25,923
2	35,467	30,000	30,000	24,306
3	32,510	30,000	30,000	23,358
4	31,403	40,434	10,179	25,279
5	32,976	42,731	15,195	26,983
6	28,262	46,771	12,957	22,953
7	32,463	41,002	21,426	25,619
8	33,713	41,028	19,989	27,114
9	34,871	46,649	17,800	25,940
10	32,070	46,518	0	25,435
11	49,252	55,956	0	36,299
12	54,819	59,129	0	44,534
13	42,009	44,362	0	32,246
14	32,170	35,351	0	24,194
15	32,529	33,353	0	24,129
16	32,550	34,494	0	24,474
17	34,333	43,852	0	29,432

PRELIMINARY PLAT OF RIVERSIDE VISTA

A parcel of land located in part of the Southwest 1/4 of the Southwest 1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin.



W.C.C.S. - DANE ZONE
BEARINGS ARE REFERENCED TO THE
SOUTH LINE OF THE SW 1/4 OF SECTION 30,
T6N, R8E, LINE TO BEAR = N 89°32'42" W
SCALE 1" = 100'



PREPARED FOR:
CARRICO ENGINEERING
8177 COUNTY ROAD "G"
VERONA, WI 53593

DEVELOPER:
JIM COONS
COONS CONSTRUCTION OF
VERONA, LLC
1827 LOCUST DRIVE
VERONA, WI 53593

SURVEYOR:
WILLIAMSON SURVEYING AND
ASSOCIATES, LLC
104 A WEST MAIN STREET
WAUNAKEE, WI 53597

LEGEND

- = FOUND 3/4" REBAR
- = FOUND 1" PIPE
- ⊙ = FOUND SECTION CORNER
- ⊕ = RECORDED AS
- ⊘ = UTILITY/LIGHT POLE
- ⊞ = UTILITY PEDESTAL
- — — — — = COMMUNICATION LINE
- — — — — = OVER HEAD UTILITIES
- — — — — = FENCE
- - - - - = BUILDING SETBACKS FOR SFR-1
- - - - - = BUILDING ENVELOPE
- - - - - = NEW PUBLIC UTILITY EASEMENT (UNLESS NOTED)
- - - - - = VISION TRIANGLE
- - - - - = NEW 15' WIDE DRAINAGE EASEMENT (15' W.D.E.)
- ▨ = 30' WIDE ACCESS EASEMENT FOR SNOW PLACEMENT (30' W.A.E.S.P.)
- ▨ = DEDICATED TO THE PUBLIC

CURVE TABLE:

C-#	RADIUS	CHORD BEARING AND DISTANCE	ARC	DELTA	TANGENT BEARING
C-1	379.00'	N 11°34'13" W 158.32'	159.50'	24°06'44"	OUT-N 00°29'09" E

DESCRIPTION:

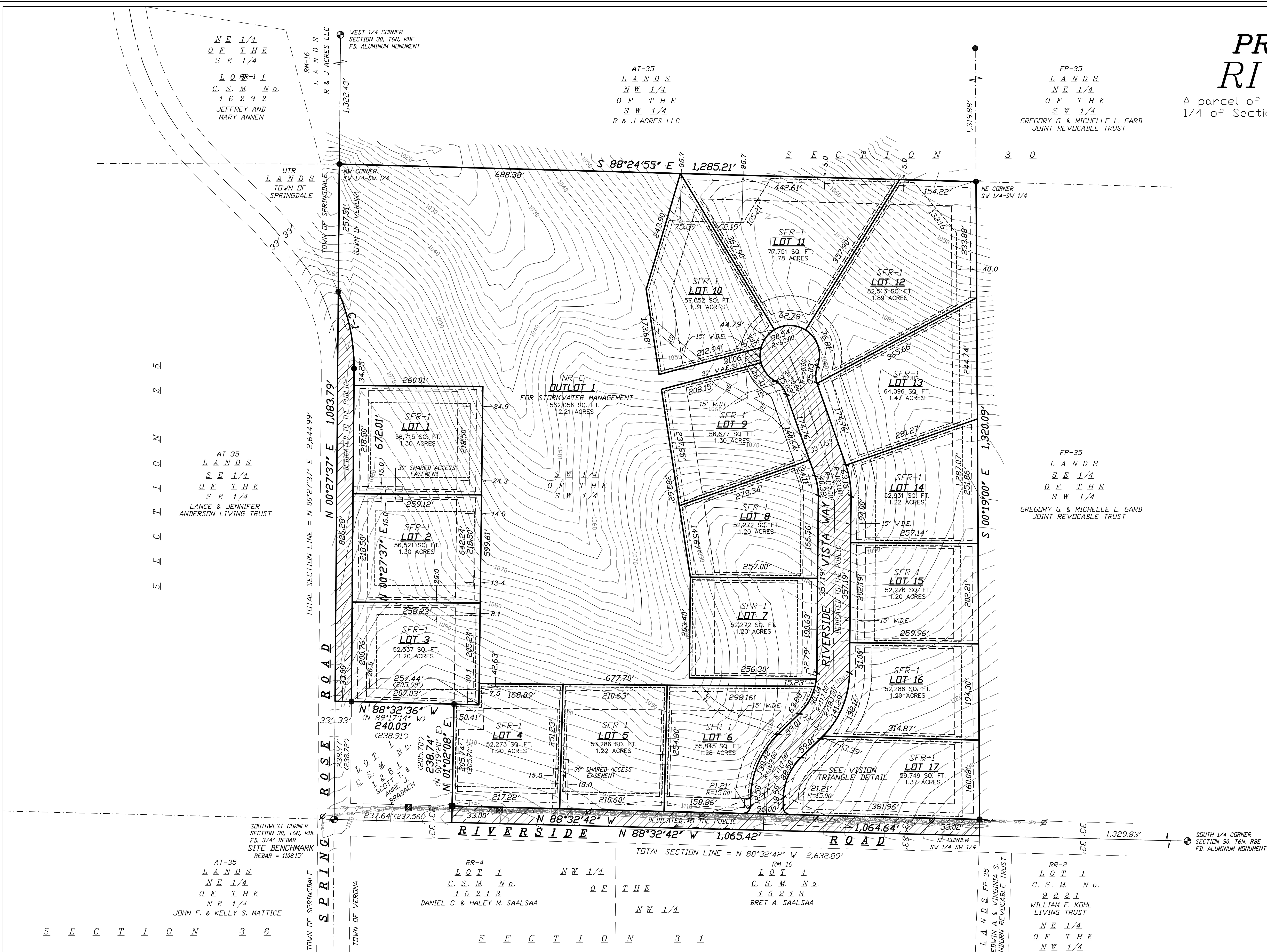
A parcel of land located in part of the Southwest 1/4 of the Southwest 1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin, being more particularly described as follows:

Commencing at the Southwest Corner of said Section 30; thence N 00°27'37" E along the west line of said Southwest 1/4 of the Southwest 1/4, 238.78 feet to the Northwest Corner of Lot 1 Certified Survey Map No. 1281 and to the point of beginning.

Thence continue along said Southwest 1/4 of the Southwest 1/4 for the next 4 courses N 00°27'37" E, 1,083.79 feet to the Northwest Corner of the Southwest 1/4 of the Southwest 1/4; thence S 88°24'55" E, 1,285.21 feet to the Northeast 1/4 of the Southwest 1/4 of the Southwest 1/4; thence S 00°19'00" E, 1,320.09 feet to the Southeast Corner of the Southwest 1/4 of the Southwest 1/4; thence N 88°32'42" W, 1,065.42 feet to the Southeast Corner of said Lot 1, Certified Survey Map No. 1281; thence along said Lot 1 for the next two courses N 01°02'08" E, 238.74 feet; thence N 88°32'36" W, 240.03 feet to the point of beginning. This parcel contains 1,652,366 sq. ft. or 37.93 acres and is subject to a road right of way over the southerly and westerly side.

NOTES:

- 1) THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT FOR THE SUBJECT TRACT OR ADJOINERS AND IS THEREFORE SUBJECT TO ANY EASEMENTS, AGREEMENTS, RESTRICTIONS AND STATEMENT OF FACTS REVEALED BY EXAMINATION OF SUCH DOCUMENTS.
- 2) WETLANDS, IF PRESENT, HAVE NOT BEEN DELINEATED OR SHOWN.
- 3) FLOOD PLAIN, IF PRESENT, HAVE NOT BEEN SHOWN.
- 4) ALL ELEVATIONS ARE REFERENCED TO THE NAVD 88 (2012) DATUM. THE SITE BENCHMARK IS THE ALUMINUM MONUMENT LOCATED AT THE SOUTHWEST CORNER OF SECTION 30. TOP OF REBAR = 1108.15 FEET.
- 5) TOTAL AREA: 1,652,366 SQ. FT. OR 37.93 ACRES
- 6) DRIVEWAY ACCESS TO LOTS 6 THROUGH 17 SHALL BE FROM RIVERSIDE VISTA WAY. LOTS 1 AND 2 SHALL JOINTLY ACCESS SPRING ROSE ROAD. LOT 3 SHALL ACCESS SPRING ROSE ROAD. LOTS 4 AND 5 SHALL JOINTLY ACCESS RIVERSIDE ROAD.



TYPICAL PUBLIC UTILITY EASEMENT
(UNLESS NOTED)

STREET
12.0'

LOT
6.0'

OBJECTING AUTHORITIES
WISCONSIN DEPARTMENT OF ADMINISTRATION

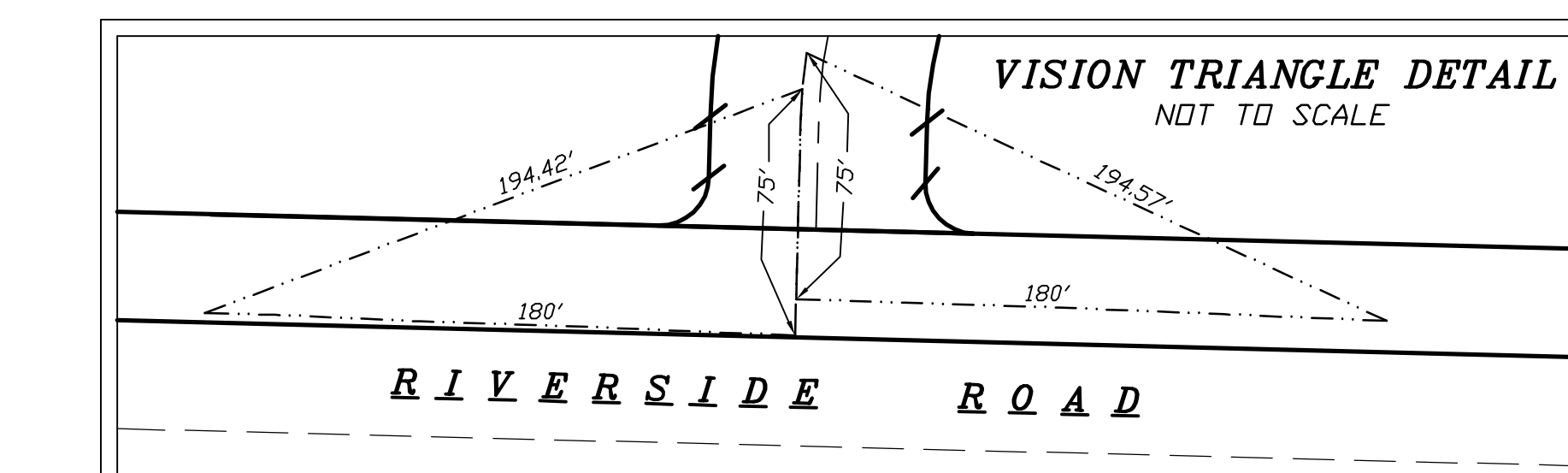
APPROVING AUTHORITIES
TOWN OF VERONA

ZONING
CURRENT ZONING IS AT-35
PROPOSED ZONING:
SFR-1 = LOTS 1 THROUGH 17
NR-C = OUTLOTS 1

PROPOSED BUILDING SETBACKS FOR SFR-1
ROAD = 30 FEET
SIDE = 10 FEET MINIMUM EACH SIDE
REAR = 50 FEET WITH 38 FEET FOR UNCOVERED DECKS / PORCHES.
ACCESSORY STRUCTURES IN REAR YARD = 4 FEET SIDE 4 FEET REAR

BUILDING ENVELOPE SETBACKS

LOT	STREET	SIDES	REAR
LOT 1	STREET = 35'	SIDES = 34.25'	REAR SHOWN ON MAP
LOT 2	STREET = 45'	SIDES = 34.25'	REAR SHOWN ON MAP
LOT 3	STREET = 50'	SIDES SHOWN ON MAP	REAR SHOWN ON MAP
LOT 4	STREET = 40'	SIDES = 5'	REAR = 5'
LOT 5	STREET = 35'	SIDES = 5'	REAR = 5'
LOT 6	STREET = 30'	SIDES = 5'	REAR = 5'
LOT 7	STREET = 40'	SIDES = 5'	REAR = 5'
LOT 8	STREET = 35'	SIDES = 5'	REAR = 5'
LOT 9	STREET = 30'	SIDES = 5'	REAR = 5'
LOT 10	STREET = 40'	SIDES = 5'	REAR SHOWN ON MAP
LOT 11	STREET = 60'	SIDES = 5'	REAR SHOWN ON MAP
LOT 12	STREET = 45'	SIDES = 5'	REAR SHOWN ON MAP
LOT 13	STREET = 50'	SIDES = 5'	REAR = 35'
LOT 14	STREET = 50'	SIDES = 5'	REAR = 30'
LOT 15	STREET = 45'	SIDES = 5'	REAR = 35'
LOT 16	STREET = 45'	SIDES = 5'	REAR = 35'
LOT 17	STREET = 40'	SIDES = 5'	REAR = 35'



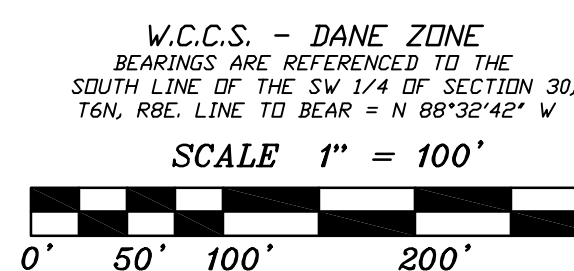
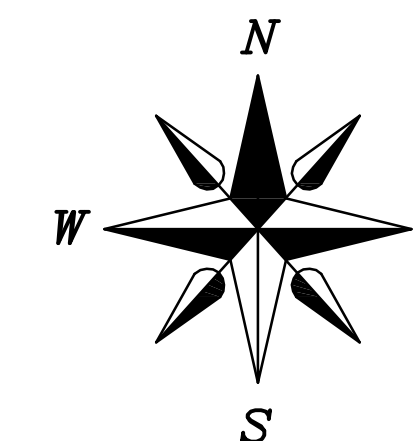
WILLIAMSON SURVEYING & ASSOCIATES, LLC
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597
NOA T. PRIEVE // CHRIS W. ADAMS // NEIL F. BORTZ
PROFESSIONAL LAND SURVEYORS
PHONE: 608-255-5705 FAX: 608-849-9760 WEB: WILLIAMSONSURVEYING.COM

PRELIMINARY PLAT OF RIVERSIDE VISTA
A parcel of land located in part of the Southwest 1/4 of the Southwest 1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin.

DATE	JANUARY 28th, 2024	DATE REVISED	FEBRUARY 5th, 2024	CHECK BY	N.T.P.
SCALE:	1" = 100'	DATE REVISED:	FEBRUARY 7th, 2024	DRAWING NO.	23V-32B
DRAWN BY:	NEIL BORTZ			SHEET	1 OF 1

PRELIMINARY PLAT OF RIVERSIDE VISTA

A parcel of land located in part of the Southwest 1/4 of the Southwest 1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin.



PREPARED FOR: CARRICO ENGINEERING 8177 COUNTY ROAD 'G' VERONA, WI 53593
DEVELOPER: JIM COONS CODINS CONSTRUCTION OF VERONA, LLC 1827 LOCUST DRIVE VERONA, WI 53593
SURVEYOR: WILLIAMSON SURVEYING AND ASSOCIATES, LLC 104 A WEST MAIN STREET WAUNAKEE, WI 53597

LEGEND

- = FOUND 3/4" REBAR
- = FOUND 1" PIPE
- ⊙ = FOUND SECTION CORNER
- (##) = RECORDED AS
- = FENCE
- - - = BUILDING SETBACKS FOR SFR-1
- - - = BUILDING ENVELOPE
- - - = NEW PUBLIC UTILITY EASEMENT (UNLESS NOTED)
- - - = VISION TRIANGLE
- - - = NEW 15' WIDE DRAINAGE EASEMENT (15' W.D.E.)
- ▨ = 30' WIDE ACCESS EASEMENT FOR SNOW PLACEMENT (30' W.A.E.S.P.)
- ▧ = DEDICATED TO THE PUBLIC

CURVE TABLE:

C-#	RADIUS	CHORD BEARING AND DISTANCE	ARC	DELTA	TANGENT BEARING
C-1	379.00'	N 11°34'13" W 158.32'	159.50'	24°06'44"	OUT-N 00°29'09" E

DESCRIPTION:

A parcel of land located in part of the Southwest 1/4 of the Southwest 1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin, being more particularly described as follows:

Commencing at the Southwest Corner of said Section 30; thence N 00°27'37" E along the west line of said Southwest 1/4 of the Southwest 1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin, to the Northwest Corner of Lot 1 Certified Survey Map No. 1281 and to the point of beginning.

Thence continue along said Southwest 1/4 of the Southwest 1/4 for the next 4 courses N 00°27'37" E, 1,083.79 feet to the Northwest Corner of the Southwest 1/4 of the Southwest 1/4; thence S 88°24'55" E, 1,285.21 feet to the Northeast 1/4 of the Southwest 1/4 of the Southwest 1/4; thence S 00°19'00" E, 1,320.09 feet to the Southeast Corner of the Southwest 1/4 of the Southwest 1/4; thence N 88°32'42" W, 1,065.42 feet to the Southeast Corner of said Lot 1, Certified Survey Map No. 1281; thence along said Lot 1 for the next two courses N 01°02'08" E, 238.74 feet; thence N 88°32'36" W, 240.03 feet to the point of beginning. This parcel contains 1,652,366 sq. ft. or 37.93 acres and is subject to a road right of way over the southerly and westerly side.

NOTES:

- THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT FOR THE SUBJECT TRACT OR ADJOINERS AND IS THEREFORE SUBJECT TO ANY EASEMENTS, AGREEMENTS, RESTRICTIONS AND STATEMENT OF FACTS REVEALED BY EXAMINATION OF SUCH DOCUMENTS.
- WETLANDS, IF PRESENT, HAVE NOT BEEN DELINEATED OR SHOWN.
- FLOOD PLAIN, IF PRESENT, HAVE NOT BEEN SHOWN.
- ALL ELEVATIONS ARE REFERENCED TO THE NAVD 88 (2012) DATUM. THE SITE BENCHMARK IS THE ALUMINUM MONUMENT LOCATED AT THE SOUTHWEST CORNER OF SECTION 30. TOP OF REBAR = 1108.15 FEET.
- TOTAL AREA: 1,652,366 SQ. FT. OR 37.93 ACRES
- DRIVEWAY ACCESS TO LOTS 6 THROUGH 17 SHALL BE FROM RIVERSIDE VISTA WAY. LOTS 1 AND 2 SHALL JOINTLY ACCESS SPRING ROSE ROAD. LOT 3 SHALL ACCESS SPRING ROSE ROAD. LOTS 4 AND 5 SHALL JOINTLY ACCESS RIVERSIDE ROAD.

NE 1/4 OF THE SE 1/4
LOT 1
C. S. M. N.O.
1 6 2 9 2
JEFFREY AND MARY ANNEN

AT-35 LANDS
NW 1/4 OF THE SW 1/4
R & J ACRES LLC

FP-35 LANDS
NE 1/4 OF THE SW 1/4
GREGORY G. & MICHELLE L. GARD
JOINT REVOCABLE TRUST

AT-35 LANDS
SE 1/4 OF THE SE 1/4
LANCE & JENNIFER ANDERSON LIVING TRUST

FP-35 LANDS
SE 1/4 OF THE SW 1/4
GREGORY G. & MICHELLE L. GARD
JOINT REVOCABLE TRUST

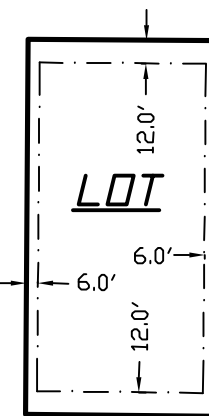
NR-C OUTLOT 1 FOR STORMWATER MANAGEMENT 532,056 SQ. FT. 12.21 ACRES

SW 1/4 OF THE SW 1/4

SOUTHWEST CORNER SECTION 30, T6N, R8E FD. 3/4" REBAR SITE BENCHMARK REBAR = 1108.15'

SOUTH 1/4 CORNER SECTION 30, T6N, R8E FD. ALUMINUM MONUMENT

TYPICAL PUBLIC UTILITY EASEMENT (UNLESS NOTED) STREET



ZONING

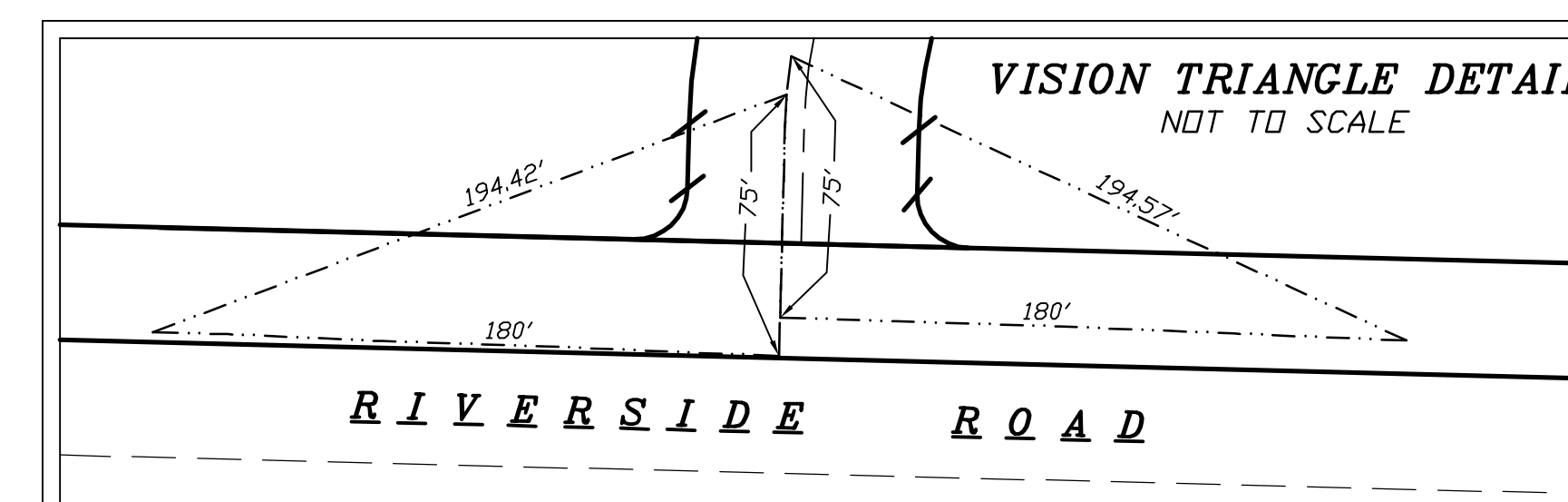
CURRENT ZONING IS AT-35
PROPOSED ZONING: SFR-1 = LOTS 1 THROUGH 17
NR-C = OUTLOTS 1

PROPOSED BUILDING SETBACKS FOR SFR-1

ROAD = 30 FEET
SIDE = 10 FEET MINIMUM EACH SIDE
REAR = 50 FEET WITH 38 FEET FOR UNCOVERED DECKS / PORCHES.
ACCESSORY STRUCTURES IN REAR YARD = 4 FEET SIDE 4 FEET REAR

BUILDING ENVELOPE SETBACKS

LOT 1 - STREET = 35' - SIDES = 34.25' - REAR SHOWN ON MAP
LOT 2 - STREET = 45' - SIDES = 34.25' - REAR SHOWN ON MAP
LOT 3 - STREET = 50' - SIDES SHOWN ON MAP - REAR SHOWN ON MAP
LOT 4 - STREET = 40' - SIDES = 5' - REAR = 5'
LOT 5 - STREET = 35' - SIDES = 5' - REAR = 5'
LOT 6 - STREET = 30' - SIDES = 5' - REAR = 5'
LOT 7 - STREET = 40' - SIDES = 5' - REAR = 5'
LOT 8 - STREET = 35' - SIDES = 5' - REAR = 5'
LOT 9 - STREET = 30' - SIDES = 5' - REAR = 5'
LOT 10 - STREET = 40' - SIDES = 5' - REAR SHOWN ON MAP
LOT 11 - STREET = 60' - SIDES = 5' - REAR SHOWN ON MAP
LOT 12 - STREET = 45' - SIDES = 5' - REAR SHOWN ON MAP
LOT 13 - STREET = 50' - SIDES = 5' - REAR = 35'
LOT 14 - STREET = 50' - SIDES = 5' - REAR = 30'
LOT 15 - STREET = 50' - SIDES = 5' - REAR = 35'
LOT 16 - STREET = 45' - SIDES = 5' - REAR = 35'
LOT 17 - STREET = 40' - SIDES = 5' - REAR = 35'



OBJECTING AUTHORITIES
WISCONSIN DEPARTMENT OF ADMINISTRATION

APPROVING AUTHORITIES
TOWN OF VERONA

WILLIAMSON SURVEYING & ASSOCIATES, LLC
104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597
NOA T. PRIEVE // CHRIS W. ADAMS // NEIL F. BORTZ
PROFESSIONAL LAND SURVEYORS
PHONE: 608-255-5705 FAX: 608-849-9760 WEB: WILLIAMSONSURVEYING.COM

PRELIMINARY PLAT OF RIVERSIDE VISTA
A parcel of land located in part of the Southwest 1/4 of the Southwest 1/4 of Section 30, T6N, R8E, Town of Verona, Dane County, Wisconsin.

DATE	JANUARY 23RD, 2024	DATE REVISED	FEBRUARY 5TH, 2024	CHECK BY	N.T.P.
SCALE	1" = 100'	DATE REVISED	FEBRUARY 7TH, 2024	DRAWING NO.	23W-32B
DRAWN BY	NEIL BORTZ			SHEET	1 OF 1



PRELIMINARY STORMWATER REPORT
RIVERSIDE VISTA
Town of Verona, Wisconsin

Prepared For:

Coons Construction of Verona, LLC
Jim Coons
1827 Locust Drive
Verona, WI 53593

Prepared By:

Carrico Engineering and Consulting, Inc.
8177 County Road G
Verona, WI 53593

Prepared On:
February 7, 2024

Revised On:

Project # 230019

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Section 1 – Narrative

1.1 Introduction

Riverside Vista is located in the Town of Verona northeast of the intersection of Riverside Road and Spring Rose Road. The development is comprised of an existing parcel of undeveloped land of approximately 34.869 acres (excluding right-of-way) with a mix of hay field and wooded areas. For stormwater management modeling purposes the project area is defined as 38.881 acres which includes the subject property (34.87 acres) plus offsite areas (4.012 acres) where runoff is conveyed to the proposed stormwater features.

Much of the site drains overland to the north-northwest where the proposed stormwater features are to be located within Outlot 1. A small portion of the runoff from the property is conveyed to the northeast to a mapped waterway/drainage ditch. This waterway was assessed by Dane County and determined to not be navigable. Therefore shoreland zoning rules are not in affect for the property. Additionally, a small portion of runoff from the property is conveyed westerly to a roadside ditch along Spring Rose Road and to the south offsite. These two areas are included in the modeling, but not routed to the stormwater facilities.

The proposed development would divide the parcel into 17 single-family residential homesites ranging in size from 1.20 to 1.89 acres and 1 large outlot of 12.21 acres. The stormwater facility is planned for the northwest end of the outlot. Access to the outlot is provided from the western side of the proposed cul-de-sac bulb via a 30-foot wide strip of land that is part of the outlot.

General Stormwater Management Design

Stormwater modeling is based on the pre-developed site and post-developed site as shown in the exhibits located in Section 10 of this report. All post-developed conditions are based on planned new impervious. All pre-developed conditions are based on topographic survey and on-site field observation.

All proposed features for the project are based on surface area measurements of the designed roadway and assumptions made for new impervious surface totals for each lot. Assumptions for each lot are as follows: 12,000 sq. ft. of total impervious surfaces for lots 4-17 and 12,900 sq. ft. of total impervious surfaces for lots 1-3. The increased impervious surfaces for lots 1-3 account for the possibility of a 900 sq. ft. accessory building on these lots. The breakdown of the 12,000 sq. ft. of impervious is as follows: 6,000 sq. ft. for roof, 3,000 sq. ft. for driveway and 3,000 sq. ft. for sidewalk, patio, and decks. The remainder of each lot area has been modeled as grassland.

Roof and sidewalk/patio/deck areas have been modeled as “disconnected” or “draining to a pervious area” rather than “directly connected” due to the lot sizes and that runoff from these areas is anticipated to be conveyed via sheet flow for over 100 feet before channelized conveyance to stormwater facilities. Driveway and roadway impervious areas were modeled as “directly connected” as runoff from these areas will typically be picked up via channelized flow to the stormwater facilities. All

disconnected and pervious areas were modeled as “clayey” soil types, normal compaction and not lowered by one permeability class as deep tilling will be performed on disturbed areas as shown on the plans.

The following table is a breakdown of impervious and pervious surface totals for the entire project area. A breakdown of surface types by individual drainage areas is available in the Peak Storm Control Calculations – Post-developed Conditions w/controls part of the report in Section 4.

Table 1: Surface Totals for Project Area

	Square Feet	Acres
Roof	104,700	2.404
Driveway	51,000	1.171
Sidewalk/Patio/Deck	51,000	1.171
Roadway	48,141	1.105
Water Surface	26,000	0.597
Grass Cover	701,249	16.098
Woodland	663,395	15.229
Cropland	48,159	1.106
Totals:	1,693,644	38.881

The site meets the definition of new development as defined in Chapter 14 of the Dane County Ordinances. The site is required to meet performance standards for: erosion control, total suspended solids removal, infiltration, thermal control and peak flow discharge. It should be noted that the proposed plat is a “Conservation Subdivision” by Town of Verona standards. In order to meet the criteria for a Conservation Subdivision with the smallest allowable lot sizes, the site must meet 100% infiltration standards.

The goals for the site will be met with the construction of a forebay and dry detention basin along with overall density and conveyance of stormwater runoff for a portion of the site through an existing swale in the wooded area of the outlot.

1.2 Soils Description

Subsurface soils are made up of silt loams where the majority of the area is Newglarus silt loam. Over 95% of the site has a hydrological soil rating of C and was used for modeling for pre- and post-developed conditions. For peak rate control, the post-developed model did not have the site lowered by one permeability class as deep tilling is proposed and indicated on the plans as a requirement to the disturbed areas that will remain pervious to break up any hard pan that may be compacted during construction.

Soil test pits were conducted on December 14, 2023 and are included in Section 3.2 of this report.

1.3 Design Criteria

For this report, pre-developed conditions refer to the site conditions before any construction took place for the proposed development. Post-developed conditions refer to the site when the site is completed and all homes are constructed. The Stormwater goals the site will be required to meet are summarized below:

Table 2 – Stormwater Management Requirements

Stormwater Management Requirements	
Requirement	Goal
Peak Runoff Rate Control	Pre-Developed to Post-Developed 1, 2, 10, 100 and 200-year, 24-hour events
Sediment Control: TSS	80% TSS Removal
Infiltration	Infiltrate 100% of Pre-Developed Infiltration Volume
Oil/Grease	NA – Exempt – Residential Development
Thermal Control	Reduce temperature of runoff using Best Management Practices

Table 3 – Design Inputs

Design Inputs	
	Peak Runoff Rate Control (Town of Verona) (Dane County)
Rainfall (24-hour design storm) MSE4 Distribution	1-year = 2.49 inches 2-year = 2.84 inches 10-year = 4.09 inches 100-year = 6.66 inches 200-year = 7.53 inches
Pre-developed Runoff Curve Number (HSG C)	Woodland = 70 Grassland = 71 Cropland = 78

1.4 Summary of Results

Peak Rate Control (See Section 4 for design calculations)

The County requires new development sites to design Stormwater management practices to maintain post-development peak runoff discharge rates for the 1, 2, 10, 100 and 200-year, 24-hour design storms, so as not to exceed those rates for each respective design storm under pre-developed conditions.

Peak runoff control will be handled onsite with the construction of a forebay and dry detention basin along with an existing swale through the wooded area of the outlot. Table 4 illustrates the overall pre-developed and post-developed peak runoff rates for the project. The calculations were performed with HydroCAD v 10.20-4a and are located in Section 4 of this report. The modeling indicates that the design stormwater facility will reduce discharge flow rates from the site by approximately 50% through the 10-yr, 24-hr storm event.

Table 4 - Peak Runoff Control

Storm Event (year)	Pre-Developed (cfs)	Post-Developed w/o Controls (cfs)	Post-Developed w/Controls (cfs)
1	11.16	15.76	5.18
2	16.49	21.72	7.36
10	39.72	45.97	21.10
100	97.05	103.06	93.09
200	118.02	123.35	113.78

Table 5 summarizes the routing through the forebay. This table includes the HydroCAD model of the entire drainage area for the forebay along with offsite areas that drain through the site to ensure that the basin, as designed, can handle stormwater runoff through the 200-yr, 24-hr storm event. Runoff through the basin is maintained through the overflow spillway and does not overtop the berm through the 200-yr, 24-hr storm event.

Table 5 – Forebay Routing Including Offsite Drainage

Storm Frequency (Year)	Post-Developed Inflow (CFS)	Routed Through Forebay		
		Discharge Primary Outlet Riprap Lined Overflow Spillway (CFS)	Elevation (Feet)	Volume (CF)
1	8.59	8.47	1033.25	1,421
2	11.58	11.44	1033.31	1,768
10	23.64	23.36	1033.49	3,020
100	51.41	50.83	1033.84	5,730
200	61.16	60.50	1033.95	6,641

Table 6 summarizes the routing through the dry detention basin. This table includes the HydroCAD model of the entire drainage area for the dry detention basin along with offsite areas that drain through the site to ensure that the basin, as designed, can handle stormwater runoff through the 200-yr, 24-hr storm event. Runoff through the basin is maintained through the primary outlet through the 2-yr, 24-yr storm event, through primary and overflow spillway in subsequent events and does not overtop the berm through the 200-yr, 24-hr storm event.

Table 6 – Dry Detention Basin Routing Including Offsite Drainage

Storm Frequency (Year)	Post-Developed Inflow (CFS)	Routed Through Dry Detention Basin			
		Discharge Primary Outlet PVC Pipe to Riprap (CFS)	Discharge Secondary Overflow of Wet Basin (CFS)	Elevation (Feet)	Storage Volume (CF)
1	13.15	0.87	0.00	1026.45	49,570
2	18.65	1.68	0.00	1027.31	63,517
10	41.42	1.84	22.42	1028.32	82,248
100	95.46	1.92	91.84	1028.84	92,934
200	114.74	1.93	111.49	1028.96	95,487

Sediment Control

The site is required to reduce by 80%, the total suspended solids load based on the average annual rainfall record. Forebay efficiency was modeled using WinSLAMM 10.4.1. Dry basin efficiency was calculated using Stoke's Law to determine critical settling velocity. One-year peak flow rate, peak elevation, storage volume and the outlet invert were modeled using HydroCAD. See Section 4 of this report for complete HydroCAD calculations. All calculations include flow from offsite; however, tss loading was stripped from these offsite areas. Offsite volume was included in the HydroCAD model for the Stoke's Law worksheets as well.

The forebay is designed to achieve at least 40% sediment removal efficiency prior to draining to the dry detention basin. The dry detention basin is designed to achieve at least 80% sediment removal efficiency as per the Stoke's Law worksheet. See Section 5 of this report for WinSLAMM data for the forebay and Stoke's Law exhibit for the dry basin.

Table 7 – Total Suspended Solids Reduction Summary – Bioretention Basin

BMP	No Controls	After Stormwater Controls	% Reduction
Forebay	1,869 lbs.	730.2 lbs.	60.93%

Infiltration

Per Dane County standards, the site is required to infiltrate 90% of the pre-developed infiltration volume based on the average annual rainfall. However, in order to meet one of the requirements of a "Conservation Subdivision" for the Town of Verona Subdivision Ordinance, the site is required to infiltrate 100% of the pre-developed infiltration volume based on the average annual rainfall. The site infiltrates the post-developed runoff volume at a rate equivalent to 100.49% of the pre-developed infiltration volume. The calculations were completed with WinSLAMM 10.4.1 and are located in Section 6 of this report. Table 8 illustrates the WinSLAMM output for infiltration.

Table 8 – Infiltration Volume

Annual Pre-developed Total Loss (in/Yr)	Post-Developed Total Loss(in/Yr)	% Annual Total Loss
26.64	26.77	100.49

Erosion Control (See Section 7)

The site meets the County's erosion control requirements with the use of perimeter silt fencing, stone tracking pad, stabilized outlets, seeding, properly anchored mulch or erosion mat placement and scheduling. The USLE worksheets are located in section 7 of this report.

Swale and Ditch Calculations / Shear Stress Calculations (See Section 8)

Swale and ditch calculations were modeled using HydroCAD. Section 8 contains information regarding these calculations. Shear stress for swales and ditches were also calculated. Channel erosion matting is specified and shown on the overall grading and erosion control plan.

Thermal Control

The site is located within a thermally sensitive area, based on Dane County mapping. Therefore, this stormwater management design is required to reduce the temperature of runoff using Best Management Practices (BMPs). The BMPs proposed for this site will meet the County's requirements to mitigate the temperature of post-construction stormwater runoff. A dry detention basin with riprap outlet structure is proposed to meet the requirement.

1.5 Conclusions

This Riverside Vista Stormwater Management Plan will meet the Town and the County's new development performance standard requirements for erosion control, peak runoff rate control, total suspended solids reduction, infiltration and thermal control with the construction of the forebay and dry detention basin.

1.6 Permits

The following is a list of the anticipated development permits anticipated:

- ✓ Dane County – Erosion Control/Land Disturbing Permit Application
- ✓ Dane County – Storm Water Runoff Control Permit Application
- ✓ WDNR – NOI
- ✓ Town of Verona – Application for Permit to Work in Town Road Right-of-Way

Section 2: Maps

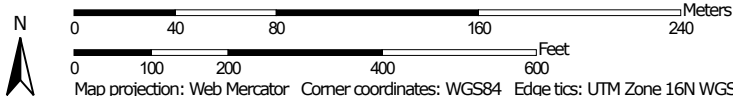
Section 3: Soils Information

Hydrologic Soil Group—Dane County, Wisconsin



Soil Map may not be valid at this scale.

Map Scale: 1:2,990 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84



Natural Resources Conservation Service

Web Soil Survey National Cooperative Soil Survey

1/25/2024 Page 1 of 4

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Dane County, Wisconsin
 Survey Area Data: Version 22, Sep 8, 2023

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

Date(s) aerial images were photographed: Jun 13, 2020—Jun 18, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1180D2	Newglarus-Dunbarton silt loams, 12 to 20 percent slopes, moderately eroded	C	15.3	44.4%
BaB2	Basco silt loam, 2 to 6 percent slopes, eroded	D	0.6	1.7%
NeB2	Newglarus silt loam, moderately deep, 2 to 6 percent slopes, moderately eroded	C	0.9	2.6%
NeC2	Newglarus silt loam, moderately deep, 6 to 12 percent slopes, moderately eroded	C	16.7	48.7%
TrB	Troxel silt loam, 0 to 3 percent slopes	B	0.9	2.6%
Totals for Area of Interest			34.4	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

Division of Industry Services

in accordance with SPS 382,365 and 385, Wis. Adm. Code

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

Please print all information

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

County	DANE
Parcel I.D.	062/0608-303-9000-8
Reviewed by	Date

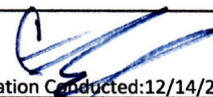
Property Owner COONS CONSTRUCTION OF VERONA LLC	Property Location SW 1/4, SW 1/4, S 30, T 6 N, R 8 E
Property Owner's Mailing Address 1827 LOCUST DR	Lot # Subd. Name or CSM#
City State Zip Code Phone Number VERONA WI 53593	<input type="checkbox"/> City <input checked="" type="checkbox"/> Town Nearest Road VERONA RIVERSIDE RD
Drainage area: <u>TBD</u> <input type="checkbox"/> sq.ft. <input type="checkbox"/> acres Optional: Test Site Suitable for (check all that apply) <input type="checkbox"/> Irrigation <input type="checkbox"/> Bioretention trench <input type="checkbox"/> Trenches <input type="checkbox"/> Rain garden <input type="checkbox"/> Grassed swale <input type="checkbox"/> Reuse <input type="checkbox"/> Infiltration trench <input type="checkbox"/> SDS (>15'wide) <input type="checkbox"/> Other _____	Hydraulic Application Test Method: <input checked="" type="checkbox"/> Morphological Evaluation <input type="checkbox"/> Double-Ring Infiltrometer <input type="checkbox"/> Other (specify) _____ Site Considerations:

Observed Boring Pit * horizon is colluvial overburden

1 #	Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence (Moist)	Boundary	% Rock Fragmts	Hydraulic App. Rate Inches/Hr.
	Ap1*	0-15	10YR3/2		sil	2mgr	fr	cs	3	0.13
	Ap2*	15-24	10YR3/2		cb sil	2fsbk	fr	cs	18	0.13
	Ap3	24-30	10YR2/2		sil	1fsbk	fr	cs	5	0.13
	Bt	30-55	10YR4/4		sicl	1fsbk	fi	cw	10	0.04
	C1	55-88	10YR4/4		cb scl	0mass	fi	cw	20	0.11
	C2	88-110	5YR4/6		cb sic	0mass	fi		23	0.07

Observed Boring Pit * horizon is colluvial overburden

2 #	Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence (Moist)	Boundary	% Rock Fragmts	Hydraulic App. Rate Inches/Hr.
	Ap1*	0-18	10YR3/2		sil	2fsbk	fr	cs	4	0.13
	Ap2	18-27	10YR2/2		sil	2fsbk	fr	cs	2	0.13
	Bt	27-39	10YR4/4		sicl	1fsbk	fi	cw	3	0.04
	C1	39-89	10YR4/4		sicl	0mass	fi	cw	6	0.04
	C2	89-122	5YR4/6		cb sic	0mass	fi		15	0.07

CST Name CLAY VANDERLEEST	Signature: 	CST Number 1190689
Address N7803 TOPPE RD WATERLOO, WI 53594	Date Evaluation Conducted: 12/14/2023	Telephone No. (608) 509-2855

Obser. Boring

* horizon is colluvial overburden. 10YR5/4 silt coats on peds in Ap2 horizon

3	#	<input checked="" type="checkbox"/> Pit	Ground surface elev. 1025.87'	Depth to limiting factor N/A						Hydraulic App. Rate Inches/Hr.
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts		
Ap1*	0-24	10YR3/2		sil	2fsbk	fr	cs	2	0.13	
Ap2	24-39	10YR2/2		sil	2fsbk	fr	cs	1	0.13	
Ap3	39-44	10YR2/2		sil	1fsbk	fr	cs	1	0.13	
Bt	44-57	10YR4/4		sicl	1fsbk	fi	cw	5	0.04	
C1	57-84	10YR4/4		sicl	0mass	fi	cw	10	0.04	
C2	84-114	5YR4/6		cb sic	0mass	fi		17	0.07	

Obser. Boring

* >50% limestone bedrock cobble

4	#	<input checked="" type="checkbox"/> Pit	Ground surface elev. 1021.30'	Depth to limiting factor 56"						Hydraulic App. Rate Inches/Hr.
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts		
Ap	0-13	10YR3/2		sil	2mgr	fr	cs	2	0.13	
Bt1	13-25	10YR4/3		sicl	2fsbk	fi	cs	2	0.04	
Bt2	25-40	10YR4/4		sicl	1fsbk	fi	cw	5	0.04	
C	40-56	5YR4/6		sic	0mass	fi	cw	16	0.07	
R	56+		*							

Obser. Boring

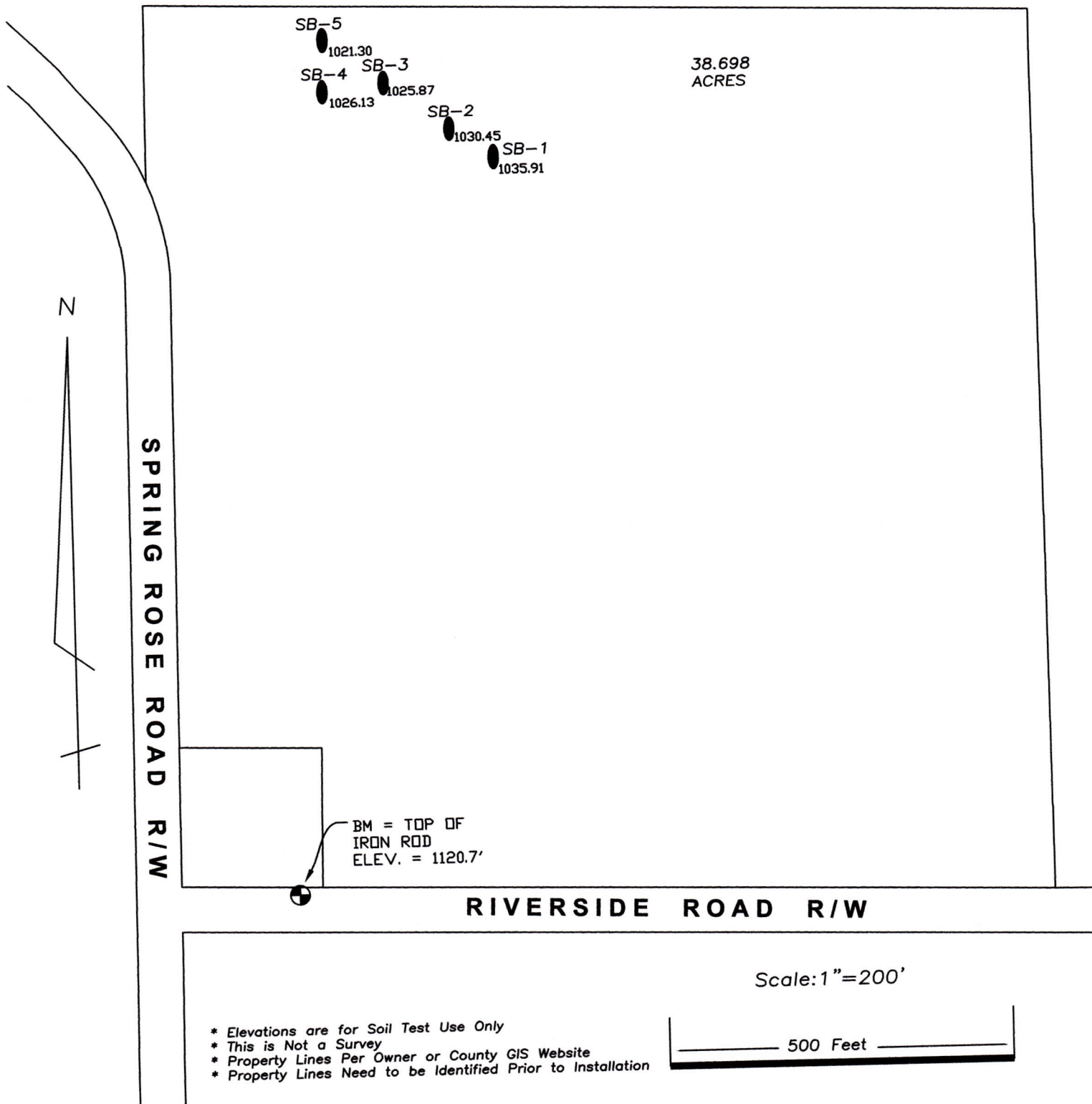
* horizon is colluvial overburden. 10YR5/4 silt coats on peds in Ap2 horizon

5	#	<input checked="" type="checkbox"/> Pit	Ground surface elev. 1026.13'	Depth to limiting factor N/A						Hydraulic App. Rate Inches/Hr.
Horizon	Depth inches	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr.Sz.Sh.	Consistence (Moist)	Boundary	% Rock Fragmts		
Ap1*	0-20	10YR3/2		sil	2fsbk	fr	cs	2	0.13	
Ap2	20-34	10YR2/2		sil	2fsbk	fr	cs	2	0.13	
Ap3	34-45	10YR2/2		sil	1fsbk	fr	cs	3	0.13	
Bt	45-74	10YR4/4		sicl	1fsbk	fi	cw	5	0.04	
C1	74-98	10YR4/4		sicl	0mass	fi	cw	8	0.04	
C2	98-110	10YR2/1		sic	0mass	fi		15	0.07	

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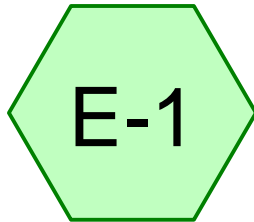
PAGE 3 OF 3



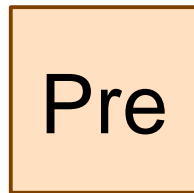
- * Elevations are for Soil Test Use Only
- * This is Not a Survey
- * Property Lines Per Owner or County GIS Website
- * Property Lines Need to be Identified Prior to Installation

Section 4: Peak Storm Control Calculations

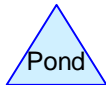
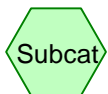
4.1 Peak Flow Pre-Developed Calculations



Pre-Developed



Pre Developed



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2024-02-05_Riverside Vista_Pre-Developed

MSE 24-hr 4 1-Year Rainfall=2.49"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Pre-Developed

Runoff Area=36.538 ac 0.00% Impervious Runoff Depth=0.49"
Flow Length=942' Tc=32.0 min CN=71 Runoff=11.16 cfs 1.480 af

Reach Pre: Pre Developed

Inflow=11.16 cfs 1.480 af
Outflow=11.16 cfs 1.480 af

Total Runoff Area = 36.538 ac Runoff Volume = 1.480 af Average Runoff Depth = 0.49"
100.00% Pervious = 36.538 ac 0.00% Impervious = 0.000 ac

2024-02-05_RiversideVista_Pre_Dev

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2024-02-05_Riverside Vista_Pre-Developed
 MSE 24-hr 4 1-Year Rainfall=2.49"
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Summary for Subcatchment E-1: Pre-Developed

Runoff = 11.16 cfs @ 12.52 hrs, Volume= 1.480 af, Depth= 0.49"
 Routed to Reach Pre : Pre Developed

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
* 23.076	71	>75% Grass cover, Good, HSG C
13.462	70	Woods, Good, HSG C
36.538	71	Weighted Average
36.538		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.9	300	0.1193	0.19		Sheet Flow, Through Wooded Area Woods: Light underbrush n= 0.400 P2= 2.84"
3.0	284	0.0977	1.56		Shallow Concentrated Flow, Through Wooded Area Woodland Kv= 5.0 fps
2.1	358	0.0464	2.89	37.63	Trap/Vee/Rect Channel Flow, Wooded Swale Bot.W=5.00' D=1.00' Z= 8.0 '/' Top.W=21.00' n= 0.080 Earth, long dense weeds
32.0	942	Total			

Summary for Reach Pre: Pre Developed

Inflow Area = 36.538 ac, 0.00% Impervious, Inflow Depth = 0.49" for 1-Year event
 Inflow = 11.16 cfs @ 12.52 hrs, Volume= 1.480 af
 Outflow = 11.16 cfs @ 12.52 hrs, Volume= 1.480 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

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2024-02-05_Riverside Vista_Pre-Developed

MSE 24-hr 4 2-Year Rainfall=2.84"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Pre-Developed

Runoff Area=36.538 ac 0.00% Impervious Runoff Depth=0.67"
Flow Length=942' Tc=32.0 min CN=71 Runoff=16.49 cfs 2.040 af

Reach Pre: Pre Developed

Inflow=16.49 cfs 2.040 af
Outflow=16.49 cfs 2.040 af

Total Runoff Area = 36.538 ac Runoff Volume = 2.040 af Average Runoff Depth = 0.67"
100.00% Pervious = 36.538 ac 0.00% Impervious = 0.000 ac

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2024-02-05_Riverside Vista_Pre-Developed

MSE 24-hr 4 10-Year Rainfall=4.09"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Pre-Developed

Runoff Area=36.538 ac 0.00% Impervious Runoff Depth=1.46"
Flow Length=942' Tc=32.0 min CN=71 Runoff=39.72 cfs 4.433 af

Reach Pre: Pre Developed

Inflow=39.72 cfs 4.433 af
Outflow=39.72 cfs 4.433 af

Total Runoff Area = 36.538 ac Runoff Volume = 4.433 af Average Runoff Depth = 1.46"
100.00% Pervious = 36.538 ac 0.00% Impervious = 0.000 ac

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2024-02-05_Riverside Vista_Pre-Developed

MSE 24-hr 4 100-Year Rainfall=6.66"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Pre-Developed

Runoff Area=36.538 ac 0.00% Impervious Runoff Depth=3.44"
Flow Length=942' Tc=32.0 min CN=71 Runoff=97.05 cfs 10.471 af

Reach Pre: Pre Developed

Inflow=97.05 cfs 10.471 af
Outflow=97.05 cfs 10.471 af

Total Runoff Area = 36.538 ac Runoff Volume = 10.471 af Average Runoff Depth = 3.44"
100.00% Pervious = 36.538 ac 0.00% Impervious = 0.000 ac

2024-02-05_RiversideVista_Pre_Dev

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2024-02-05_Riverside Vista_Pre-Developed

MSE 24-hr 4 200-Year Rainfall=7.53"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E-1: Pre-Developed

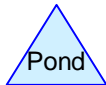
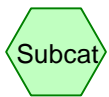
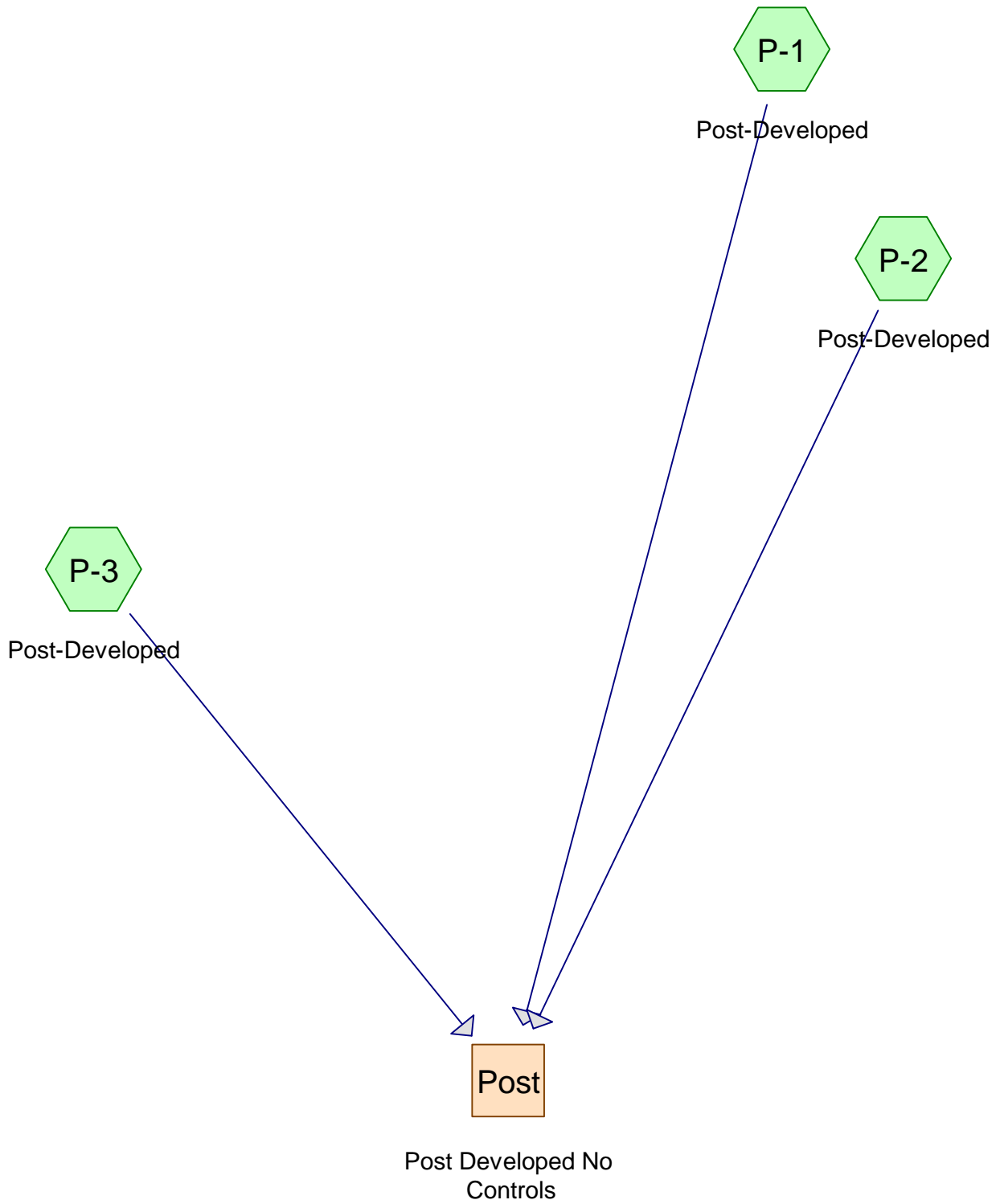
Runoff Area=36.538 ac 0.00% Impervious Runoff Depth=4.17"
Flow Length=942' Tc=32.0 min CN=71 Runoff=118.02 cfs 12.708 af

Reach Pre: Pre Developed

Inflow=118.02 cfs 12.708 af
Outflow=118.02 cfs 12.708 af

Total Runoff Area = 36.538 ac Runoff Volume = 12.708 af Average Runoff Depth = 4.17"
100.00% Pervious = 36.538 ac 0.00% Impervious = 0.000 ac

4.2 Peak Flow Post-Developed Calculations No Controls



Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=0.73"
Flow Length=706' Tc=23.7 min CN=77 Runoff=7.92 cfs 0.776 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=0.60"
Flow Length=584' Tc=33.0 min CN=74 Runoff=7.15 cfs 0.892 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=0.56"
Tc=6.0 min CN=73 Runoff=5.13 cfs 0.285 af

Reach Post: Post Developed No Controls Inflow=15.76 cfs 1.953 af
Outflow=15.76 cfs 1.953 af

Total Runoff Area = 36.538 ac Runoff Volume = 1.953 af Average Runoff Depth = 0.64"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

2024-02-05_RiversideVista_Post_Dev_No Controls

MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment P-1: Post-Developed

Runoff = 7.92 cfs @ 12.36 hrs, Volume= 0.776 af, Depth= 0.73"
 Routed to Reach Post : Post Developed No Controls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.033	98	Roofs, HSG C
* 0.620	98	Driveways, HSG C
* 0.517	98	Sidewalks/Patios/Decks, HSG C
0.566	92	Paved roads w/open ditches, 50% imp, HSG C
0.138	98	Water Surface, HSG C
* 6.521	71	>75% Grass cover, Good, HSG C
2.177	70	Woods, Good, HSG C
* 1.121	71	Pasture/grassland/range, Good, HSG C
12.693	77	Weighted Average
10.102		79.59% Pervious Area
2.591		20.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	300	0.0719	0.23		Sheet Flow, Through Small Wooded Area and Lawn
					Grass: Dense n= 0.240 P2= 2.84"
1.5	406	0.0874	4.43		Shallow Concentrated Flow, Through lawn
					Grassed Waterway Kv= 15.0 fps
0.3					Direct Entry, Road Ditch, Culvert and Grassed Waterway
23.7	706	Total			

Summary for Subcatchment P-2: Post-Developed

Runoff = 7.15 cfs @ 12.51 hrs, Volume= 0.892 af, Depth= 0.60"
 Routed to Reach Post : Post Developed No Controls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.095	98	Roofs, HSG C
* 0.344	98	Driveways, HSG C
* 0.517	98	Sidewalks/Patios/Decks, HSG C
0.185	92	Paved roads w/open ditches, 50% imp, HSG C
0.459	98	Water Surface, HSG C
* 4.141	71	>75% Grass cover, Good, HSG C
10.410	70	Woods, Good, HSG C
* 0.607	71	Pasture/grassland/range, Good, HSG C
17.758	74	Weighted Average
15.251		85.88% Pervious Area
2.508		14.12% Impervious Area

2024-02-05_RiversideVista_Post_Dev_No Controls

MSE 24-hr 4 1-Year Rainfall=2.49"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.9	300	0.1193	0.19		Sheet Flow, Through Wooded Area Woods: Light underbrush n= 0.400 P2= 2.84"
6.1	284	0.0977	0.78		Shallow Concentrated Flow, Through Wooded Area Forest w/Heavy Litter Kv= 2.5 fps
33.0	584	Total			

Summary for Subcatchment P-3: Post-Developed

Runoff = 5.13 cfs @ 12.14 hrs, Volume= 0.285 af, Depth= 0.56"
Routed to Reach Post : Post Developed No Controls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
0.275	98	Roofs, HSG C
* 0.207	98	Driveways, HSG C
* 0.138	98	Sidewalks/Patios/Decks, HSG C
* 3.273	71	>75% Grass cover, Good, HSG C
2.194	70	Woods, Good, HSG C
6.087	73	Weighted Average
5.467		89.81% Pervious Area
0.620		10.19% Impervious Area

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

Summary for Reach Post: Post Developed No Controls

Inflow Area = 36.538 ac, 15.65% Impervious, Inflow Depth = 0.64" for 1-Year event
Inflow = 15.76 cfs @ 12.42 hrs, Volume= 1.953 af
Outflow = 15.76 cfs @ 12.42 hrs, Volume= 1.953 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=0.96"
Flow Length=706' Tc=23.7 min CN=77 Runoff=10.69 cfs 1.017 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=0.81"
Flow Length=584' Tc=33.0 min CN=74 Runoff=10.05 cfs 1.196 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=0.76"
Tc=6.0 min CN=73 Runoff=7.20 cfs 0.386 af

Reach Post: Post Developed No Controls Inflow=21.72 cfs 2.599 af
Outflow=21.72 cfs 2.599 af

Total Runoff Area = 36.538 ac Runoff Volume = 2.599 af Average Runoff Depth = 0.85"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=1.88"
 Flow Length=706' Tc=23.7 min CN=77 Runoff=21.76 cfs 1.991 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=1.66"
 Flow Length=584' Tc=33.0 min CN=74 Runoff=22.00 cfs 2.460 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=1.59"
 Tc=6.0 min CN=73 Runoff=15.72 cfs 0.808 af

Reach Post: Post Developed No Controls Inflow=45.97 cfs 5.259 af
 Outflow=45.97 cfs 5.259 af

Total Runoff Area = 36.538 ac Runoff Volume = 5.259 af Average Runoff Depth = 1.73"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=4.06"
Flow Length=706' Tc=23.7 min CN=77 Runoff=47.15 cfs 4.296 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=3.75"
Flow Length=584' Tc=33.0 min CN=74 Runoff=50.68 cfs 5.545 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=3.64"
Tc=6.0 min CN=73 Runoff=35.90 cfs 1.848 af

Reach Post: Post Developed No Controls Inflow=103.06 cfs 11.690 af
Outflow=103.06 cfs 11.690 af

Total Runoff Area = 36.538 ac Runoff Volume = 11.690 af Average Runoff Depth = 3.84"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=4.85"
Flow Length=706' Tc=23.7 min CN=77 Runoff=56.05 cfs 5.125 af

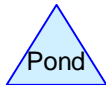
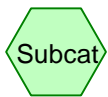
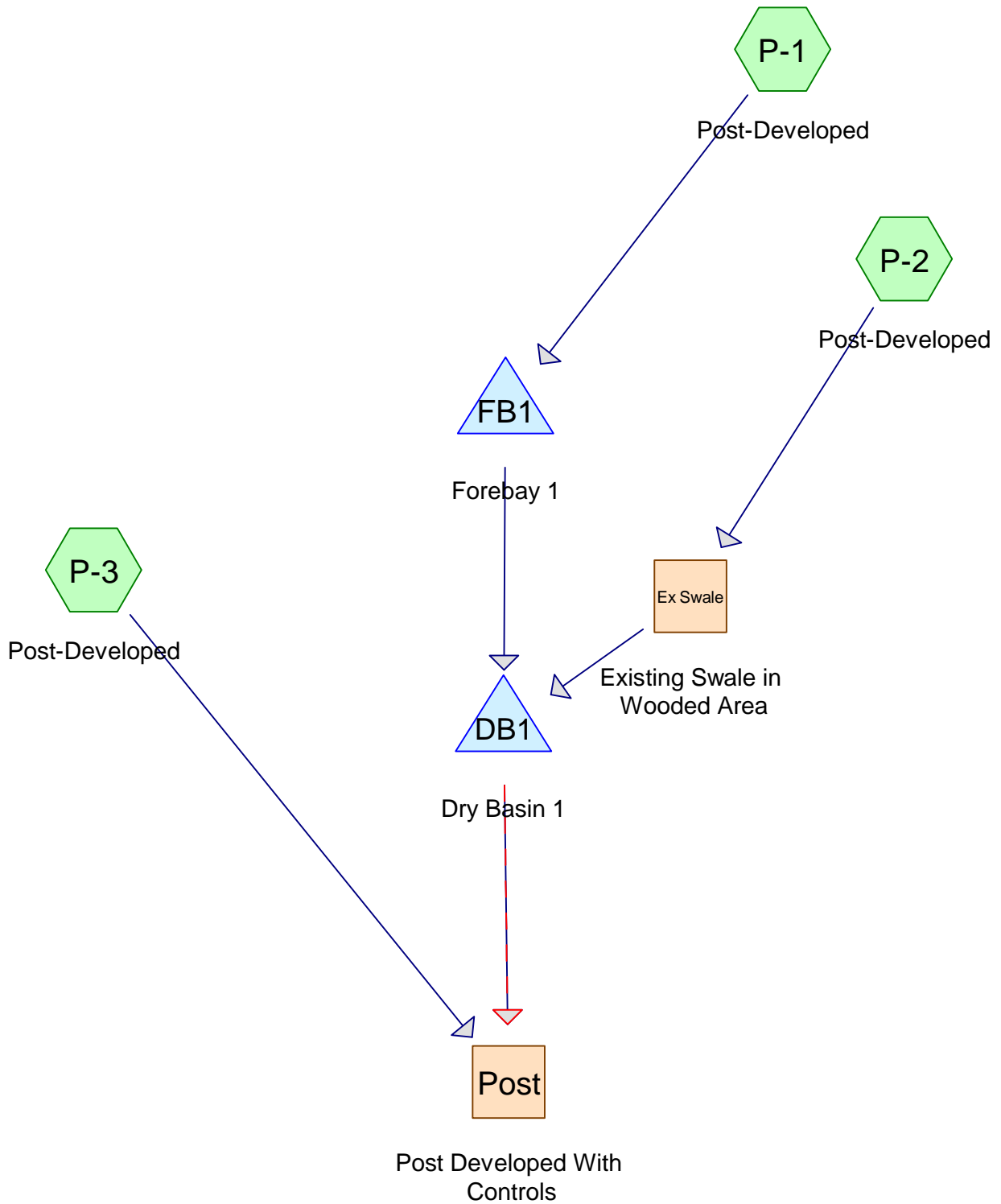
Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=4.51"
Flow Length=584' Tc=33.0 min CN=74 Runoff=60.95 cfs 6.670 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=4.40"
Tc=6.0 min CN=73 Runoff=43.08 cfs 2.230 af

Reach Post: Post Developed No Controls Inflow=123.35 cfs 14.025 af
Outflow=123.35 cfs 14.025 af

Total Runoff Area = 36.538 ac Runoff Volume = 14.025 af Average Runoff Depth = 4.61"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

4.3 Peak Flow Post-Developed Calculations With Controls



Routing Diagram for 2024-02-05 RiversideVista_Post_Dev
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2024-02-05_Riverside Vista_Post-Developed

MSE 24-hr 4 1-Year Rainfall=2.49"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed

Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=0.73"
Flow Length=706' Tc=23.7 min CN=77 Runoff=7.92 cfs 0.776 af

Subcatchment P-2: Post-Developed

Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=0.60"
Flow Length=584' Tc=33.0 min CN=74 Runoff=7.15 cfs 0.892 af

Subcatchment P-3: Post-Developed

Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=0.56"
Tc=6.0 min CN=73 Runoff=5.13 cfs 0.285 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.22' Max Vel=1.27 fps Inflow=7.15 cfs 0.892 af
n=0.100 L=930.0' S=0.0587 '/ Capacity=1,364.99 cfs Outflow=6.21 cfs 0.892 af

Reach Post: Post Developed With Controls

Inflow=5.18 cfs 1.948 af
Outflow=5.18 cfs 1.948 af

Pond DB1: Dry Basin 1

Peak Elev=1,026.14' Storage=44,747 cf Inflow=12.01 cfs 1.668 af
Primary=0.84 cfs 1.663 af Secondary=0.00 cfs 0.000 af Outflow=0.84 cfs 1.663 af

Pond FB1: Forebay 1

Peak Elev=1,033.24' Storage=1,339 cf Inflow=7.92 cfs 0.776 af
Outflow=7.80 cfs 0.776 af

Total Runoff Area = 36.538 ac Runoff Volume = 1.953 af Average Runoff Depth = 0.64"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

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Summary for Subcatchment P-1: Post-Developed

Runoff = 7.92 cfs @ 12.36 hrs, Volume= 0.776 af, Depth= 0.73"
 Routed to Pond FB1 : Forebay 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.033	98	Roofs, HSG C
* 0.620	98	Driveways, HSG C
* 0.517	98	Sidewalks/Patios/Decks, HSG C
0.566	92	Paved roads w/open ditches, 50% imp, HSG C
0.138	98	Water Surface, HSG C
* 6.521	71	>75% Grass cover, Good, HSG C
2.177	70	Woods, Good, HSG C
* 1.121	71	Pasture/grassland/range, Good, HSG C
12.693	77	Weighted Average
10.102		79.59% Pervious Area
2.591		20.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	300	0.0719	0.23		Sheet Flow, Through Small Wooded Area and Lawn
					Grass: Dense n= 0.240 P2= 2.84"
1.5	406	0.0874	4.43		Shallow Concentrated Flow, Through lawn
					Grassed Waterway Kv= 15.0 fps
0.3					Direct Entry, Road Ditch, Culvert and Grassed Waterway
23.7	706	Total			

Summary for Subcatchment P-2: Post-Developed

Runoff = 7.15 cfs @ 12.51 hrs, Volume= 0.892 af, Depth= 0.60"
 Routed to Reach Ex Swale : Existing Swale in Wooded Area

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.095	98	Roofs, HSG C
* 0.344	98	Driveways, HSG C
* 0.517	98	Sidewalks/Patios/Decks, HSG C
0.185	92	Paved roads w/open ditches, 50% imp, HSG C
0.459	98	Water Surface, HSG C
* 4.141	71	>75% Grass cover, Good, HSG C
10.410	70	Woods, Good, HSG C
* 0.607	71	Pasture/grassland/range, Good, HSG C
17.758	74	Weighted Average
15.251		85.88% Pervious Area
2.508		14.12% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.9	300	0.1193	0.19		Sheet Flow, Through Wooded Area
					Woods: Light underbrush n= 0.400 P2= 2.84"
6.1	284	0.0977	0.78		Shallow Concentrated Flow, Through Wooded Area
					Forest w/Heavy Litter Kv= 2.5 fps
33.0	584	Total			

Summary for Subcatchment P-3: Post-Developed

Runoff = 5.13 cfs @ 12.14 hrs, Volume= 0.285 af, Depth= 0.56"
 Routed to Reach Post : Post Developed With Controls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
0.275	98	Roofs, HSG C
* 0.207	98	Driveways, HSG C
* 0.138	98	Sidewalks/Patios/Decks, HSG C
* 3.273	71	>75% Grass cover, Good, HSG C
2.194	70	Woods, Good, HSG C
6.087	73	Weighted Average
5.467		89.81% Pervious Area
0.620		10.19% Impervious Area

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

Summary for Reach Ex Swale: Existing Swale in Wooded Area

Inflow Area = 17.758 ac, 14.12% Impervious, Inflow Depth = 0.60" for 1-Year event
 Inflow = 7.15 cfs @ 12.51 hrs, Volume= 0.892 af
 Outflow = 6.21 cfs @ 12.67 hrs, Volume= 0.892 af, Atten= 13%, Lag= 9.7 min
 Routed to Pond DB1 : Dry Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Max. Velocity= 1.27 fps, Min. Travel Time= 12.2 min
 Avg. Velocity= 0.51 fps, Avg. Travel Time= 30.5 min

Peak Storage= 4,559 cf @ 12.67 hrs
 Average Depth at Peak Storage= 0.22' , Surface Width= 23.60'
 Bank-Full Depth= 4.00' Flow Area= 208.0 sf, Capacity= 1,364.99 cfs

20.00' x 4.00' deep channel, n= 0.100 Earth, dense brush, high stage
 Side Slope Z-value= 8.0 ' / ' Top Width= 84.00'
 Length= 930.0' Slope= 0.0587 ' / '
 Inlet Invert= 1,083.37', Outlet Invert= 1,028.80'

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Summary for Reach Post: Post Developed With Controls

Inflow Area = 36.538 ac, 15.65% Impervious, Inflow Depth > 0.64" for 1-Year event
 Inflow = 5.18 cfs @ 12.14 hrs, Volume= 1.948 af
 Outflow = 5.18 cfs @ 12.14 hrs, Volume= 1.948 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond DB1: Dry Basin 1

Inflow Area = 30.451 ac, 16.74% Impervious, Inflow Depth = 0.66" for 1-Year event
 Inflow = 12.01 cfs @ 12.53 hrs, Volume= 1.668 af
 Outflow = 0.84 cfs @ 17.12 hrs, Volume= 1.663 af, Atten= 93%, Lag= 275.5 min
 Primary = 0.84 cfs @ 17.12 hrs, Volume= 1.663 af
 Routed to Reach Post : Post Developed With Controls
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach Post : Post Developed With Controls

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,026.14' @ 17.12 hrs Surf.Area= 14,892 sf Storage= 44,747 cf

Plug-Flow detention time= 669.4 min calculated for 1.663 af (100% of inflow)
 Center-of-Mass det. time= 667.4 min (1,555.9 - 888.5)

Volume	Invert	Avail.Storage	Storage Description
#1	1,022.00'	2,296,353 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,022.00	5,836	0	0
1,023.00	8,817	7,327	7,327
1,024.00	10,950	9,884	17,210
1,025.00	12,732	11,841	29,051
1,026.00	14,619	13,676	42,727
1,027.00	16,611	15,615	58,342
1,028.00	18,706	17,659	76,000
1,029.00	22,000	20,353	96,353
1,129.00	22,000	2,200,000	2,296,353

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Device	Routing	Invert	Outlet Devices
#1	Primary	1,022.00'	6.0" Round Culvert L= 60.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,022.00' / 1,020.00' S= 0.0333 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Device 1	1,022.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,027.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	1,028.00'	45.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.84 cfs @ 17.12 hrs HW=1,026.14' TW=0.00' (Dynamic Tailwater)

- ↑ **1=Culvert** (Passes 0.84 cfs of 1.47 cfs potential flow)
- ↑ **2=Orifice/Grate** (Orifice Controls 0.84 cfs @ 9.59 fps)
- ↑ **3=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,022.00' TW=0.00' (Dynamic Tailwater)

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

Summary for Pond FB1: Forebay 1

Inflow Area = 12.693 ac, 20.41% Impervious, Inflow Depth = 0.73" for 1-Year event
 Inflow = 7.92 cfs @ 12.36 hrs, Volume= 0.776 af
 Outflow = 7.80 cfs @ 12.41 hrs, Volume= 0.776 af, Atten= 2%, Lag= 2.6 min
 Primary = 7.80 cfs @ 12.41 hrs, Volume= 0.776 af
 Routed to Pond DB1 : Dry Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,033.24' @ 12.41 hrs Surf.Area= 6,094 sf Storage= 1,339 cf

Plug-Flow detention time= 5.2 min calculated for 0.776 af (100% of inflow)
 Center-of-Mass det. time= 5.1 min (869.5 - 864.4)

Volume	Invert	Avail.Storage	Storage Description
#1	1,033.00'	918,733 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,033.00	5,150	0	0
1,034.00	9,116	7,133	7,133
1,134.00	9,116	911,600	918,733

Device	Routing	Invert	Outlet Devices
#1	Primary	1,033.00'	25.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=7.79 cfs @ 12.41 hrs HW=1,033.24' TW=1,022.97' (Dynamic Tailwater)

- ↑ **1=Broad-Crested Rectangular Weir** (Weir Controls 7.79 cfs @ 1.31 fps)

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2024-02-05_Riverside Vista_Post-Developed

MSE 24-hr 4 2-Year Rainfall=2.84"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed

Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=0.96"
Flow Length=706' Tc=23.7 min CN=77 Runoff=10.69 cfs 1.017 af

Subcatchment P-2: Post-Developed

Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=0.81"
Flow Length=584' Tc=33.0 min CN=74 Runoff=10.05 cfs 1.196 af

Subcatchment P-3: Post-Developed

Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=0.76"
Tc=6.0 min CN=73 Runoff=7.20 cfs 0.386 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.28' Max Vel=1.44 fps Inflow=10.05 cfs 1.196 af
n=0.100 L=930.0' S=0.0587 '/ Capacity=1,364.99 cfs Outflow=8.98 cfs 1.196 af

Reach Post: Post Developed With Controls

Inflow=7.36 cfs 2.592 af
Outflow=7.36 cfs 2.592 af

Pond DB1: Dry Basin 1

Peak Elev=1,027.11' Storage=60,105 cf Inflow=17.16 cfs 2.214 af
Primary=1.64 cfs 2.206 af Secondary=0.00 cfs 0.000 af Outflow=1.64 cfs 2.206 af

Pond FB1: Forebay 1

Peak Elev=1,033.29' Storage=1,663 cf Inflow=10.69 cfs 1.017 af
Outflow=10.52 cfs 1.017 af

Total Runoff Area = 36.538 ac Runoff Volume = 2.599 af Average Runoff Depth = 0.85"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

2024-02-05_RiversideVista_Post_Dev

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2024-02-05_Riverside Vista_Post-Developed

MSE 24-hr 4 10-Year Rainfall=4.09"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed

Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=1.88"
Flow Length=706' Tc=23.7 min CN=77 Runoff=21.76 cfs 1.991 af

Subcatchment P-2: Post-Developed

Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=1.66"
Flow Length=584' Tc=33.0 min CN=74 Runoff=22.00 cfs 2.460 af

Subcatchment P-3: Post-Developed

Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=1.59"
Tc=6.0 min CN=73 Runoff=15.72 cfs 0.808 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.45' Max Vel=1.93 fps Inflow=22.00 cfs 2.460 af
n=0.100 L=930.0' S=0.0587 '/' Capacity=1,364.99 cfs Outflow=20.67 cfs 2.460 af

Reach Post: Post Developed With Controls

Inflow=21.10 cfs 5.250 af
Outflow=21.10 cfs 5.250 af

Pond DB1: Dry Basin 1

Peak Elev=1,028.28' Storage=81,302 cf Inflow=38.48 cfs 4.452 af
Primary=1.83 cfs 3.155 af Secondary=17.60 cfs 1.288 af Outflow=19.43 cfs 4.442 af

Pond FB1: Forebay 1

Peak Elev=1,033.47' Storage=2,829 cf Inflow=21.76 cfs 1.991 af
Outflow=21.45 cfs 1.991 af

Total Runoff Area = 36.538 ac Runoff Volume = 5.259 af Average Runoff Depth = 1.73"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

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2024-02-05_Riverside Vista_Post-Developed

MSE 24-hr 4 100-Year Rainfall=6.66"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed

Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=4.06"
Flow Length=706' Tc=23.7 min CN=77 Runoff=47.15 cfs 4.296 af

Subcatchment P-2: Post-Developed

Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=3.75"
Flow Length=584' Tc=33.0 min CN=74 Runoff=50.68 cfs 5.545 af

Subcatchment P-3: Post-Developed

Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=3.64"
Tc=6.0 min CN=73 Runoff=35.90 cfs 1.848 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.74' Max Vel=2.56 fps Inflow=50.68 cfs 5.545 af
n=0.100 L=930.0' S=0.0587 '/ Capacity=1,364.99 cfs Outflow=48.82 cfs 5.545 af

Reach Post: Post Developed With Controls

Inflow=93.09 cfs 11.678 af
Outflow=93.09 cfs 11.678 af

Pond DB1: Dry Basin 1

Peak Elev=1,028.80' Storage=92,014 cf Inflow=89.21 cfs 9.841 af
Primary=1.91 cfs 3.550 af Secondary=84.97 cfs 6.280 af Outflow=86.88 cfs 9.830 af

Pond FB1: Forebay 1

Peak Elev=1,033.79' Storage=5,323 cf Inflow=47.15 cfs 4.296 af
Outflow=46.57 cfs 4.296 af

Total Runoff Area = 36.538 ac Runoff Volume = 11.690 af Average Runoff Depth = 3.84"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

2024-02-05_RiversideVista_Post_Dev

2024-02-05_Riverside Vista_Post-Developed

MSE 24-hr 4 200-Year Rainfall=7.53"

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Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P-1: Post-Developed

Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=4.85"
Flow Length=706' Tc=23.7 min CN=77 Runoff=56.05 cfs 5.125 af

Subcatchment P-2: Post-Developed

Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=4.51"
Flow Length=584' Tc=33.0 min CN=74 Runoff=60.95 cfs 6.670 af

Subcatchment P-3: Post-Developed

Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=4.40"
Tc=6.0 min CN=73 Runoff=43.08 cfs 2.230 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.82' Max Vel=2.71 fps Inflow=60.95 cfs 6.670 af
n=0.100 L=930.0' S=0.0587 '/ Capacity=1,364.99 cfs Outflow=58.94 cfs 6.670 af

Reach Post: Post Developed With Controls

Inflow=113.78 cfs 14.013 af
Outflow=113.78 cfs 14.013 af

Pond DB1: Dry Basin 1

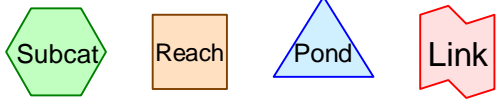
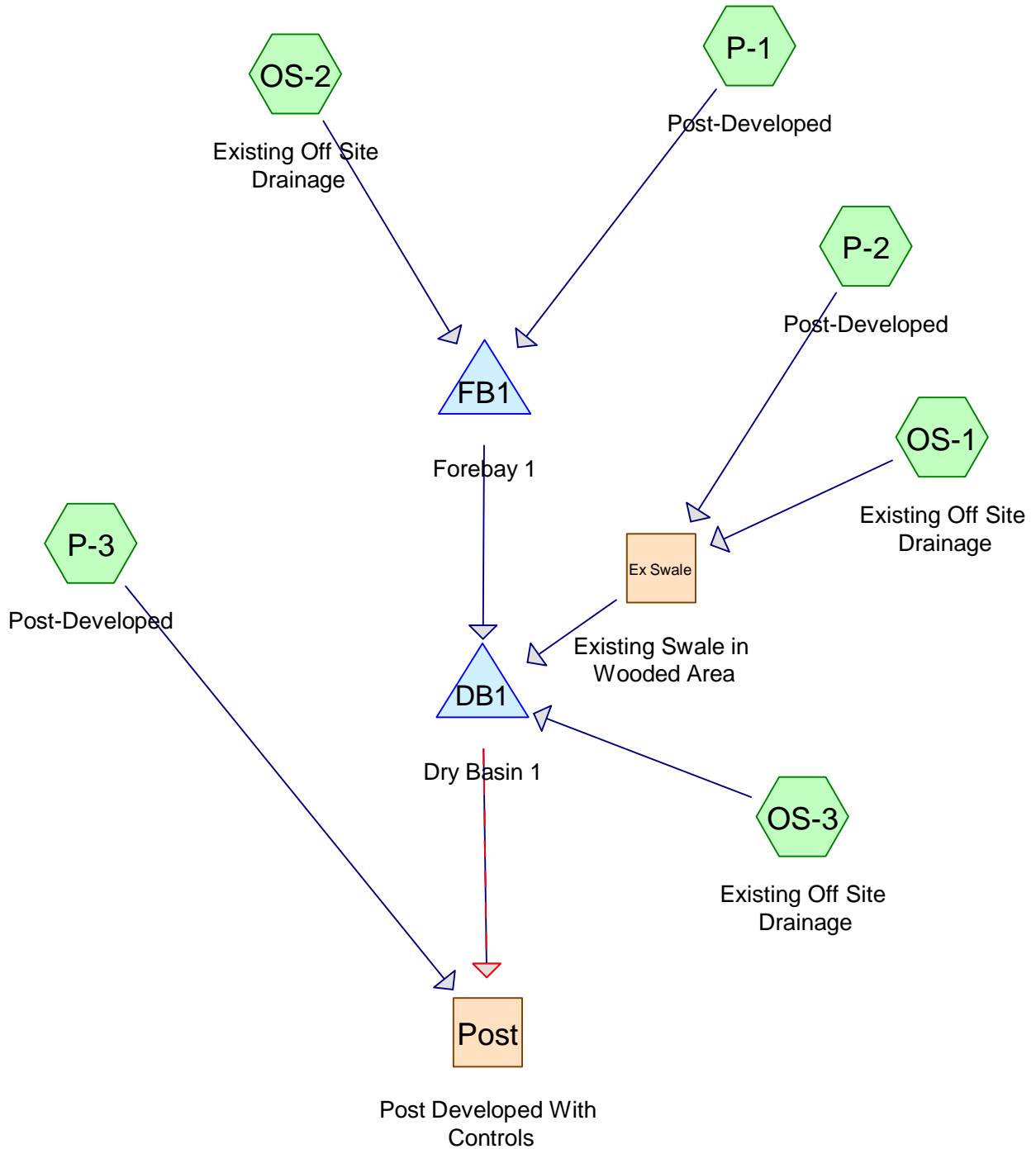
Peak Elev=1,028.92' Storage=94,512 cf Inflow=107.23 cfs 11.795 af
Primary=1.93 cfs 3.625 af Secondary=103.89 cfs 8.158 af Outflow=105.81 cfs 11.784 af

Pond FB1: Forebay 1

Peak Elev=1,033.89' Storage=6,167 cf Inflow=56.05 cfs 5.125 af
Outflow=55.45 cfs 5.125 af

Total Runoff Area = 36.538 ac Runoff Volume = 14.025 af Average Runoff Depth = 4.61"
84.35% Pervious = 30.819 ac 15.65% Impervious = 5.719 ac

4.4 Peak Flow Post-Developed Calculations With Controls and Offsite Drainage



Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment OS-1: Existing Off Site Drainage Runoff Area=0.352 ac 27.13% Impervious Runoff Depth=0.99"
 Flow Length=584' Tc=33.0 min CN=82 Runoff=0.26 cfs 0.029 af

Subcatchment OS-2: Existing Off Site Drainage Runoff Area=1.906 ac 4.28% Impervious Runoff Depth=0.73"
 Flow Length=771' Tc=38.4 min CN=77 Runoff=0.90 cfs 0.117 af

Subcatchment OS-3: Existing Off Site Drainage Runoff Area=0.085 ac 0.00% Impervious Runoff Depth=0.45"
 Flow Length=300' Slope=0.1244 '/ S=0.0587 '/ Tc=17.6 min CN=70 Runoff=0.03 cfs 0.003 af

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=0.73"
 Flow Length=706' Tc=23.7 min CN=77 Runoff=7.92 cfs 0.776 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=0.60"
 Flow Length=584' Tc=33.0 min CN=74 Runoff=7.15 cfs 0.892 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=0.56"
 Tc=6.0 min CN=73 Runoff=5.13 cfs 0.285 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.23' Max Vel=1.28 fps Inflow=7.41 cfs 0.921 af
 n=0.100 L=930.0' S=0.0587 '/ Capacity=1,364.99 cfs Outflow=6.45 cfs 0.921 af

Reach Post: Post Developed With Controls Inflow=5.19 cfs 2.096 af
 Outflow=5.19 cfs 2.096 af

Pond DB1: Dry Basin 1 Peak Elev=1,026.45' Storage=49,570 cf Inflow=13.15 cfs 1.817 af
 Primary=0.87 cfs 1.811 af Secondary=0.00 cfs 0.000 af Outflow=0.87 cfs 1.811 af

Pond FB1: Forebay 1 Peak Elev=1,033.25' Storage=1,421 cf Inflow=8.59 cfs 0.893 af
 Outflow=8.47 cfs 0.893 af

Total Runoff Area = 38.881 ac Runoff Volume = 2.102 af Average Runoff Depth = 0.65"
84.84% Pervious = 32.985 ac 15.16% Impervious = 5.896 ac

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MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment OS-1: Existing Off Site Drainage

Runoff = 0.26 cfs @ 12.50 hrs, Volume= 0.029 af, Depth= 0.99"
 Routed to Reach Ex Swale : Existing Swale in Wooded Area

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
0.191	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.161	71	>75% Grass cover, Good, HSG C
0.352	82	Weighted Average
0.256		72.87% Pervious Area
0.095		27.13% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.9	300	0.1193	0.19		Sheet Flow, Through Wooded Area
					Woods: Light underbrush n= 0.400 P2= 2.84"
6.1	284	0.0977	0.78		Shallow Concentrated Flow, Through Wooded Area
					Forest w/Heavy Litter Kv= 2.5 fps
33.0	584	Total			

Summary for Subcatchment OS-2: Existing Off Site Drainage

Runoff = 0.90 cfs @ 12.59 hrs, Volume= 0.117 af, Depth= 0.73"
 Routed to Pond FB1 : Forebay 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
0.163	92	Paved roads w/open ditches, 50% imp, HSG C
* 1.106	78	Row crops, straight row, Good, HSG C
* 0.250	71	>75% Grass cover, Good, HSG C
0.387	70	Woods, Good, HSG C
1.906	77	Weighted Average
1.824		95.72% Pervious Area
0.081		4.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
34.3	300	0.0648	0.15		Sheet Flow, Through Dense Prairie and Wooded Area
					Woods: Light underbrush n= 0.400 P2= 2.84"
3.8	471	0.0861	2.05		Shallow Concentrated Flow, Through Wooded Area then Lawns
					Short Grass Pasture Kv= 7.0 fps
0.3					Direct Entry, Through Road Ditch, Culvert then Lawn
38.4	771	Total			

2024-02-05_RiversideVista_Post_Dev_With_Offsite

MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment OS-3: Existing Off Site Drainage

Runoff = 0.03 cfs @ 12.30 hrs, Volume= 0.003 af, Depth= 0.45"
 Routed to Pond DB1 : Dry Basin 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
0.061	70	Woods, Good, HSG C
* 0.024	71	>75% Grass cover, Good, HSG C
0.085	70	Weighted Average
0.085		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.6	300	0.1244	0.28		Sheet Flow, Through Wooded Area and then Prairie Grass: Dense n= 0.240 P2= 2.84"

Summary for Subcatchment P-1: Post-Developed

Runoff = 7.92 cfs @ 12.36 hrs, Volume= 0.776 af, Depth= 0.73"
 Routed to Pond FB1 : Forebay 1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.033	98	Roofs, HSG C
* 0.620	98	Driveways, HSG C
* 0.517	98	Sidewalks/Patios/Decks, HSG C
0.566	92	Paved roads w/open ditches, 50% imp, HSG C
0.138	98	Water Surface, HSG C
* 6.521	71	>75% Grass cover, Good, HSG C
2.177	70	Woods, Good, HSG C
* 1.121	71	Pasture/grassland/range, Good, HSG C
12.693	77	Weighted Average
10.102		79.59% Pervious Area
2.591		20.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	300	0.0719	0.23		Sheet Flow, Through Small Wooded Area and Lawn Grass: Dense n= 0.240 P2= 2.84"
1.5	406	0.0874	4.43		Shallow Concentrated Flow, Through lawn Grassed Waterway Kv= 15.0 fps
0.3					Direct Entry, Road Ditch, Culvert and Grassed Waterway
23.7	706	Total			

2024-02-05_RiversideVista_Post_Dev_With_Offsite

MSE 24-hr 4 1-Year Rainfall=2.49"

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Summary for Subcatchment P-2: Post-Developed

Runoff = 7.15 cfs @ 12.51 hrs, Volume= 0.892 af, Depth= 0.60"
 Routed to Reach Ex Swale : Existing Swale in Wooded Area

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
1.095	98	Roofs, HSG C
* 0.344	98	Driveways, HSG C
* 0.517	98	Sidewalks/Patios/Decks, HSG C
0.185	92	Paved roads w/open ditches, 50% imp, HSG C
0.459	98	Water Surface, HSG C
* 4.141	71	>75% Grass cover, Good, HSG C
10.410	70	Woods, Good, HSG C
* 0.607	71	Pasture/grassland/range, Good, HSG C
17.758	74	Weighted Average
15.251		85.88% Pervious Area
2.508		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.9	300	0.1193	0.19		Sheet Flow, Through Wooded Area
					Woods: Light underbrush n= 0.400 P2= 2.84"
6.1	284	0.0977	0.78		Shallow Concentrated Flow, Through Wooded Area
					Forest w/Heavy Litter Kv= 2.5 fps
33.0	584	Total			

Summary for Subcatchment P-3: Post-Developed

Runoff = 5.13 cfs @ 12.14 hrs, Volume= 0.285 af, Depth= 0.56"
 Routed to Reach Post : Post Developed With Controls

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 MSE 24-hr 4 1-Year Rainfall=2.49"

Area (ac)	CN	Description
0.275	98	Roofs, HSG C
* 0.207	98	Driveways, HSG C
* 0.138	98	Sidewalks/Patios/Decks, HSG C
* 3.273	71	>75% Grass cover, Good, HSG C
2.194	70	Woods, Good, HSG C
6.087	73	Weighted Average
5.467		89.81% Pervious Area
0.620		10.19% Impervious Area

2024-02-05_RiversideVista_Post_Dev_With_Offsite

MSE 24-hr 4 1-Year Rainfall=2.49"

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

Summary for Reach Ex Swale: Existing Swale in Wooded Area

Inflow Area = 18.110 ac, 14.37% Impervious, Inflow Depth = 0.61" for 1-Year event
 Inflow = 7.41 cfs @ 12.51 hrs, Volume= 0.921 af
 Outflow = 6.45 cfs @ 12.67 hrs, Volume= 0.921 af, Atten= 13%, Lag= 9.5 min
 Routed to Pond DB1 : Dry Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Max. Velocity= 1.28 fps, Min. Travel Time= 12.1 min
 Avg. Velocity = 0.51 fps, Avg. Travel Time= 30.6 min

Peak Storage= 4,675 cf @ 12.67 hrs
 Average Depth at Peak Storage= 0.23' , Surface Width= 23.68'
 Bank-Full Depth= 4.00' Flow Area= 208.0 sf, Capacity= 1,364.99 cfs

20.00' x 4.00' deep channel, n= 0.100 Earth, dense brush, high stage
 Side Slope Z-value= 8.0 '/' Top Width= 84.00'
 Length= 930.0' Slope= 0.0587 '/'
 Inlet Invert= 1,083.37', Outlet Invert= 1,028.80'



Summary for Reach Post: Post Developed With Controls

Inflow Area = 38.881 ac, 15.16% Impervious, Inflow Depth > 0.65" for 1-Year event
 Inflow = 5.19 cfs @ 12.14 hrs, Volume= 2.096 af
 Outflow = 5.19 cfs @ 12.14 hrs, Volume= 2.096 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

Summary for Pond DB1: Dry Basin 1

Inflow Area = 32.794 ac, 16.09% Impervious, Inflow Depth = 0.66" for 1-Year event
 Inflow = 13.15 cfs @ 12.53 hrs, Volume= 1.817 af
 Outflow = 0.87 cfs @ 17.55 hrs, Volume= 1.811 af, Atten= 93%, Lag= 301.4 min
 Primary = 0.87 cfs @ 17.55 hrs, Volume= 1.811 af
 Routed to Reach Post : Post Developed With Controls
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach Post : Post Developed With Controls

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs

2024-02-05_RiversideVista_Post_Dev_With_Offsite

MSE 24-hr 4 1-Year Rainfall=2.49"

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Peak Elev= 1,026.45' @ 17.55 hrs Surf.Area= 15,523 sf Storage= 49,570 cf

Plug-Flow detention time= 708.5 min calculated for 1.811 af (100% of inflow)

Center-of-Mass det. time= 706.6 min (1,594.4 - 887.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,022.00'	2,296,353 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,022.00	5,836	0	0
1,023.00	8,817	7,327	7,327
1,024.00	10,950	9,884	17,210
1,025.00	12,732	11,841	29,051
1,026.00	14,619	13,676	42,727
1,027.00	16,611	15,615	58,342
1,028.00	18,706	17,659	76,000
1,029.00	22,000	20,353	96,353
1,129.00	22,000	2,200,000	2,296,353

Device	Routing	Invert	Outlet Devices
#1	Primary	1,022.00'	6.0" Round Culvert L= 60.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 1,022.00' / 1,020.00' S= 0.0333 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf
#2	Device 1	1,022.00'	4.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	1,027.00'	24.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	1,028.00'	45.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=0.87 cfs @ 17.55 hrs HW=1,026.45' TW=0.00' (Dynamic Tailwater)

- ↑ 1=Culvert (Passes 0.87 cfs of 1.53 cfs potential flow)
- ↑ 2=Orifice/Grate (Orifice Controls 0.87 cfs @ 9.97 fps)
- ↑ 3=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=1,022.00' TW=0.00' (Dynamic Tailwater)

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

Summary for Pond FB1: Forebay 1

Inflow Area = 14.599 ac, 18.31% Impervious, Inflow Depth = 0.73" for 1-Year event
 Inflow = 8.59 cfs @ 12.38 hrs, Volume= 0.893 af
 Outflow = 8.47 cfs @ 12.42 hrs, Volume= 0.893 af, Atten= 1%, Lag= 2.2 min
 Primary = 8.47 cfs @ 12.42 hrs, Volume= 0.893 af
 Routed to Pond DB1 : Dry Basin 1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-60.00 hrs, dt= 0.01 hrs
 Peak Elev= 1,033.25' @ 12.42 hrs Surf.Area= 6,148 sf Storage= 1,421 cf

Plug-Flow detention time= 4.8 min calculated for 0.893 af (100% of inflow)

2024-02-05_RiversideVista_Post_Dev_With_Offsite

MSE 24-hr 4 1-Year Rainfall=2.49"

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Center-of-Mass det. time= 4.8 min (871.0 - 866.2)

Volume	Invert	Avail.Storage	Storage Description
#1	1,033.00'	918,733 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,033.00	5,150	0	0
1,034.00	9,116	7,133	7,133
1,134.00	9,116	911,600	918,733

Device	Routing	Invert	Outlet Devices
#1	Primary	1,033.00'	25.0' long x 20.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=8.47 cfs @ 12.42 hrs HW=1,033.25' TW=1,023.08' (Dynamic Tailwater)
 ↳ **1=Broad-Crested Rectangular Weir** (Weir Controls 8.47 cfs @ 1.35 fps)

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment OS-1: Existing Off Site Drainage Runoff Area=0.352 ac 27.13% Impervious Runoff Depth=1.25"
 Flow Length=584' Tc=33.0 min CN=82 Runoff=0.33 cfs 0.037 af

Subcatchment OS-2: Existing Off Site Drainage Runoff Area=1.906 ac 4.28% Impervious Runoff Depth=0.96"
 Flow Length=771' Tc=38.4 min CN=77 Runoff=1.22 cfs 0.153 af

Subcatchment OS-3: Existing Off Site Drainage Runoff Area=0.085 ac 0.00% Impervious Runoff Depth=0.63"
 Flow Length=300' Slope=0.1244 '/ Tc=17.6 min CN=70 Runoff=0.05 cfs 0.004 af

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=0.96"
 Flow Length=706' Tc=23.7 min CN=77 Runoff=10.69 cfs 1.017 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=0.81"
 Flow Length=584' Tc=33.0 min CN=74 Runoff=10.05 cfs 1.196 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=0.76"
 Tc=6.0 min CN=73 Runoff=7.20 cfs 0.386 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.29' Max Vel=1.46 fps Inflow=10.38 cfs 1.233 af
 n=0.100 L=930.0' S=0.0587 '/ Capacity=1,364.99 cfs Outflow=9.31 cfs 1.233 af

Reach Post: Post Developed With Controls Inflow=7.37 cfs 2.786 af
 Outflow=7.37 cfs 2.786 af

Pond DB1: Dry Basin 1 Peak Elev=1,027.31' Storage=63,517 cf Inflow=18.65 cfs 2.407 af
 Primary=1.68 cfs 2.400 af Secondary=0.00 cfs 0.000 af Outflow=1.68 cfs 2.400 af

Pond FB1: Forebay 1 Peak Elev=1,033.31' Storage=1,768 cf Inflow=11.58 cfs 1.170 af
 Outflow=11.44 cfs 1.170 af

Total Runoff Area = 38.881 ac Runoff Volume = 2.793 af Average Runoff Depth = 0.86"
84.84% Pervious = 32.985 ac 15.16% Impervious = 5.896 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment OS-1: Existing Off Site Drainage Runoff Area=0.352 ac 27.13% Impervious Runoff Depth=2.28"
 Flow Length=584' Tc=33.0 min CN=82 Runoff=0.61 cfs 0.067 af

Subcatchment OS-2: Existing Off Site Drainage Runoff Area=1.906 ac 4.28% Impervious Runoff Depth=1.88"
 Flow Length=771' Tc=38.4 min CN=77 Runoff=2.48 cfs 0.299 af

Subcatchment OS-3: Existing Off Site Drainage Runoff Area=0.085 ac 0.00% Impervious Runoff Depth=1.39"
 Flow Length=300' Slope=0.1244 '/' Tc=17.6 min CN=70 Runoff=0.12 cfs 0.010 af

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=1.88"
 Flow Length=706' Tc=23.7 min CN=77 Runoff=21.76 cfs 1.991 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=1.66"
 Flow Length=584' Tc=33.0 min CN=74 Runoff=22.00 cfs 2.460 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=1.59"
 Tc=6.0 min CN=73 Runoff=15.72 cfs 0.808 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.46' Max Vel=1.95 fps Inflow=22.60 cfs 2.527 af
 n=0.100 L=930.0' S=0.0587 '/' Capacity=1,364.99 cfs Outflow=21.26 cfs 2.527 af

Reach Post: Post Developed With Controls Inflow=25.99 cfs 5.626 af
 Outflow=25.99 cfs 5.626 af

Pond DB1: Dry Basin 1 Peak Elev=1,028.32' Storage=82,248 cf Inflow=41.42 cfs 4.827 af
 Primary=1.84 cfs 3.209 af Secondary=22.42 cfs 1.609 af Outflow=24.26 cfs 4.818 af

Pond FB1: Forebay 1 Peak Elev=1,033.49' Storage=3,020 cf Inflow=23.64 cfs 2.290 af
 Outflow=23.36 cfs 2.290 af

Total Runoff Area = 38.881 ac Runoff Volume = 5.635 af Average Runoff Depth = 1.74"
84.84% Pervious = 32.985 ac 15.16% Impervious = 5.896 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment OS-1: Existing Off Site Drainage Runoff Area=0.352 ac 27.13% Impervious Runoff Depth=4.60"
 Flow Length=584' Tc=33.0 min CN=82 Runoff=1.22 cfs 0.135 af

Subcatchment OS-2: Existing Off Site Drainage Runoff Area=1.906 ac 4.28% Impervious Runoff Depth=4.06"
 Flow Length=771' Tc=38.4 min CN=77 Runoff=5.40 cfs 0.645 af

Subcatchment OS-3: Existing Off Site Drainage Runoff Area=0.085 ac 0.00% Impervious Runoff Depth=3.34"
 Flow Length=300' Slope=0.1244 '/ S Tc=17.6 min CN=70 Runoff=0.30 cfs 0.024 af

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=4.06"
 Flow Length=706' Tc=23.7 min CN=77 Runoff=47.15 cfs 4.296 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=3.75"
 Flow Length=584' Tc=33.0 min CN=74 Runoff=50.68 cfs 5.545 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=3.64"
 Tc=6.0 min CN=73 Runoff=35.90 cfs 1.848 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.75' Max Vel=2.58 fps Inflow=51.91 cfs 5.680 af
 n=0.100 L=930.0' S=0.0587 '/ S Capacity=1,364.99 cfs Outflow=50.02 cfs 5.680 af

Reach Post: Post Developed With Controls Inflow=100.04 cfs 12.482 af
 Outflow=100.04 cfs 12.482 af

Pond DB1: Dry Basin 1 Peak Elev=1,028.84' Storage=92,934 cf Inflow=95.46 cfs 10.645 af
 Primary=1.92 cfs 3.580 af Secondary=91.84 cfs 7.054 af Outflow=93.75 cfs 10.633 af

Pond FB1: Forebay 1 Peak Elev=1,033.84' Storage=5,730 cf Inflow=51.41 cfs 4.941 af
 Outflow=50.83 cfs 4.941 af

Total Runoff Area = 38.881 ac Runoff Volume = 12.493 af Average Runoff Depth = 3.86"
84.84% Pervious = 32.985 ac 15.16% Impervious = 5.896 ac

Time span=0.00-60.00 hrs, dt=0.01 hrs, 6001 points
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
 Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment OS-1: Existing Off Site Drainage Runoff Area=0.352 ac 27.13% Impervious Runoff Depth=5.41"
 Flow Length=584' Tc=33.0 min CN=82 Runoff=1.43 cfs 0.159 af

Subcatchment OS-2: Existing Off Site Drainage Runoff Area=1.906 ac 4.28% Impervious Runoff Depth=4.85"
 Flow Length=771' Tc=38.4 min CN=77 Runoff=6.43 cfs 0.770 af

Subcatchment OS-3: Existing Off Site Drainage Runoff Area=0.085 ac 0.00% Impervious Runoff Depth=4.06"
 Flow Length=300' Slope=0.1244 '/ S Tc=17.6 min CN=70 Runoff=0.37 cfs 0.029 af

Subcatchment P-1: Post-Developed Runoff Area=12.693 ac 20.41% Impervious Runoff Depth=4.85"
 Flow Length=706' Tc=23.7 min CN=77 Runoff=56.05 cfs 5.125 af

Subcatchment P-2: Post-Developed Runoff Area=17.758 ac 14.12% Impervious Runoff Depth=4.51"
 Flow Length=584' Tc=33.0 min CN=74 Runoff=60.95 cfs 6.670 af

Subcatchment P-3: Post-Developed Runoff Area=6.087 ac 10.19% Impervious Runoff Depth=4.40"
 Tc=6.0 min CN=73 Runoff=43.08 cfs 2.230 af

Reach Ex Swale: Existing Swale in Wooded Avg. Flow Depth=0.83' Max Vel=2.73 fps Inflow=62.38 cfs 6.829 af
 n=0.100 L=930.0' S=0.0587 '/ S Capacity=1,364.99 cfs Outflow=60.35 cfs 6.829 af

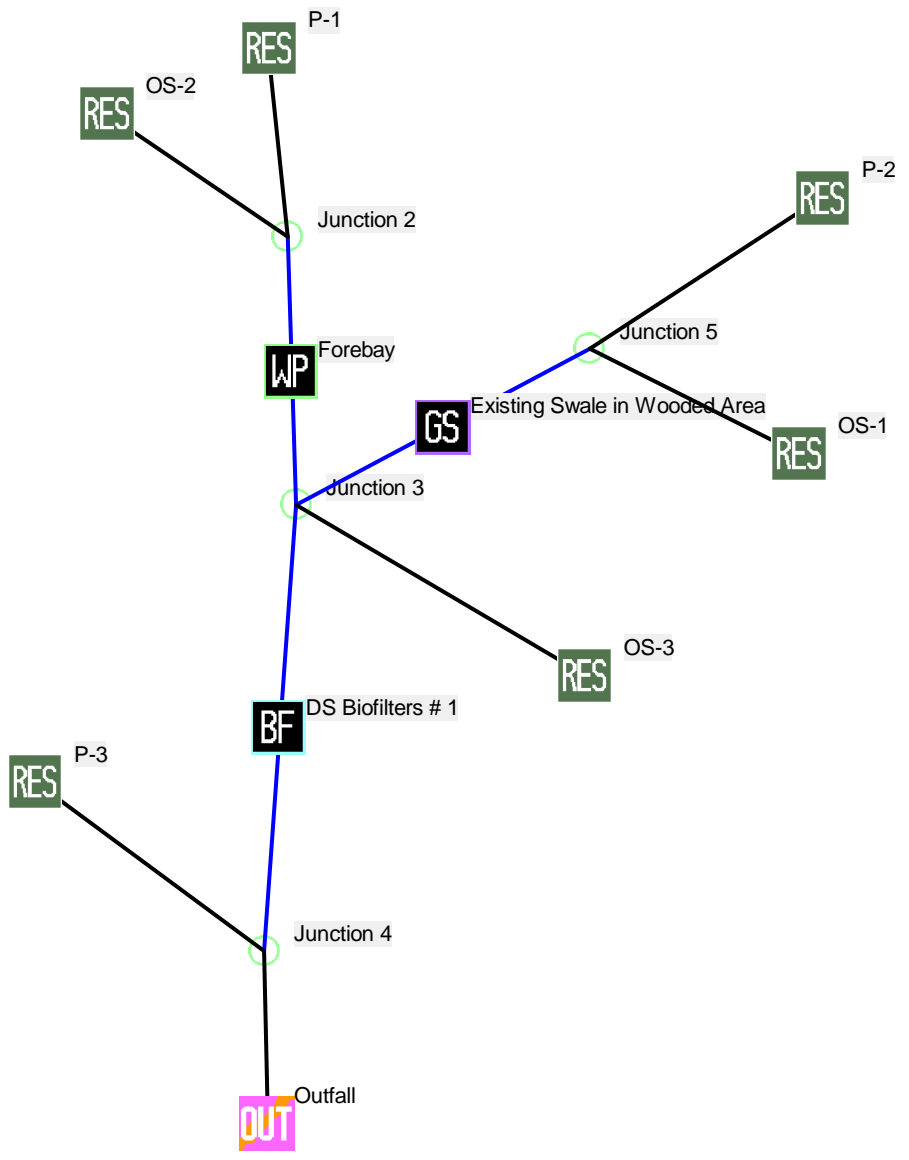
Reach Post: Post Developed With Controls Inflow=121.30 cfs 14.970 af
 Outflow=121.30 cfs 14.970 af

Pond DB1: Dry Basin 1 Peak Elev=1,028.96' Storage=95,487 cf Inflow=114.74 cfs 12.752 af
 Primary=1.93 cfs 3.653 af Secondary=111.49 cfs 9.088 af Outflow=113.42 cfs 12.741 af

Pond FB1: Forebay 1 Peak Elev=1,033.95' Storage=6,641 cf Inflow=61.16 cfs 5.894 af
 Outflow=60.50 cfs 5.894 af

Total Runoff Area = 38.881 ac Runoff Volume = 14.982 af Average Runoff Depth = 4.62"
84.84% Pervious = 32.985 ac 15.16% Impervious = 5.896 ac

Section 5: Sediment Reduction Calculations



Data file name: K:\Carrico Engineering\Projects\2023\230019 Coons Construction - Town of Verona Land\Design Development\Stormwater and Erosion Control\Modeling\Infiltration Modeling\2024-01-26_RiversideVista_Post_Dev.mdb
WinSLAMM Version 10.4.1
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppd
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
If Other Device Pollutant Load Reduction Values = 1, Off-site Pollutant Loads are Removed from Pollutant Load % Reduction calculations
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Date: 02-05-2024 Time: 12:20:17
Site information:

LU# 1 - Residential: P-1 Total area (ac): 12.693
1 - Roofs 1: 1.033 ac. Pitched Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.620 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.517 ac. Disconnected Normal Clayey Low Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.566 ac. Smooth Street Length = 0.334 curb-mi Street Width (assuming two curb-mi per street mile) = 27.96108 ft
Default St. Dirt Accum. Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 6.521 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
46 - Large Landscaped Areas 2: 1.121 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 2.177 ac. Normal Clayey Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.138 ac. Source Area PSD File:

LU# 2 - Residential: P-3 Total area (ac): 6.087
1 - Roofs 1: 0.275 ac. Pitched Disconnected Normal Clayey Low
Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.207 ac. Disconnected Normal Clayey Low Density
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
31 - Sidewalks 1: 0.138 ac. Disconnected Normal Clayey Low Density
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
45 - Large Landscaped Areas 1: 3.273 ac. Normal Clayey Source Area PSD
File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 2.194 ac. Normal Clayey Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz

LU# 3 - Residential: P-2 Total area (ac): 17.758
1 - Roofs 1: 1.095 ac. Pitched Disconnected Normal Clayey Low
Density Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
25 - Driveways 1: 0.344 ac. Connected Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz
31 - Sidewalks 1: 0.517 ac. Disconnected Normal Clayey Low Density
Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
37 - Streets 1: 0.185 ac. Smooth Street Length = 0.109 curb-mi Street
Width (assuming two curb-mi per street mile) = 28.00459 ft
Default St. Dirt Accum. Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz
45 - Large Landscaped Areas 1: 4.141 ac. Normal Clayey Source Area PSD
File: C:\WinSLAMM Files\NURP.cpz
51 - Small Landscaped Areas 1: 0.607 ac. Normal Clayey Source Area PSD
File: C:\WinSLAMM Files\NURP.cpz
57 - Undeveloped Areas 1: 10.410 ac. Normal Clayey Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz
70 - Water Body Areas: 0.459 ac. Source Area PSD File:

LU# 4 - Residential: OS-2 Total area (ac): 1.906
37 - Streets 1: 0.163 ac. Smooth Street Length = 0.096 curb-mi Street
Width (assuming two curb-mi per street mile) = 28.01563 ft
Default St. Dirt Accum. Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz OD-CP#6
45 - Large Landscaped Areas 1: 1.106 ac. Normal Clayey Source Area PSD
File: C:\WinSLAMM Files\NURP.cpz OD-CP#7
51 - Small Landscaped Areas 1: 0.250 ac. Normal Clayey Source Area PSD
File: C:\WinSLAMM Files\NURP.cpz OD-CP#8
57 - Undeveloped Areas 1: 0.387 ac. Normal Clayey Source Area PSD File:
C:\WinSLAMM Files\NURP.cpz OD-CP#9

LU# 5 - Residential: OS-1 Total area (ac): 0.352
37 - Streets 1: 0.191 ac. Smooth Street Length = 0.113 curb-mi Street
Width (assuming two curb-mi per street mile) = 27.88938 ft
Default St. Dirt Accum. Source Area PSD File: C:\WinSLAMM
Files\NURP.cpz OD-CP#4

51 - Small Landscaped Areas 1: 0.161 ac. Normal Clayey Source Area PSD
 File: C:\WinSLAMM Files\NURP.cpz OD-CP#5

LU# 6 - Residential: OS-3 Total area (ac): 0.085

51 - Small Landscaped Areas 1: 0.024 ac. Normal Clayey Source Area PSD
 File: C:\WinSLAMM Files\NURP.cpz OD-CP#10

57 - Undeveloped Areas 1: 0.061 ac. Normal Clayey Source Area PSD File:
 C:\WinSLAMM Files\NURP.cpz OD-CP#11

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

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: Broad Crested Weir

1. Weir crest length (ft): 25

2. Weir crest width (ft): 20

3. Height from datum to bottom of weir opening: 4

Pond stage and surface area

(cfs)	Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow
	0	0.00	0.0000	0.00	
0.00	1	0.01	0.0386	0.00	
0.00	2	0.10	0.0400	0.00	
0.00	3	1.00	0.0545	0.00	
0.00	4	2.00	0.0733	0.00	
0.00	5	3.00	0.0946	0.00	
0.00	6	4.00	0.1182	0.00	
0.00	7	5.00	0.2093	0.00	

Control Practice 2: Biofilter CP# 1 (DS) - DS Biofilters # 1

1. Top area (square feet) = 20245

2. Bottom area (square feet) = 3957

3. Depth (ft): 8.5

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

5. Infiltration rate (in/hr) = 0.13

Control Practice 5: Other Device CP# 2 (SA) - SA Device, LU# 5 , SA# 51

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

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 0.00

Runoff volume reduction fraction = 0

Control Practice 6: Other Device CP# 3 (SA) - SA Device, LU# 4 , SA# 37

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

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 0.00

Runoff volume reduction fraction = 0

Control Practice 7: Other Device CP# 4 (SA) - SA Device, LU# 4 , SA# 45

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

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 0.00

Runoff volume reduction fraction = 0

Control Practice 8: Other Device CP# 5 (SA) - SA Device, LU# 4 , SA# 51

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

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 0.00

Runoff volume reduction fraction = 0

Control Practice 9: Other Device CP# 6 (SA) - SA Device, LU# 4 , SA# 57

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

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 0.00

Runoff volume reduction fraction = 0

Control Practice 10: Other Device CP# 7 (SA) - SA Device, LU# 6 , SA# 51

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

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 0.00

Runoff volume reduction fraction = 0

Control Practice 11: Other Device CP# 8 (SA) - SA Device, LU# 6 , SA# 57

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

Particulate Concentration reduction fraction = 1.00

Filterable Concentration reduction fraction = 0.00

Runoff volume reduction fraction = 0

Basin - Sediment Trapping Efficiency Worksheet - Stokes Law

Project: Riverside Vista - Dry Detention Basin
 Designer: Adam Carrico, PE (Carrico Engineering)

Basin Routing and Hydrology

1 Year Peak Flow Rate	0.87 cfs
1 Year Peak Elevation	1026.45 ft
Storage Volume at 1 yr Peak Elevation	55,268 cf
Outlet Invert Elevation	1022 ft

Settling Calculations

Settling Time (Peak Volume/Peak Discharge)	63,526 s
Settling Distance (Peak Elevation - Outfall Invert)	4.45 ft
Critical Settling Velocity (Settling Distance/ Settling Time)	0.000070 ft/s

Particle Settling Velocities

5 Micron Particle Settling Velocity - 80%	0.000073 ft/s
9 Micron Particle Settling Velocity - 60%	0.00023 ft/s
20 Micron Particle Settling Velocity - 40%	0.0012 ft/s

Results

Basin is designed to achieve 80% sediment removal efficiency

Large Volume Conversion

acre-ft	cubic ft
20	871200

Settling Time

Seconds	minutes	hours
63,526	1059	17.6

Proximity Check

-0.000003
 -0.000160
 -0.001130

Section 6: Infiltration Calculations

Infiltration Calculations

Pre-Developed Conditions

Stay On: 26.64 inches

Required to Infiltrate 100% of 26.64 inches or 26.64 inches

Element Name:

Land Uses				Junctions			
Runoff Volume (cf)				Part. Solids Yield (lbs)			
Data File: K:\Carrico Engineering\Projects\2023\230019 Coons Construction - Town of Verona Land\Design Development\							
Rain File: WisReg - Madison WI 1981.RAN							
Date: 02-05-24 Time: 12:33:14 PM							
Site Description:							
Runoff Volume Total (cf) at the Outfall							
Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
73	08/28/81	0.04	0	0.000	0.04	n/a	0.000
74	08/31/81	0.03	0	0.000	0.03	n/a	0.000
75	08/31/81	1.52	24430	0.114	1.35	75.0	1.653
76	09/07/81	0.89	8006	0.064	0.83	80.4	1.408
77	09/11/81	0.08	0	0.000	0.08	n/a	0.000
78	09/16/81	0.03	0	0.000	0.03	n/a	0.000
79	09/21/81	0.45	1733	0.027	0.44	86.7	0.191
80	09/24/81	0.90	8167	0.064	0.84	80.2	0.299
81	09/26/81	0.12	0	0.000	0.12	n/a	0.000
82	09/28/81	0.10	0	0.000	0.10	n/a	0.000
83	09/29/81	0.16	0	0.000	0.16	n/a	0.000
84	09/30/81	0.36	968.6	0.019	0.35	88.4	0.852
85	10/01/81	0.01	0	0.000	0.01	n/a	0.000
86	10/04/81	0.15	0	0.000	0.15	n/a	0.000
87	10/05/81	0.04	0	0.000	0.04	n/a	0.000
88	10/05/81	0.02	0	0.000	0.02	n/a	0.000
89	10/09/81	0.14	0	0.000	0.14	n/a	0.000
90	10/13/81	1.20	13229	0.078	1.11	76.5	0.895
91	10/15/81	0.02	0	0.000	0.02	n/a	0.000
92	10/17/81	0.95	8995	0.067	0.89	79.6	0.989
93	10/18/81	0.06	0	0.000	0.06	n/a	0.000
94	10/21/81	0.06	0	0.000	0.06	n/a	0.000
95	10/21/81	0.01	0	0.000	0.01	n/a	0.000
96	10/24/81	0.01	0	0.000	0.01	n/a	0.000
97	10/31/81	0.01	0	0.000	0.01	n/a	0.000
98	11/05/81	0.04	0	0.000	0.04	n/a	0.000
99	11/15/81	0.07	0	0.000	0.07	n/a	0.000
100	11/18/81	0.05	0	0.000	0.05	n/a	0.000
101	11/19/81	0.26	270.8	0.007	0.26	90.3	0.009
102	11/23/81	0.18	0	0.000	0.18	n/a	0.000
103	11/25/81	0.89	8006	0.064	0.83	80.4	0.335
104	11/30/81	0.37	1056	0.020	0.36	88.2	0.040
105	12/03/81	-	-	-	-	-	-
106	12/14/81	-	-	-	-	-	-
107	12/20/81	-	-	-	-	-	-
108	12/26/81	-	-	-	-	-	-
109	12/31/81	-	-	-	-	-	-
Minimum:		0.00	0	0.000	0.01	70.5	0.000
Maximum:		2.59	73110	0.200	2.07	90.7	7.499
Average:		0.26	2800	0.016	0.24	76.1	3.434
Total:		28.81	305225		26.64		

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

Current File Data Entered | Total Area = 38.881 acres | Upstream Drainage Area = 0.000 acres | Icon Number | Index Number = | Icons Left = | Start Date: 01/01/81 | End Date: 12/31/81

Post-Developed Conditions

Stay On: 26.77 inches

Required to Infiltrate 100% of 26.64 inches or 26.64 inches minimum

Achieving 26.77 inches → Performance Standard Met

Element Name:

Land Uses				Junctions			
Runoff Volume (cf)				Part: Solids Yield (lbs)			
Data File: K:\Carrico Engineering\Projects\2023\230019 Coons Construction - Town of Verona Land\Design Development\Stc							
Rain File: WisReg - Madison WI 1981.RAN							
Date: 02-05-24 Time: 12:32:23 PM							
Site Description:							
Runoff Volume Total (cf) at the Outfall							
Rain Number	Start Date	Rain Total (in)	Outfall Total (cf)	Rv	Total Losses (in.)	Calculated CN*	Event Peak Flow (cfs)
73	08/28/81	0.04	0.4040	0.000	0.04	98.1	0.000
74	08/31/81	0.03	2.765	0.001	0.03	98.6	0.000
75	08/31/81	1.52	21870	0.102	1.37	74.0	0.259
76	09/07/81	0.89	7864	0.063	0.83	80.3	0.220
77	09/11/81	0.08	18.57	0.002	0.08	96.5	0.000
78	09/16/81	0.03	2.679	0.001	0.03	98.6	0.000
79	09/21/81	0.45	467.5	0.007	0.45	84.4	0.030
80	09/24/81	0.90	6226	0.049	0.86	78.9	0.047
81	09/26/81	0.12	6.654	0.000	0.12	94.6	0.000
82	09/28/81	0.10	24.82	0.002	0.10	95.6	0.000
83	09/29/81	0.16	44.76	0.002	0.16	93.3	0.000
84	09/30/81	0.36	1689	0.033	0.35	89.5	0.133
85	10/01/81	0.01	0.002598	0.000	0.01	99.5	0.000
86	10/04/81	0.15	41.35	0.002	0.15	93.6	0.000
87	10/05/81	0.04	7.745	0.001	0.04	98.2	0.000
88	10/05/81	0.02	1.460	0.001	0.02	99.1	0.000
89	10/09/81	0.14	38.21	0.002	0.14	94.0	0.000
90	10/13/81	1.20	12818	0.076	1.11	76.3	0.140
91	10/15/81	0.02	0.01965	0.000	0.02	99.0	0.000
92	10/17/81	0.95	9843	0.073	0.88	80.1	0.155
93	10/18/81	0.06	2.949	0.000	0.06	97.2	0.000
94	10/21/81	0.06	12.54	0.001	0.06	97.3	0.000
95	10/21/81	0.01	0.5795	0.000	0.01	99.5	0.000
96	10/24/81	0.01	0.5796	0.000	0.01	99.5	0.000
97	10/31/81	0.01	0.5799	0.000	0.01	99.5	0.000
98	11/05/81	0.04	7.736	0.001	0.04	98.2	0.000
99	11/15/81	0.07	15.19	0.002	0.07	96.9	0.000
100	11/18/81	0.05	10.09	0.001	0.05	97.8	0.000
101	11/19/81	0.26	127.0	0.003	0.26	89.8	0.001
102	11/23/81	0.18	50.88	0.002	0.18	92.5	0.000
103	11/25/81	0.89	5137	0.041	0.85	78.3	0.052
104	11/30/81	0.37	310.9	0.006	0.37	86.6	0.006
105	12/03/81	-	-	-	-	-	-
106	12/14/81	-	-	-	-	-	-
107	12/20/81	-	-	-	-	-	-
108	12/26/81	-	-	-	-	-	-
109	12/31/81	-	-	-	-	-	-
Minimum:		0.00	0	0.000	0.01	71.1	0.000
Maximum:		2.59	76410	0.209	2.05	99.5	1.174
Average:		0.26	2692	0.015	0.25	75.8	0.602
Total:		28.81	293434				

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

Land Use #	Land Use Type	Land Use Label	Land Use Area (acres)
1	Residential	P-1	12.693
2	Residential	P-3	6.087
3	Residential	P-2	17.758
4	Residential	OS-2	1.906
5	Residential	OS-1	0.352
6	Residential	OS-3	0.085

CP #	Control Practice Type	Control Practice Name or Location
1	Wet Detention Pond	Forebay
2	Biofilter	DS Biofilters # 1
3	Grass Swales	Existing Swale in Wooded Area
4	Other Device	SA Device, LU# 5 ,SA# 37
5	Other Device	SA Device, LU# 5 ,SA# 51
6	Other Device	SA Device, LU# 4 ,SA# 37
7	Other Device	SA Device, LU# 4 ,SA# 45
8	Other Device	SA Device, LU# 4 ,SA# 51
9	Other Device	SA Device, LU# 4 ,SA# 57
10	Other Device	SA Device, LU# 6 ,SA# 51
11	Other Device	SA Device, LU# 6 ,SA# 57

Current File Data Entered | Total Area = 38.881 acres | Upstream Drainage Area = 0.000 acres | Icon Number | Index Number = | Icons Left = | Start Date: 01/01/81 | End Date: 12/31/81 | X

Section 7: Erosion Control Calculations

Section 8: Shear Stress Calculations

Section 9: Culvert and Riprap Sizing Calculations

Project Name: Riverside Vista Culverts
 Exhibit: Culvert Sizing Worksheet
 Date: February 5, 2024
 Title: Storm Sewer Sizing
 Storm Event: 25
 Mannings Number:

CMP General 0.025
 HDPE Corrugated 0.020
 HDPE Smooth 0.013
 RCP 0.011
 PVC 0.010

C (Pervious): 0.25
 C (Impervious): 0.95
 500 Year / 24 Hr Max. Rainfall = 500 8.94 inches
 200 Year / 24 Hr Max. Rainfall = 200 7.53 inches
 100 Year / 24 Hr Max. Rainfall = 100 6.66 inches
 50 Year / 24 Hr Max. Rainfall = 50 5.8 inches
 25 Year / 24 Hr Max. Rainfall = 25 5.01 inches
 10 Year / 24 Hr Max. Rainfall = 10 4.09 inches
 5 Year / 24 Hr Max. Rainfall = 5 3.49 inches
 2 Year / 24 Hr Max. Rainfall = 2 2.84 inches
 1 Year / 24 Hr Max. Rainfall = 1 2.49 inches

Pipe Number	Pipe Run		Length (ft.)	Pipe Diameter (inches)	Slope (%)	Pipe Area (sq. ft.)	Hydraulic Radius (ft.)	Drainage Areas					Runoff Coef. c	Area x C		Time of Conc.		Rainfall Intensity (in/hr)	Total Runoff (cfs)	Design Capacity (cfs)	Percent Full (%)	Flow Factor	Flow Factor	Velocity (ft/sec)	HGL Slope (%)	Total Loss (ft.)	Upstream Rim Elev. (ft.)	10-Year HGL (ft.)	
	From	To						Imp.	Imp.	Perv.	Perv.	Total		Increment	Total	To Structure (min.)	Pipe (min.)												
P1	Area 1	Culvert	40	15	2.00	1.23	0.313	0.488	21,275	1.174	51,138	1.662	0.46	0.76	0.76	15.00	0.14	5.41	4.10	5.95	68.8%								
P2	Area 2	Culvert	50	18	1.00	1.77	0.375	1.319	57,450	5.369	233,857	6.687	0.39	2.60	2.60	20.00	0.12	4.56	11.83	12.45	95.0%								

NOTES:

$Q(\text{full}) = \frac{1.49 R^{2/3} S^{1/2} A}{n}$

Hydraulic Radius (R) = Area / Wetted Perimeter

S = slope of pipe

A = area of pipe

n = manning's number

$HGL \text{ Slope} = \frac{Q^2 n^2}{2.22 R^{4/3} A^2}$

Total Loss = $Q^2 n^2 L \frac{z^2 R^{4/3} A^2}{i} = 1.486$

$i = PR / Tc$

Headloss = $f (L/D)(V^2/2g)$

D = pipe diameter, ft.
 F = friction factor

Section 10: Exhibits

10.1 Waterway Review Letter from Dane County



Joe Parisi
Dane County Executive

Dane County Planning & Development

Division of Zoning

August 2, 2023

R & J ACRES LLC
8982 COUNTY HIGHWAY G
MT HOREB WI 53572

RE: Navigability Determination –Spring Rose Rd & Riverside Rd, Section 30, Town of Verona
Parcel: 0608-303-9000-8

The Dane County Zoning Division has processed your request for a navigability determination for an intermittent stream mapped on your property.

Before conducting the site inspection, the County G.I.S., aerial photography, and the Wisconsin Surface Water Data Viewer were used to determine the type and approximate location of the waterway. The map shows that there is an intermittent stream flowing north and northwest through the property. An intermittent stream is one that has a periodic or recurrent flow.

A site inspection was conducted on August 2, 2023. It was observed that no define bed or banks exist throughout the entire property.

After further review of the waterway, it has been determined is NOT navigable at any point up-stream of its intersection with County Highway G. Downstream evaluation from this point of intersection was out of scope with this determination and is therefore considered navigable. The enclosed map shows the portion determined to be non-navigable.

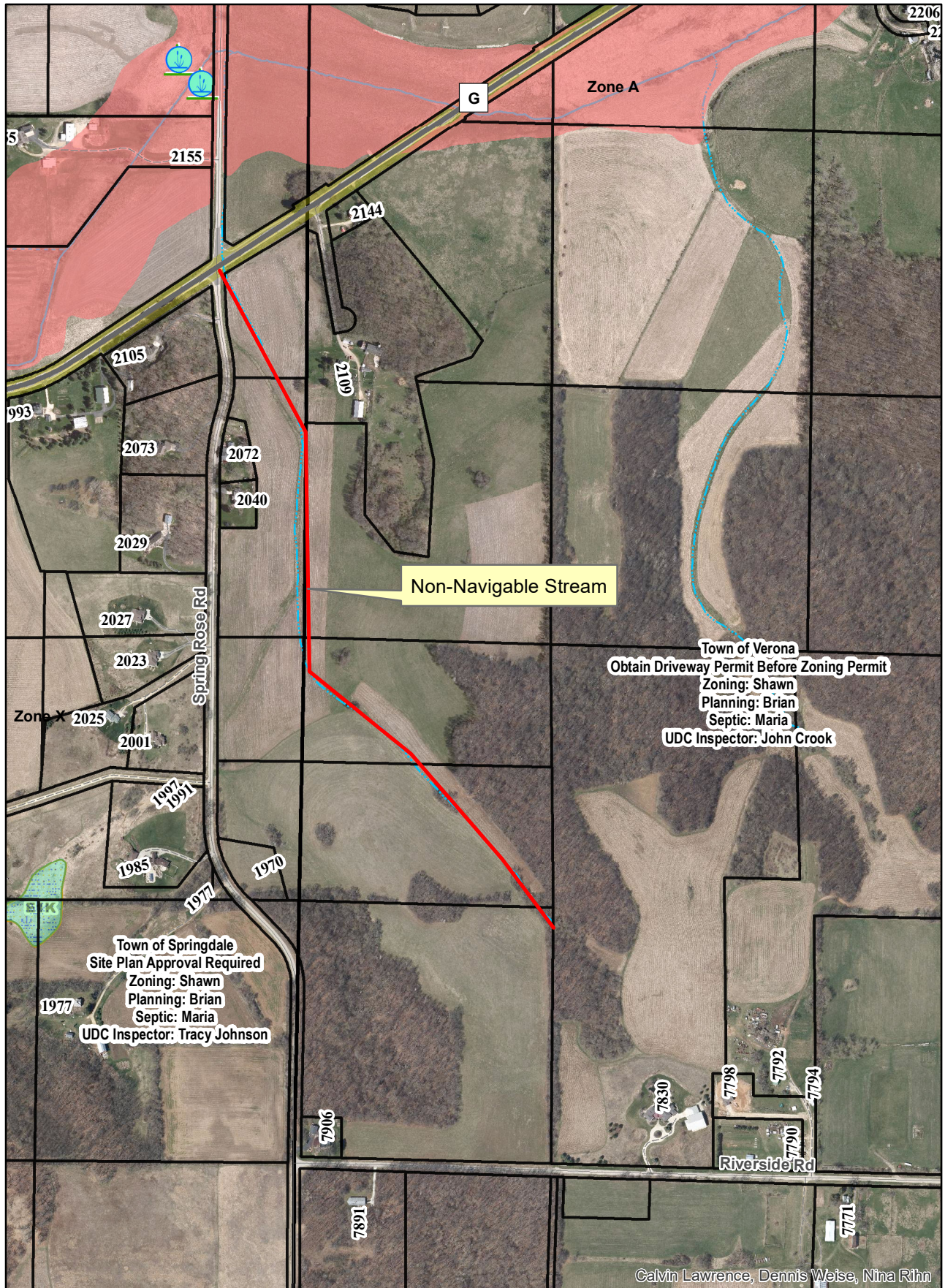
This letter serves as notice that the future development that will occur on the above-described parcel is not within the Shoreland Zoning District as defined under Chapter 11, Dane County Code of Ordinances.

I hope you find this information helpful. If you have any questions regarding this matter, or if I may be of further assistance, please feel free to contact me directly.

Sincerely,

Hans Hilbert
Assistant Zoning Administrator

Cc:
Land & Water Resources
Jim Coon, Coons Construction



10.2 Stormwater Maintenance Agreement

10.3 Pre-Developed Drainage Map

10.4 Post-Developed Drainage Map

10.5 Swale Drainage Map

10.6 Construction Plans

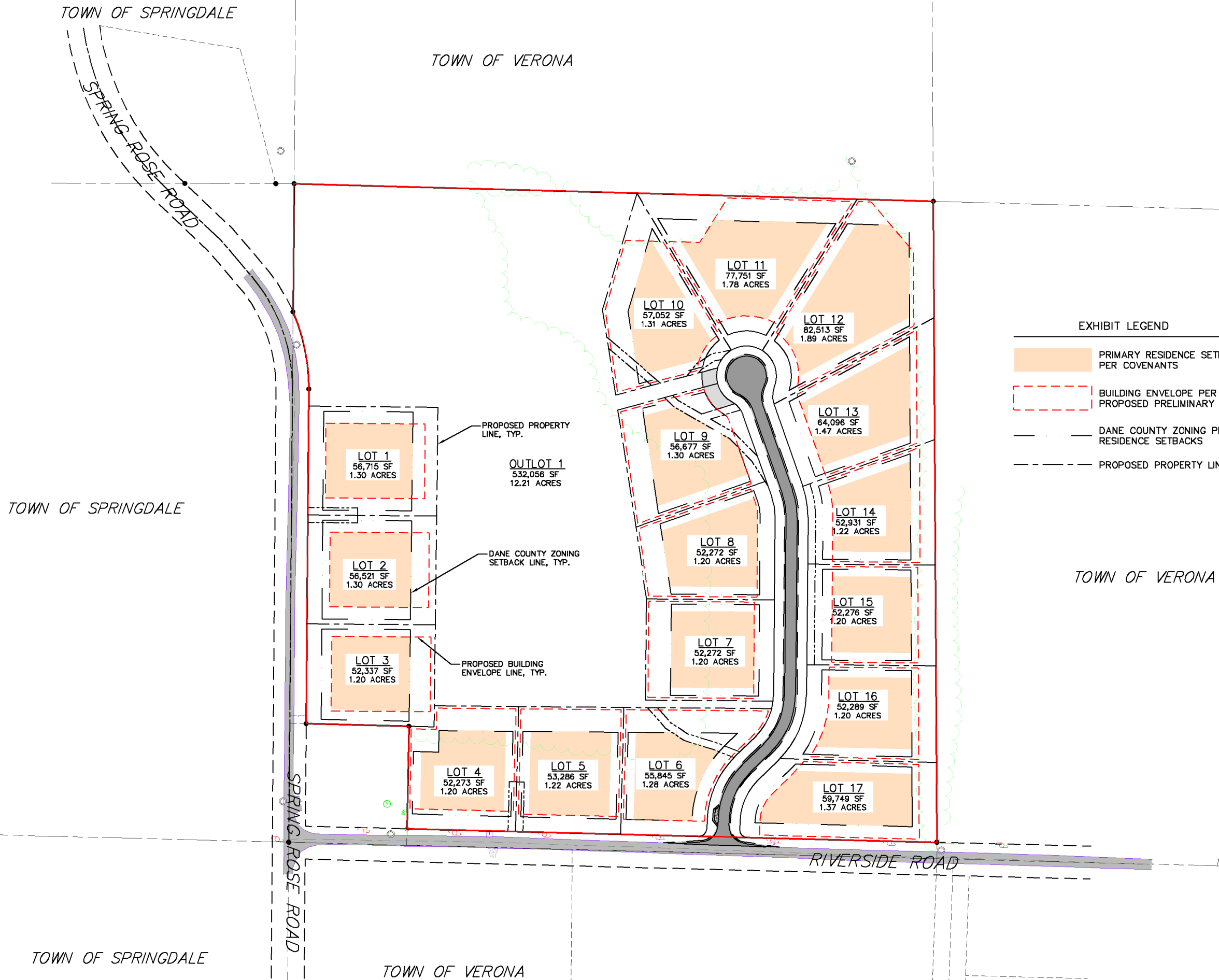
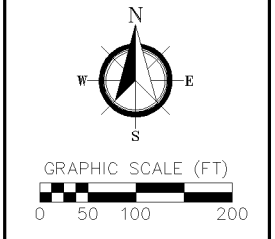


EXHIBIT LEGEND

- PRIMARY RESIDENCE SETBACKS PER COVENANTS
- BUILDING ENVELOPE PER PROPOSED PRELIMINARY PLAT
- DANE COUNTY ZONING PRIMARY RESIDENCE SETBACKS
- PROPOSED PROPERTY LINE

Building Envelope Exhibit
Riverside Vista
Town of Verona
Dane County, Wisconsin

Revisions No.	Date	Description

Scale: **AS SHOWN**

Date: **2/5/2024**

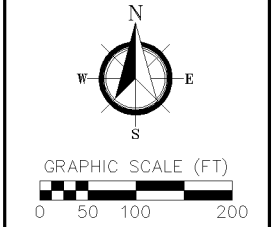
Drawn By: **ALC**

Project No: **230019**

Sheet No: **1 of 1**

TOWN OF SPRINGDALE

TOWN OF VERONA



SPRING ROSE ROAD

TOWN OF SPRINGDALE

TOWN OF VERONA

TOWN OF VERONA

LOT 1
56,715 SF
1.30 ACRES

LOT 2
56,521 SF
1.30 ACRES

LOT 3
52,337 SF
1.20 ACRES

LOT 4
52,273 SF
1.20 ACRES

LOT 5
53,286 SF
1.22 ACRES

LOT 6
55,845 SF
1.28 ACRES

OUTLOT 1
532,056 SF
12.21 ACRES

LOT 9
56,677 SF
1.30 ACRES

LOT 8
52,272 SF
1.20 ACRES

LOT 7
52,272 SF
1.20 ACRES

LOT 11
77,751 SF
1.78 ACRES

LOT 10
57,052 SF
1.31 ACRES

LOT 12
82,513 SF
1.89 ACRES

LOT 13
64,096 SF
1.47 ACRES

LOT 14
52,931 SF
1.22 ACRES

LOT 15
52,276 SF
1.20 ACRES

LOT 16
52,289 SF
1.20 ACRES

LOT 17
59,749 SF
1.37 ACRES

EXHIBIT LEGEND

- PRIMARY RESIDENCE SETBACKS PER COVENANTS
- BUILDING ENVELOPE PER PROPOSED PRELIMINARY PLAT
- DANE COUNTY ZONING PRIMARY RESIDENCE SETBACKS
- PROPOSED PROPERTY LINE
- POSSIBLE SEPTIC LEACH FIELD BASED ON TOPOGRAPHY

SPRING ROSE ROAD

RIVERSIDE ROAD

TOWN OF SPRINGDALE

TOWN OF VERONA

Building Envelope Exhibit
Riverside Vista
Town of Verona
Dane County, Wisconsin

Revisions	No.	Date	Description

Scale:	AS SHOWN
Date:	2/15/2024
Drawn By:	ALC
Project No:	230019
Sheet No:	1 of 1



PRELIMINARY STEWARDSHIP PLAN
RIVERSIDE VISTA
Town of Verona, Wisconsin

Prepared For:

Coons Construction of Verona, LLC
Jim Coons
1827 Locust Drive
Verona, WI 53593

Prepared By:

Carrico Engineering and Consulting, Inc.
8177 County Road G
Verona, WI 53593

Prepared On:
February 7, 2024

Revised On:

Project # 230019

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1.3	Proposed End State.....	3
1.4	Proposed Restoration Measures.....	4
1.5	Managing and Maintenance of the Open Space.....	4
1.6	Total Estimated Costs of Maintenance for Budgeting.....	6

Section 2: Exhibits

2.1	Photos of Existing Conditions	
2.2	Outlot Trail System Map	
2.3	Recorded Stormwater Maintenance Agreement	

Section 1 – Narrative

1.1 Introduction

Riverside Vista is located in the Town of Verona northeast of the intersection of Riverside Road and Spring Rose Road. The development is comprised of 17 single-family residential homesites ranging in size from 1.20 to 1.89 acres and 1 large outlot of 12.21 acres. The Outlot is the basis for this Stewardship Plan.

The goal of this plan is to provide a framework for the Homeowner's Association to properly maintain the open space into perpetuity for the enjoyment of current and future homeowners. The stormwater maintenance area is included in the maintenance within the Stewardship plan and shall be maintained in accordance with the recorded stormwater maintenance agreement.

The outlot is owned by the members of the Homeowner's Association whereas the Association is responsible for the costs of maintenance according to this Stewardship Plan as per the Homeowner's Association Covenants. Maintenance costs shall be budgeted for according to the budget section of this document and as per the Covenants.

As per the Covenants, the Board of Directors shall appoint three Association Members to serve on a Stewardship Plan committee and serve two-year terms. The Committee shall use this document as a guide for maintaining the open space. Decisions on the plan and budget shall be subject to the Covenants.

1.2 Existing Conditions

The pre-developed state of the open space includes mainly wooded areas. The entire outlot is 532,056 sq. ft. (12.21 acres) where approximately 467,525 sq. ft. (10.73 acres) is wooded and approximately 8,000 sq. ft. (0.18 acres) is the stormwater basin.

The open space that is part of this plan that is not currently wooded is approximately 56,531 sq. ft. (1.30 acres).

Currently, the wooded area is primarily made up of non-high value trees such as boxelder, elm, etc. as the wooded area was logged at some point in the distant past. Additionally, the field area of the open space is currently a hay field that appears to have been planted several years ago with alfalfa but is now somewhat inundated with weeds.

See Exhibit 2.1 for photos of the existing state of the open space.

1.3 Proposed End State

The post-developed state of the outlot is intended to primarily focus on the trail(s) within the wooded area. The field area is not a significant portion of the open space and additionally serves as a drainage way from the development's road and residential lots to the stormwater facilities.

The Developer is a contractor and intends to utilize company equipment to clear and grub the trail system within the wooded area as depicted in Exhibit 2.2 of this document. Other than clearing an earthen path for the trail system and clearing/grubbing for the construction of the stormwater basins, there are no plans to alter the wooded area in any way. The goal is to keep the wooded area in its natural state.

In addition to the trail system within the wooded area, the open space field is planned to be planted with floristic prairie seed.

A shelter is planned at the northeast end of the open space with mowed trails within the planted prairie to reach the shelter.

1.4 Proposed Restoration Measures

As per Section 1.3, the developer shall bear the cost to create the trail network within the wooded area. The schedule for completion of the trail network is summer/fall of 2024.

Restoration of the open field area is planned to occur following the construction of the road and stormwater facilities. With the current open field inundated with weeds, the plan is to apply one application of glyphosate/surfactant, Ranger Pro prior to planting of the prairie. Additionally, mowed trails as shown on the Outlot Trail System Map will be implemented once the prairie is established and able to be mowed. The schedule for this task is subject to change depending on approvals for the development.

Finally, the gazebo/shelter will be constructed by the developer in the northeast corner of the open space of materials appropriate for an exterior park shelter. Construction of the shelter is planned for the Fall of 2024.

1.5 Managing and Maintenance of the Open Space

The following section describes the ongoing management and maintenance plan for the open space within Outlot 1 of Riverside Vista along with yearly estimates based on current year pricing. This plan may need to be revised in future years to adjust estimated pricing to current levels.

Managing and Maintenance of the Wooded Area

The trail system is the main focal point of the wooded area. There will be minor maintenance items to perform on a yearly basis for the trail system to operate as intended. The following is a list of anticipated tasks and estimates:

Mowing of vegetated growth within the trail system (yearly).....	\$500.00
Herbicide application within trail system (yearly)	\$500.00
Removal of downed or intrusive trees within trail system (as needed)	\$2,000.00
<hr/>	
Total Per Year	\$3,000.00

Managing and Maintenance of Prairie

Year 1

Site visit by ecological specialist three times during the first growing season. The field will be mowed using an all-wheel drive tractor and batwing mower. These three ecological mowing visits will be timed to control the weeds before they set seed while allowing sunlight down to developing native seedlings. Additionally, bimonthly mowing, at minimum, of the prairie trails beginning in May and ending in October are necessary to maintain walkability.

Three Mowing Visits (3 x \$500.00) \$1,500.00
Bimonthly mowing of Prairie Trails (12 x \$125.00..... \$1,500.00

Year 2

Site visit by ecological specialist three times during the second growing season. The field will be mowed 1-2 times depending on the density of the remaining weeds. The remaining visit(s) will be used to spot treat any pockets of invasive species with herbicide. Additionally, bimonthly mowing, at minimum, of the prairie trails beginning in May and ending in October are necessary to maintain walkability.

Three Visits (3 x \$600.00) \$1,800.00
Bimonthly mowing of Prairie Trails (12 x \$125.00..... \$1,500.00

Year 3

Site visit by ecological specialist three times during the third growing season. The field may be spot mowed if any large patches of weeds exist. The remaining visits will be spent targeting individual invasive species with herbicide. Additionally, bimonthly mowing, at minimum, of the prairie trails beginning in May and ending in October are necessary to maintain walkability.

Three Visits (3 x \$650.00) \$1,950.00
Bimonthly mowing of Prairie Trails (12 x \$125.00..... \$1,500.00

Year 4

Prescribed prairie burn by specialist. A specialist will contact necessary agencies prior to the burn, obtain proper permits and set up appropriate signs if applicable on the day of the burn. Additionally, bimonthly mowing, at minimum, of the prairie trails beginning in May and ending in October are necessary to maintain walkability.

Prescribed Burn..... \$2,000.00
Bimonthly mowing of Prairie Trails (12 x \$125.00..... \$1,500.00

Future Years

Yearly site visit to determine mowing, spot herbicide treatment or prescribed burn necessary to maintain the prairie. This estimate includes an estimate for a site visit and for prescribed maintenance activity. Additionally, bimonthly mowing, at minimum, of the prairie trails beginning in May and ending in October are necessary to maintain walkability.

Year 5 and Yearly Beyond	\$1,000.00
Bimonthly mowing of Prairie Trails (12 x \$125.00.....)	\$1,500.00

Maintenance and Inspection of Stormwater Management Facility

As per the recorded stormwater maintenance agreement, a licensed professional engineer shall inspect the facility yearly. Maintenance for the stormwater facility is subject to the recommendations of the professional engineer based on the stormwater maintenance agreement. This estimate is provided as a basis for the HOA to budget for yearly inspection and maintenance costs.

Yearly Inspection by Professional Engineer	\$650.00
Estimated Yearly Maintenance for Budgeting	\$500.00
<hr/>	
Total	\$1,150.00

1.6 Total Estimated Yearly Maintenance Costs for Budgeting Purposes

Year 1.....	\$7,150.00
Year 2.....	\$7,450.00
Year 3.....	\$7,600.00
Year 4.....	\$7,650.00
Year 5 and Beyond.....	\$6,650.00

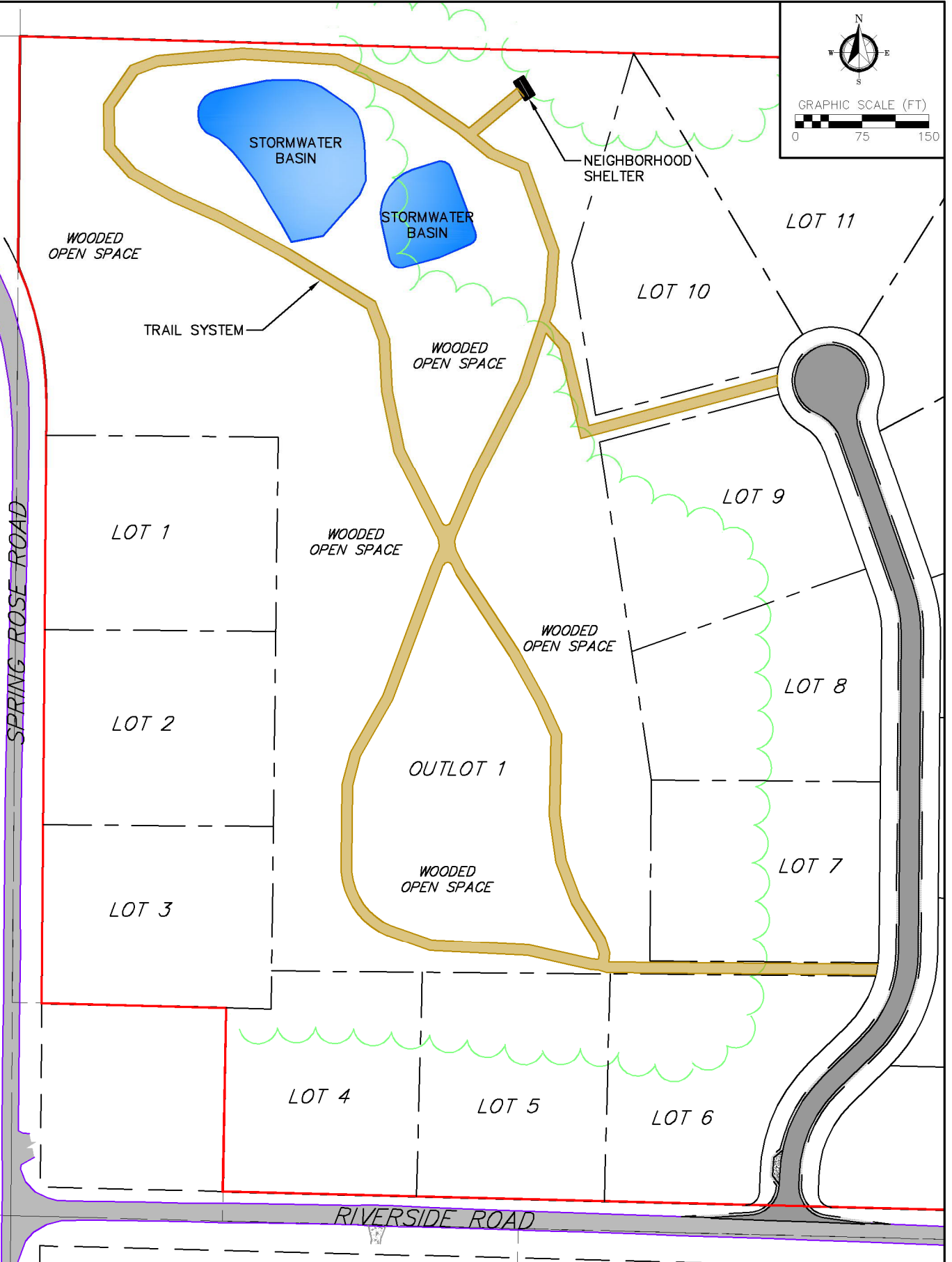
Exhibit 2.1 – Existing Conditions Photos







Exhibit 2.2 – Outlot Trail System Map



**Carrico
Engineering**

(608) 832-6352 | carricoengineering.com

Outlot Trail System Map

SCALE	AS SHOWN	SHEET 1 OF 1
DATE	2/5/2024	
DRAFTER	ALC	
PROJECT NO.	230019	
REV		

Exhibit 2.3 – Recorded Stormwater Maintenance Agreement

RIVERSIDE VISTA IMPROVEMENT PLANS

TOWN OF VERONA, DANE COUNTY, WISCONSIN



PROJECT LOCATION

INDEX

SHEET NO.	STATIONS	DESCRIPTION
1		TITLE SHEET
2		GENERAL NOTES AND LEGENDS
3		EXISTING CONDITIONS PLAN
4		SITE PLAN
5		OVERALL GRADING AND EROSION CONTROL PLAN
6		INTERSECTION, CUL-DE-SAC & STORMWATER AREA GRADING PLAN
7	STA 0+00 – 5+50	PLAN AND PROFILE – RIVERSIDE VISTA WAY
8	STA 5+50 – 11+00	PLAN AND PROFILE – RIVERSIDE VISTA WAY
9	STA 20+00 – 25+00	PLAN AND PROFILE – STORMWATER BASINS
10	STA 1+00 – 5+00	CROSS SECTIONS
11	STA 5+50 – 8+00	CROSS SECTIONS
12	STA 8+50 – 9+50	CROSS SECTIONS
13	STA 10+00 – 10+50	CROSS SECTIONS
14		CONSTRUCTION DETAILS
15		CONSTRUCTION DETAILS
16		CONSTRUCTION DETAILS
17		CONSTRUCTION DETAILS



DIAL 811 OR (800) 242-8511
www.DiggersHotline.com

THE LOCATION OF ANY AND ALL EXISTING UTILITIES, INCLUDING UNDERGROUND AND OVERHEAD, SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ANY UTILITIES, WHETHER DEPICTED ON THE PLANS OR NOT, BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES THAT ARISE BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL UTILITIES.



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Drawn By:	ALC
Project No:	230019
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RIVERSIDE VISTA IMPROVEMENT PLANS

TOWN OF VERONA, DANE COUNTY, WISCONSIN

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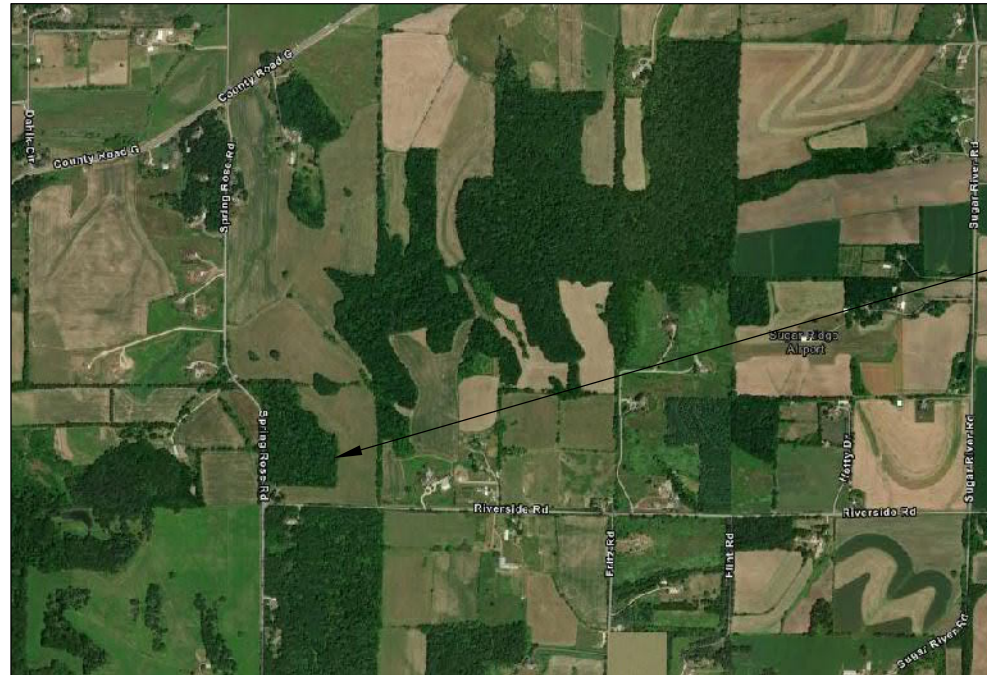
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Project No: 230019

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Adam Carrico

Digitally signed by Adam Carrico
DN: cn=Adam Carrico, c=US, o=Carrico Engineering
email=adam@carricoengineering.com
Reason: I am the author of this document
Date: 2024.02.04 23:31:13 -0600

PROJECT INFORMATION

AGENCIES:

TOWN OF VERONA
7669 COUNTY HIGHWAY PD
VERONA, WI 53593
(608) 845-7187

DANE COUNTY LAND & WATER
RESOURCES
5201 FEN OAK DR
MADISON, WI 53718
(608) 224-3730

EMERGENCY - FIRE, RESCUE,
AMBULANCE, POLICE
DIAL 911

VERONA FIRE DEPARTMENT
101 LINCOLN ST
VERONA WI 53593
(608) 845-9401

DANE COUNTY SHERIFF
115 W DOTY ST
MADISON, WI 53703
(608) 266-4948

UTILITIES:

ELECTRIC COMPANY
ALLIANT ENERGY
KRYSTAL MCDERMOTT
(608) 842-1741

TELEPHONE/INTERNET
TDS TELECOM
JERRY MYERS
(608) 664-4404

NATURAL GAS
MADISON GAS & ELECTRIC
JOHN WICHERN
(608) 252-1563

OWNER:

COONS CONSTRUCION OF VERONA
VERONA, WI

ENGINEER:

CARRICO ENGINEERING
8177 COUNTY ROAD G
VERONA, WI 53593
(608) 832-6352

SURVEYOR:

WILLIAMSON SURVEYING &
ASSOCIATES, LLC.
104A WEST MAIN ST
WAUNAKEE, WI 53597
(608) 255-5705

GENERAL NOTES

1. TOPOGRAPHIC SURVEY AND UTILITIES SHOWN ARE FROM SURVEY PREVIOUSLY COMPLETED BY OTHERS COMBINED WITH GIS LIDAR DATA.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK AND DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER PRIOR TO STARTING WORK.
3. CONTRACTOR SHALL KEEP ADJACENT ROADS AND PRIVATE PROPERTY FREE AND CLEAR OF CONSTRUCTION RELATED EQUIPMENT, DIRT, DUST AND DEBRIS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION OR GRADING AROUND ANY EXISTING UTILITY LINES AND UTILITY PEDESTALS WITH UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
5. ALL SAWCUTTING SHALL BE FULL DEPTH TO PROVIDE A CLEAN EDGE TO MATCH NEW PAVEMENT ROAD ENDS AND DRIVEWAYS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY TRAFFIC CONTROL AND SAFETY MEASURES DURING CONSTRUCTION.
7. ALL TREES REQUIRED TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY AND STUMPS SHALL BE GROUND TO PROPOSED SUBGRADE OR AT LEAST 4" BELOW FINISHED GRADE WHERE NOT IN ROAD BED AREA. CONTRACTOR TO COORDINATE WITH LANDOWNER PRIOR TO ANY REMOVALS.
8. CONTRACTOR SHALL PROVIDE TREE PROTECTION FENCING PRIOR TO CONSTRUCTION FOR ANY TREES REMAINING THAT ARE NEAR DISTURBANCE LIMITS. MAINTAIN FENCING THROUGHOUT CONSTRUCTION. TREE PROTECTION FENCING SHALL BE EITHER CHAIN LINK FENCE SECTIONS THAT ARE INSTALLED ON GRADE WITH "FEET" OR WOOD OR PLASTIC SNOW FENCE.
9. TREE PROTECTION SHALL BE REQUIRED WHENEVER THERE WILL BE CONSTRUCTION ACTIVITY THAT COULD RESULT IN DISTURBANCE WITHIN THE CRITICAL ROOT RADIUS OF A TREE THAT IS TO BE SAVED OR WHENEVER THERE IS THE POTENTIAL FOR DAMAGE TO BRANCHES OF PLATS THAT ARE TO BE SAVED DURING CONSTRUCTION.
10. ALL PROPOSED STORM SEWER LENGTHS ON PLANS INCLUDE ENDWALL IN LENGTH WHERE ENDWALL IS CALLED OUT.

LEGENDS

TOPOGRAPHIC SYMBOL & LINEWORK LEGEND

	BENCHMARK
	FOUND 1" Ø IRON PIPE
	SET P.K. NAIL / CONTROL POINT
	EXISTING POST
	EXISTING SIGN
	EXISTING ELECTRICAL TRANSFORMER
	EXISTING TELEPHONE PEDESTAL
	EXISTING CONIFEROUS TREE
	EXISTING DECIDUOUS TREE
	EXISTING BORING LOCATION
	EXISTING BURIED TELEPHONE LINE
	EXISTING GENERAL FENCE
	EXISTING GAS LINE
	EXISTING STORM PIPE
	EXISTING EDGE OF TREES
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING ASPHALT PAVEMENT

SITE PLAN LEGEND

	PROPERTY BOUNDARY
	PROPOSED PROPERTY LINE
	PROPOSED RIGHT-OF-WAY LINE
	PROPOSED ASPHALT PAVEMENT
	PROPOSED GRAVEL SHOULDER
	PROPOSED SIGN

DEMOLITION LEGEND

	SAWCUT
	UTILITY REMOVAL
	ASPHALT REMOVAL

UTILITY LEGEND

	PROPOSED STORM PIPE
	PROPOSED STORM END WALL
	PROPOSED STORM STRUCTURE
	PROPOSED STORM CLEAN OUT

GRADING & EROSION CONTROL LEGEND

	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	SILT FENCE
	DISTURBED LIMITS
	PROPOSED SLOPE ARROW & PERCENT
	PROPOSED SPOT ELEVATION
	EXISTING SPOT ELEVATION
	PROPOSED DITCH CHECK - SEE PLANS FOR TYPE
	PROPOSED EMAT, CLASS I, TYPE B
	PROPOSED EMAT, PERMANENT STORMWATER BASIN OUTLET PROTECTION
	PROPOSED STONE TRACKING PAD
	PROPOSED RIP RAP
	INLET PROTECTION

ABBREVIATIONS

EP	= EDGE OF PAVEMENT
EG	= EDGE OF GRAVEL
EW	= END WALL
FI	= FIELD INLET
R/W	= RIGHT-OF-WAY

General Notes and Legends

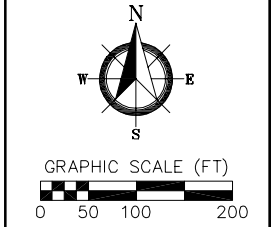
Riverside Vista
Town of Verona
Dane County, Wisconsin

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TOWN OF SPRINGDALE

TOWN OF VERONA



PARCEL 060725400110
1970 SPRING ROSE ROAD

PARCEL 060830386853

PARCEL 060725495005

PARCEL 060725495309

TOWN OF SPRINGDALE

PARCEL
060830390008
1,591,613 SQ. FT.
36.54 ACRES

TOWN OF VERONA

PARCEL 060830395500
7830 RIVERSIDE ROAD

PARCEL 060830392300
7906 RIVERSIDE ROAD

PARCEL 060736180002

PARCEL 060831286800
7891 RIVERSIDE ROAD

PARCEL 060831287850

PARCEL 060831280800

TOWN OF SPRINGDALE

TOWN OF VERONA

PARCEL 060831280010

SPRING ROSE ROAD

SPRING ROSE ROAD

RIVERSIDE ROAD

EXISTING PARCEL BOUNDARY, TYP.

EXISTING TREE LINE, TYP.

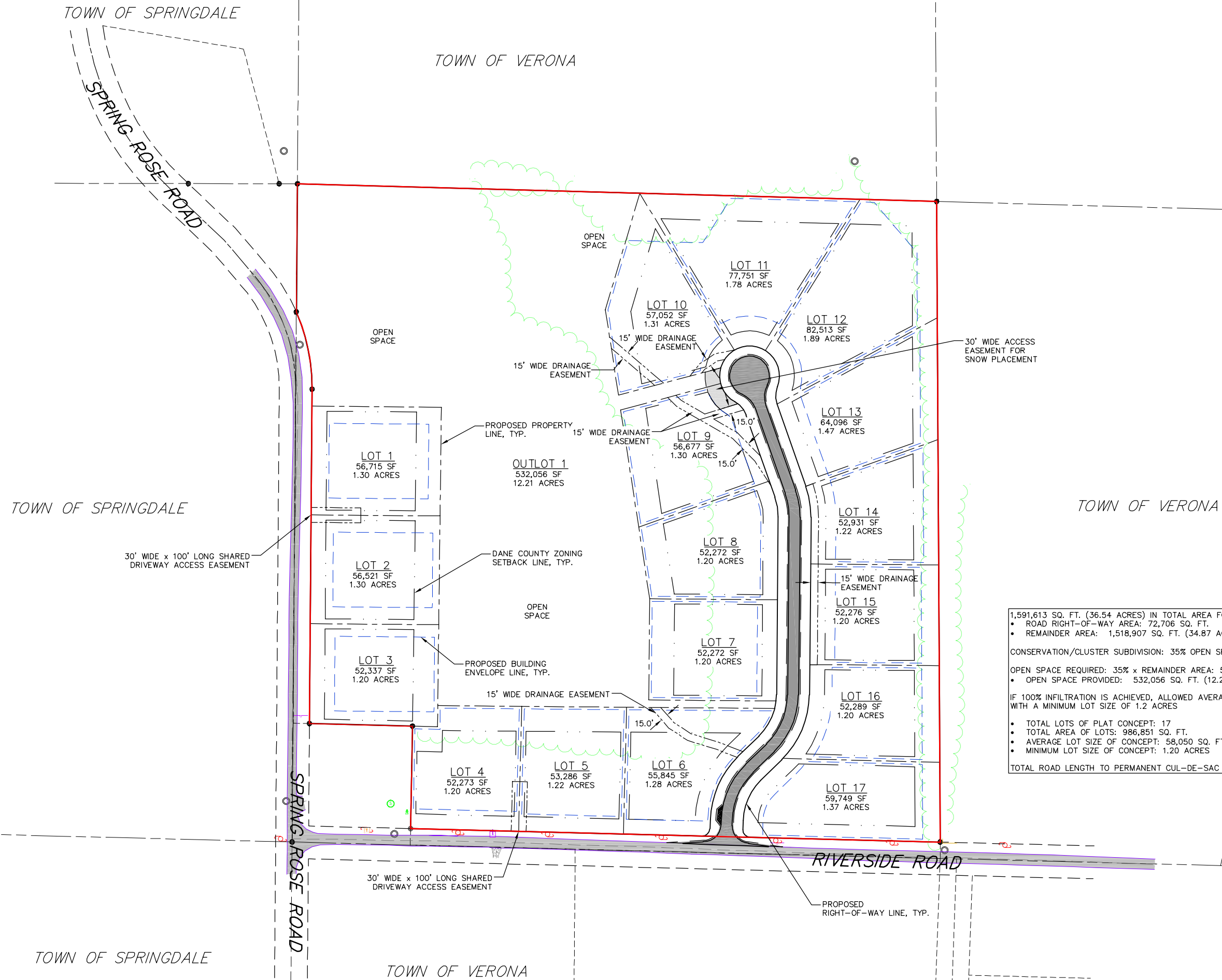
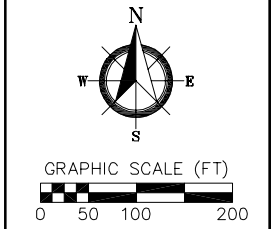
Existing Conditions Plan

Riverside Vista
Town of Verona
Dane County, Wisconsin

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1,591,613 SQ. FT. (36.54 ACRES) IN TOTAL AREA FOR PLAT

- ROAD RIGHT-OF-WAY AREA: 72,706 SQ. FT.
- REMAINDER AREA: 1,518,907 SQ. FT. (34.87 ACRES)

CONSERVATION/CLUSTER SUBDIVISION: 35% OPEN SPACE

OPEN SPACE REQUIRED: 35% x REMAINDER AREA: 531,618 SQ. FT. (12.20 ACRES)

- OPEN SPACE PROVIDED: 532,056 SQ. FT. (12.21 ACRES) OR 35.03%

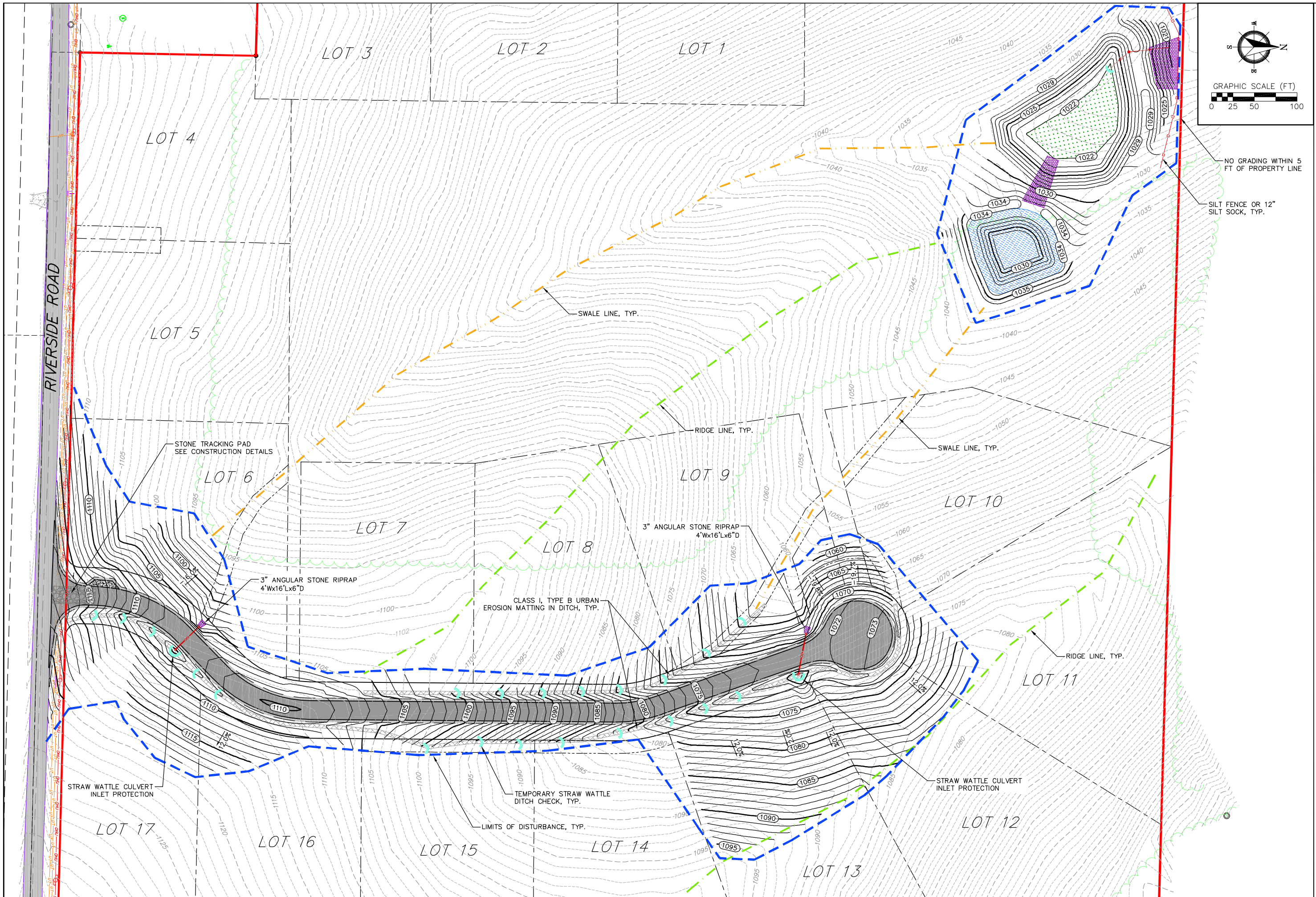
IF 100% INFILTRATION IS ACHIEVED, ALLOWED AVERAGE LOT SIZE OF 1.3 ACRES WITH A MINIMUM LOT SIZE OF 1.2 ACRES

- TOTAL LOTS OF PLAT CONCEPT: 17
- TOTAL AREA OF LOTS: 986,851 SQ. FT.
- AVERAGE LOT SIZE OF CONCEPT: 58,050 SQ. FT. (1.33 ACRES)
- MINIMUM LOT SIZE OF CONCEPT: 1.20 ACRES

TOTAL ROAD LENGTH TO PERMANENT CUL-DE-SAC BULB: 984 FT

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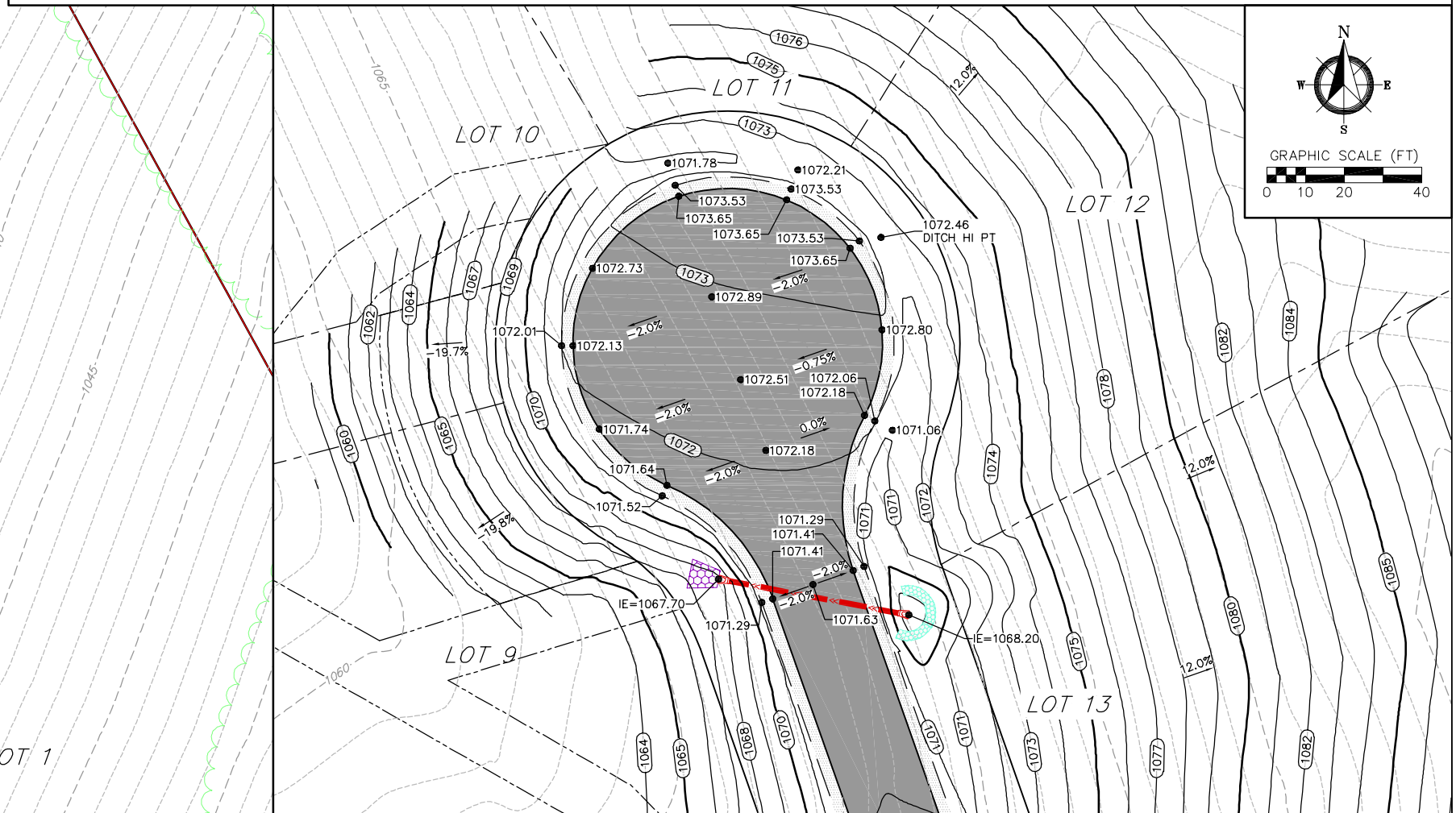
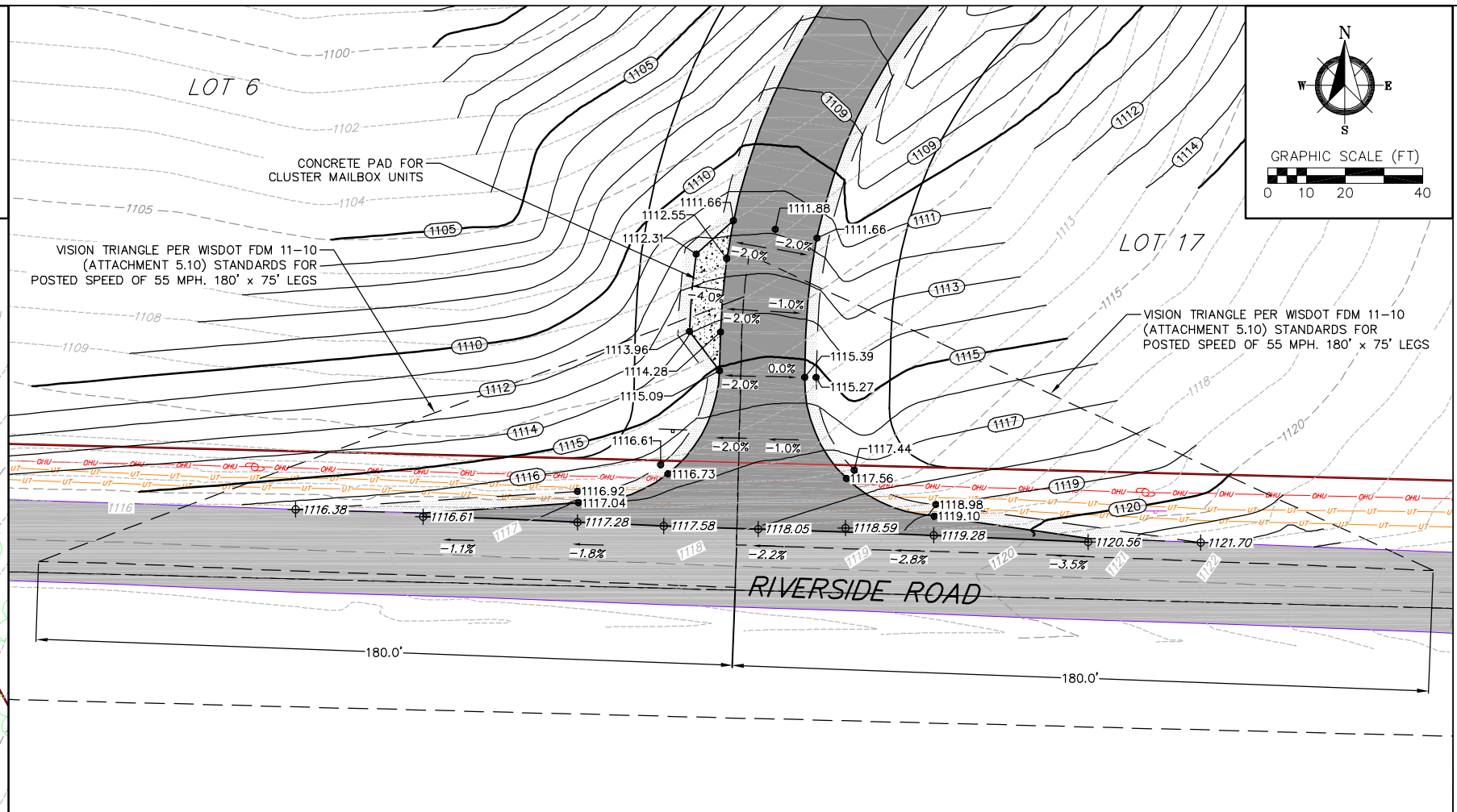
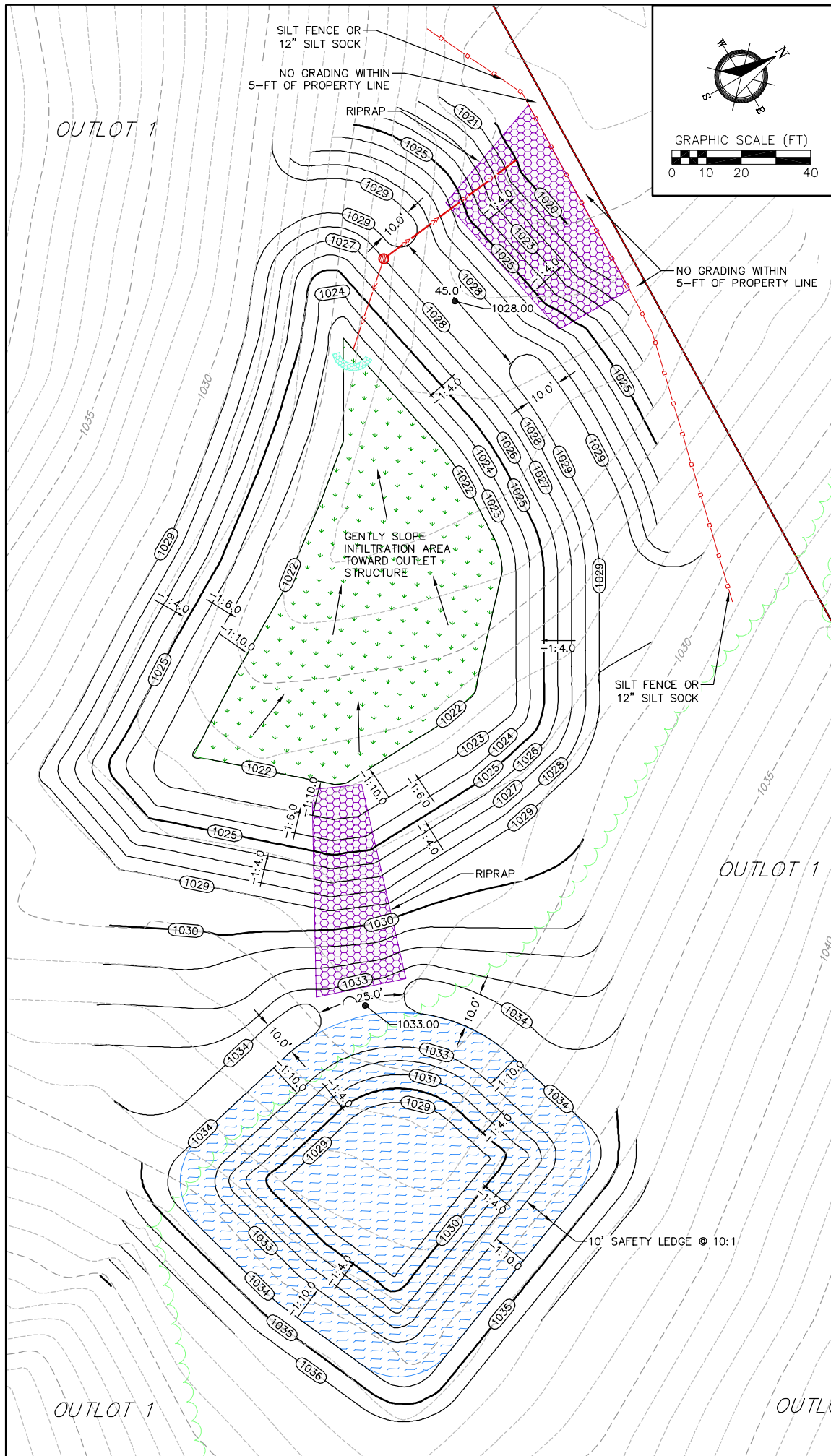


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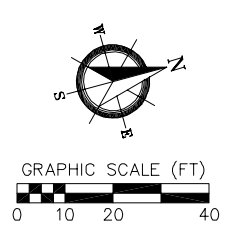
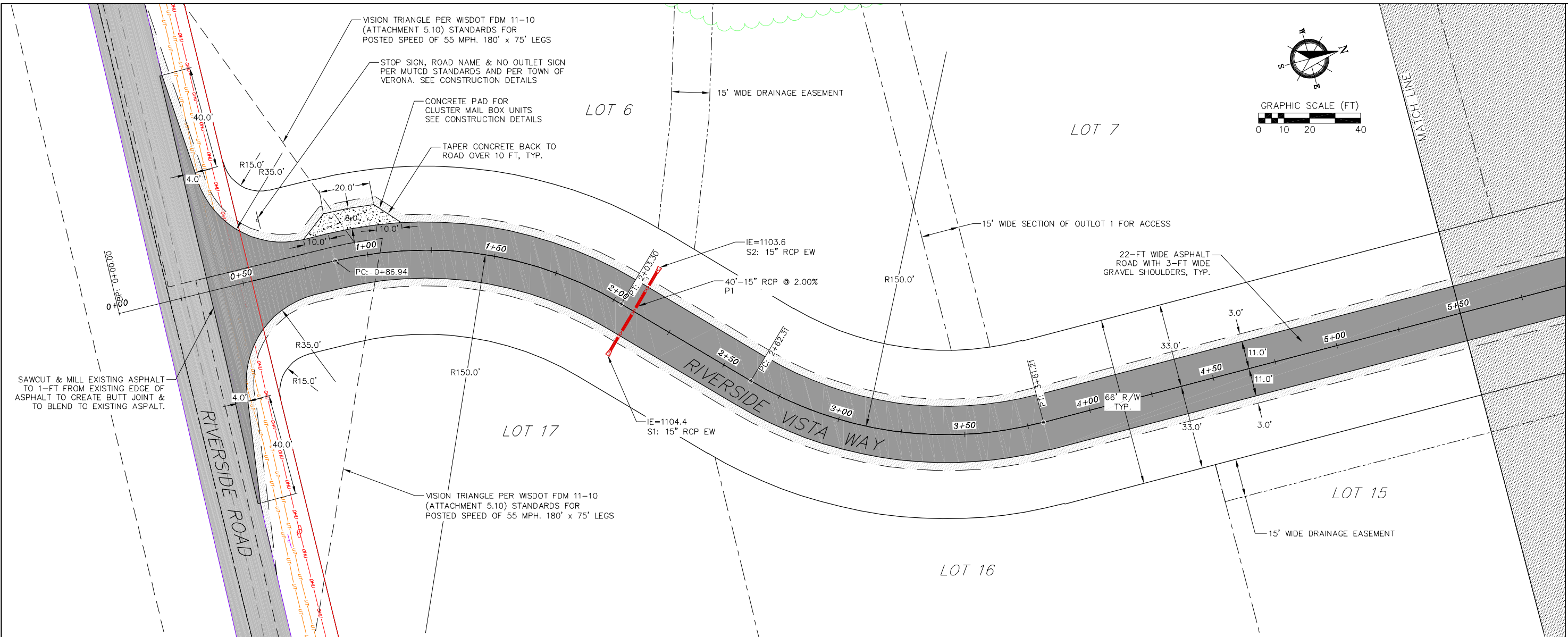
Overall Grading and Erosion Control Plan
 Riverside Vista
 Town of Verona
 Dane County, Wisconsin

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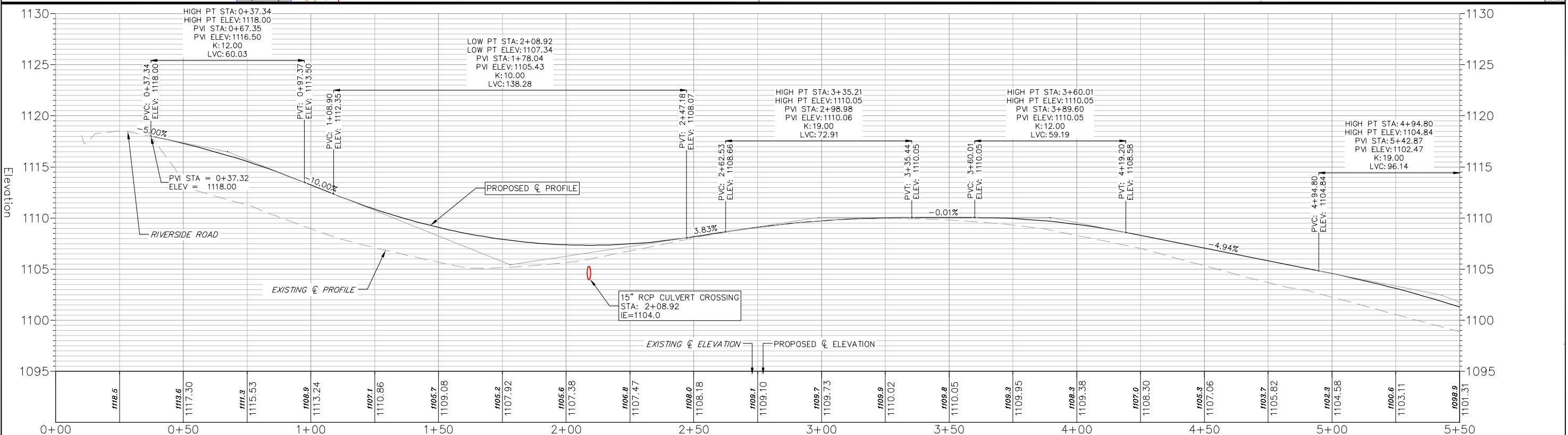
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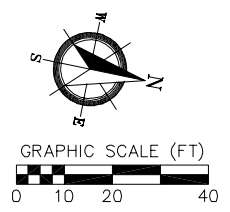
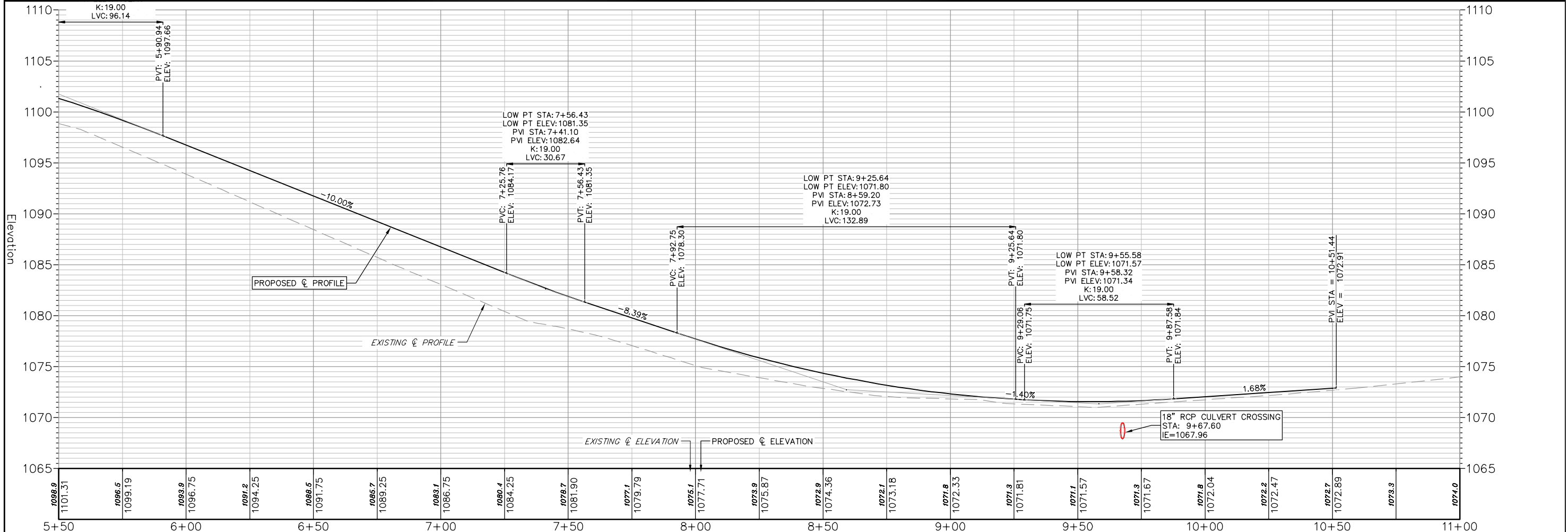
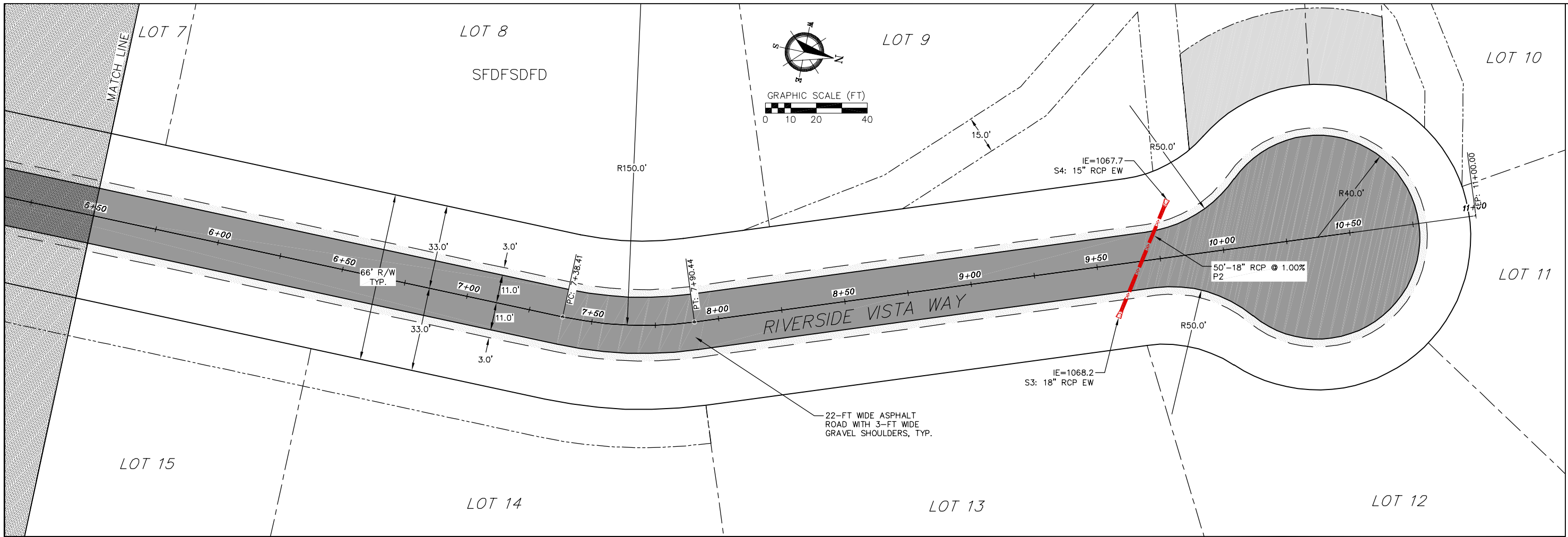
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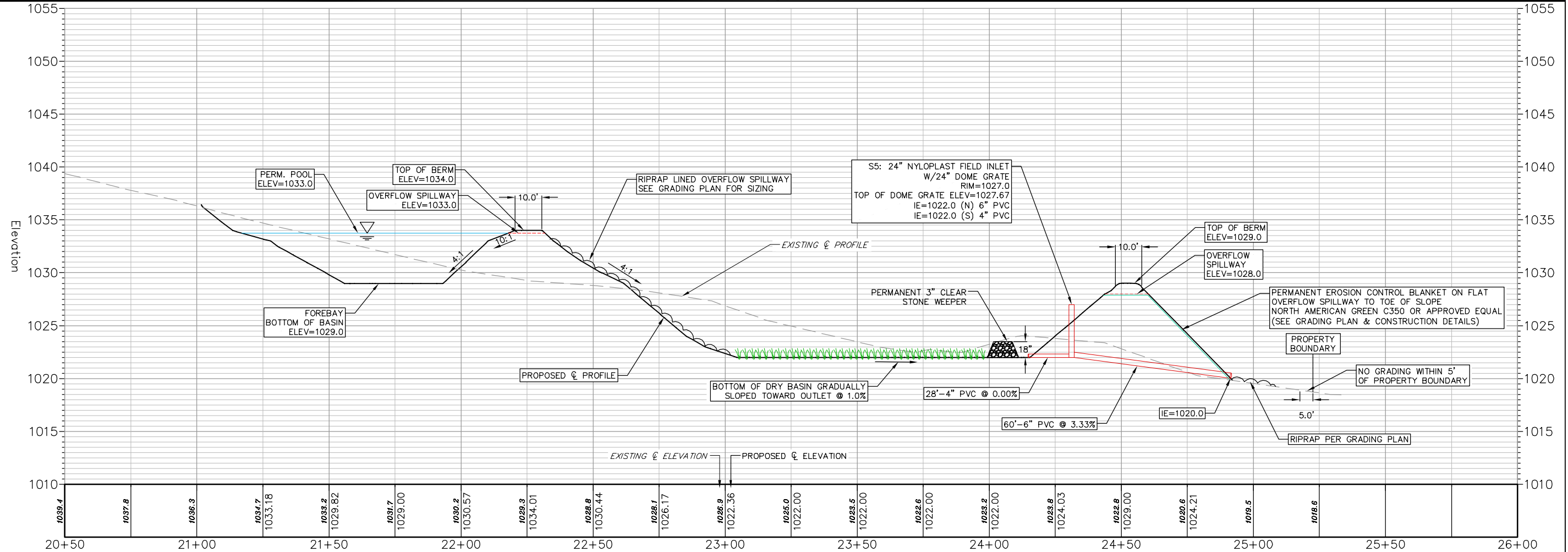
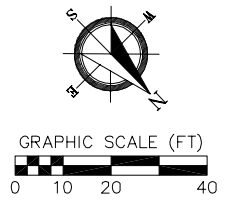
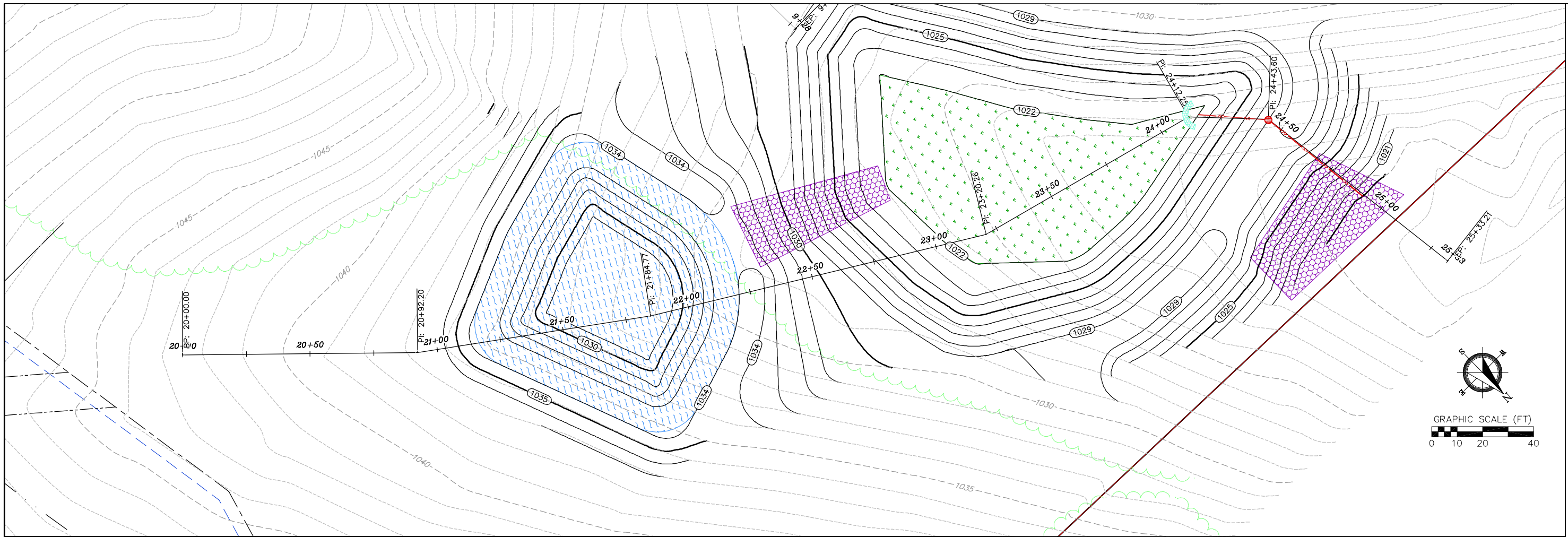
Riverside Vista Way Plan and Profile
 Riverside Vista
 Town of Verona
 Dane County, Wisconsin



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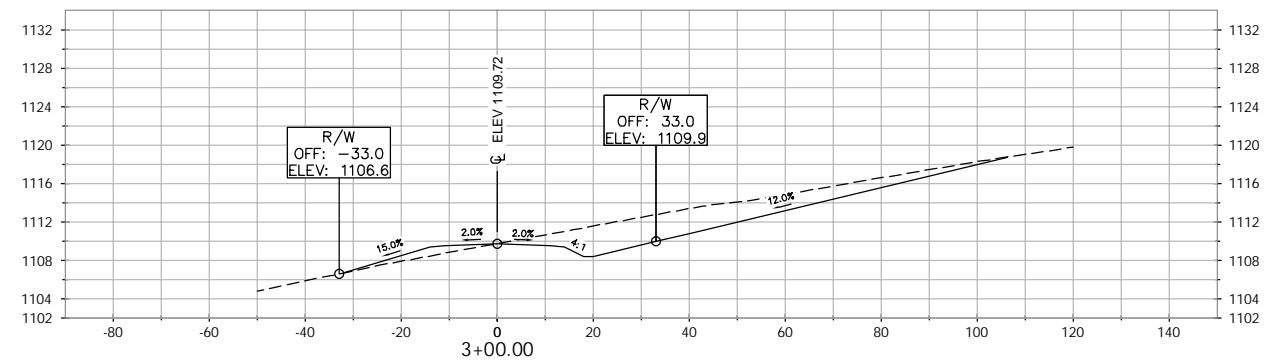
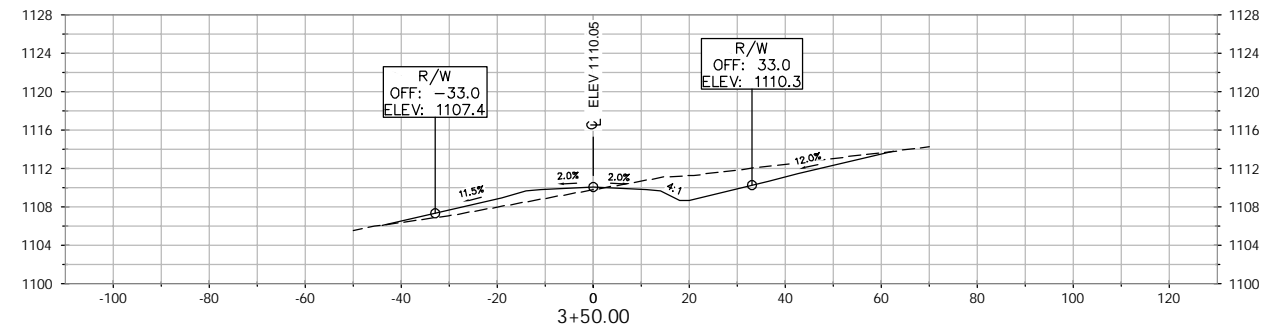
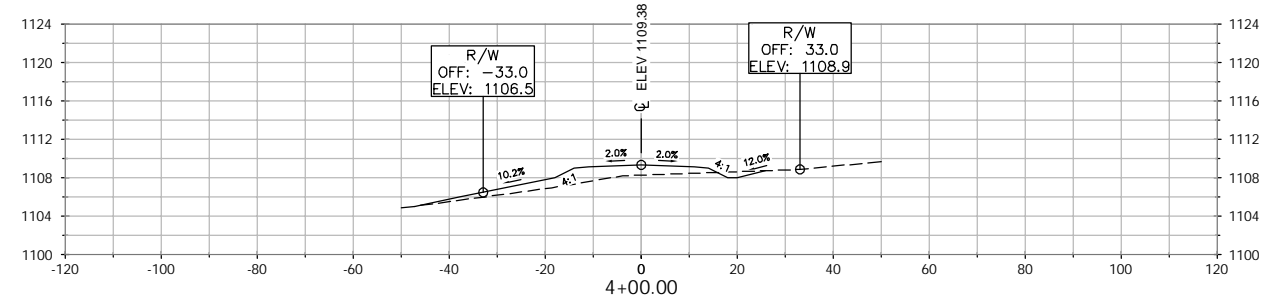
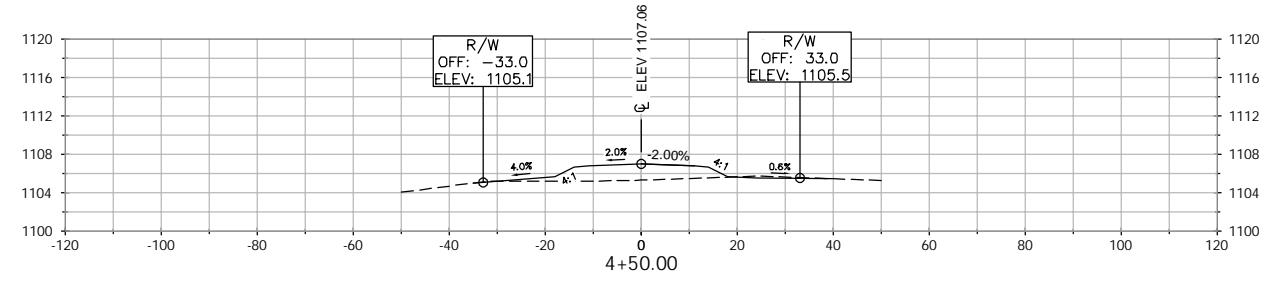
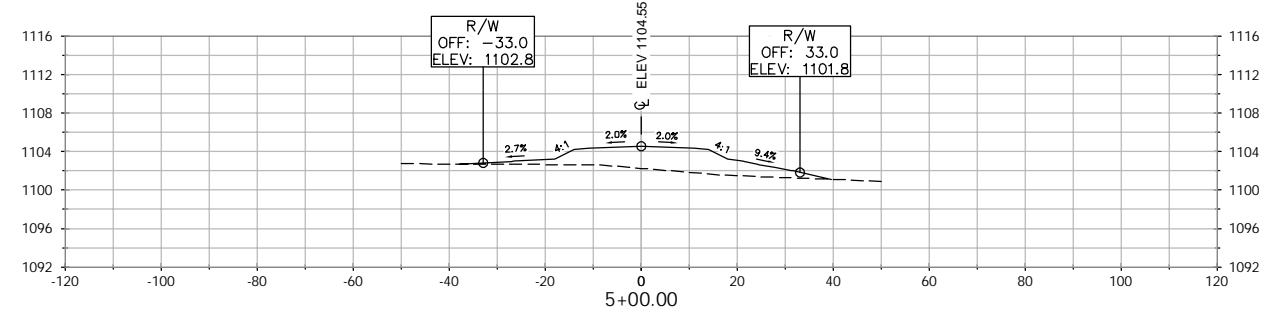
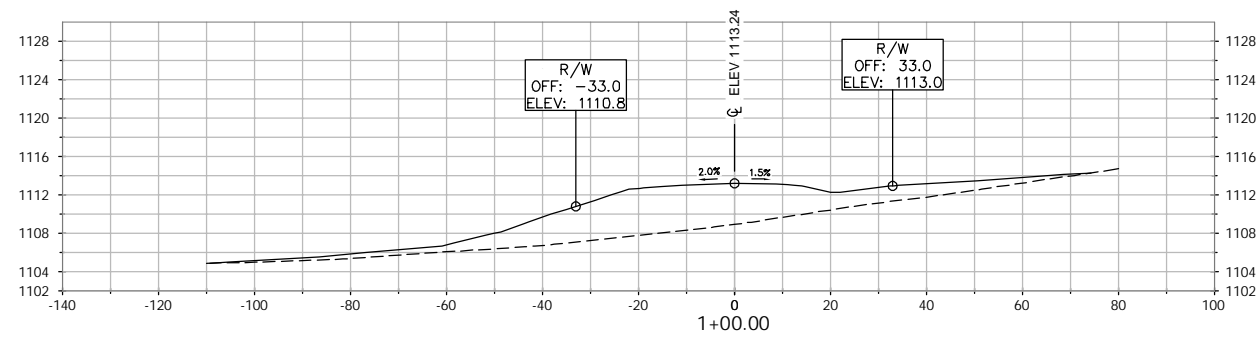
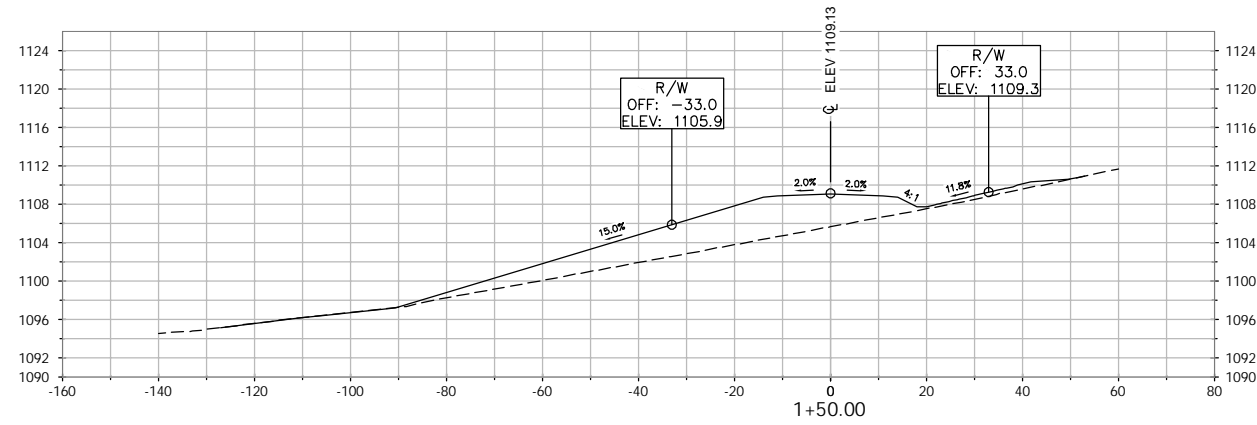
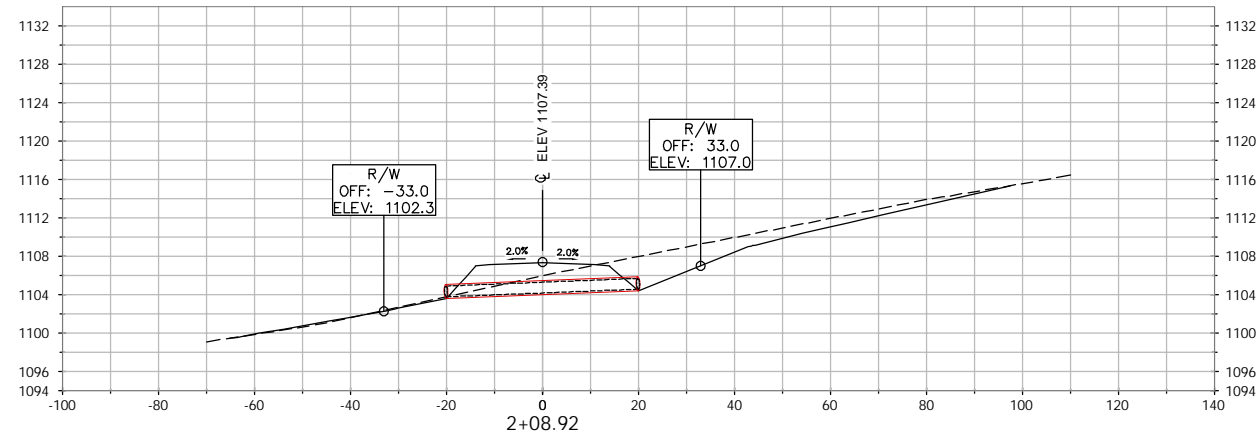
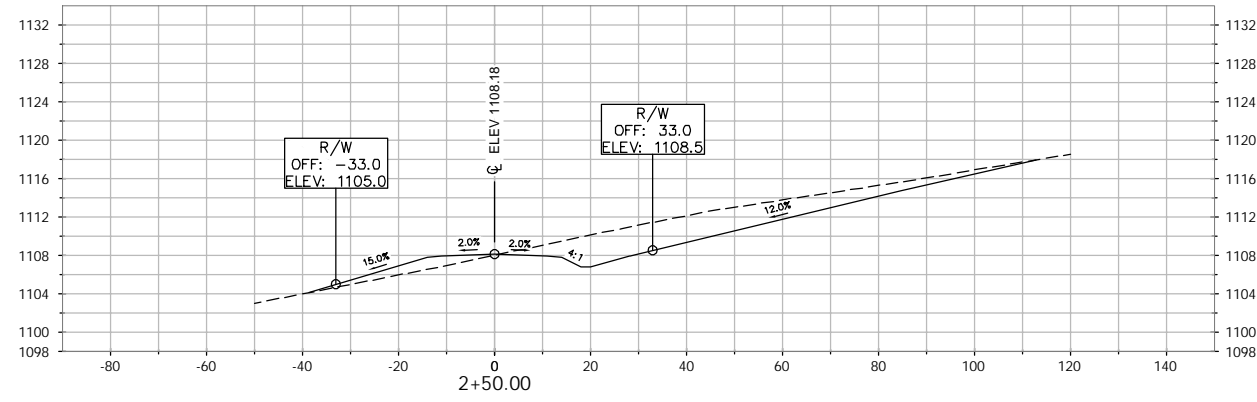


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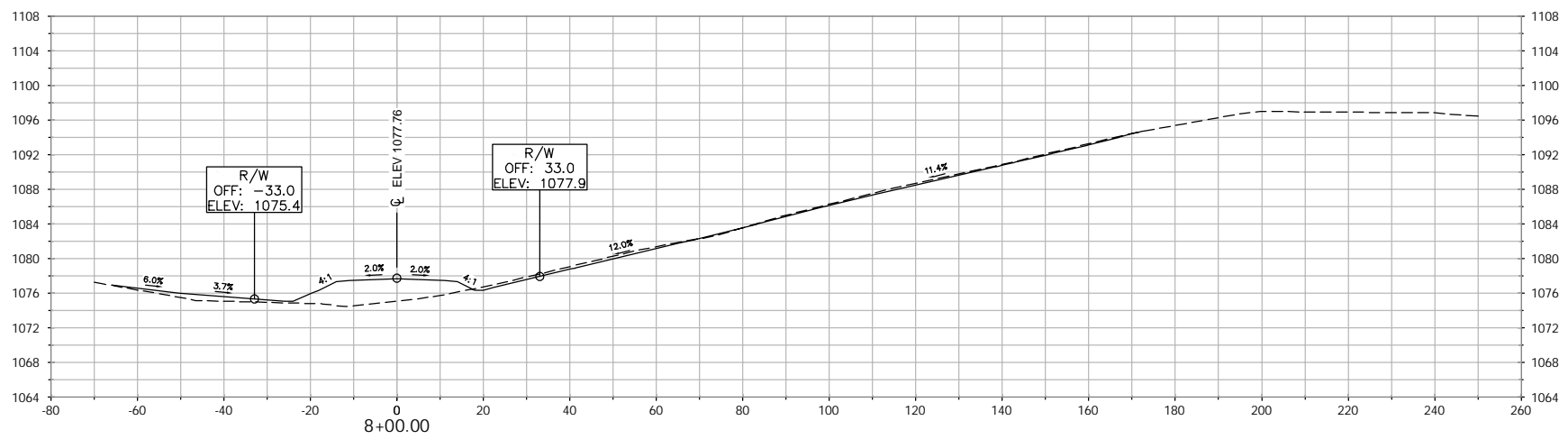
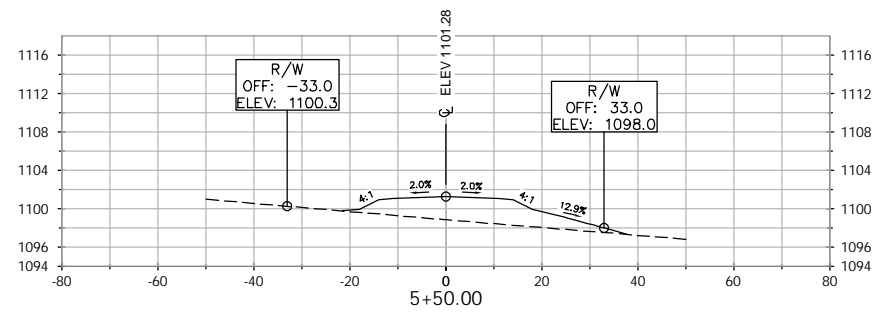
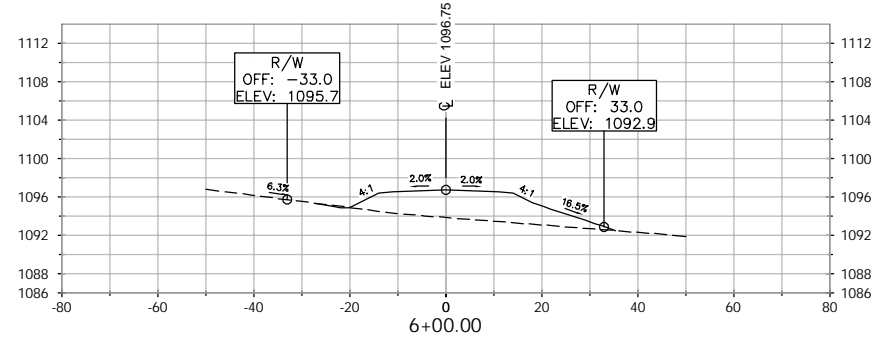
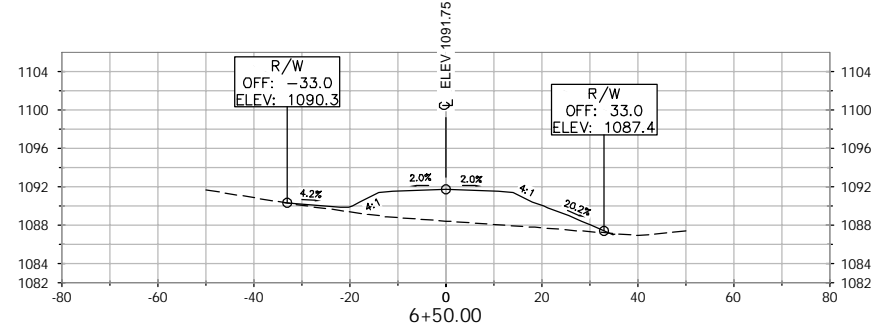
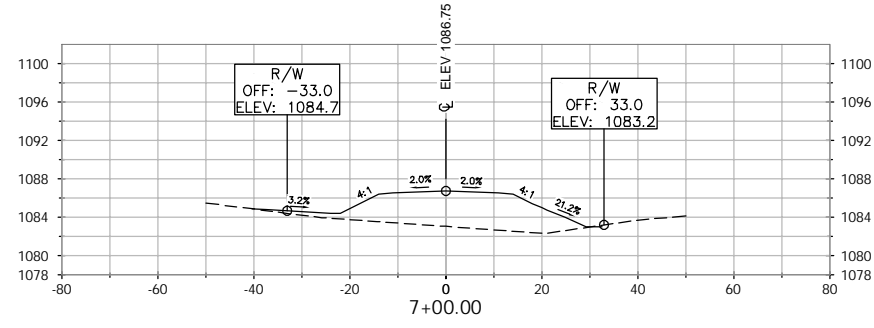
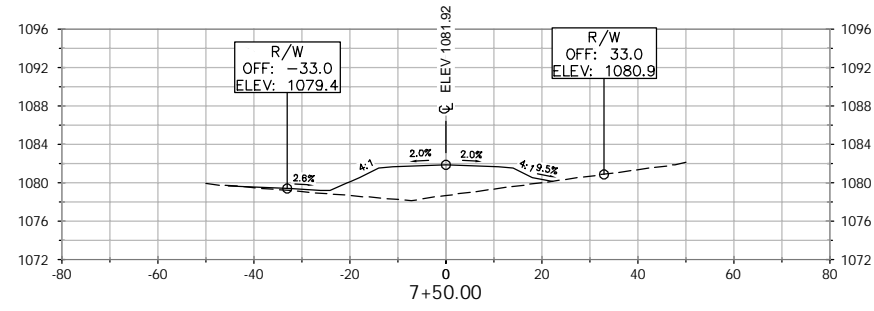
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1" = 20' HORIZ. (24"x36")
 1" = 10' VERT. (24"x36")
 1" = 40' HORIZ. (11"x17")
 1" = 20' VERT. (11"x17")

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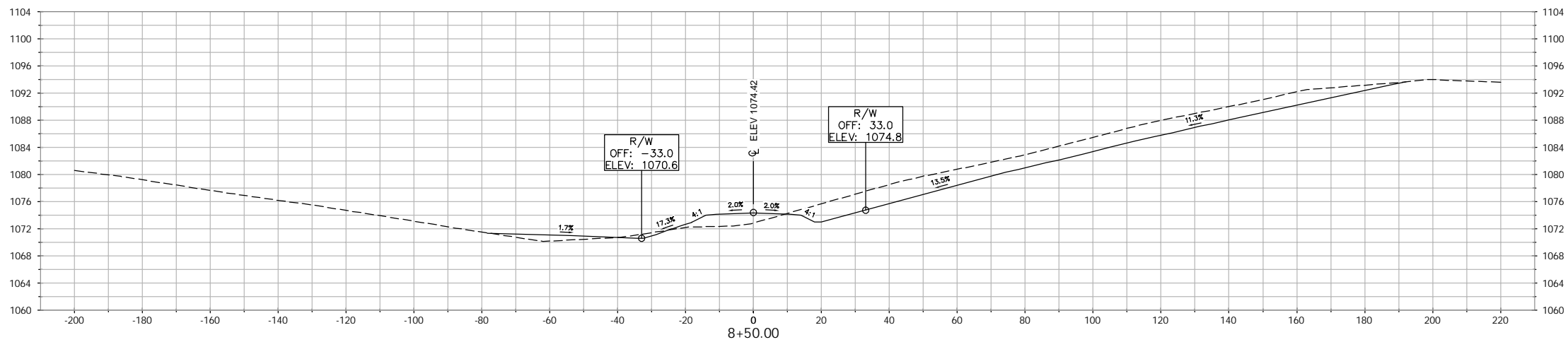
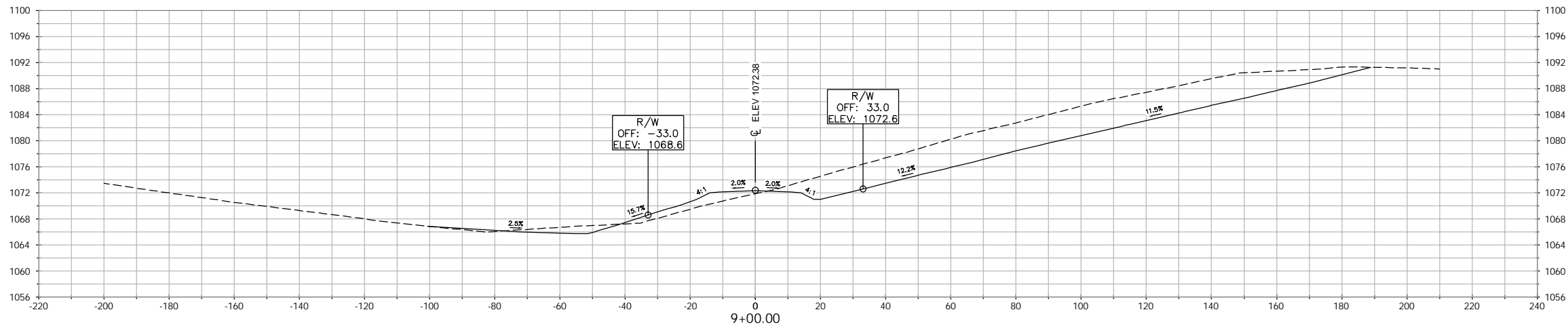
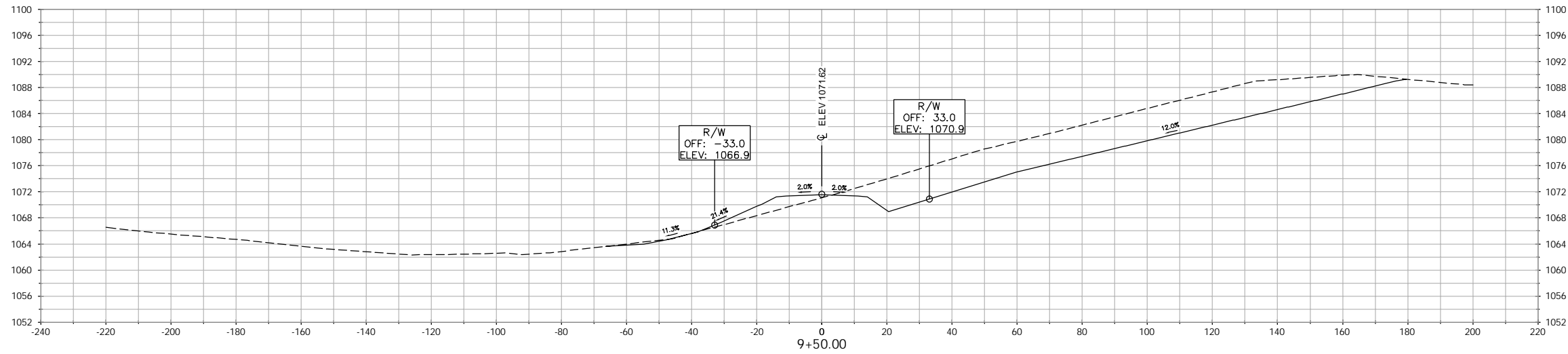


Cross Sections - Riverside Vista Way
 Riverside Vista
 Town of Verona
 Dane County, Wisconsin

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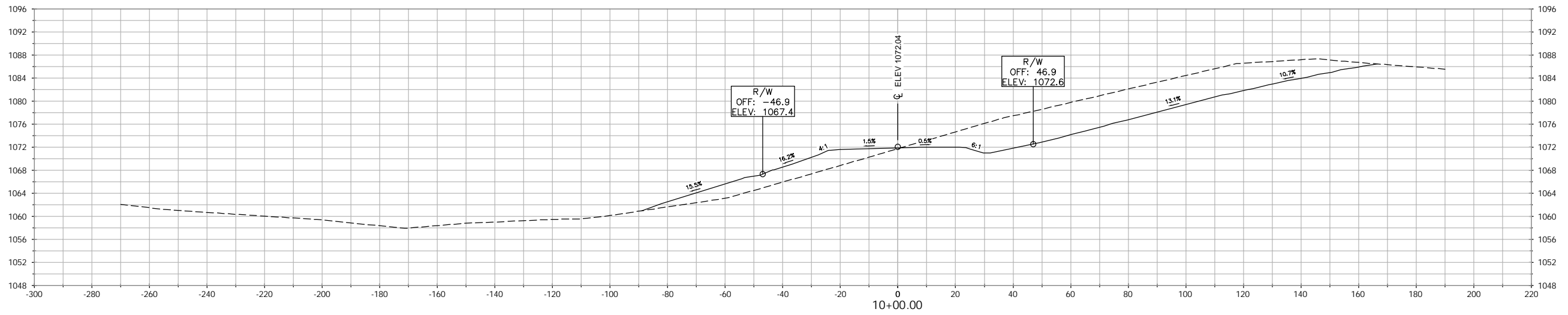
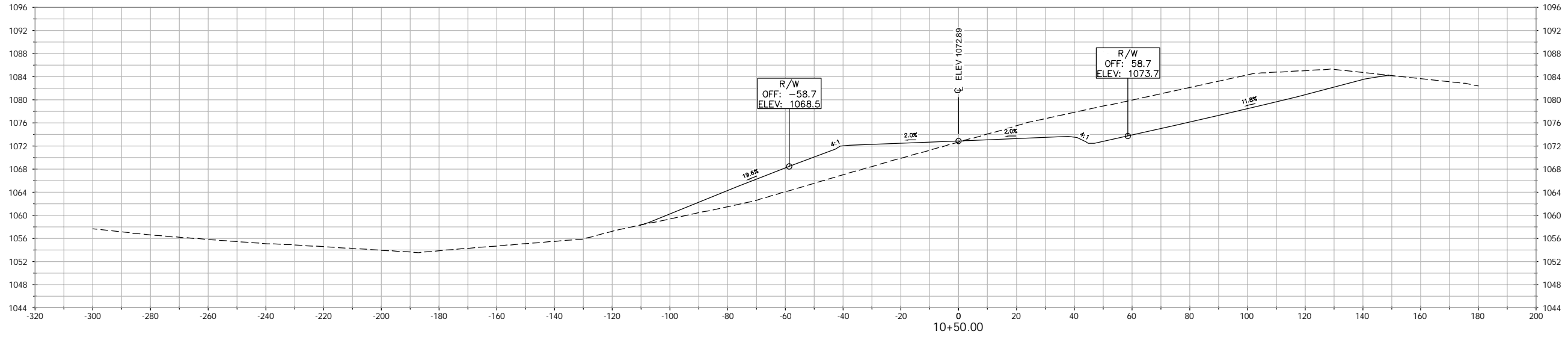
Cross Sections - Riverside Vista Way
Riverside Vista
Town of Verona
Dane County, Wisconsin



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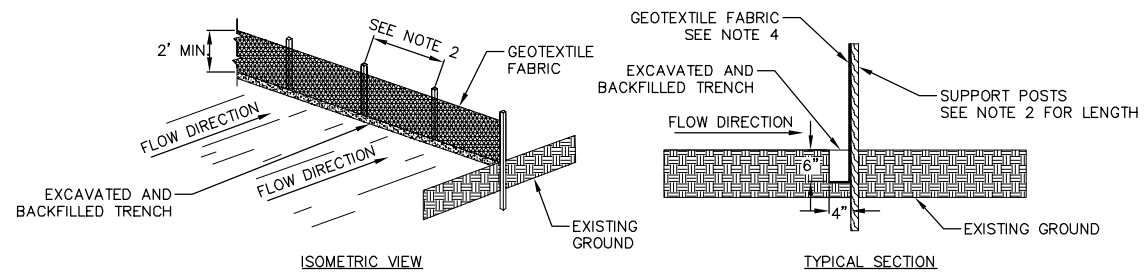
Cross Sections - Riverside Vista Way
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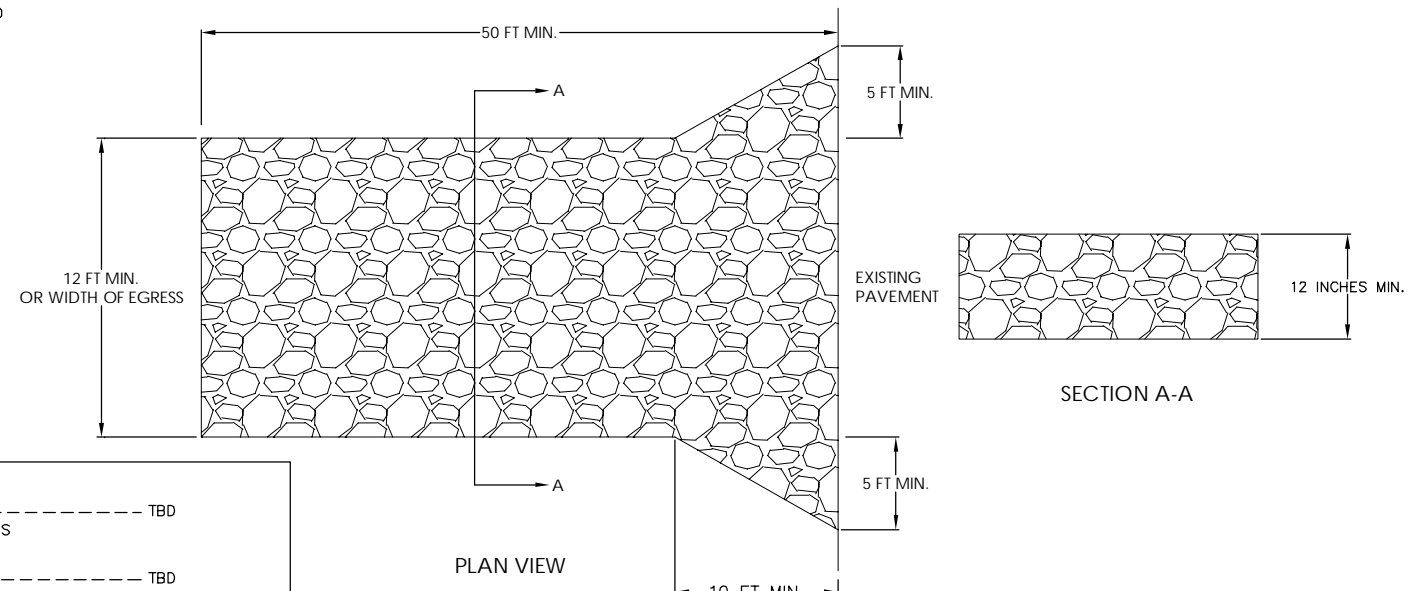
EROSION CONTROL MEASURES

1. EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE TOWN OF VERONA EROSION CONTROL ORDINANCE, CHAPTER 11 AND 14 OF THE DANE COUNTY ORDINANCES AND CHAPTER NR 216 OF THE WISCONSIN ADMINISTRATIVE CODE.
2. CONSTRUCT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH WISCONSIN DNR TECHNICAL STANDARDS (<http://dnr.wi.gov/runoff/stormwater/techstds.htm>) AND WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK.
3. INSTALL SEDIMENT CONTROL PRACTICES (TRACKING PAD, PERIMETER SILT FENCE, SEDIMENT BASINS, ETC.) PRIOR TO INITIATING OTHER LAND DISTURBING CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR IS REQUIRED TO MAKE EROSION CONTROL INSPECTIONS AT THE END OF EACH WEEK AND WHEN 0.5 INCHES OF RAIN FALLS WITHIN 24 HOURS. INSPECTION REPORTS SHALL BE PREPARED AND FILED AS REQUIRED BY THE DNR AND/OR THE TOWN OF VERONA. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
5. EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
6. A 3" CLEAR STONE TRACKING PAD SHALL BE INSTALLED AT THE END OF ROAD CONSTRUCTION LIMITS TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE ADJACENT PAVED PUBLIC ROADWAY. SEDIMENT TRACKING PAD SHALL CONFORM TO WISCONSIN DNR TECHNICAL STANDARD 1057. SEDIMENT REACHING THE PUBLIC ROAD SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORK DAY.
7. CHANNELIZED RUNOFF: FROM ADJACENT AREAS PASSING THROUGH THE SITE SHALL BE DIVERTED AROUND DISTURBED AREAS IF POSSIBLE.
8. STABILIZED DISTURBED GROUND: ANY SOIL OR DIRT PILES WHICH WILL REMAIN IN EXISTENCE FOR MORE THAN 7-CONSECUTIVE DAYS, WHETHER TO BE WORKED DURING THAT PERIOD OR NOT, SHALL NOT BE LOCATED WITHIN 25-FEET OF ANY ROADWAY, PARKING LOT, PAVED AREA, OR DRAINAGE STRUCTURE OR CHANNEL (UNLESS INTENDED TO BE USED AS PART OF THE EROSION CONTROL MEASURES). TEMPORARY STABILIZATION AND CONTROL MEASURES (SEEDING, MULCHING, TARPING, EROSION MATTING, BARRIER FENCING, ETC.) ARE REQUIRED FOR THE PROTECTION OF DISTURBED AREAS AND SOIL PILES, WHICH WILL REMAIN UN-WORKED FOR A PERIOD OF MORE THAN 14-CONSECUTIVE CALENDAR DAYS. THESE MEASURES SHALL REMAIN IN PLACE UNTIL SITE HAS STABILIZED.
9. IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
10. SITE DE-WATERING: WATER PUMPED FROM THE SITE SHALL BE TREATED BY TEMPORARY SEDIMENTATION BASINS OR OTHER APPROPRIATE CONTROL MEASURES. SEDIMENTATION BASINS SHALL HAVE A DEPTH OF AT LEAST 3 FEET, BE SURROUNDED BY SNOWFENCE OR EQUIVALENT BARRIER AND HAVE SUFFICIENT SURFACE AREA TO PROVIDE A SURFACE SETTLING RATE OF NO MORE THAN 750 GALLONS PER SQUARE FOOT PER DAY AT THE HIGHEST DEWATERING PUMPING RATE. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, A NEIGHBORING SITE, OR THE BED OR BANKS OF THE RECEIVING WATER. POLYMERS MAY BE USED AS DIRECTED BY DNR TECHNICAL STANDARD 1061 (DE-WATERING).
11. SEE DETAIL SHEETS AND GRADING AND EROSION CONTROL PLAN FOR RIP-RAP SIZING. IN NO CASE WILL RIP-RAP BE SMALLER THAN 3" TO 6".
12. USE DETENTION BASINS AS SEDIMENT BASINS DURING CONSTRUCTION (DO NOT USE INFILTRATION AREAS). AT THE END OF CONSTRUCTION, REMOVE SEDIMENT AND RESTORE PER PLAN.
13. RESTORATION (SEED, FERTILIZE AND MULCH/MATting) SHALL BE PER SPECIFICATIONS ON THIS SHEET UNLESS SPECIAL RESTORATION IS CALLED FOR ON THE DETENTION BASIN DETAIL SHEET.
14. AFTER DETENTION BASIN GRADING IS COMPLETE, THE BOTTOM OF DRY BASINS SHALL RECEIVE 6" TOPSOIL AND SHALL BE CHISEL-PLOWED TO A MINIMUM DEPTH OF 12" PRIOR TO RESTORATION.
15. SEED, FERTILIZER AND MULCH/MATting SHALL BE APPLIED WITHIN 7 DAYS AFTER FINAL GRADE HAS BEEN ESTABLISHED. IF DISTURBED AREAS WILL NOT BE RESTORED IMMEDIATELY AFTER ROUGH GRADING, TEMPORARY SEED SHALL BE PLACED.
16. FOR THE FIRST SIX WEEKS AFTER RESTORATION (E.G. SEED & MULCH, EROSION MAT) OF A DISTURBED AREA, INCLUDE SUMMER WATERING PROVISIONS OF ALL NEWLY SEEDED AND MULCHED AREAS WHENEVER 7 DAYS ELAPSE WITHOUT A RAIN EVENT.
17. SEDIMENT SHALL BE CLEANED FROM DITCHES IF ACCUMULATED AFTER EACH RAINFALL AND PRIOR TO PROJECT ACCEPTANCE.
18. ACCUMULATED CONSTRUCTION SEDIMENT SHALL BE REMOVED FROM ALL PERMANENT BASINS TO THE ELEVATION SHOWN ON THE GRADING PLAN FOLLOWING THE STABILIZATION OF DRAINAGE AREAS.
19. ALL CONSTRUCTION ENTRANCES SHALL HAVE TEMPORARY ROAD CLOSED SIGNS THAT WILL BE IN PLACE WHEN THE ENTRANCE IS NOT IN USE AND AT THE END OF EACH DAY.
20. ANY PROPOSED CHANGES TO THE EROSION CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY DANE COUNTY WATER RESOURCES ENGINEERING OR PERMITTING MUNICIPALITY.
21. THE TOWN OF VERONA, DANE COUNTY, OWNER AND/OR ENGINEER MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AT ANY TIME DURING CONSTRUCTION.
22. NO GRADING SHALL BE ALLOWED WITHIN 5 FEET OF A PROPERTY LINE UNLESS AUTHORIZED BY PERMITTING AUTHORITY.



- NOTES:**
1. THE GEOTEXTILE FABRIC SHALL BE PLACED IN THE EXCAVATED TRENCH, BACKFILLED AND COMPACTED TO THE EXISTING GROUND SURFACE.
 2. TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
 3. WOOD POSTS SHALL BE A MINIMUM OF 1-1/8" x 1-1/8" OAK OR HICKORY AND 4 FEET LONG.
 4. WOOD POST SPACING SHALL BE A MAXIMUM OF 3' FOR NON-WOVEN GEOTEXTILE FABRIC IS USED AND A MAXIMUM OF 8' IF WOVEN GEOTEXTILE FABRIC IS USED.
 5. THE GEOTEXTILE FABRIC SHALL BE ATTACHED DIRECTLY TO THE UPSLOPE SIDE OF WOODEN POSTS WITH 0.5 INCH STAPLES IN AT LEAST 3 PLACES.
 6. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY, USE ONE OF THE FOLLOWING TWO METHODS:
 - 6.A. TWIST METHOD: OVERLAP THE END POSTS AND TWIST OR ROTATE AT LEAST 180 DEGREES.
 - 6.B. HOOK METHOD: HOOK THE END OF EACH SILT FENCE LENGTH.

1 SILT FENCE NOT TO SCALE



- NOTES:**
1. THE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION TRAFFIC LEAVING THE SITE.
 2. STONE TRACKING PAD SHALL BE INSTALLED PER WISCONSIN DNR TECHNICAL STANDARD 1057.
 3. TRACKING PAD SHALL BE A MINIMUM LENGTH OF 50 FEET. TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT OR A MINIMUM OF 12 FEET IN WIDTH. TRACKING PAD SHALL BE A MINIMUM DEPTH OF 12 INCHES OF 3 INCH TO 6 INCH CLEAR OR WASHED STONE.
 4. TRACKING PAD SHALL BE FLARED PER PLAN
 5. ON SITES WITH A HIGH WATER TABLE, OR WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PRACTICE, STONE TRACKING PADS SHALL BE UNDERLAIN WITH A WISCONSIN DOT TYPE R GEOTEXTILE FABRIC TO PREVENT MIGRATION OF UNDERLYING SOIL INTO THE STONE.
 6. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM BY USING A VARIETY OF PRACTICES, SUCH AS CULVERTS, WATER BARS OR OTHER SIMILAR PRACTICES.

2 TRACKING PAD NOT TO SCALE

CONSTRUCTION SEQUENCE:

1. INSTALL SILT FENCE AND TRACKING PAD
2. CLEAR AND GRUB AREA FOR STORMWATER BASINS
3. STRIP TOPSOIL - STORMWATER AREA
4. ROUGH GRADE - STORMWATER AREA
5. STRIP TOPSOIL-ROADS, DITCHES & OTHER DISTURBED AREAS
6. ROUGH GRADE-ROADS, DITCHES & OTHER DISTURBED AREAS
7. CONSTRUCT ROAD CULVERTS
8. CONSTRUCT UNDERGROUND UTILITIES
9. PLACE AGGREGATE ON ROADS & COMPACT
10. FINAL GRADING
11. RESPREAD TOPSOIL
12. DEEP TILL-DISTURBED AREAS*
13. SEED, FERTILIZE, MULCH/MATting PER PLAN
14. TOUCH UP ROAD AGGREGATE & COMPACT PRIOR TO ASPHALT CONSTRUCTION
15. ASPHALT CONSTRUCTION
16. FINAL SHOULDERING AND RESTORATION
17. EROSION CONTROL FEATURES AFTER DISTURBED AREAS ARE STABILIZED/VEGETATED

*SEE DETAIL 6/SHEET 16 FOR DEEP TILLING DETAIL & NOTES

CONSTRUCTION SCHEDULE:

1. INSTALL EROSION CONTROL MEASURES & START GRADING FOR SITE INCLUDING ROADS AND STORMWATER	TBD
2. TBD	TBD
3. TBD	TBD
4. TBD	TBD
5. TBD	TBD

SEEDING RATES:

TEMPORARY:

1. USE ANNUAL OATS AT 3.0 LB./1,000 S.F. FOR SPRING AND SUMMER PLANTINGS.
2. USE WINTER WHEAT OR RYE AT 3.0 LB./1,000 SF FOR FALL PLANTINGS STARTED AFTER SEPTEMBER 15.
3. SEE DRY DETENTION BASIN DETAIL FOR SEEDING OF DRY DETENTION BASINS.

PERMANENT:

1. USE WISCONSIN D.O.T. SEED MIX #40 AT 2 LB./1,000 S.F.

FERTILIZING RATES:

TEMPORARY AND PERMANENT:


USE WISCONSIN D.O.T. TYPE A OR B AT 7 LB./1,000 S.F.

MULCHING RATES:

TEMPORARY AND PERMANENT:

USE 1/2" TO 1-1/2" STRAW OR HAY MULCH, CRIMPED PER SECTION 607.3.2.3, OR OTHER RATE AND METHOD PER SECTION 627, WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION

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Construction Details
Riverside Vista
Town of Verona
Dane County, Wisconsin

Revisions		Revisions	
No.	Date	Description	No.

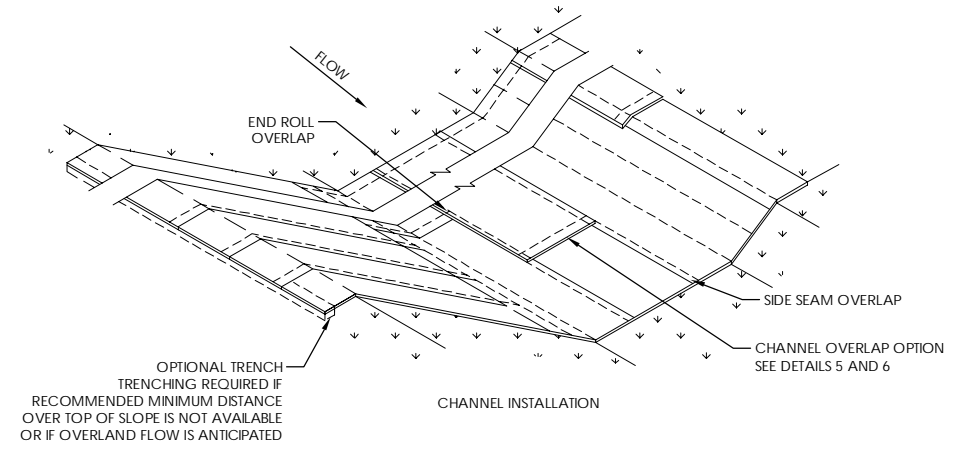
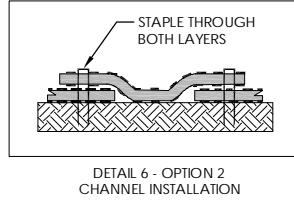
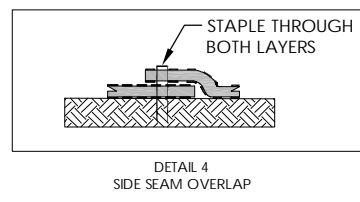
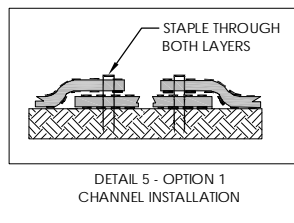
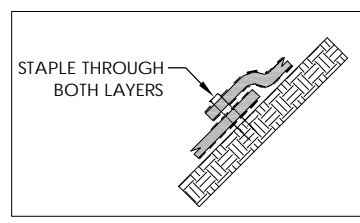
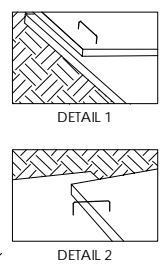
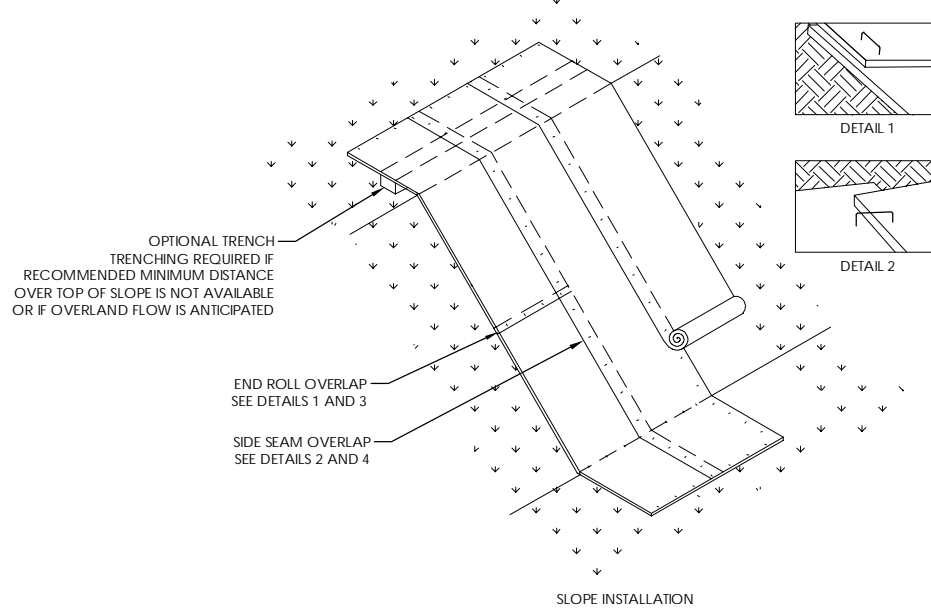
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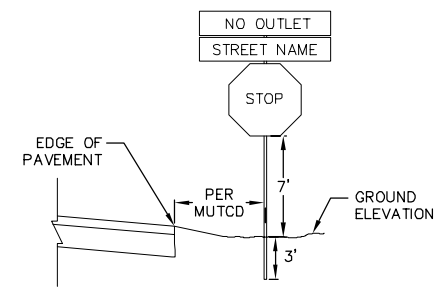
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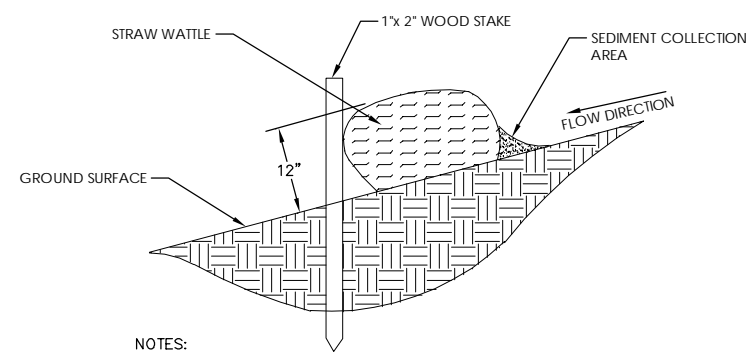
- NOTES:**
1. STAPLE PATTERNS ARE DEPENDENT UPON SLOPE CONDITIONS AND MANUFACTURER'S RECOMMENDATIONS.
 2. STAPLES OF 11 GAUGE OR HEAVIER SHALL BE USED TO HOLD MATS AND NETS IN PLACE.
 3. STAPLES SHALL BE U-SHAPED WITH A 1-INCH TO 2-INCH CROWN.
 4. STAPLE LENGTHS ARE DETERMINED BASED ON SOIL CONDITION, BUT SHALL NOT BE LESS THAN 6 INCHES LONG. SEE WDNR TECHNICAL STANDARD 1052 FOR FURTHER LENGTH REQUIREMENTS.
 5. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR BOTH END AND EDGE OVERLAP LENGTH.
 6. CONSIDER THE USE OF BIODEGRADABLE STAPLES IN LOCATIONS WHERE WIRE STAPLES ARE DETERMINED TO BE A RISK.

1 EROSION MAT
15 NOT TO SCALE

- SIGNAGE NOTES:**
1. ALL SIGNS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
 2. SIGNS SHALL BE A DISTANCE OF 7' FROM GROUND LEVEL TO THE BOTTOM OF THE SIGN MOUNTED ON THE POST.
 3. STREET NAME SIGNS SHALL HAVE WHITE LETTERS AND GREEN BACKGROUND.
 4. SIGN POSTS SHALL BE 2" GALVANIZED SQUARE TUBE AND 12 FT LONG. MOUNT SIGN AT TOP OF THE POST, AND INSTALL POSTS 3' DEEP AND MIX 1/2 BAG OF 80 LB SAKRETE CONCRETE, POURING IT AROUND THE POST BELOW THE GROUND BEFORE COVERING WITH 8" OF TOPSOIL.
 5. VERIFY AND CONFIRM ALL SIGNS WITH TOWN OF VERONA ENGINEER PRIOR TO PURCHASING AND/OR INSTALLING.

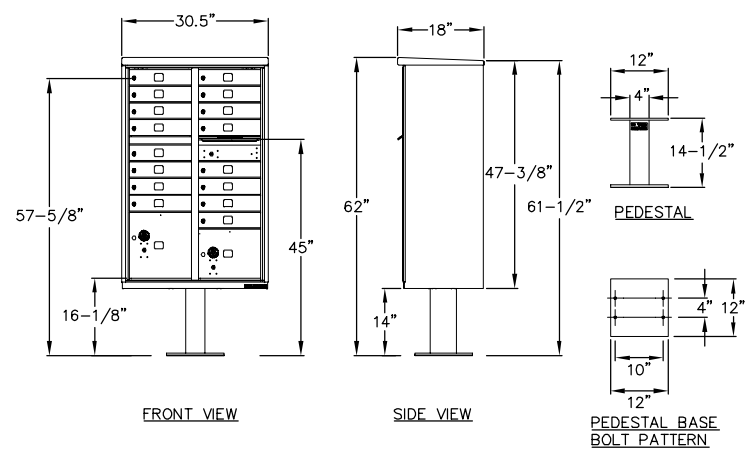
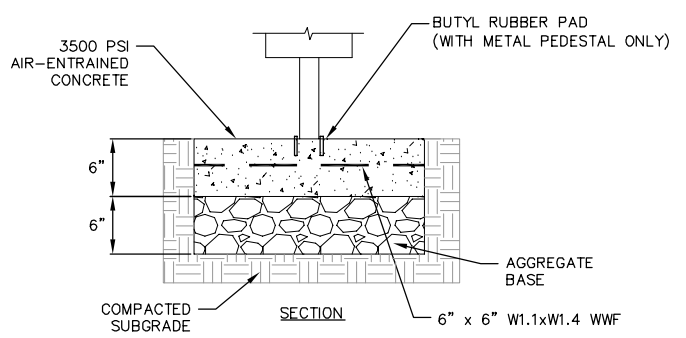
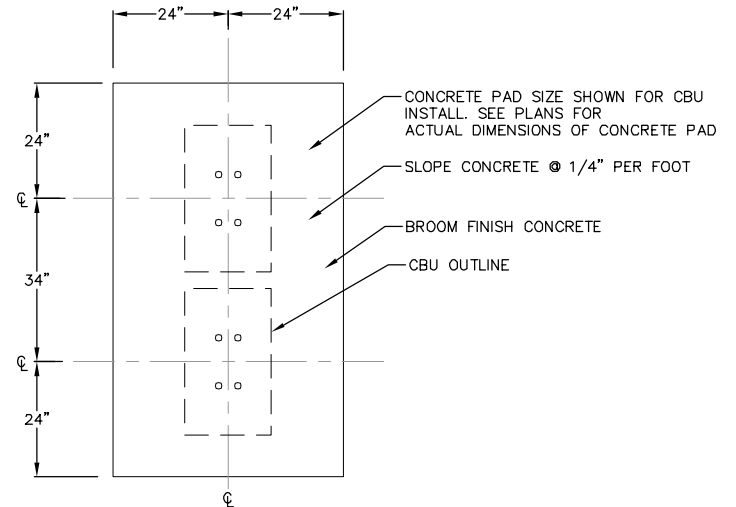


2 ROAD SIGN DETAIL
15 NOT TO SCALE



- NOTES:**
- WATTLES SHALL BE PLACED AS SOON AS GRADING IS DONE SUCH THAT RUNOFF IS ABLE TO BE CONDUCTED OR CONVEYED WITHIN DITCH.
 - STAKE DOES NOT NEED TO PIERCE WATTLE, BUT MAY BE DRIVEN AT AN ANGLE TO SECURE WATTLE ALLOWING WATTLE TO BE MOVED AND POSSIBLY REUSED

3 STRAW WATTLE DETAIL
15 NOT TO SCALE



- NOTES:**
1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 PSI @28 DAYS, CONTAIN 4% MIN. - 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3.50 - 4.50 SLUMP IN ACCORDANCE WITH ACI 301
 2. WELDED WIRE FABRIC SHALL BE PER ASTM A185/A185M
 3. EXPANSION BOLTS SHALL BE EQUIVALENT TO THE FOLLOWING PROVIDERS:
 - 3.1. HILTI KWIK BOLT II (WWW.US.HILTI.COM) 1/2" DIAMETER x 5-1/2" OVERALL LENGTH. GALVANIZED, CATALOG # 00-453-696. KB II 12-512, STAINLESS STEEL; CATALOG # 000-454-744. ENSURE THAT THE MINIMUM EMBEDMENT IN CONCRETE IS AT LEAST 3-1/2".
 - 3.2. ITW RAMSET REDHEAD TRUBOLT GALVANIZED (WWW.RAMSET-REDHEAD.COM), 1/2" DIAMETER x 7" OVERALL LENGTH; CATALOG NUMBER: WS-1270G. ENSURE THAT THE MINIMUM EMBEDMENT IN CONCRETE IS AT LEAST 4-1/8".
 - 3.3. RAWL STUD GALVANIZED (WWW.RAWL.COM), 1/2" DIAMETER x 5-1/2" OVERALL LENGTH; CATALOG NUMBER: 7724. ENSURE THAT THE MINIMUM EMBEDMENT IN CONCRETE IS AT LEAST 4".
 4. A 3-CBU CONFIGURATION IS DEPICTED. A 2 OR 4-CBU CONFIGURATION MAY BE USED AS LONG AS THEY ARE ARRANGED IN GROUPS SUCH THAT THE OVERALL DIMENSION OF THE CONCRETE BASE DOES NOT EXCEED 16 FEET.

4 CBU MAILBOX & CONCRETE PAD DETAIL
15 NOT TO SCALE

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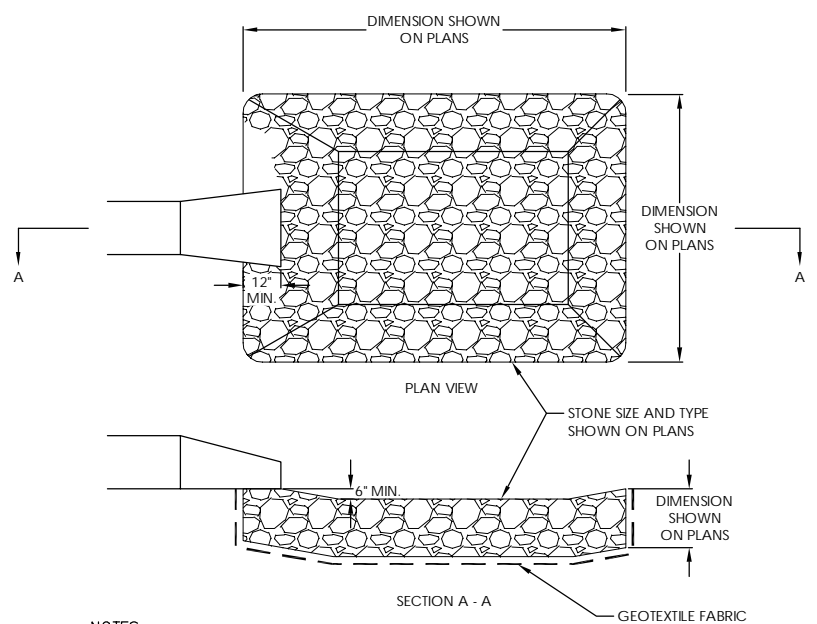
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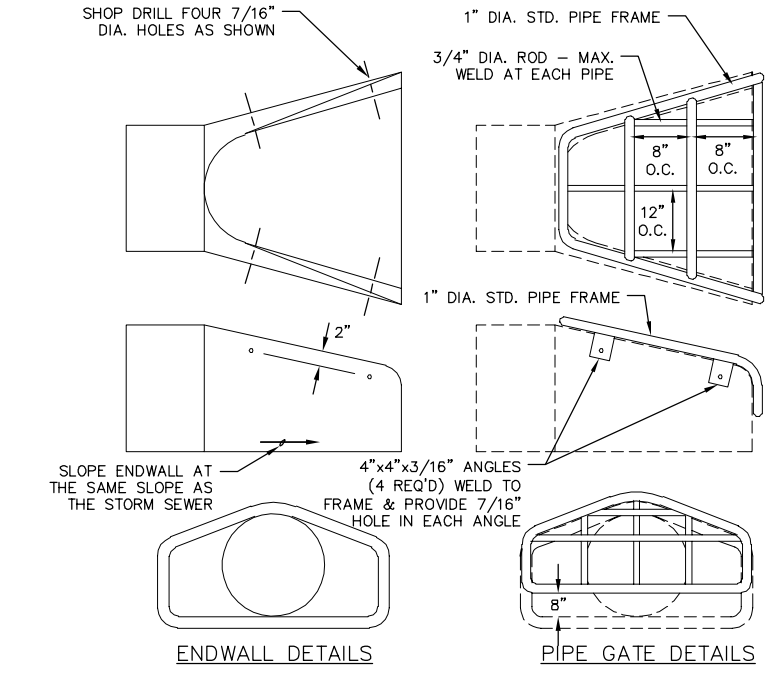
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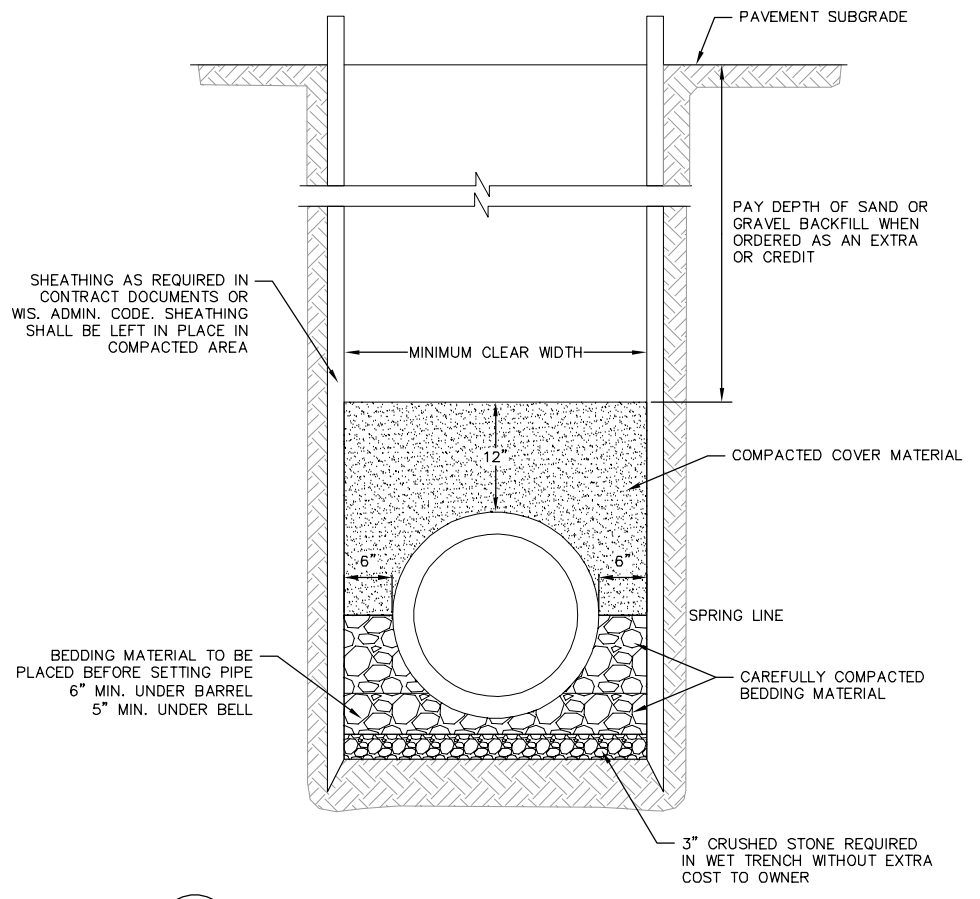
- NOTES:**
- RIPRAP DETAIL FOR DRY BASIN OUTLET PIPES AND EMERGENCY SPILLWAYS AND BIORETENTION BASIN OUTLET PIPE AND EMERGENCY SPILLWAY.
 - SEE GRADING AND EROSION CONTROL PLAN FOR DIMENSIONS, STONE SIZE AND DEPTH
 - GEOTEXTILE FABRIC SHALL BE MIRAFI 140 N OR APPROVED EQUAL

1 RIPRAP DETAIL
16 NOT TO SCALE

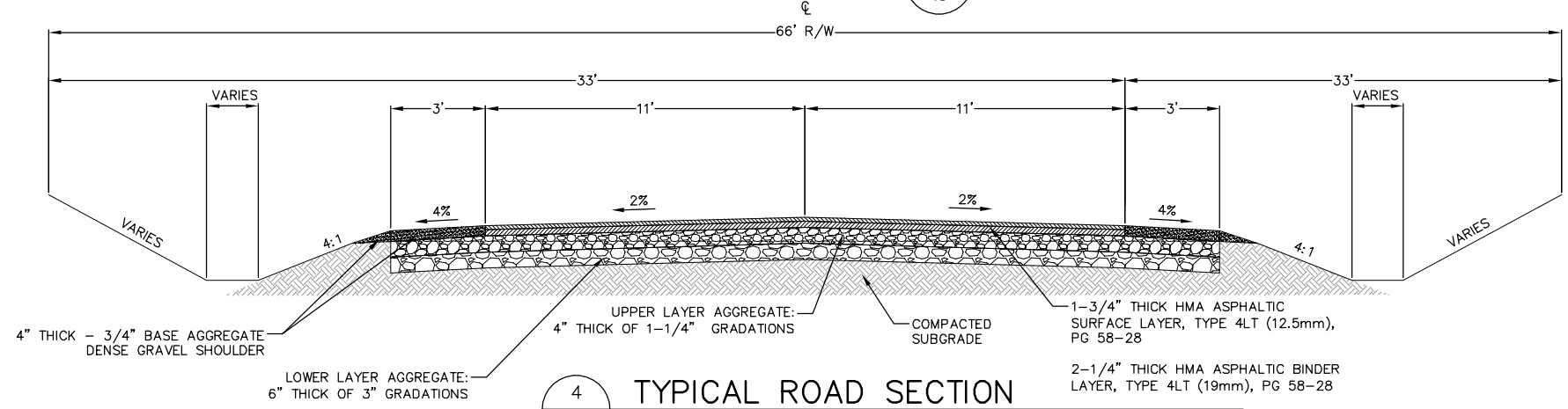


- NOTES:**
- THE CONTRACTOR SHALL BOLT THE PIPE GATE TO THE CONCRETE ENDWALL WITH FOUR 3/8"x6" MACHINE BOLTS WITH NUTS ON INSIDE WALL.
- PAINTING SPECIFICATIONS:**
- THE PIPE GATE SHALL RECEIVE THE FOLLOWING PREPARATION & PAINTING. THE FIRST COAT SHALL BE RUS-OLEUM X-60 RED BARE METAL PRIMER OR APPROVED EQUAL. THE SECOND COAT SHALL BE RUS-OLEUM 960 ZINC CHROMATE PRIMER OR APPROVED EQUAL. THE THIRD COAT SHALL BE RUS-OLEUM 1282 HIGH GLOSS METAL FINISH OR APPROVED EQUAL.
- PREPARATION STEPS:**
1. BARE METAL SURFACES - TREAT WITH THE THREE-COAT PAINTING SYSTEM LISTED AFTER A THOROUGH SCRAPING, WIRE BRUSHING & CLEANING.
 2. EACH COAT OF PAINT SHALL BE APPLIED OVER THE ENTIRE GATE SURFACE.
 3. ALLOW 24-48 HOURS DRYING TIME AT 60° OR ABOVE BETWEEN COATS.

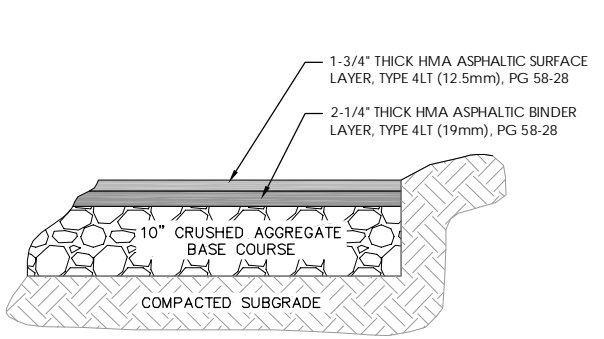
2 STANDARD ENDWALL DETAIL
16 NOT TO SCALE



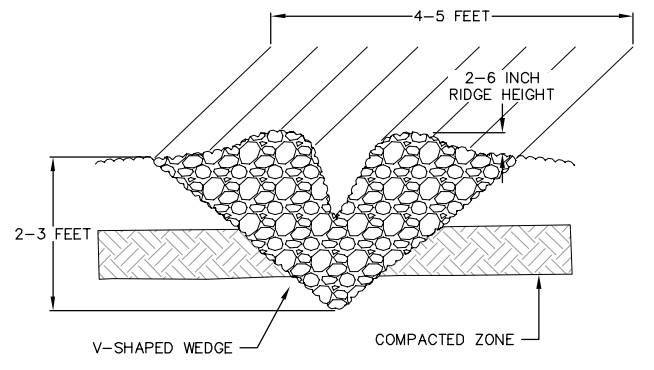
3 CLASS B BEDDING COMPACTED SECTION
16 NOT TO SCALE



4 TYPICAL ROAD SECTION
16 NOT TO SCALE

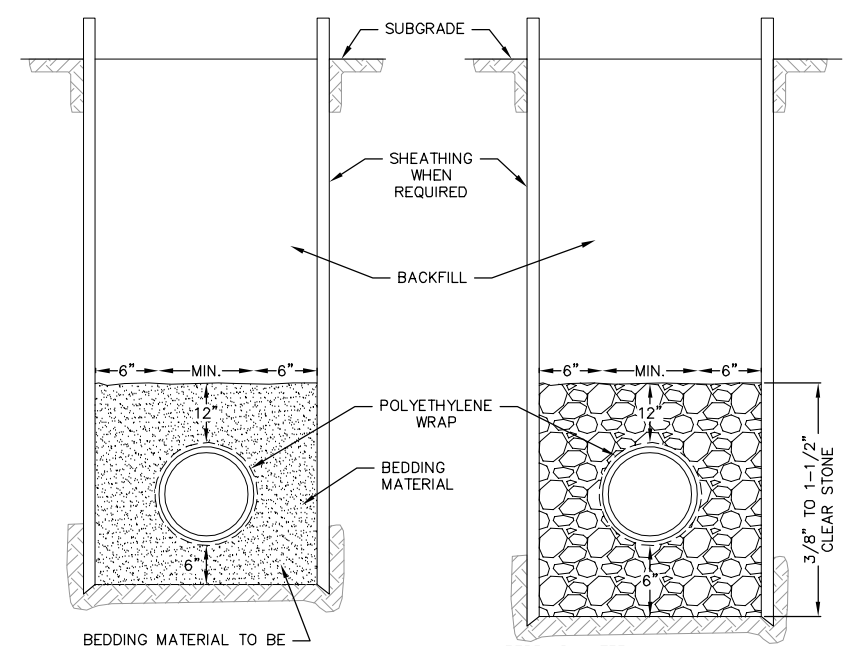


5 SITE PAVEMENT
16 NOT TO SCALE



6 DEEP TILLING DETAIL
16 NOT TO SCALE

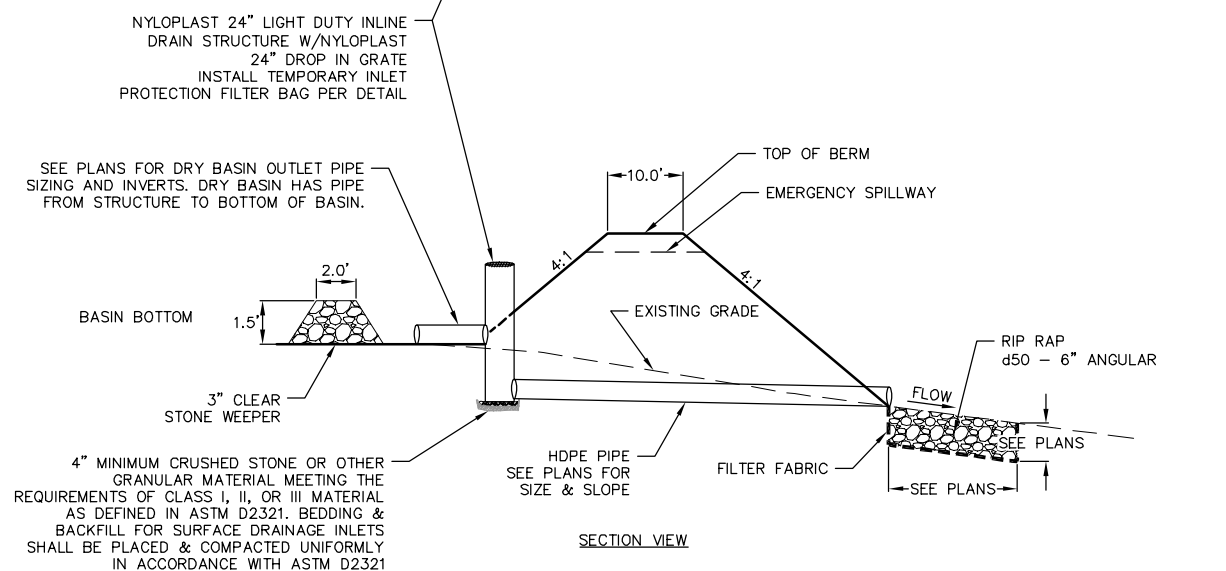
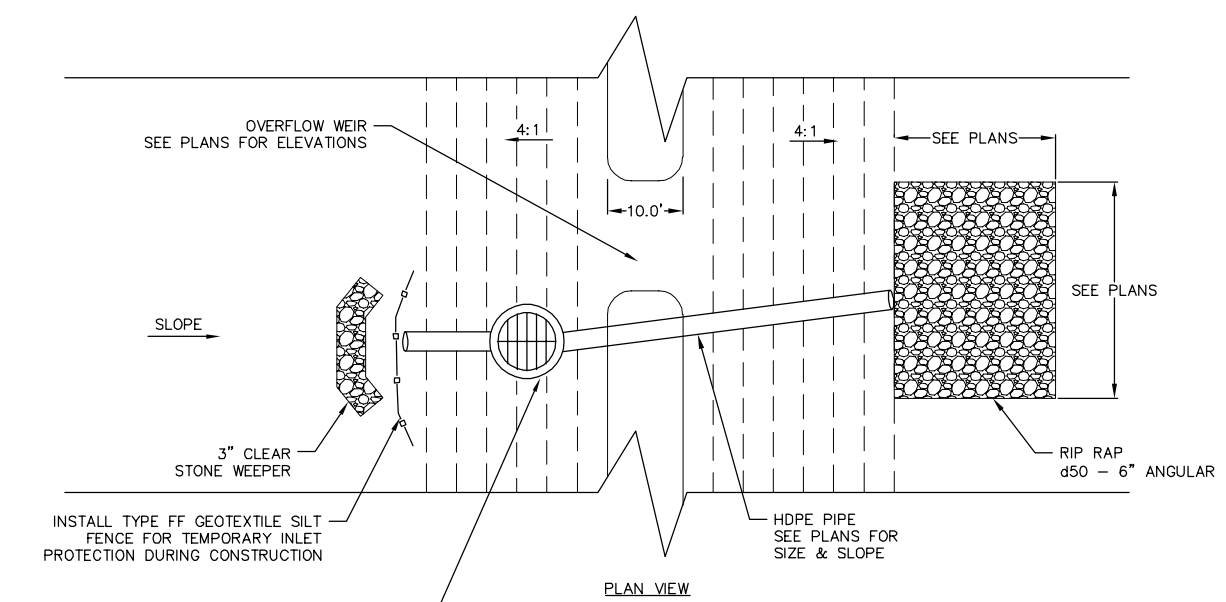
- NOTES:**
1. DEEP TILLING SHALL OCCUR ON DISTURBED GROUND PRIOR TO SEEDING.
 2. DISTURBED SOILS SHALL BE RIPPED AT LEAST 1 TO 2 INCHES BELOW THE HARDPAN LAYER OR COMPACTED ZONE.
 3. DEEP TILLING SHALL BE COMPLETED WHEN SOILS ARE DRY AS IT MORE EFFECTIVELY BREAKS UP THE SOIL AND LEAVES LARGER RIDGES ON THE SURFACE.
 4. SHANKS SHALL BE SPACED 4-5 FEET APART.
 5. DEEP TILLING SHALL BE PERFORMED ON THE CONTOUR.
 6. CONTRACTOR SHALL INSPECT DEEP TILLAGE AREA AFTER EACH STORM EVENT FOR SIGNS OF EROSION, WITH NECESSARY REPAIRS MADE IMMEDIATELY.



7 STANDARD TRENCH SECTION
16 NOT TO SCALE

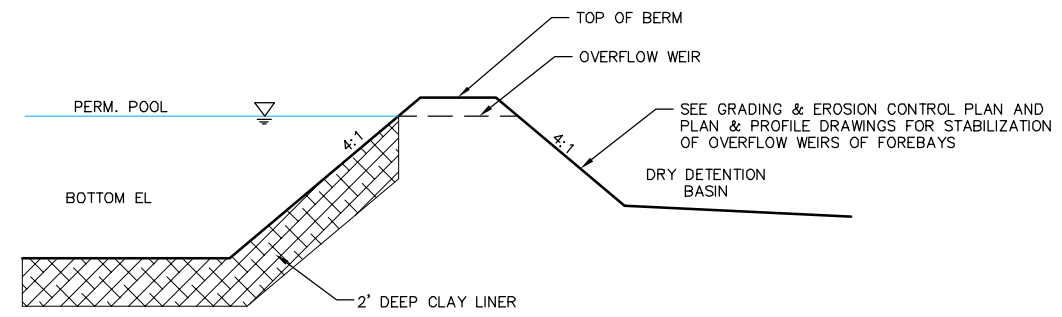
Revisions	No.	Date	Description

Scale:	AS SHOWN
Date:	2/5/2024
Drawn By:	ALC
Project No:	230019
Sheet No:	16 of 17

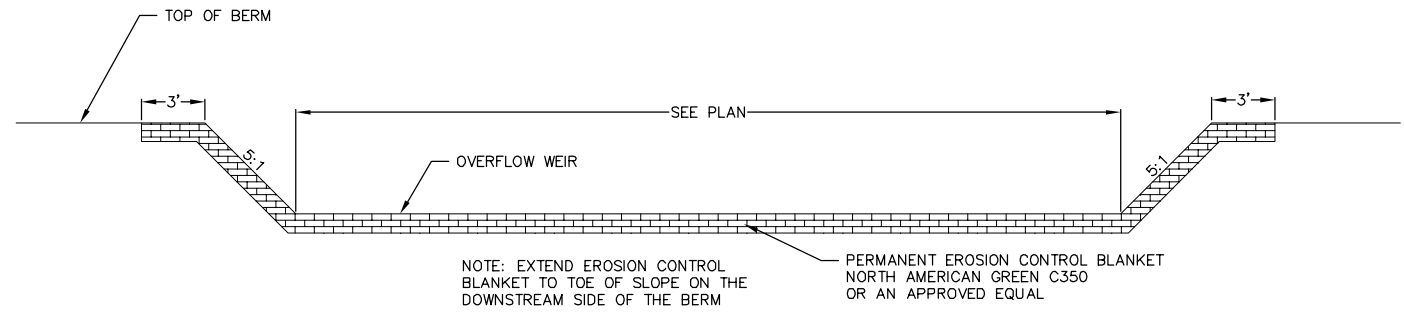


- NOTES:
- SEE BASIN PLAN & PROFILE SHEETS FOR ALL TOP OF BERM ELEVATIONS, OVERFLOW WEIR LENGTH & ELEVATIONS, RIM ELEVATIONS FOR STRUCTURES, INVERT ELEVATIONS AND RIP RAP SIZING.
 - BOTTOM OF DRY BASINS SHALL BE SLOPED TOWARD THE OUTLET TO ENSURE PROPER DRAINAGE AND PREVENT STANDING WATER.
 - BOTTOM OF THE BASINS SHALL BE SEEDED WITH VEGETATION THAT IS TOLERANT OF INUNDATION. SEED MIX SHALL BE AGRECOL RAINWATER RENEWAL MIX OR SIMILAR MIX APPROVED BY ENGINEER PLANTED AT 8 PLS (PURE LIVE SEED) LBS/ACRE.

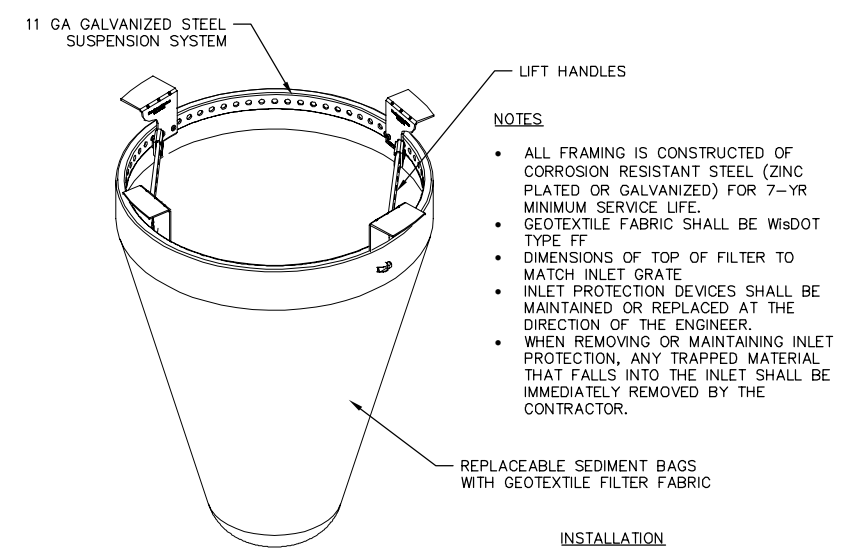
1 DRY DETENTION BASIN DETAIL
17 NOT TO SCALE



2 FOREBAY DETAIL
17 NOT TO SCALE



3 OVERFLOW WEIR
17 NOT TO SCALE



- INSTALLATION
1. REMOVE GRATE
 2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING
 3. REPLACE GRATE

4 INLET PROTECTION DETAIL
17 NOT TO SCALE

Revisions		Revisions	
No.	Date	No.	Date

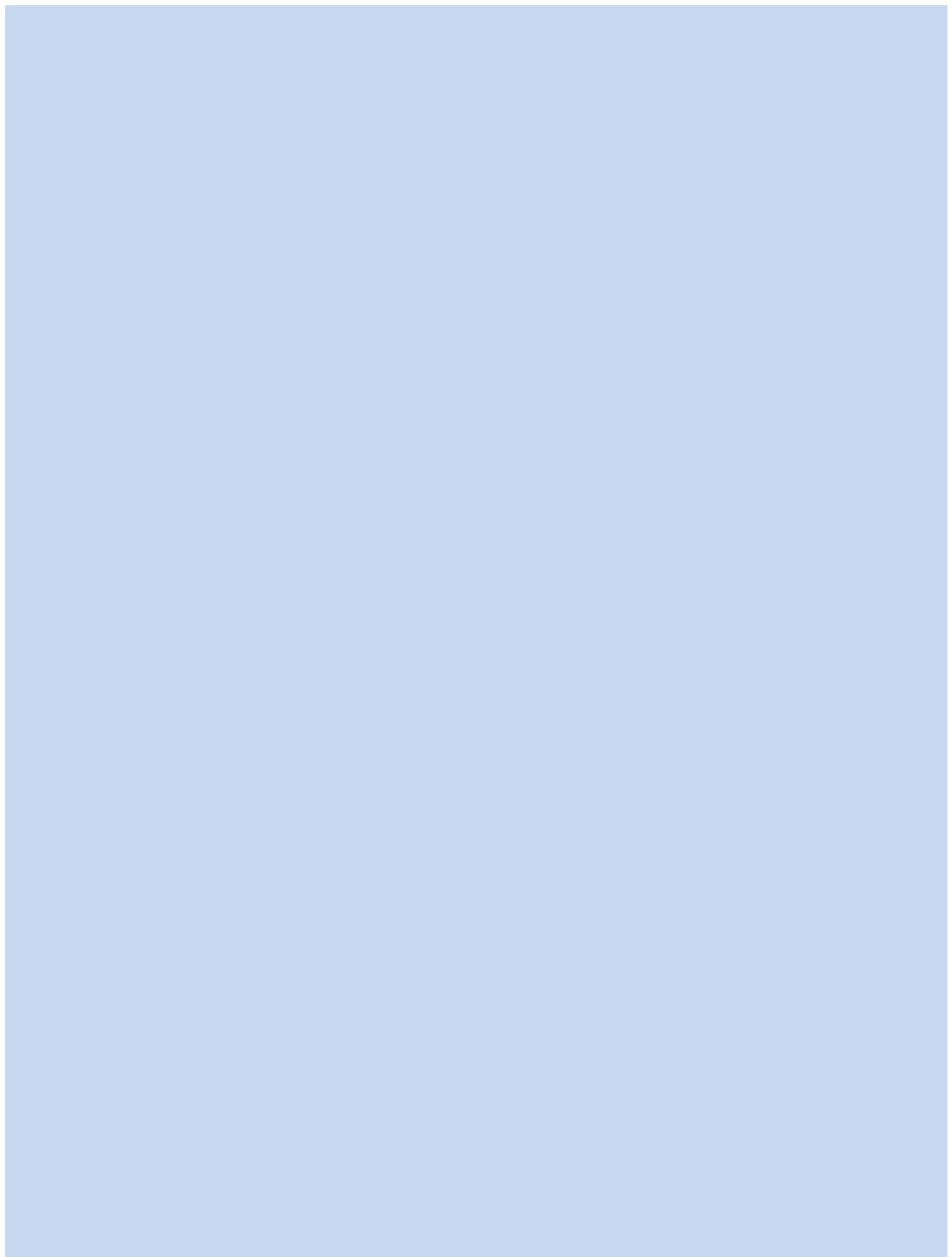
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Date: 2/5/2024

Drawn By: ALC

Project No: 230019

Sheet No: 17 of 17



TOWN OF VERONA

TO: Town Board of Supervisors

DATE: March 1, 2024

FROM: W. Christopher Barnes, Public Works Director

SUBJECT: 2024 Road Maintenance Project

ACTION RECOMMENDED: That the Town Board:

1. Award a contract to Payne and Dolan, Inc. for paving and chip seal of various roads as listed in the 2024 CIP for the amount of \$258,384.16.
2. Execute an agreement with Dane County for pavement striping for the approximate amount of \$5,000.00.
3. Authorize the purchase of new regulatory and warning signs from Decker Supply Co. Inc. for the amount of \$5,500.00.
4. Add Horseshoe Bend to the 2024 CIP project for an approximate cost of \$20,000.00.

As part of the 2024 Capital Improvement Plan, seven roads were selected for improvements this year: Sunset Drive, State Route 69 to County Highway PB, Range Trail, south town line to Sunset Drive, Shady Bend, and Davis Hills. Flint Lane was added when it became apparent that construction prices in 2024 would not change significantly from 2023. The improvements generally consist of asphalt wedging and leveling of poor or distressed areas, aggregate chip seal, sign replacement, and restriping of existing pavement markings. In addition to the paving work, 200 feet of minor shoulder embankment will be necessary on Sunset Drive near State Route 69. The quotes for this work are pending, but it is estimated to cost \$6,120. The 2024 Town budget for road maintenance is \$342,667.

The project bids were received on February 16, 2024 with three companies submitting bids. A summary of the received bids as well as a complete tabulation is attached. The project bids were reviewed by the Public Works Committee on February 20, 2024. Surprisingly, the bid price for asphalt paving decreased from last year. This decrease is the result of several factors, including early bidding, and keeping the project requirements and limits very straightforward. Based on the current project budget, approximately \$60,000 in surplus is available for other Town roads. The Public Works

Committee discussed the addition of several other Town roads to utilize the surplus road maintenance budget. Based upon the discussion, Town staff is recommending adding Horseshoe Bend (chip seal) to the project. The approximate cost of Horseshoe Bend. is \$20,000.00. The Public Works Committee passed a motion to recommend award of all road projects to low bidder, Payne and Dolan, Inc. including the additional work on Horseshoe Bend. A summary of the budget is shown below:

Work Subtotal (2024 CIP Roads plus Flint Lane)	\$258,386.16
C.O. 1 Horseshoe Bend	\$20,000.00
Work by others, Sunset Drive Embankment	\$6,120.00
Decker Signs	\$5,500.00
MSA Engineering	\$12,000.00
Dane County Striping	\$5,000.00
Total Project	<u>\$307,006.16</u>
Budget 2024 CIP Roads	<u>\$342,667.00</u>
Net Surplus Balance	\$35,660.84

As can be seen, additional funds remain in the account. These could be expended on additional road projects or held in reserve for the town share of the Fitchrona Road (Nesbitt Road to Tonto Trail) Project in 2025. The town cost share of the Fitchrona project has not yet been determined.

Payne and Dolan, Inc. has successfully completed many similar projects for the Town, and is qualified to complete the project. If awarded, the project is scheduled to be completed by July 31, 2024.

Attachments

TOWN OF VERONA 2024 ROADWAY MAINTENANCE (#8926155)

Owner: Town of Verona

Solicitor: MSA Professional Services - Madison

02/16/2024 02:00 PM CST

Section Title	Line Item	Item Code	Item Description	UoM	Quantity	Payne & Dolan, Inc.		Scott Construction, Inc		Wolf Paving	
						Unit Price	Extension	Unit Price	Extension	Unit Price	Extension
PROJECT A: Sunset Drive (Range Trail to CTH PB)											
	1	1	Mobilization/ Bonds/ Insurance	LS	1	\$250.00	\$250.00	\$1,300.00	\$1,300.00	\$800.00	\$800.00
	2	2	Traffic Control	LS	1	\$1,500.00	\$1,500.00	\$500.00	\$500.00	\$1,100.00	\$1,100.00
	3	3	Asphaltic Seal Coat	SY	7307	\$2.26	\$16,513.82	\$2.19	\$16,002.33	\$2.26	\$16,513.82
	4	4	Area crack filling	SY	128	\$33.50	\$4,288.00	\$33.50	\$4,288.00	\$33.50	\$4,288.00
	5	5	Aggregate Shoulder 3/4-Inches	TON	100	\$25.00	\$2,500.00	\$32.00	\$3,200.00	\$35.00	\$3,500.00
	Total Project A						\$25,051.82		\$25,290.33		\$26,201.82
PROJECT B: Sunset Drive (SR 69 to Range Trail)											
	6	6	Mobilization/ Bonds/ Insurance	LS	1	\$250.00	\$250.00	\$2,000.00	\$2,000.00	\$800.00	\$800.00
	7	7	Traffic Control	LS	1	\$1,500.00	\$1,500.00	\$500.00	\$500.00	\$1,100.00	\$1,100.00
	8	8	Asphaltic Seal Coat	SY	10447	\$2.26	\$23,610.22	\$2.19	\$22,878.93	\$2.26	\$23,610.22
	9	9	HMA Leveling Course, 5LT	TON	1002	\$78.15	\$78,306.30	\$81.65	\$81,813.30	\$83.00	\$83,166.00
	10	10	Aggregate Shoulder 3/4-Inches	TON	290	\$25.00	\$7,250.00	\$32.00	\$9,280.00	\$26.00	\$7,540.00
	Total Project B						\$110,916.52		\$116,472.23		\$116,216.22
PROJECT C: Range Trail (South End to Sunset Drive)											
	11	11	Mobilization/ Bonds/ Insurance	LS	1	\$250.00	\$250.00	\$700.00	\$700.00	\$800.00	\$800.00
	12	12	Traffic Control	LS	1	\$500.00	\$500.00	\$500.00	\$500.00	\$1,100.00	\$1,100.00
	13	13	Asphaltic Seal Coat	SY	6698	\$2.26	\$15,137.48	\$2.19	\$14,668.62	\$2.26	\$15,137.48
	14	14	Area crack filling	SY	53	\$33.50	\$1,775.50	\$33.50	\$1,775.50	\$33.50	\$1,775.50
	15	15	Aggregate Shoulder 3/4-Inches	TON	95	\$25.00	\$2,375.00	\$32.00	\$3,040.00	\$36.00	\$3,420.00
	Total Project C						\$20,037.98		\$20,684.12		\$22,232.98
PROJECT D: Shady Bend (CTH M to CTH M)											
	16	16	Mobilization/ Bonds/ Insurance	LS	1	\$250.00	\$250.00	\$900.00	\$900.00	\$800.00	\$800.00
	17	17	Traffic Control	LS	1	\$350.00	\$350.00	\$500.00	\$500.00	\$1,100.00	\$1,100.00
	18	18	Asphaltic Seal Coat	SY	7376	\$2.26	\$16,669.76	\$2.19	\$16,153.44	\$2.26	\$16,669.76
	19	19	HMA Leveling Course, 5LT	TON	636	\$78.15	\$49,703.40	\$81.65	\$51,929.40	\$83.00	\$52,788.00
	20	20	Aggregate Shoulder 3/4-Inches	TON	213	\$25.00	\$5,325.00	\$32.00	\$6,816.00	\$26.00	\$5,538.00
	Total Project D						\$72,298.16		\$76,298.84		\$76,895.76
PROJECT E: Davis Hills Drive (CTH M to End)											
	21	21	Mobilization/ Bonds/ Insurance	LS	1	\$250.00	\$250.00	\$500.00	\$500.00	\$800.00	\$800.00
	22	22	Traffic Control	LS	1	\$350.00	\$350.00	\$500.00	\$500.00	\$600.00	\$600.00
	23	23	Asphaltic Seal Coat	SY	2918	\$2.26	\$6,594.68	\$2.19	\$6,390.42	\$2.26	\$6,594.68
	24	24	Area crack filling	SY	62	\$33.50	\$2,077.00	\$33.50	\$2,077.00	\$33.50	\$2,077.00
	Total Project E						\$9,271.68		\$9,467.42		\$10,071.68
PROJECT F: Flint Lane (Riverside Rd to 379' South)											
	25	25	Mobilization/ Bonds/ Insurance	LS	1	\$250.00	\$250.00	\$200.00	\$200.00	\$800.00	\$800.00
	26	26	Traffic Control	LS	1	\$350.00	\$350.00	\$200.00	\$200.00	\$1,400.00	\$1,400.00
	27	27	HMA Leveling Course, 4LT	TON	235	\$86.00	\$20,210.00	\$81.65	\$19,187.75	\$90.00	\$21,150.00
	Total Project F						\$20,810.00		\$19,587.75		\$23,350.00
Base Bid Total:							\$258,386.16		\$267,800.69		\$274,968.46



1702 Pankratz Steet
Madison, WI 53704

P 608-242-7779
F 608-242-5664
www.msa-ps.com

February 20, 2024

Mark Geller, Town Chair
Town of Verona
7669 County Highway PD
Verona, WI 53593

Re: Town of Verona 2024 Roadway Maintenance Projects
Town of Verona

Dear Mr. Geller:

Upon review of the bids received on February 16, 2024 for the above-referenced project, it was found that they were submitted by qualified contractors. It is our recommendation that the low responsive bidder listed below be accepted and award made at your next meeting.

Payne & Dolan, Inc.
6295 Lacy Road
Fitchburg, WI 53593

Bid Amount \$258,386.16
Projects A, B, C, D, E, F

Please execute the enclosed Notice of Award for the contract. Once the form is signed, please email a copy back to nschiesser@msa-ps.com. After receiving the executed copy, we will forward one copy of the Notice of Award and the remaining contract package to the Contractor.

Sincerely,

MSA Professional Services, Inc.

A handwritten signature in black ink that reads "Kevin Lord". The signature is written in a cursive style with a large, looped initial "K".

Kevin Lord
Senior Team Leader - Engineering

KL:ns
Enc.

TOWN OF VERONA

TO: Town Board of Supervisors

FROM: Sarah Gaskell, Planner/Administrator

SUBJECT: Administrator Report for March 2023

Upcoming Meetings

- NRAC – March 12th, 6:30pm Town Hall
- Public Works – March 19th, 7:00am Town Hall
- Finance – TBD
- Plan Commission – March 21st, 6:30pm

General

- Spring Election April 2nd, 2024
- April Town Board Meeting April 3rd, 2024
- Gaskell out of office March 8th, 22nd-29th
- Prairie burned and seeded in February 2024

Work Plan

- Comprehensive Plan Amendments; update to Future Land Use Map
- Plan Commission Project/Public Works Projects added to Town Website
- Open Space and Parks Plan 2024 – 2029
- Knowledge Capture/calendar
- 2023 Budget Amendments if needed
- Annual meeting
- Audit
- Town Board Workshop
- Vault reorganization
- Communications Plan
- Succession Plan
- Emergency Plan

Town Board 2023 Goals Progress

- Succession Planning and Yearly Calendar creation – in progress; deadline March 2024 for completion
- Comprehensive Plan Amendments – working with Strand to update draft map
- NRAC plan update - in progress

- Dark Sky Ordinance – proposed ordinance changes to board in April
- Communication expansion – in progress
- Landscape Plan for Town Hall Property – budget item; create plan and contact firms for bids

TOWN OF VERONA

TO: Town Board of Supervisors
Public Works Committee

DATE: February 29, 2024

FROM: W. Christopher Barnes, Public Works Director

SUBJECT: February 2024 Report

The monthly Public Works Department Activity report is submitted for the information and review of the Board and the Committee. February was an active month with the unseasonal luxation in the weather and temperatures creating challenging road deicing issues. Several mailboxes were repaired and tree limbs and brush were cut. Numerous citizen and resident concerns and action requests were received and addressed on a daily basis. If you should have any questions, please let me know.

Road Maintenance Activities

- Picked up 4 fly dumping areas
- Responded to 2 road icing/snow events
- Swept several roads and corners for sand and debris.
- Established Seasonal Road Weight limits for March 1st. No recorded frost depth in the county.

Equipment and Facility Activities

- Set up for various community room rental events
- Continued research into various boom mower equipment and pricing
- Met with EPIC media and sound system engineer to evaluate community Room system
- Prepared the 2015 Ford truck for Auction- Sold for \$45,500

Sanitary Sewer Utility Activities

- Participated in biweekly construction conference for Badger Mill Pump Station 17 Forcemain Relief project with the Madison Metro Sewerage District (MMSD).
- Construction is ongoing with force main installation under US 151 and gravity sewer near Goose Lake.
- Completed Draft Sewer Use Ordinance revisions and Fee Resolution for review by MMSD and attorney

Engineering Activities

- The fifth meeting for the Badger Mill Creek Stakeholder Meeting Group was held on February 21, 2024. The group consists of approximately 16 communities/agencies/citizen groups and will meet once a month to share goals for Badger Mill Creek and recommend projects for the health and resilience of Badger Mill Creek. Recent actions by the MMSD have made available funding in the Badger Mill watershed of approximately \$1,000,000 which could be a source of project funding for recommended projects near Goose Lake area. The monthly meeting was focused on establishing the chief attributes of the Badger Mill Creek and the highest priorities for maintaining and improving the natural stream condition. The highest priorities are to seek way to restore a natural baseflow. The group will now be looking at potential projects for the \$1,000,000 funding.
- Opened the 2024 road projects bids on February 16th.
- Held a meeting for Shagbark Court residents on February 20, 2024 to discuss and review the existing road and the impacts the new road may have on their property.
- Received 5 proposals and held interviews with 3 engineering firms for the Fitchrona Road /Goose Lake stormwater project
- Met with several Fitchrona Road property owners to discuss the impacts of the proposed road construction.
- Confirmed with the Dane County Highway Dept. that the town staff would complete the small structure inventory program and be reimbursed \$100 per structure. The small structure program through WISDOT is intended to locate and identify drainage structures between 6 feet and 20 feet in size throughout the state. WISDOT has established \$12.5 million for structure replacements. The town may have between 10 and 25 of these type structures.

cc: Sarah Gaskell, Town Planner/Administrator
Mark Judd, Road Patrolman

TOWN OF VERONA

TO: Town Board of Supervisors

DATE: February 29, 2024

FROM: W. Christopher Barnes, Public Works Director

SUBJECT: Fitchrona Road and Goose Lake Stormwater Project Update

The 2024 adopted town budget includes funding for design engineering to implement the recommendations of the 2021 Fitchrona Road/Goose Lake stormwater study to evaluate the stormwater runoff and control in the Badger Mill Creek Watershed. The City and Town jointly issued a request for proposals for the design engineering of the project and individual interviews were held with three firms. Several recent actions have transpired to reevaluate the recommendations contained in the 2021 study.

In 2022, The Madison Metropolitan Sewerage District (MMSD) began a study to evaluate methods to maintain phosphorus compliance levels in their wastewater effluent. The program known as Project Plus (Phosphorus Limits & Updated Solutions) studied 4 methods of meeting phosphorus discharge standards in their wastewater discharge. In April 2023, a report of the alternatives to meet compliance was completed and reviewed by the commission.

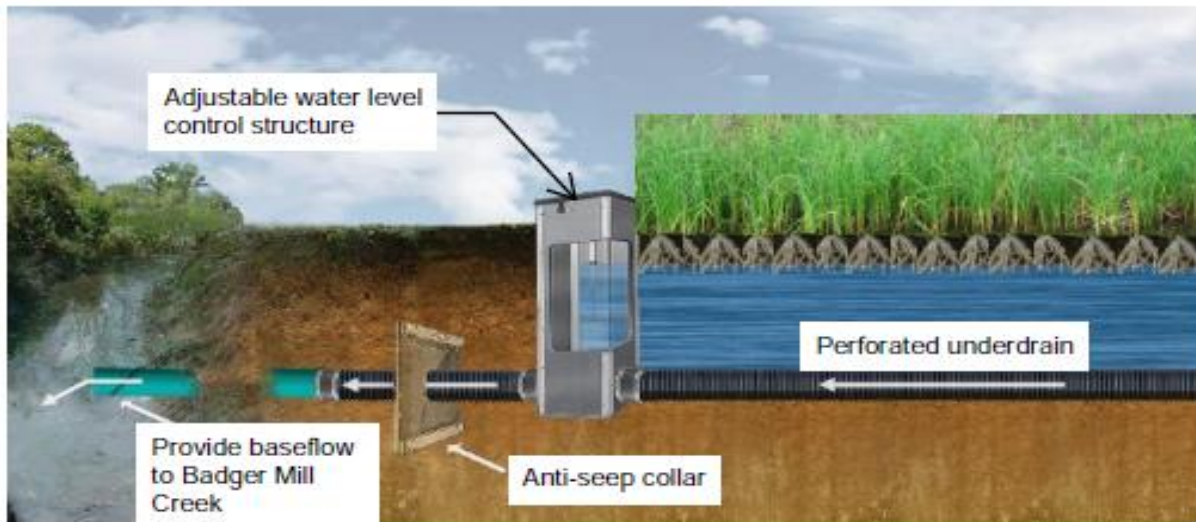
At its May 25, 2023 meeting, the MMSD Commission approved the discontinuance of effluent to the Badger Mill Creek to meet its permit requirement for phosphorus compliance in that waterway. The discontinuance of the MMSD effluent discharge (approx. 3,000,000 gallons per day) will decrease the baseflow of the creek. The reduction varied from approximately 80% at Highway Old PB to Highway to approximately 30% at the confluence with Sugar River near Riverside Road.

The request to discontinue the discharge is now moving through a regulatory process, which could take a year or more. There no firm decision or date on the discontinuance of the effluent discharge. A key aspect of the decision is a pledge of \$1 million in funding to support the continued health and resiliency of Badger Mill Creek and its environmental corridor should the discontinuance be approved.

To understand local interests, challenges and opportunities, MMSD convened a stakeholder group that includes both governmental and nongovernmental organizations. The Town of Verona is a participant in the group. The group is tasked with developing a portfolio of projects it will recommend to the Commission in September 2024. The recent actions of the group have shown that the most important aspect for the stakeholders is the reestablishment of a natural water source to the Badger Mill Creek to restore base flow.

The 2021 Stormwater Study recommended the installation of 2 48" culverts on the west end of Goose Lake and excavation of channels in the Dane County wetlands area to provide a positive outlet to the Badger Mill Creek. This plan was estimated to cost approximately \$400,000. Through discussions at the stakeholders' meetings, a typical high-volume discharge of stormwater from Goose Lake and

Fitchrona Road would not benefit the Badger Mill Creek natural environment or habitat. Additionally, such a project may be difficult to obtain the required discharge permits. During interviews of the responding engineering firms, two firms suggested a 2-part strategy of providing a high flow discharge point from Goose Lake to prevent flooding on Fitchrona road and a second phase to investigate and -if successful- construct a pipe underdrain system from Goose Lake to the location of the MMSD effluent outfall structure. The concept of using the high-water levels in the Quarry Ridge Park and Goose Lake as a potential source water to restore the Badger Mill Creek stream baseflow certainly creates potential for a win-win situation. A schematic of this system is shown below.



**Underdrain and Water Level Control Structure
to Convert High Groundwater to Baseflow**

We expect the selection process for the engineering consultant to be concluded in March and a contract executed by the City of Fitchburg for the required engineering services. An Intergovernmental agreement, similar in form to the previous Goose Lake agreement, should be presented for the board consideration and approval at the April 2024 meeting. It is anticipated that the City and the Town will present these concepts to the stakeholder's group and request support for project funding from MMSD.

Please let me know if you have any questions regarding this matter.

Attachments

TOWN OF VERONA

TO: Town Board of Supervisors

FROM: Teresa Withee, Clerk/Treasurer

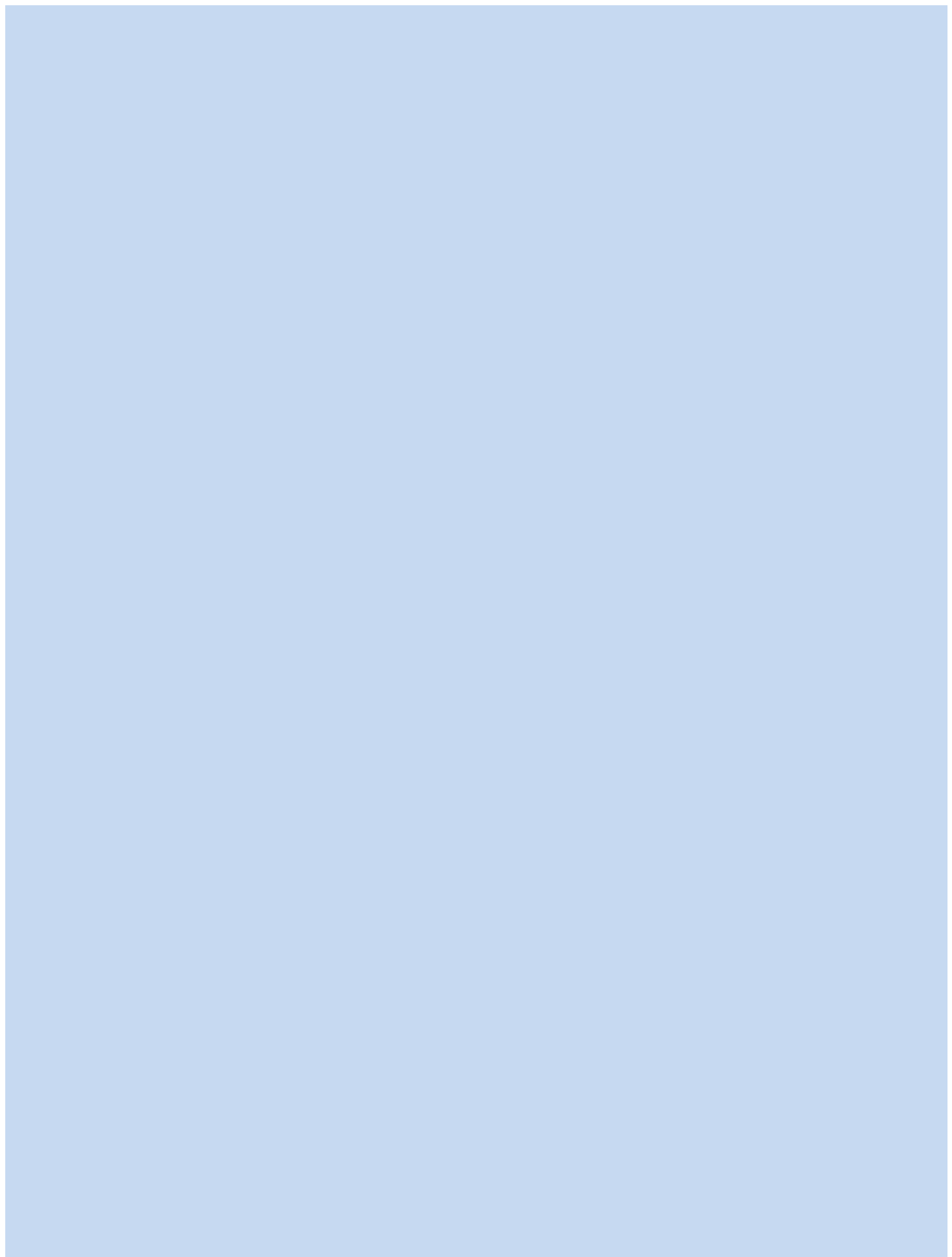
SUBJECT: February 2024 Clerk/Treasurer Report

Clerk

- Began preparations for the Spring Election and posted the Type E Notice – Absentee Voting.
- Submitted 2024 Boundary & Annexation Survey Report to the US Census Bureau
- Submitted 2024 Injury and Illness Report to Department of Safety and Professional Services (DSPS)
- Coordinated with Badger Prairie Health Care Center and Special voting deputies to determine dates voting for the Spring Election
- Attended zoom meeting with HeyGov to create online forms and applications for town residents, received and reviewed four online forms to edit
- Linked to Town Facebook page to include election information and town news
- Seven special assessment letters were completed and returned

Treasurer

- Completed the Annual Survey of Government Finances to the US Census Bureau
- Reviewed invoices and prepared checks
- Total property tax payments collected by the town in December and January were \$6,035,350
- February settlements were made to Dane County, Verona Area School and MATC for a total of \$2,169,663
- Contacted Associated Appraisal to schedule open book and board of review
- Continued setting up and learning the new accounting software program
- Created templates for invoices and receipts
- Began preparations for the town audit



Resolution 2024-01

A RESOLUTION TO VACATE A SEGMENT OF HIDDEN RIVER ROAD IN THE TOWN OF VERONA

WHEREAS, the Town of Verona has the power to discontinue the whole or part of any public way within the Town limits pursuant to Wis. Stats. §66.1003 when the public interest requires it; and

WHEREAS, the portion of the public way, Hidden River Road south of Riverside Road as shown on Exhibit A attached hereto serves only two undeveloped properties; and

WHEREAS, vacation of the portion of the public way shown on Exhibit A will not result in a landlocked parcel or property; and

WHEREAS, the Town Board has held a public hearing to consider public comments on the proposed vacation of the road segment legally described below and depicted in Exhibit A, and hereby determines that it is in the public interest to vacate and discontinue that segment of Hidden River Road;

NOW, THEREFORE, BE IT RESOLVED, by the Town of Verona Board of Supervisors that the portion of the following described public right-of-way is hereby vacated and discontinued:

A roadway being part of Hidden River Road, located in part of the Northeast and Northwest 1/4's of the Northeast 1/4 of Section 32, T6N, R8E, Town of Verona, Dane County, Wisconsin, being more particularly described as follows:

Commencing at the Northeast Corner of said Section 32, thence N 88°24'14" W along the north line of said Northeast 1/4, 1,334.79 feet to the Northwest Corner of said Northeast 1/4 of the Northeast 1/4; thence S 02°09'01" W along the west line of said Northeast 1/4 of the Northeast 1/4, 33.00 feet to the southerly right of way of Riverside Road and to the point of beginning.

Thence N 88°24'14" W along said southerly right of way 33.00 feet to the west right of way of Hidden River Road; thence along said right of way for the next 8 course S 02°09'01" W, 135.61 feet; thence S 03°59'36" W, 365.85 feet; thence S 05°07'48" W, 341.31 feet; thence S 84°52'10" E, 66.00 feet; thence N 05°07'48" E, 341.96 feet; thence N 03°59'36" E, 367.57 feet; thence N 02°09'01" E, 137.31 feet to the said southerly right of way of Riverside Road; thence N 88°24'14" W along said southerly right of way, 33.00 feet to the point of beginning. Said Hidden River Road vacation is 55,757 sq. ft. or 1.28 acres.

BE IT FURTHER RESOLVED, that all easements and rights incidental to the easements that belong to any county, school district, town, village, city, utility, or person that relate to any underground or over ground structures improvements, or services and all rights of entrance, maintenance, construction, and repair of the structures, improvements, or services shall continue. The Town of Verona does not consent to the discontinuance of any such easements and rights.

Adopted by the Verona Town Board this 5th day of March, 2024.

Mark Geller, Chairperson

Attest:

Teresa Withee, Clerk

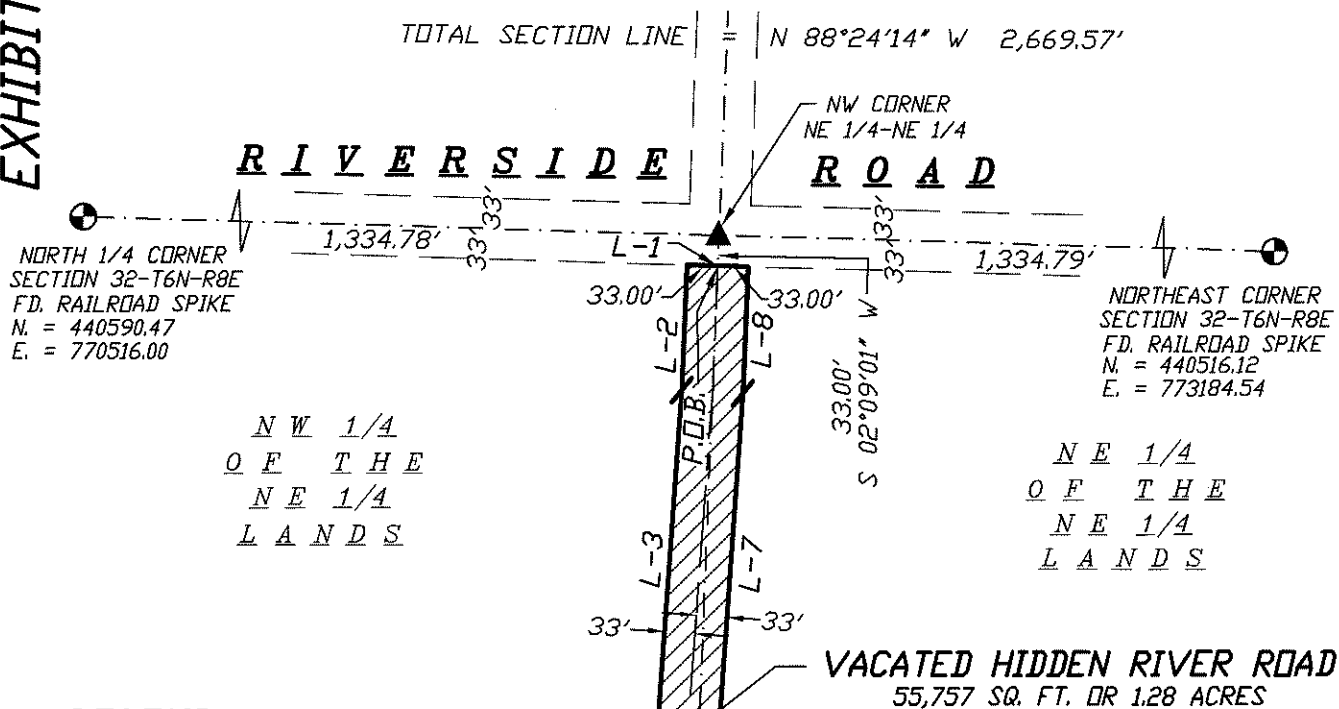


WILLIAMSON SURVEYING & ASSOCIATES, LLC

104 A WEST MAIN STREET, WAUNAKEE, WISCONSIN, 53597.
 NOA T. PRIEVE // CHRIS W. ADAMS // NEIL F. BORTZ
 PROFESSIONAL LAND SURVEYORS
 PHONE: 608-255-5705 FAX: 608-849-9760 WEB: WILLIAMSONSURVEYING.COM

EXHIBIT MAP

Exhibit A



LEGEND

- ▲ = FOUND SURVEY SPIKE
- ⊙ = FOUND SECTION CORNER (AS NOTED)

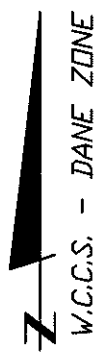
LINE TABLE:

L-#	BEARING	DIST.
L-1	N 88°24'14" W	66.00'
L-2	S 02°09'01" W	135.61'
L-3	S 03°59'36" W	365.85'
L-4	S 05°07'48" W	341.31'
L-5	S 84°52'10" E	66.00'
L-6	N 05°07'48" E	341.96'
L-7	N 03°59'36" E	367.57'
L-8	N 02°09'01" E	137.31'

NOTES:

- 1.) THIS MAP IS NOT INTENDED TO BE A SURVEY OF THE PROPERTY. IT IS DONE FOR INFORMATIONAL PURPOSES ONLY.
- 2.) WETLANDS, IF PRESENT, HAVE NOT BEEN DELINEATED OR SHOWN.
- 3.) PER WISCONSIN INFORMATION SYSTEM FOR LOCAL ROADS WEBSITE THE CENTERLINE OF HIDDEN RIVER ROAD IS 845 FEET.

SCALE 1" = 200'



DATE: 2-8-2024

JOB NO: 23W-448