

AGENDA
BOARD OF PUBLIC WORKS MEETING
Tuesday, April 26, 2022 at 6:00 p.m.
Jackson Municipal Complex
Village Board Room
N168W19851 Main Street
Jackson, WI 53037

1. Call to Order and Roll Call
2. Approval of the Board of Public Works Minutes of March 29, 2022
3. Review of Engineering Service - Eagle Dr & STH 60 Intersection Design
4. Review of Sewer and Water Accounts with Uncollectible Balances
5. Review of Quotes for Televising Interceptor Sanitary Sewer
6. Review of Jackson Water Utility 2021 Consumer Confidence Report
7. Sanitary Sewer & Water Extension to serve Maple Fields Development
8. Director of Public Works Report
9. Citizens/Village Staff to address the Board
10. Adjourn

Persons with disabilities requiring special accommodations for attendance at the meeting should contact the Village Hall at least one (1) business day prior to the meeting.

It is possible that members of the Village Board may attend the above meeting. No action will be taken by any governmental body at this meeting other than the governmental body specifically referred to in this meeting notice. This notice is given so that members of the Village Board may attend the meeting without violating the open meeting law.

DRAFT Minutes
Board of Public Works Meeting
Tuesday, March 29, 2022 at 6:00 p.m.
Jackson Municipal Complex
Village Board Room
N168W19851 Main Street
Jackson, WI 53037

1. Call to Order and Roll Call

Chair Heckendorf called the meeting to order at 6:00 p.m.

Members Present: Tr. Engelhardt, Sarah Malchow, Tim Meffert, Steve Schoen, and Gloria Teifke

Members Excused: Tr. Matter

Staff Present: Administrator Jen Keller, Director of Public Works Brian Kober and Clerk Jilline Dobratz

2. Approval of the Board of Public Works Minutes of February 22, 2022

Motion by Sarah Malchow, second by Gloria Teifke to approve the Board of Public Works minutes of February 22, 2022.

Vote: 6 ayes, 0 nays. Motion carried.

3. Discussion/Action on Industrial Drive Resurfacing Project 2022

Director Kober gave background information. The WisDOT is accepting applications for grant funding until April 1, 2022.

Motion by Tr. Heckendorf, second by Tr. Engelhardt to direct staff to write the grant for the Industrial Drive Resurfacing Project 2022.

Vote: 6 ayes, 0 nays. Motion carried.

4. Ordinance #22-07 Amending Chapter 42 Regarding Traffic Signs – Morning Meadows Phase 2

Director Kober gave information on the current intersection traffic signs.

Motion by Tr. Engelhardt, second by Tim Meffert to recommend Village Board approve Ordinance #22-07 Amending Chapter 42 Regarding Traffic Signs – Morning Meadows Phase 2.

Vote: 6 ayes, 0 nays. Motion carried.

5. Resolution #22-06 Accepting Sanitary and Water System – Morning Meadows Phase 2

Motion by Tr. Engelhardt, second by Tr. Heckendorf to recommend Village Board approve Resolution #22-06 Accepting Sanitary and Water System – Morning Meadows Phase 2.

Vote: 6 ayes, 0 nays. Motion carried.

6. Director of Public Works Report

Director Kober gave the report.

Motion by Tr. Heckendorf, second by Tr. Engelhardt to place the Director of Public Works Report on file.

Vote: 6 ayes, 0 nays. Motion carried.

7. Citizens/Village Staff to Address the Board

Director Kober stated the yard waste site is now open.

8. Adjourn

Motion by Chair Heckendorf, second by Tr. Engelhardt to adjourn.

Vote: 6 ayes, 0 nays. Meeting was adjourned at 6:36 p.m.

Respectfully submitted,

Jilline Dobratz, *CMC/WCPC*
Village Clerk

DRAFT



Taking the lead in Washington County.

Memo

To: Jen Keller, Village Administrator
From: Brian W. Kober, P. E., Director of Public Works *BWK*
Subject: Improving STH 60 (Main St) & Eagle Drive Intersection
Date: April 22, 2022
CC: Board of Public Works; Village Board

Per the request of WisDOT, the Village of Jackson hired SRF Consulting to complete an ICE (Intersection Control Evaluation) Report for the intersection of STH 60 (Main Street) & Eagle Drive. After five months of review by WisDOT, they have responded with the option for the Village of Jackson to improve the intersection with the resurfacing project, per the six requirements as described in the April 14, 2022, email. They have not official approved the ICE Report.

The review time and outcome by WisDOT are very disappointing, although, the Village has a great opportunity to improve the intersection. We always knew that the Village would be responsible for the funding, however by having the intersection improvement occur during the resurfacing project there is a cost savings on the engineering and timeframe of approvals with the State Agencies. Only a few Engineering Firms are qualified by WisDOT to design a Roundabout intersection, and SRF Consulting is not on that list.

The Village has requested a design quote from DAAR Engineering, the engineering firm that is the designer hired by WisDOT for the resurfacing project. Due to the timeframe of WisDOT response (Art Baumann's Email) and the information for the meetings packet, the quote was not received in time for proper review by staff. Once the quote is received and reviewed, the quote from DAAR Engineering will be emailed to the Board for review.

If you have any questions, please let me know.

Brian W. Kober, P.E.

W194N16660
Eagle Drive
Jackson, WI 53037
Phone: 262-677-0707
Fax: 262-677-8770

Mailing Address:
P.O. Box 637

www.villageofjackson.com

Brian Kober

From: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>
Sent: Thursday, April 14, 2022 7:45 AM
To: Brian Kober
Cc: Shaffer, Vida - DOT; Lukasz, Stan
Subject: RE: ICE Report for STH 60 and Eagle Drive Intersection
Attachments: RE: 2310-13-70 RAB to the East

Follow Up Flag: Follow up
Flag Status: Flagged

Brian,
After further discussion within WisDOT, we have determined that the Village of Jackson would have to perform the following to be able to tie the construction of the proposed roundabout at WIS 60 & Eagle with our WIS 60 resurfacing project.

1. Enter into a State Municipal Agreement to establish WisDOT design and construction I.D.s (WisDOT will provide after Village has provided written confirmation that they want to proceed). These I.D.s will be 100% Funded by the Village of Jackson.
2. Hire a consultant to prepare the plan set and perform all necessary items required for a WisDOT project. All steps would have to conform with the WisDOT FDM. The Village shall hire a qualified consultant to prepare the plans. It is strongly recommended that the selected consultant have prepared plans to WisDOT standards previously.
3. Prepare, submit, and obtain the necessary approvals for the requisite environmental documents (see attached e-mail for further information).
4. Hold the necessary Public Involvement meetings for the project. The board meetings that have been held that you provided information on are not sufficient.
5. Perform all necessary coordination with utilities to relocate their facilities as needed.
6. Purchase all right-of-way needed to construct the roundabout.

If the projects are tied, WisDOT would end its resurfacing project at the west end of the roundabout intersection approach limits and the Village would be responsible for all costs from that point to the east limits of the roundabout intersection approach.

All these items will need to be completed by May 1, 2023 (PS&E submittal) for the roundabout project to be attached to the WIS 60 resurfacing project. If the Village of Jackson does not believe that they can meet this schedule, or does not want to follow the WisDOT process, then the best way to implement the roundabout would be through a permit project. A permit project may not be allowed to be constructed at the same time as the resurfacing project.

Please advise as soon as possible on if the Village wants to pursue the WisDOT tied project as we will need to get the agreement and project I.D.s in place.

Art Baumann
Traffic Operations Engineer
Art.Baumann@dot.wi.gov
(262) 548-6707

From: Brian Kober <brian.kober@villageofjacksonwi.gov>
Sent: Friday, March 18, 2022 11:46 AM
To: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>

Cc: Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; Lukasz, Stan <stan.lukasz@daarcorp.com>

Subject: RE: ICE Report for STH 60 and Eagle Drive Intersection

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Art,

Please find the two affidavits for the two said meetings.

Please do not hesitate to ask if you need anything else.

Brian W. Kober. P.E.
Director of Public Works/Village Engineer
Village of Jackson
W194 N16660 Eagle Drive
PO Box 637
Jackson, WI 53037
Phone: 262-677-0707
Fax: 262-677-8770

From: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>
Sent: Thursday, March 17, 2022 9:43 AM
To: Brian Kober <brian.kober@villageofjacksonwi.gov>
Cc: Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; Lukasz, Stan <stan.lukasz@daarcorp.com>
Subject: RE: ICE Report for STH 60 and Eagle Drive Intersection

Brian,
Can you provide information on how the Village posted the Public Works and Village Board meetings? This may be critical to determine if additional public involvement would be needed as part of the environmental process.

Art Baumann
Traffic Operations Engineer
Art.Baumann@dot.wi.gov
(262) 548-6707

From: Stan Lukasz <stan.lukasz@daarcorp.com>
Sent: Wednesday, March 16, 2022 12:55 PM
To: Brian Kober <brian.kober@villageofjacksonwi.gov>
Cc: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>; Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>
Subject: Re: ICE Report for STH 60 and Eagle Drive Intersection

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In the potential event that the project is tied to the federally funded STH 60 resurfacing, is this form PI acceptable for CEC purposes? It has been explained to Brian several times in the past that proper public notice and opportunity for public comment is required, if tied to the resurfacing project. I am not sure committee meetings and discussion at a public meeting had proper notice to the public.

Just a question at this point.

Stan Lukasz, PE
DAAR Engineering, Inc.
Sent from my iPhone

On Mar 16, 2022, at 11:22 AM, Brian Kober <brian.kober@villageofjacksonwi.gov> wrote:

Art,

Thanks for the quick response, and getting closer to completing the report.

The Village of Jackson will make the recommended changes. About public input, the Village has discussed the intersection improvement at the latest Board of Public Works meeting held on Tuesday, February 22, 2022. The agenda and minutes are part of this email. The Village also had the item for discussion and open for public comment at the December 2021 Village Board meeting. Would the meetings meet the requirement of public input? If possible we could have the report finalized this week.

Please let us know how to proceed.

Thanks,

Brian W. Kober, P.E.
Director of Public Works/Village Engineer
Village of Jackson
W194 N16660 Eagle Drive
PO Box 637
Jackson, WI 53037
Phone: 262-677-0707
Fax: 262-677-8770

From: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>

Sent: Tuesday, March 15, 2022 9:35 AM

To: Brian Kober <brian.kober@villageofjacksonwi.gov>

Cc: Lukasz, Stan <stan.lukasz@daarcorp.com>; Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; Jeff Knudson <jknudson@srfconsulting.com>; Jen Keller <jen.keller@villageofjacksonwi.gov>; Malicki, Daniel M - DOT <Daniel.Malicki@dot.wi.gov>

Subject: RE: ICE Report for STH 60 and Eagle Drive Intersection

Brian,

The updated WIS 60 & Eagle Drive ICE report has been reviewed by our Bureau of Traffic Operations in Madison. WisDOT is willing to defer the choice of traffic control at this intersection to the Village, but requests that an updated ICE report be provided after public input is received and the Village has

decided on its preferred form of traffic control. In addition to including the updated traffic control recommendation (if revised), the following should be updated within the ICE report:

- The Safety Performance Measures table on page 11 of the PDF shows the predicted safety number for the signal alternative when it should be the roundabout numbers.
- For the IHSDM analysis of the signal, the number of alcohol sales establishments within 1000 feet of the intersection should be '2'.
- Highlight the approximate right-of-way needs on both the conceptual drawings.
- Under the roundabout alternative, consider extending the raised median on the south leg of the intersection.
- Address the comments included in the attachment.

Please let me know if you have any questions.

Art Baumann
Traffic Operations Engineer
Art.Baumann@dot.wi.gov
(262) 548-6707

From: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>
Sent: Thursday, March 03, 2022 10:47 AM
To: Brian Kober <brian.kober@villageofjacksonwi.gov>
Cc: Lukasz, Stan <stan.lukasz@daarcorp.com>; Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; Jeff Knudson <jknudson@srfconsulting.com>; Jen Keller <jen.keller@villageofjacksonwi.gov>; Malicki, Daniel M - DOT <Daniel.Malicki@dot.wi.gov>
Subject: RE: ICE Report for STH 60 and Eagle Drive Intersection

Brian,
The ICE Report has been submitted to our Bureau of Traffic Operations in Madison for their review and approval. We hope to get a response back from them in the next few weeks.

Art Baumann
Traffic Operations Engineer
Art.Baumann@dot.wi.gov
(262) 548-6707

From: Brian Kober <brian.kober@villageofjacksonwi.gov>
Sent: Friday, February 11, 2022 9:45 AM
To: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>
Cc: Lukasz, Stan <stan.lukasz@daarcorp.com>; Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; Jeff Knudson <jknudson@srfconsulting.com>; Jen Keller <jen.keller@villageofjacksonwi.gov>; Malicki, Daniel M - DOT <Daniel.Malicki@dot.wi.gov>
Subject: RE: ICE Report for STH 60 and Eagle Drive Intersection

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Art,

Please find the updated dt1887 form per your request. The Phase II ICE Report has become a large file, so a separate email from Jeff Knudson, SRF Consulting will be sent with a link to download the file.

The Village will wait the review and the next steps as directed by WisDOT on how to proceed.

If you have any questions please do not hesitate to ask.

Brian W. Kober. P.E.
Director of Public Works/Village Engineer
Village of Jackson
W194 N16660 Eagle Drive
PO Box 637
Jackson, WI 53037
Phone: 262-677-0707
Fax: 262-677-8770

From: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>
Sent: Thursday, February 3, 2022 2:34 PM
To: Brian Kober <brian.kober@villageofjacksonwi.gov>
Cc: Lukasz, Stan <stan.lukasz@daarcorp.com>; Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; Jeff Knudson <jknudson@srfconsulting.com>; Jen Keller <jen.keller@villageofjacksonwi.gov>; Malicki, Daniel M - DOT <Daniel.Malicki@dot.wi.gov>
Subject: RE: ICE Report for STH 60 and Eagle Drive Intersection

Thank you for providing the Phase II ICE report for the WIS 60 & Eagle Drive intersection. We have reviewed the ICE and have the following comments:

- The 2015 crashes should be removed from the Existing Crash Information table and crash diagram. The crash list should be limited to the most recent five complete years of data (2016-2020)
- The signal warrant analysis should be updated to reflect the following:
 - The number of lanes along Eagle Drive should be set to "2 or more lanes".
 - The speeds should be the current 85th-percentile speeds on the approaches (40 mph along WIS 60, 30 mph along Eagle Drive).
 - The "In built-up area of isolated community of < 10,000 population?" drop-down should be set to "Yes".
 - The "% Right Turns Included" "From East (WB)" should be 100%.
 - Run the warrants using the 2020 turning movement count volumes. If the warrants are not met, use the 2015 turning movement count for the analysis (attached).
- WIS 60 is a Wisconsin Designated Long Truck Route.
- Update the signal design and cost estimate to reflect the following:
 - Two-lane north and south approaches, each with an exclusive left-turn lane and a shared through/right-turn lane.
 - Turn lane lengths should be determined using FDM 11-25-2.2/2.3.
 - The HMA and aggregate quantities should be updated to reflect that the existing pavement can be used for most of the intersection.
- Update the roundabout design and cost estimate to reflect the standards outlined in FDM 11-26.

- Access impacts would be expected on the north and south approaches under the roundabout alternative due to the splitter islands.
- Include the volume tables for the signal warrant analyses.
- Provided the Lanes/Volumes/Queues reports for both the stop-control and signal alternatives.
- Comments on the analysis are included on the attached dt1887 form.

Please provide an updated Phase II ICE report and the corresponding analysis files for review and approval. If the desire is to include the WIS 60/Eagle Drive intersection improvements with the upcoming WisDOT project along WIS 60, the updated ICE will need to be resubmitted by Friday, February 11th to keep the project on schedule.

Art Baumann
Traffic Operations Engineer
Art.Baumann@dot.wi.gov
(262) 548-6707

From: Brian Kober <brian.kober@villageofjackson.com>
Sent: Friday, December 17, 2021 4:56 PM
To: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>
Cc: Lukasz, Stan <stan.lukasz@daarcop.com>; Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; Jeff Knudson <jknudson@srfconsulting.com>; Jen Keller <jen.keller@villageofjackson.com>
Subject: ICE Report for STH 60 and Eagle Drive Intersection

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Art,

At the December 14, 2021 Village Board meeting, the Village Board approved the ICE Report created by SRF Consulting for the intersection of Eagle Drive and STH 60 (Main Street) for review by WisDOT.

Please find attached the ICE Report. The Village will wait the review and the next steps directed by WisDOT on how to proceed.

If you have any questions please do not hesitate to ask.

Brian W. Kober. P.E.
Director of Public Works/Village Engineer
Village of Jackson
W194 N16660 Eagle Drive
PO Box 637
Jackson, WI 53037
Phone: 262-677-0707
Fax: 262-677-8770

EMAIL ATTACHED TO ART BAUMANN'S EMAIL SENT
ON 4/14/2022

From: [McElmeel, Timothy J - DOT](#)
To: [Burns, Roslin - DOT](#); [Flower, Cynthia R - DOT](#); [Baumann, Art - DOT](#)
Cc: [Shaffer, Vida - DOT](#); [Wierzchowski, Casey W - DOT](#); [Shahin, Reem - DOT](#); [Higdon, Hans - DOT](#)
Subject: RE: 2310-13-70 RAB to the East
Date: Wednesday, April 13, 2022 2:07:10 PM

All - I checked in with central office on this and we should be good to proceed with this approach. It's a bit abnormal but we should be okay. The 100% locally funded roundabout being included with a State LET is the "state action" that is triggering the need for environmental documentation. I've mentioned this to Art but if the roundabout gets constructed using a work in right of way permit not part of a State LET, we would not need to do environmental documentation for that scenario.

I can prepare a brief memo for the 60 project indicating that the project termini is going to be cut short a little bit and I can outline independent utility and logical termini with that memo. Vida can you just show me where the 60 mainline project is now going to "stop" on our plans and where the roundabout design will tie in? simple exhibit would work.

Ros – would the roundabout project make it in the SEWRPC TIP at all? If not, could it?

Regarding the CEC/Agency Coordination for the roundabout project:

- It's my understanding that the village will be retaining a qualified consultant to conduct the agency coordination for that project and develop a CEC for our review.
- I would also have the municipality get a wetland delineation done by a qualified consultant (maybe SEWRPC) for the disturbance area. Wetland impacts could be banked using our banking system because the work is potentially going with a state LET.
- Tribal emails should come from a WisDOT staff member. Have the eventual design consultant get a hold of me regarding this.
- Project will have to get run through the 106 process. Have the consultants identify if it meets ground disturbance and real estate thresholds for the screening list, if not, arch and history surveys would be needed.
- Roundabout project should hold a PIM or send out a mailing outlining the purpose and need of the project, alternatives considered, why the preferred alternative was selected, PM contact information for comments and a proposed schedule.
- If it goes with the State LET it can be under the DNR cooperative agreement umbrella so the team will need to coordinate the roundabout project with DNR through our typical process. Make sure to outline the impacts to the stream on the north end of the roadway here. Keep in mind that in stream work restrictions may be applied to that disturbance work (typically March 1 – June 15 no in-stream work, but could be additional dates).
- USFWS species list and appropriate species keys should be conducted for the roundabout project.
- Check in with Andy Malsom on Haz mat needs
- CEC would need to be signed by the PSE date

Let me know. Thank you.

Tim McElmeel

From: Burns, Roslin - DOT <Roslin.Burns@dot.wi.gov>
Sent: Wednesday, April 13, 2022 12:54 PM
To: Flower, Cynthia R - DOT <Cynthia.Flower@dot.wi.gov>; Baumann, Art - DOT <Art.Baumann@dot.wi.gov>
Cc: Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; McElmeel, Timothy J - DOT <Timothy.McElmeel@dot.wi.gov>; Wierzchowski, Casey W - DOT <Casey.Wierzchowski@dot.wi.gov>; Shahin, Reem - DOT <Reem.Shahin@dot.wi.gov>; Higdon, Hans - DOT <Hans.Higdon@dot.wi.gov>
Subject: RE: 2310-13-70 RAB to the East

If we are going to do any design review, we would need a separate design ID and then an SMFA would be used instead of the non-participating letter.
I think the language laid out in the SMFA is appropriate for the situation.

From: Flower, Cynthia R - DOT <Cynthia.Flower@dot.wi.gov>
Sent: April 13, 2022 12:27 PM
To: Baumann, Art - DOT <Art.Baumann@dot.wi.gov>; Burns, Roslin - DOT <Roslin.Burns@dot.wi.gov>
Cc: Shaffer, Vida - DOT <Vida.Shaffer@dot.wi.gov>; McElmeel, Timothy J - DOT <Timothy.McElmeel@dot.wi.gov>; Wierzchowski, Casey W - DOT <Casey.Wierzchowski@dot.wi.gov>; Shahin, Reem - DOT <Reem.Shahin@dot.wi.gov>; Higdon, Hans - DOT <Hans.Higdon@dot.wi.gov>
Subject: 2310-13-70 RAB to the East

Art – Sounds like if the Community of Jackson wants to pay for the design and construction 100% for the RAB on the east end of the project limits.

We could let it with our project, however they would need to follow the environmental process in order to be tied. It would need a separate ID and we would need a Non-Participating Letter (NPL) from the community. If they do not get their documents completed in time to tie to Vida's project with a PSE of 5/1/2023, they would need to let this on their own. We are thinking we should wait a bit to see how far they get before we create the ID. With this being 100% local funding we would not need to get in the TIP or STIP, but would need that NPL.

Roz – please feel free to add or correct anything I may have missed.

Added Tim McElmeel and Casey to this discussion as well for input.

Cindy Flower, PE

SE Region Program Manager

WisDOT SE Region Office – Planning Section

NW 141 Barstow Street



Project and Analyst Information:

Project ID:	N/A
Project Type:	Other
Location:	WIS 60 and Eagle Drive
	Village of Jackson, Washington County
	Washington County
	SE Region
Analyst:	Jeff Knudson, PE, PTOE and Matt Flanagan
Agency:	SRF Consulting
Date:	2/10/2022

Background Information:

Project Need:	There is anticipated need for capacity and safety improvements at the intersection.
Project Objective(s):	In reviewing operations analysis at WIS 60 and Eagle Drive, it was determined that the minor approaches currently experience failing LOS under existing two-way stop control conditions. This ICE analysis is being conducted to determine the best intersection control to potentially improve operations and safety.
Additional Information:	A Traffic Impact Analysis (TIA) was conducted for the Village of Jackson on June 9, 2020. This TIA projected significant development growth which will impact operations at the intersection of WIS 60 and Eagle Drive. The results of the recently completed TIA prompted this Phase II ICE Analysis. WisDOT has an ongoing design project (WIS 60 (Main Street) Resurfacing Project - County P to Eagle Drive). This project is scheduled for 2024 resurfacing. On this 1.85-mile segment of WIS 60, the current AADT ranges from 8,700 to 15,700 and is forecasted to grow to 9,900 to 17,800 by 2044. WIS 60 is a commercial and residential corridor with 17.3% trucks. Recent construction in summer of 2021 added new sidewalk and path on the southside of WIS 60. This includes new curb ramps at Eagle Drive.



PHASE II: ICE REPORT

Existing Crash Information:

Observed Crash History:

Years: 2016-2020

Crash Type	Fatal	Injury A	Injury B	Injury C	KABC	PDO	Total
Angle	0	0	3	1	4	0	4
Rear-End	0	0	0	0	0	2	2
Sideswipe	0	0	0	0	0	1	1
Total	0	0	3	1	4	3	7

Fatal: Injury from crash which results in death

Injury A: Suspected Serious Injury

Injury B: Suspected Minor Injury

Injury C: Possible Injury

KABC: Fatal + Injury A + Injury B + Injury C

PDO: Property Damage Only/No apparent Injury

Total: Fatal + Injury A + Injury B + Injury C + PDO

Crash Trends:

Three of the four KABC crashes involved right angle crashes between motorists traveling through on Eagle Drive and through on WIS 60. The fourth KABC crash includes a motorist making a left turn from Eagle Drive with a through motorist on WIS 60.

Contributing Factors:

Two-Way Stop Controlled Intersections with delay may encourage motorists to lower their gap acceptance, which increases the probability of collisions.

Near the intersection of WIS 60 and Eagle Drive, WIS 60 has a change in posted speed limit. This intersection is near the location of the speed transition location, and this may contribute to crashes at this intersection by motorists unable to judge this transitional speed.



Additional Modes of Transportation:

Mode	Need? Yes/No	Nearby Generators and Existing Facilities	Volume	
			#	Unit
PED/BIKE	Yes	In summer of 2021, Village of Jackson added new sidewalk and path on the south side of WIS 60. This includes new curb ramps at Eagle Drive.	There is no significant volume of bikes or pedestrians at this intersection in the existing conditions. With the addition of bike and pedestrian facilities as part of this project, it is anticipated bike and pedestrian volumes will increase.	
OSOW	No	WIS 60 is also not listed as an OSOW Truck Route, a High Clearance Route, or a Wind Tower Corridor. WIS 60 is however listed as a Designated Long Truck Route. Per TRANS 276.07, it is not a 65' Restricted Truck Route.	N/A	N/A

Summary Tables:

Descriptions:

Alt.	Traffic Control	Description of Alternative
1	Traffic Signal	Install Traffic Signal at the intersection of WIS 60 and Eagle Drive. Each approach on WIS 60 will have left turn storage lanes for turning vehicles and medians prior to entering the signalized intersection. Pedestrian and bicyclist facilities will be present.
2	Roundabout	Single-lane roundabout at the intersection of WIS 60 and Eagle Drive. Pedestrian and bicyclist facilities will be present.

*** Construction of the Roundabout alternative is 55K less expensive than the Traffic Signal alternative.**

Costs and Impacts:

Alt.	Traffic Control	Construction Cost	Real Estate Impacts			Environmental Impacts	
			# Build	# Acres	Cost	Impact Type	# Acres
1	Traffic Signal	\$1,240,000	0	0.041 Acre	\$7,700	N/A	N/A
2	Roundabout	\$1,350,000	0	0.067 Acre	\$12,200	N/A	N/A

Safety Performance:

Alt.	Traffic Control	Analysis Period	KABC	PDO	Total
-	Existing Conditions	2016-2020	4	3	7
-	Future No-Build	2025-2034	2.59	5.61	8.20
1	Traffic Signal	2025-2034	4.37	24.56	28.93
2	Roundabout	2025-2034	4.96	11.64	16.60

Note: This table does not include qualitative safety indicators such as the safety benefits due to reductions in stops and reduced queues under each alternative or the relatively unimpeded flow that is offered by each alternative.

- The No-Build conditions show the lowest number of total crashes and the lowest number of fatal and injury crashes as compared to Alternative 1 (Signal) and Alternative 2 (RAB). However, due to the need for operational improvements, the No-Build conditions may not meet the needs of motorists.

- The predicted decrease in fatal crashes between Alternative 1 (Signal) and Alternative 2 (RAB) may be attributed to lower travel speeds, reduction in need for vehicles to stop and geometric nature of roundabouts which have shown the ability to reduce angle and head-on collisions.

Additional Information:

The following trends are not captured in the Safety Performance table (above) but are relevant in the overall discussion of safety performance of all analyzed conditions.

- Alternative 2 (RAB) shows a predicted 32% reduction in fatal crashes as compared to the No-Build conditions.
- Alternative 2 (RAB) shows a 57% reduction in predicted fatal crashes as compared to Alternative 1 (Signal).
- Alternative 2 (RAB) shows a 12% reduction in fatal and injury crashes as compared to Alternative 1 (Signal).
- Alternative 1 (Signal) is predicted to result in an additional total associated crash cost of more than \$200,000 as compared to Alternative 2 (RAB) over the 10-year analysis period.

Recommendation:

- Alternative: The **Roundabout** is recommended for this intersection. This recommendation is based on the analysis and comparison metrics outlined in this Phase II ICE report
- Influencing Factors: Nine primary factors were used to compare alternatives: Cost, Operational Factors, Off-Peak Operations, Right-of-Way (ROW), Predicted Motorist Safety Performance, Pedestrians, Bikes, Local Opinion, and Access.

Metric	Selection Notes	Preference
Cost	The construction costs of the two alternatives are similar. The projected construction cost of the signalized alternative is approximately \$1,240,000 and the cost of the roundabout alternative is approximately \$1,350,000. Additional operational and maintenance costs associated with the traffic signal alternative are anticipated to be greater than that of the roundabout alternative. The predicted crash costs associated with the roundabout alternative are approximately \$200,000 less than that of the traffic signal alternative over the 10-year analysis period (2025-2034).	
Operational Factors	Both alternatives have excess capacity to accommodate fluctuations in future traffic volumes. The traffic signal alternative has 45% excess capacity and the RAB alternative has 75% excess capacity. Queues will not impact access points adjacent to the intersection.	
Off Peak Operations	Off peak operations would generally be more desirable with the Roundabout alternative because a roundabout would offer very little delay when faced with minimal other traffic. Unlike a signal, which needs to cycle to waiting motorists, a roundabout would operate in a nearly free-flow manner outside of the main commuting peaks. The roundabout alternative has additional benefits of traffic calming which may improve safety performance along WIS 60 as traffic enters the municipality from the east.	

ROW	The Roundabout alternative requires 0.067 acres of ROW. The Traffic Signal alternative requires .041 acres of ROW acquisition.	
Predicted Motorist Safety Performance	The roundabout is anticipated to have less severe crashes but more frequent crashes. Roundabouts reduce the frequency of angle and head-on crashes, the two most severe crash types. They also slow traffic within the intersection and that reduces severity when crashes occur. These benefits of a roundabout are tempered by the fact that they are anticipated to produce more frequent crashes than a Traffic Signal Alternative.	
Pedestrian	There is widespread debate when comparing pedestrian safety and operations between a roundabout and signal alternative. Both will provide facilities for pedestrians to cross the approaches and final design would strive to provide the safest and most efficient facilities with either alternative. The benefits of the Traffic Signal alternative include positive control of the traffic flow, allowing pedestrians the confidence they can cross the road with forced-stopped traffic rather than relying on yielding motorists. Only one pedestrian was observed at this intersection during both the AM and PM peak hours. With the high volume of traffic on the approaches to this intersection, and the relative infrequency of pedestrians (meaning the traveling public will not readily anticipate pedestrian conflicts as they might in an urban setting), including forced stops with a traffic signal is desirable. This could also be accommodated with a pedestrian hybrid beacon signal with the roundabout alternative. This positive control ability gives the traffic signal alternative a slight benefit over the roundabout.	
Bicyclists	There is widespread debate when comparing bike safety and operations between a roundabout and signal alternative. Both will provide facilities for pedestrians to cross the approaches and final design would strive to provide the safest and most efficient facilities with either alternative. Only one bicyclist was observed at this intersection during both the AM and PM peak hours. Bike facilities would be accommodated for both alternatives and there is no widespread uniform opinion on which is "better" for bikers. See previous note about traffic signal ability to provide positive control over pedestrian movements. If bikers choose to use side-paths to traverse "through" the roundabout, the traffic signal may provide additional confidence in these movements.	
Local Opinion	Village input needed.	Not Available
Access	Alternatives have no access impacts	



Existing & Future No-Build Conditions:

Practical Feasibility:

Public Opinion:	No formal public input has been received.
Business Impacts:	No physical or access-related business impacts are anticipated.
ROW Impacts:	No ROW impacts are anticipated.
Utility Impacts:	Utility impacts are not anticipated.
Cost Estimate:	N/A
Additional Info:	There is anticipated need for capacity and safety improvements at the intersection.

Safety Analysis:

Crash Trend(s) and Contributing Factors:	Three of the four KABC crashes involved right angle crashes between motorists traveling through on Eagle Drive and through on WIS 60. The fourth KABC crash includes a motorist making a left turn from Eagle Drive with a through motorist on WIS 60.
Conflict Points:	There are 32 conflict points at the existing intersection.
Vulnerable Users:	This intersection currently has pedestrian curb ramps on the Northwest, Northeast and Southwest quadrants. A sidewalk is present on the north side of the west leg and on the west side of the north leg. There are no marked crosswalks at this intersection. A paved multi-use path is present on the south side of the west leg.
Additional Info:	This intersection does not currently have advanced pedestrian warnings or signage. Refer to Attachment 3, Collision Diagram and Attachment 5, Predictive Safety Analysis.

Safety Performance Measures:

	Analysis Period	KABC	PDO	Total
Existing Conditions	2016-2020	4	3	7
Future No-Build	2025-2034	2.59	5.61	8.20

*The total number of observed crashes for the Existing Conditions (2016-2020) is similar to the total number of predicted crashes for the No-Build Conditions (2025-2034). This suggests that the Empirical Bayes weighting method could be used at this intersection to get a more accurate understanding of future conditions. The Empirical Bayes weighting method is not used in this ICE analysis because it is not applicable to other control types that are analyzed in this report.



PHASE II: ICE REPORT

Operational Analysis:

Warrant Analysis:	Under existing conditions, a four-hour warrant is met. Four-hour and peak hour warrants are met by year 2035.
Queue Impacts:	The Piggly Wiggly access drive on Eagle Drive is anticipated to be impacted by queuing on the northbound approach (95 percentile queues would reach the access driveway). The Piggly Wiggly grocery store is in the Southeast quadrant of WIS 60 and Eagle Drive. The access drive on Eagle Drive for the BP Gas station will also be impacted by queuing on the southbound approach.
Additional Capacity:	No excess capacity exists at this intersection during peak hours.
Railroad Impacts:	No - This intersection is not near a railroad.
Additional Info:	Refer to Attachment 4 for Existing Volumes and Traffic Forecasts, Attachment 6 for Traffic Operations Analysis Outputs and Attachment 7 for Signal Warrant Analysis Worksheets.

Operational Performance Measures:

Year: 2020	Existing Conditions											
AM Peak	EB (WIS 60)			WB (WIS 60)			NB (Eagle Drive)			SB (Eagle Drive)		
	L	T/R	-	L	T	R	-	All	-	L	T/R	-
# Lanes	1	1>	-	1	1	1	-	<1>	-	1	1>	-
Volume	70	345	35	15	235	85	25	20	25	80	15	65
Delay (s)	8.4	*	*	8.3	*	*	*	27.0	*	40.2	13.2	*
LOS	A	*	*	A	*	*	*	D	*	E	B	*
V/C Ratio	0.07	*	*	0.02	*	*	*	0.34	*	0.49	0.18	*
Queue (ft)	5	*	*	5	*	*	*	35	*	60	15	*
Storage (ft.)	175	-	-	150	-	125	-	-	-	100	-	-
PM Peak	EB (WIS 60)			WB (WIS 60)			NB (Eagle Drive)			SB (Eagle Drive)		
	L	T/R	-	L	T	R	-	All	-	L	T/R	-
# Lanes	1	1>	-	1	1	1	-	<1>	-	1	1>	-
Volume	55	275	100	35	310	80	50	40	20	55	35	55
Delay (s)	8.5	*	*	8.4	*	*	*	67.6	*	45.7	19.6	*
LOS	A	*	*	A	*	*	*	F	*	E	C	*
V/C Ratio	0.06	*	*	0.04	*	*	*	0.75	*	0.44	0.31	*
Queue (ft)	5	*	*	5	*	*	*	120	*	50	35	*
Storage (ft.)	175	-	-	150	-	125	-	-	-	100	-	-
Additional Information	<1 = Indicates shared left through lane present 1> = Indicates shared right through lane present <1> = Indicates shared left through right lane present - = Indicates zero * = Indicates HCM6th edition methodology does not calculate measures of effectiveness for this movement.											



PHASE II: ICE REPORT

Year: 2035	Future No-Build Conditions (2035)											
AM Peak	EB (WIS 60)			WB (WIS 60)			NB (Eagle Drive)			SB (Eagle Drive)		
	L	T/R	-	L	T	R	-	All	-	L	T/R	-
# Lanes	1	1>	-	1	1	1	-	<1>	-	1	1>	-
Volume	75	350	35	15	235	90	25	20	25	85	15	70
Delay (s)	8.4	*	*	8.4	*	*	*	28.4	*	44.5	13.3	*
LOS	A	*	*	A	*	*	*	D	*	E	B	*
V/C Ratio	0.08	*	*	0.02	*	*	*	0.35	*	0.54	0.19	*
Queue (ft)	10	*	*	5	*	*	*	40	*	70	20	*
Storage (ft.)	175	-	-	150	-	125	-	-	-	100	-	-
PM Peak	EB (WIS 60)			WB (WIS 60)			NB (Eagle Drive)			SB (Eagle Drive)		
	L	T/R	-	L	T	R	-	All	-	L	T/R	-
# Lanes	1	1>	-	1	1	1	-	<1>	-	1	1>	-
Volume	55	280	105	35	315	85	50	45	20	60	35	55
Delay (s)	8.6	*	*	8.4	*	*	*	77.9	*	54.6	20	*
LOS	A	*	*	A	*	*	*	F	*	F	C	*
V/C Ratio	0.06	*	*	0.04	*	*	*	.80	*	0.52	0.32	*
Queue (ft)	5	*	*	5	*	*	*	135	*	55	20	*
Storage (ft.)	175	-	-	150	-	125	-	-	-	100	-	-
Additional Information	<1 = Indicates shared left through lane present 1> = Indicates shared right through lane present <1> = Indicates shared left through right lane present - = Indicates zero * = Indicates HCM6th edition methodology does not calculate measures of effectiveness for this movement.											
	This analysis does not consider the way some motorists may alter their route or travel time to avoid extreme congested conditions.											

Alt. 1: Traffic Signal:

Practical Feasibility:

Public Opinion:	No formal public input has been received.
Business Impacts:	No physical or access-related business impacts are anticipated.
ROW Impacts:	This alternative will likely require approximately 0.041 acres of ROW.
Utility Impacts:	Utility impacts are not known at this time, but they are not anticipated to be useful as a comparison metric because all alternatives will have similar impacts.
Cost Estimate:	\$1,240,000
Additional Info:	Refer to Attachment 2 for Concept Alternatives and Cost Estimates.



PHASE II: ICE REPORT

Safety Analysis:

Crash Trend(s) being Improved with Alt.:	Installation of a traffic signal will minimize angle crashes by allocating green time to the side-street and requiring mainline (WIS 60) motorists to stop for the permissive side-street movements. It should be noted that mainline (WIS 60) rear-end crashes may increase as a result of the need to stop for the traffic signal.
Geometric Concerns:	There are 32 conflict points at the proposed signalized intersection.
Additional Info:	Refer to Attachment 3, Collision Diagram and Attachment 5, Predictive Safety Analysis.

Safety Performance Measures:

	Analysis Period	KABC	PDO	Total
Existing Conditions	2016-2020	4	3	7
Future No-Build	2025-2034	2.59	5.61	8.20
Alt. 1: Traffic Signal:	2025-2034	4.96	11.64	16.60

Operational Analysis:

Warrant Analysis:	Four-hour and Peak hour warrants are met by year 2035.
Queue Impacts:	No immediately adjacent access points impacted by potential queues.
Additional Capacity:	This signalized intersection is anticipated to operate with excess capacity in year 2035. In year 2035, this alternative is projected to have 45% excess capacity.
Railroad Impacts:	No - This intersection is not near a railroad.
Additional Info:	Refer to Attachment 4 for Existing Volumes and Traffic Forecasts, Attachment 6 for Traffic Operations Analysis Outputs and Attachment 7 for Signal Warrant Analysis Worksheets.



PHASE II: ICE REPORT

Operational Performance Measures:

Year: 2035

Alt. 1: Traffic Signal

AM Peak	EB (WIS 60)			WB (WIS 60)			NB (Eagle Drive)			SB (Eagle Drive)		
	L	T/R	-	L	T	R	L	T/R	-	L	T/R	-
# Lanes	1	1>	-	1	1	1	1	1>	-	1	1>	-
Volume	75	390	40	30	280	90	30	25	40	85	15	75
Delay (s)	9.0	0	9.0	11.5	6.9	5.6	12.3	0	11.2	12.5	0	11.8
LOS	A	A	A	B	A	A	B	A	B	B	A	B
V/C Ratio	0.18	0.00	0.72	0.10	0.45	0.10	0.09	0.00	0.27	0.24	0.00	0.38
Queue (ft)	15	0	80	10	40	10	10	0	20	25	0	25
Storage (ft.)	200	-	-	200	-	200	125	-	-	125	-	-
PM Peak	EB (WIS 60)			WB (WIS 60)			NB (Eagle Drive)			SB (Eagle Drive)		
	L	T/R	-	L	T	R	L	T/R	-	L	T/R	-
# Lanes	1	1>	-	1	1	1	1	1>	-	1	1>	-
Volume	60	335	130	65	355	85	75	45	40	60	40	55
Delay (s)	10.6	0	10.2	14.3	7.8	5.8	15.8	0	13.8	15.2	0	14.1
LOS	B	A	B	B	A	A	B	A	B	B	A	B
V/C Ratio	0.16	0.00	0.73	0.23	0.52	0.09	0.25	0.00	0.33	0.20	0.00	0.37
Queue (ft)	20	0	120	25	75	10	30	0	35	25	0	35
Storage (ft.)	200	-	-	200	-	200	125	-	-	125	-	-

Additional
Information

<1 = Indicates shared left through lane present
1> = Indicates shared right through lane present
<1> = Indicates shared left through right lane present
- = Indicates zero
* = Indicates HCM6th edition methodology does not calculate measures of effectiveness for this movement.

Storage/deceleration lengths were determined using guidelines found in the Facilities Development Manual (FDM).



Alt. 2: Roundabout:

Practical Feasibility:

Public Opinion:	No formal public input has been received.
Business Impacts:	ROW acquisition for areas in the Southwest and Southeast quadrants of WIS 60 and Eagle Drive is required. The total ROW required is approximately .058 acres. In addition, access impacts are expected on the north and south legs of the intersection due to the presence of splitter islands.
ROW Impacts:	This alternative will likely require approximately 0.067 acres of ROW.
Utility Impacts:	Utility impacts are not known at this time, but they are not anticipated to be useful as a comparison metric because all alternatives will have similar impacts.
Cost Estimate:	\$1,350,000
Additional Info:	Refer to Attachment 3, Collision Diagram and Attachment 5, Predictive Safety Analysis.

Safety Analysis:

Crash Trend(s) being Improved with Alt.:	Alternative 2 shows a predicted 32% reduction in fatal crashes as compared to the No-Build conditions.
Geometric Concerns:	There are 8 conflict points at the proposed 4-leg roundabout.
Additional Info:	Refer to Attachment 3, Collision Diagram and Attachment 5, Predictive Safety Analysis.

Safety Performance Measures:

	Analysis Period	KABC	PDO	Total
Existing Conditions	2016-2020	4	3	7
Future No-Build	2025-2034	2.59	5.61	8.20
Alt. 2: Roundabout:	2025-2034	4.96	11.64	16.60

Operational Analysis:

Warrant Analysis:	N/A
Queue Impacts:	No adjacent access points impacted by potential queues.
Additional Capacity:	This roundabout controlled intersection is anticipated to operate with excess capacity in year 2035. In year 2035, this alternative is projected to have 75% excess capacity.
Railroad Impacts:	No - This intersection is not near a railroad.
Additional Info:	Refer to Attachment 4 for Existing Volumes and Traffic Forecasts and Attachment 6 for Traffic Operations Outputs.



PHASE II: ICE REPORT

Operational Performance Measures:

Year: 2035

Alt. 2: Roundabout

AM Peak	EB (WIS 60)			WB (WIS 60)			NB (Eagle Drive)			SB (Eagle Drive)		
	-	All	-	-	All	-	-	All	-	-	All	-
# Lanes	-	<1>	-	-	<1>	-	-	<1>	-	-	<1>	-
Volume	75	390	40	30	280	90	30	25	40	85	15	75
Delay (s)	*	9.6	*	*	7.5	*	*	7.3	*	*	6.6	*
LOS	*	A	*	*	A	*	*	A	*	*	A	*
V/C Ratio	*	0.54	*	*	0.42	*	*	0.17	*	*	0.23	*
Queue (ft)	*	85	*	*	55	*	*	15	*	*	25	*
Storage (ft.)	-	-	-	-	-	-	-	-	-	-	-	-
PM Peak	EB (WIS 60)			WB (WIS 60)			NB (Eagle Drive)			SB (Eagle Drive)		
	-	All	-	-	All	-	-	All	-	-	All	-
# Lanes	-	<1>	-	-	<1>	-	-	<1>	-	-	<1>	-
Volume	60	335	130	65	355	85	75	45	40	60	40	55
Delay (s)	*	10.3	*	*	10.2	*	*	7.1	*	*	7.5	*
LOS	*	B	*	*	B	*	*	A	*	*	A	*
V/C Ratio	*	0.57	*	*	0.56	*	*	0.24	*	*	0.25	*
Queue (ft)	*	95	*	*	90	*	*	25	*	*	25	*
Storage (ft.)	-	-	-	-	-	-	-	-	-	-	-	-

Additional
Information

<1 = Indicates shared left through lane present
1> = Indicates shared right through lane present
<1> = Indicates shared left through right lane present
- = Indicates zero
* = Indicates HCM6th edition methodology does not calculate measures of effectiveness for this movement.



PHASE II: ICE REPORT

Attachments:

The following attachments are provided for documentation:

1. Project Location Map
2. Concept Alternatives and Cost Estimates
3. Collision Diagram
4. Existing Volumes and Traffic Forecasts
5. Predictive Safety Analysis
6. Traffic Operations Outputs
7. Traffic Signal Warrant Analysis Worksheets

Attachment 1 – Project Location Map

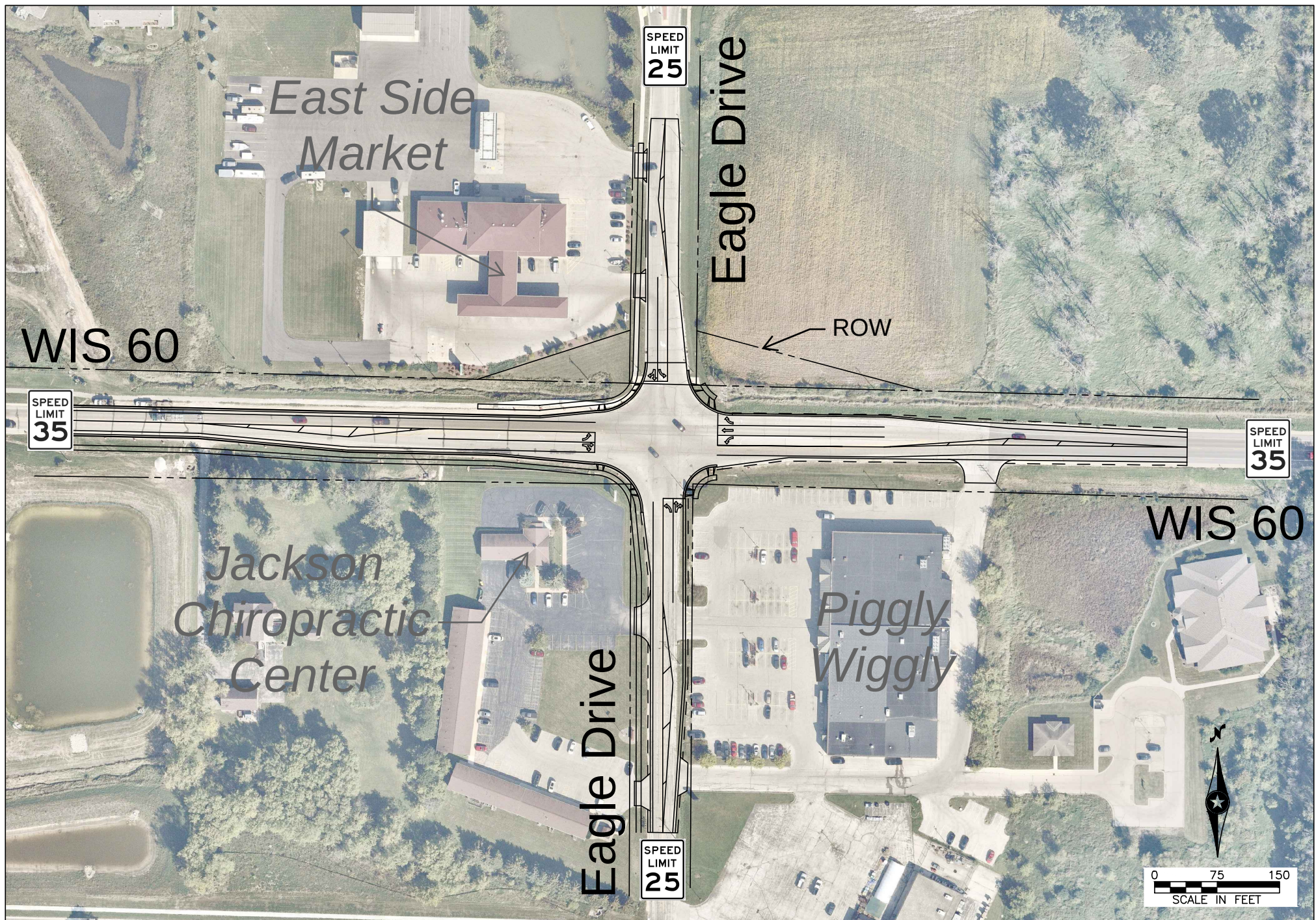


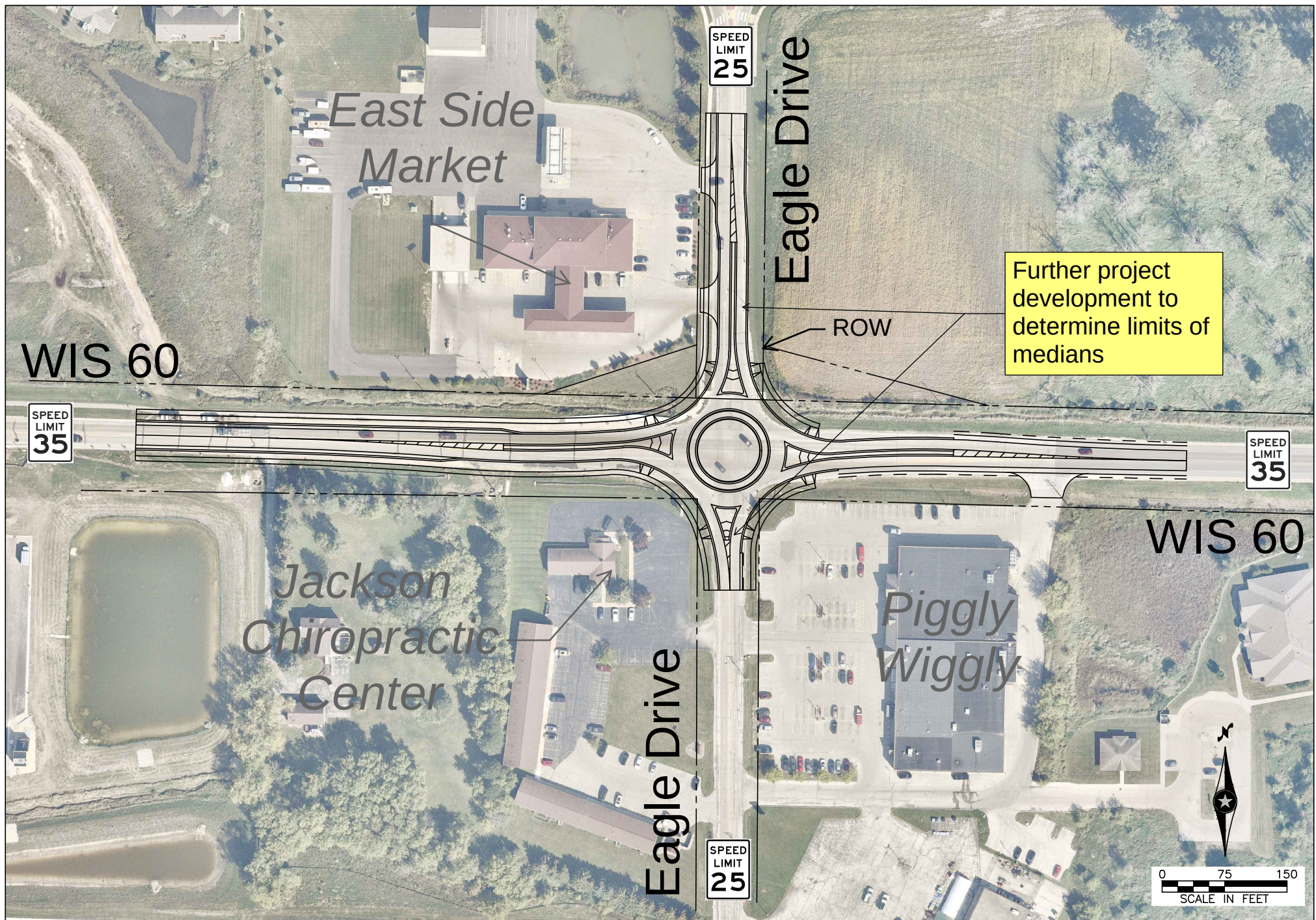
Project Location Map

WIS 60 & Eagle Drive - Phase II ICE
Village of Jackson, WI

Figure 1

Attachment 2 – Concept Alternatives and Cost Estimates





Concept Cost Estimate Summary - Alternative 1: Traffic Signal
WIS 60 & Eagle Drive
Village of Jackson, Wisconsin
Washington County
February 2022

Project Segment Type: (R=Rural, S=Suburban, U=Urban)

Summary Item	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1	EXCAVATION COMMON	CY	Included in Incidentals		
2	MILLING	SY	10240	\$5.00	\$51,200
3	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1560	\$20.00	\$31,200
4	SIDEWALK	SF	10364	\$7.00	\$72,500
5	HMA PAVEMENT	TON	3700	\$80.00	\$296,000
6	CONCRETE CURB AND GUTTER 30-INCH	LF	1590	\$18.00	\$28,600
7	Major Roadway Items Detailed Subtotal (Items 1 to 6)				\$479,500
8	SIGNALIZE INTERSECTION	LS	1	\$180,000.00	\$180,000
9	DRAINAGE	LS	% of Item 6	15%	\$71,900
10	EROSION CONTROL AND RESTORATION	LS	% of Item 6	7%	\$33,600
11	TRAFFIC CONTROL AND STAGING	LS	% of Item 6	8%	\$38,400
12	SIGNING/MARKING	LS	% of Item 6	6%	\$28,800
13	ROADWAY INCIDENTALS	LS	% of Item 6	20%	\$95,900
14	Construction Costs Subtotal (Items 7 to 13)				\$928,100
15	MOBILIZATION	LS	% of Item 13	7%	\$60,000
16	PRELIMINARY ENGINEERING	LS	% of Item 13+14	10%	\$98,800
17	FINAL ENGINEERING				
18	CONSTRUCTION ENGINEERING	LS	% of Item 13+14	15%	\$148,200
19	REAL ESTATE - SOUTHWEST QUADRANT	AC	0.023	\$141,500.00	\$3,300
20	REAL ESTATE - SOUTHEAST QUADRANT	AC	0.018	\$250,000.00	\$4,400
TOTAL PROJECT COST (2022 DOLLARS)					\$1,242,800

**Concept Cost Estimate Summary - Alternative 2: Roundabout
WIS 60 & Eagle Drive
Village of Jackson, Wisconsin
Washington County
February 2022**

Project Segment Type: (R=Rural, S=Suburban, U=Urban)

Summary Item	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1	EXCAVATION COMMON	CY	Included in Incidentals		
2	BASE AGGREGATE DENSE 1 1/4-INCH	TON	6580	\$20.00	\$131,600
3	SIDEWALK	SF	19920	\$7.00	\$139,440
4	HMA PAVEMENT	TON	2230	\$80.00	\$178,400
5	CONCRETE CURB AND GUTTER 30-INCH	LF	4510	\$18.00	\$81,200
6	Major Roadway Items Detailed Subtotal (Items 1 to 5)				\$530,600
7	DRAINAGE	LS	% of Item 6	25%	\$132,700
8	EROSION CONTROL AND RESTORATION	LS	% of Item 6	7%	\$37,100
9	TRAFFIC CONTROL AND STAGING	LS	% of Item 6	12%	\$63,700
10	LIGHTING	LS	1	\$32,000.00	\$32,000
11	SIGNING/MARKING	LS	% of Item 6	8%	\$42,400
12	ROADWAY INCIDENTALS	LS	% of Item 6	30%	\$159,200
13	Construction Costs Subtotal (Items 6 to 12)				\$997,700
14	MOBILIZATION	LS	% of Item 14	7%	\$70,000
15	PRELIMINARY ENGINEERING	LS	% of Item 14+15	10%	\$106,800
16	FINAL ENGINEERING				
17	CONSTRUCTION ENGINEERING	LS	% of Item 14+15	15%	\$160,200
18	REAL ESTATE - SOUTHWEST QUADRANT	AC	0.042	\$141,500.00	\$5,900
19	REAL ESTATE - SOUTHEAST QUADRANT	AC	0.025	\$250,000.00	\$6,300
TOTAL PROJECT COST (2022 DOLLARS)					\$1,346,900

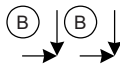


Attachment 3 – Collision Diagram

East Side
Market

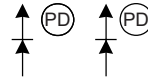


WIS 60



Jackson
Chiropractic
Center

Eagle Drive



Piggly
Wiggly

DOCUMENTATION CONVENTION

(XX) CRASH FREQUENCY (2016 - 2020)

CRASH RATE

.43 Crashes
Per One Million
Entering Vehicles

Entering Vehicles: 8,950/day

CRASH FREQUENCY/SEVERITY

7
Crashes

- 0 Fatal Crash (K)
- 0 Incapacitating (A-level)
- 3 Non-Incapacitating (B-level)
- 1 Possible Injury (C-level)
- 3 Property Damage Only

LEGEND

→ Moving Vehicle
←↔ Backing Vehicle
- - - Pedestrian
-B→ Bicyclist
▭ Parked Vehicle

Ⓢ/Ⓨ Stop/Yield Sign
Ⓣ Tree
Ⓤ Utility Pole
ⓕ Fixed Object
Ⓝ Non-Fixed Object

↗ Angle (Right Angle)
↖ Angle (Left Turn)
↘ Angle (Right Turn)
↔ Sideswipe-Same
↔ Sideswipe-Opposite

↔ Head-On
↔ Rear-End
↗ Out of Control
↔ Overtake
↔ Overturn

Years: 2016 - 2020

FIGURE 4
COLLISION DIAGRAM
WIS 60 & EAGLE DRIVE
VILLAGE OF JACKSON, WISCONSIN

Attachment 4 – Existing Volumes and Traffic Forecasts

Base Information, Observed (9) Hour and Estimated (24) Hour Volume Summaries

Count Basics		Version 2013.J4.1		Page 1 of 11	
Start Date:	Wednesday, February 12, 2020	Weekday/Weekend	Schools Not in Session		
Total Number of Hours Counted: 9		Non-Holiday	No Special Events		



Count Information

Municipality	Village of Jackson		
County	Washington	WisDOT Region	SE
Traffic Control	Partial Stop Control		
Roadway Names		North Direction	↑
North Leg	Eagle Dr		
East Leg	STH 60		
South Leg	Eagle Dr		
West Leg	STH 60		
Special Considerations			
Schools	Not 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	

Hrs Counted:								6:00 AM-9:00 AM, 11:00 AM-2:00 PM, and 3:00 PM-6:00 PM											
1st Day of Count				Wednesday, February 12, 2020								Weather							
AM Peak Period				Wednesday, February 12, 2020								Cloudy & Dry							
Midday Peak Period				Saturday, February 22, 2020								Cloudy & Dry							
PM Peak Period				Wednesday, February 12, 2020								Cloudy & Dry							
Calculated Peak Hours																			
				AM		6:45-7:45am		MD		11:00-12:00am				PM		4:15-5:15pm			
Peak Hours Selected for Analysis																			
				AM		7:00-8:00am		MD		11:00-12:00am				PM		4:45-5:45pm			
Daily/Seasonal Adjustment Group																			
Count Expansion Group																			
Daily/Seasonal Adjustment Factor								1		Count Expansion Factor								#N/A	
Company Name								SRF Consulting, Inc.						Manual Adj.				1.000	
Observers				AM Peak Period				Matt Flanagan/Gabby Hellman											
				Midday Peak Period				Matt Flanagan/Gabby Hellman											
				PM Peak Period				Matt Flanagan/Gabby Hellman											
Comments																			

OBSERVED HOUR VOLUMES 9

Eagle Dr 2,123

BIKE: 1

TOTAL ENTERING VOLUME 7,549

STH 60

STH 60

Eagle Dr 1,795

BIKE: 1

North

Diagram showing traffic volumes for the intersection of Eagle Drive and State Highway 60 (STH 60) during the PM peak hour. The diagram includes a north arrow and labels for 'OBSERVED HOUR VOLUMES', 'TOTAL ENTERING VOLUME', and 'STH 60'. Traffic flows are indicated by arrows with corresponding volume numbers.

Direction	Mode	Volume
Northbound (Eagle Dr)	PED	411
Northbound (Eagle Dr)	BIKE	0
Northbound (Eagle Dr)	Vehicle	1030
Southbound (Eagle Dr)	PED	989
Southbound (Eagle Dr)	BIKE	0
Southbound (Eagle Dr)	Vehicle	806
Eastbound (STH 60)	PED	7
Eastbound (STH 60)	BIKE	1
Eastbound (STH 60)	Vehicle	5,892
Westbound (STH 60)	PED	0
Westbound (STH 60)	BIKE	1
Westbound (STH 60)	Vehicle	5,288
Northbound (Eagle Dr)	PED	0
Northbound (Eagle Dr)	BIKE	1
Northbound (Eagle Dr)	Vehicle	2,123
Southbound (Eagle Dr)	PED	1
Southbound (Eagle Dr)	BIKE	1
Southbound (Eagle Dr)	Vehicle	1,795
Eastbound (STH 60)	PED	0
Eastbound (STH 60)	BIKE	1
Eastbound (STH 60)	Vehicle	5,288
Westbound (STH 60)	PED	0
Westbound (STH 60)	BIKE	1
Westbound (STH 60)	Vehicle	5,892

One-Hour Time Period Start Time	Motor Vehicle Volume
6:00 AM	570
7:00 AM	963
8:00 AM	676
9:00 AM	0
10:00 AM	0
11:00 AM	880
12:00 PM	798
1:00 PM	796
2:00 PM	0
3:00 PM	908
4:00 PM	973
5:00 PM	985
6:00 PM	0
7:00 PM	0
8:00 PM	0
9:00 PM	0

ESTIMATED 24 HOUR AADT

TOTAL ENTERING VOLUME

STH 60

Eagle Dr

STH 60

Eagle Dr

North

Daily/Seasonal Factor	1
Count Expansion Factor	#N/A
Manual Adjustment Factor	1.000
Total 24 Hr Expansion Factor	#N/A

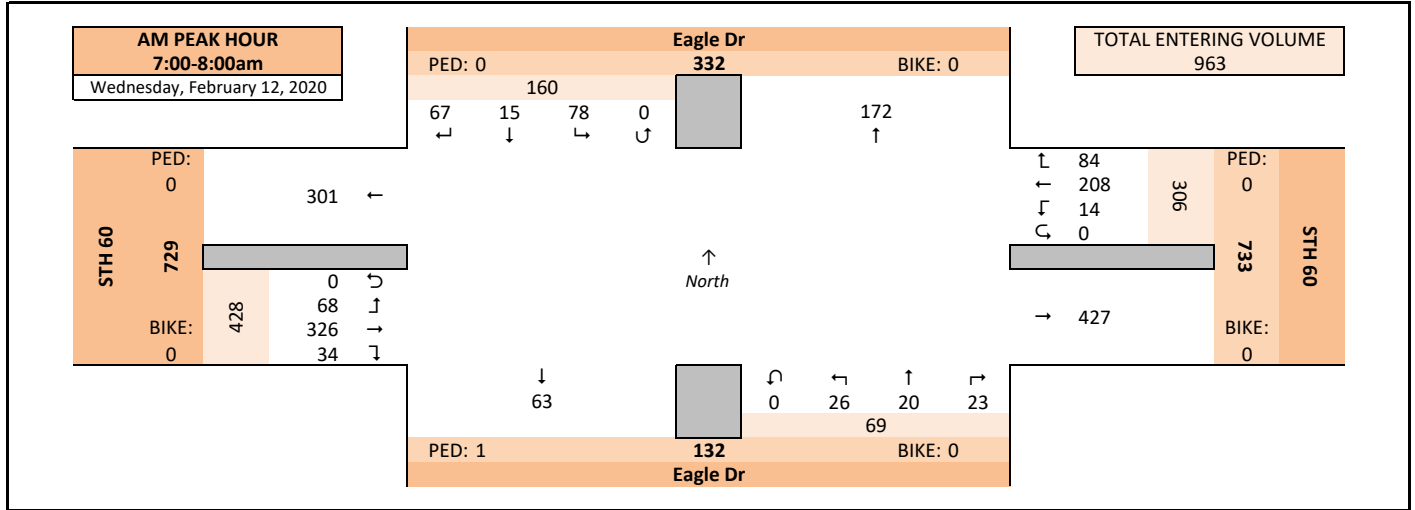
Intersection Traffic Volume Report

Count Basics			Page 2 of 11
Start Date:	Wednesday, February 12, 2020	Weekday/Weekend	Schools Not in Session
Total Number of Hours Counted: 9		Non-Holiday	No Special Events

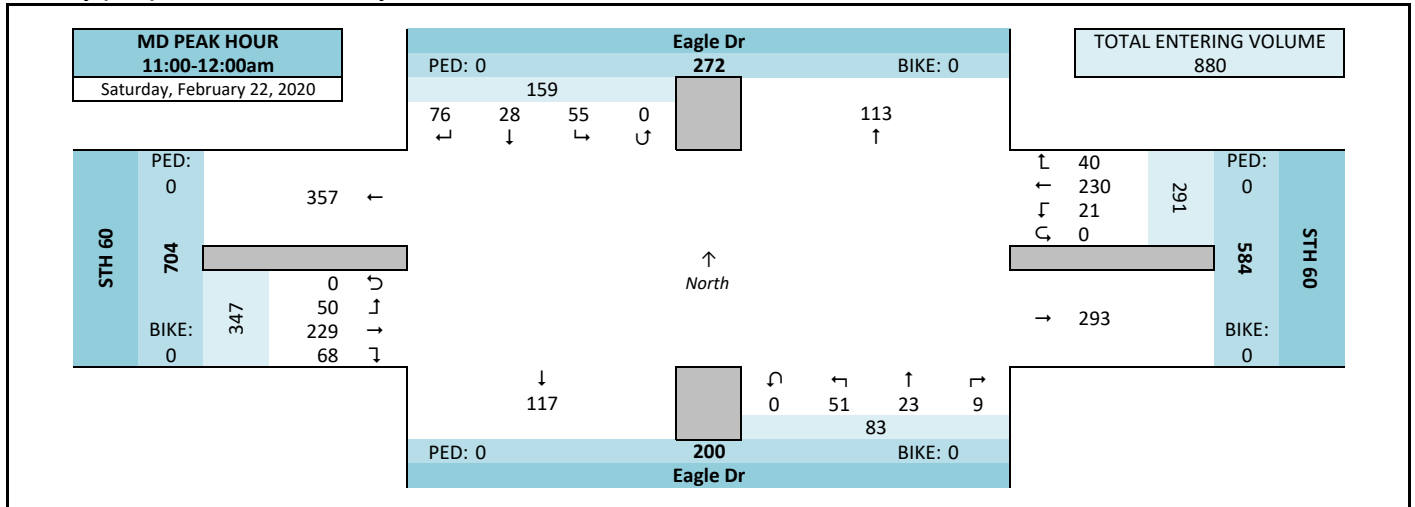
Peak Hour Volume Graphical Summary

Eagle Dr and STH 60

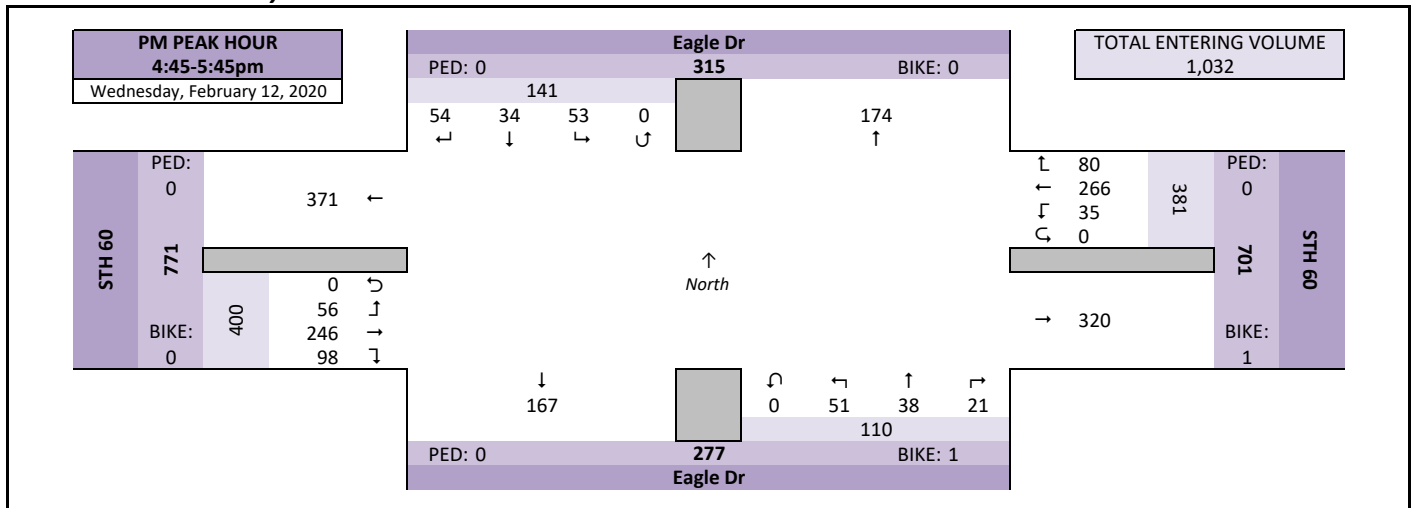
AM Peak Hour Summary



Midday (MD) Peak Hour Summary



PM Peak Hour Summary



Intersection Traffic Volume Report

Peak Hour Volume Summary

Eagle Dr and STH 60

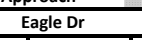
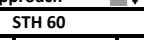
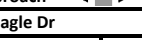
Peak Hour Volumes, Truck Percentages, and PHFs

Wednesday, February 12, 2020		↓					←					↑					→					
		From North					From East					From South					From West					
AM Peak Hour	AM Peak Hour	Eagle Dr					STH 60					Eagle Dr					STH 60					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	7:00 AM	9	4	11	0	24	17	46	3	0	66	4	6	6	0	16	6	95	17	0	118	224
	7:15 AM	19	2	25	0	46	39	48	4	0	91	6	4	6	0	16	9	95	29	0	133	286
	7:30 AM	29	5	22	0	56	20	70	3	0	93	11	5	7	0	23	12	81	18	0	111	283
	7:45 AM	10	4	20	0	34	8	44	4	0	56	2	5	7	0	14	7	55	4	0	66	170
	Peak Hour Volume	67	15	78	0	160	84	208	14	0	306	23	20	26	0	69	34	326	68	0	428	963
	Rounded Hourly Volume	65	15	80	0	160	85	210	15	0	310	25	20	25	0	70	35	325	70	0	430	970
	% Single Unit Trucks	3.0	0.0	6.4	0.0	4.4	1.2	3.4	0.0	0.0	2.6	4.3	5.0	7.7	0.0	5.8	5.9	3.1	4.4	0.0	3.5	3.5
	% Heavy Trucks	3.0	0.0	1.3	0.0	1.9	0.0	1.9	7.1	0.0	1.6	0.0	0.0	3.8	0.0	1.4	2.9	2.8	0.0	0.0	2.3	2.0
% Trucks (Total)	6.0	0.0	7.7	0.0	6.2	1.2	5.3	7.1	0.0	4.2	4.3	5.0	11.5	0.0	7.2	8.8	5.8	4.4	0.0	5.8	5.5	
Peak Hour Factor (PHF)	0.58	0.75	0.78	0.00	0.71	0.54	0.74	0.87	0.00	0.82	0.52	0.83	0.93	0.00	0.75	0.71	0.86	0.59	0.00	0.80	0.84	

Saturday, February 22, 2020		↓ From North					← From East					↑ From South					→ From West					
Midday (MD) Peak Hour	MD Peak Hour	Eagle Dr					STH 60					Eagle Dr					STH 60					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Totals
	11:00 AM	38	7	28	0	73	8	53	5	0	66	2	5	11	0	18	11	61	9	0	81	238
	11:15 AM	13	8	9	0	30	9	70	6	0	85	3	7	14	0	24	17	59	19	0	95	234
	11:30 AM	13	6	8	0	27	17	62	6	0	85	2	5	13	0	20	20	49	11	0	80	212
	11:45 AM	12	7	10	0	29	6	45	4	0	55	2	6	13	0	21	20	60	11	0	91	196
	Peak Hour Volume	76	28	55	0	159	40	230	21	0	291	9	23	51	0	83	68	229	50	0	347	880
	Rounded Hourly Volume	75	30	55	0	160	40	230	20	0	290	10	25	50	0	85	70	230	50	0	350	885
% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	2.5	2.6	0.0	0.0	2.4	0.0	0.0	2.0	0.0	1.2	0.0	1.3	0.0	0.0	0.9	1.2	
% Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0	2.0	0.0	1.2	0.0	1.7	2.0	0.0	1.4	0.8	
% Trucks (Total)	0.0	0.0	0.0	0.0	0.0	2.5	3.0	0.0	0.0	2.7	0.0	0.0	3.9	0.0	2.4	0.0	3.1	2.0	0.0	2.3	2.0	
Peak Hour Factor (PHF)	0.50	0.87	0.49	0.00	0.54	0.59	0.82	0.87	0.00	0.86	0.75	0.82	0.91	0.00	0.86	0.85	0.94	0.66	0.00	0.91	0.92	

Wednesday, February 12, 2020		↓ From North					← From East					↑ From South					→ From West					Totals
PM Peak Hour	PM Peak Hour	Eagle Dr					STH 60					Eagle Dr					STH 60					
	Start Time	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	
	4:45 PM	12	8	14	0	34	21	63	5	0	89	4	10	8	0	22	25	59	12	0	96	
	5:00 PM	22	8	23	0	53	26	80	7	0	113	4	10	16	0	30	27	71	20	0	118	
	5:15 PM	11	10	7	0	28	14	58	11	0	83	5	9	19	0	33	24	54	14	0	92	
	5:30 PM	9	8	9	0	26	19	65	12	0	96	8	9	8	0	25	22	62	10	0	94	
	Peak Hour Volume	54	34	53	0	141	80	266	35	0	381	21	38	51	0	110	98	246	56	0	400	
	Rounded Hourly Volume	55	35	55	0	145	80	265	35	0	380	20	40	50	0	110	100	245	55	0	400	
	% Single Unit Trucks	0.0	0.0	0.0	0.0	0.0	1.2	1.5	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	
	% Heavy Trucks	0.0	0.0	1.9	0.0	0.7	1.2	1.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	3.6	0.0	1.5	
% Trucks (Total)	0.0	0.0	1.9	0.0	0.7	2.5	2.6	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.6	0.0	1.7		
Peak Hour Factor (PHF)	0.61	0.85	0.58	0.00	0.67	0.77	0.83	0.73	0.00	0.84	0.66	0.95	0.67	0.00	0.83	0.91	0.87	0.70	0.00	0.85		

Peak Hour Pedestrian and Bicyclist Volumes

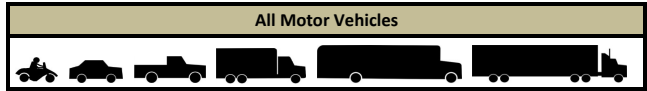
Pedestrians and Bicyclists		Crossing North Approach			Crossing East Approach			Crossing South Approach			Crossing West Approach			Total Ped & Bike Volume
														
15-Minute Start Time		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	1	0	1	0	0	0	1
	7:30 AM	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
	Total	0	0	0	0	0	0	1	0	1	0	0	0	1
MD	11:00 AM	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
	11:30 AM	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
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	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
	5:15 PM	0	0	0	0	1	1	0	1	1	0	0	0	2
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	1	1	0	1	1	0	0	0	2

Intersection Traffic Volume Report

Count Basics			Page 4 of 11
Start Date:	Wednesday, February 12, 2020	Weekday/Weekend	Schools Not in Session
Total Number of Hours Counted:	9	Non-Holiday	No Special Events

Hourly Volume Summary - Motor Vehicle Data

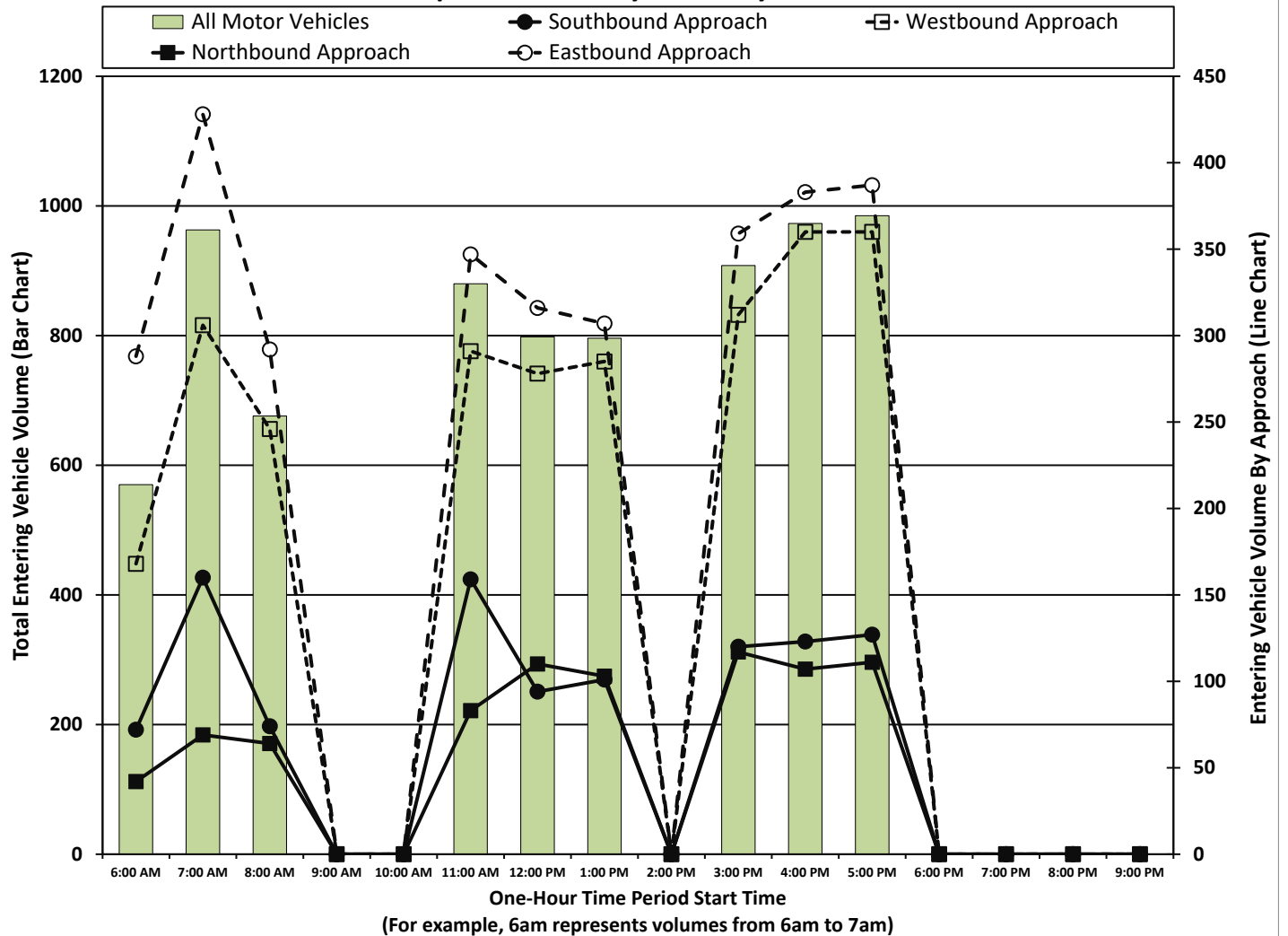
Eagle Dr and STH 60



One-Hour Motor Vehicle Data

One-Hour Time Period Start Time	From North					From East					From South					From West					Total Vehicle Volume	Directional Volume Totals		
	Eagle Dr					STH 60					Eagle Dr					STH 60								
	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total	Right	Thru	Left	U-Tn	Total		E/W	N/S	
AM	6:00 AM	24	13	35	0	72	23	138	7	0	168	9	16	17	0	42	27	230	31	0	288	570	456	114
	7:00 AM	67	15	78	0	160	84	208	14	0	306	23	20	26	0	69	34	326	68	0	428	963	734	229
	8:00 AM	32	15	27	0	74	35	204	7	0	246	16	21	27	0	64	46	222	24	0	292	676	538	138
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MD	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	11:00 AM	76	28	55	0	159	40	230	21	0	291	9	23	51	0	83	68	229	50	0	347	880	638	242
	12:00 PM	37	30	27	0	94	31	231	16	0	278	18	38	54	0	110	68	215	33	0	316	798	594	204
	1:00 PM	32	38	31	0	101	39	228	18	0	285	18	30	55	0	103	66	204	37	0	307	796	592	204
PM	2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:00 PM	49	32	39	0	120	60	226	26	0	312	28	38	51	0	117	100	225	34	0	359	908	671	237
	4:00 PM	42	39	42	0	123	70	267	23	0	360	14	41	52	0	107	76	257	50	0	383	973	743	230
	5:00 PM	52	34	41	0	127	71	256	33	0	360	22	36	53	0	111	95	242	50	0	387	985	747	238
	6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	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
	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
	Totals	411	244	375	0	1030	453	1988	165	0	2606	157	263	386	0	806	580	2150	377	0	3107	7549	5713	1836

Graphical Summary of Hourly Volumes



Intersection Traffic Volume Report

Count Basics			Page 11 of 11
Start Date:	Wednesday, February 12, 2020	Weekday/Weekend	Schools Not in Session
Total Number of Hours Counted:	9	Non-Holiday	No Special Events

15-Minute Pedestrian and Bicyclist Data

Eagle Dr and STH 60

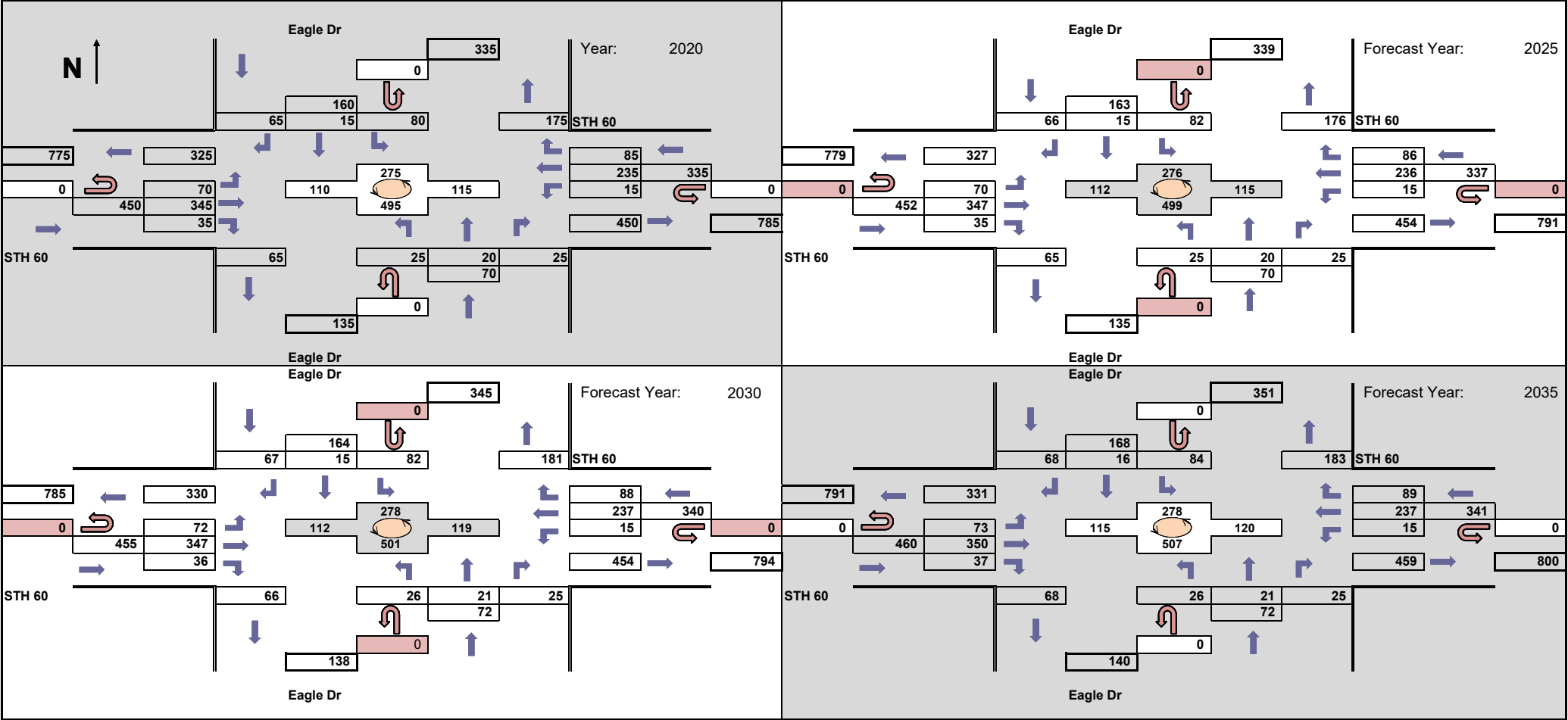


15-Minute Pedestrian and Bicyclist Data

15-Minute Time Period Start Time		Crossing 			Crossing 			Crossing 			Crossing 			15-Min Totals	Hourly Sum
		North Approach			East Approach			South Approach			West Approach				
		Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total	Pedestrian	Bicyclist	Total		
AM Peak Period	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	1
	6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	7:15 AM	0	0	0	0	0	0	1	0	1	0	0	0	1	1
	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
Midday Peak Period	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
PM Peak Period	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	3
	11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	12:00 PM	0	0	0	0	0	0	0	0	3	0	3	3	3	3
	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	2
	1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
	1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:30 PM	0	1	1	0	0	0	0	0	0	1	0	1	2	2
	1:45 PM	0	0	0	0	0	0	0	0	2	0	2	2	2	2
	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	1
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	4:15 PM	0	0	0	0	0	0	0	0	1	0	1	1	1	2
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	4:45 PM	0	0	0	0	0	0	0	0	0	1	1	1	1	3
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	5:15 PM	0	0	0	0	1	1	0	1	1	0	0	0	2	2
	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	0
Totals		0	1	1	0	1	1	1	1	2	7	1	8	12	

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/helper dog)	x					
Elderly/Disabled (except wheelchairs)	x					
Wheelchairs/Electric Scooters	x					
Other (None)	x					



WisDot Southeast Region
Planning Unit 1
Forecast by: Brent DesRoches
Phone: 262-548-5611
Email: brent.desroches@dot.wi.gov

Projected PM Design Hour Traffic Volumes

Design Hour: 4:30-5:30pm

Forecast Completed: 4/16/2020

Project Description

Project ID(s): Jackson TIA
Route(s): STH 60
Region/COUNTY(IES): SE / Washington
Location: Jackson Dr to Eagle Dr

Indicates roundabout

Design Hour Turning Movement Data

The figure displays four traffic volume diagrams for the intersection of Eagle Dr and STH 60, showing projected PM Design Hour Traffic Volumes for the years 2020, 2025, 2030, and 2035. Each diagram includes a north arrow and a legend indicating that a roundabout symbol is used for roundabouts.

2020 Diagram: Shows traffic flow with roundabouts at Eagle Dr and STH 60. Volume numbers are provided for various approaches, including Eagle Dr (320, 145, 55, 175), STH 60 (845, 415, 55, 125, 395, 385, 145, 80, 310, 425, 350, 775, 170, 50, 40, 20, 110, 280), and Eagle Dr (175, 320, 145, 55, 175).

2025 Diagram: Shows traffic flow with roundabouts at Eagle Dr and STH 60. Volume numbers are provided for various approaches, including Eagle Dr (325, 147, 56, 178), STH 60 (854, 419, 56, 126, 398, 390, 148, 81, 312, 428, 354, 782, 171, 51, 41, 20, 112, 283), and Eagle Dr (178, 325, 147, 56, 178).

2030 Diagram: Shows traffic flow with roundabouts at Eagle Dr and STH 60. Volume numbers are provided for various approaches, including Eagle Dr (331, 150, 57, 181), STH 60 (859, 421, 57, 129, 400, 392, 151, 82, 312, 430, 355, 785, 175, 52, 42, 20, 114, 289), and Eagle Dr (181, 331, 150, 57, 181).

2035 Diagram: Shows traffic flow with roundabouts at Eagle Dr and STH 60. Volume numbers are provided for various approaches, including Eagle Dr (335, 152, 57, 183), STH 60 (862, 422, 57, 132, 402, 394, 152, 83, 313, 433, 357, 790, 178, 52, 43, 20, 115, 293), and Eagle Dr (183, 335, 152, 57, 183).

Attachment 5 – Predictive Safety Analysis

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

February 8, 2022

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Report Overview

Report Generated: Feb 8, 2022 2:41 PM

Report Template: System: Multi-Page [System] (sscpm2, Jun 24, 2021 3:45 PM)

Evaluation Date: Tue Feb 08 09:51:34 CST 2022

IHSdm Version: v16.0.0 (Sep 30, 2020)

Site Set Crash Prediction Module: v[ModuleInfo.moduleVersion] ([ModuleInfo.moduleDate])

User Name: Matt Flanagan

Organization Name: SRF Consulting Group

Phone: 608.298.5400

E-Mail: mflanagan@srfconsulting.com

Project Title: WIS 60 & Eagle Drive

Project Comment: -

Project Unit System: U.S. Customary

Site Set: No-Build Conditions

Site Set Comment: -

Site Set Version: v4

Evaluation Title: 2025-2034 No Build Conditions - WIS 60 & Eagle Drive

Evaluation Comment: Created Tue Feb 08 09:51:21 CST 2022

Policy for Superelevation: AASHTO 2011 U.S. Customary

Calibration: WisDOTCalibration_v16-0

Crash Distribution: WisDOTDistribution_v16-0

Model/CMF: WisDOTConfiguration_v16-0

Note: A Model Data Set other than the HSM (Highway Safety Manual) Configuration was selected for this Evaluation. If Crash Modification Factors (CMFs) were modified, then the results will not be in accordance with the HSM (see HSM Appendix to Part C, section A.1.3).

First Year of Analysis: 2025

Last Year of Analysis: 2034

Empirical-Bayes Analysis: None

Disclaimer Regarding Crash Prediction Method

IMPORTANT NOTICE ABOUT COMPARING RESULTS FROM HIGHWAY SAFETY MANUAL FIRST EDITION (2010) MODELS TO RESULTS FROM NEW MODELS DEVELOPED UNDER NCHRP PROJECTS 17-70 AND 17-58

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- 6+ lane and one-way urban/suburban arterials (including models for segments and intersections): completed under NCHRP Project 17-58.

However, in the absence of local calibration factors (see HSM-1 Part C, Appendix A for guidance on calibration of the predictive models), it is neither appropriate nor advisable to directly compare the results from new models (from NCHRP Projects 17-58 and 17-70) to results from HSM-1 models, as the models were not calibrated to the same base state data sets, and consequently can produce unexpected results. If local calibration factors are available and applied to both new models and HSM-1 models, then it may be appropriate to directly compare the results. [Note: Work being performed under NCHRP Project 17-72 (Update of Crash Modification Factors for the Highway Safety Manual) is expected to re-calibrate many of the old (HSM-1) and new (e.g., NCHRP 17-70) models to data from a single (or small number of) states, that would allow results from all models to be directly compared.]

The models produced for NCHRP Project 17-70 have independent value in terms of informing the design of a roundabout and assessing the effects of different design characteristics on the expected safety performance of a roundabout.

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Section Types

Urban Arterial Site Set CPM Evaluation

Site Type

Type: 4ST

Calibration Factor: 1

Table 1. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting
1	4ST2x2le5	WIS 60 & Eagle Drive	No-Build Conditions	2025: 8908; 2026: 8943; 2027: 8978; 2028: 9013; 2029: 9048; 2030: 9082; 2031: 9117; 2032: 9152; 2033: 9187; 2034: 9222	2025: 4710; 2026: 4728; 2027: 4747; 2028: 4765; 2029: 4784; 2030: 4802; 2031: 4820; 2032: 4839; 2033: 4857; 2034: 4876	2	1	yes

Table 2. Predicted Crash Frequencies and Rates by Site

Site No.	Type	Highway	Site Description	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	4ST	WIS 60 & Eagle Drive	No-Build Conditions	8.203	0.8203	0.2590	0.5613	0.16	0.8203
		Total	Total	8.203	0.8203	0.2590	0.5613	0.16	0.8203

Table 3. Predicted Crash Frequencies by Year (4ST)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2025	0.81	0.25	31.499	0.55	68.501
2026	0.81	0.26	31.516	0.55	68.484
2027	0.81	0.26	31.534	0.56	68.466
2028	0.82	0.26	31.551	0.56	68.449
2029	0.82	0.26	31.568	0.56	68.432
2030	0.82	0.26	31.585	0.56	68.415
2031	0.82	0.26	31.602	0.56	68.398
2032	0.83	0.26	31.619	0.57	68.381
2033	0.83	0.26	31.636	0.57	68.364
2034	0.83	0.26	31.653	0.57	68.347
Total	8.20	2.59	31.577	5.61	68.423
Average	0.82	0.26	31.577	0.56	68.423

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 4. Predicted 4ST Crash Type Distribution

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.02	0.3	0.02	0.3
Intersection	Collision with Bicycle	0.14	2.3	0.00	0.0	0.14	2.3
Intersection	Collision with Fixed Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Non-Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Single-vehicle Collision	0.03	0.4	0.14	2.3	0.17	2.7
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.17	2.8	0.00	0.0	0.17	2.8
Intersection	Total Intersection Single Vehicle Crashes	0.34	5.6	0.16	2.6	0.50	8.2
Intersection	Angle Collision	1.00	16.3	1.55	25.4	2.55	41.7
Intersection	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Multi-vehicle Collision	0.04	0.6	0.09	1.5	0.13	2.1
Intersection	Rear-end Collision	0.59	9.6	1.29	21.1	1.88	30.7
Intersection	Sideswipe	0.16	2.6	0.90	14.7	1.06	17.3
Intersection	Total Intersection Multiple Vehicle Crashes	1.78	29.1	3.84	62.7	5.62	91.8
Intersection	Total Intersection Crashes	2.13	34.7	4.00	65.3	6.12	100.0
	Total Crashes	2.13	34.7	4.00	65.3	6.12	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

February 8, 2022

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Report Overview

Report Generated: Feb 8, 2022 2:39 PM

Report Template: System: Multi-Page [System] (sscpm2, Jun 24, 2021 3:45 PM)

Evaluation Date: Tue Feb 08 14:31:34 CST 2022

IHSMD Version: v16.0.0 (Sep 30, 2020)

Site Set Crash Prediction Module: v[ModuleInfo.moduleVersion] ([ModuleInfo.moduleDate])

User Name: Matt Flanagan

Organization Name: SRF Consulting Group

Phone: 608.298.5400

E-Mail: mflanagan@srfconsulting.com

Project Title: WIS 60 & Eagle Drive

Project Comment: -

Project Unit System: U.S. Customary

Site Set: Build - Signal

Site Set Comment: -

Site Set Version: v6

Evaluation Title: 2025-2034 Build Signal - WIS 60 & Eagle Drive

Evaluation Comment: Created Tue Feb 08 14:31:13 CST 2022

Policy for Superelevation: AASHTO 2011 U.S. Customary

Calibration: WisDOTCalibration_v16-0

Crash Distribution: WisDOTDistribution_v16-0

Model/CMF: WisDOTConfiguration_v16-0

Note: A Model Data Set other than the HSM (Highway Safety Manual) Configuration was selected for this Evaluation. If Crash Modification Factors (CMFs) were modified, then the results will not be in accordance with the HSM (see HSM Appendix to Part C, section A.1.3).

First Year of Analysis: 2025

Last Year of Analysis: 2034

Empirical-Bayes Analysis: None

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- 6+ lane and one-way urban/suburban arterials (including models for segments and intersections): completed under NCHRP Project 17-58.

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Section Types

Urban Arterial Site Set CPM Evaluation

Site Type

Type: 4SG

Calibration Factor: 1

Table 1. Evaluation and Crash Data (CSD) (if applicable) Intersection Sites

Site No.	Type	Highway	Site Description	Major AADT	Minor AADT	Number of Approaches with Left-Turn Lanes	Number of Approaches with Right-Turn Lanes	Presence of Lighting	Number of Approaches with Permissive Left-Turn Phasing	Number of Approaches with Permitted or Protected/Permissive Left-Turn Phasing	Number of Approaches with Protected Left-Turn Phasing	Number of Approaches on which Right Turn on Red is Prohibited	Presence of Red-Light Cameras	Pedestrian Volumes Crossing all Intersection Legs (crossings/day)	Max. Number of Lanes Crossed by Pedestrians	Number of Bus Stops within 1000 ft of Intersection	Number of Schools within 1000 ft of Intersection	Number of Alcohol Sales Establishments within 1000 ft of Intersection
1	4SG2x2le5	WIS 60 & Eagle Drive	Build - Signal	2025: 8908; 2026: 8943; 2027: 8978; 2028: 9013; 2029: 9048; 2030: 9082; 2031: 9117; 2032: 9152; 2033: 9187; 2034: 9222	2025: 4710; 2026: 4728; 2027: 4747; 2028: 4765; 2029: 4784; 2030: 4802; 2031: 4820; 2032: 4839; 2033: 4857; 2034: 4876	4	2	yes	4	0	0	0	no	50	4	0	0	0

Table 2. Predicted Crash Frequencies and Rates by Site

Site No.	Type	Highway	Site Description	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	4SG	WIS 60 & Eagle Drive	Build - Signal	16.603	1.6603	0.4964	1.1639	0.33	1.6603
		Total	Total	16.603	1.6603	0.4964	1.1639	0.33	1.6603

Table 3. Predicted Crash Frequencies by Year (4SG)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2025	1.62	0.48	29.859	1.14	70.141
2026	1.63	0.49	29.867	1.15	70.133
2027	1.64	0.49	29.876	1.15	70.124
2028	1.65	0.49	29.885	1.16	70.115
2029	1.66	0.49	29.893	1.16	70.107
2030	1.66	0.50	29.901	1.17	70.099
2031	1.67	0.50	29.910	1.17	70.090
2032	1.68	0.50	29.918	1.18	70.082
2033	1.69	0.51	29.927	1.18	70.073
2034	1.70	0.51	29.935	1.19	70.065
Total	16.60	4.96	29.898	11.64	70.103
Average	1.66	0.50	29.898	1.16	70.103

Note: Fatal and Injury Crashes and Property Damage Only Crashes do not necessarily sum up to Total Crashes because the distribution of these three crashes had been derived

independently.

Table 4. Predicted 4SG Crash Type Distribution

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.02	0.1	0.02	0.1
Intersection	Collision with Bicycle	0.24	1.6	0.00	0.0	0.24	1.6
Intersection	Collision with Fixed Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Non-Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Other Object	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Single-vehicle Collision	0.01	0.0	0.02	0.2	0.03	0.2
Intersection	Collision with Parked Vehicle	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Collision with Pedestrian	0.19	1.3	0.00	0.0	0.19	1.3
Intersection	Total Intersection Single Vehicle Crashes	0.44	3.0	0.04	0.3	0.48	3.3
Intersection	Angle Collision	1.84	12.5	3.18	21.5	5.03	34.0
Intersection	Head-on Collision	0.00	0.0	0.00	0.0	0.00	0.0
Intersection	Other Multi-vehicle Collision	0.10	0.7	0.91	6.1	1.01	6.8
Intersection	Rear-end Collision	2.06	14.0	4.16	28.1	6.22	42.1
Intersection	Sideswipe	0.19	1.3	1.85	12.5	2.04	13.8
Intersection	Total Intersection Multiple Vehicle Crashes	4.20	28.4	10.10	68.4	14.30	96.7
Intersection	Total Intersection Crashes	4.63	31.3	10.15	68.7	14.78	100.0
	Total Crashes	4.63	31.3	10.15	68.7	14.78	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Interactive Highway Safety Design Model

Crash Prediction Evaluation Report

February 8, 2022

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Report Overview

Report Generated: Feb 8, 2022 2:40 PM

Report Template: System: Multi-Page [System] (sscpm2, Jun 24, 2021 3:45 PM)

Evaluation Date: Tue Feb 08 14:35:41 CST 2022

IHSMD Version: v16.0.0 (Sep 30, 2020)

Site Set Crash Prediction Module: v[ModuleInfo.moduleVersion] ([ModuleInfo.moduleDate])

User Name: Matt Flanagan

Organization Name: SRF Consulting Group

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Project Title: WIS 60 & Eagle Drive

Project Comment: -

Project Unit System: U.S. Customary

Site Set: Build - RAB

Site Set Comment: -

Site Set Version: v6

Evaluation Title: 2025-2034 Build RAB - WIS 60 & Eagle Drive

Evaluation Comment: Created Tue Feb 08 14:35:25 CST 2022

Policy for Superelevation: AASHTO 2011 U.S. Customary

Calibration: WisDOTCalibration_v16-0

Crash Distribution: WisDOTDistribution_v16-0

Model/CMF: WisDOTConfiguration_v16-0

Note: A Model Data Set other than the HSM (Highway Safety Manual) Configuration was selected for this Evaluation. If Crash Modification Factors (CMFs) were modified, then the results will not be in accordance with the HSM (see HSM Appendix to Part C, section A.1.3).

First Year of Analysis: 2025

Last Year of Analysis: 2034

Empirical-Bayes Analysis: None

Disclaimer Regarding Crash Prediction Method

IMPORTANT NOTICE ABOUT COMPARING RESULTS FROM HIGHWAY SAFETY MANUAL FIRST EDITION (2010) MODELS TO RESULTS FROM NEW MODELS DEVELOPED UNDER NCHRP PROJECTS 17-70 AND 17-58

Since the publication of the Highway Safety Manual - First Edition (HSM-1), in 2010 by the American Association of State

Highway and Transportation Officials (AASHTO), multiple research efforts have been undertaken through the National Cooperative Highway Research Program (NCHRP) to develop safety performance models for road segment and intersection facility types that were not initially reflected in the HSM-1, in order to expand the breadth and depth of the HSM in the future.

The IHSDM Crash Prediction Module (CPM) is intended as a faithful implementation of HSM Part C predictive methods. As NCHRP projects to develop new predictive methods for the HSM are completed, FHWA works to incorporate the new methods into IHSDM, sometimes in advance of publication in the HSM. The following new crash predictive methods have been accepted by NCHRP project panels and incorporated into IHSDM, while pending AASHTO's approval for incorporation into a future edition of the HSM:

- Roundabouts: completed in 2018 under NCHRP Project 17-70, the new methods will provide improved outcomes for the safety analysis of roundabouts.
- 6+ lane and one-way urban/suburban arterials (including models for segments and intersections): completed under NCHRP Project 17-58.

However, in the absence of local calibration factors (see HSM-1 Part C, Appendix A for guidance on calibration of the predictive models), it is neither appropriate nor advisable to directly compare the results from new models (from NCHRP Projects 17-58 and 17-70) to results from HSM-1 models, as the models were not calibrated to the same base state data sets, and consequently can produce unexpected results. If local calibration factors are available and applied to both new models and HSM-1 models, then it may be appropriate to directly compare the results. [Note: Work being performed under NCHRP Project 17-72 (Update of Crash Modification Factors for the Highway Safety Manual) is expected to re-calibrate many of the old (HSM-1) and new (e.g., NCHRP 17-70) models to data from a single (or small number of) states, that would allow results from all models to be directly compared.]

The models produced for NCHRP Project 17-70 have independent value in terms of informing the design of a roundabout and assessing the effects of different design characteristics on the expected safety performance of a roundabout.

The HSM-1 interim method previously included in IHSDM for evaluating roundabouts on urban/suburban arterials (i.e., evaluating an existing intersection and then applying a Crash Modification Factor for replacing the existing intersection with a roundabout) has been deactivated in IHSDM, to minimize any confusion with the new roundabout methodology.

Section Types

Roundabout Site Set CPM Evaluation

Site Type

Type: Roundabout USA 41R

Calibration Factor: USA 41R = 1.0

Table 1. Evaluation and Crash Data (CSD) (if applicable) Roundabout - Homogeneous Sites

Site No.	Type	Roundabout	Site Description	Area Type	Entering AADT
1	41R - Roundabout with 4 legs and a single circulating lane	WIS 60 & Eagle Drive	Build RAB	Urban	Leg 1:2025: 2213; 2026: 2222; 2027: 2230; 2028: 2239; 2029: 2248; 2030: 2256; 2031: 2265; 2032: 2273; 2033: 2282; 2034: 2291; Leg 2:2025: 3538; 2026: 3552; 2027: 3566; 2028: 3580; 2029: 3594; 2030: 3607; 2031: 3621; 2032: 3635; 2033: 3649; 2034: 3663; Leg 3:2025: 675; 2026: 678; 2027: 680; 2028: 683; 2029: 686; 2030: 688; 2031: 691; 2032: 693; 2033: 696; 2034: 699; Leg 4:2025: 4899; 2026: 4918; 2027: 4937; 2028: 4956; 2029: 4976; 2030: 4995; 2031: 5014; 2032: 5033; 2033: 5052; 2034: 5071

Table 2. Predicted Crash Frequencies and Rates by Site

Site No.	Type	Roundabout	Site Description	Total Predicted Crashes for Evaluation Period	Predicted Total Crash Frequency (crashes/yr)	Predicted FI Crash Frequency (crashes/yr)	Predicted PDO Crash Frequency (crashes/yr)	Predicted Intersection Travel Crash Rate (crashes/million veh)	Intersection Crash Rate (crashes/yr)
1	41R - Roundabout with 4 legs and a single circulating lane	WIS 60 & Eagle Drive	Build RAB	28.934	2.8934	0.4371	2.4563	1.38	2.8934
		Total	Total	28.934	2.8934	0.4371	2.4563	1.38	2.8934

Table 3. Predicted Crash Frequencies by Year (Roundabout USA 41R)

Year	Total Crashes	FI Crashes	Percent FI (%)	PDO Crashes	Percent PDO (%)
2025	2.86	0.43	15.060	2.43	84.940
2026	2.87	0.43	15.070	2.43	84.930
2027	2.87	0.43	15.081	2.44	84.919
2028	2.88	0.43	15.091	2.45	84.909
2029	2.89	0.44	15.102	2.45	84.898
2030	2.90	0.44	15.112	2.46	84.888
2031	2.91	0.44	15.123	2.47	84.877
2032	2.91	0.44	15.133	2.47	84.867
2033	2.92	0.44	15.144	2.48	84.856
2034	2.93	0.44	15.154	2.49	84.846
Total	28.93	4.37	15.107	24.56	84.893
Average	2.89	0.44	15.107	2.46	84.893

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Table 4. Predicted Roundabout USA 41R Crash Severity

Site No.	Fatal (K) Crashes (crashes)	Incapacitating Injury (A) Crashes (crashes)	Non-Incapacitating Injury (B) Crashes (crashes)	Possible Injury (C) Crashes (crashes)	No Injury (O) Crashes (crashes)
1	0.0153	0.2441	1.6617	2.4501	24.5626
Total	0.0153	0.2441	1.6617	2.4501	24.5626

Table 5. Predicted Roundabout USA 41R Crash Type Distribution

Element Type	Crash Type	Fatal and Injury		Property Damage Only		Total	
		Crashes	Crashes (%)	Crashes	Crashes (%)	Crashes	Crashes (%)
Intersection	Collision with Animal	0.00	0.0	0.11	0.4	0.11	0.4
Intersection	Collision with Fixed Object	0.95	3.3	8.86	30.7	9.81	33.9
Intersection	Collision with Other Object	0.04	0.1	0.04	0.1	0.08	0.3
Intersection	Other Single-vehicle Collision	1.07	3.7	1.44	5.0	2.51	8.7
Intersection	Collision with Parked Vehicle	0.00	0.0	0.04	0.1	0.04	0.1
Intersection	Total Single Vehicle Crashes	2.06	7.1	10.48	36.3	12.54	43.4
Intersection	Angle Collision	0.54	1.9	4.03	14.0	4.57	15.8
Intersection	Head-on Collision	0.00	0.0	0.07	0.2	0.07	0.2
Intersection	Other Multiple-vehicle Collision	0.04	0.1	0.07	0.2	0.11	0.4
Intersection	Rear-end Collision	1.07	3.7	4.93	17.1	6.01	20.8
Intersection	Sideswipe	0.62	2.1	4.97	17.2	5.59	19.3
Intersection	Total Multiple Vehicle Crashes	2.27	7.8	14.08	48.7	16.35	56.6
Intersection	Total Intersection Crashes	4.33	15.0	24.56	85.0	28.89	100.0
	Total Crashes	4.33	15.0	24.56	85.0	28.89	100.0

Note: *Fatal and Injury Crashes* and *Property Damage Only Crashes* do not necessarily sum up to *Total Crashes* because the distribution of these three crashes had been derived independently.

Attachment 6 – Traffic Operations Outputs

Lanes and Geometrics
6: Eagle Dr & WIS 60

Existing Conditions - AM
Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	175		0	150		125	0		0	100		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.986					0.850		0.952		0.878		
Flt Protected	0.950			0.950				0.982		0.950		
Satd. Flow (prot)	1703	1767	0	1736	1827	1553	0	1660	0	1703	1574	0
Flt Permitted	0.950			0.950				0.982		0.950		
Satd. Flow (perm)	1703	1767	0	1736	1827	1553	0	1660	0	1703	1574	0
Link Speed (mph)	35			35			25			25		
Link Distance (ft)	551			1005			508			593		
Travel Time (s)	10.7			19.6			13.9			16.2		
Intersection Summary												
Area Type:	Other											

Volume
6: Eagle Dr & WIS 60

Existing Conditions - AM
Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	70	345	35	15	235	85	25	20	25	80	15	65
Future Volume (vph)	70	345	35	15	235	85	25	20	25	80	15	65
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	7%	7%	7%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	83	411	42	18	280	101	30	24	30	95	18	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	453	0	18	280	101	0	84	0	95	95	0
Intersection Summary												

Intersection												
Int Delay, s/veh	6.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	345	35	15	235	85	25	20	25	80	15	65
Future Vol, veh/h	70	345	35	15	235	85	25	20	25	80	15	65
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	-	150	-	125	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	6	6	6	4	4	4	7	7	7	6	6	6
Mvmt Flow	83	411	42	18	280	101	30	24	30	95	18	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	381	0	0	454	0	0	1013	1016	433	941	936	280
Stage 1	-	-	-	-	-	-	599	599	-	316	316	-
Stage 2	-	-	-	-	-	-	414	417	-	625	620	-
Critical Hdwy	4.16	-	-	4.14	-	-	7.17	6.57	6.27	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	6.16	5.56	-
Follow-up Hdwy	2.254	-	-	2.236	-	-	3.563	4.063	3.363	3.554	4.054	3.354
Pot Cap-1 Maneuver	1156	-	-	1096	-	-	213	233	612	239	261	749
Stage 1	-	-	-	-	-	-	480	483	-	687	648	-
Stage 2	-	-	-	-	-	-	606	583	-	466	474	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1156	-	-	1095	-	-	168	212	611	194	238	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	168	212	-	194	238	-
Stage 1	-	-	-	-	-	-	445	448	-	638	638	-
Stage 2	-	-	-	-	-	-	520	574	-	390	439	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			0.4			27			26.7		
HCM LOS							D			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	246	1156	-	-	1095	-	-	194	534
HCM Lane V/C Ratio	0.339	0.072	-	-	0.016	-	-	0.491	0.178
HCM Control Delay (s)	27	8.4	-	-	8.3	-	-	40.2	13.2
HCM Lane LOS	D	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	1.4	0.2	-	-	0.1	-	-	2.4	0.6

Lanes and Geometrics
6: Eagle Dr & WIS 60

Existing Conditions - PM
Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	175		0	150		125	0		0	100		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.960					0.850		0.976		0.909		
Flt Protected	0.950			0.950				0.978		0.950		
Satd. Flow (prot)	1770	1788	0	1770	1863	1583	0	1796	0	1787	1710	0
Flt Permitted	0.950			0.950				0.978		0.950		
Satd. Flow (perm)	1770	1788	0	1770	1863	1583	0	1796	0	1787	1710	0
Link Speed (mph)	35			35			25			25		
Link Distance (ft)	551			1005			508			593		
Travel Time (s)	10.7			19.6			13.9			16.2		
Intersection Summary												
Area Type:	Other											

Volume
6: Eagle Dr & WIS 60

Existing Conditions - PM
Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	55	275	100	35	310	80	50	40	20	55	35	55
Future Volume (vph)	55	275	100	35	310	80	50	40	20	55	35	55
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	67	335	122	43	378	98	61	49	24	67	43	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	457	0	43	378	98	0	134	0	67	110	0
Intersection Summary												

Intersection												
Int Delay, s/veh	11.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	275	100	35	310	80	50	40	20	55	35	55
Future Vol, veh/h	55	275	100	35	310	80	50	40	20	55	35	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	-	150	-	125	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	67	335	122	43	378	98	61	49	24	67	43	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	476	0	0	457	0	0	1098	1092	396	1031	1055	378
Stage 1	-	-	-	-	-	-	530	530	-	464	464	-
Stage 2	-	-	-	-	-	-	568	562	-	567	591	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1086	-	-	1104	-	-	191	215	656	212	227	671
Stage 1	-	-	-	-	-	-	534	528	-	580	565	-
Stage 2	-	-	-	-	-	-	509	511	-	510	496	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1086	-	-	1104	-	-	134	194	656	153	205	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	134	194	-	153	205	-
Stage 1	-	-	-	-	-	-	501	495	-	544	543	-
Stage 2	-	-	-	-	-	-	406	491	-	415	465	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.7			67.6			29.5		
HCM LOS							F			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	180	1086	-	-	1104	-	-	153	356
HCM Lane V/C Ratio	0.745	0.062	-	-	0.039	-	-	0.438	0.308
HCM Control Delay (s)	67.6	8.5	-	-	8.4	-	-	45.7	19.6
HCM Lane LOS	F	A	-	-	A	-	-	E	C
HCM 95th %tile Q(veh)	4.8	0.2	-	-	0.1	-	-	2	1.3

Lanes and Geometrics
6: Eagle Dr & WIS 60

2035 No-Build Conditions - AM
Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	175		0	150		125	0		0	100		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.986					0.850	0.952			0.877		
Flt Protected	0.950			0.950				0.982		0.950		
Satd. Flow (prot)	1703	1767	0	1736	1827	1553	0	1660	0	1703	1572	0
Flt Permitted	0.950			0.950				0.982		0.950		
Satd. Flow (perm)	1703	1767	0	1736	1827	1553	0	1660	0	1703	1572	0
Link Speed (mph)	40			40			30			30		
Link Distance (ft)	551			1005			508			593		
Travel Time (s)	9.4			17.1			11.5			13.5		
Intersection Summary												
Area Type:	Other											

Volume
6: Eagle Dr & WIS 60

2035 No-Build Conditions - AM
Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	75	350	35	15	235	90	25	20	25	85	15	70
Future Volume (vph)	75	350	35	15	235	90	25	20	25	85	15	70
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	7%	7%	7%	6%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	89	417	42	18	280	107	30	24	30	101	18	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	459	0	18	280	107	0	84	0	101	101	0
Intersection Summary												

Intersection												
Int Delay, s/veh	7.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	350	35	15	235	90	25	20	25	85	15	70
Future Vol, veh/h	75	350	35	15	235	90	25	20	25	85	15	70
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	-	150	-	125	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	6	6	6	4	4	4	7	7	7	6	6	6
Mvmt Flow	89	417	42	18	280	107	30	24	30	101	18	83
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	387	0	0	460	0	0	1037	1040	439	959	954	280
Stage 1	-	-	-	-	-	-	617	617	-	316	316	-
Stage 2	-	-	-	-	-	-	420	423	-	643	638	-
Critical Hdwy	4.16	-	-	4.14	-	-	7.17	6.57	6.27	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.17	5.57	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.17	5.57	-	6.16	5.56	-
Follow-up Hdwy	2.254	-	-	2.236	-	-	3.563	4.063	3.363	3.554	4.054	3.354
Pot Cap-1 Maneuver	1150	-	-	1091	-	-	205	226	607	233	255	749
Stage 1	-	-	-	-	-	-	469	474	-	687	648	-
Stage 2	-	-	-	-	-	-	601	579	-	455	465	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1150	-	-	1090	-	-	159	205	606	188	231	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	159	205	-	188	231	-
Stage 1	-	-	-	-	-	-	432	437	-	634	637	-
Stage 2	-	-	-	-	-	-	511	569	-	377	429	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.4			0.4			28.4			28.9		
HCM LOS							D			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	236	1150	-	-	1090	-	-	188	537			
HCM Lane V/C Ratio	0.353	0.078	-	-	0.016	-	-	0.538	0.188			
HCM Control Delay (s)	28.4	8.4	-	-	8.4	-	-	44.5	13.3			
HCM Lane LOS	D	A	-	-	A	-	-	E	B			
HCM 95th %tile Q(veh)	1.5	0.3	-	-	0.1	-	-	2.8	0.7			

Lanes and Geometrics
6: Eagle Dr & WIS 60

2035 No-Build Conditions - PM

Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%			0%		
Storage Length (ft)	175		0	150		125	0		0	100		0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt	0.959			0.850			0.977			0.909		
Flt Protected	0.950			0.950				0.979		0.950		
Satd. Flow (prot)	1770	1786	0	1770	1863	1583	0	1799	0	1787	1710	0
Flt Permitted	0.950			0.950				0.979		0.950		
Satd. Flow (perm)	1770	1786	0	1770	1863	1583	0	1799	0	1787	1710	0
Link Speed (mph)	40			40			30			30		
Link Distance (ft)	551			1005			508			593		
Travel Time (s)	9.4			17.1			11.5			13.5		
Intersection Summary												
Area Type:	Other											

Volume
6: Eagle Dr & WIS 60

2035 No-Build Conditions - PM
Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	55	280	105	35	315	85	50	45	20	60	35	55
Future Volume (vph)	55	280	105	35	315	85	50	45	20	60	35	55
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	67	341	128	43	384	104	61	55	24	73	43	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	469	0	43	384	104	0	140	0	73	110	0
Intersection Summary												

Intersection												
Int Delay, s/veh	13											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	280	105	35	315	85	50	45	20	60	35	55
Future Vol, veh/h	55	280	105	35	315	85	50	45	20	60	35	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175	-	-	150	-	125	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	67	341	128	43	384	104	61	55	24	73	43	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	488	0	0	469	0	0	1116	1113	405	1049	1073	384
Stage 1	-	-	-	-	-	-	539	539	-	470	470	-
Stage 2	-	-	-	-	-	-	577	574	-	579	603	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1075	-	-	1093	-	-	186	209	648	206	221	666
Stage 1	-	-	-	-	-	-	528	523	-	576	562	-
Stage 2	-	-	-	-	-	-	504	505	-	503	490	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1075	-	-	1093	-	-	129	188	648	142	199	666
Mov Cap-2 Maneuver	-	-	-	-	-	-	129	188	-	142	199	-
Stage 1	-	-	-	-	-	-	495	491	-	540	540	-
Stage 2	-	-	-	-	-	-	401	485	-	403	460	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.7			77.9			33.8		
HCM LOS							F			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	175	1075	-	-	1093	-	-	142	348
HCM Lane V/C Ratio	0.801	0.062	-	-	0.039	-	-	0.515	0.315
HCM Control Delay (s)	77.9	8.6	-	-	8.4	-	-	54.6	20
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	5.4	0.2	-	-	0.1	-	-	2.5	1.3

Lanes, Volumes, Timings
6: Eagle Dr & WIS 60

2035 Build Signal Conditions - AM

Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	390	40	30	280	90	30	25	40	85	15	75
Future Volume (vph)	75	390	40	30	280	90	30	25	40	85	15	75
Ideal Flow (vphpl)	1900	1791	1900	1900	1830	1900	1900	1750	1900	1900	1750	1900
Storage Length (ft)	200		0	200		200	125		0	125		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			150			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		551			1005			508			593	
Travel Time (s)		10.7			19.6			13.9			16.2	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	7%	7%	7%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	512	0	36	333	66	36	78	0	101	107	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	27.5	27.5		27.5	27.5	27.5	29.5	29.5		29.5	29.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	24.0	24.0		24.0	24.0	24.0	24.0	24.0		24.0	24.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0	14.0	16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
v/c Ratio	0.15	0.53		0.08	0.33	0.07	0.13	0.23		0.36	0.33	
Control Delay	7.4	10.5		6.9	8.0	6.5	14.8	15.6		18.0	17.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	7.4	10.5		6.9	8.0	6.5	14.8	15.6		18.0	17.1	
Queue Length 50th (ft)	10	76		4	42	7	6	14		18	19	
Queue Length 95th (ft)	30	157		15	90	22	23	40		51	52	
Internal Link Dist (ft)		471			925			428			513	
Turn Bay Length (ft)	200			200		200	125			125		
Base Capacity (vph)	638	1057		507	1119	987	777	944		804	918	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	

Lanes, Volumes, Timings
6: Eagle Dr & WIS 60

2035 Build Signal Conditions - AM

Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.14	0.48		0.07	0.30	0.07	0.05	0.08		0.13	0.12	

Intersection Summary

Area Type: Other

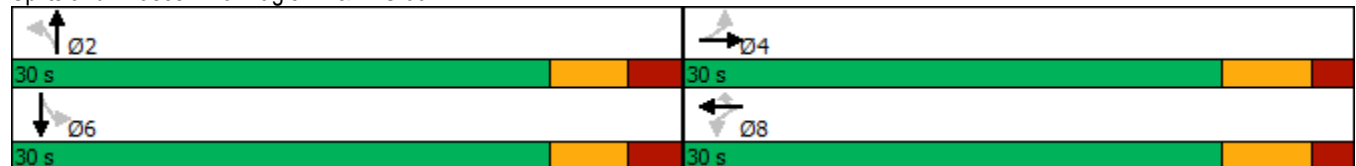
Cycle Length: 60

Actuated Cycle Length: 39.1

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Eagle Dr & WIS 60



HCM 6th Signalized Intersection Summary

6: Eagle Dr & WIS 60

2035 Build Signal Conditions - AM

Phase II ICE

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	390	40	30	280	90	30	25	40	85	15	75
Future Volume (veh/h)	75	390	40	30	280	90	30	25	40	85	15	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1707	1811	1841	1773	1841	1796	1654	1796	1811	1668	1811
Adj Flow Rate, veh/h	89	464	48	36	333	66	36	30	48	101	18	89
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	6	6	6	4	4	4	7	7	7	6	6	6
Cap, veh/h	503	640	66	375	746	656	393	113	180	424	48	237
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	954	1521	157	874	1773	1558	1236	573	917	1279	244	1207
Grp Volume(v), veh/h	89	0	512	36	333	66	36	0	78	101	0	107
Grp Sat Flow(s),veh/h/ln	954	0	1679	874	1773	1558	1236	0	1489	1279	0	1451
Q Serve(g_s), s	2.3	0.0	8.0	1.1	4.2	0.8	0.8	0.0	1.4	2.3	0.0	2.0
Cycle Q Clear(g_c), s	6.5	0.0	8.0	9.1	4.2	0.8	2.8	0.0	1.4	3.7	0.0	2.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.62	1.00		0.83
Lane Grp Cap(c), veh/h	503	0	707	375	746	656	393	0	293	424	0	285
V/C Ratio(X)	0.18	0.00	0.72	0.10	0.45	0.10	0.09	0.00	0.27	0.24	0.00	0.38
Avail Cap(c_a), veh/h	832	0	1285	676	1357	1192	1096	0	1140	1152	0	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.8	0.0	7.6	11.4	6.5	5.5	12.2	0.0	10.7	12.2	0.0	10.9
Incr Delay (d2), s/veh	0.2	0.0	1.4	0.1	0.4	0.1	0.1	0.0	0.5	0.3	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.0	3.1	0.3	1.6	0.3	0.3	0.0	0.7	1.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.0	0.0	9.0	11.5	6.9	5.6	12.3	0.0	11.2	12.5	0.0	11.8
LnGrp LOS	A	A	A	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h	601			435			114			208		
Approach Delay, s/veh	9.0			7.1			11.5			12.1		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	12.2			19.2			12.2			19.2		
Change Period (Y+Rc), s	6.0			6.0			6.0			6.0		
Max Green Setting (Gmax), s	24.0			24.0			24.0			24.0		
Max Q Clear Time (g_c+I1), s	4.8			10.0			5.7			11.1		
Green Ext Time (p_c), s	0.5			3.2			0.9			1.9		
Intersection Summary												
HCM 6th Ctrl Delay	9.1											
HCM 6th LOS	A											

Lanes, Volumes, Timings
6: Eagle Dr & WIS 60

2035 Build Signal Conditions - PM

Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	335	130	65	355	85	75	45	40	60	40	55
Future Volume (vph)	60	335	130	65	355	85	75	45	40	60	40	55
Ideal Flow (vphpl)	1900	1791	1900	1900	1830	1900	1900	1750	1900	1900	1750	1900
Storage Length (ft)	200		0	200		200	125		0	125		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			150			100			100		
Right Turn on Red			No			No			No			No
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		551			1005			508			593	
Travel Time (s)		10.7			19.6			13.9			16.2	
Confl. Bikes (#/hr)						1			1			
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Growth Factor	100%	100%	100%	100%	100%	62%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	568	0	79	433	64	91	104	0	73	116	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	27.5	27.5		27.5	27.5	27.5	29.5	29.5		29.5	29.5	
Total Split (s)	30.0	30.0		30.0	30.0	30.0	30.0	30.0		30.0	30.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	23.5	23.5		23.5	23.5	23.5	23.5	23.5		23.5	23.5	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	3.5	3.5		3.5	3.5	
All-Red Time (s)	2.5	2.5		2.5	2.5	2.5	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0	14.0	16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
v/c Ratio	0.13	0.57		0.18	0.41	0.07	0.35	0.32		0.27	0.36	
Control Delay	7.3	11.5		8.2	8.8	6.6	19.2	17.9		17.8	18.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	7.3	11.5		8.2	8.8	6.6	19.2	17.9		17.8	18.5	
Queue Length 50th (ft)	8	93		10	62	7	19	22		15	25	
Queue Length 95th (ft)	25	176		29	119	21	46	49		38	54	
Internal Link Dist (ft)		471			925			428			513	
Turn Bay Length (ft)	200			200		200	125			125		
Base Capacity (vph)	600	1060		465	1131	977	742	922		751	915	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	

Lanes, Volumes, Timings
6: Eagle Dr & WIS 60

2035 Build Signal Conditions - PM
Phase II ICE

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.12	0.54		0.17	0.38	0.07	0.12	0.11		0.10	0.13	

Intersection Summary

Area Type: Other

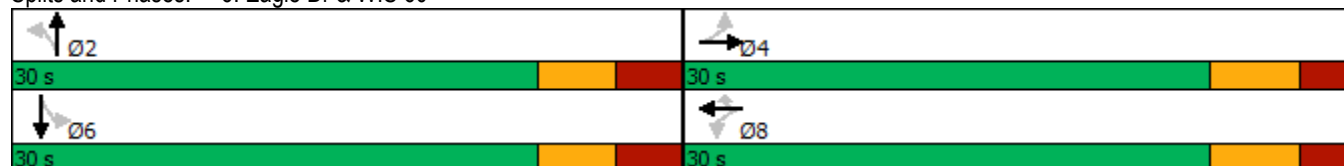
Cycle Length: 60

Actuated Cycle Length: 41.6

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Splits and Phases: 6: Eagle Dr & WIS 60



HCM 6th Signalized Intersection Summary 6: Eagle Dr & WIS 60

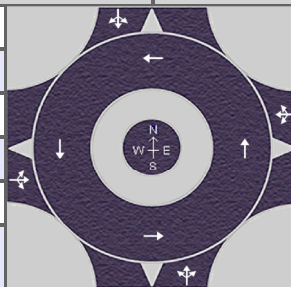
2035 Build Signal Conditions - PM
Phase II ICE

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	335	130	65	355	85	75	45	40	60	40	55
Future Volume (veh/h)	60	335	130	65	355	85	75	45	40	60	40	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1763	1870	1870	1801	1870	1885	1736	1885	1885	1736	1885
Adj Flow Rate, veh/h	73	409	159	79	433	64	91	55	49	73	49	67
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	1	1	1
Cap, veh/h	452	560	218	347	835	719	360	166	148	372	132	180
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	901	1209	470	843	1801	1552	1286	837	746	1300	664	908
Grp Volume(v), veh/h	73	0	568	79	433	64	91	0	104	73	0	116
Grp Sat Flow(s),veh/h/ln	901	0	1678	843	1801	1552	1286	0	1582	1300	0	1573
Q Serve(g_s), s	2.4	0.0	10.5	3.2	6.5	0.9	2.5	0.0	2.2	2.0	0.0	2.5
Cycle Q Clear(g_c), s	8.9	0.0	10.5	13.8	6.5	0.9	5.0	0.0	2.2	4.1	0.0	2.5
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.47	1.00		0.58
Lane Grp Cap(c), veh/h	452	0	778	347	835	719	360	0	314	372	0	312
V/C Ratio(X)	0.16	0.00	0.73	0.23	0.52	0.09	0.25	0.00	0.33	0.20	0.00	0.37
Avail Cap(c_a), veh/h	585	0	1027	472	1102	949	892	0	968	910	0	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.4	0.0	8.4	13.9	7.3	5.8	15.5	0.0	13.2	15.0	0.0	13.3
Incr Delay (d2), s/veh	0.2	0.0	1.9	0.3	0.5	0.1	0.4	0.0	0.6	0.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	4.8	0.9	2.9	0.3	1.2	0.0	1.3	0.9	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	0.0	10.2	14.3	7.8	5.8	15.8	0.0	13.8	15.2	0.0	14.1
LnGrp LOS	B	A	B	B	A	A	B	A	B	B	A	B
Approach Vol, veh/h	641			576			195			189		
Approach Delay, s/veh	10.3			8.5			14.8			14.5		
Approach LOS	B			A			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	14.1			24.3			14.1			24.3		
Change Period (Y+Rc), s	6.5			6.5			6.5			6.5		
Max Green Setting (Gmax), s	23.5			23.5			23.5			23.5		
Max Q Clear Time (g_c+I1), s	7.0			12.5			6.1			15.8		
Green Ext Time (p_c), s	0.8			3.1			0.8			2.0		
Intersection Summary												
HCM 6th Ctrl Delay	10.7											
HCM 6th LOS	B											

HCS7 Roundabouts Report

General Information

Analyst	Matt Flanagan
Agency or Co.	SRF Consulting
Date Performed	11/12/2021
Analysis Year	2035
Time Analyzed	AM Peak
Project Description	Phase II ICE



Site Information

Intersection	WIS 60 & Eagle Drive
E/W Street Name	WIS 60
N/S Street Name	Eagle Drive
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.84
Jurisdiction	-

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	75	390	40	0	30	280	90	0	30	25	40	0	85	15	75
Percent Heavy Vehicles, %	6	6	6	6	4	4	4	4	7	7	7	7	6	6	6	6
Flow Rate (v_{pce}), pc/h	0	95	492	50	0	37	347	111	0	38	32	51	0	107	19	95
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.7000			4.7000			4.7000			4.7000	
Follow-Up Headway (s)		2.6000			2.6000			2.6000			2.6000	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		637			495			121			221	
Entry Volume, veh/h		601			476			113			208	
Circulating Flow (v_c), pc/h	163			165			694			422		
Exiting Flow (v_{ex}), pc/h	650			480			238			106		
Capacity (C_{pce}), pc/h		1187			1185			719			929	
Capacity (c), veh/h		1120			1139			672			877	
v/c Ratio (x)		0.54			0.42			0.17			0.24	

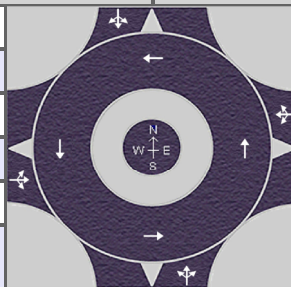
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		9.6			7.5			7.3			6.6	
Lane LOS		A			A			A			A	
95% Queue, veh		3.3			2.1			0.6			0.9	
Approach Delay, s/veh	9.6			7.5			7.3			6.6		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh LOS	8.2						A					

HCS7 Roundabouts Report

General Information

Analyst	Matt Flanagan
Agency or Co.	SRF Consulting
Date Performed	11/12/2021
Analysis Year	2035
Time Analyzed	PM Peak
Project Description	Phase II ICE



Site Information

Intersection	WIS 60 & Eagle Drive
E/W Street Name	WIS 60
N/S Street Name	Eagle Drive
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.82
Jurisdiction	-

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LTR				LTR				LTR				LTR			
Volume (V), veh/h	0	60	335	130	0	65	355	85	0	75	45	40	0	60	40	55
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1
Flow Rate (V_{PCE}), pc/h	0	75	417	162	0	81	442	106	0	92	55	49	0	74	49	68
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.7000			4.7000			4.7000			4.7000	
Follow-Up Headway (s)		2.6000			2.6000			2.6000			2.6000	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		654			629			196			191	
Entry Volume, veh/h		641			617			194			189	
Circulating Flow (v_c), pc/h	204			222			566			615		
Exiting Flow (v_{ex}), pc/h	540			602			236			292		
Capacity (C_{PCE}), pc/h		1142			1123			811			775	
Capacity (c), veh/h		1120			1101			803			767	
v/c Ratio (x)		0.57			0.56			0.24			0.25	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		10.3			10.2			7.1			7.5	
Lane LOS		B			B			A			A	
95% Queue, veh		3.8			3.6			0.9			1.0	
Approach Delay, s/veh	10.3			10.2			7.1			7.5		
Approach LOS	B			B			A			A		
Intersection Delay, s/veh LOS	9.5						A					

Attachment 7 – Traffic Signal Warrant Analysis Worksheets

Wisconsin Department of Transportation Traffic Signal Warrant

Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: WIS 60 and Eagle Drive

County: Washington

Village: Jackson

Major Street: WIS 60

Critical Approach Speed: 40 mph

Lanes: 1 lane

Minor Street: Eagle Drive

Critical Approach Speed: 30 mph

Lanes: 2 or more lanes

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? Yes

Total number of approaches at intersection? 4 or more

If it is a "T" intersection, inflate minor threshold to 150%?

Manually set volume level? No

Analysis based on **EXISTING** volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2020	Wednesday	6	AM	9	AM
2020	Wednesday	3	PM	6	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	Yes
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Sandra Herbers

Agency: SRF Consulting

Date: 2/9/2022

Warrant 1: Eight - Hour Vehicular Volume

70%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	350	280
Minor Rd. Req	140	112
Number of Hours	1	4

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	525	420
Minor Rd. Req	70	56
Number of Hours	5	6

Satisfied? No

Condition C: Combination of A & B at 56%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)		Major Road: Both		Minor Road: High	Total
Time Period	From	To		App. (VPH)	App. (VPH)	App. (VPH)	
1	6:00	7:00		456		72	528
2	7:00	8:00		734		160	894
3	8:00	9:00		538		74	612
4	9:00	10:00		0		0	0
5	10:00	11:00		0		0	0
6	11:00	12:00		0		0	0
7	12:00	13:00		0		0	0
8	13:00	14:00		0		0	0
9	14:00	15:00		0		0	0
10	15:00	16:00		671		120	791
11	16:00	17:00		743		123	866
12	17:00	18:00		747		127	874
13	18:00	19:00		0		0	0
14	19:00	20:00		0		0	0
15	20:00	21:00		0		0	0
16	21:00	22:00		0		0	0

Warrant 2: Four-Hour Volume

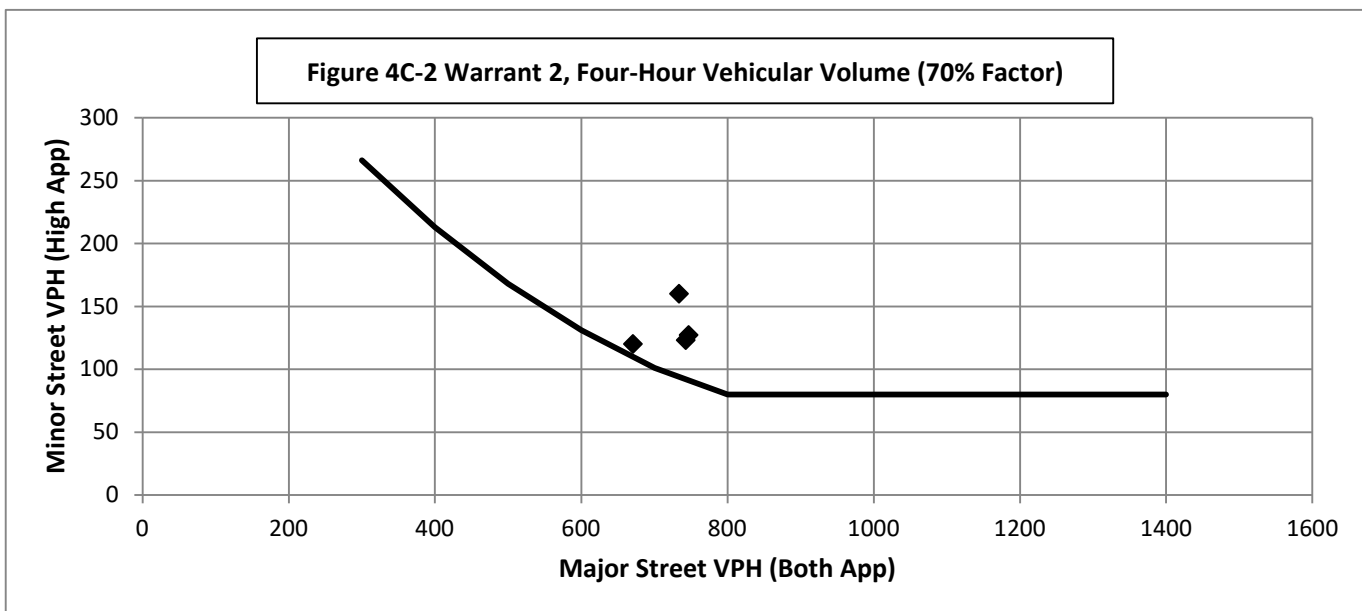
70%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Hour Start	7:00	17:00	16:00	15:00
Major Road Vol.	734	747	743	671
Minor Road Vol.	160	127	123	120



Warrant 3: Peak Hour Volume

70%

Warrant Evaluated? Yes

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	5	Yes
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

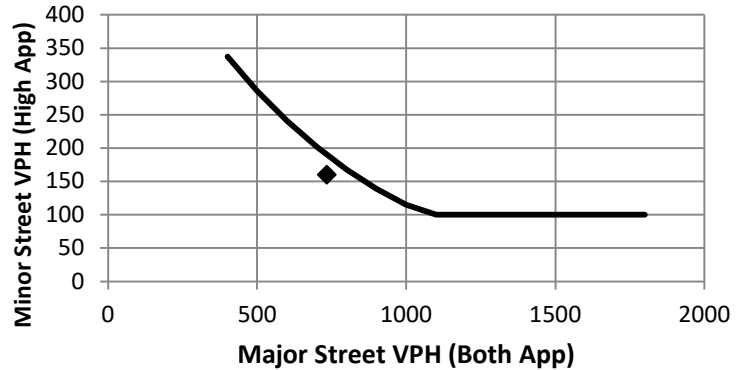
Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
7:00	734	160

Warrant Satisfied? No

Manually Set To:

Figure 4C-4 Warrant 3, Peak Hour (70% Factor)



Warrant 4: Pedestrian Volume

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criterion A: Four Hour

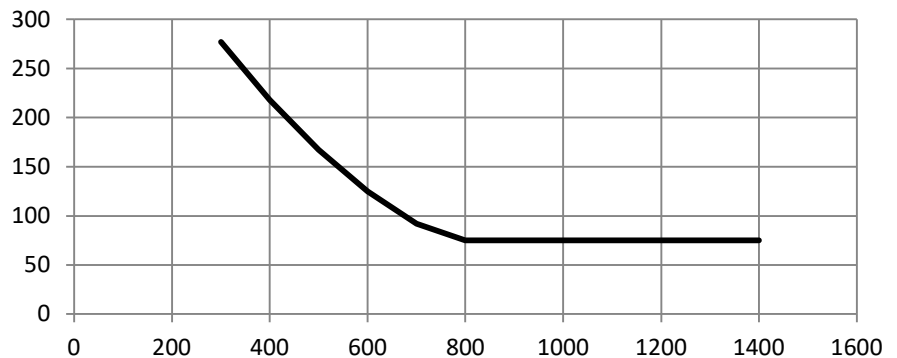
Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

Criterion A Satisfied?

Figure 4C-6 Warrant 4, Pedestrian Four-Hour Volume (70% Factor)

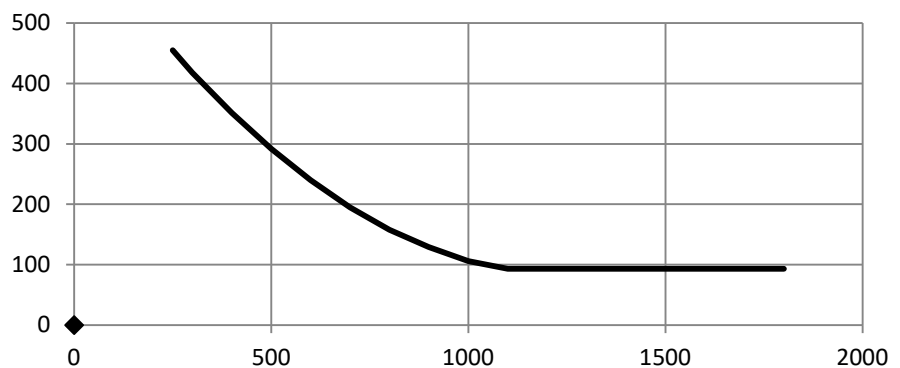


Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?

Figure 4C-8 Warrant 4, Pedestrian Peak Hour (70% Factor)



Warrant 5: School Crossing

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria		Fulfilled?
1	There are a MINIMUM of 20 school children during the highest crossing hour.	
2	There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.	
3	The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.	

Warrant 6: Coordinated Signal System

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria		Fulfilled?
1	Signal spacing > 1000 ft	
2	On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.	
3	On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.	

Warrant 7: Crash Experience

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria		Met?	Fulfilled?
1	Adequate trial of other remedial measures has failed to reduce crash frequency. Measures Tried:		
2	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.	# of crashes per 12 months	
3	Warrant 1, Condition A (80%)	No	No
	Warrant 1, Condition B (80%)	No	
	Warrant 4, Criterion A (80%)	No	
	Warrant 4, Criterion B (80%)	No	

Warrant 8: Roadway Network

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria		Met?	Fulfilled?
1	Total entering volume of at least 1,000 veh/h during typical weekday peak hour	894	No
	Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.		No
2	Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)		
	Hour		
	Volume		

Characteristics of Major Routes - Select yes if all intersecting routes have characteristic		Fulfilled?
1	Part of the road or highway system that serves as the principal roadway network for through traffic flow	
2	Rural or suburban highway outside of, entering, or traversing a city	
3	Appears as a major route on an official plan	

Warrant 9: Intersection Near a Grade Crossing

70%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
1	0	0% to 2.5%	660	7:00	734	160	53.6

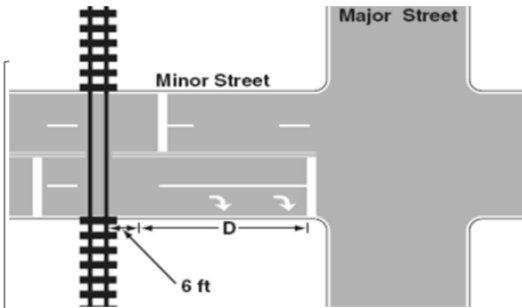
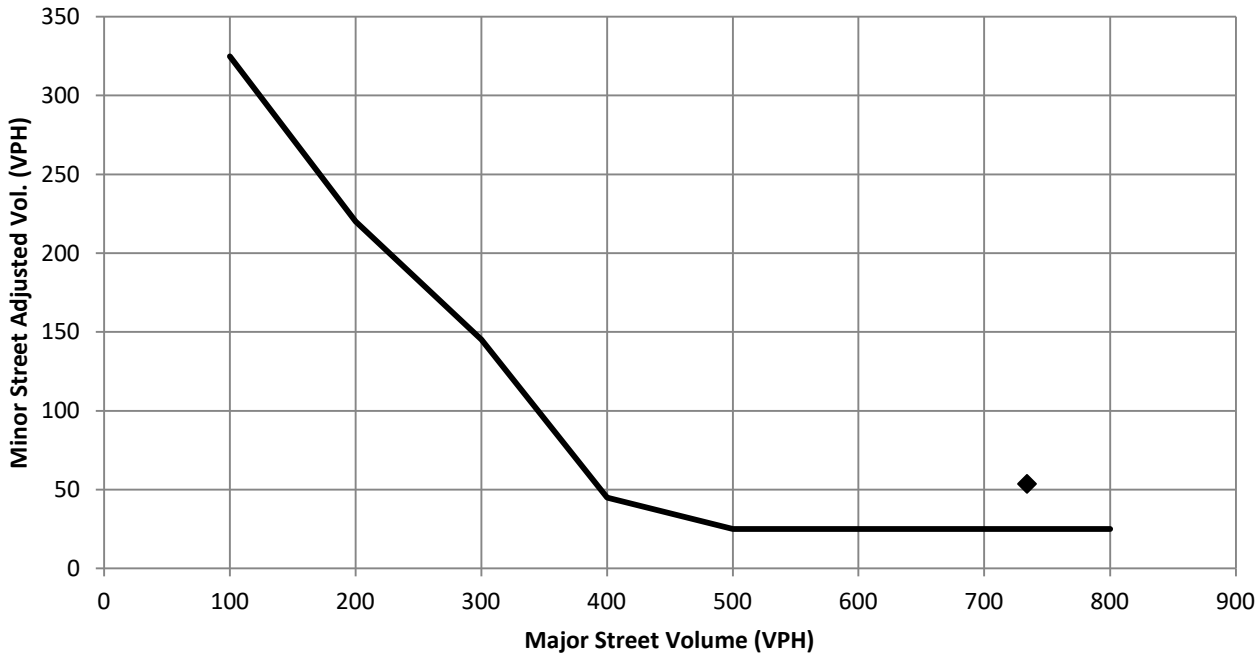


Figure 4C-10 Warrant 9, Intersection Near a grade Crossing
(Two or More Approach Lanes at the Track Crossing)



Conclusions/Comments:

Using Year 2040 projected volumes (0.5% growth/year) and rerouting traffic from Grand Avenue through Clough.

Updated: 2/18/2016

Hourly Volume Data																						
One Hour Time Period Start Time		↓ From North (SB)					← From East (WB)					↑ From South (NB)					→ From West (EB)					Total Vehicle Volume
		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	6:00	24	13	35		72	23	138	7		168	9	16	17		42	27	230	31		288	570
	7:00	67	15	78		160	84	208	14		306	23	20	26		69	34	326	68		428	963
	8:00	32	15	27		74	35	204	7		246	16	21	27		64	46	222	24		292	676
	9:00	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0
MD	10:00																				0	0
	11:00																				0	0
	12:00																				0	0
	13:00																				0	0
PM	14:00	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		0	0
	15:00	49	32	39		120	60	226	26		312	28	38	51		117	100	225	34		359	908
	16:00	42	39	42		123	70	267	23		360	14	41	52		107	76	257	50		383	973
	17:00	52	34	41		127	71	256	33		360	22	36	53		111	95	242	50		387	985
	18:00					0					0					0					0	0
	19:00					0					0					0					0	0
	20:00					0					0					0					0	0
	21:00					0					0					0					0	0
Totals		266	148	262	0	676	343	1299	110	0	1752	112	172	226	0	510	378	1502	257	0	2137	5075

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road:

E/W

Major Road Left Turn as Minor Approach?

No

% Right Turns Included (Default 0%)

From North (SB)	100%
From East (WB)	100%
From South (NB)	100%
From West (EB)	100%

Major Road Volume Totals: East/West				
Right	Thru	Left	T+LT	Total
50	368	38	406	456
118	534	82	616	734
81	426	31	457	538
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
721	2801	367	3168	3889

Minor Road Highest Volume: North/South				
Right	Thru	Left	T+LT	Total
24	13	35	48	72
67	15	78	93	160
32	15	27	42	74
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
266	148	262	410	676

Wisconsin Department of Transportation Traffic Signal Warrant

Summary Worksheet

70%

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: WIS 60 and Eagle Drive

County: Washington

Village: Jackson

Major Street: WIS 60

Critical Approach Speed: 40 mph

Lanes: 1 lane

Minor Street: Eagle Drive

Critical Approach Speed: 30 mph

Lanes: 2 or more lanes

% Right Turns Included

From North (SB) 100%

From East (WB) 100%

From South (NB) 100%

From West (EB) 100%

In built-up area of isolated community of < 10,000 population? Yes

Total number of approaches at intersection? 4 or more

If it is a "T" intersection, inflate minor threshold to 150%?

Manually set volume level? No

Analysis based on **PROJECTED** volume data.

Forecast Year	Within 5 Years of Construction?	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2035	Yes	6	AM	9	AM
2035	Yes	3	PM	6	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	Yes
Warrant 3: Peak Hour Volume	Yes
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Sandra Herbers

Agency: SRF Consulting

Date: 2/9/2022

Warrant 1: Eight - Hour Vehicular Volume

70%

Warrant Evaluated? Yes

Warrant Satisfied? No

Manually Set To:

Condition A : Min. Veh. Volume		
Volume Level	70%	56%
Major Rd. Req	350	280
Minor Rd. Req	140	112
Number of Hours	4	4

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	70%	56%
Major Rd. Req	525	420
Minor Rd. Req	70	56
Number of Hours	5	6

Satisfied? No

Condition C: Combination of A & B at 56%		
---	--	--

Satisfied? No

6:00 AM		Enter Start Time (Military Time) (HH:MM)			
Time Period	From	To	Major Road: Both	Minor Road: High	Total
			App. (VPH)	App. (VPH)	
1	6:00	7:00	500	80	580
2	7:00	8:00	800	170	970
3	8:00	9:00	590	75	665
4	9:00	10:00	0	0	0
5	10:00	11:00	0	0	0
6	11:00	12:00	0	0	0
7	12:00	13:00	0	0	0
8	13:00	14:00	0	0	0
9	14:00	15:00	0	0	0
10	15:00	16:00	795	150	945
11	16:00	17:00	875	150	1025
12	17:00	18:00	890	155	1045
13	18:00	19:00	0	0	0
14	19:00	20:00	0	0	0
15	20:00	21:00	0	0	0
16	21:00	22:00	0	0	0

Warrant 2: Four-Hour Volume

70%

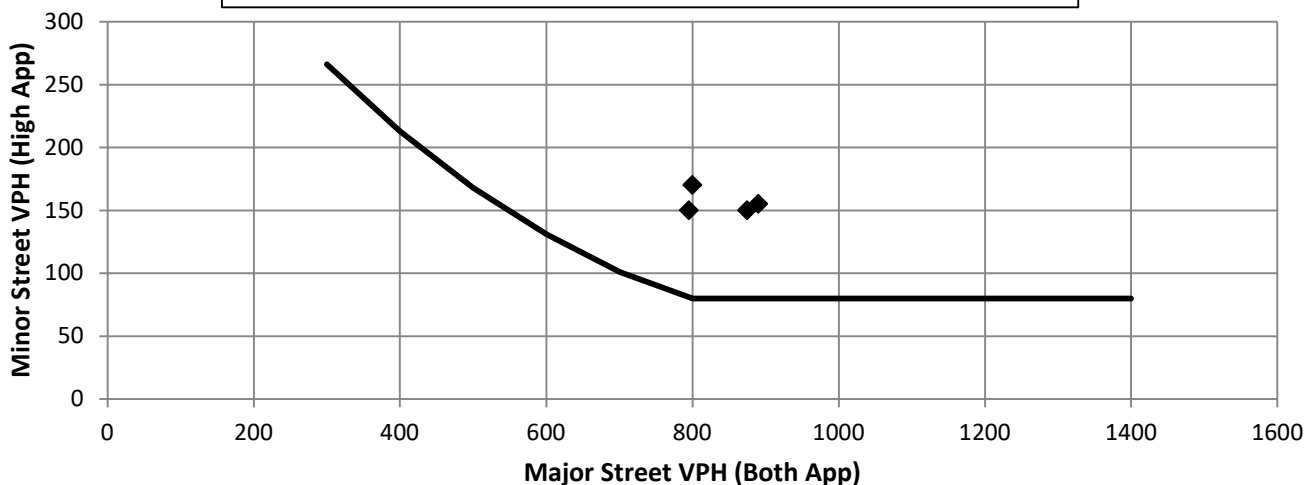
Warrant Evaluated? Yes

Warrant Satisfied? Yes

Manually Set To:

Hour Start	17:00	16:00	7:00	15:00
Major Road Vol.	890	875	800	795
Minor Road Vol.	155	150	170	150

Figure 4C-2 Warrant 2, Four-Hour Vehicular Volume (70% Factor)



Warrant 3: Peak Hour Volume

70%

Warrant Evaluated? Yes

Condition justifying use of warrant:

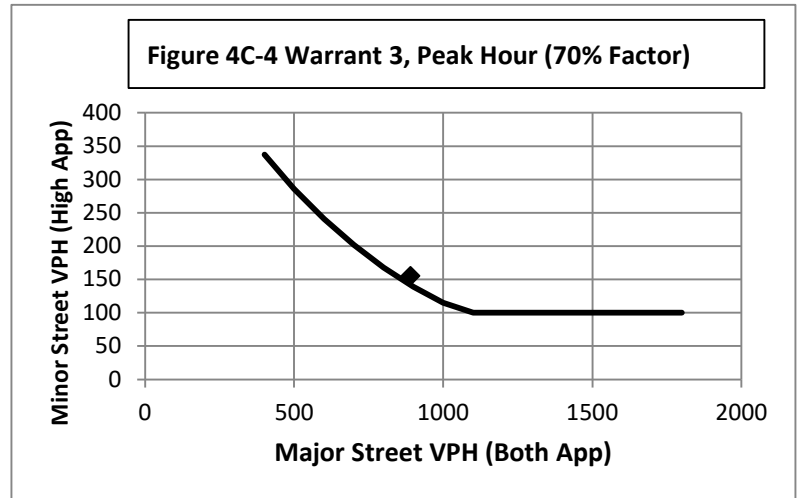
Criteria		Met?
Delay on Minor Approach	5	Yes
Volume on Minor Approach	150	Yes
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour? No

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
17:00	890	155

Warrant Satisfied? Yes

Manually Set To:



Warrant 4: Pedestrian Volume

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

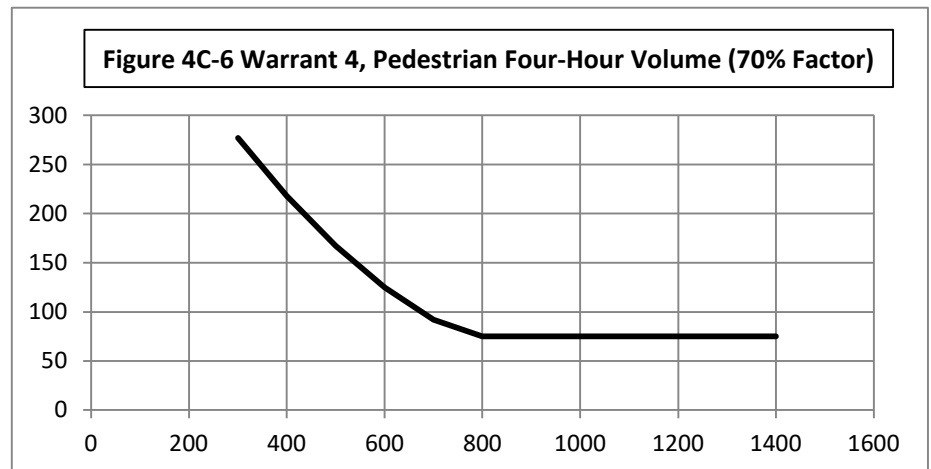
Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?

Avg. walk speed less than 3.5 ft/s?

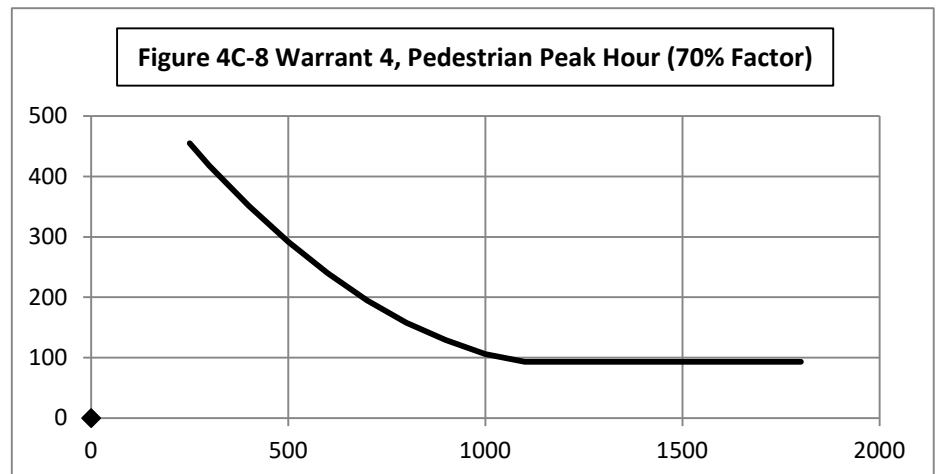
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



Warrant 5: School Crossing

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria				Fulfilled?
1	There are a MINIMUM of 20 school children during the highest crossing hour.			
2	There are fewer adequate gaps in the major road traffic stream during the period when the school children are using the crossing than the number of minutes in the same period.			
3	The nearest traffic signal along the major road is located more than 300 ft away. Or, the nearest traffic signal is within 300 ft but the proposed traffic signal will not restrict the progressive movement of traffic.			

Warrant 6: Coordinated Signal System

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria				Fulfilled?
1	Signal spacing > 1000 ft			
2	On a one-way road or a road that has traffic predominantly in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.			
3	On a two-way road, adjacent signals do not provide the necessary degree of platooning and the proposed and the adjacent signals will collectively provide a progressive operation.			

Warrant 7: Crash Experience

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria				Met?	Fulfilled?
1	Adequate trial of other remedial measures has failed to reduce crash frequency.				
	Measures Tried:				
2	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12 month period.		# of crashes per 12 months		
3	Warrant 1, Condition A (80%)		No	No	
	Warrant 1, Condition B (80%)		No		
	Warrant 4, Criterion A (80%)		No		
	Warrant 4, Criterion B (80%)		No		

Warrant 8: Roadway Network

70%

Warrant Evaluated? No

Warrant Satisfied? N/A

Manually Set To:

Criteria				Met?	Fulfilled?
1	Total entering volume of at least 1,000 veh/h during typical weekday peak hour		1045	Yes	No
	Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.			No	
2	Total entering vol. of at least 1,000 veh/h for each of any 5 hrs of non-normal business day (Sat. or Sun.)				
	Hour				
	Volume				

Characteristics of Major Routes - Select yes if all intersecting routes have characteristic				Fulfilled?
1	Part of the road or highway system that serves as the principal roadway network for through traffic flow			
2	Rural or suburban highway outside of, entering, or traversing a city			
3	Appears as a major route on an official plan			

Warrant 9: Intersection Near a Grade Crossing

70%

Warrant Evaluated?

Warrant Satisfied? N/A

Manually Set To:

Adjustment Factors			Manually Set Peak Hour?				
Rail Traffic per Day	% High Occupancy Buses on Minor Road	% Tractor-Trailer Trucks on Minor Road	D	Peak Hour	Major Road Vol.	Minor Road Vol.	Adjusted Minor Vol.
1	0	0% to 2.5%	660	17:00	890	155	51.925

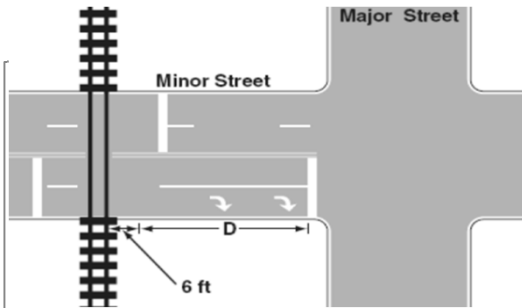
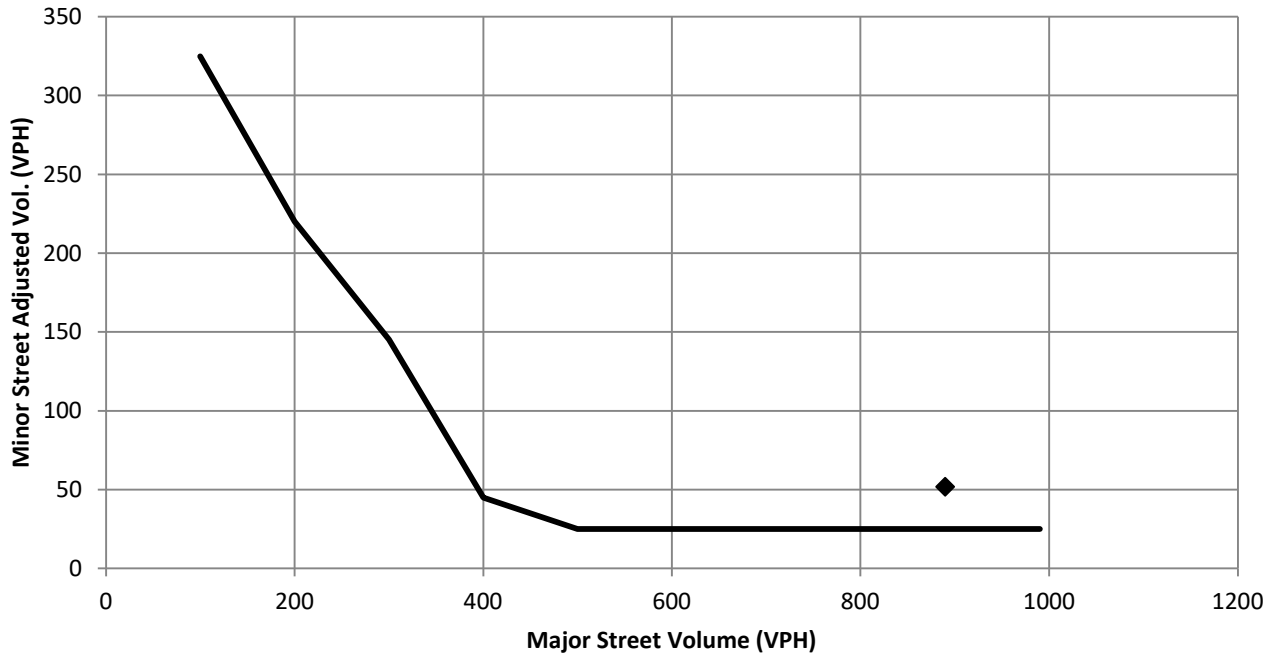


Figure 4C-10 Warrant 9, Intersection Near a grade Crossing
(Two or More Approach Lanes at the Track Crossing)



Conclusions/Comments:

Using Year 2040 projected volumes (0.5% growth/year) and rerouting traffic from Grand Avenue through Clough.

Updated: 2/18/2016

Hourly Volume Data																						
One Hour Time Period Start Time		↓ From North (SB)					← From East (WB)					↑ From South (NB)					→ From West (EB)					Total Vehicle Volume
		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	6:00	25	15	40		80	25	155	10		190	10	15	15		40	30	245	35		310	620
	7:00	70	15	85		170	90	235	15		340	25	20	25		70	35	350	75		460	1040
	8:00	30	15	30		75	35	230	10		275	15	20	25		60	50	240	25		315	725
	9:00					0					0					0					0	0
MD	10:00					0					0					0					0	0
	11:00					0					0					0					0	0
	12:00					0					0					0					0	0
	13:00					0					0					0					0	0
PM	14:00					0					0					0					0	0
	15:00	65	30	55		150	70	265	40		375	40	40	50		130	135	245	40		420	1075
	16:00	55	35	60		150	85	315	35		435	20	45	50		115	105	280	55		440	1140
	17:00	70	30	55		155	85	300	55		440	30	40	55		125	130	265	55		450	1170
	18:00					0					0					0					0	0
	19:00					0					0					0					0	0
	20:00					0					0					0					0	0
	21:00					0					0					0					0	0
Totals		315	140	325	0	780	390	1500	165	0	2055	140	180	220	0	540	485	1625	285	0	2395	5770

Note: Copy volume data and paste into cells using paste special -> values

Note: U-Turns are counted as Left Turns in the Volume Totals

Please Select the Major Road:

E/W

Major Road Left Turn as Minor Approach?

No

% Right Turns Included (Default 0%)

From North (SB)	100%
From East (WB)	100%
From South (NB)	100%
From West (EB)	100%

Major Road Volume Totals: East/West				
Right	Thru	Left	T+LT	Total
55	400	45	445	500
125	585	90	675	800
85	470	35	505	590
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
875	3125	450	3575	4450

Minor Road Highest Volume: North/South				
Right	Thru	Left	T+LT	Total
25	15	40	55	80
70	15	85	100	170
30	15	30	45	75
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
315	140	325	465	780



Taking the lead in Washington County.

March 04, 2022

Brian Kober, Director of Public Works

RE: Accounts with uncollectible balances

Attached are the histories of six (6) accounts that have remained unpaid due to Bankruptcy, death or have moved from the Village with no way to contact them.

1.) Account #000-4221-00, located at N168W21700 Main St. #17 in the amount of \$614.82. This person had filed for Bankruptcy (2018) and no longer resides in the Village, and we have no forwarding address. We have no way of collecting the past due amount through Property Taxes or a landlord.

2.) Account #000-5089-01, located at N162W19361 Oakland Dr. in the amount of \$2,138.97. They had an Order of Discharge in the Bankruptcy filing (2019).

3.) Account #000-4091-00, located at N168W21700 Main St. #227 in the amount of \$131.26. The resident had moved from the Village in 2019. I have mailed letters on 1/8/20, 4/14/20, 7/28/20 & 4/16/21 to the forwarding address, with no response. We have no way of collecting the past due amount through Property Taxes or a landlord or garnishment.

4.) Account #000-4225-00, located at N168W21700 Main St. #13 in the amount of \$740.37. They have passed away (2021) and we have no way of collecting the past due amount through Property Taxes or a landlord. Water is off currently. Home to be junked.

5.) Account #000-4032-00, located at N168W21700 Main St. #137 in the amount of \$270.65. They have passed away and we have no way of collecting the past due amount through Property Taxes or a landlord. Water is off currently. Home to be junked.

6.) Account #000-4135-00, located at N168W21700 Main St. #127 in the amount of \$131.43. They have passed away and we have no way of collecting the past due amount through property taxes or a landlord. Water is off currently. Home to be junked.

We have no way of collecting these past due amounts that total \$4,027.50, so I am asking to write off these balances to get them out of the system.

Sincerely,

Carla Leach

Water Utility Clerk

W194N16660
Eagle Drive
Jackson, WI 53037
Phone: 262-677-0707
Fax: 262-677-8770

Mailing Address:
P.O. Box 637

www.villageofjackson.com

2/11/2022 10:57 AM

Account History - Summary
ALL Transactions

Page: 1
UTIL

Post Date: From: 1/01/2018 Account Nbr: From: 000-4221-00 Group Cd: From:
Thru: 12/31/2019 Thru: 000-4221-00 Thru:

Account Nbr:	000-4221-00	Name:				Running Balance
		12/31/2017 - Balance:				489.96
<u>Post Date</u>	<u>Trans Date</u>	<u>Type</u>	<u>Trans ID</u>	<u>Amount</u>		
2/06/2018	2/06/2018	Late Charge		4.90		494.86
2/09/2018	2/08/2018	Receipt	200102	-489.96		4.90
3/06/2018	3/06/2018	Late Charge		0.04		4.94
3/31/2018	4/15/2018	Bill		276.22		281.16
4/06/2018	4/06/2018	Late Charge		0.04		281.20
5/08/2018	5/08/2018	Late Charge		2.81		284.01
6/07/2018	6/07/2018	Late Charge		2.84		286.85
6/27/2018	6/27/2018	Adjustment	LATE FEE	30.00		316.85
6/29/2018	6/28/2018	Receipt	204608	-286.85		30.00
7/06/2018	7/15/2018	Bill		201.82		231.82
7/10/2018	7/10/2018	Late Charge		0.20		232.02
8/07/2018	8/06/2018	Late Charge		2.33		234.35
9/05/2018	9/05/2018	Late Charge		2.34		236.69
9/26/2018	9/26/2018	Adjustment	SHUT OFF FEE	30.00		266.69
10/05/2018	10/15/2018	Bill		333.65		600.34
10/08/2018	10/08/2018	Late Charge		2.37		602.71
5/08/2019	5/08/2019	Late Charge		6.02		608.73
8/07/2019	8/07/2019	Late Charge		6.09		614.82
						=====
		000-4221-00 - Ending Balance:				614.82

2.

2/11/2022 11:14 AM

Account History - Summary
ALL Transactions

Page: 1
UTIL

Post Date: From: 1/01/2019 Account Nbr: From: 000-5089-01 Group Cd: From:
Thru: 12/31/2019 Thru: 000-5089-01 Thru:

Account Nbr:	000-5089-01	Name:		Running Balance	
		12/31/2018 - Balance:		1,847.79	
Post Date	Trans Date	Type	Trans ID	Amount	
1/07/2019	1/07/2019	Late Charge		14.74	1,862.53
2/06/2019	2/06/2019	Late Charge		18.63	1,881.16
3/05/2019	3/05/2019	Late Charge		18.81	1,899.97
4/02/2019	4/02/2019	Late Charge		19.00	1,918.97
4/03/2019	4/15/2019	Bill		399.02	2,317.99
5/08/2019	5/08/2019	Late Charge		23.18	2,341.17
6/06/2019	6/06/2019	Late Charge		23.42	2,364.59
6/13/2019	6/13/2019	Receipt	218605	-500.00	1,864.59
7/05/2019	7/05/2019	Late Charge		18.64	1,883.23
7/08/2019	7/15/2019	Bill		382.22	2,265.45
8/07/2019	8/07/2019	Late Charge		22.65	2,288.10
9/05/2019	9/05/2019	Late Charge		22.88	2,310.98
9/13/2019	9/13/2019	Receipt	222117	-310.98	2,000.00
10/07/2019	10/07/2019	Late Charge		20.00	2,020.00
10/08/2019	10/15/2019	Bill		367.04	2,387.04
11/05/2019	11/05/2019	Receipt	224236	-310.98	2,076.06
11/06/2019	11/06/2019	Late Charge		20.76	2,096.82
11/15/2019	11/15/2019	T-Roll Penalty	10.00%	168.90	2,265.72
11/15/2019	11/15/2019	Tax Roll		-1,857.92	407.80
12/03/2019	12/03/2019	Adjustment	REVERSE TAX	1,689.02	2,096.82
12/05/2019	12/05/2019	Late Charge		20.97	2,117.79
12/31/2019	1/15/2020	Bill		318.92	2,436.71
					=====
000-5089-01 - Ending Balance:					2,436.71

Late fee Added 1/5/20 \$21.18

Total

\$ 2,138.97

3

2/11/2022 11:16 AM

Account History - Summary
ALL Transactions

Page: 1
UTIL

Post Date: From: 1/01/2019 Account Nbr: From: 000-4091-00 Group Cd: From:
Thru: 12/31/2019 Thru: 000-4091-00 Thru:

Account Nbr:	000-4091-00	Name:				<u>Running Balance</u>
		12/31/2018 - Balance:				154.86
<u>Post Date</u>	<u>Trans Date</u>	<u>Type</u>	<u>Trans ID</u>	<u>Amount</u>		
2/02/2019	2/02/2019	Receipt	CC 0202	-155.00		-0.14
4/03/2019	4/15/2019	Bill		164.66		164.52
5/05/2019	5/05/2019	Receipt	CC 0505	-165.00		-0.48
7/08/2019	7/15/2019	Bill		157.91		157.43
8/05/2019	8/05/2019	Receipt	CC 0805	-160.00		-2.57
10/08/2019	10/15/2019	Bill		169.02		166.45
10/18/2019	10/18/2019	Receipt	CC 1018	-166.45		0.00
11/22/2019	11/22/2019	Bill		131.26		131.26
						=====
		000-4091-00 - Ending Balance:				131.26

4.

2/11/2022 11:07 AM

Account History - Summary
ALL Transactions

Page: 1
UTIL

Post Date: From: 1/01/2021 Account Nbr: From: 000-4225-00 Group Cd: From:
Thru: 2/11/2022 Thru: 000-4225-00 Thru:

Account Nbr:	000-4225-00	Name:			Running Balance
		12/31/2020 - Balance:			333.12
Post Date	Trans Date	Type	Trans ID	Amount	
1/06/2021	1/06/2021	Late Charge		1.09	334.21
2/08/2021	2/08/2021	Late Charge		2.18	336.39
3/08/2021	3/08/2021	Late Charge		2.21	338.60
4/06/2021	4/06/2021	Late Charge		2.23	340.83
4/07/2021	4/15/2021	Bill		134.34	475.17
5/06/2021	5/06/2021	Late Charge		3.60	478.77
6/07/2021	6/07/2021	Late Charge		3.63	482.40
7/07/2021	7/07/2021	Late Charge		3.67	486.07
7/08/2021	7/15/2021	Bill		98.88	584.95
8/06/2021	8/06/2021	Late Charge		4.69	589.64
9/08/2021	9/08/2021	Late Charge		4.73	594.37
9/22/2021	9/22/2021	Adjustment	RECONNECT	30.00	624.37
10/06/2021	10/06/2021	Late Charge		4.80	629.17
10/06/2021	10/15/2021	Bill		98.88	728.05
11/08/2021	11/08/2021	Late Charge		6.13	734.18
12/06/2021	12/06/2021	Late Charge		6.19	740.37
					=====
000-4225-00 - Ending Balance:					740.37

5.

2/11/2022 10:58 AM

Account History - Summary
ALL Transactions

Page: 1
UTIL

Post Date: From: 1/01/2021 Account Nbr: From: 000-4032-00 Group Cd: From:
Thru: 2/11/2022 Thru: 000-4032-00 Thru:

Account Nbr:	000-4032-00	Name:				Running Balance
		12/31/2020 - Balance:				189.53
<u>Post Date</u>	<u>Trans Date</u>	<u>Type</u>	<u>Trans ID</u>	<u>Amount</u>		
2/08/2021	2/08/2021	Late Charge		1.90		191.43
3/02/2021	3/02/2021	Receipt	241599	-191.43		0.00
4/07/2021	4/15/2021	Bill		191.47		191.47
5/03/2021	5/03/2021	Receipt	243723	-191.47		0.00
7/08/2021	7/15/2021	Bill		158.10		158.10
7/20/2021	7/20/2021	Receipt	245869	-158.10		0.00
10/06/2021	10/15/2021	Bill		155.98		155.98
11/08/2021	11/08/2021	Late Charge		1.57		157.55
12/06/2021	12/06/2021	Late Charge		1.58		159.13
12/07/2021	12/07/2021	Bill		111.52		270.65
						=====
		000-4032-00 - Ending Balance:				270.65

6.

3/04/2022 10:28 AM

Account History - Summary

Page: 1

ALL Transactions

UTIL

Post Date: From: 1/01/2022 Account Nbr: From: 000-4135-00 Group Cd: From:
Thru: 3/04/2022 Thru: 000-4135-00 Thru:

Account Nbr:	000-4135-00	Name:			<u>Running Balance</u>
		12/31/2021 - Balance:			137.10
<u>Post Date</u>	<u>Trans Date</u>	<u>Type</u>	<u>Trans ID</u>	<u>Amount</u>	
2/08/2022	2/08/2022	Late Charge		1.38	138.48
2/11/2022	2/11/2022	Bill		70.71	209.19
3/02/2022	3/02/2022	Receipt		-77.76	131.43
					=====
		000-4135-00 - Ending Balance:			131.43

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To: Brian Kober

From: Jeff L. Deitsch

CC: Chad Russ

Date: 04/20/2022

Re: Televising north and south interceptor sewers

The Village has received bid prices for the televising of the north and south interceptor sewers. It is about 39,204 ft or about 7.4 miles of sewer to be televised. If there is any Light cleaning involved, it will be an extra cost if we can't provide cleaning with our Jetter. I have received service quotes from three vendors as follows

The Expeditors, Inc

On Road - 17,969 ft x \$1.04 = \$18,687.00

Off Road estimate – 21,235ft = \$32,267.00

Total = \$50,954.00

Visu-Sewer

On Road - 17,969 ft x \$1.04 = \$18,687.00

Off Road – 21235 ft x \$1.60 = \$33,976.00

Total = \$52,663.00

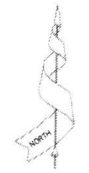
Great Lakes TV Seal Inc.

On Road & Off-Road Total - \$26,183.30

I would recommend Great Lakes TV Seal Inc.

Sanitary Sewer Map Jackson, Wisconsin

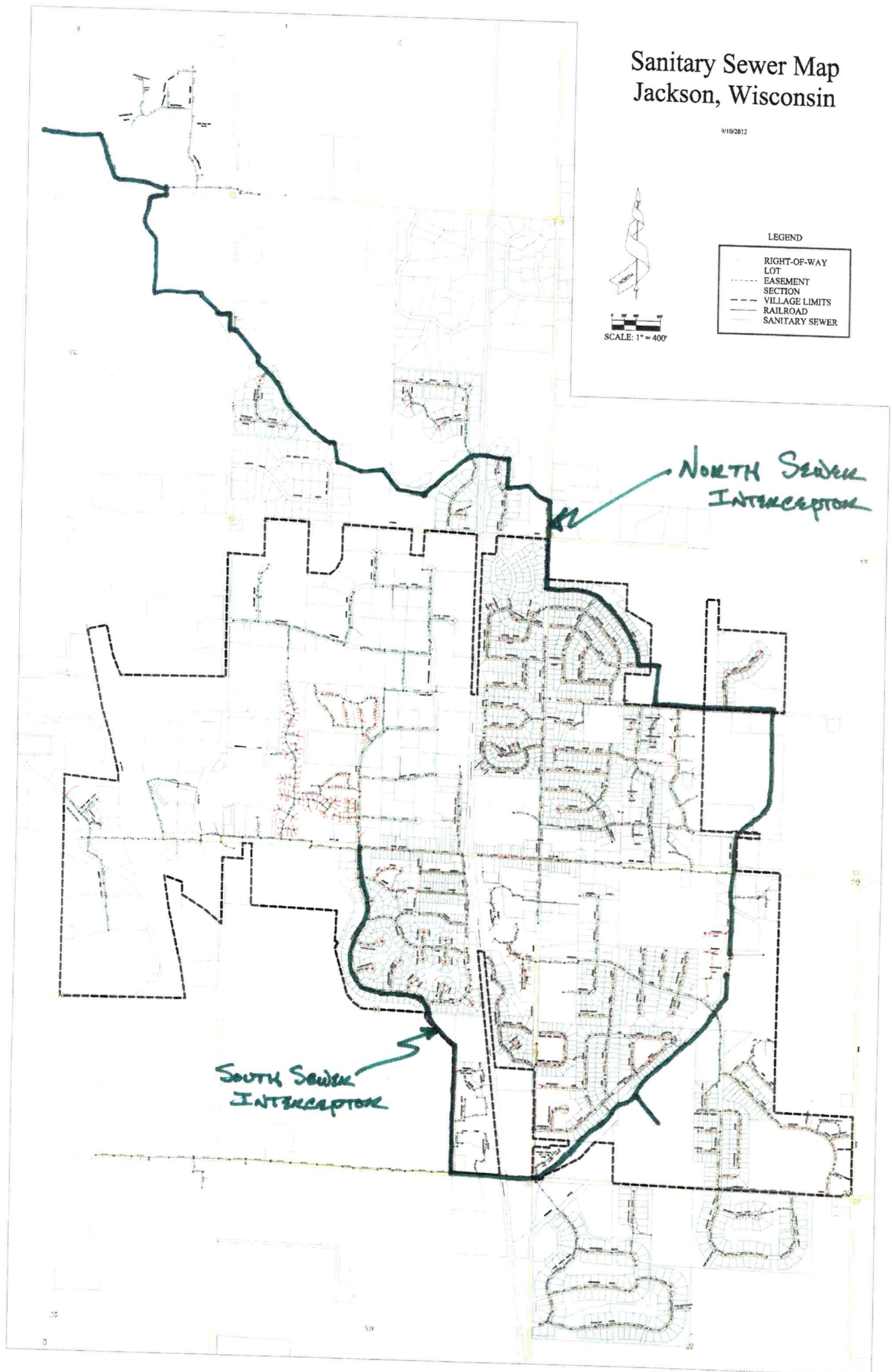
9/10/2012



SCALE: 1" = 400'

LEGEND

- RIGHT-OF-WAY
- LOT
- EASEMENT
- SECTION
- VILLAGE LIMITS
- RAILROAD
- SANITARY SEWER



The Expeditors, Inc.

QUOTATION

CUSTOMER: Village of Jackson

QUOTE DATE: 3-2-22

CONTACT: Jeff Deitsch

PROJECT: 2022 Sanitary Sewer Interceptor Cleaning & Televising

WORK DESCRIPTION: Clean & Televis 39,204' LF of 12"-36 Sanitary Sewer Interceptor

QUOTE: Clean & Televis 17,969' LF of 18"-36" Sanitary Sewer Interceptor in Roadway @ \$3.24 Per Linear Foot. Televising Price \$1.04 Per Linear Foot. Cleaning Price \$2.20 Per Linear Foot

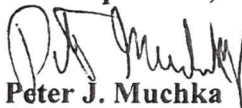
Clean & Televis 21,235' LF of 12"-30" Sanitary Sewer Interceptor in Easements @ \$550.00 Per Hour. (It is estimated this work will take 176 hours to complete) This price includes Vactor Truck, Water Truck, Tracked Easement Machine & Easement Mats.

*Village to provide hydrant water and dump site for sewer cleaning

*Village to cut any brush, trees, grass-weeds to access manholes in easements

Thank you for the opportunity to bid this work. If you have any questions, please feel free to call us at 1-800-657-0879.

Sincerely,
The Expeditors, Inc.



Peter J. Muchka

CUSTOMER SIGNATURE:

139 N. Main St. Dousman, WI. 53118
Phone 800-657-0879 Fax 800-261-3582
theexpeditors@aol.com



Proposal

To: Jeff Deitsch
Village of Jackson
W194N16660 Eagle Dr
Jackson, WI 53037
262-677-0707

From: Drew Setzer
Visu-Sewer, Inc.
W230N4855 Betker Dr.
Pewaukee, WI 53072
262-695-2640

Date: 4/14/2022

Project: Interceptor Sanitary Sewer CCTV Inspection - Jackson, WI

Visu-Sewer is pleased to offer the following service:

CCTV inspection of approximately 17,969 linear feet of 12-36" road accessible sanitary sewer interceptor mains and approximately 21,235 linear feet of 12-36" easement sanitary sewer interceptor mains for the Village of Jackson, WI. The proposal cost includes video data, inspection reports with PACP codes & defect still photos. If needed, light cleaning, root cutting, removal of protruding taps, and/or reaming of mineral deposits will be completed at \$275.00 per hour for on road sewers, and \$385.00 per hour for off road sewers (port to port). Heavy cleaning will be quoted individually if needed.

Price:

On Road Access - \$1.04 per linear foot

(Based on a minimum of 17,900 linear feet)

Off Road Easement Access - \$1.60 per linear foot

(Based on a minimum of 21,000 linear feet)

Reverse set-ups if needed due to debris in pipe - \$175.00 Each

The Village of Jackson shall provide access, and any private landowner coordination to allow access, to all manholes, water for our jet truck from nearby hydrants (if needed & without charge), a dump site for captured debris (if needed), and any required traffic control beyond cones and signs. Visu-Sewer will provide labor and equipment to complete the project.

Thank you for the opportunity to quote this project. If you have any questions, please do not hesitate to contact us at 262-695-2340.

All material guaranteed to be as specified. All work to be completed in a substantial workmanlike manner according to specifications submitted, per standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance. This proposal may be withdrawn if not accepted within 30 days of issue. Time and material rates are charges "port to port". Terms - Net 30 days.

Acceptance of Proposal

The above prices, specifications and conditions are satisfactory and are hereby accepted. Visu-Sewer, Inc. is authorized to do the work as specified.

Date: _____ Signature: _____



3600 Kewaunee Road
Green Bay, WI 54311
Phone: (920) 863-3663
Fax: (920) 863-3662

Quotation

Quote Number
18468

Quote Date
Apr 1, 2022

Quoted to:

VILLAGE OF JACKSON
N168 W20733 Main Street
P.O. Box 637
Jackson, WI 53037

Page
1

Quote Good Thru	Payment Terms	Sales Rep
5/1/22	Net 30 Days	

Description	Unit of Measure	Quantity	Unit Price	Extension
2022 SANITARY INTERCEPTOR TELEVISING	.			
MOBILIZATION/DEMOBILIZATION - TV UNIT AND CREW (ONE TIME MOBILIZATION CHARGE)	L SUM	1.00	560.000	560.00
12" PVC / OFF ROAD / GOOD ACCESS	FOOT	6,209.00	0.720	4,470.48
15" PVC / OFF ROAD / FAIR TO DIFFICULT ACCESS	FOOT	7,301.00	0.720	5,256.72
18" PVC / ON ROAD	FOOT	1,277.00	0.580	740.66
18" RCP / ON ROAD	FOOT	5,946.00	0.580	3,448.68
18" RCP / OFF ROAD / GOOD ACCESS	FOOT	628.00	0.580	364.24
21" RCP / ON ROAD	FOOT	3,416.00	0.580	1,981.28
21" RCP / OFF ROAD FAIR ACCESS	FOOT	2,530.00	0.720	1,821.60
24" RCP / ON ROAD	FOOT	5,207.00	0.580	3,020.06
30" RCP / ON ROAD	FOOT	1,713.00	0.580	993.54

Please notify Great Lakes within 30 days if the quotation is accepted and the above prices will be honored.
This acknowledgment will enable us to schedule your work more efficiently.
If prevailing wages apply - this quote will be adjusted accordingly. Bond fee and/or additional insurance requirements are not included in the quote amount. If applicable, add the amount(s) to this quote.

Subtotal	Continued
Sales Tax	Continued
Total	Continued



3600 Kewaunee Road
Green Bay, WI 54311
Phone: (920) 863-3663
Fax: (920) 863-3662

Quotation

Quote Number
18468

Quote Date
Apr 1, 2022

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VILLAGE OF JACKSON
N168 W20733 Main Street
P.O. Box 637
Jackson, WI 53037

Page
2

Quote Good Thru	Payment Terms	Sales Rep
5/1/22	Net 30 Days	

Description	Unit of Measure	Quantity	Unit Price	Extension
30" RCP / OFF ROAD / FAIR TO DIFFICULT ACCESS	FOOT	4,567.00	0.720	3,288.24
36" RCP / ON ROAD	FOOT	410.00	0.580	237.80
QUANTITIES ARE ESTIMATED, ACTUAL QUANTITIES WILL BE INVOICED	.			
WE WILL DO OUR BEST TO COMPLETE THIS WORK IN A TIMELY FASHION. OUR PRESENT WORK LOAD IS ALREADY BRINING US INTO THE FALL SEASON AND	.			
TIMELINES ARE CONTINUOUSLY GETTING EXTENDED DUE TO LACK OF PARTS AND SUPPLIES.	.			

Please notify Great Lakes within 30 days if the quotation is accepted and the above prices will be honored.
This acknowledgment will enable us to schedule your work more efficiently.
If prevailing wages apply - this quote will be adjusted accordingly. Bond fee and/or additional insurance requirements are not included in the quote amount. If applicable, add the amount(s) to this quote.

Subtotal	26,183.30
Sales Tax	
Total	26,183.30



Drinking Water Report

2021 Consumer Confidence Report

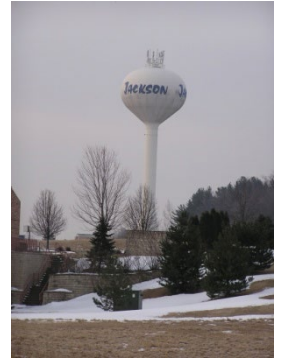
Jackson Water Utility

W194 N16660 Eagle Dr

P.O. Box 637

Jackson, WI. 53037

Jeff.kreutzinger@villageofjacksonwi.gov



The Jackson Water Utility is pleased to provide you with the 2021 Drinking Water Report. We want to keep you informed about the quality of water and services that are delivered to you every day. We are committed to serving our users by meeting the daily challenges of providing a safe and adequate supply of water in all circumstances.

WATER SOURCE - 100% ground water, obtained from five (5) active producing wells, which two (2) of the wells are artesian flowing. Other facilities include two (2) water towers for a combined storage capacity of 700,000 gallons and one (1) booster station. The utility uses chlorine as a disinfecting agent and adds a blended phosphate to the drinking water. This blend of phosphates is a sequestering agent used to control red water, discoloration, scale deposits, and corrosion of water mains, service lines and plumbing. Phosphorus is a major component in a person's diet and is found in almost all foods. The National Sanitation Foundation and the Underwriters Laboratories approve this food grade formula for use in public drinking water. The utility also maintains a total of approximately 52 miles of water main and 3503 customers connected to those mains. In 2020, the water utility pumped a total of 243 million gallons of water.

HEALTH and EDUCATION – The sources of drinking water, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are manmade. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. Please remember that the presence of these constituents does not necessarily pose a health risk. The *Jackson Water Utility* routinely monitors for constituents in your drinking water according to Federal and State laws. The following table shows the results of our monitoring as of December 31st, 2021. All drinking water may be reasonably expected to contain at least small amounts of some constituents. Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791.

WATER SYSTEM INFORMATION AND OPPORTUNITIES FOR INPUT - The Jackson Water Utility is pleased to report that the drinking water is safe and meets federal and state requirements. If you have any questions about this report or your water utility, please contact *Brian Kober, P.E., Director of Public Works* or *Jeff Kreutzinger, Water Superintendent* at 262-677-0707. The Jackson Water Utility wants the valued customers to be informed about their water utility. In the continuing efforts to maintain a safe and dependable water supply, there may be times necessary to make improvements to the water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. Also, you are invited to attend any of our regularly scheduled Village Board meetings. Village board meets the second Tuesday of each month at 7:30 PM, and the Board of Public Works meets the last Tuesday of each month at 7:00 PM.

Thank you for allowing the Jackson Water Utility to continue providing you with clean, quality water. The Jackson Water Utility works around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which is the heart of our community, our way of life and our children's future.

DEFINITIONS - In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter (ug/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level (AL) the concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT) - (mandatory language) A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level - (mandatory language) The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal - (mandatory language) The "Goal"(MCLG) is the level of a contaminant in drinking water below that there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum residual disinfectant level – (MRDL) The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfection is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal – (MRDLG) The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Total Coliform: The Total Coliform Rule (TCR) requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio. To comply with the stricter regulation, we have increased the average amount of chlorine in the distribution system.

Nitrates: As a precaution we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

Hardness: Water described as "hard" is high in dissolved minerals, specifically calcium and magnesium. Hard water is not a health risk, but a nuisance because of mineral buildup on plumbing fixtures and poor soap and/or detergent performance.

What is the hardness level of Jackson's Municipal Water System? Jackson's water hardness is 22 grains/gallon or 380 parts/million; the iron content is 0.4 milligrams per liter or 1/2 part/million.

Detected Contaminants

Your water was tested for many contaminants last year. We are allowed to monitor for some contaminants less frequently than once a year. The following tables list only those contaminants which were detected in your water. If a contaminant was detected last year, it will appear in the following tables without a sample date. If the contaminant was not monitored last year, but was detected within the last 5 years, it will appear in the tables below along with the sample date.

Disinfection Byproducts

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Violation	Typical Source of Contaminant
HAA5 (ppb)	B-11	60	60	2	2		No	By-product of drinking water chlorination
TTHM (ppb)	B-11	80	0	3.1	3.1		No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Violation	Typical Source of Contaminant
ARSENIC (ppb)		10	n/a	4	1 - 4	9/15/2020	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
BARIUM (ppm)		2	2	0.100	0.073 - 0.100	9/15/2020	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
CHROMIUM (ppb)		100	100	1	0 - 1	9/15/2020	No	Discharge from steel and pulp mills; Erosion of natural deposits
FLUORIDE (ppm)		4	4	0.2	0.2 - 0.2	9/15/2020	No	Erosion of natural deposits; Water additive which promotes strong

Contami- nant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Vio- la- tion	Typical Source of Contaminant
								teeth; Discharge from fertilizer and aluminum factories
NICKEL (ppb)		100		4.2000	1.3000 - 4.2000	9/15/2020	No	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.
NITRATE (N03-N) (ppm)		10	10	2.90	0.00 - 2.90		No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
SELENIUM (ppb)		50	50	0	0 - 0	9/15/2020	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
SODIUM (ppm)		n/a	n/a	21.00	9.00 - 21.00	9/15/2020	No	n/a

Contami- nant (units)	Action Level	MCLG	90th Per- centile Level Found	# of Results	Sample Date (if prior to 2021)	Vio- la- tion	Typical Source of Contami- nant
COPPER (ppm)	AL=1.3	1.3	0.3100	0 of 20 results were above the action level.	9/22/2020	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
LEAD (ppb)	AL=15	0	3.60	1 of 20 results were above the action level.	9/22/2020	No	Corrosion of household plumbing systems; Erosion of natural deposits

Radioactive Contaminants

Contaminant (units)	Site	MCL	MCLG	Level Found	Range	Sample Date (if prior to 2021)	Vio- la- tion	Typical Source of Contaminant
GROSS ALPHA, EXCL. R & U (pCi/l)		15	0	2.1	0.0 - 2.1	9/15/2020	No	Erosion of natural deposits
RADIUM, (226 + 228) (pCi/l)		5	0	1.3	0.0 - 1.3	9/15/2020	No	Erosion of natural deposits
COMBINED URA- NIUM (ug/l)		30	0	0.6	0.0 - 0.6	10/19/2020	No	Erosion of natural deposits

Contaminants with a Health Advisory Level or a Secondary Maximum Contaminant Level

The following tables list contaminants which were detected in your water and that have either a Health Advisory Level (HAL) or a Secondary Maximum Contaminant Level (SMCL), or both. There are no violations for detections of contaminants that exceed Health Advisory Levels, Groundwater Standards or Secondary Maximum Contaminant Levels. Secondary Maximum Contaminant Levels are levels that do not present health concerns but may pose aesthetic problems such as objectionable taste, odor, or color. Health Advisory Levels are levels at which concentrations of the contaminant present a health risk.

Contaminant (units)	Site	SMCL (ppm)	HAL (ppm)	Level Found	Range	Sample Date (if prior to 2021)	Typical Source of Contaminant
CHLORIDE (ppm)		250		41.00	5.30 - 41.00	7/12/2017	Runoff/leaching from natural deposits, road salt, water softeners
IRON (ppm)		0.3		0.62	0.00 - 0.62	7/12/2017	Runoff/leaching from natural deposits, industrial wastes
MANGANESE (ppm)		0.05	0.3	0.03	0.01 - 0.03	7/12/2017	Leaching from natural deposits
ZINC (ppm)		5		0.03	0.00 - 0.03	7/12/2017	Runoff/leaching from natural deposits, industrial wastes

Health effects for any contaminants with MCL violations/Action Level Exceedances/SMCL exceedances/HAL exceedances

Contaminant Health Effects

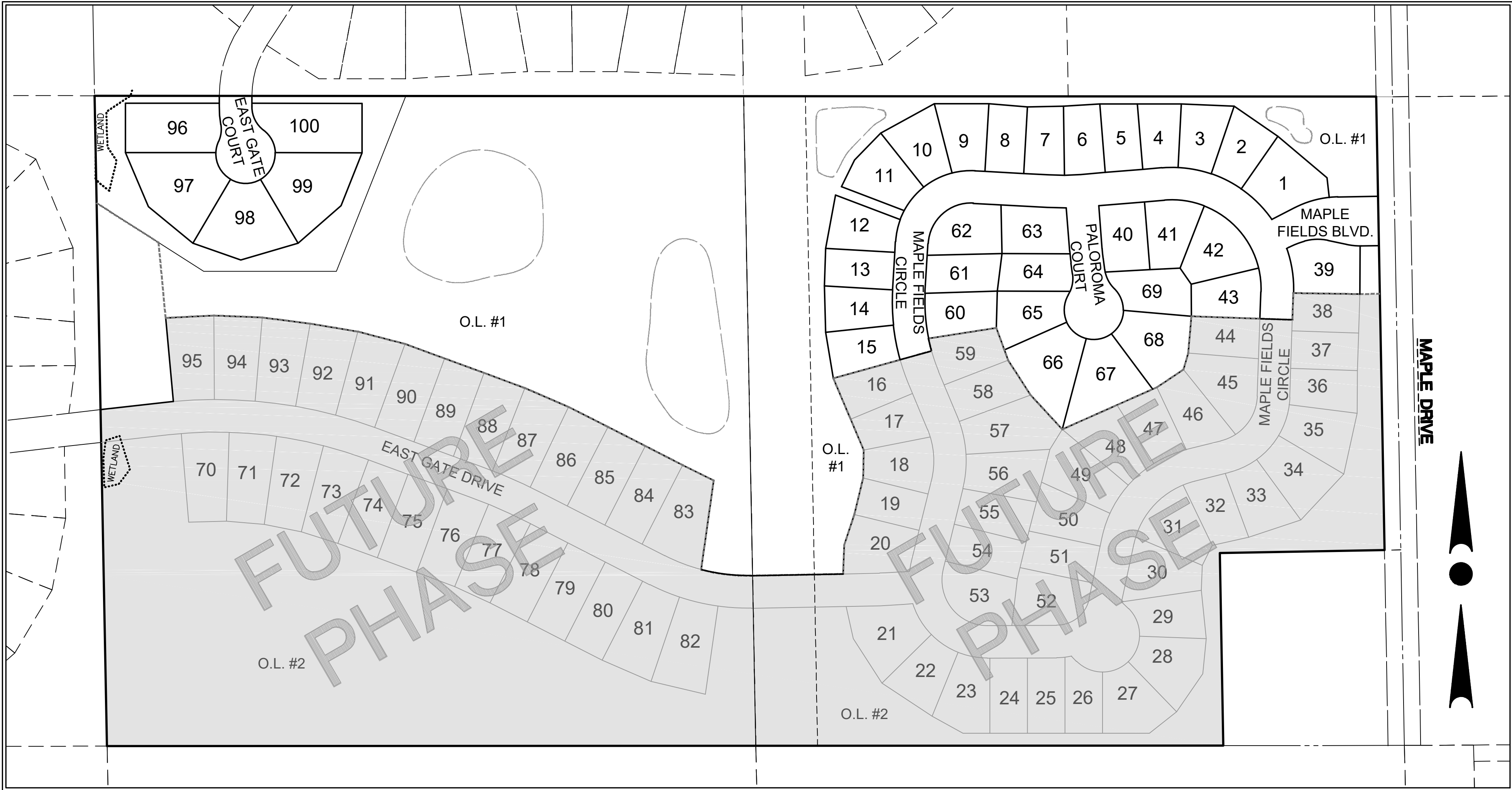
IRON Waters containing iron in quantities above the SMCL are not hazardous to health but may be objectionable for taste, odor, or color.

Additional Health Information

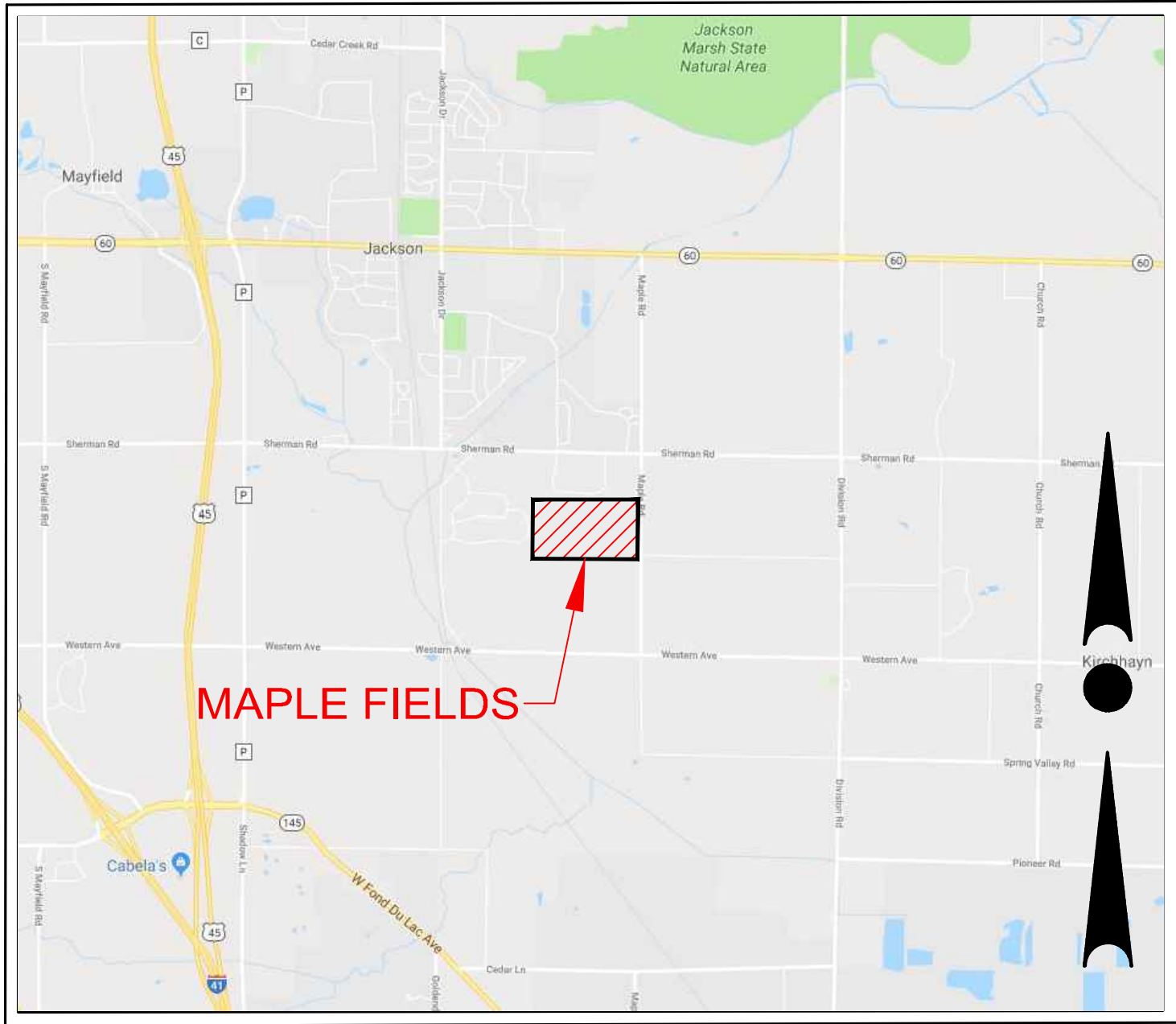
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Jackson Waterworks is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

GENERAL NOTES

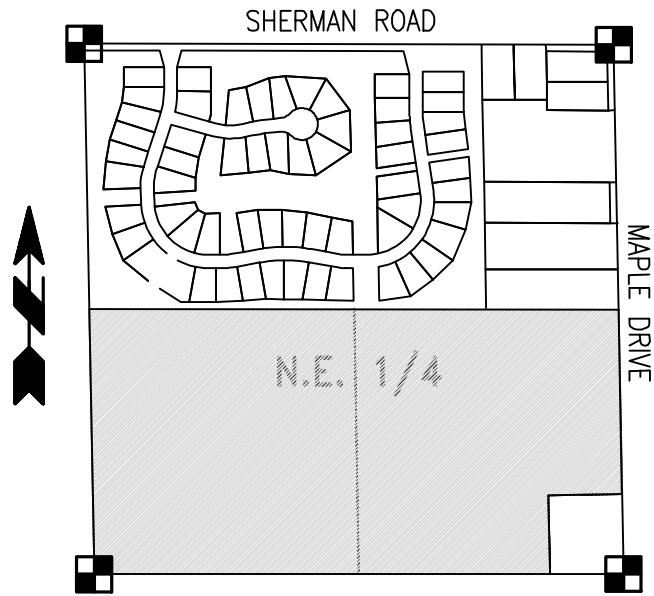
1. THE LATEST EDITIONS OF THE FOLLOWING DOCUMENTS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS ON THIS PLAN UNLESS OTHERWISE NOTED.
-STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, 6TH EDITION (SSSWCW)
-THE WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION
-WDNR STORMWATER RUNOFF TECHNICAL STANDARDS.
-WISDOT PAL APPROVED EROSION CONTROL MEASURES LIST, LATEST EDITION.
-VILLAGE OF JACKSON TECHNICAL STANDARDS.
2. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
3. EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, AN APPROVED EROSION CONTROL PLAN WILL BE PROVIDED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY IMPLEMENTING THE APPROVED PLAN.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF THE BENCHMARKS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL ALSO FIELD VERIFY LOCATION, ELEVATION AND SIZE OF EXISTING UTILITIES, AND VERIFY FLOOR, CURB OR PAVEMENT ELEVATIONS WHERE MATCHING INTO EXISTING WORK. THE CONTRACTOR SHALL FIELD VERIFY HORIZONTAL CONTROL BY REFERENCING SHOWN COORDINATES TO KNOWN PROPERTY LINES. NOTIFY ENGINEER OF DISCREPANCIES IN EITHER VERTICAL OR HORIZONTAL CONTROL PRIOR TO PROCEEDING WITH WORK.
5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION (CALL DIGGERS HOTLINE AT 800-242-8511). COST OF REPLACEMENT OR REPAIR OF EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
6. EXISTING UTILITY INFORMATION IS SHOWN FROM SURVEY WORK, FIELD OBSERVATIONS, AVAILABLE PUBLIC RECORDS, AND AS-BUILT DRAWINGS. EXACT LOCATIONS AND ELEVATIONS OF UTILITIES SHALL BE DETERMINED PRIOR TO INSTALLING NEW WORK. EXCAVATE TEST PITS AS REQUIRED.
7. PROPERTY CORNERS SHALL BE CAREFULLY PROTECTED UNTIL THEY HAVE BEEN REFERENCED BY A PROFESSIONAL LAND SURVEYOR. PROPERTY MONUMENTS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
8. ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF PERFORMING ANY CONSTRUCTION.
9. ALL TRENCHING SHALL BE PERFORMED ACCORDING TO OSHA STANDARDS.
10. ALL ITEMS SHALL INCLUDE ALL THE NECESSARY MATERIALS AND LABOR TO COMPLETE THE ITEM IN PLACE.
11. THE CONTRACTOR SHALL CLEAN ALL ADJACENT STREETS OF ANY SEDIMENT OR DEBRIS BY SWEEPING BEFORE THE END OF THE WORKING DAY OR AS REQUIRED BY THE CITY OF PEWAUKEE.
12. THE CONTRACTOR MUST AND IS REQUIRED TO NOTIFY THE VILLAGE OF JACKSON SEWER AND WATER UTILITY A MINIMUM OF 48 HOURS IN ADVANCE OF WATER MAIN FILLING, WATER MAIN FLUSHING, WATER MAIN TESTING AND WATER MAIN CONNECTIONS. NO CONNECTION SHALL BE MADE TO THE EXISTING WATER SYSTEM UNTIL SAFE SAMPLES FROM THE NEW MAIN HAVE BEEN OBTAINED.



SITE PLAN
SCALE: 1" = 150'



LOCATION MAP
NOT TO SCALE



LOCALITY MAP:
N.E. 1/4, SEC. 29, T. 10 N., R. 20 E.
SCALE: 1"=2000'

SHEET INDEX

CIVIL	
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C6.0-C6.1	- NOTES & DETAILS

DEVELOPER:
NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072
PHONE: (262) 542-9200
FAX: (262) 349-9324

ENGINEER / SURVEYOR:
TRIO ENGINEERING, LLC
4100 N. CALHOUN RD., SUITE 300
BROOKFIELD, WISCONSIN 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481



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PROJECT:
MAPLE FIELDS - PHASE 1
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
09/30/2021	PRELIM CIVIL PLANS
11/04/2021	VILLAGE SUBMITTAL
02/16/2022	PHASE 1 SUBMITTAL

DATE:
FEBRUARY 16, 2022

JOB NUMBER:
16016

DESCRIPTION:

COVER SHEET

SHEET

T1



**PROJECT:
MAPLE FIELDS - PHASE 1
SINGLE FAMILY RESIDENTIAL SUBDIVISION**

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N27W24025 PAUL COURT, SUITE 100
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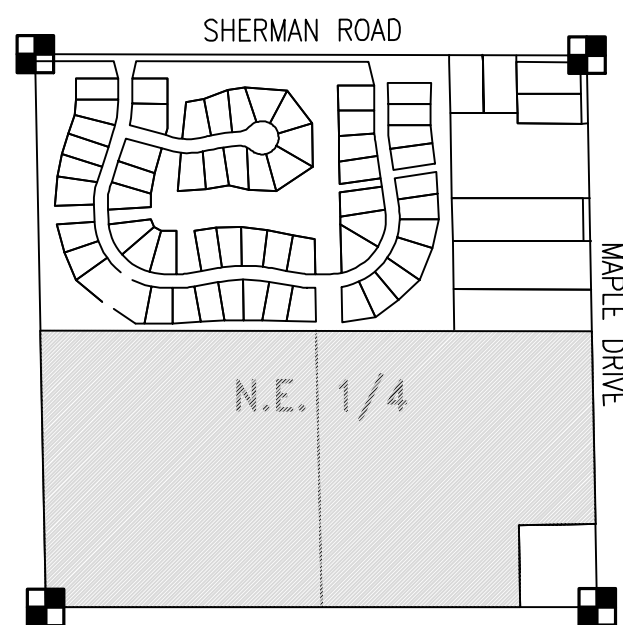
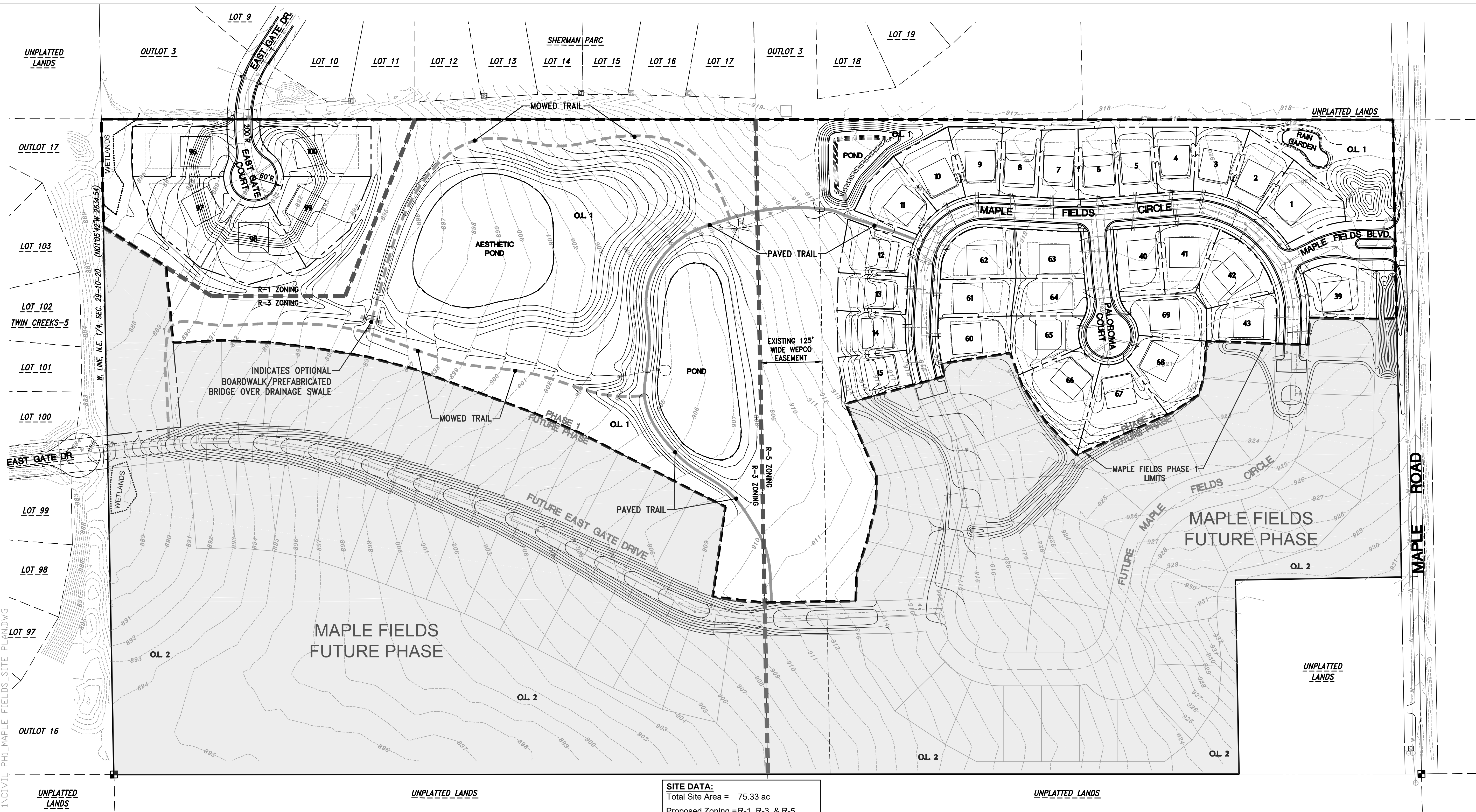
JOB NUMBER:
16016

DESCRIPTION:

OVERALL SITE PLAN

SHEET

CO.1



LOCALITY MAP:

N.E. 1/4, SEC. 29, T. 10 N., R. 20 E.
SCALE: 1"=2000'

SITE DATA:

Total Site Area = 75.33 ac

Proposed Zoning = R-1, R-3, & R-5

Proposed Number of Lots = 100

- R-1 Lots = 5 lots
- R-3 Lots = 26 lots
- R-5 Lots = 69 lots

Net Density = 1.33 un/ac

Open Space = 34.76 ac (46.1%)
(OL 1 & OL 2)

Total Street Length = 5,417 lf (54.2 lf/lot)
 - R-5 Road = 3,500 lf (50.7 lf/lot)
 - R-3 Road = 1,767 lf (68.0 lf/lot)
 - R-1 Road = 150 lf (30.0 lf/lot)

LOTS 96-100

Proposed Zoning: R-1

Minimum Lot Area= 16,000 sf
(Typ. Lot Area= Min. 19,000 sf)

Minimum Lot Width at Setback Line =
Minimum Front Yard Setback = 30'
Minimum Side Yard Setback = 15'

Minimum Side Yard Setback = 15'
Minimum Rear Yard Setback = 25'
Avg. Lot Size = 21,320 sf

Avg. Lot Size = 21,320 sq

STORM WATER MANAGEMENT PLAN SUMMARY

MAPLE FIELDS IS PLANNED AS A SUBDIVISION CONSISTING OF 100 SINGLE-FAMILY LOTS WITH R-1, R-3, & R-5 ZONING, LOCATED IN THE SOUTHEAST CORNER OF THE VILLAGE OF JACKSON, ADJACENT TO MAPLE ROAD AND CONNECTED TO THE TWIN CREEKS SUBDIVISION (TO THE WEST) AND SHERMAN PARC SUBDIVISION (TO THE NORTH). THE STORM WATER MANAGEMENT PLAN FOR THIS DEVELOPMENT WILL BE A COMPREHENSIVE ANALYSIS OF THE ENTIRE PLANNED DEVELOPMENT, ACCOUNTING FOR ALL PHASES OF THE SUBDIVISION TO ENSURE COHESIVE PHASED IMPLEMENTATION.

THE FOLLOWING DESIGN STANDARDS WILL BE UTILIZED TO DEVELOP THE FINAL STORM WATER MANAGEMENT PLAN FOR THE *MAPLE FIELDS* SUBDIVISION:

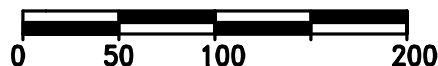
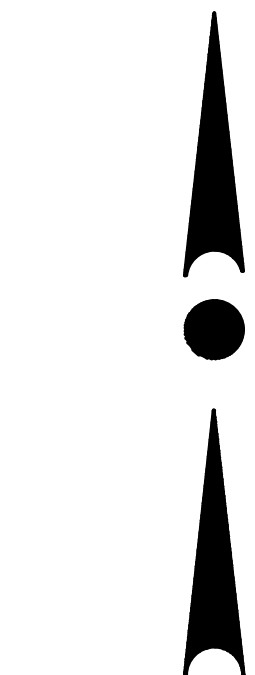
- VILLAGE OF JACKSON STORMWATER MANAGEMENT ORDINANCE - CHAPTER 35
- WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) TECHNICAL STANDARDS, NR 151 AND NR 216.

• SUMMARY OF DESIGN REQUIREMENTS:

○ PEAK DISCHARGE: BY DESIGN, BMPS SHALL BE EMPLOYED TO MAINTAIN OR REDUCE THE ONE-YEAR, 24-HOUR, FIVE-YEAR, 24-HOUR; AND THE 100-YEAR, 24-HOUR POST-CONSTRUCTION PEAK RUNOFF DISCHARGE RATES TO THE ONE-YEAR, 24-HOUR, TWO-YEAR, 24-HOUR; AND THE FIVE-YEAR, 24-HOUR PRE-DEVELOPMENT PEAK RUNOFF DISCHARGE RATES RESPECTIVELY, OR TO THE MAXIMUM EXTENT PRACTICABLE.

○ WATER QUALITY (TOTAL SUSPENDED SOLIDS): REDUCE, TO THE MAXIMUM EXTENT PRACTICABLE, THE TOTAL SUSPENDED SOLIDS LOAD BY 80%, BASED ON AN AVERAGE ANNUAL RAINFALL, AS COMPARED TO NO RUNOFF MANAGEMENT CONTROLS.

0. INFILTRATION: PER CHAPTER 35, LOW IMPERVIOUSNESS. FOR DEVELOPMENT UP TO 40 PERCENT CONNECTED IMPERVIOUSNESS, SUCH AS PARKS, CEMETERIES, AND LOW-DENSITY RESIDENTIAL DEVELOPMENT, INFILTRATE SUFFICIENT RUNOFF VOLUME SO THAT THE POST-DEVELOPMENT INFILTRATION VOLUME SHALL BE AT LEAST 90 PERCENT OF THE PRE-DEVELOPMENT INFILTRATION VOLUME, BASED ON AN AVERAGE ANNUAL RAINFALL. HOWEVER, WHEN DESIGNING APPROPRIATE INFILTRATION SYSTEMS TO MEET THIS REQUIREMENT, NO MORE THAN ONE PERCENT OF THE POST-CONSTRUCTION SITE IS REQUIRED AS AN EFFECTIVE INFILTRATION AREA.



SCALE: 1" = 100' (22"X34")
SCALE: 1" = 200' (11"X17")

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

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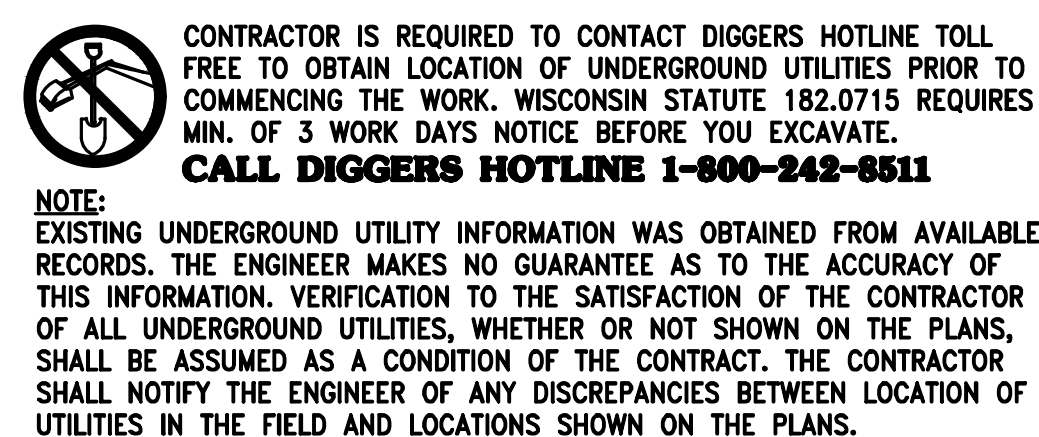
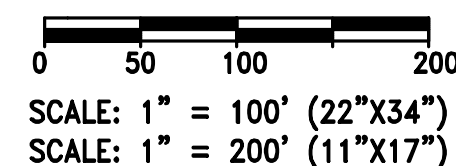
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C1.0



8' BASEMENTS (TYPICAL)

PROPOSED CONCEPTUAL BUILDING PAD

FG 100.0 — FINISHED YARD GRADE

EXP 96.0 — EXPOSURE ELEV.

BSMT 92.0 — BASEMENT ELEV.

TYPICAL HOME ELEVATIONS

NOT TO SCALE



H:\C900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL_P1\MAPLE_FIELDS_MASTER GRADING PLANS.DWG



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LEGEND:	
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	PROPOSED FLOW ARROW
	PROPOSED YARD GRADE
	PROPOSED EXPOSURE GRADE

8' BASEMENTS (TYPICAL)	FG 100.0 — FINISHED YARD GRADE
PROPOSED CONCEPTUAL BUILDING PAD	EXP 96.0 — EXPOSURE ELEV.
	BSMT 92.0 — BASEMENT ELEV.
TYPICAL HOME ELEVATIONS NOT TO SCALE	

0 50 100 200
SCALE: 1" = 100' (22"x34")
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16016

DESCRIPTION:
**OVERALL
MASTER
GRADING PLAN**

SHEET

C1.0M

LEGEND:

- 905 --- - EXISTING CONTOUR
- 905** - PROPOSED CONTOUR
- X 921.0 - PROPOSED SPOT ELEVATION
- ← - PROPOSED FLOW ARROW
- FG 900.0** - PROPOSED YARD GRADE
- EXP 895.0** - PROPOSED EXPOSURE GRADE

0 25 50 100
SCALE: 1" = 50' (22"x34")
SCALE: 1" = 100' (11"x17")



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EMAIL: info@trioeng.com

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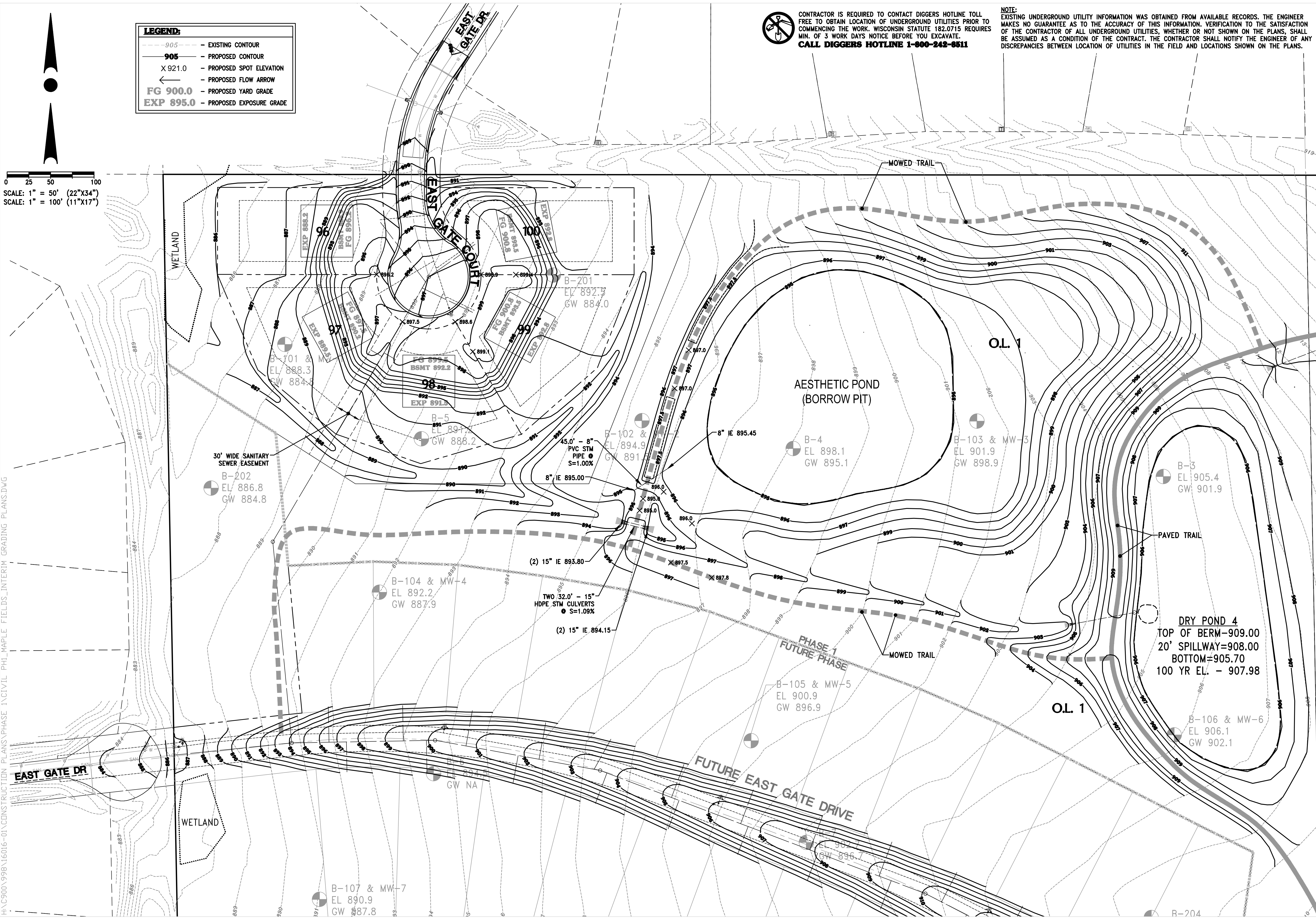
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DESCRIPTION:
INTERIM GRADING
& DRAINAGE PLAN

SHEET
C1.1



LEGEND:

- 905 --- - EXISTING CONTOUR
- 905** - PROPOSED CONTOUR
- X 921.0 - PROPOSED SPOT ELEVATION
- ← - PROPOSED FLOW ARROW
- FG 900.0** - PROPOSED YARD GRADE
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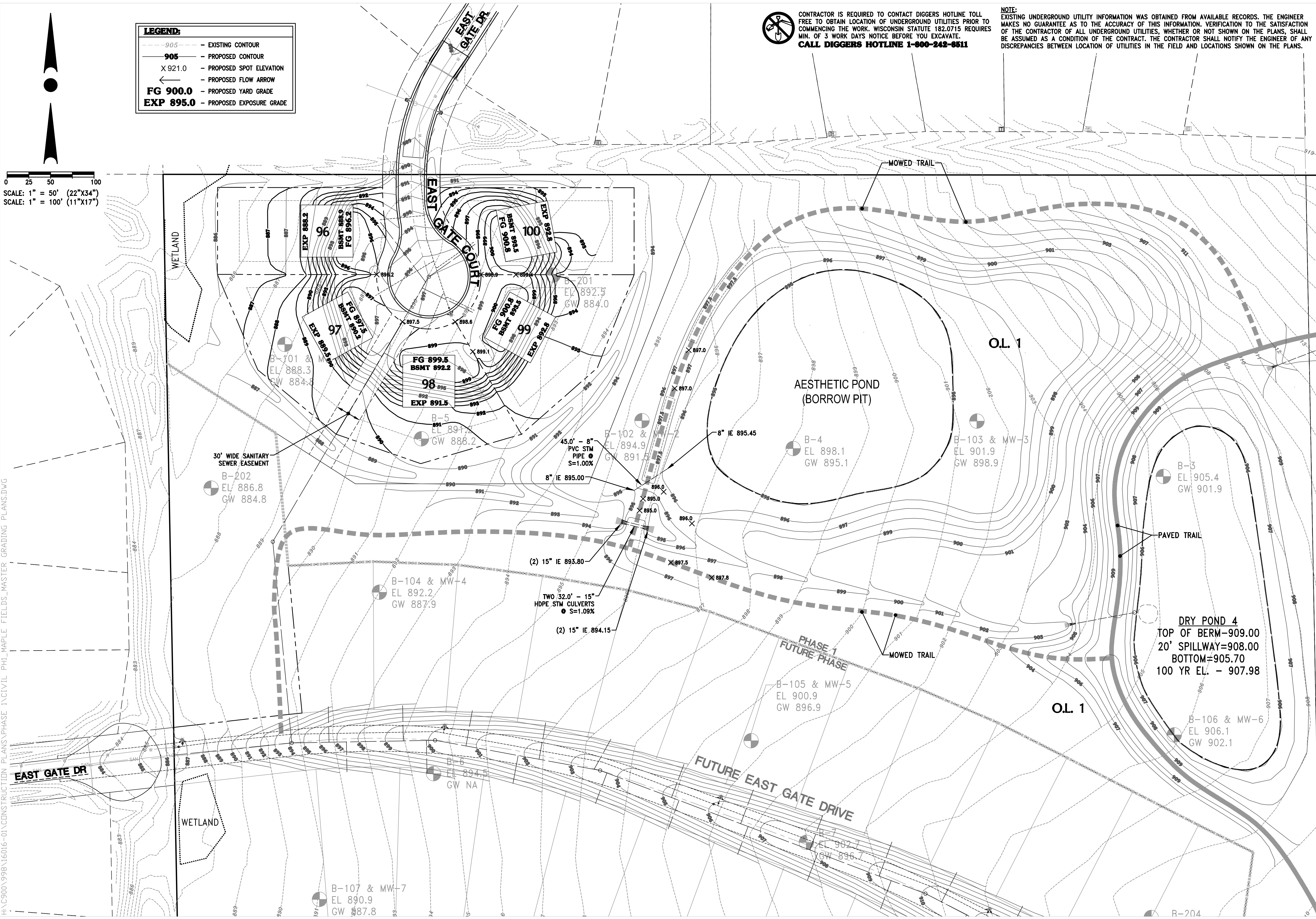
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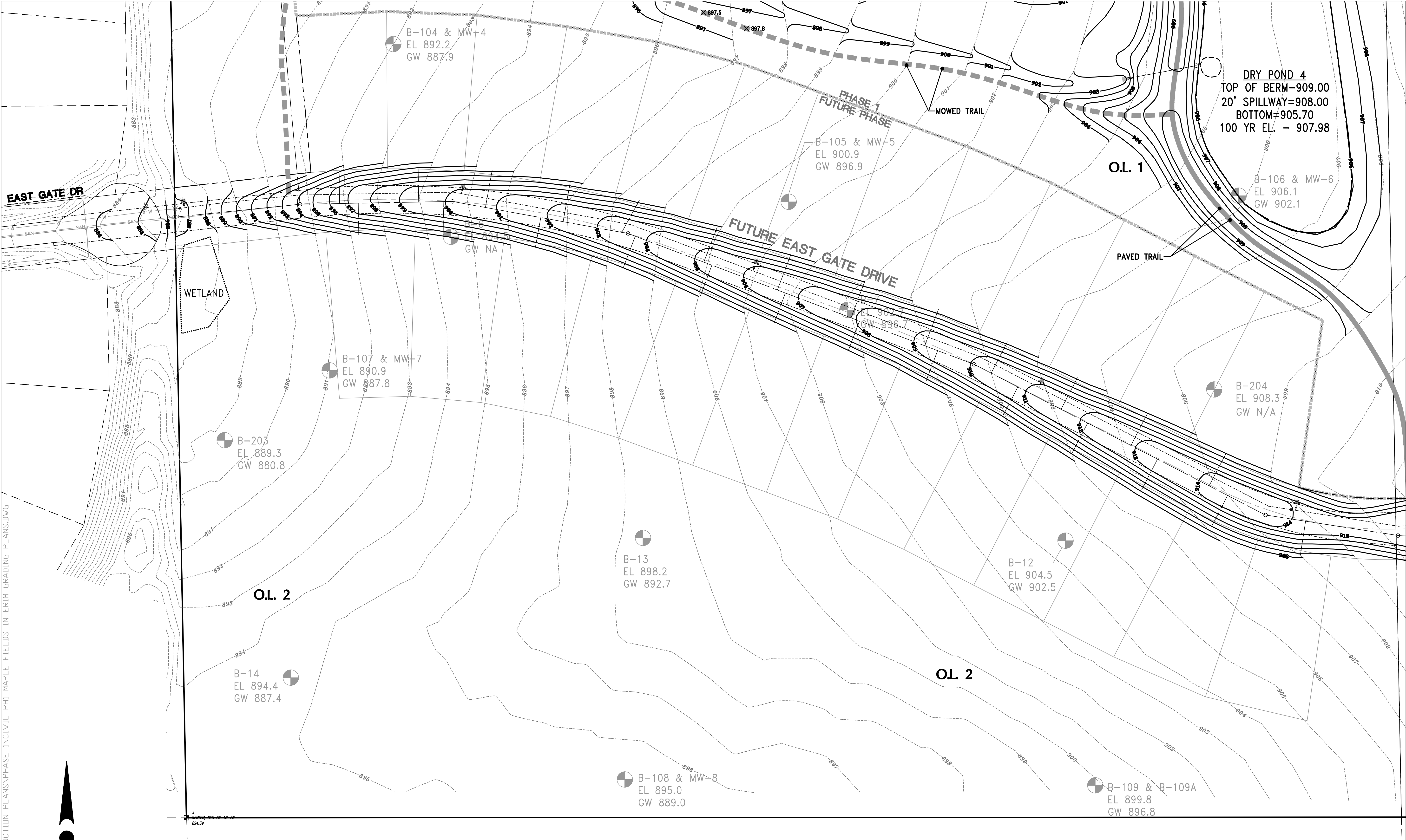
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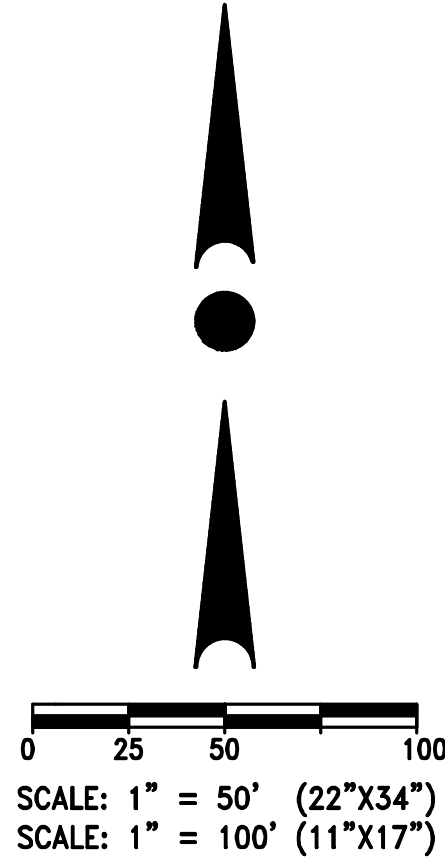
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MASTER GRADING
& DRAINAGE PLAN

SHEET
C1.1M

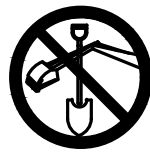




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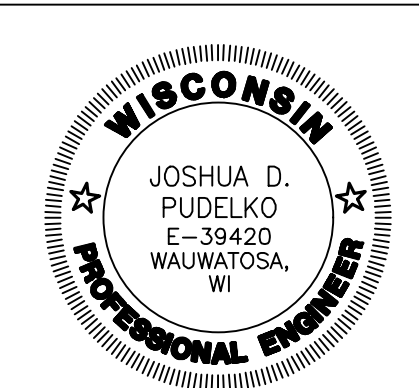


LEGEND:	
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
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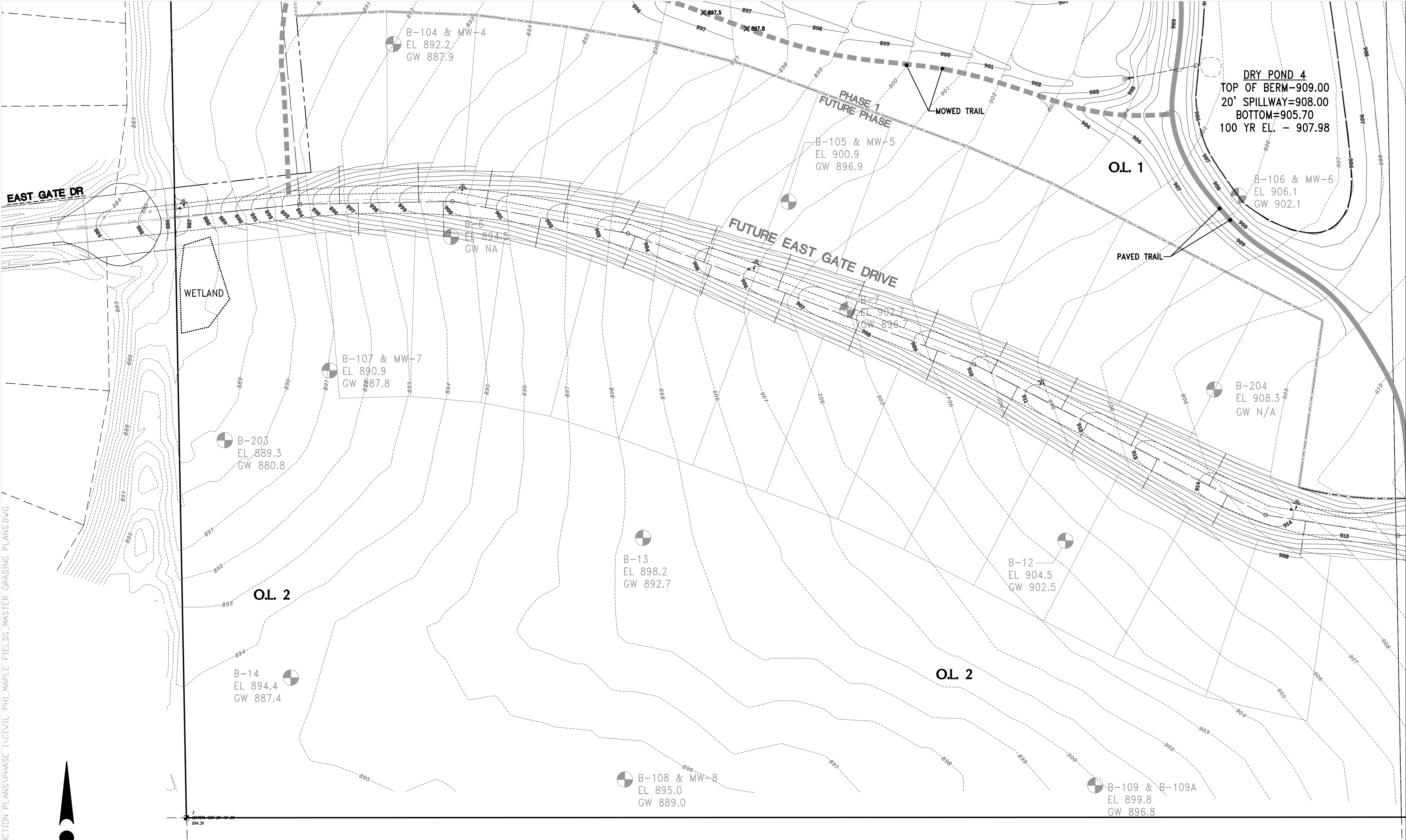
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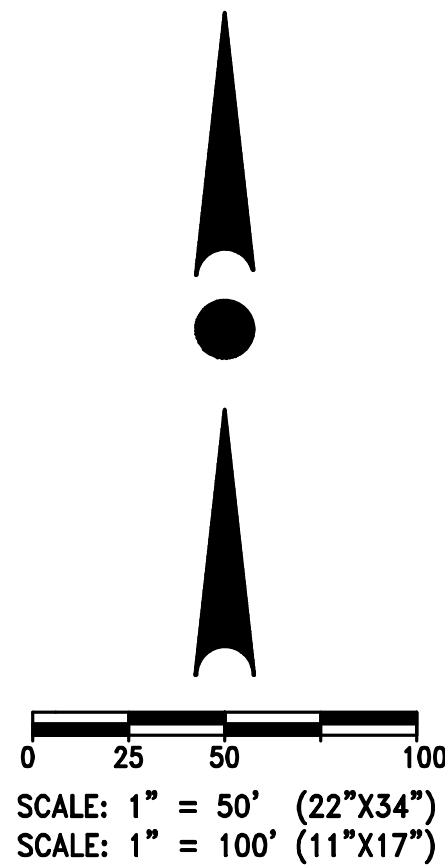
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INTERIM GRADING
& DRAINAGE PLAN

SHEET

C1.2



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	PROPOSED SPOT ELEVATION
	PROPOSED FLOW ARROW
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**MASTER GRADING
& DRAINAGE PLAN**

SHEET

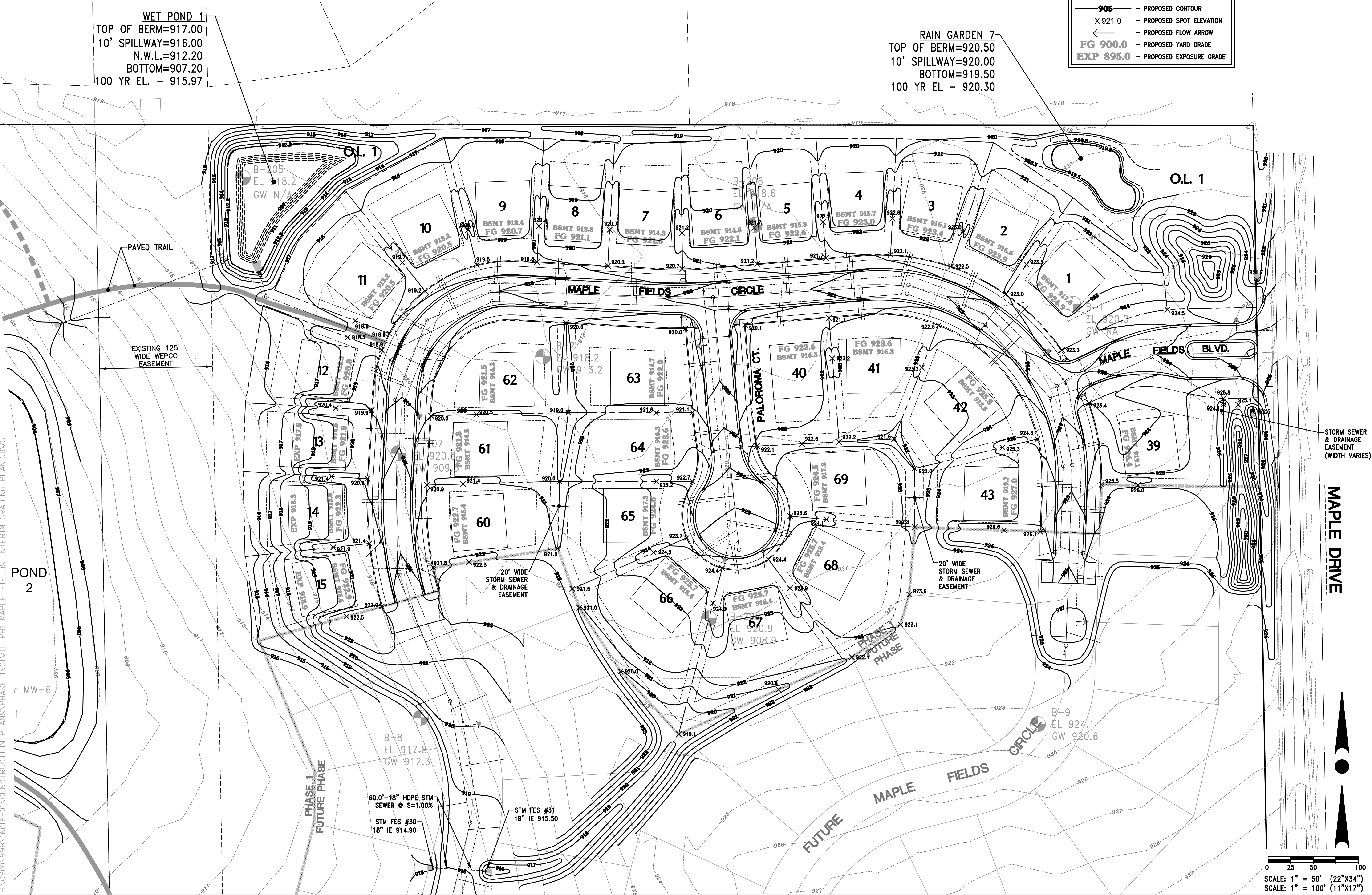
C1.2M



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LEGEND:	
905	EXISTING CONTOUR
905	PROPOSED CONTOUR
X 921.0	PROPOSED SPOT ELEVATION
←	PROPOSED FLOW ARROW
FG 900.0	PROPOSED YARD GRADE
EXP 895.0	PROPOSED EXPOSURE GRADE



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INTERIM GRADING
& DRAINAGE PLAN

SHEET

C1.3



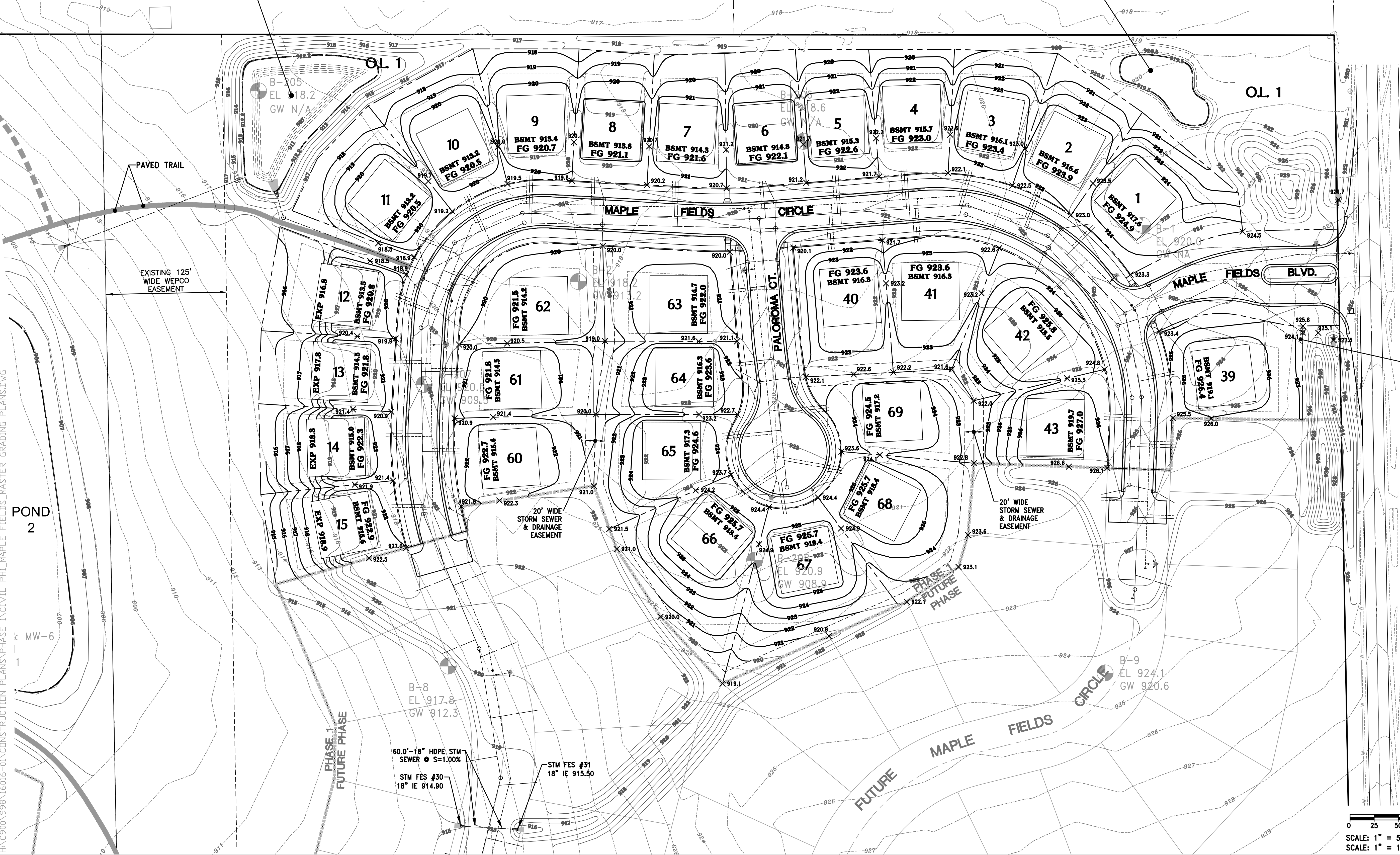
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WET POND 1
TOP OF BERM=917.00
10' SPILLWAY=916.00
N.W.L.=912.20
BOTTOM=907.20
100 YR EL. - 915.97

RAIN GARDEN 7
TOP OF BERM=920.50
10' SPILLWAY=920.00
BOTTOM=919.50
100 YR EL. - 920.30

LEGEND:	
905	EXISTING CONTOUR
905	PROPOSED CONTOUR
X 921.0	PROPOSED SPOT ELEVATION
←	PROPOSED FLOW ARROW
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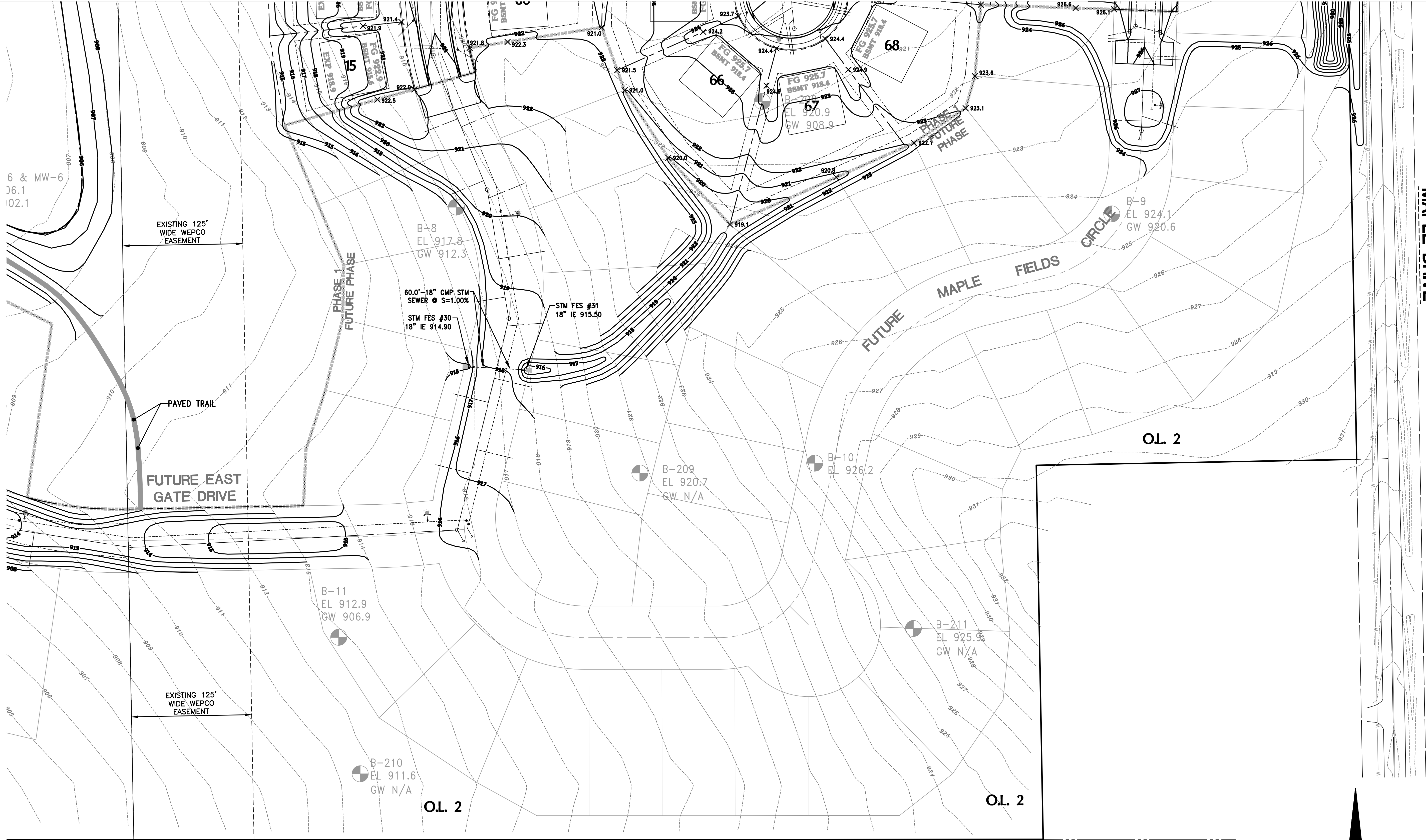
JOB NUMBER:
16016

DESCRIPTION:
MASTER GRADING
& DRAINAGE PLAN

SHEET

C1.3M

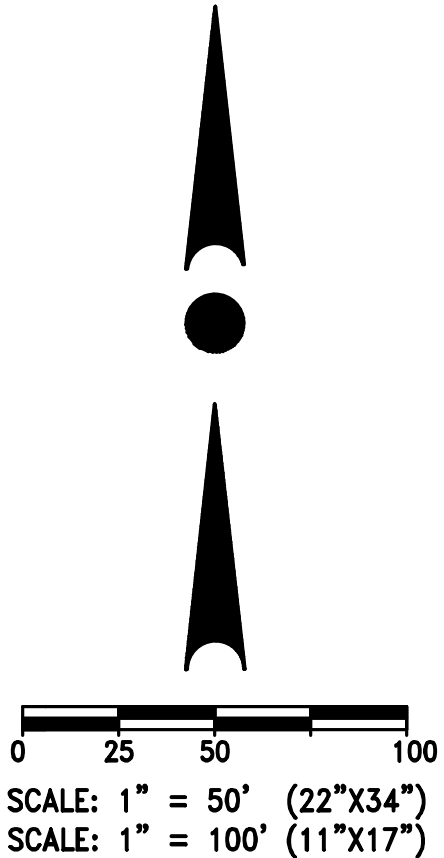
\\HC\9000\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1_MAPLE_FIELDS_INTERIM GRADING PLANS.DWG



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

NOTE:
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LEGEND:	
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPOSED SPOT ELEVATION
	PROPOSED FLOW ARROW
	PROPOSED YARD GRADE
	PROPOSED EXPOSURE GRADE



WISCONSIN

JOSHUA D. PUDELKO

E-39420

WAUWATOSA, WI

PROFESSIONAL ENGINEER

DESIGN • LAND SURVEYING

TRIO

CIVIL ENGINEERING

4100 N. CALHOUN RD

BROOKFIELD, WI 53005

PHONE: (262) 790-1480

FAX: (262) 790-1481

EMAIL: info@trioeng.com

PROJECT:

MAPLE FIELDS - PHASE 1

SINGLE FAMILY RESIDENTIAL SUBDIVISION

VILLAGE OF JACKSON, WISCONSIN

BY: NEUMANN DEVELOPMENTS, INC.

N27W24025 PAUL COURT, SUITE 100

PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
09/30/2021	PRELIM CIVIL PLANS
11/04/2021	VILLAGE SUBMITTAL
02/16/2022	PHASE 1 SUBMITTAL

DATE:

FEBRUARY 16, 2022

JOB NUMBER:

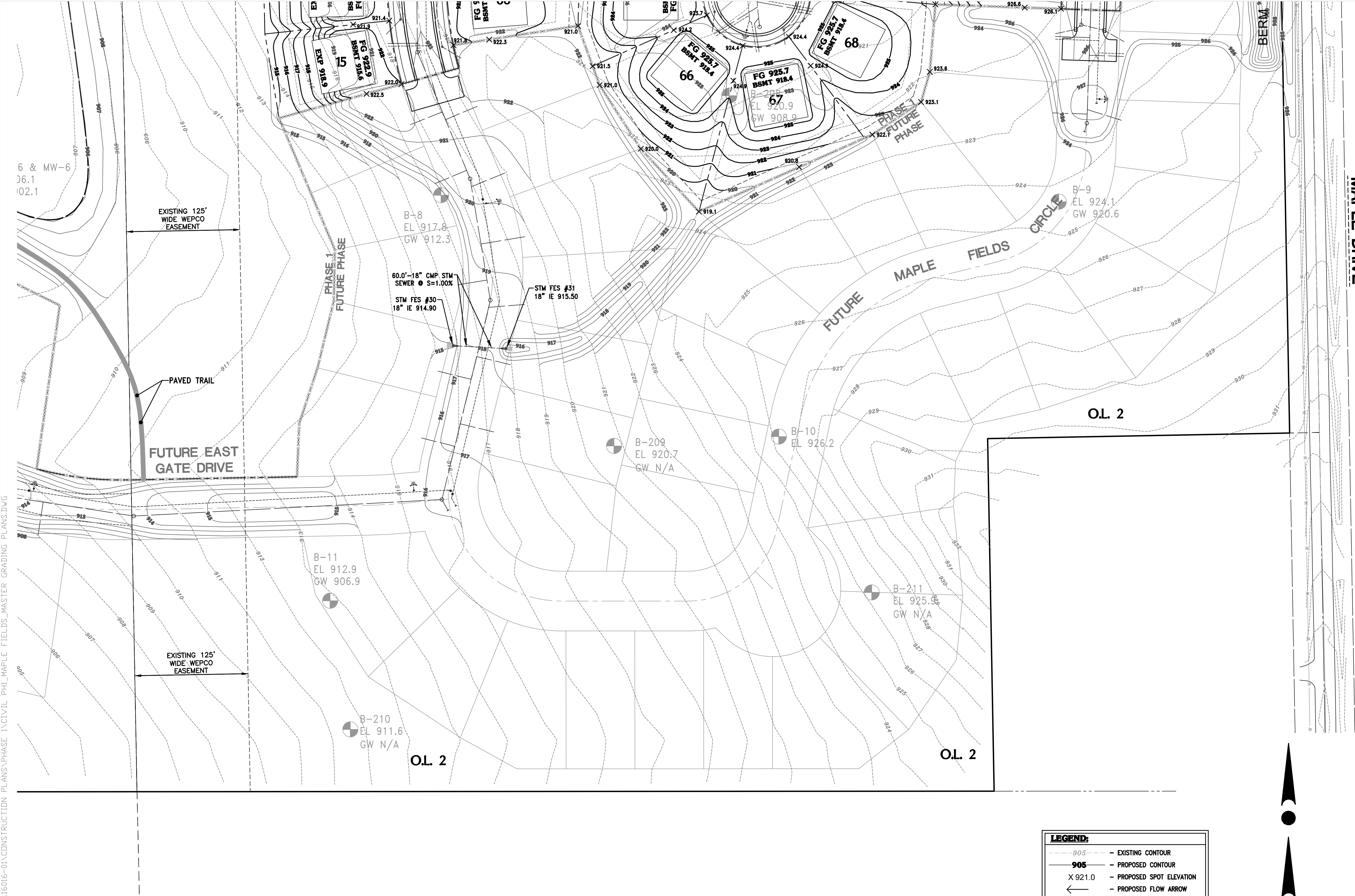
16016

DESCRIPTION:

INTERIM GRADING & DRAINAGE PLAN

SHEET

C1.4



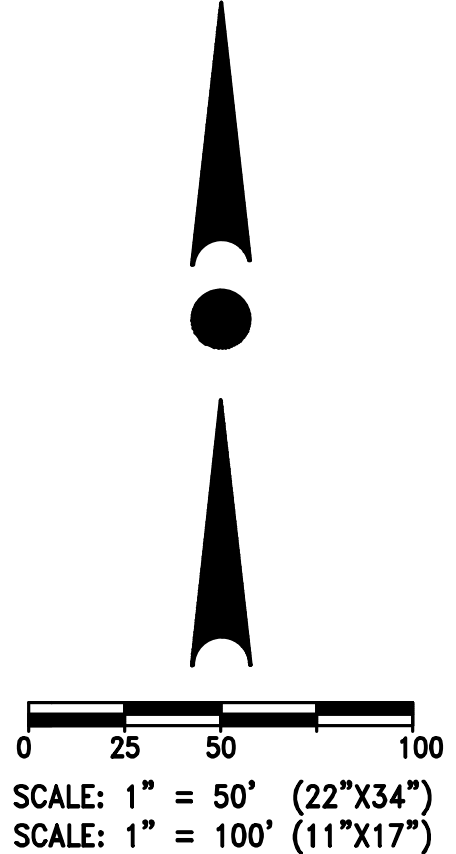
H:\C900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1.MAPLE_FIELDS_MASTER GRADING PLANS.DWG



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LEGEND:	
---	EXISTING CONTOUR
905	PROPOSED CONTOUR
X 921.0	PROPOSED SPOT ELEVATION
←	PROPOSED FLOW ARROW
FG 900.0	PROPOSED YARD GRADE
EXP 895.0	PROPOSED EXPOSURE GRADE



MAPLE DRIVE

WISCONSIN

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**PROPOSED
WET DETENTION
POND 1**

TOP OF BERM - 917.00
10' SPILLWAY - 916.00
N.W.L. - 912.20
BOTTOM - 907.20
100 YR. EL. - 915.97
10 YR. EL. - 915.23
5 YR. EL. - 915.03
2 YR. EL. - 914.81
1 YR. EL. - 914.70

OUTLET CONTROL
STRUCTURE &
OUTLET PIPE

10' WIDE SPILLWAY.
MAT W/ N.A. GREEN
C350 OR APPROVED
EQUAL.

5' WIDE
PAVED
TRAIL

EXISTING 125'
WIDE WEPKO
EASEMENT

100-YEAR EL. 915.97

3.5" ORIFICE CAP ON 8"
PVC INLET PIPE
I.E. 912.20

9.0 LF-8" PVC
INLET PIPE
⊙ S=0.00%

10' WIDE SAFETY SHELF AT 10:1 SLOPE

NORMAL WATER EL.=912.20

5'

WET POND BOTTOM EL.=907.20

2' THICK CLAY
LINER (REFER TO
CLAY LINER NOTES)

4:1 MAX
SIDE SLOPES

WET POND 1 SCHEMATIC

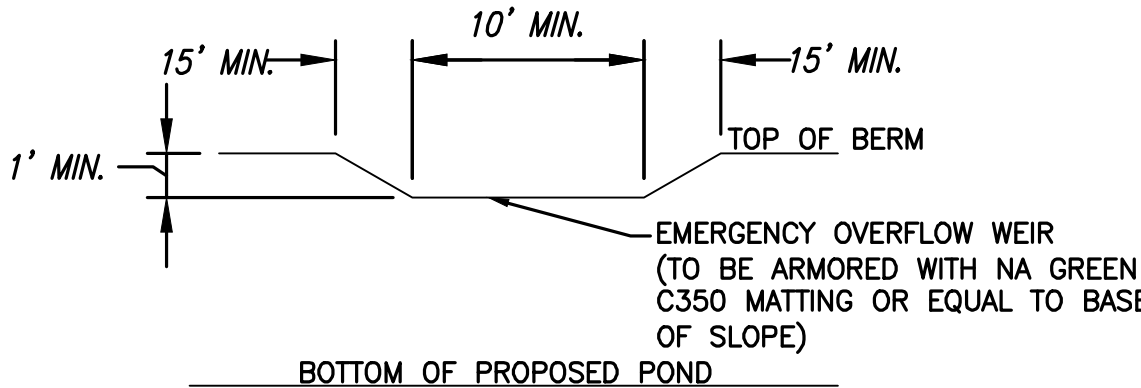
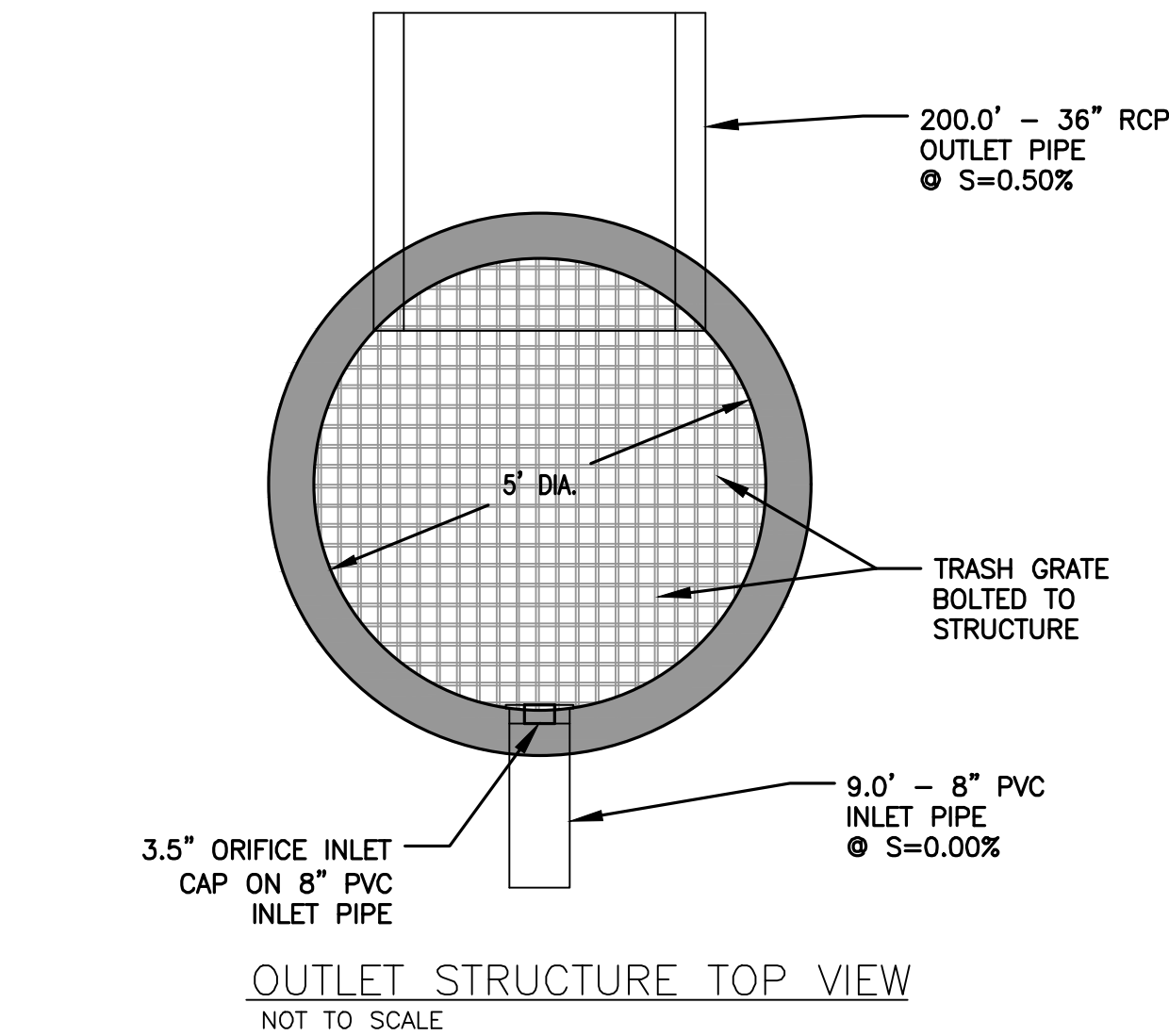
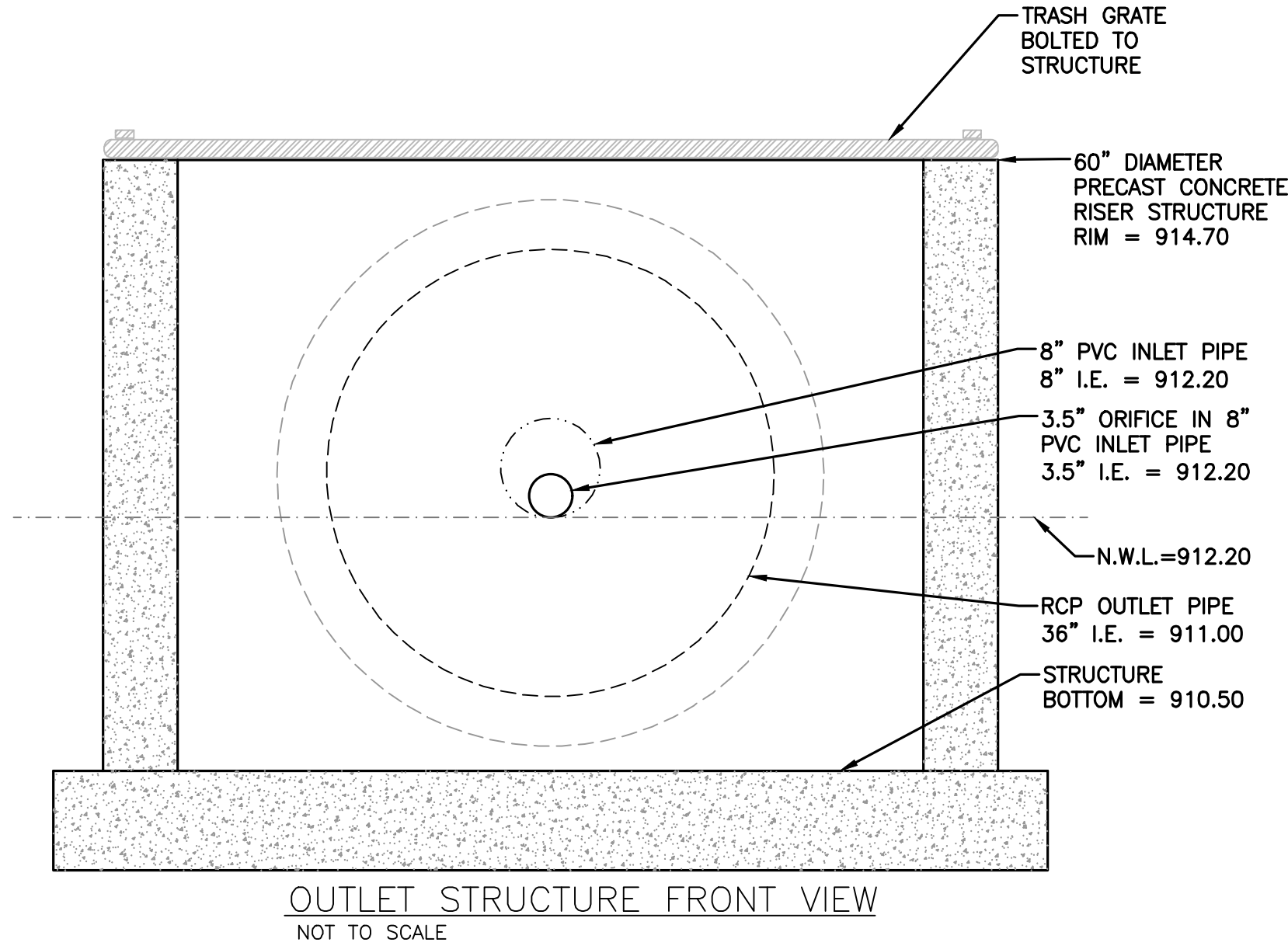
NOT TO SCALE

TWO-PIECE ANTI-SEEP COLLAR NOTES:

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

CLAY LINER NOTE:

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



NOTE: GRADES FOR TOP OF BERM, OVERFLOW SPILLWAY, AND
BOTTOM OF POND SHALL BE PER PLAN.

0 15 30 60

SCALE: 1" = 30' (22"x34")
SCALE: 1" = 60' (11"x17")



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SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

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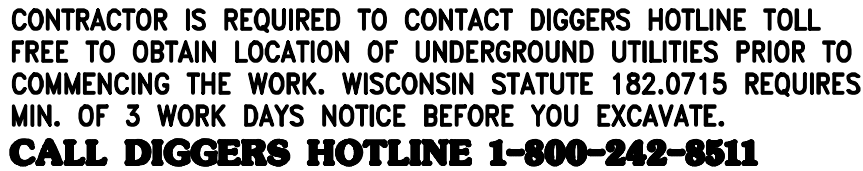
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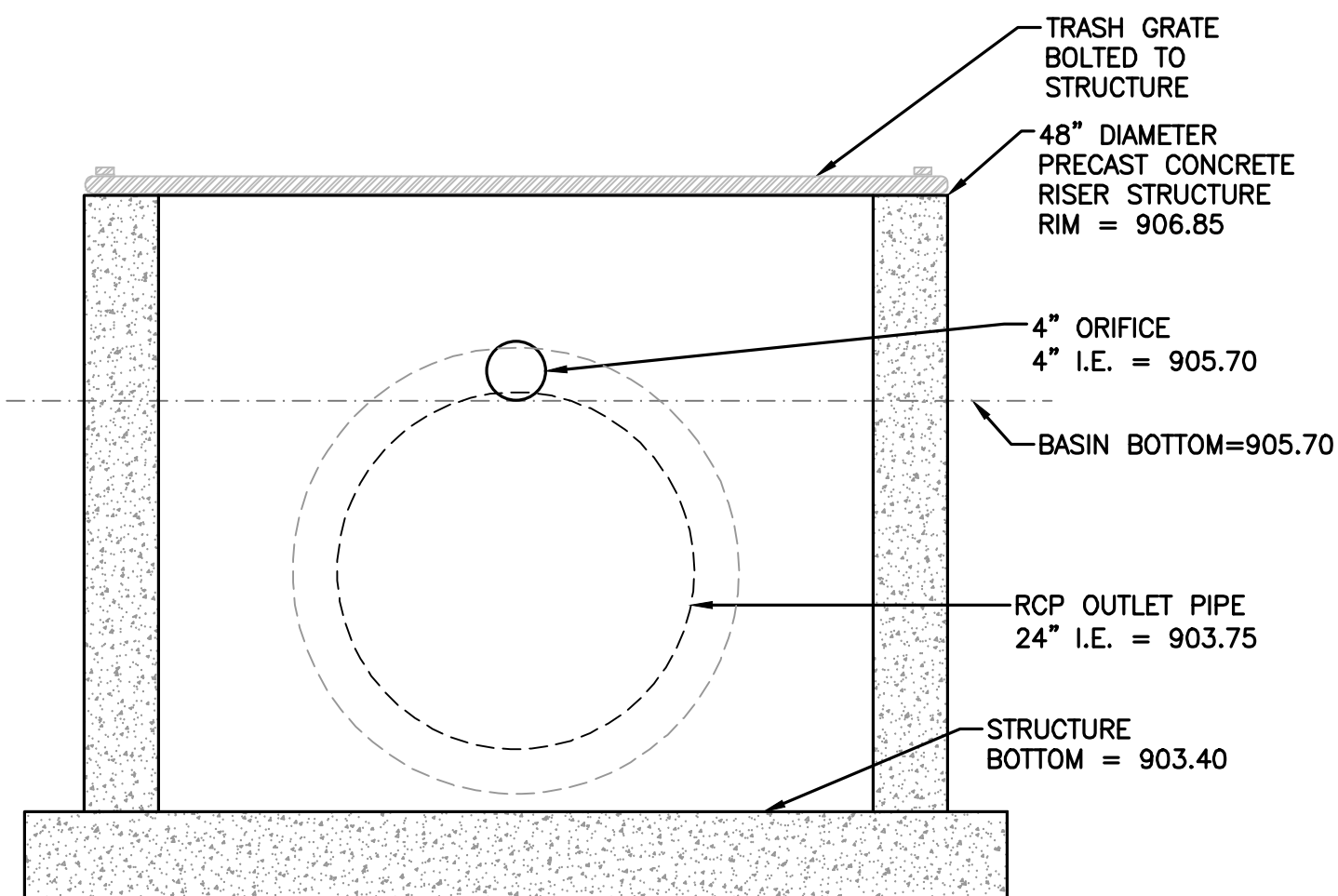
**WET
POND
1**

SHEET

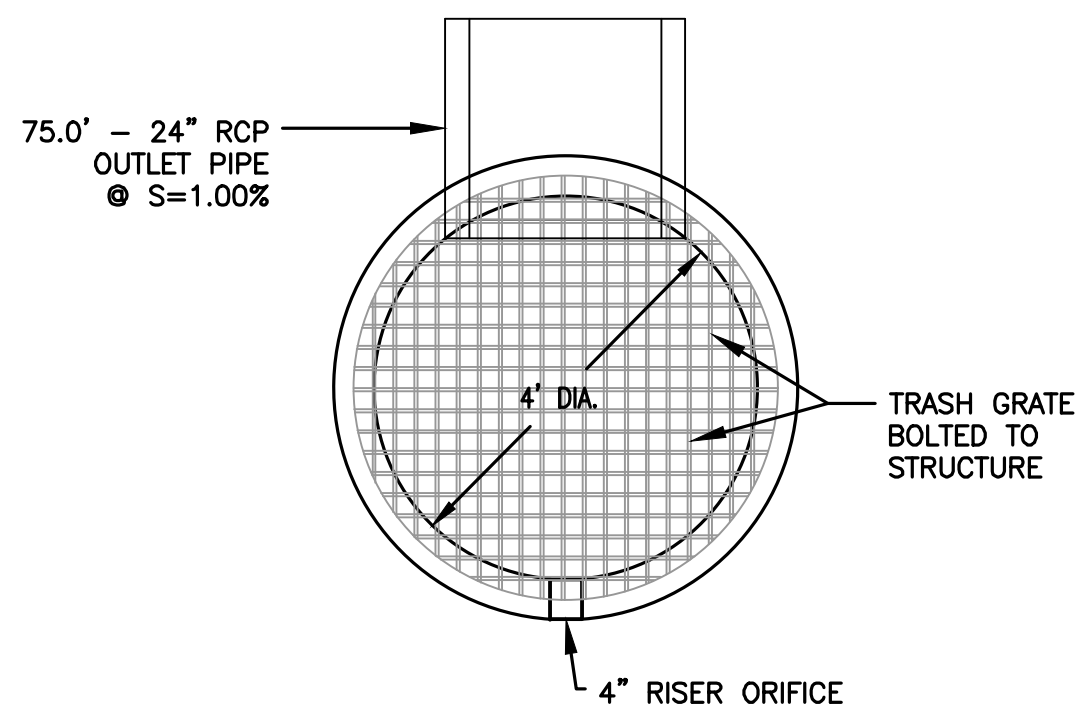
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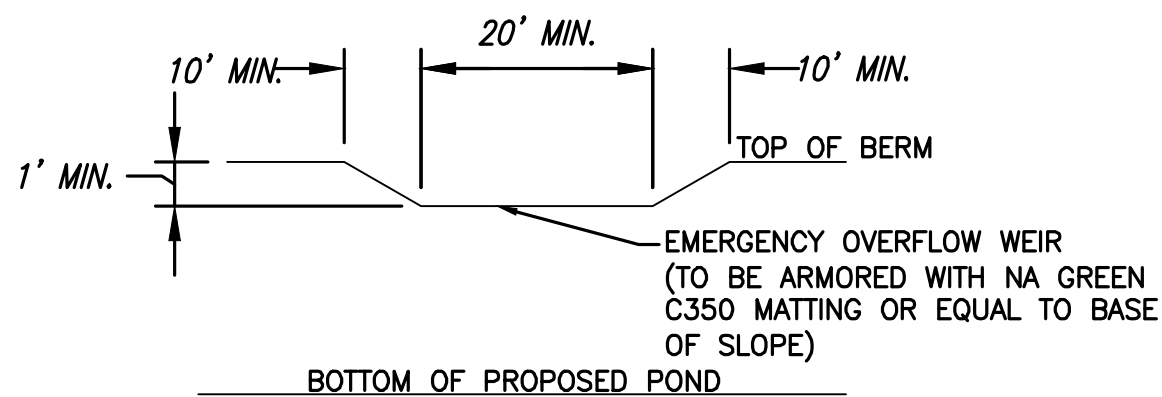
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OUTLET STRUCTURE FRONT VIEW
NOT TO SCALE



OUTLET STRUCTURE TOP VIEW
NOT TO SCALE

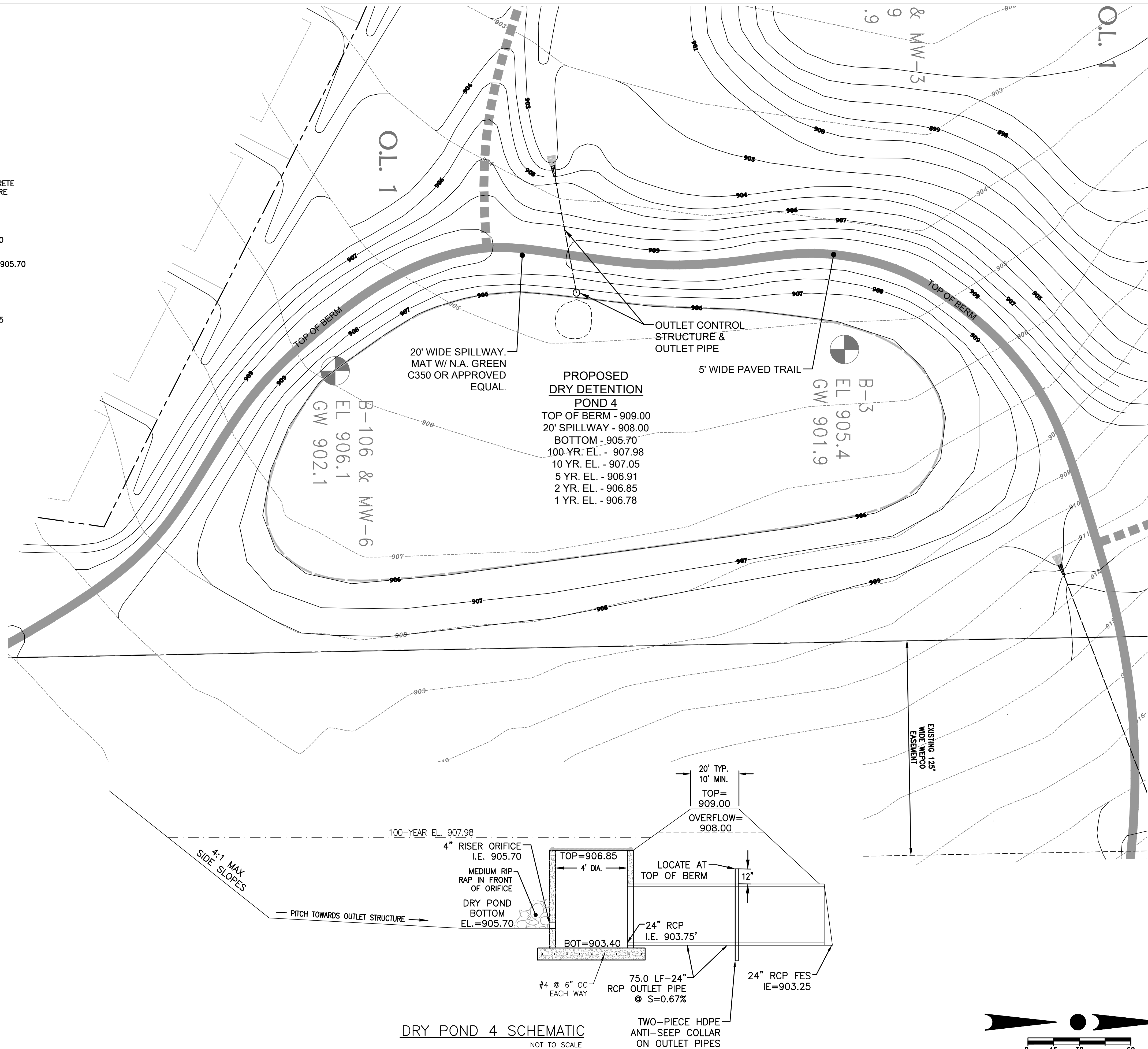


DRY POND 4 EMERGENCY OVERFLOW WEIR DETAIL
NOT TO SCALE

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



DRY POND 4 SCHEMATIC
NOT TO SCALE



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PROJECT:
MAPLE FIELDS
SINGLE FAMILY RESIDENTIAL SUBDIVISION

**SINGLE FAMILY RESIDENTIAL
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.**

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

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DESCRIPTION:
DRY
POND
4

SHEET

C1.6



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RAIN GARDEN SOIL MIX:	
COMPONENT	% COMPOSITION (BY VOLUME)
NATIVE GRANULAR SOILS	70%
COMPOST	30%
DESIGN INFILTRATION RATE: 0.50"/HR UNDERLYING NATIVE SOIL RATE ASSUMED AS: 0.13"/HR	

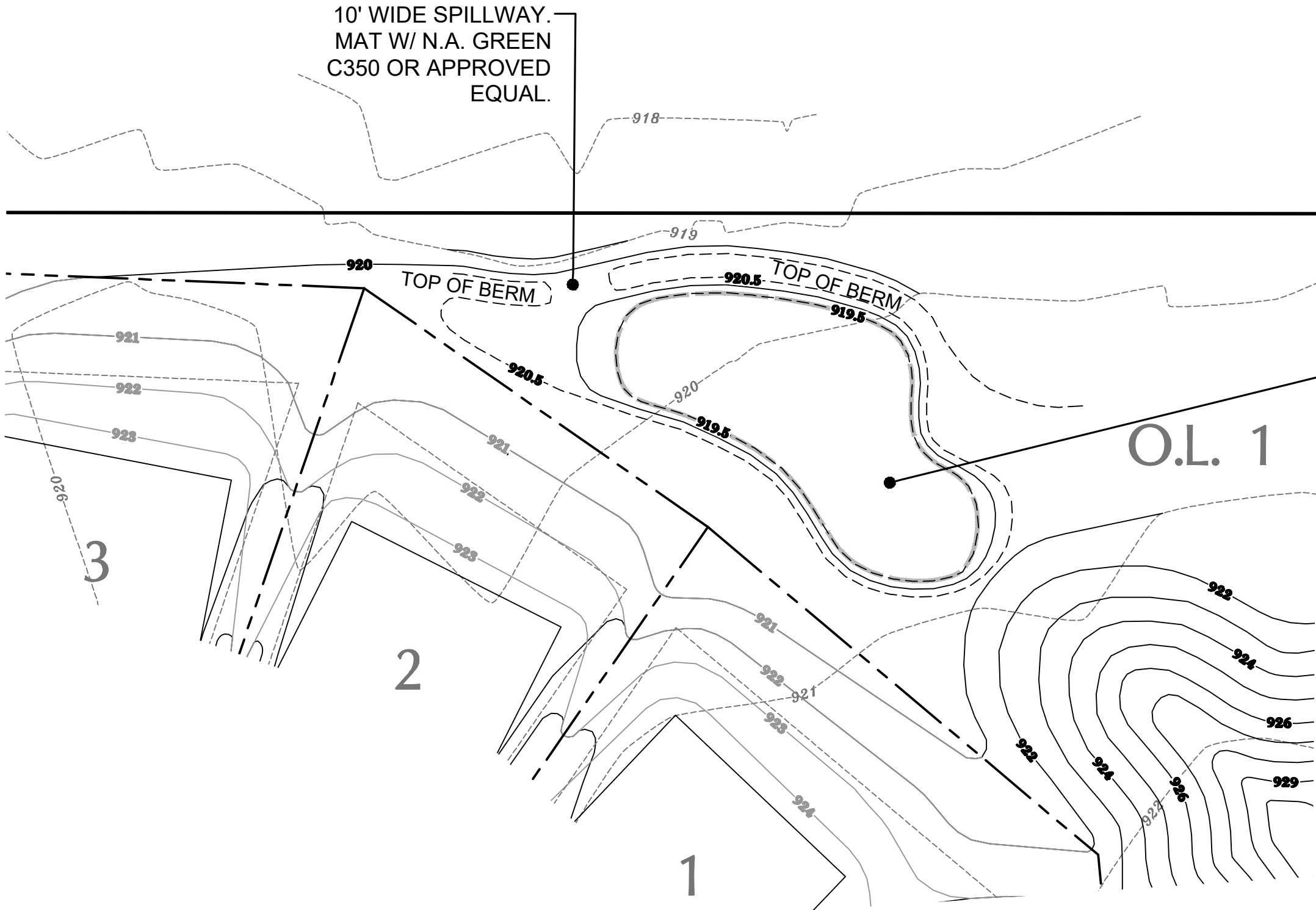
- THE COMPOST COMPONENT SHALL MEET THE REQUIREMENTS OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES SPECIFICATION S 100, COMPOST.
- THE SOIL MIX SHALL BE FREE OF ROCKS, STUMPS, ROOTS, BRUSH OR OTHER MATERIAL OVER 1 INCH IN DIAMETER. NO OTHER MATERIALS SHALL BE MIXED WITH THE PLANTING SOIL THAT MAY BE HARMFUL TO PLANT GROWTH OR PROVE A HINDRANCE TO PLANTING OR MAINTENANCE.
- THE SOIL MIX SHALL HAVE A PH BETWEEN 5.5 AND 8.0.
- THE SOIL MIX SHALL HAVE ADEQUATE NUTRIENT CONTENT TO MEET PLANT GROWTH REQUIREMENTS.

SOIL TESTING NOTE:

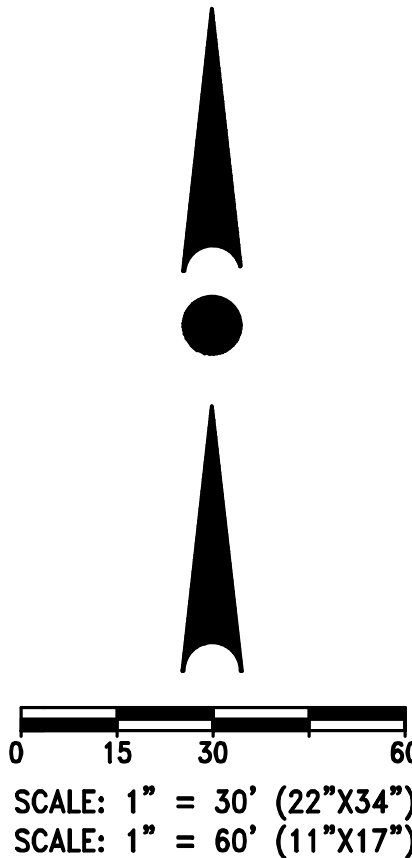
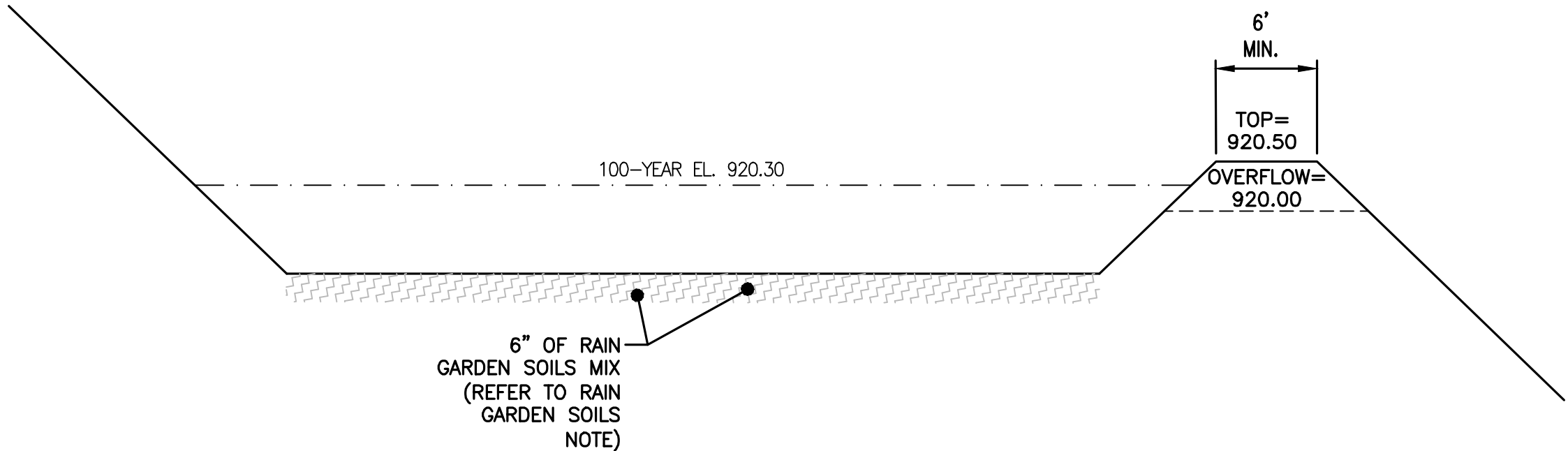
- A GEOTECHNICAL ENGINEER SHALL COMPLETE ON-SITE TESTING DURING CONSTRUCTION OF THE RAIN GARDEN TO ENSURE THE NECESSARY MINIMUM INFILTRATION RATES ARE BEING MET.

RAIN GARDEN CONSTRUCTION NOTES

- RAIN GARDEN SHALL NOT BE INSTALLED UNTIL THE SITE IS SUBSTANTIALLY STABILIZED.
- DURING ALL PHASES OF CONSTRUCTION, THE BASIN AREA SHALL BE PROTECTED FROM HEAVY EQUIPMENT COMPACTION.
- REMOVE ACCUMULATED SEDIMENT PRIOR TO PLACEMENT OF RAIN GARDEN SOIL MIX.
- RAIN GARDEN SOIL MIX SHALL BE PLACED IN 6 INCH LIFTS TO AVOID COMPACTION.
- RAIN GARDEN SOIL MIX PLACED IN THE BASIN AREA SHALL NOT BE COMPACTED.
- PLACEMENT OF RAIN GARDEN SOIL MIX SHALL BE SUSPENDED IN PERIODS OF RAINFALL AND SNOWMELT AND SHALL REMAIN SUSPENDED IF PONDED WATER IS PRESENT.
- RAIN GARDEN SEEDING TO BE INSTALLED BY EROSION CONTROL CONTRACTOR DURING STABILIZATION.



**PROPOSED
RAIN GARDEN 7**
TOP OF BERM - 920.50
10' SPILLWAY - 920.00
BOTTOM - 919.50
100 YR. EL. - 920.30
10 YR. EL. - 920.09
5 YR. EL. - 920.05
2 YR. EL. - 920.00
1 YR. EL. - 919.89



PROJECT:
MAPLE FIELDS
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
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PEWAUKEE, WI 53072

REVISION HISTORY

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16016

DESCRIPTION:

**RAIN
GARDEN
7**

SHEET

C1.7

\\HXC900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1-Maple Fields Erosion Control Plan.dwg



- CONSTRUCTION SEQUENCE PLAN**
- SUMMER 2021: INSTALL SILT FENCE, STRAW WATTLE & STONE DITCH CHECKS.
 - SUMMER 2021: STRIP TOPSOIL. SEED AND STABILIZE STOCKPILES IMMEDIATELY UPON COMPLETION OF STOCKPILING.
 - SUMMER 2021: INSTALL DIVERSION BERMS AND SWALES. BEGIN MASS GRADING OF THE SITE (MASS GRADING MAY ONLY OCCUR/CONTINUE AFTER EROSION CONTROL MEASURES ARE INSTALLED/CONSTRUCTED (SEDIMENT BASINS, SILT TRAPS, SWALES, DITCH CHECKS, ETC)).
 - SUMMER 2021: ROUGH GRADE SITE. NOTE THAT ROUGH GRADING MAY OCCUR CONCURRENT WITH CONSTRUCTION OF THE DIVERSION BERMS/SWALES. BEGIN UTILITIES ONCE STORM WATER IS CONTROLLED.
 - SUMMER 2021: INSTALL SANITARY SEWER AND WATER MAIN. COMPLETE ALL TESTING AND CONTACT THE VILLAGE PRIOR TO CONNECTING TO EXISTING MAINS. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH ROUGH GRADING ONCE THE UTILITY AREAS HAVE BEEN GRADED TO SUBGRADE.
 - SUMMER 2021: INSTALL STORM SEWER AND ASSOCIATED EROSION CONTROL MEASURES PER EROSION CONTROL PLAN. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH SANITARY SEWER AND WATER MAIN INSTALLATION.
 - SUMMER/FALL 2021: FINISH GRADE THE SITE. NOTE THAT THIS STEP MAY OCCUR CONCURRENT WITH STORM SEWER INSTALLATION.
 - SUMMER/FALL 2021: RE-SPREAD TOPSOIL AND PLACE SEED, MULCH, MATTING AND OTHER SITE STABILIZERS AS NEEDED. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING AND ROAD CONSTRUCTION. ALSO NOTE THAT ANY AREAS, SUCH AS POND SLOPES, THAT ARE FINISH GRADED AND TOPSOILED SHALL BE SEEDED, MULCHED AND/OR MATTED IMMEDIATELY AFTER TOPSOIL IS PLACED. NOTE: TOPSOIL IN RIGHT-OF-WAY ONLY AFTER WE ENERGIES WORK IS COMPLETED.
 - FALL 2021: INSTALL STONE BASE COURSE. CONSTRUCT CURB AND SIDEWALK, AND PLACE BINDER COURSE PAVEMENT. NOTE THAT THIS STEP MAY BEGIN CONCURRENT WITH FINISH GRADING.
 - FALL 2021: REMOVE TRACKING PAD ONCE ROADS ARE STONED/COMPLETE. RESTORE DISTURBED AREA.
 - FALL 2021: COMPLETE DRY PONDS. REMOVE SEDIMENT TRAP SILT, CONSTRUCT DRY POND BOTTOM PER DESIGN PLAN, AND TOPSOIL. SEED, MULCH OR MAT. SEED BOTTOM OF DRY POND WITH RAIN GARDEN OR INFILTRATION BASIN NATIVE SEED MIX. STABILIZE SLOPES AS NECESSARY.
 - LATE SEASON (AFTER OCTOBER 15) STABILIZATION NOTES:
 - ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15 MUST BE TEMPORARY SEEDED AS OF THAT DATE.
 - ANY FINAL SITE STABILIZATION THAT OCCURS AFTER OCTOBER 15 MAY REQUIRE CONTRACTOR TO COVER DISTURBED AREAS WITH THE ANIONIC FORM OF POLYACRYLAMIDE (PAM), PER WDNR TECHNICAL STANDARD 1050 AND W8DOT PAL LIST. CONTRACTOR SHALL COORDINATE WITH CITY ENGINEER AND WDNR FOR LATE SEASON STABILIZATION REQUIREMENTS.
 - FALL 2019: REMOVE CONSTRUCTION EROSION CONTROL MEASURES AFTER SITE IS STABILIZED (SUBSTANTIALLY VEGETATED) AND ALL CONSTRUCTION IS COMPLETE.

- EROSION CONTROL NOTES:**
- THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO MINIMIZE EROSION, WATER POLLUTION AND SILTATION CAUSED BY CONSTRUCTION OF THIS PROJECT. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS.
 - EROSION CONTROL PLAN: PRIOR TO BEGINNING WORK, THE CONTRACTOR MAY BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN, DETAILING SPECIFIC MEASURES THAT WILL BE USED IN THE VARIOUS STAGES OF CONSTRUCTION FOR APPROVAL BY THE ENGINEER.
 - IMPLEMENTATION: THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL AFTER INITIAL EROSION AND SEDIMENT CONTROL DEVICES ARE IN PLACE AND APPROVED BY THE ENGINEER.
 - EROSION CONTROL MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - DIVERT UPSTREAM RUNOFF FROM FLOWING THROUGH THE CONSTRUCTION SITE.
 - PROTECT DOWNSTREAM OR ADJACENT WATERWAYS AND WETLANDS WITH SILT FENCE.
 - DELAY STRIPPING TOPSOIL UNTIL REQUIRED FOR CONSTRUCTION.
 - PLACE SILT FENCE OR EROSION CONTROL BALES IN DITCHES AND OTHER DRAINAGE WAYS TO COLLECT SEDIMENT AND TO SLOW THE VELOCITY OF RUNOFF.
 - PROTECT STORM SEWER INLETS AND THE UPSTREAM END OF CULVERTS WITH SILT FENCE OR EROSION CONTROL BALES.
 - PROMPT REMOVAL OF EXCAVATED MATERIAL.
 - PROPER STORAGE OF BACKFILL AND BEDDING MATERIALS INCLUDING PLACING SILT FENCE OR EROSION CONTROL BALES ON THE DOWNSLOPE SIDES OF SPOIL PILES.
 - CONSTRUCTION OF TRACKING PAD TO CONSTRUCTION SITE TO PREVENT SEDIMENT FROM BEING TRACKED ONTO ROADWAYS.
 - PROMPT (SAME DAY) CLEANUP OF MATERIAL TRACKED ONTO ADJACENT STREETS.
 - TIMELY RESTORATION OF DAMAGE SURFACE AREAS.
 - ALL AREAS THAT WILL REMAIN DISTURBED AFTER OCTOBER 15, MUST BE TEMPORARY SEEDED AS OF THAT DATE.
 - TEMPORARY EROSION CONTROL MEASURES.
 - THE CONTRACTOR SHALL CONSTRUCT TEMPORARY EROSION CONTROL MEASURES, WHERE EROSION IS LIKELY TO BE A PROBLEM, PRIOR TO BEGINNING WORK ON THOSE SECTION(S) OF THE PROJECT. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL AFTER PERMANENT EROSION CONTROL, SUCH AS SEEDING OR SODDING, HAS BEEN ESTABLISHED.
 - IN THE EVENT THE PERMANENT EROSION CONTROL MEASURES ARE NOT FULLY IMPLEMENTED IN CURRENT CONSTRUCTION SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL NECESSARY TEMPORARY EROSION CONTROL MEASURES UNTIL AFTER PERMANENT MEASURES HAVE BEEN COMPLETED IN THE FOLLOWING YEAR.
 - ALL EXPOSED SOIL AREAS NOT DISTURBED FOR UP TO SEVEN DAYS MUST BE IMMEDIATELY RESTORED WITH SEED AND MULCH.
 - TRENCH DEWATERING SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARDS.
 - INSTALL SILT FENCE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DETAILS.
 - ALL RIP RAP AT PIPE OUTLETS SHALL BE 3'x5' MEDIUM RIP RAP OVER TYPE R FABRIC PER WDOT SPECIFICATIONS UNLESS OTHERWISE DESIGNATED.

	TEMP. EROSION MATTING N.A. GREEN S75BN CLASS 1, TYPE A
	CHANNEL EROSION MATTING N.A. GREEN S150 CLASS 1, TYPE B
	OVERFLOW SPILLWAY MATTING (PER POND DETAILS) N.A. GREEN C350 CLASS 3, TYPE A

- WISCONSIN DEPARTMENT OF NATURAL RESOURCES.
CONSERVATION PRACTICE STANDARD:**
- 1052 - NON-CHANNEL EROSION MAT
 - 1053 - CHANNEL EROSION MAT
 - 1054 - SEDIMENT BALE BARRIER (NON-CHANNEL)
 - 1056 - SILT FENCE
 - 1060 - STORM INLET PROTECTION FOR CONST. SITES
 - 1062 - DITCH CHECK
 - 1057 - STONE TRACKING PAD AND TIRE WASHING
 - 1058 - MULCHING FOR CONSTRUCTION SITES
 - 1059 - TEMPORARY SEEDING
 - 1061 - DE-WATERING (IF REQUIRED)
 - 1063 - SEDIMENT TRAP
 - 1064 - SEDIMENT BASIN

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N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

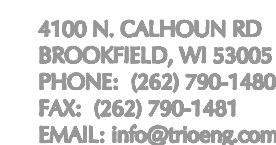
REVISION HISTORY	
DATE	DESCRIPTION
09/30/2021	PRELIM CIVIL PLANS
11/04/2021	VILLAGE SUBMITTAL
02/16/2022	PHASE 1 SUBMITTAL

DATE:
FEBRUARY 16, 2022

JOB NUMBER:
16016

DESCRIPTION:
EROSION CONTROL PLAN
SHEET

C2.0



**PROJECT:
MAPLE FIELDS - PHASE 1**

**SINGLE FAMILY RESIDENTIAL \$
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.**

REVISION HISTORY

DATE	DESCRIPTION
09/30/2021	PRELIM CIVIL PLANS
11/04/2021	VILLAGE SUBMITTAL
02/18/2022	PHASE 1 SUBMITTAL

DATE:

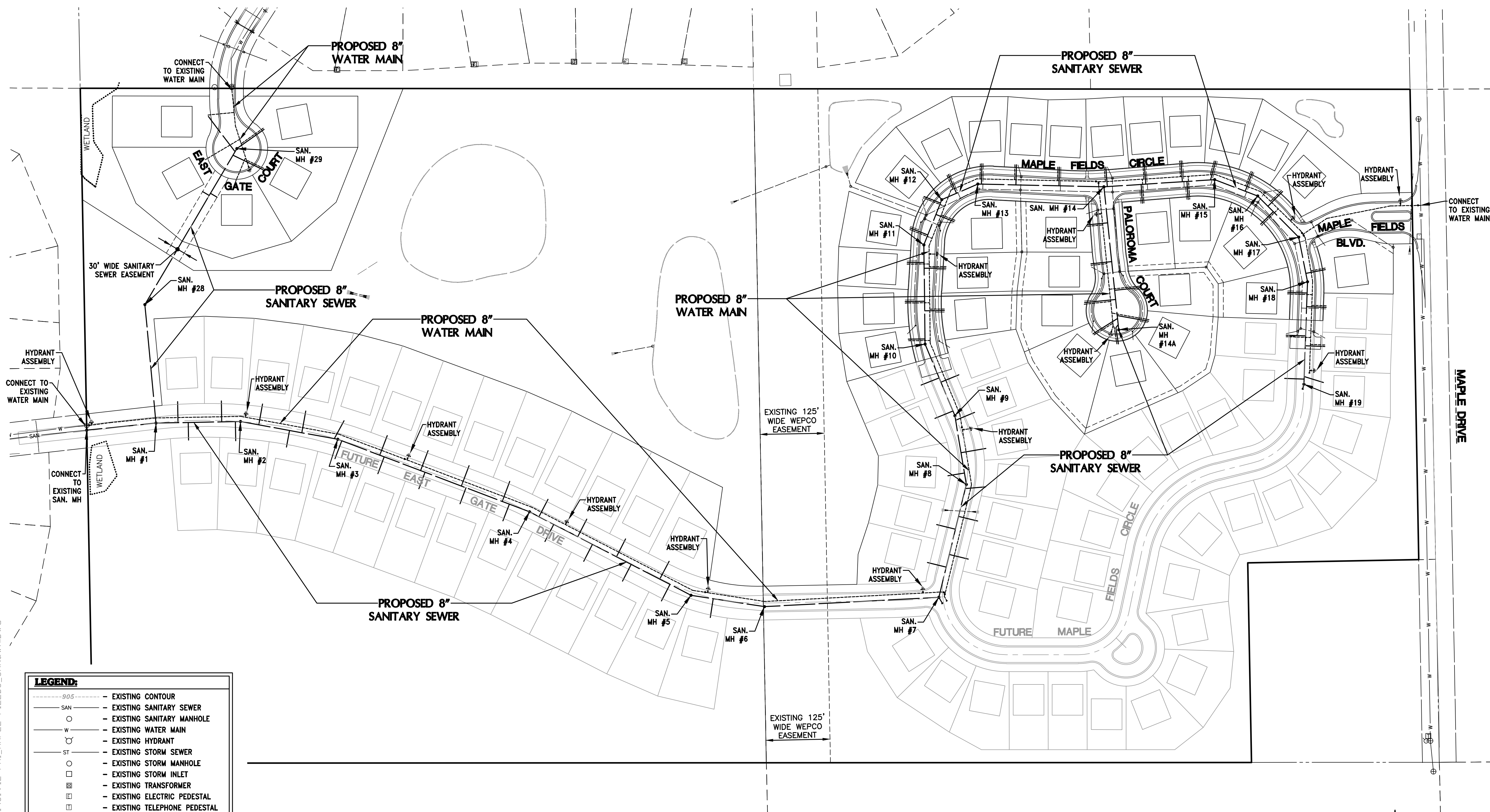
FEBRUARY 16, 2022

JOB NUMBER:
16016

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

SHEET

C3.0



LEGEND:

- | | |
|-----------|-------------------------------|
| — 005 — | — EXISTING CONTOUR |
| — SAN — | — EXISTING SANITARY SEWER |
| ○ | — EXISTING SANITARY MANHOLE |
| — W — | — EXISTING WATER MAIN |
| ⊙ | — EXISTING HYDRANT |
| — ST — | — EXISTING STORM SEWER |
| ○ | — EXISTING STORM MANHOLE |
| □ | — EXISTING STORM INLET |
| ⊠ | — EXISTING TRANSFORMER |
| ⊡ | — EXISTING ELECTRIC PEDESTAL |
| ⊠ | — EXISTING TELEPHONE PEDESTAL |
| ⊡ | — EXISTING CATV PEDESTAL |
| ⚡ | — EXISTING POWER POLE |
| — — — — — | — PROPOSED SANITARY SEWER |
| • | — PROPOSED SANITARY MANHOLE |
| — — — — — | — PROPOSED WATER MAIN |
| ⊙ | — PROPOSED HYDRANT |
| • | — PROPOSED WATER VALVE |
| — — — — — | — PROPOSED STORM SEWER |
| • | — PROPOSED STORM MANHOLE |
| □ | — PROPOSED STORM INLET |
| ⚡ | — PROPOSED STORM END SECTION |

MANHOLE AND VALVE NOTE

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

BACKFILL NOTES

TRENCH BACKFILL

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

SANITARY SEWER NOTES

SANITARY SEWER

- ALL 8" PVC SEWER PIPE SHALL MEET THE REQUIREMENTS SET FORTH IN SECTION 8.10.0 (SSSWC).
- ALL SANITARY MANHOLES SHALL BE 48" DIA. WITH A NEEHAW R-1550A CASTING AND SELF-SEALING LID (NO LOKKING TYPE) WITH NO VENT HOLES AND MEET THE REQUIREMENTS SET FORTH IN SECTION 8.10.0.
- SDR-35 PVC PIPE SHALL BE USED FOR SANITARY SEWERS LESS THAN 16 FEET DEEP.
- SDR-26 PVC PIPE SHALL BE USED FOR SANITARY SEWERS DEEPER THAN 16 FEET.
- ALL SANITARY SEWER LATERALS FOR SINGLE FAMILY LOTS SHALL BE 6" DIA. SDR-35 PVC & MADE OF GASKETED PVC FITTINGS MEETING ASTM D-3034.
- SANITARY CASTINGS SHALL BE SEALED WITH AN EXTERNAL BOOT AS SHOWN IN THE DETAILS.

TRACER WIRE NOTE

- CONTRACTOR SHALL INSTALL PLASTIC COATED TRACER WIRE (10 TO 14 GAUGE SOLID COPPER OR COPPER COATED STEEL WIRE) PER COMM 82.30(11)(H). PLASTIC WIRE MAY BE TAPED TO PLASTIC DRAIN PIPE. IF ATTACHED, THE TRACER SHALL BE SECURED EVERY 6 TO 20 FEET AND AT ALL BENDS. TRACER WIRE SHALL HAVE ACCESS POINTS AT LEAST EVERY 300 FEET.

WATER MAIN NOTES

WATERMAIN

- ALL "B" AND "B" WATERMAIN CONSTRUCTED AS PART OF THIS PLAN SHALL BE PVC, C-900, CLASS 150 (DR-18).
- PVC PIPE SHALL HAVE PUSH-ON JOINTS WITH RUBBER GASKET.
- WATER MAIN SERVICES FOR SINGLE FAMILY LOTS SHALL BE 1/4" POLYETHYLENE TUBING.
- HYDRANTS SHALL BE SET AT 3 FT. BEHIND THE BACK OF CURB, WITH THE NOZZLE ELEVATION 20 INCHES ABOVE TOP OF CURB.
- ANCHOR TEES SHALL BE USED FOR EACH HYDRANT BRANCH.
- ALL WATERMAINS (AND SERVICES) CALLED FOR ON THESE PLANS ARE TO BE INSTALLED WITH CLASS "B" BEDDING AS SPECIFIED IN CH. 4.3.0. LAYING OF WATERMAIN, AND FILE NO. 36, PART VII (SSSWC), UNLESS NOTED OTHERWISE IN PLANS.

TRACER WIRE NOTE

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



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

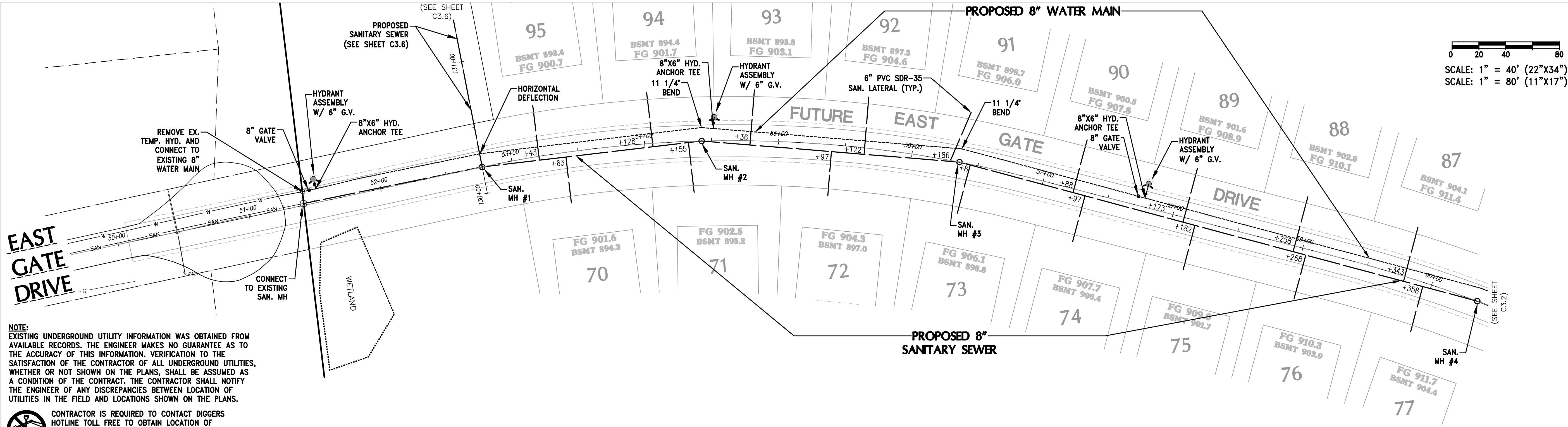
CALL DIGGERS HOTLINE 1-800-242-8511

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



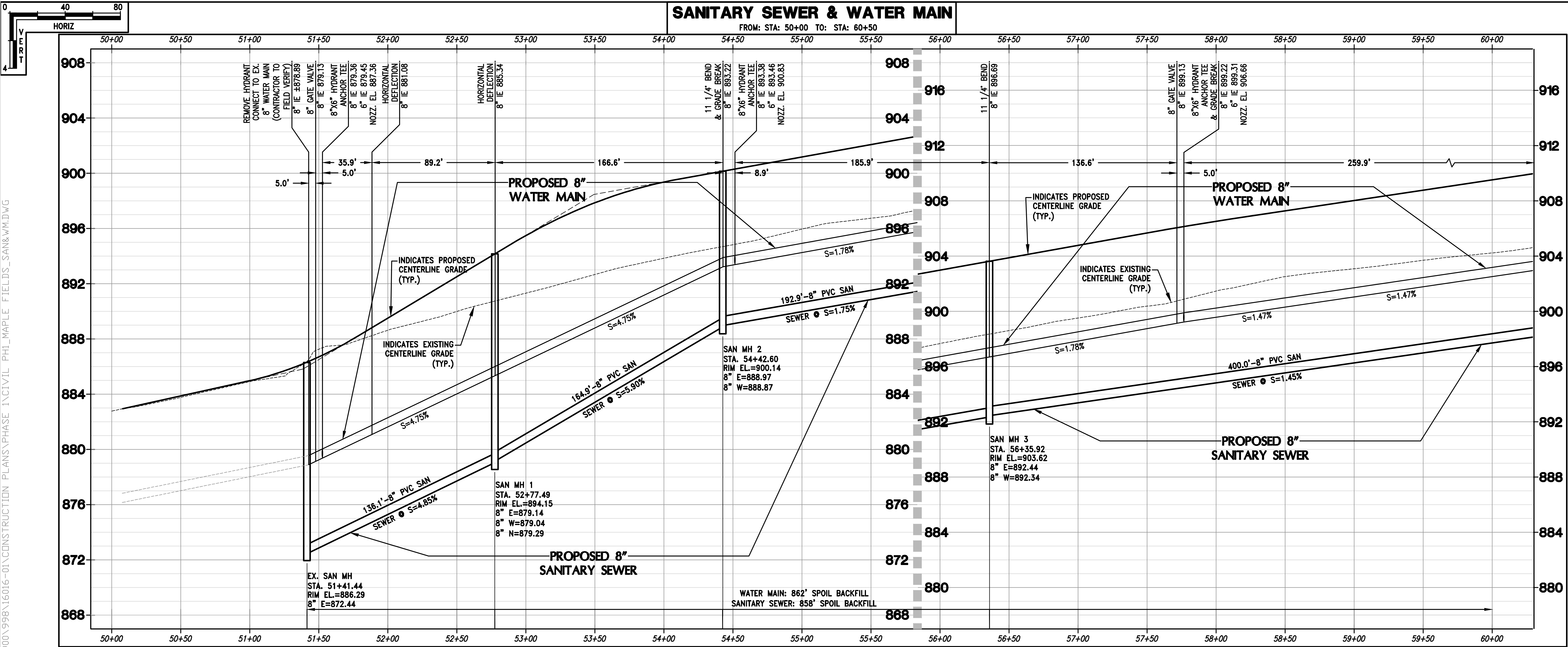
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SCALE: 1" = 200' (11"x17")

H:\C900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1_MAPLE FIELDS_SAN&WM.DWG



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CALL DIGGERS HOTLINE 1-800-242-8511



WISCONSIN

JOSHUA D. PUDELKO

E-39420

WAUWATOSA, WI

PROFESSIONAL ENGINEER

DESIGN • LAND SURVEYING

TRIO

CIVIL ENGINEERING

4100 N. CALHOUN RD

BROOKFIELD, WI 53005

PHONE: (262) 790-1480

FAX: (262) 790-1481

EMAIL: info@trioeng.com

PROJECT:
MAPLE FIELDS - PHASE 1
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
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11/04/2021	VILLAGE SUBMITTAL
02/16/2022	PHASE 1 SUBMITTAL

DATE:
FEBRUARY 16, 2022

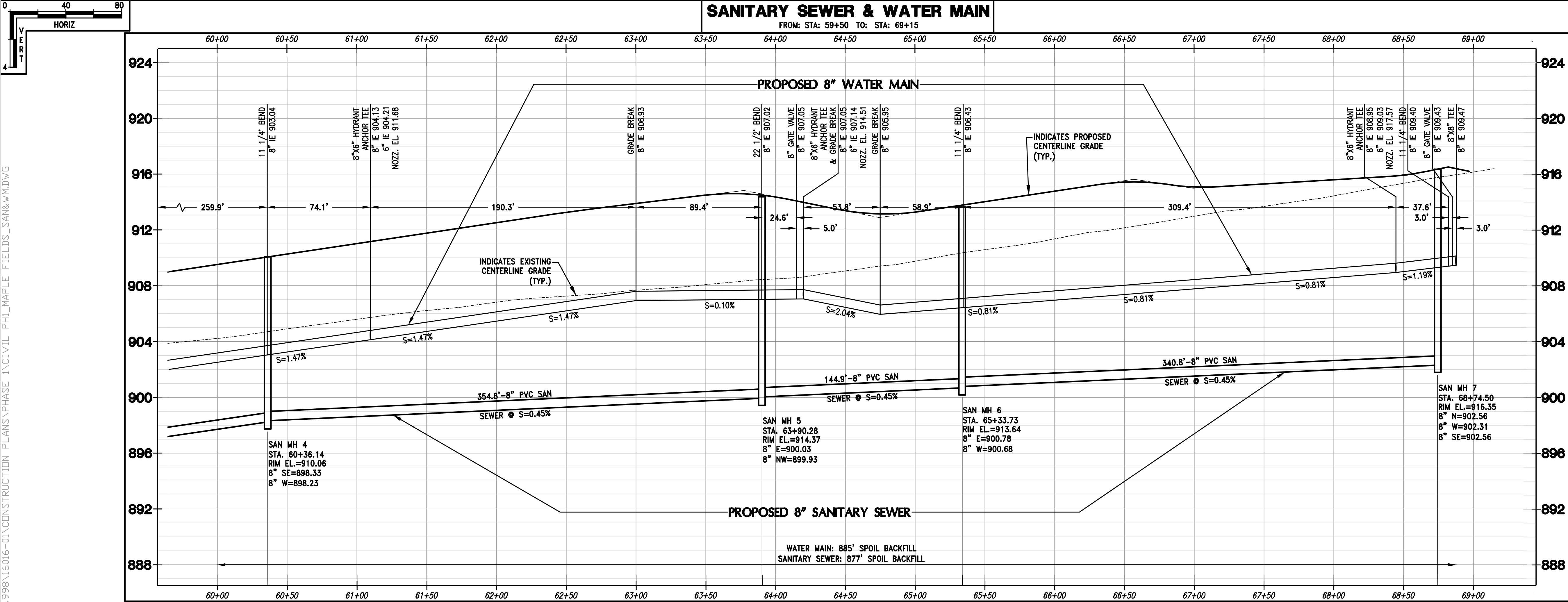
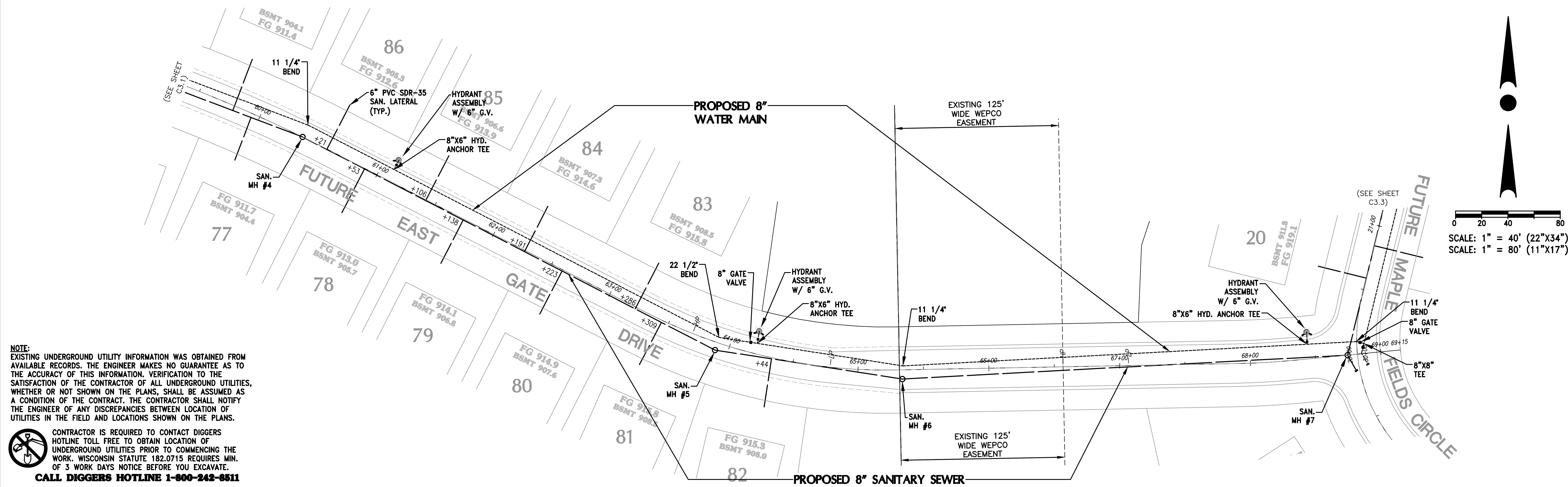
JOB NUMBER:
16016

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

SHEET

C3.1

H:\CD900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1_MAPLE_FIELDS_SAN&WM.DWG



WISCONSIN PROFESSIONAL ENGINEER
JOSHUA D. PUDELKO
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WAUWATOSA, WI

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

PROJECT:
MAPLE FIELDS - PHASE 1
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
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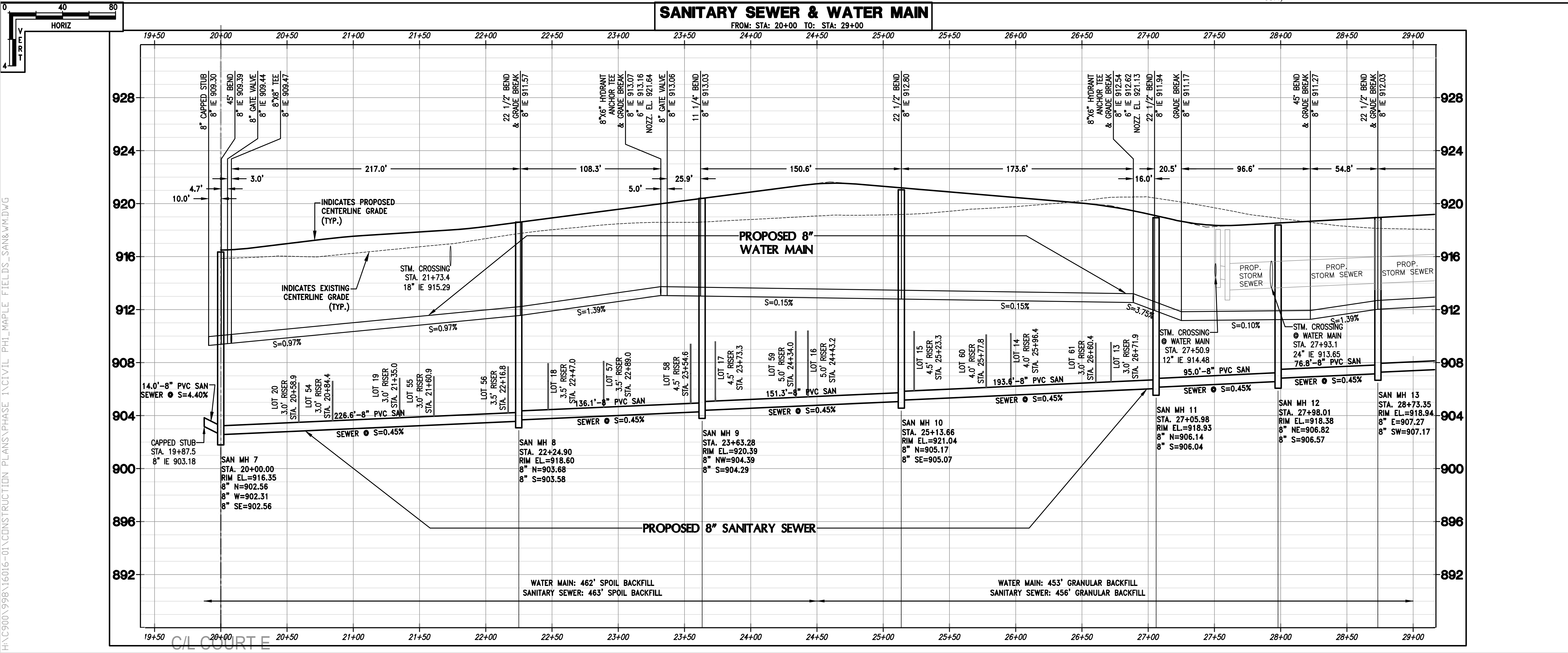
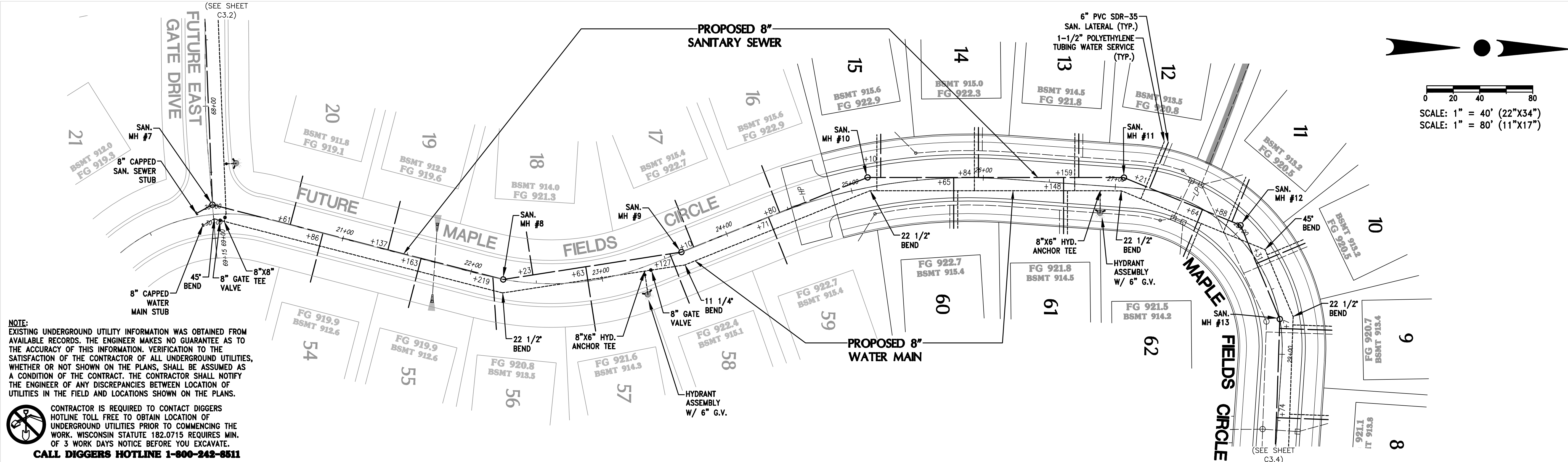
DATE:
FEBRUARY 16, 2022

JOB NUMBER:
16016

DESCRIPTION:
SANITARY SEWER
& WATER MAIN
PLAN & PROFILE

SHEET

C3.2



WISCONSIN

JOSHUA D. PUDELKO
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WAUKESHA, WI

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BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:

MAPLE FIELDS - PHASE 1

SINGLE FAMILY RESIDENTIAL SUBDIVISION

VILLAGE OF JACKSON, WISCONSIN

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

REVISION HISTORY

DATE	DESCRIPTION
09/30/2021	PRELIM CIVIL PLANS
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02/16/2022	PHASE 1 SUBMITTAL

DATE:

FEBRUARY 16, 2022

JOB NUMBER:

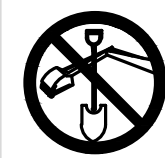
16016

DESCRIPTION:

SANITARY SEWER
& WATER MAIN
PLAN & PROFILE

SHEET

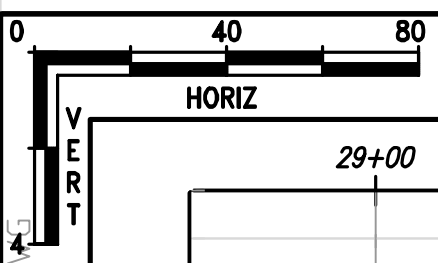
C3.3



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

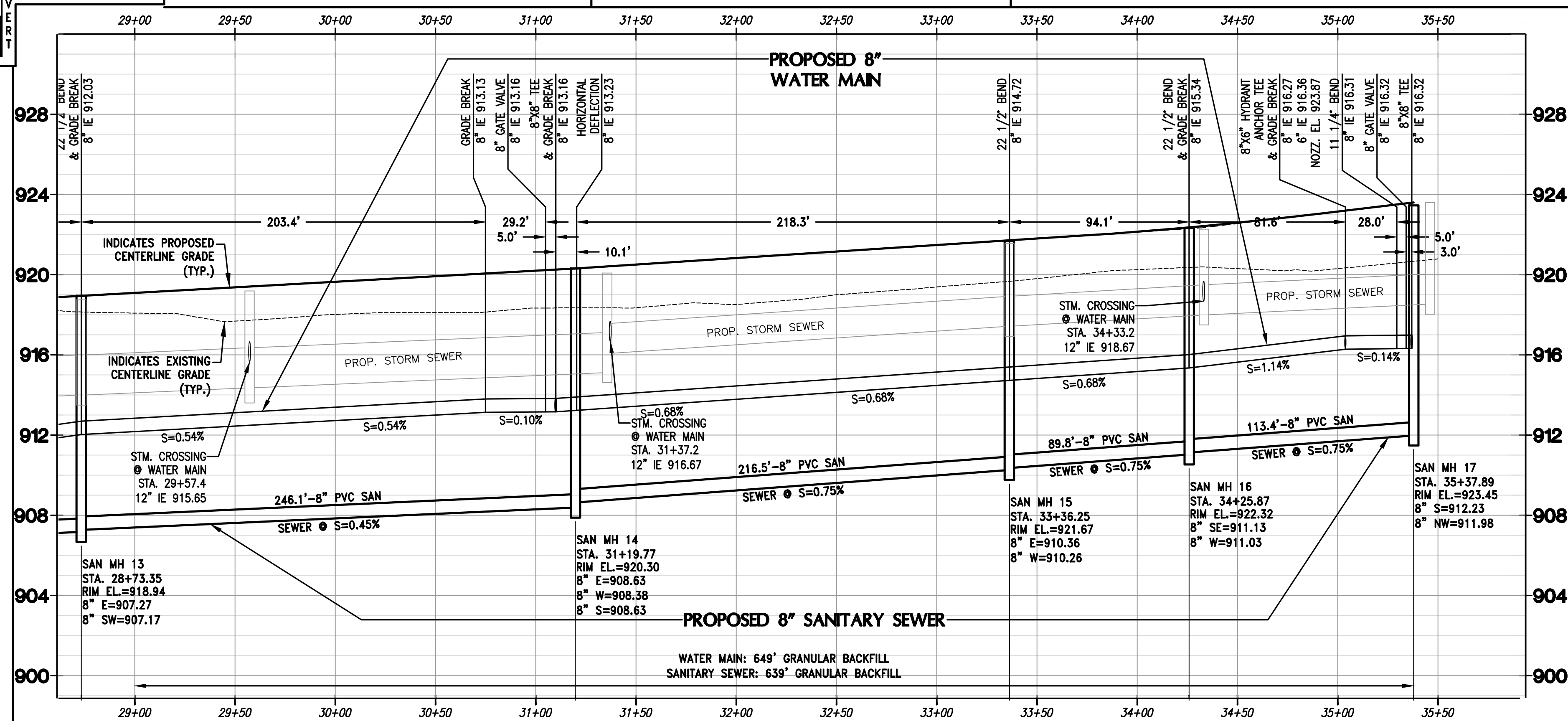
CALL DIGGERS HOTLINE 1-800-242-8511

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SANITARY SEWER & WATER MAIN

FROM: STA: 29+00 TO: STA: 35+75

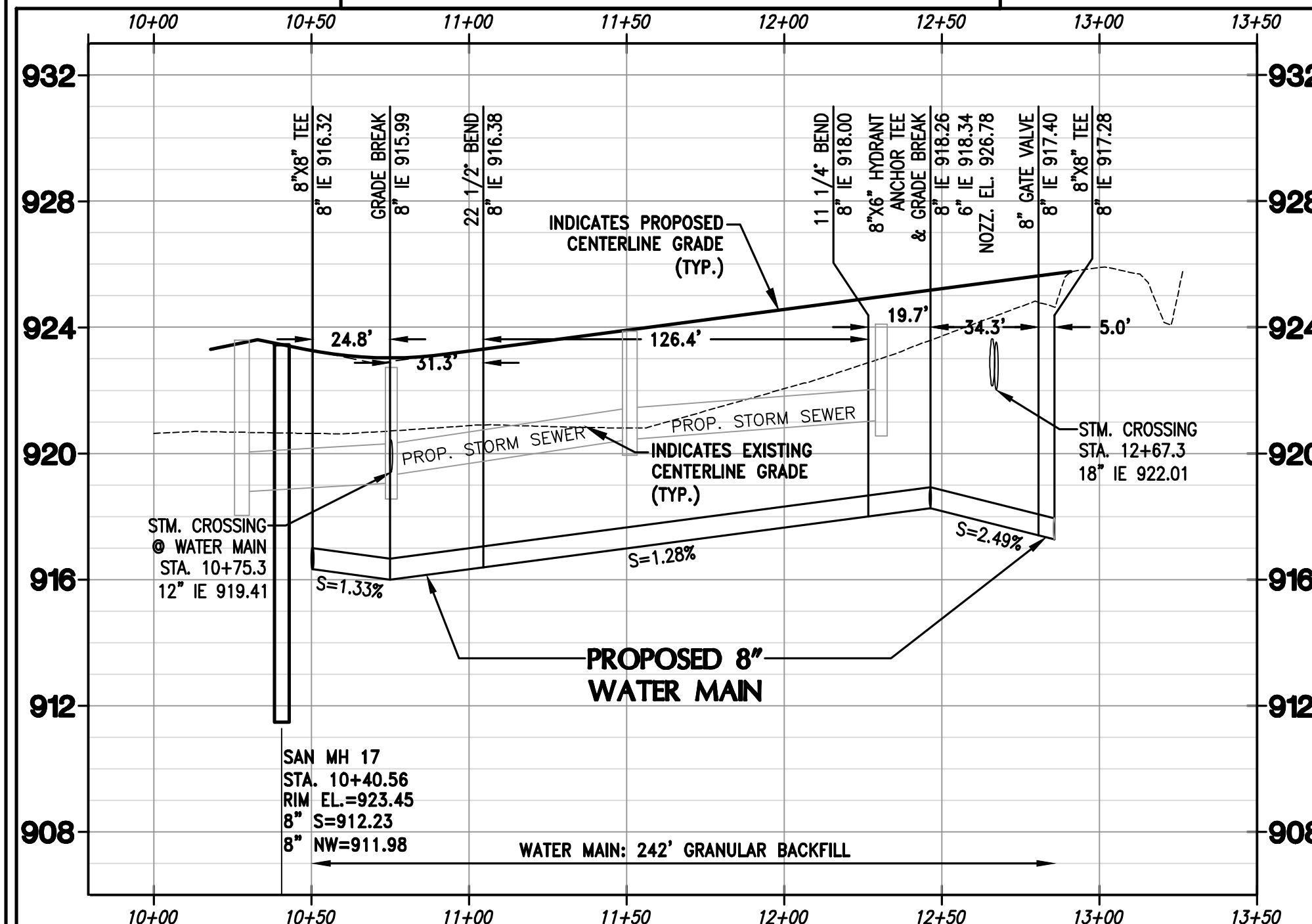


(SEE SHEET C3.5)

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

SANITARY SEWER & WATER MAIN

FROM: STA: 10+00 TO: STA: 13+50



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

PROJECT:
MAPLE FIELDS - PHASE 1
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY	
DATE	DESCRIPTION
09/30/2021	PRELIM CIVIL PLANS
11/04/2021	VILLAGE SUBMITTAL
02/16/2022	PHASE 1 SUBMITTAL

DATE:
FEBRUARY 16, 2022

JOB NUMBER:
16016

DESCRIPTION:
SANITARY SEWER
& WATER MAIN
PLAN & PROFILE

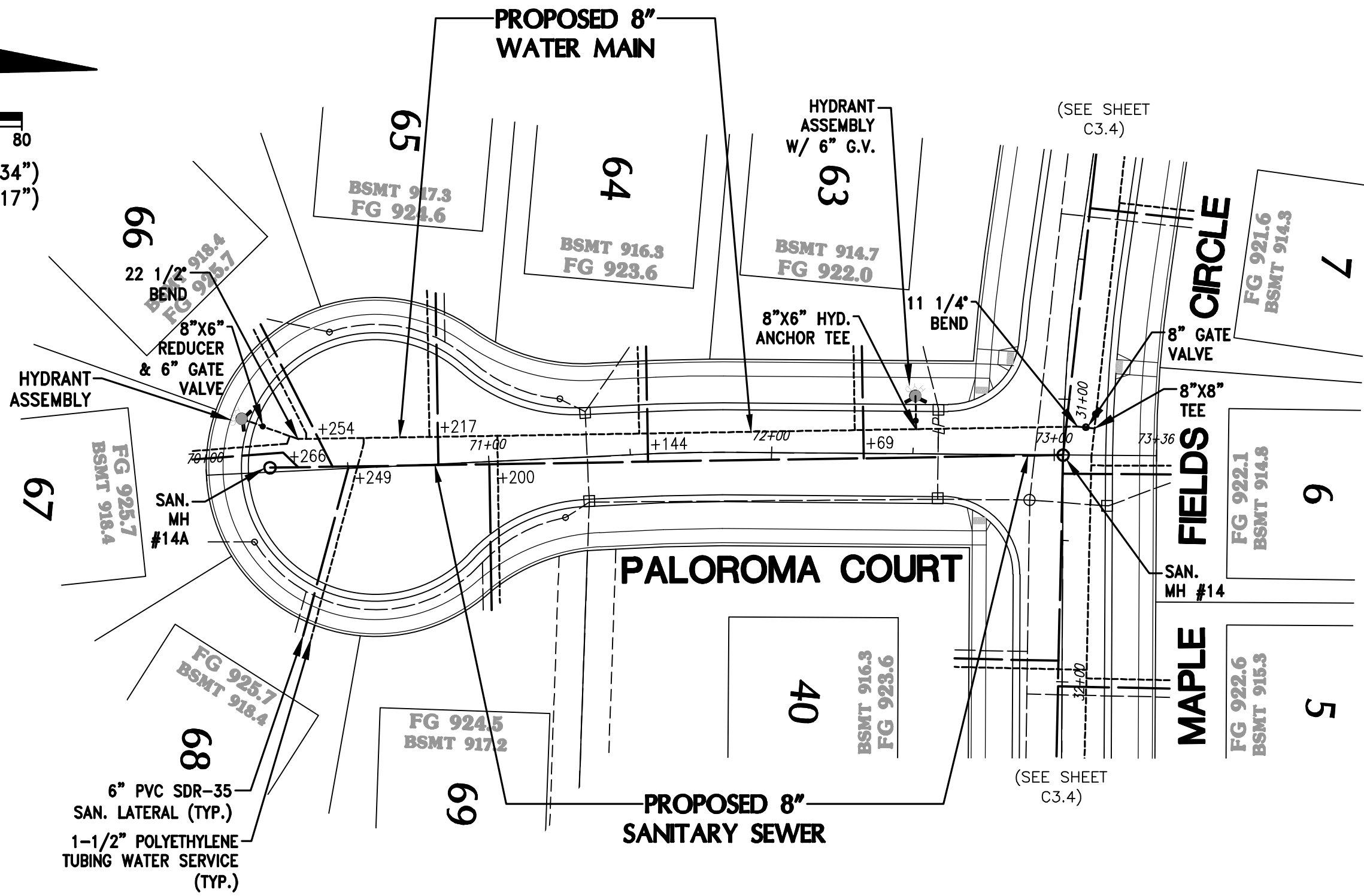
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C3.4

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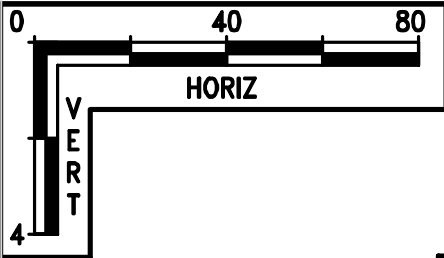


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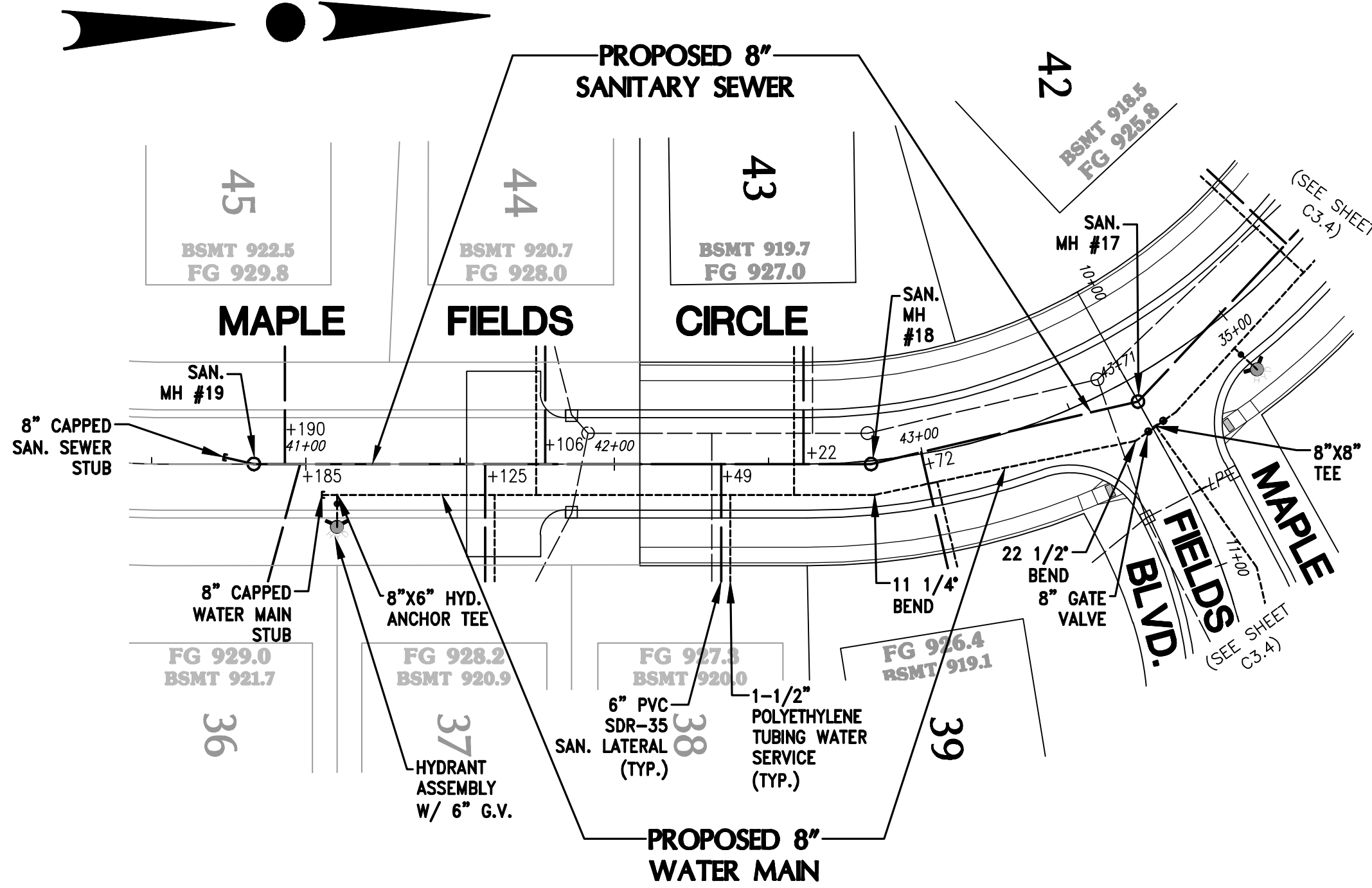
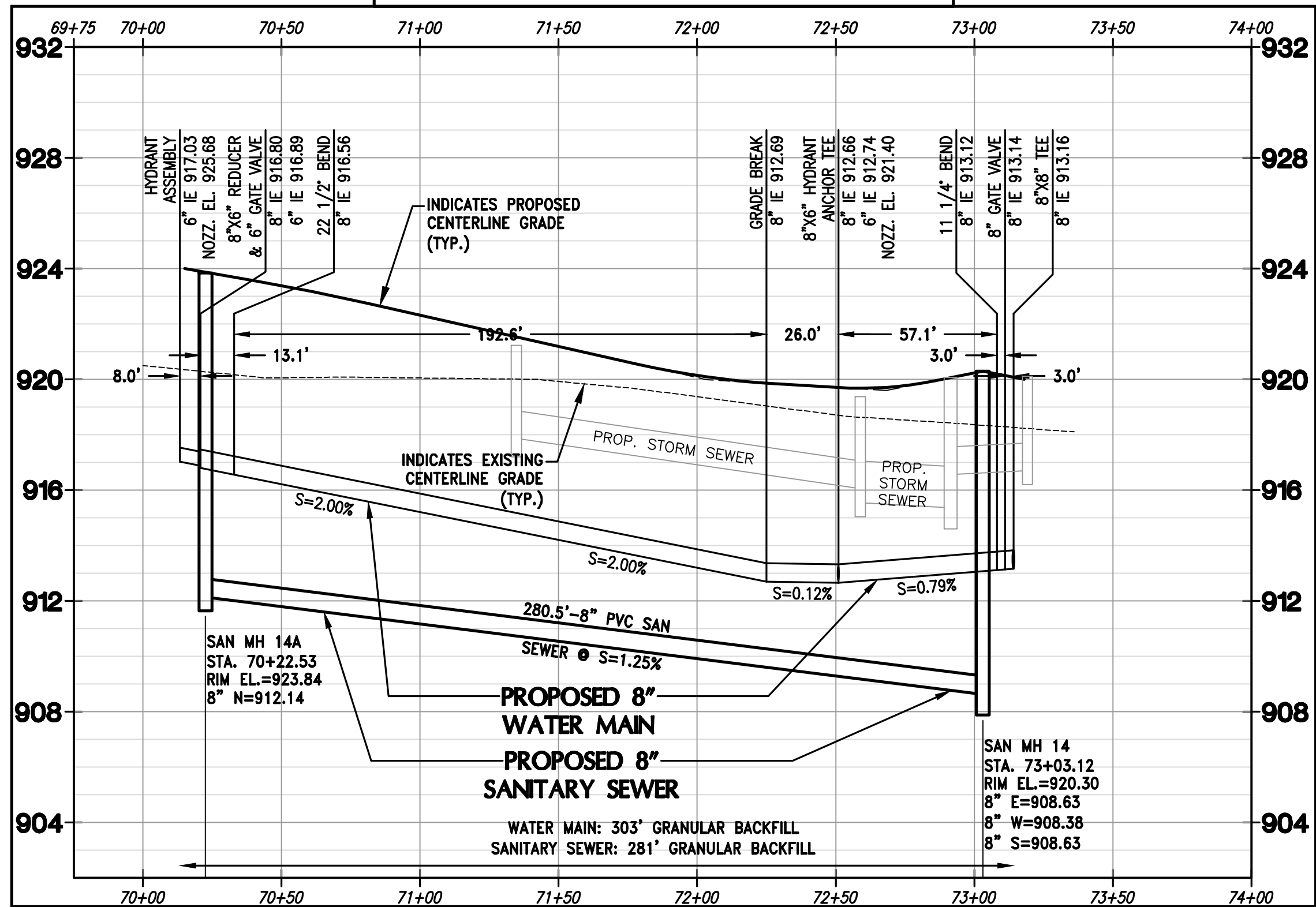
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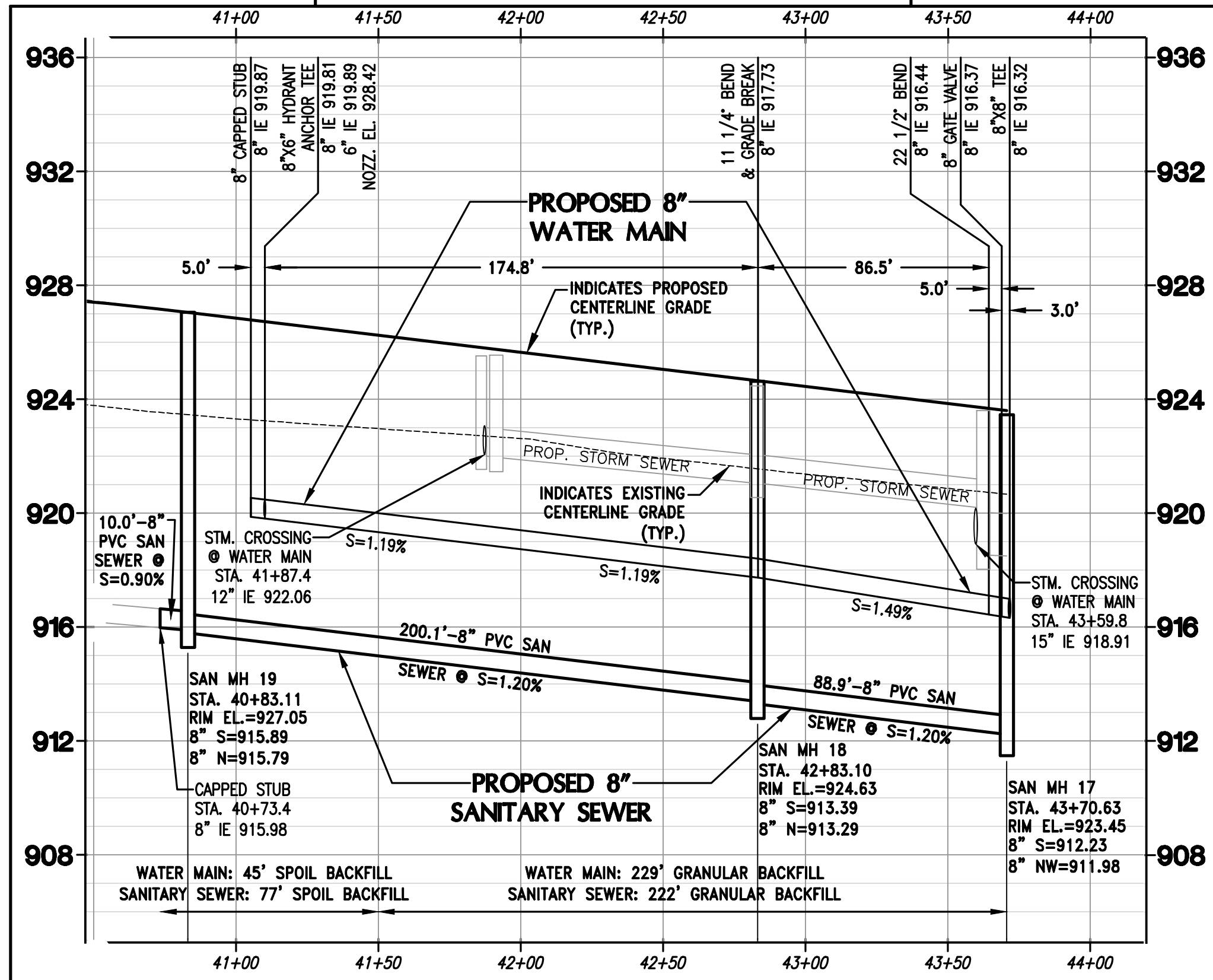
SANITARY SEWER & WATER MAIN

FROM: STA: 69+00 TO: STA: 74+50



SANITARY SEWER & WATER MAIN

FROM: STA: 41+00 TO: STA: 44+00



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

PROJECT: MAPLE FIELDS - PHASE 1 SINGLE FAMILY RESIDENTIAL SUBDIVISION

VILLAGE OF JACKSON, WISCONSIN

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

REVISION HISTORY

DATE	DESCRIPTION
09/30/2021	PRELIM CIVIL PLANS
11/04/2021	VILLAGE SUBMITTAL
02/16/2022	PHASE 1 SUBMITTAL

DATE:

FEBRUARY 16, 2022

JOB NUMBER:

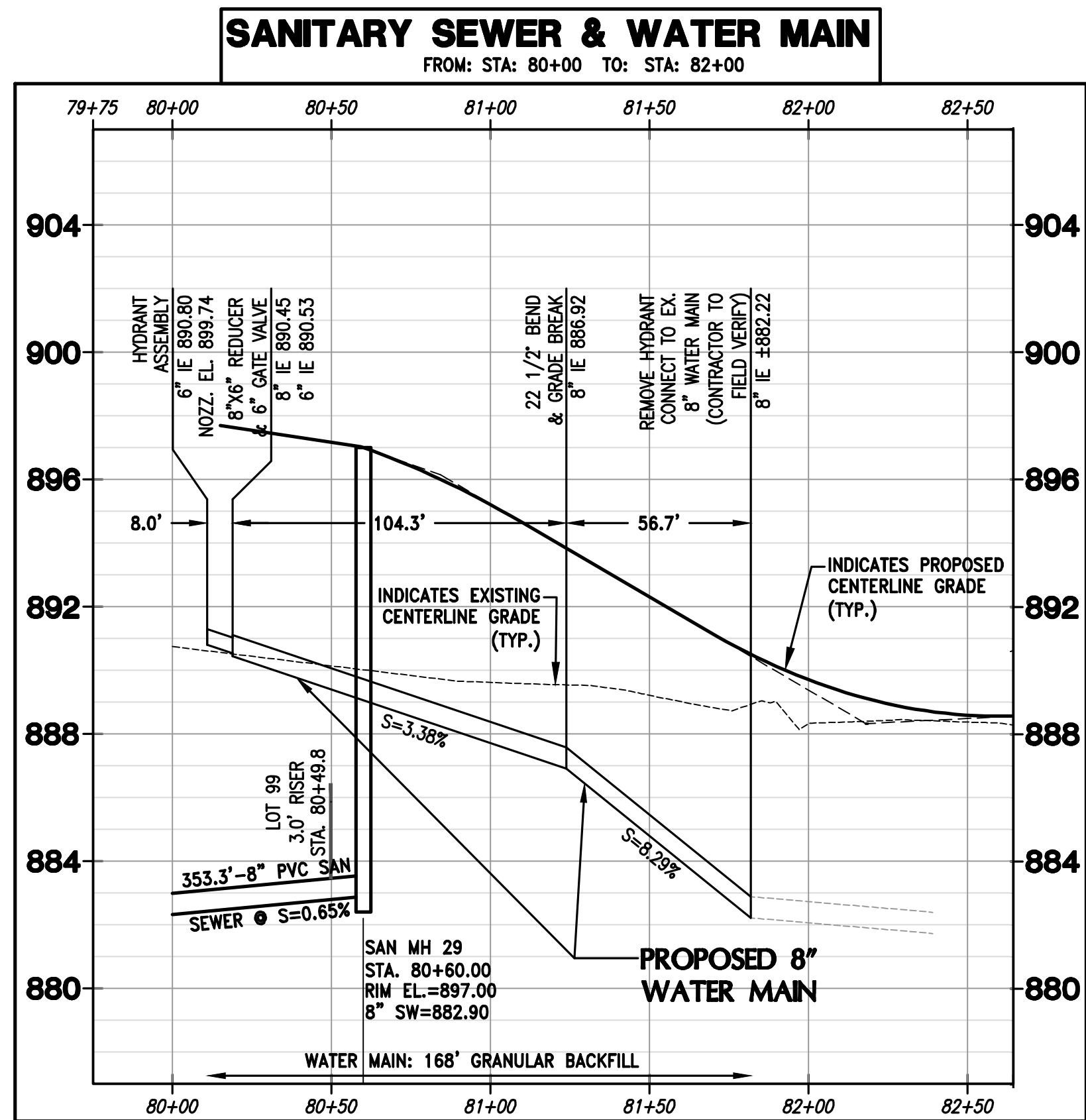
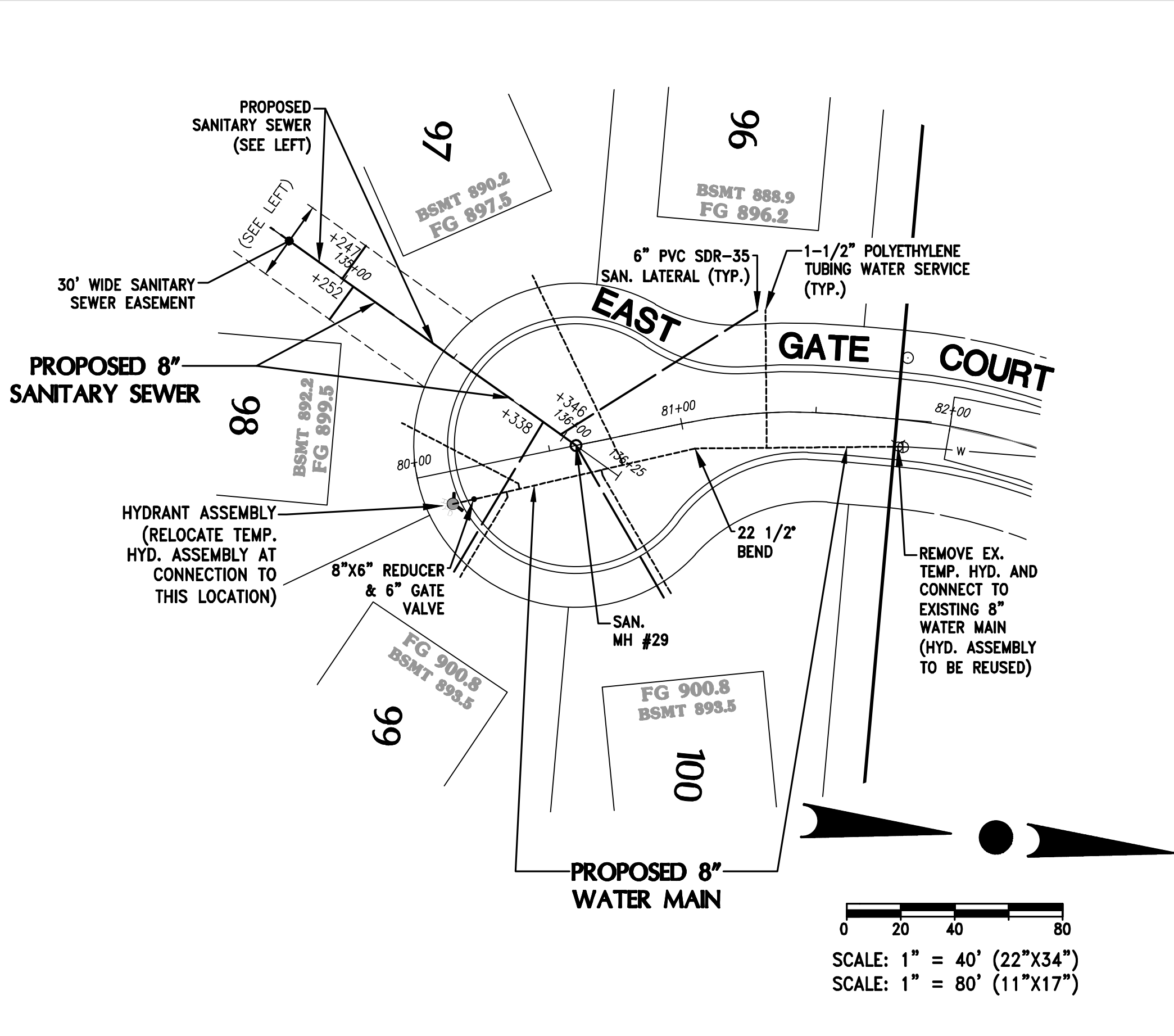
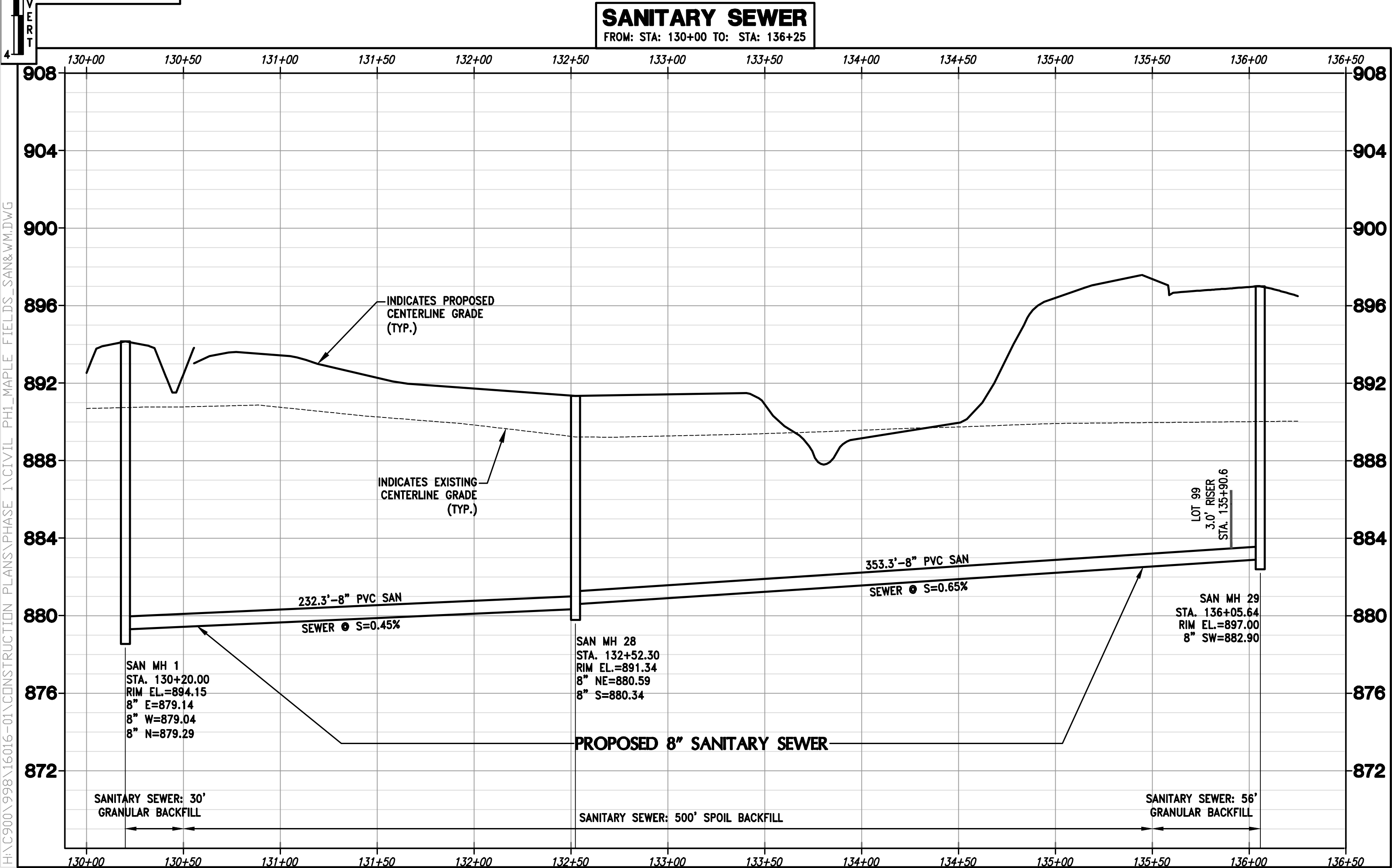
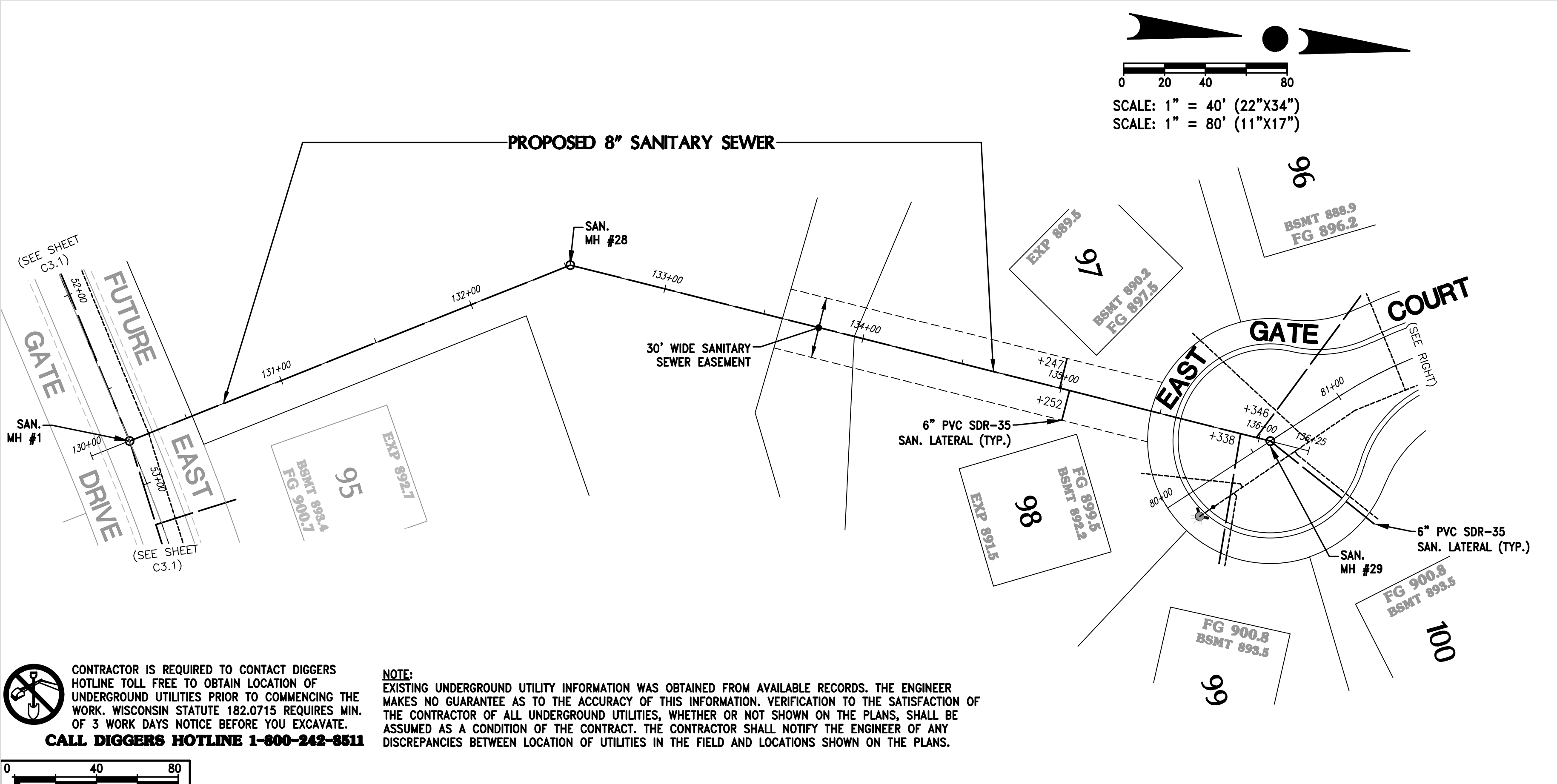
16016

DESCRIPTION:

SANITARY SEWER
& WATER MAIN
PLAN & PROFILE

SHEET

C3.5



WISCONSIN PROFESSIONAL ENGINEER
JOSHUA D. PUDELKO
E-39420
WAUWATOSA, WI

TRIO
DESIGN • LAND SURVEYING
CIVIL ENGINEERING
4100 N. CALHOUN RD
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
EMAIL: info@trioeng.com

PROJECT:
MAPLE FIELDS - PHASE 1
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
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DATE:
FEBRUARY 16, 2022

JOB NUMBER:
16016

DESCRIPTION:
SANITARY SEWER
& WATER MAIN
PLAN & PROFILE

SHEET
C3.6

H:\CD900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1_MAPLE_FIELDS_RD&STM.DWG



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

MANHOLE NOTE

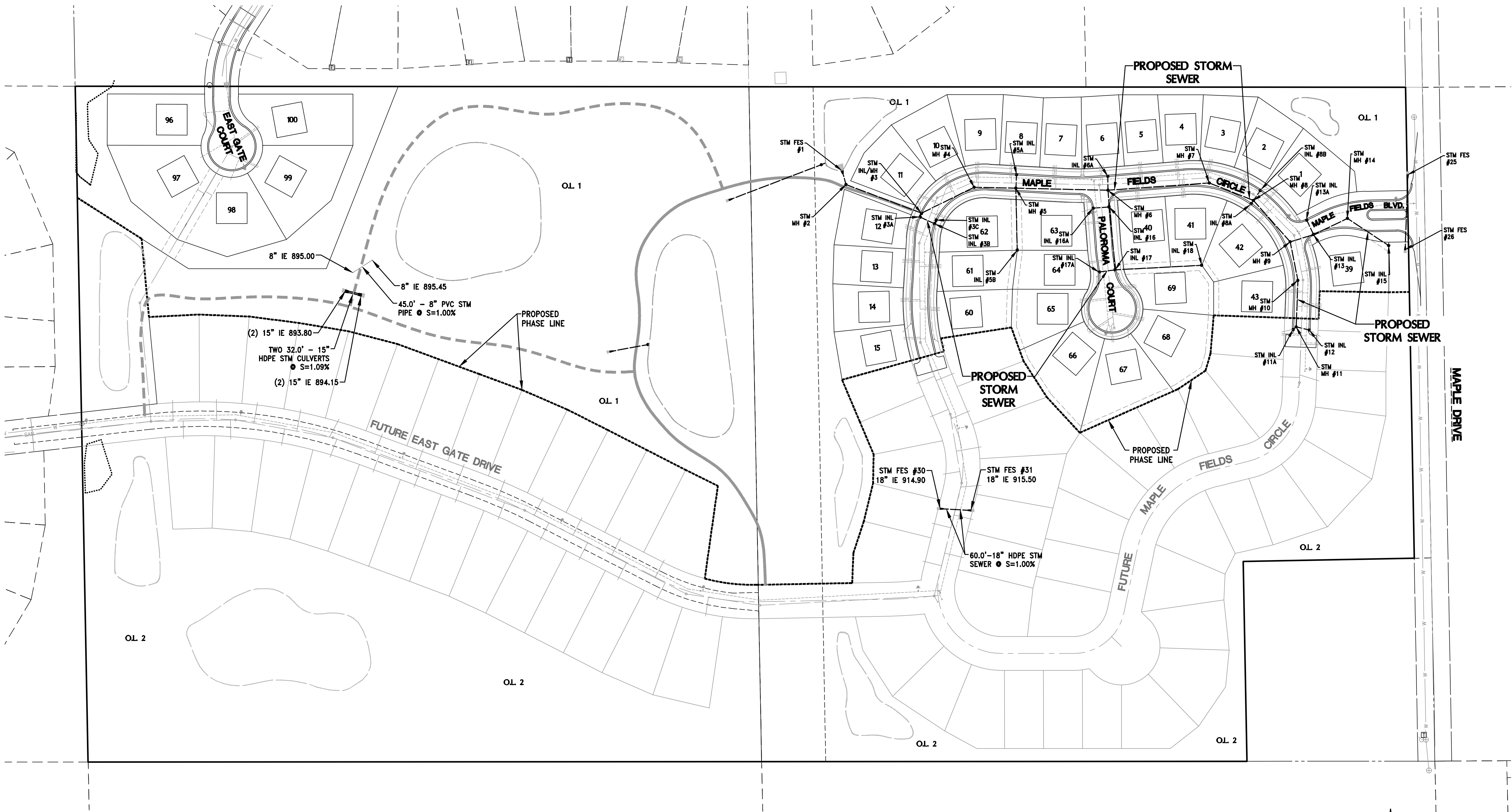
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STORM SEWER NOTES

- STORM SEWER**
- ALL PUBLIC STORM SEWER SHALL BE RCP (REINFORCED CONCRETE PIPE) WITH GASKETED JOINTS.
 - STORM SEWER SHALL BE R.C.P. MEETING SECTION 8.6.0 (SSSWCH) AND BE RUBBER GASKETED MEETING THE REQUIREMENTS SET FORTH IN WWS CHAPTER 8.6.0.
 - PIPE CLASSES:
 - 12" DIA. RCP STORM SEWER SHALL BE CL-V
 - 15" DIA. RCP STORM SEWER SHALL BE CL-IV
 - 18" & ABOVE DIA. RCP STORM SEWER SHALL BE CL-III
 - STORM MANHOLES SHALL BE MIN. 48" DIAMETER PRECAST CONCRETE WITH NEENAH R-1660 FRAMES & COVERS WITH 6 VENT HOLES. REFER TO STORM SEWER PLANS FOR MANHOLE SIZING INFORMATION.
 - STORM MANHOLES IN EASEMENTS SHALL USE NEENAH R-1660 FRAMES WITH TYPE C GRATES.
 - CATCH BASINS SHALL HAVE 12" SUMPS AND SHALL CONFORM TO FILE NO. 26 OF THE STANDARD SPECIFICATIONS WITH A NEENAH R-3087-C FOR VERTICAL CURB APPLICATIONS.
 - FIELD INLETS USE A NEENAH R-2560-DB TYPE BEEHIVE CASTING.



4100 N. CALHOUN RD
BROOKFIELD, WI 53005
PHONE: (262) 790-1480
FAX: (262) 790-1481
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PROJECT:
MAPLE FIELDS - PHASE 1
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

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11/04/2021	VILLAGE SUBMITTAL
02/16/2022	PHASE 1 SUBMITTAL

DATE:
FEBRUARY 16, 2022

JOB NUMBER:
16016

DESCRIPTION:
OVERALL
ROAD & STORM
SEWER

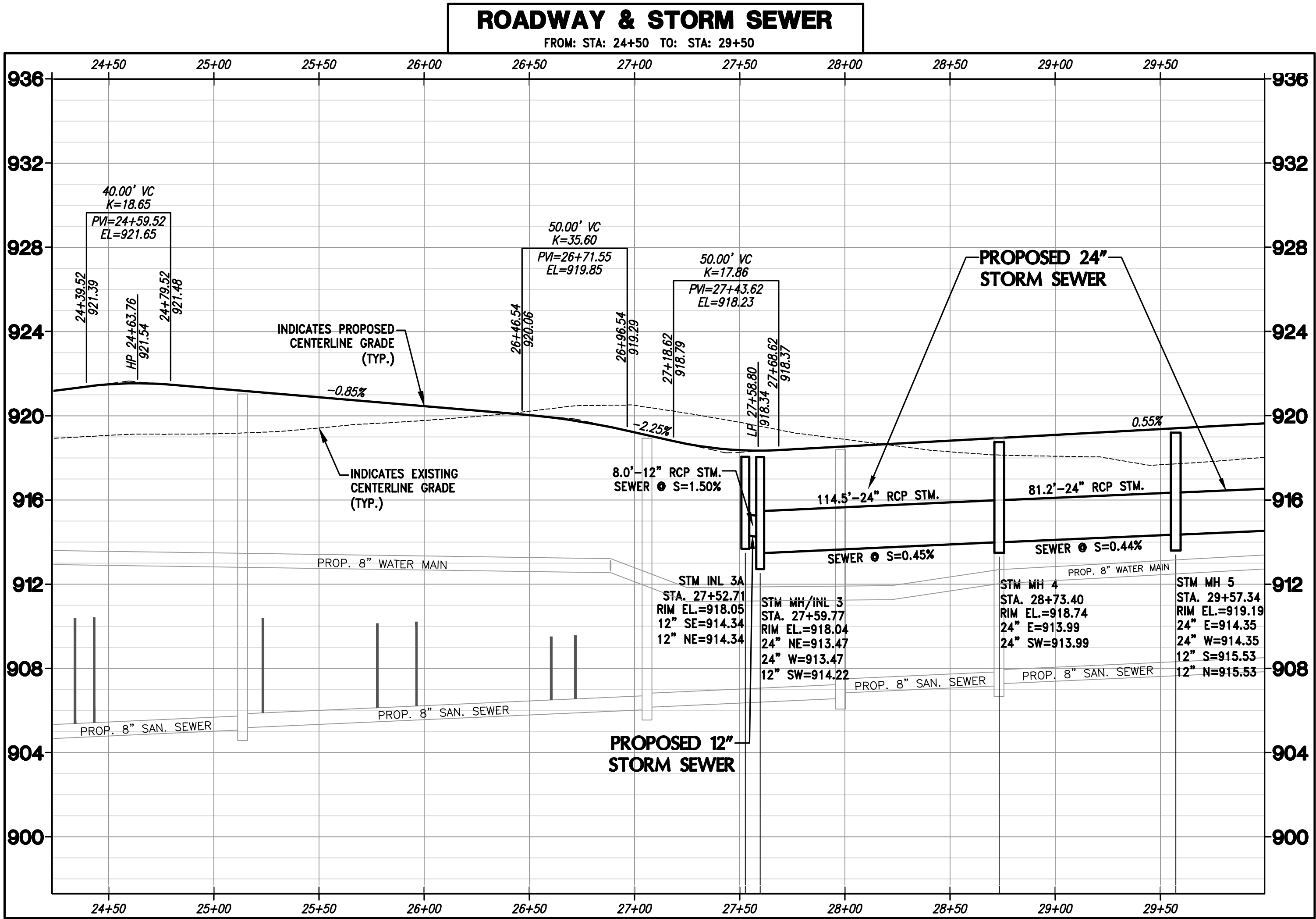
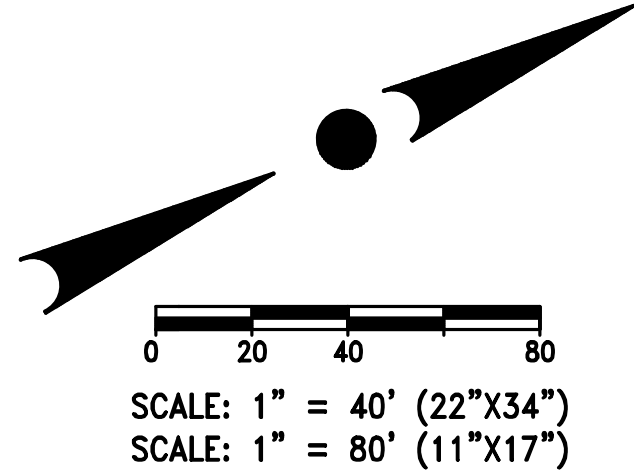
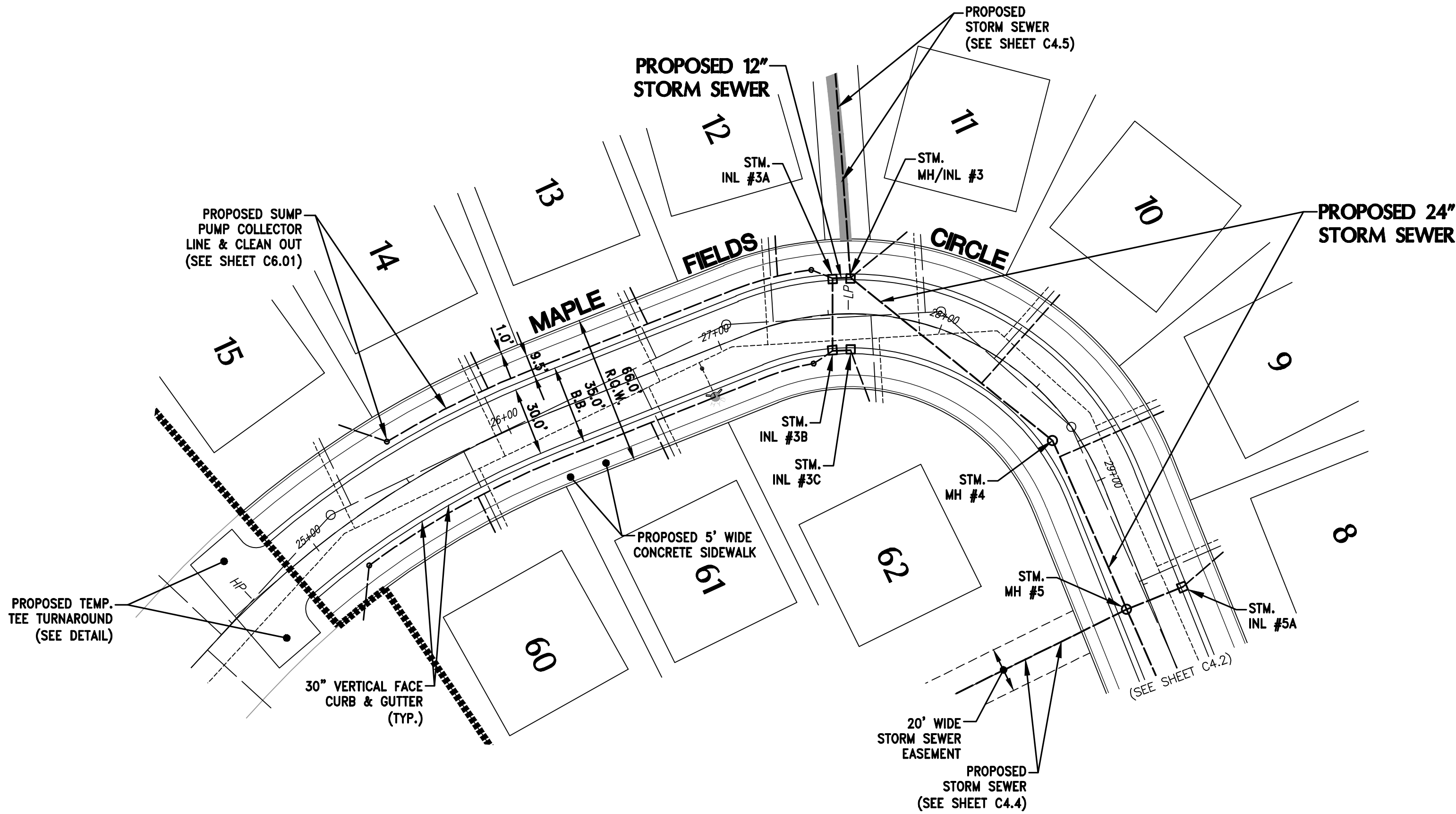
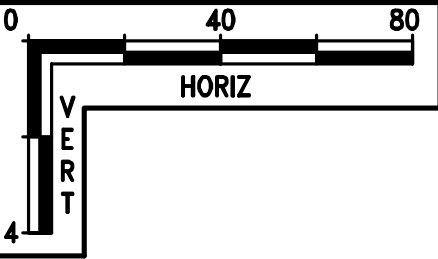
SHEET

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H:\C900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1_MAPLE_FIELDS_RD&STM.DWG

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CALL DIGGERS HOTLINE 1-800-242-8511

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

PROJECT:
MAPLE FIELDS - PHASE 1
SINGLE FAMILY RESIDENTIAL SUBDIVISION
VILLAGE OF JACKSON, WISCONSIN
BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072

REVISION HISTORY

DATE	DESCRIPTION
09/30/2021	PRELIM CIVIL PLANS
11/04/2021	VILLAGE SUBMITTAL
02/16/2022	PHASE 1 SUBMITTAL

DATE:
FEBRUARY 16, 2022

JOB NUMBER:
16016

DESCRIPTION:
ROADWAY &
STORM SEWER
PLAN & PROFILE

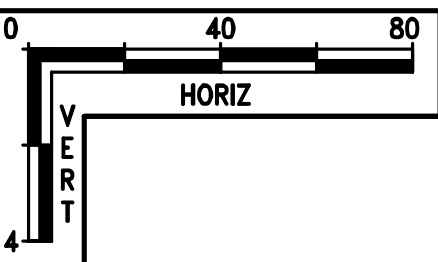
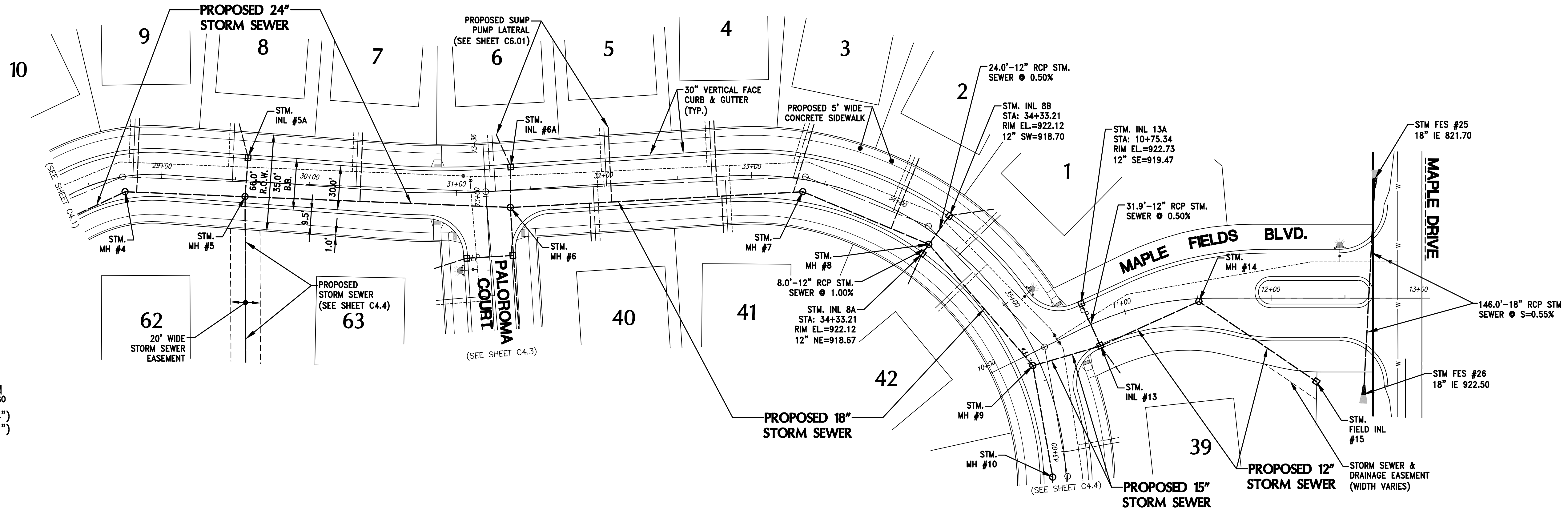
SHEET

C4.1



CONTRACTOR IS REQUIRED TO CONTACT DIGGERS HOTLINE TOLL FREE TO OBTAIN LOCATION OF UNDERGROUND UTILITIES PRIOR TO COMMENCING THE WORK. WISCONSIN STATUTE 182.0715 REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.
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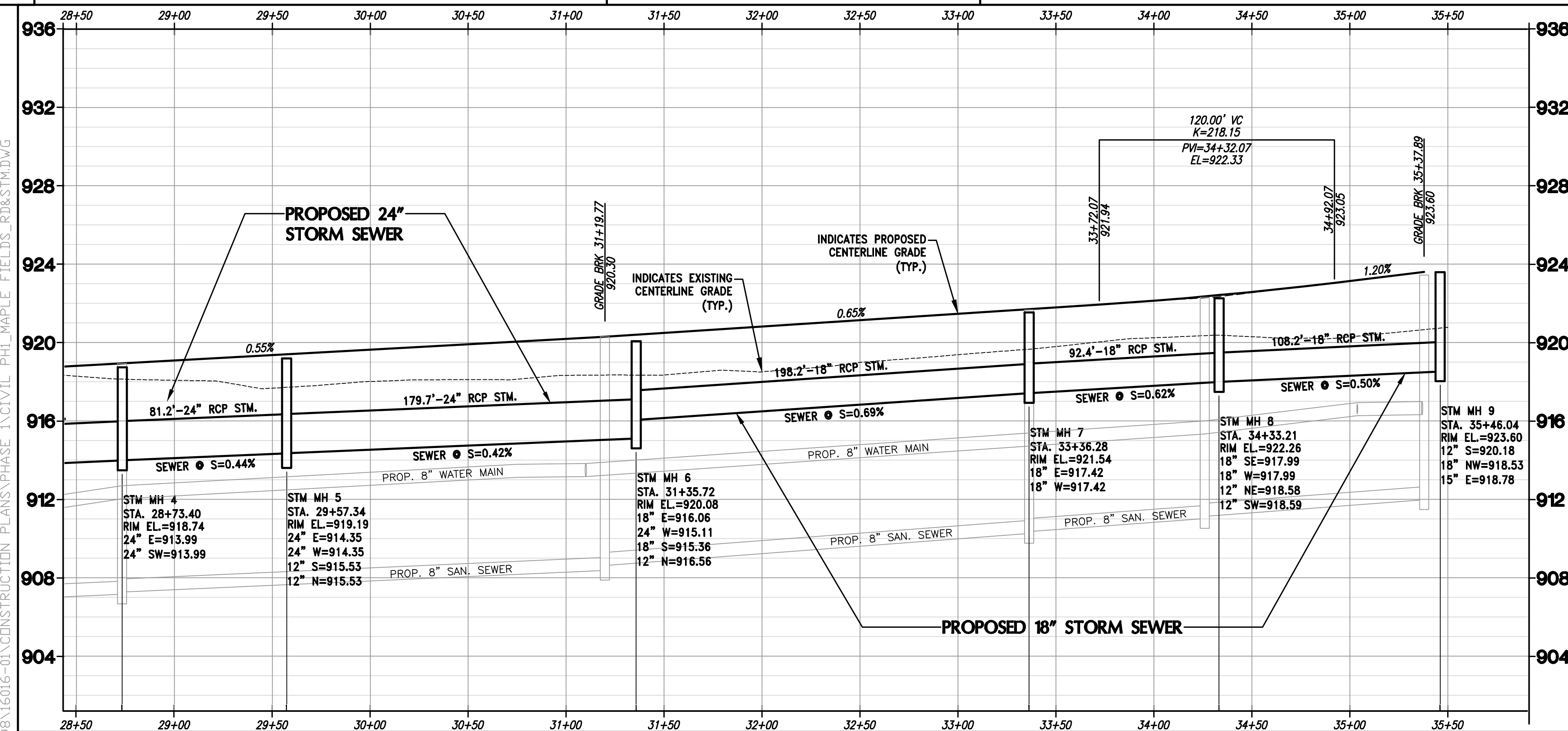
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SCALE: 1" = 40' (22"x34")
SCALE: 1" = 80' (11"x17")

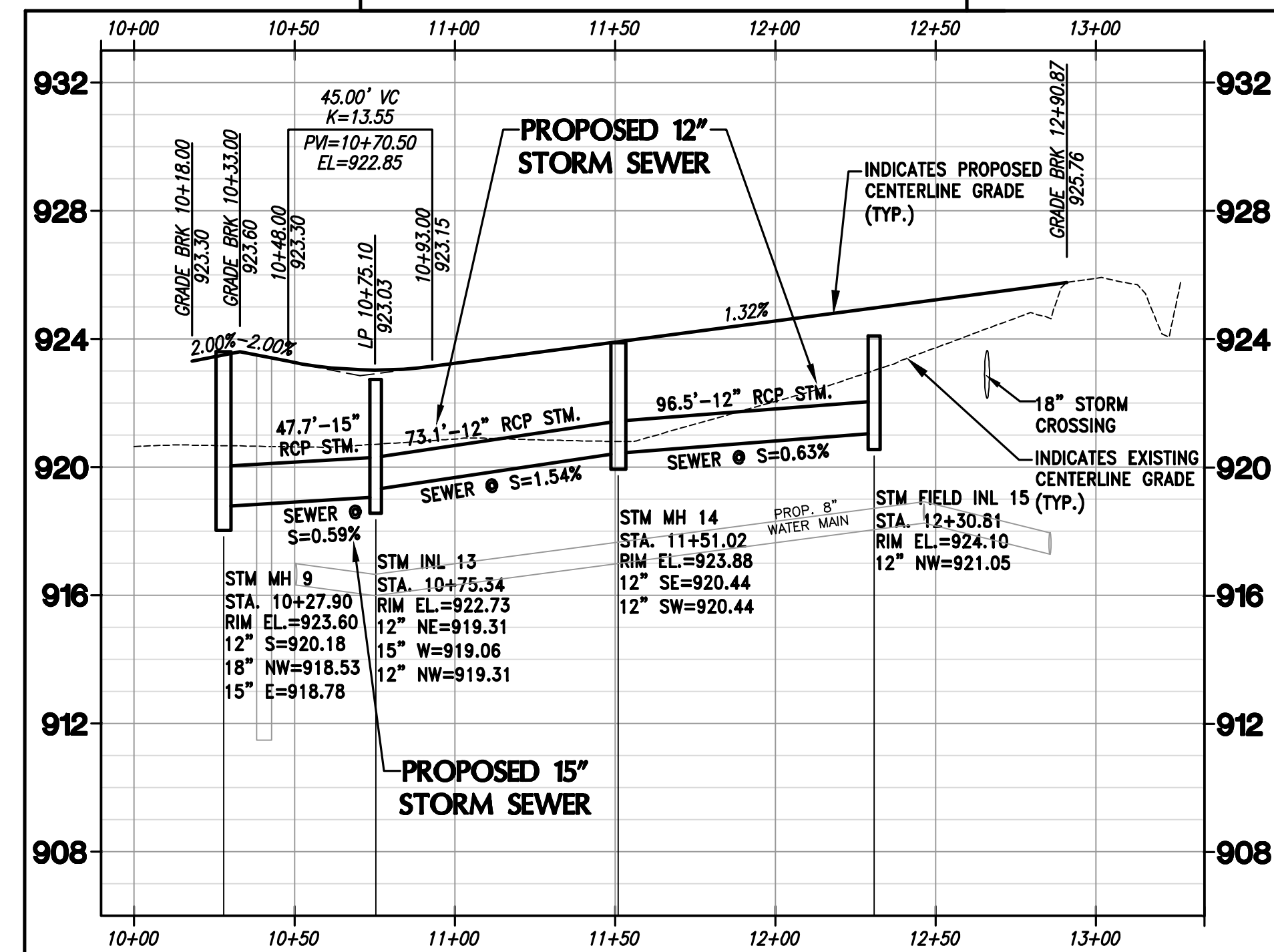
ROADWAY & STORM SEWER

FROM: STA: 28+50 TO: STA: 35+58



ROADWAY & STORM SEWER

FROM: STA: 10+00 TO: STA: 13+50



PROJECT: MAPLE FIELDS - PHASE 1

SINGLE FAMILY RESIDENTIAL SUBDIVISION

VILLAGE OF JACKSON, WISCONSIN

BY: NEUMANN DEVELOPMENTS, INC.

N27W24025 PAUL COURT, SUITE 100

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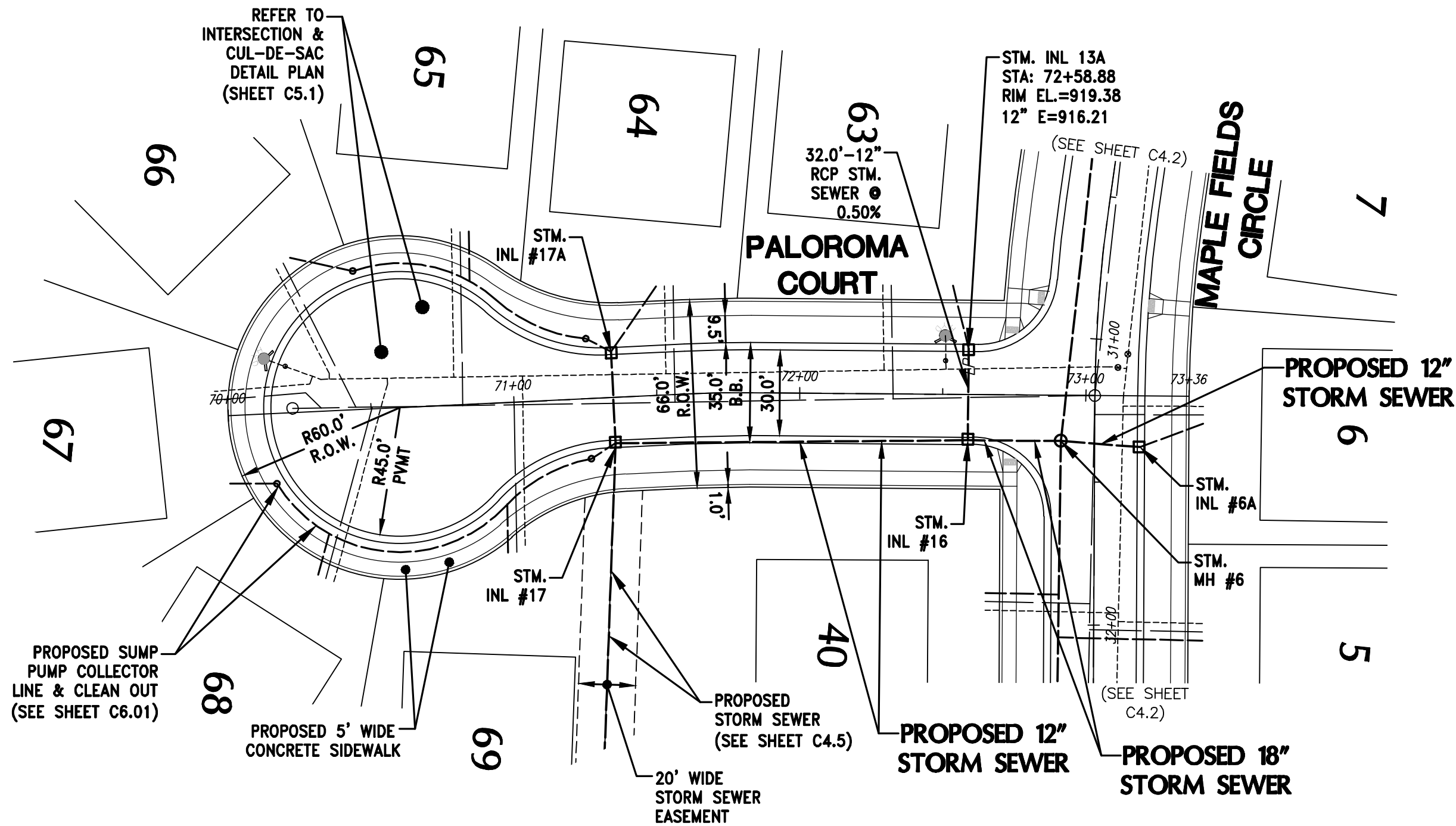
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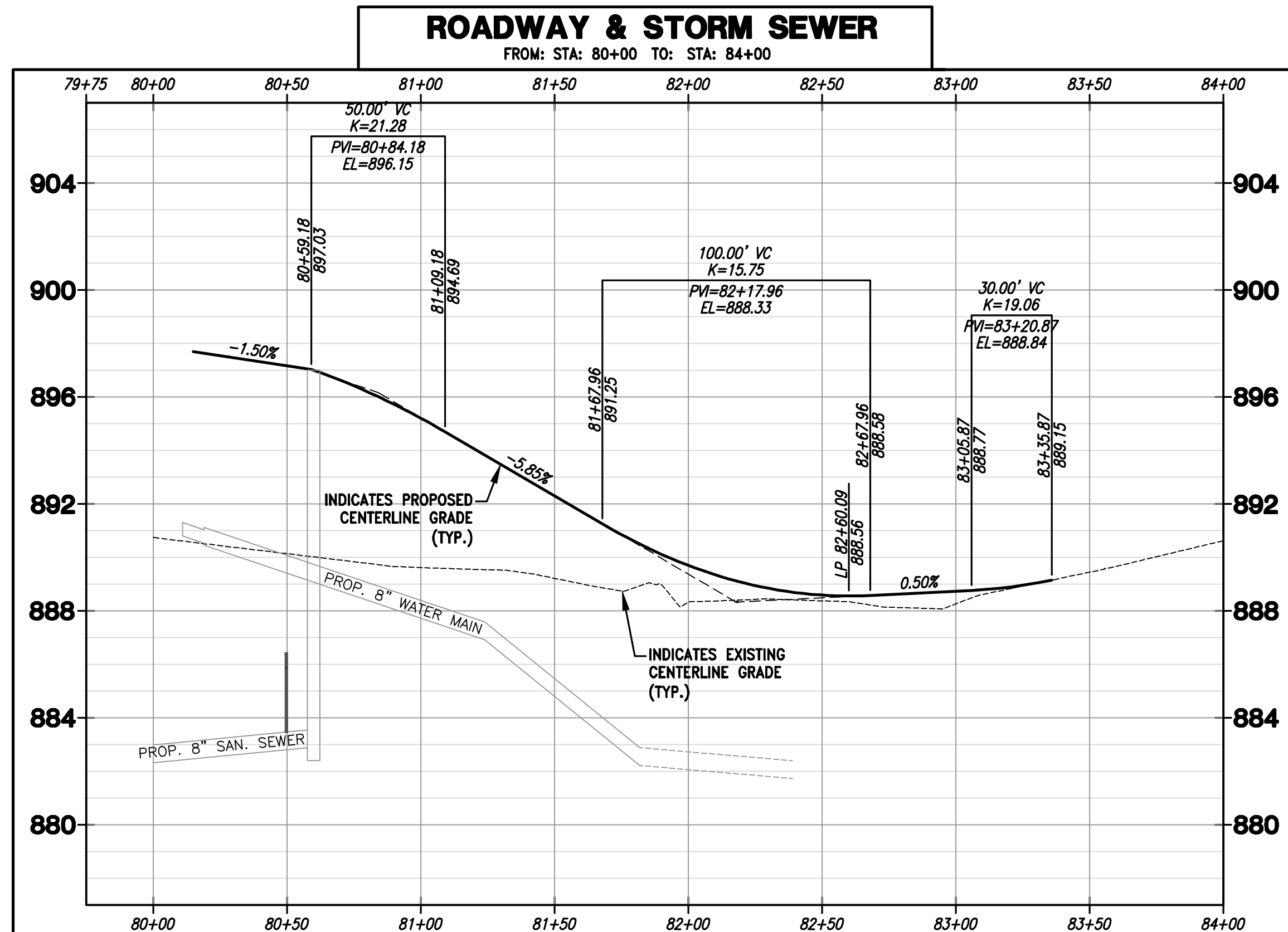
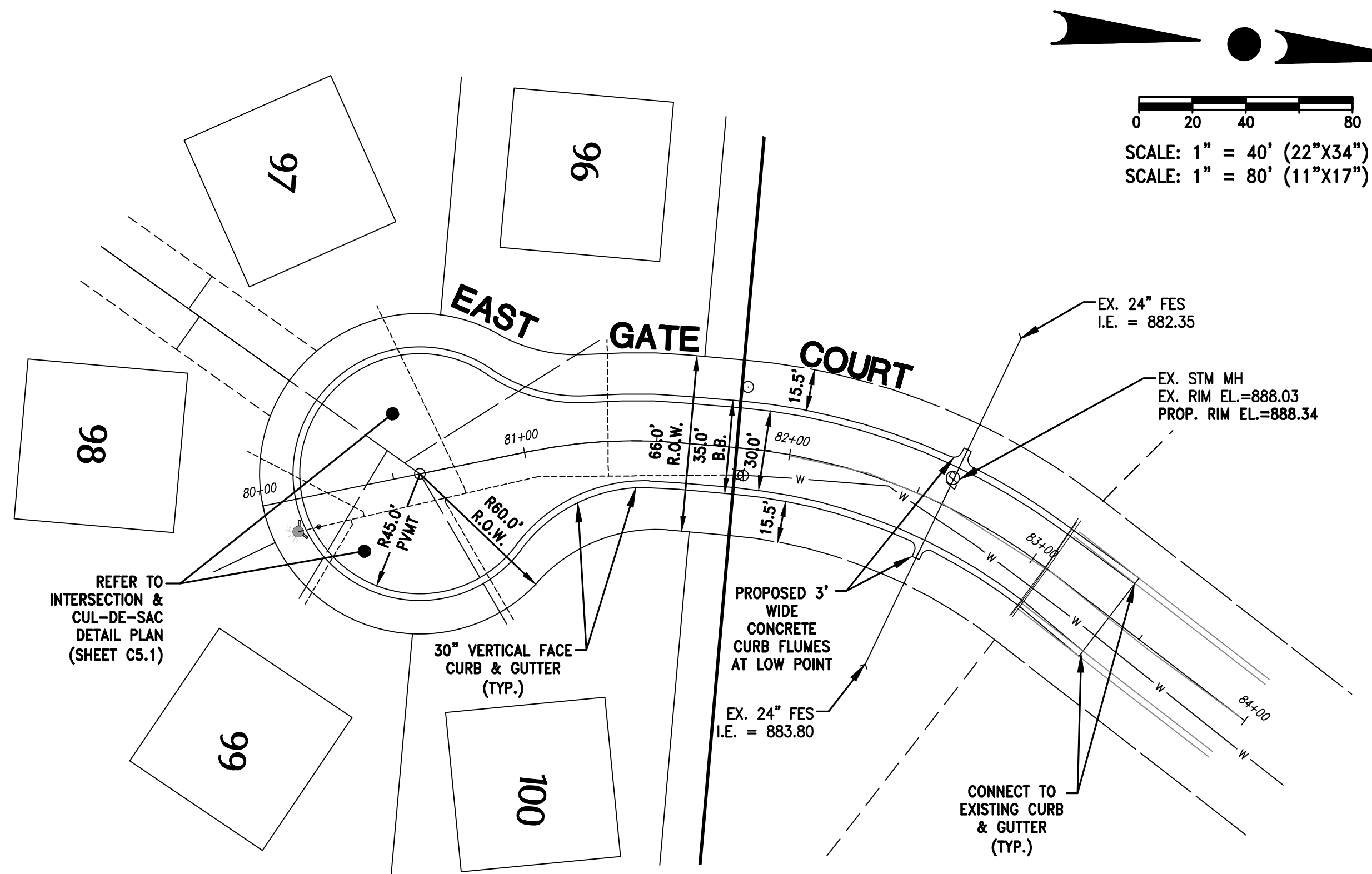
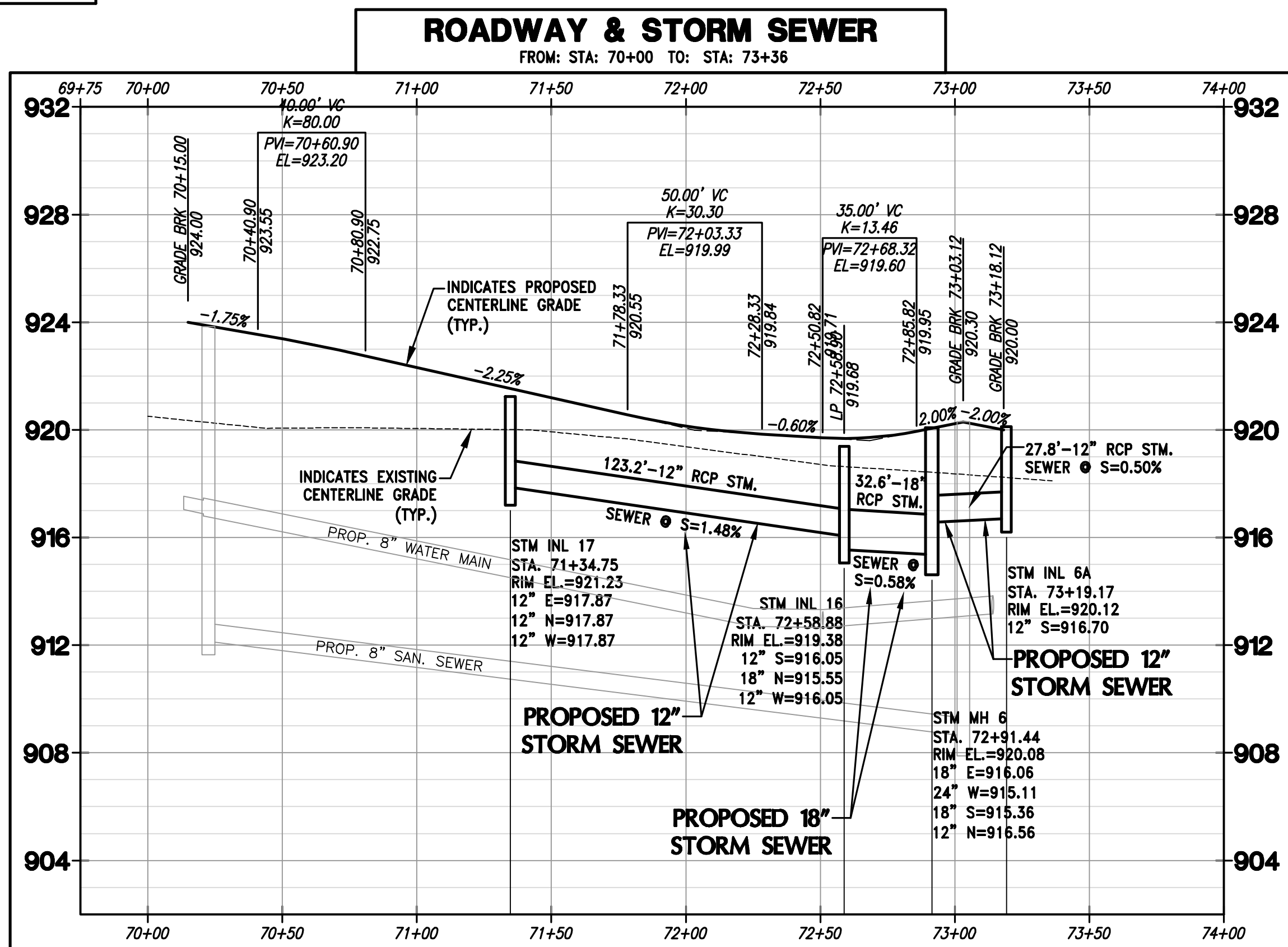
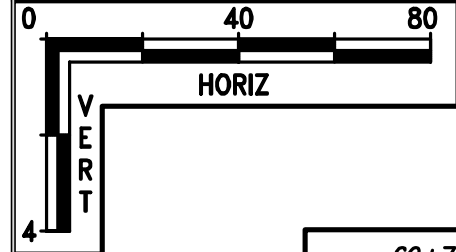


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SCALE: 1" = 40' (22"x34")
SCALE: 1" = 80' (11"x17")



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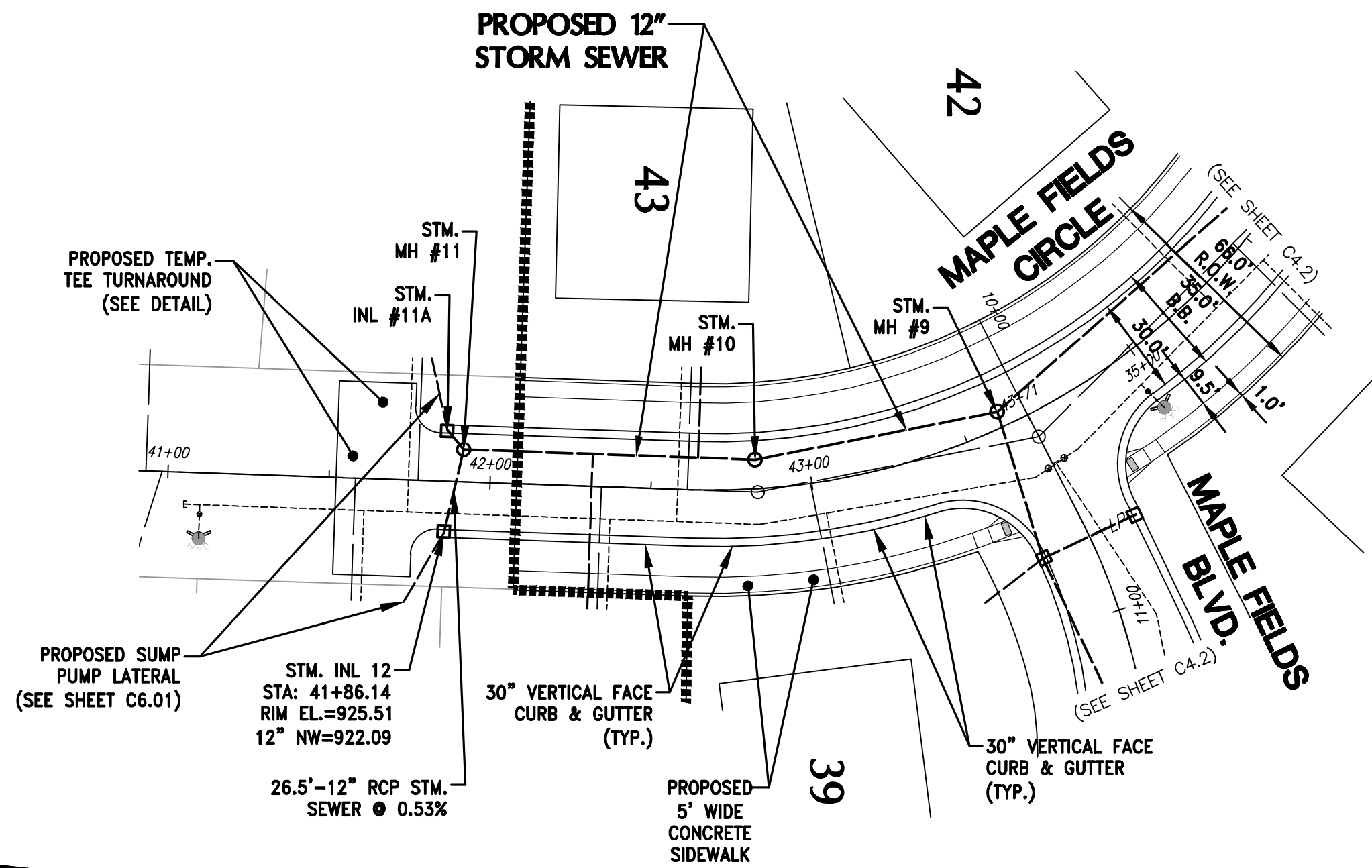
SHEET

C4.3

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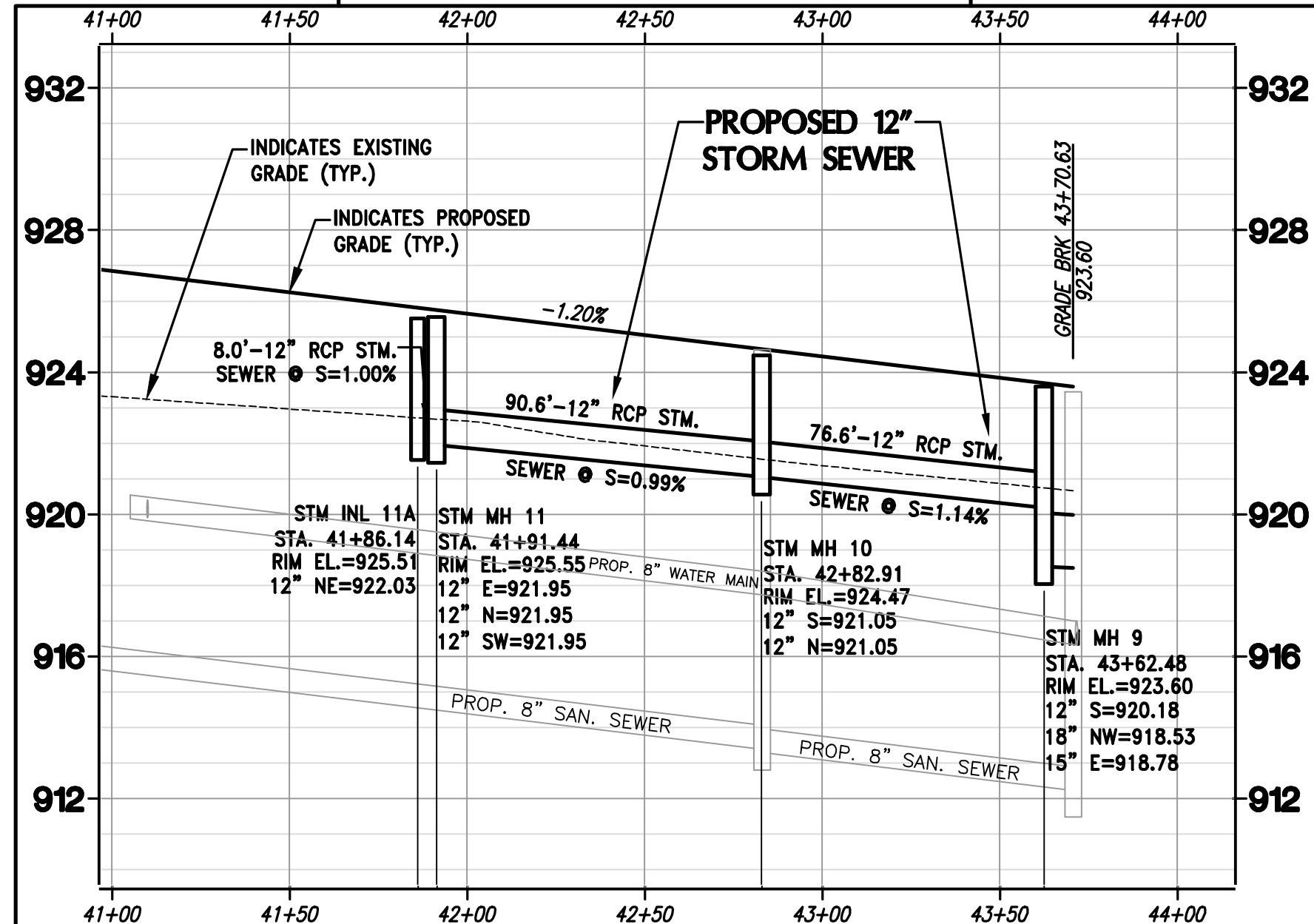
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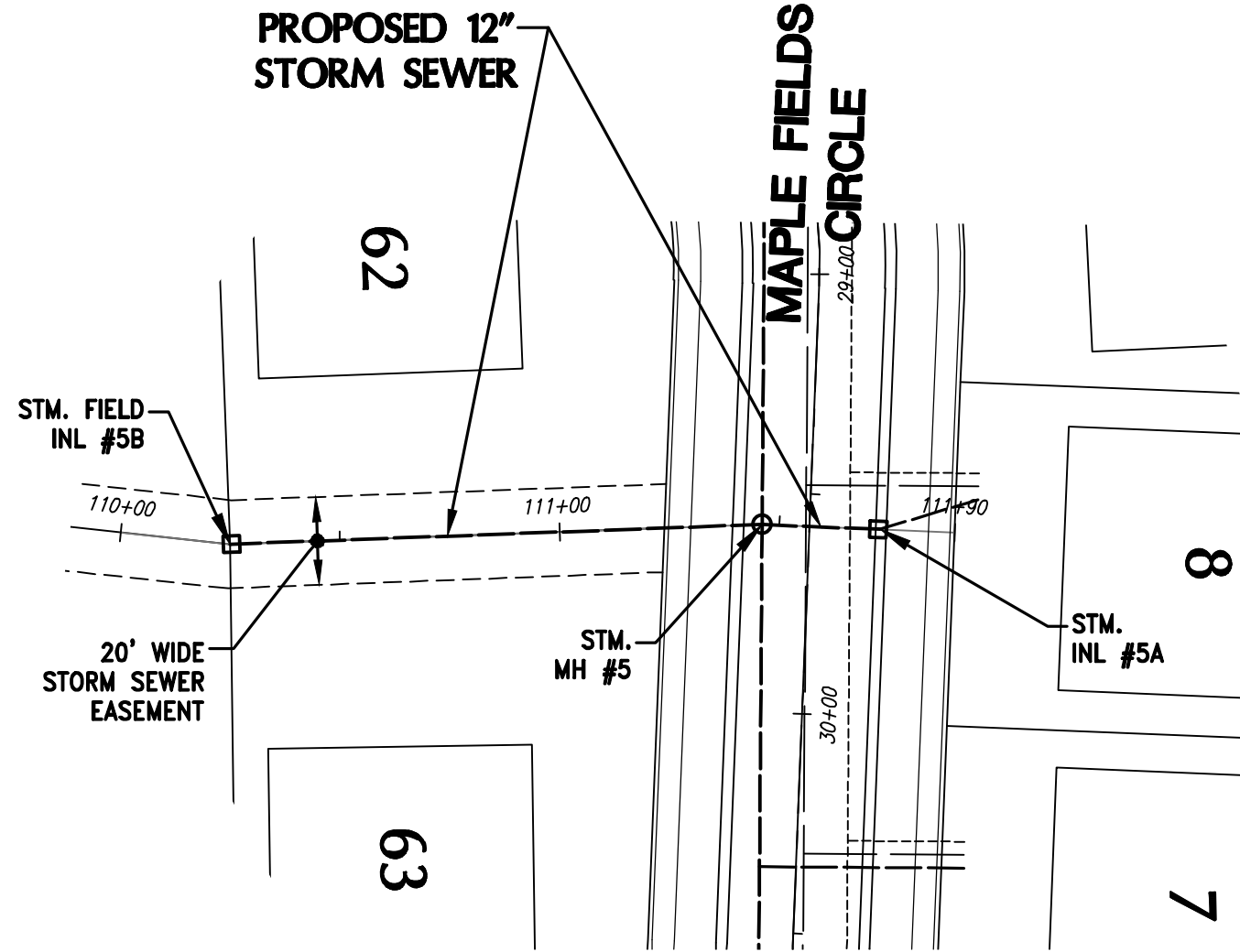
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SCALE: 1" = 80' (11"x17")

ROADWAY & STORM SEWER

FROM: STA: 41+00 TO: STA: 43+71



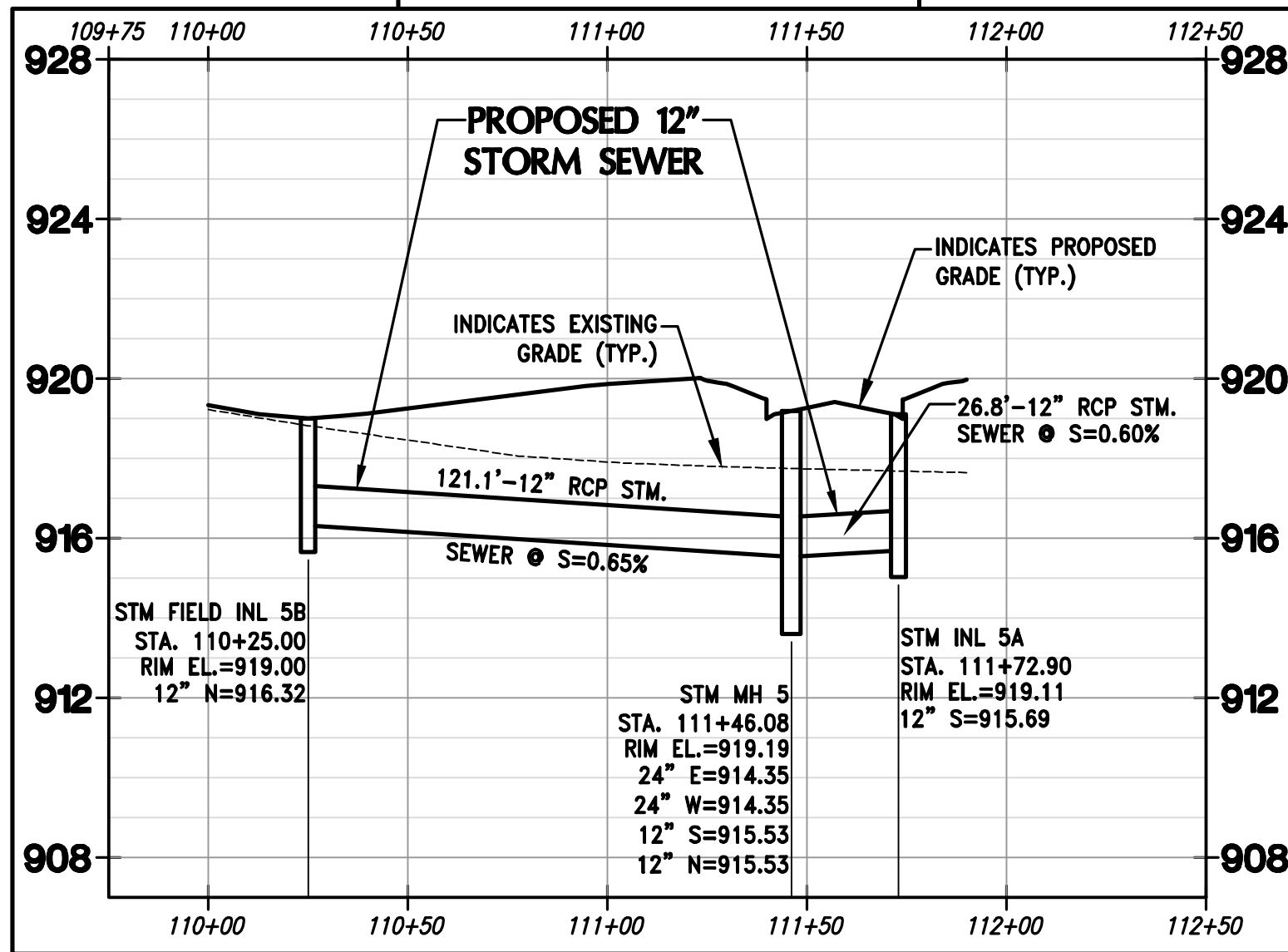
PROPOSED 12" STORM SEWER



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

STORM SEWER

FROM: STA: 110+00 TO: STA: 111+90



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SINGLE FAMILY RESIDENTIAL SUBDIVISION

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N27W24025 PAUL COURT, SUITE 100
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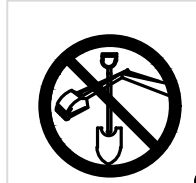
16016

DESCRIPTION:

ROADWAY &
STORM SEWER
PLAN & PROFILE

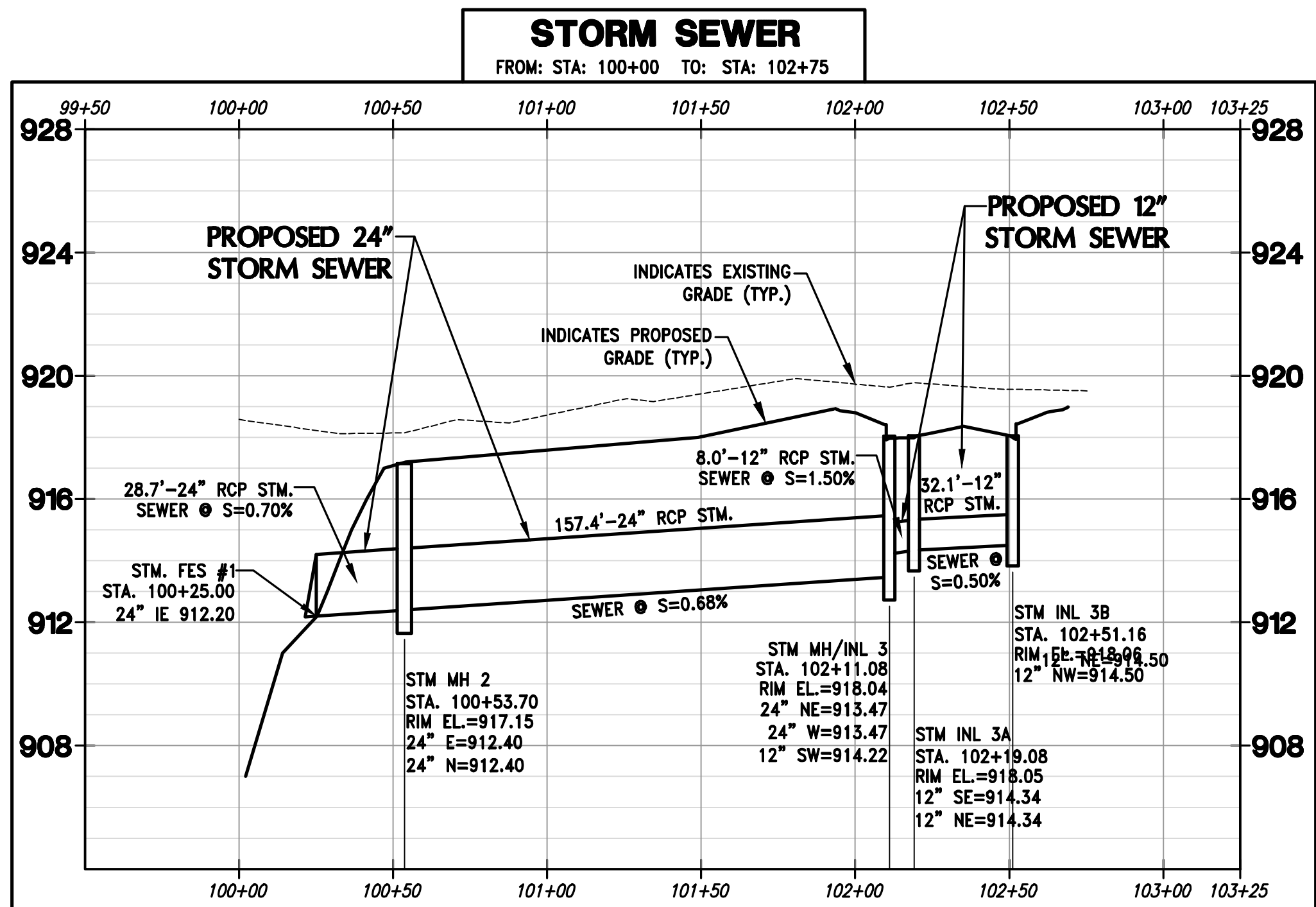
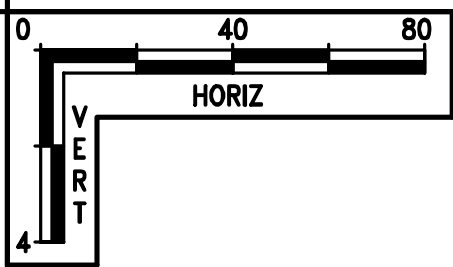
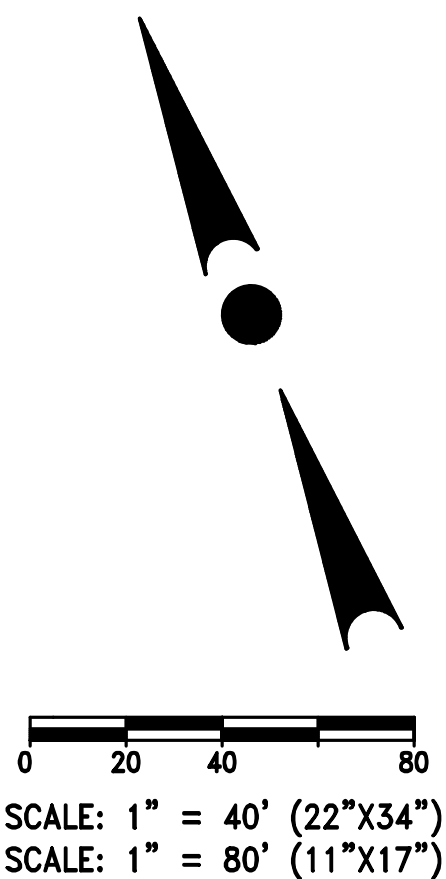
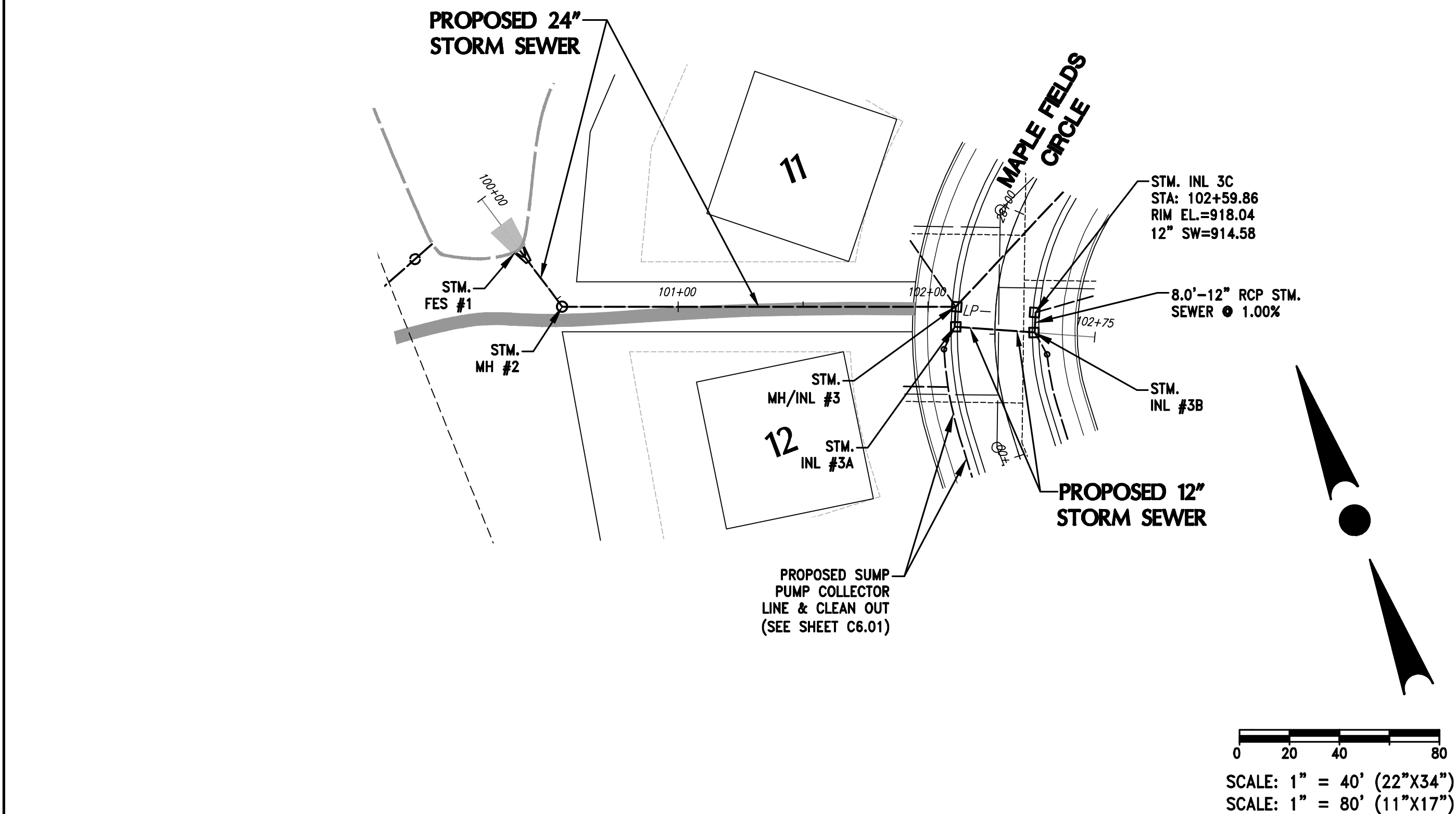
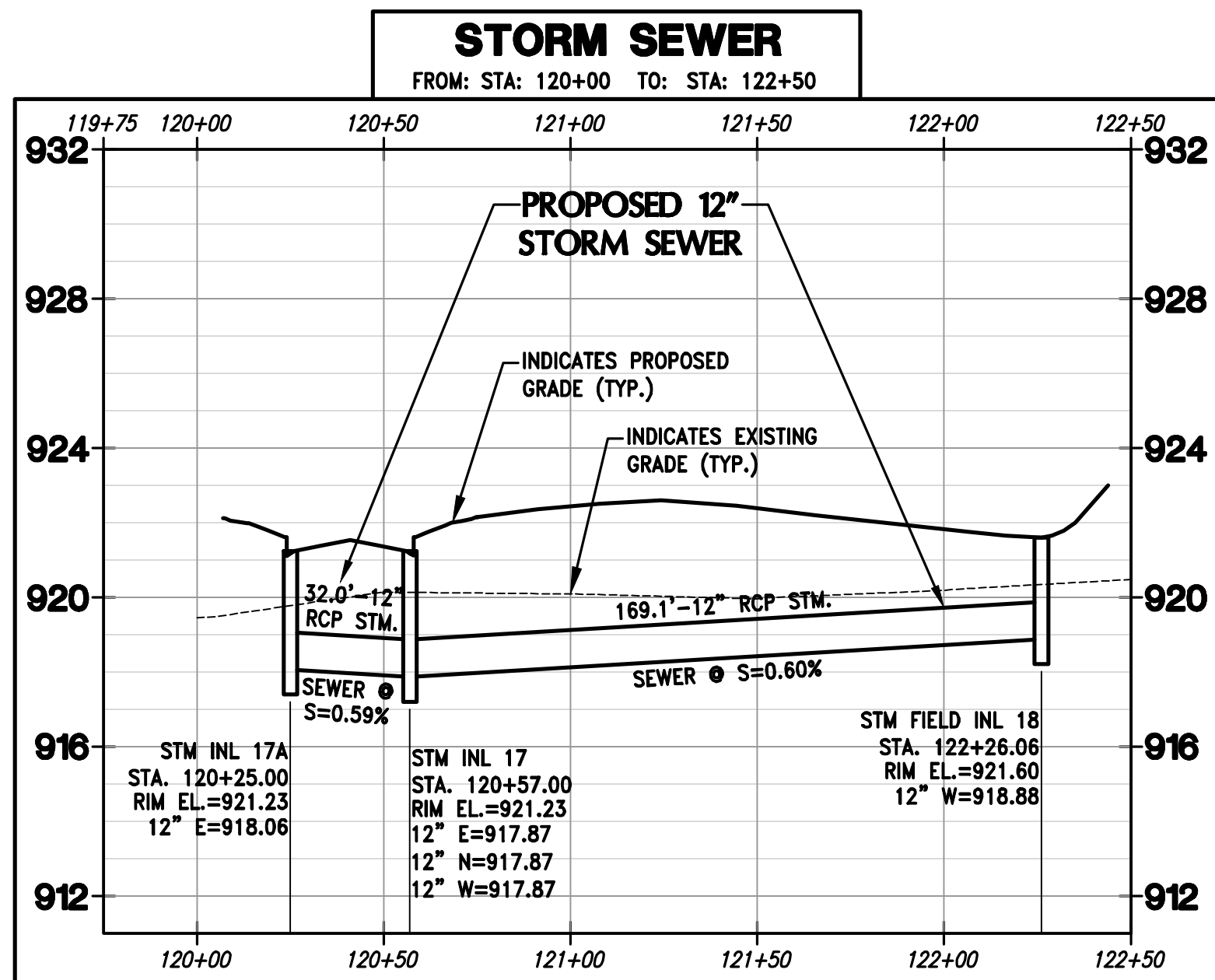
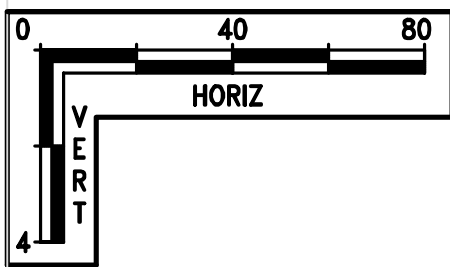
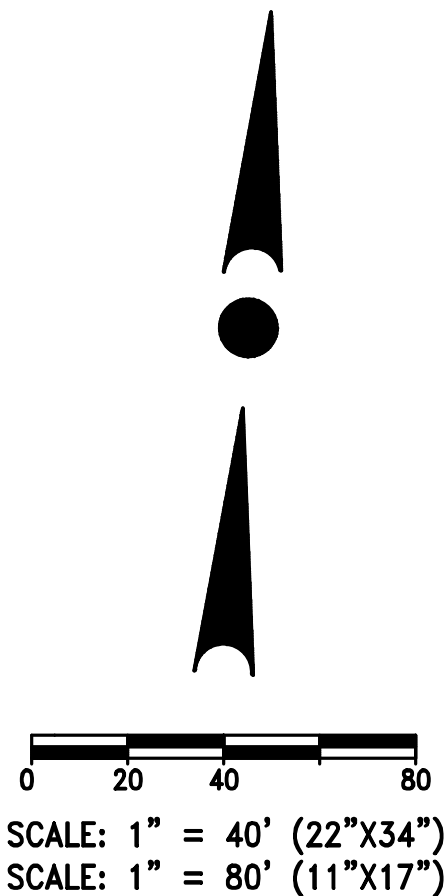
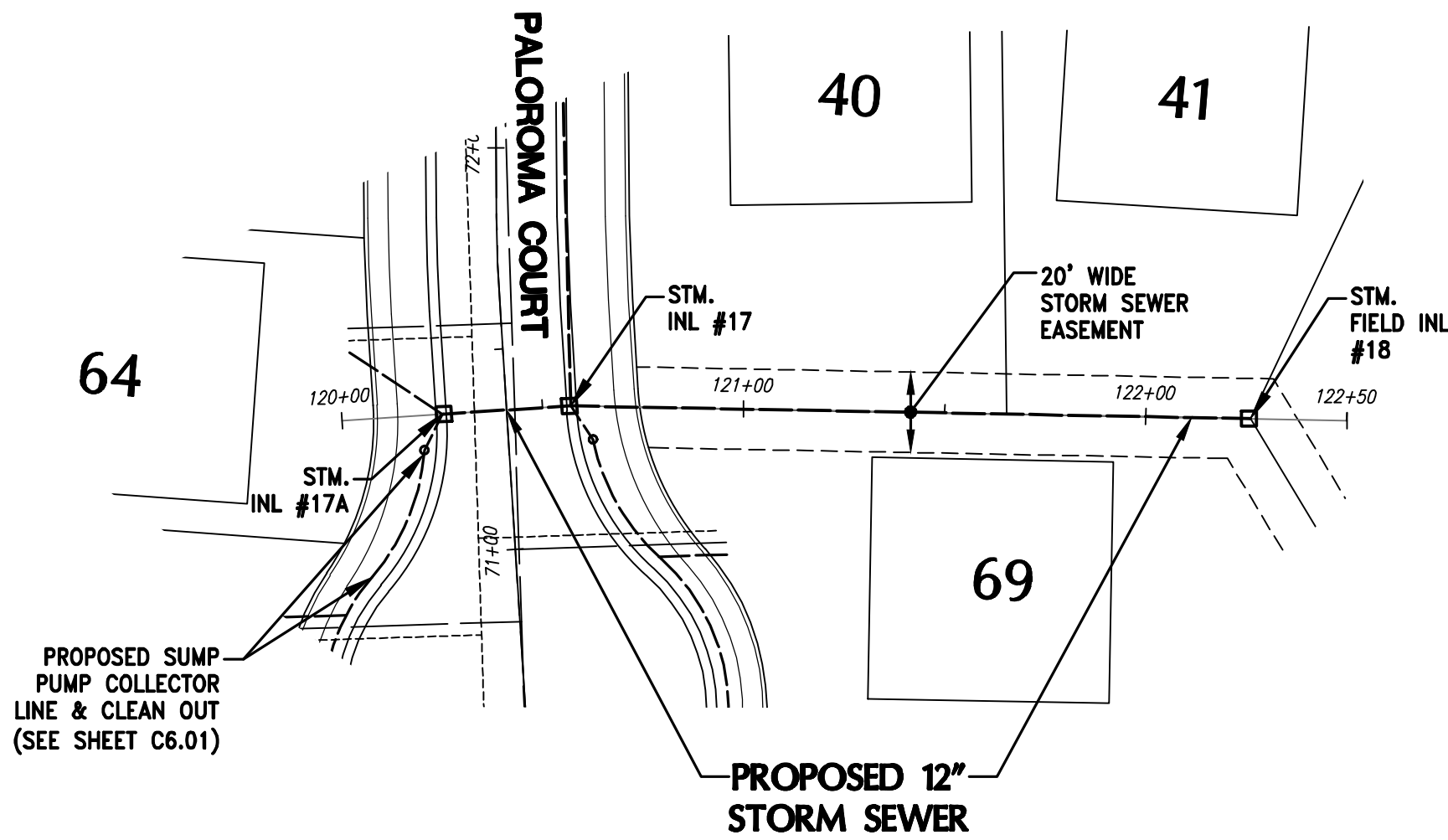
SHEET

C4.4

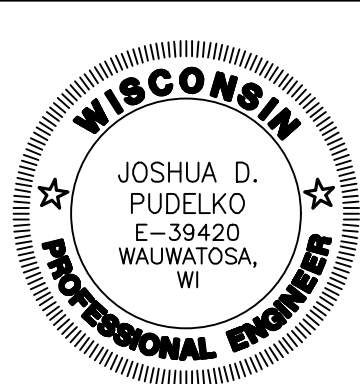


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H:\C900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1_MAPLE_FIELDS_RD&STM.DWG



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FEBRUARY 16, 2022

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16016

DESCRIPTION:
STORM SEWER
PLAN & PROFILE

SHEET

C4.5

H:\C900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH1_MAPLE_FIELDS_INTERSECTION_PLANS.DWG



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PROPOSED 30" VERTICAL FACE CURB & GUTTER (TYP.)

PROPOSED 5' WIDE CONCRETE SIDEWALK

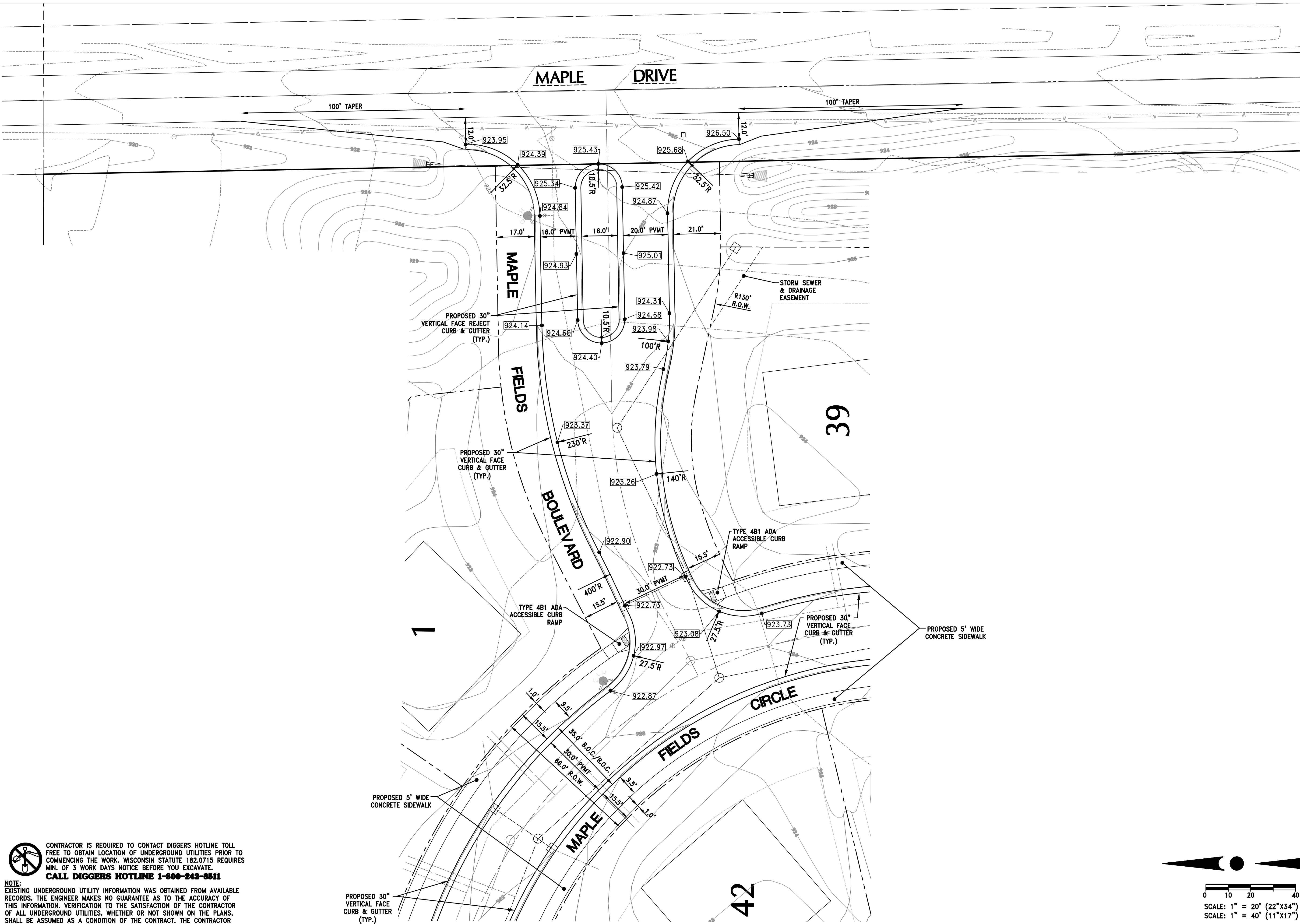
TYPE 481 ADA ACCESSIBLE CURB RAMP

PROPOSED 30" VERTICAL FACE CURB & GUTTER (TYP.)

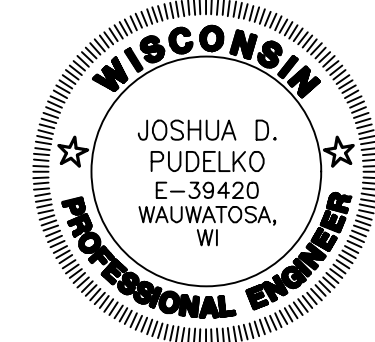
PROPOSED 5' WIDE CONCRETE SIDEWALK

TYPE 481 ADA ACCESSIBLE CURB RAMP

STORM SEWER & DRAINAGE EASEMENT



0 10 20 40
SCALE: 1" = 20' (22"x34")
SCALE: 1" = 40' (11"x17")



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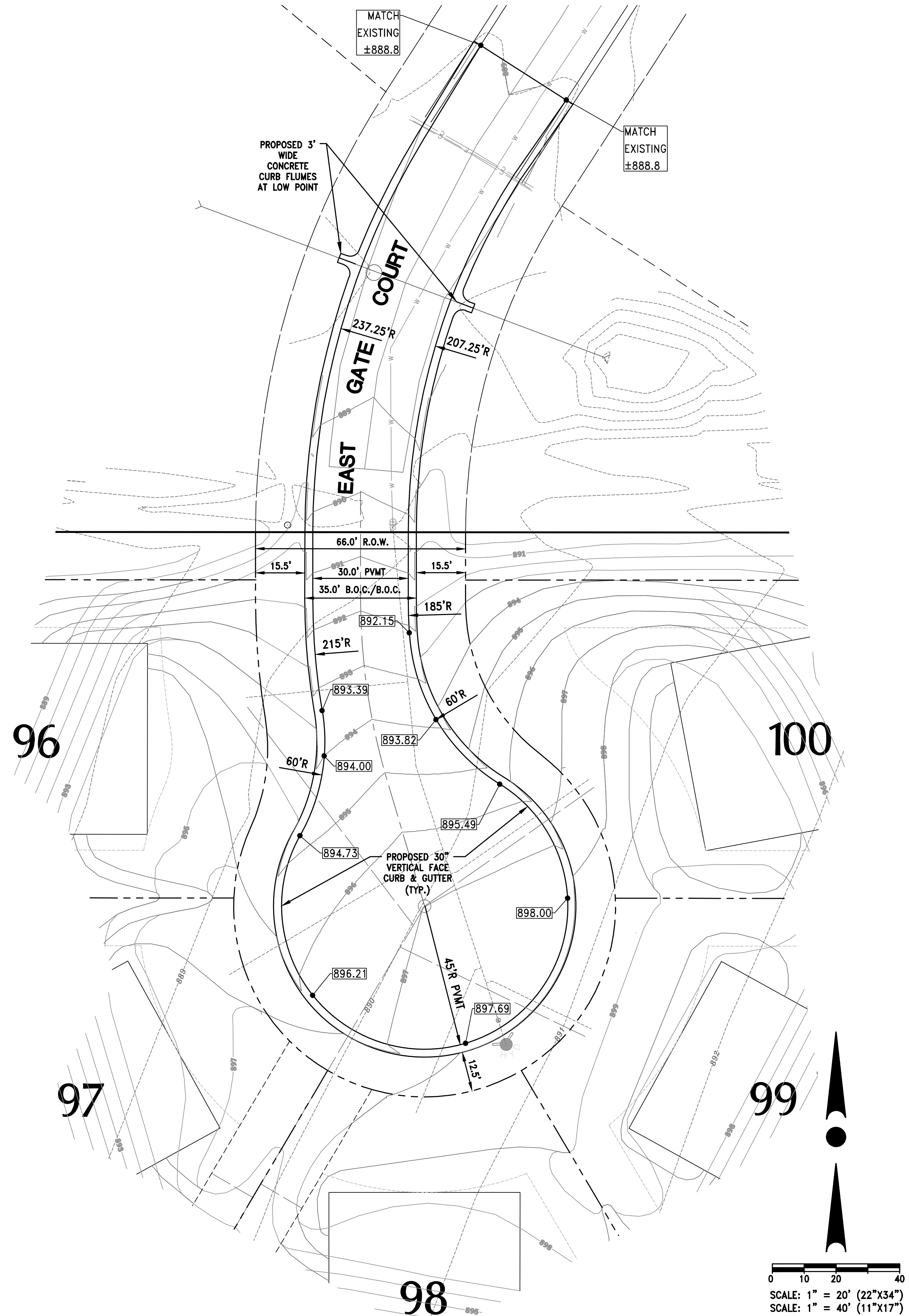
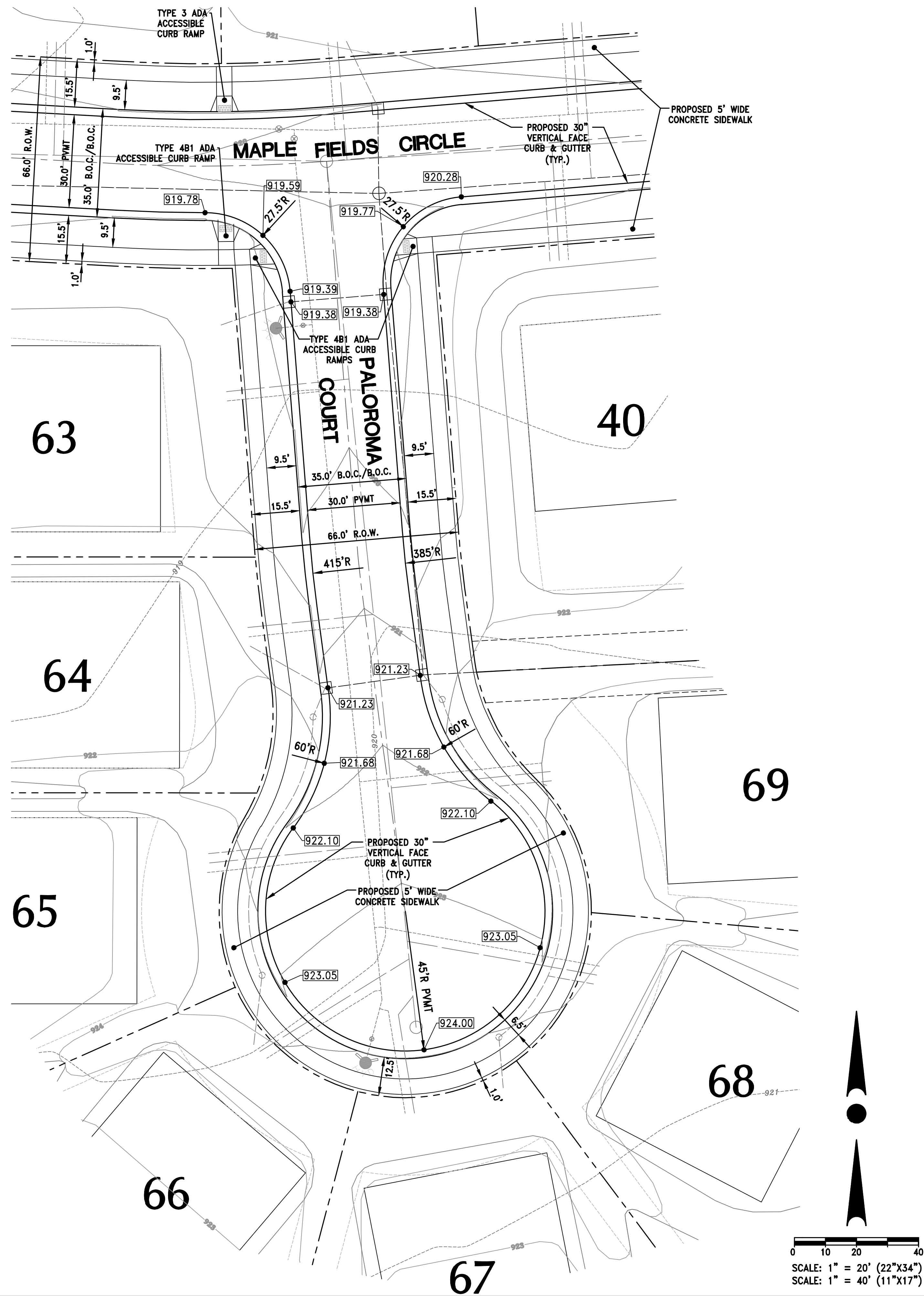
DATE:
FEBRUARY 16, 2022

JOB NUMBER:
16016

DESCRIPTION:
**INTERSECTION
DETAILS PLAN**

SHEET

C5.0

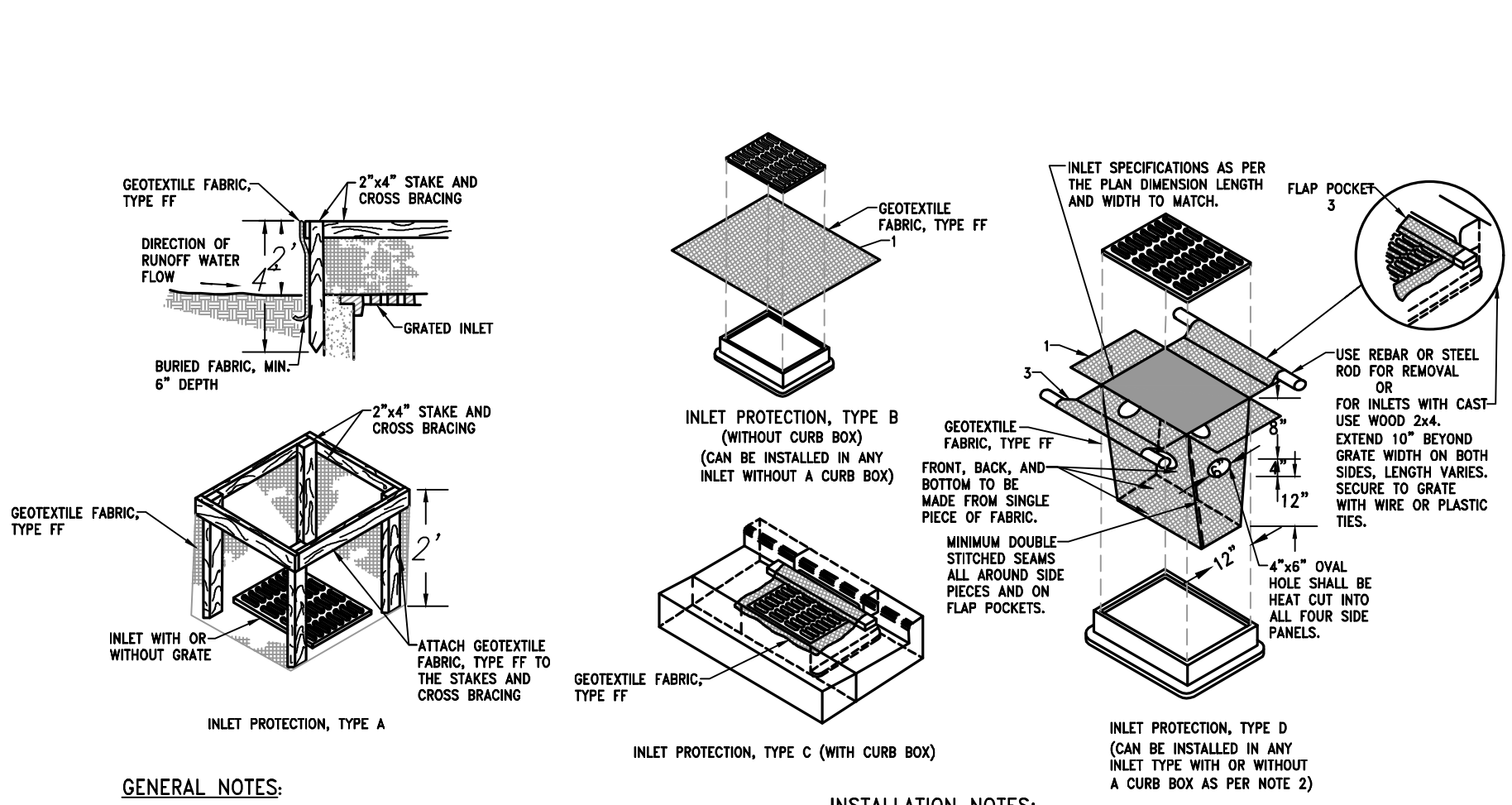




**BY: NEUMANN DEVELOPMENTS, INC.
N27W24025 PAUL COURT, SUITE 100
PEWAUKEE, WI 53072**

C6.0

H:\C900\998\16016-01\CONSTRUCTION PLANS\PHASE 1\CIVIL PH\MAPLE_FIELDS_COVER & DETAILS.DWG



GENERAL NOTES:

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES:

TYPE B & C

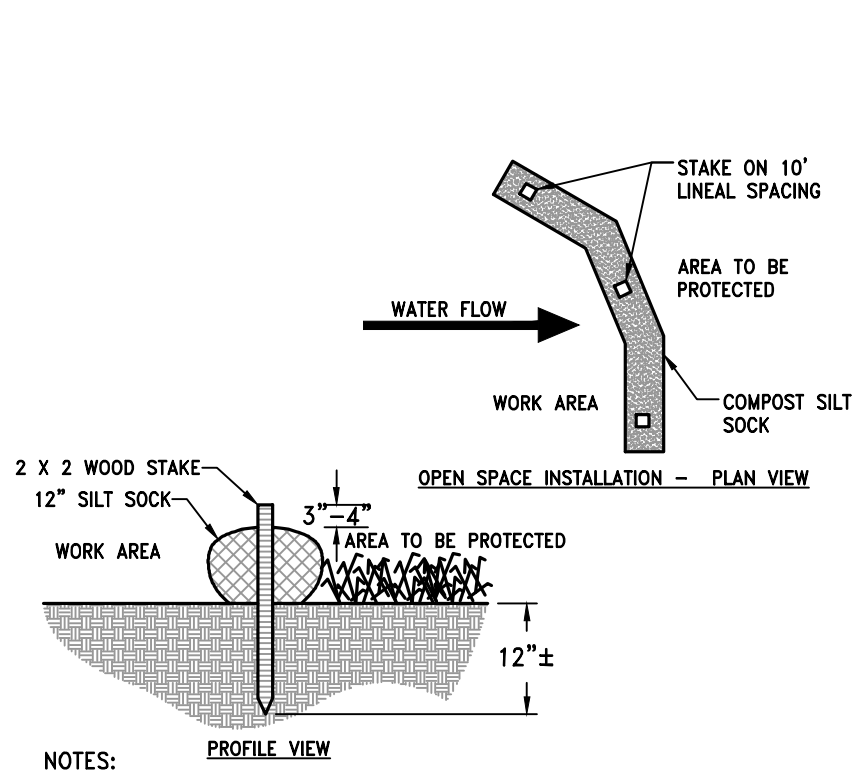
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP. HAND HOLDS OT OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



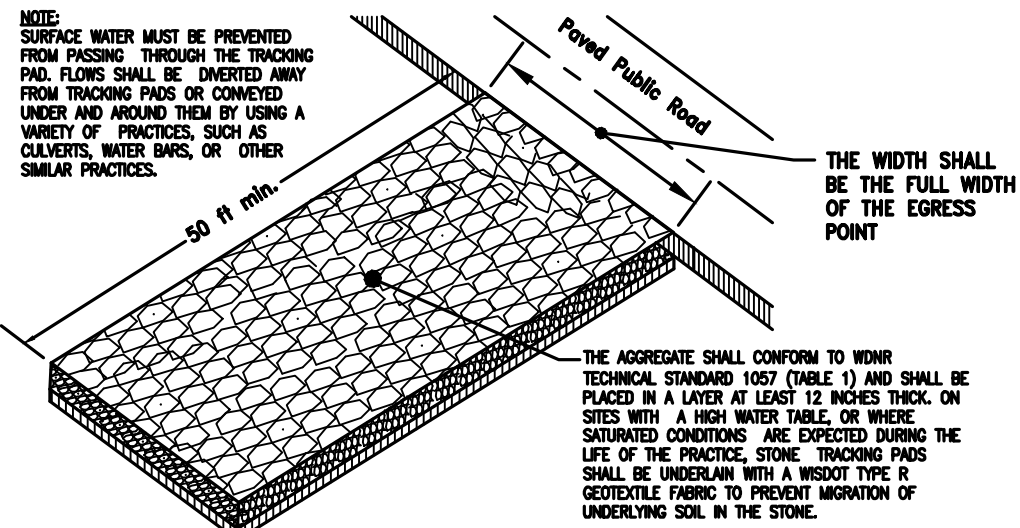
NOTES:

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
2. REFER TO MANUFACTURER'S AND/OR SUPPLIERS' SPECIFICATIONS FOR INSTALLATION RECOMMENDATIONS.
3. ACTUAL LOCATION MAY BE FIELD ADJUSTED TO MINIMIZE DISTURBANCE TO EXISTING VEGETATION.
4. INSTALL EVERY 200' OR 2' GRADE DROP IN SWALES, OR CLOSER FOR WATTLE.

STRAW WATTLE

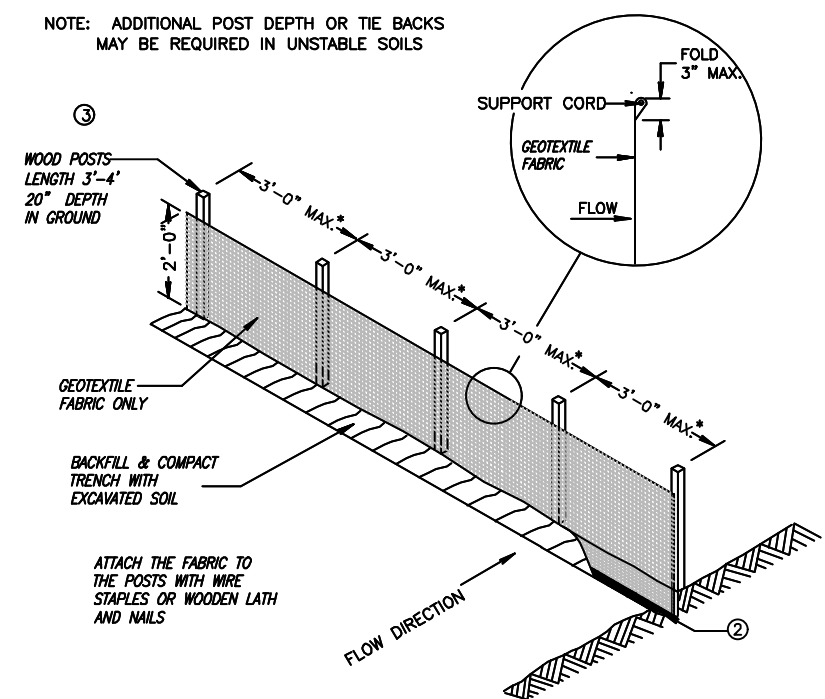
DITCH CHECK INSTALLATION DETAIL

NO SCALE

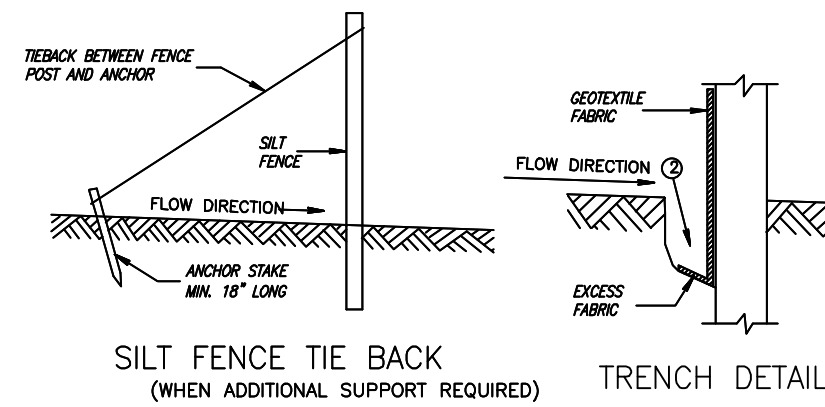


CONSTRUCTION ENTRANCE DETAIL

NO SCALE



SILT FENCE



SILT FENCE INSTALLATION DETAIL

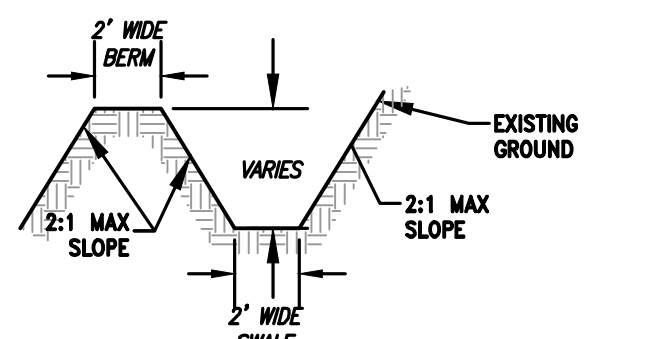
NO SCALE

JOINING TWO LENGTHS OF SILT FENCE

GENERAL NOTES

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/2" X 1 1/2" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. 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: A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES; B) HOOK THE END OF EACH SILT FENCE LENGTH.

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.



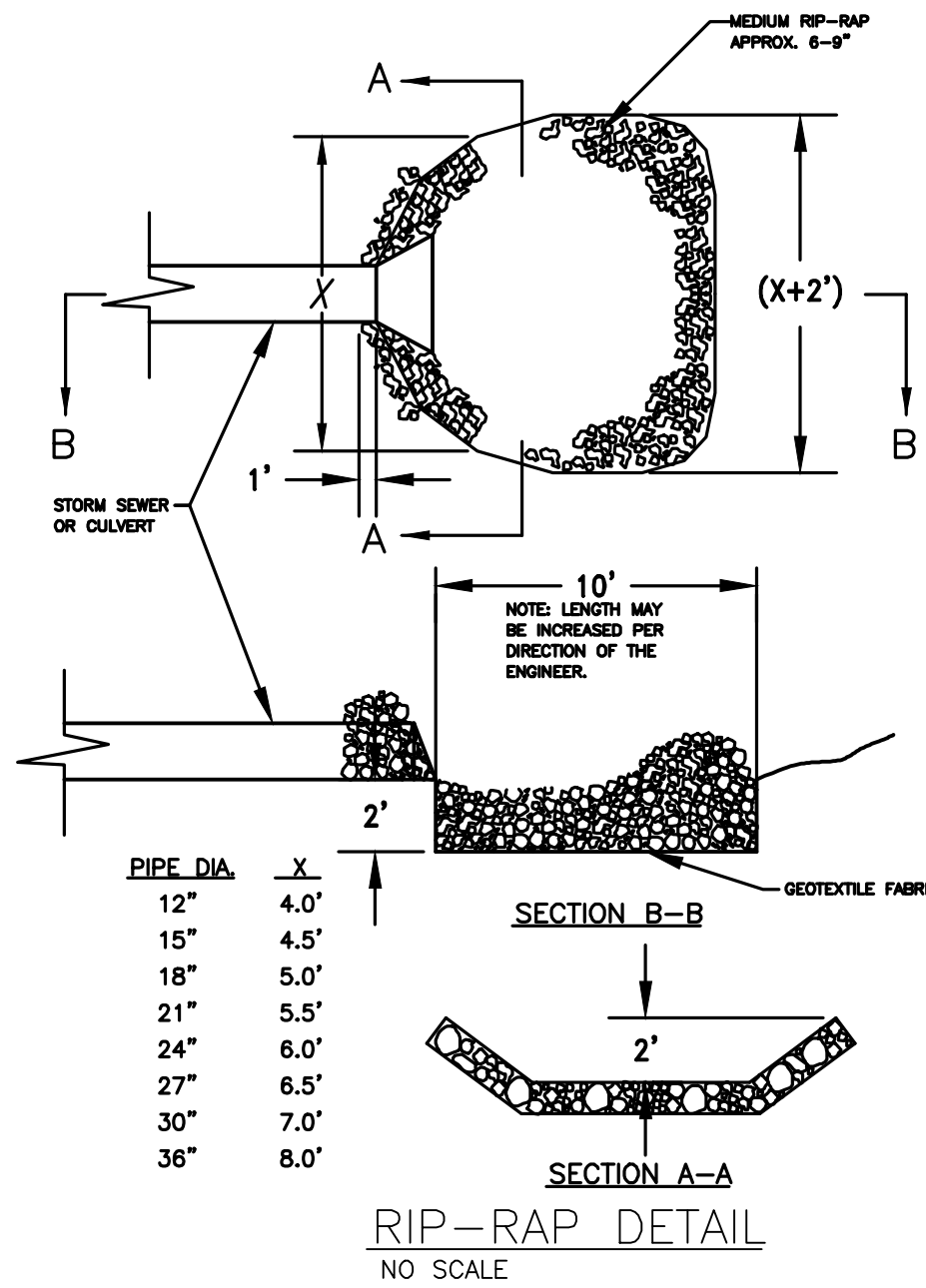
NOTES:

1. TEMPORARY SEED/STABILIZE BERMS AND DITCHES IMMEDIATELY AS ANY SECTION IS COMPLETED PER WDOT STD. SPEC.
2. REFER TO WISCONSIN DNR TECHNICAL STANDARD 1066 FOR ADDITIONAL INFORMATION.
3. INSTALL DITCH CHECKS PER ASSOCIATED DETAILS.

DIVERSION BERM/SWALE

DETAIL

NO SCALE



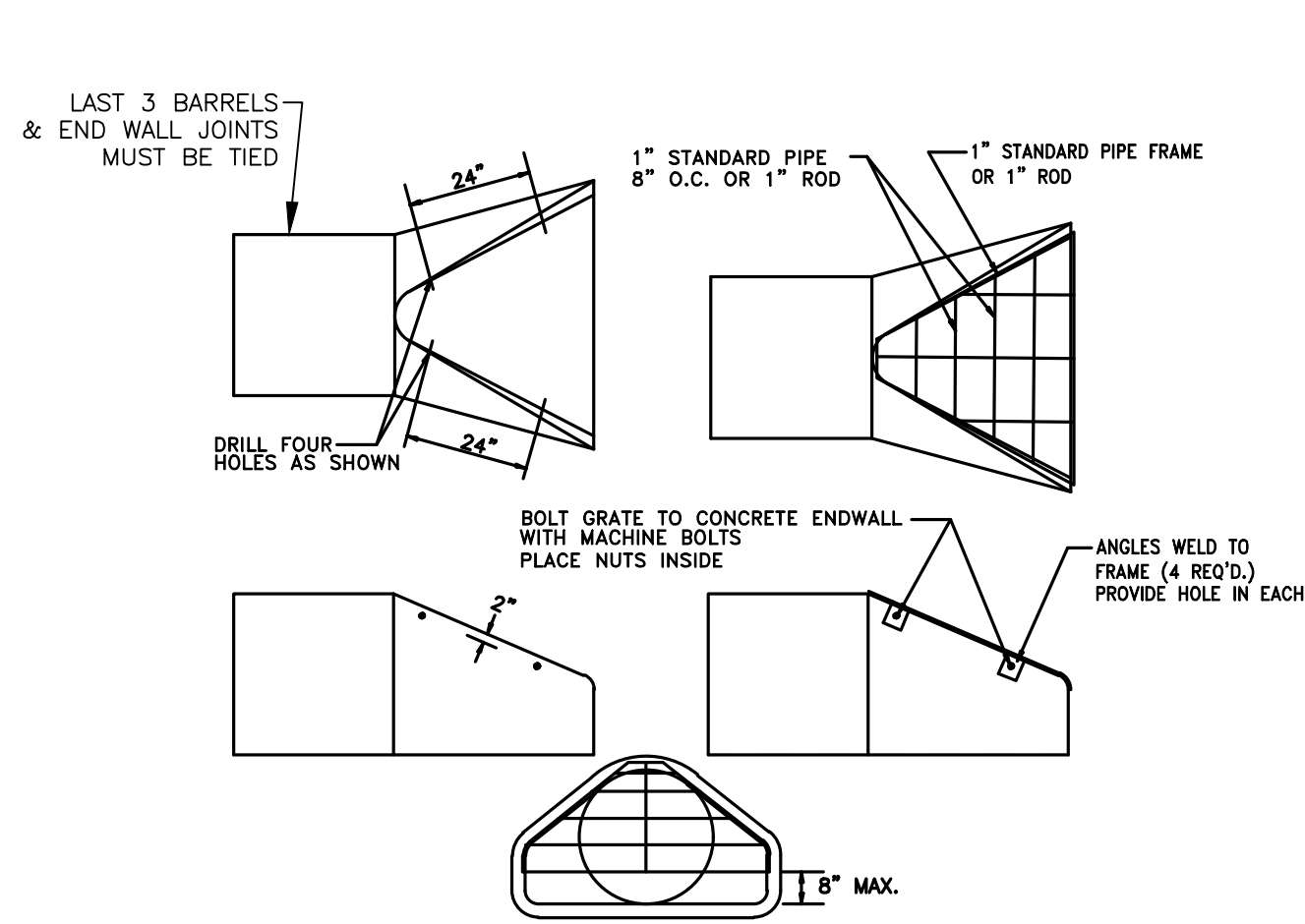
PIPE DIA.	X
12"	4.0'
15"	4.5'
18"	5.0'
21"	5.5'
24"	6.0'
27"	6.5'
30"	7.0'
36"	8.0'

SECTION B-B

SECTION A-A

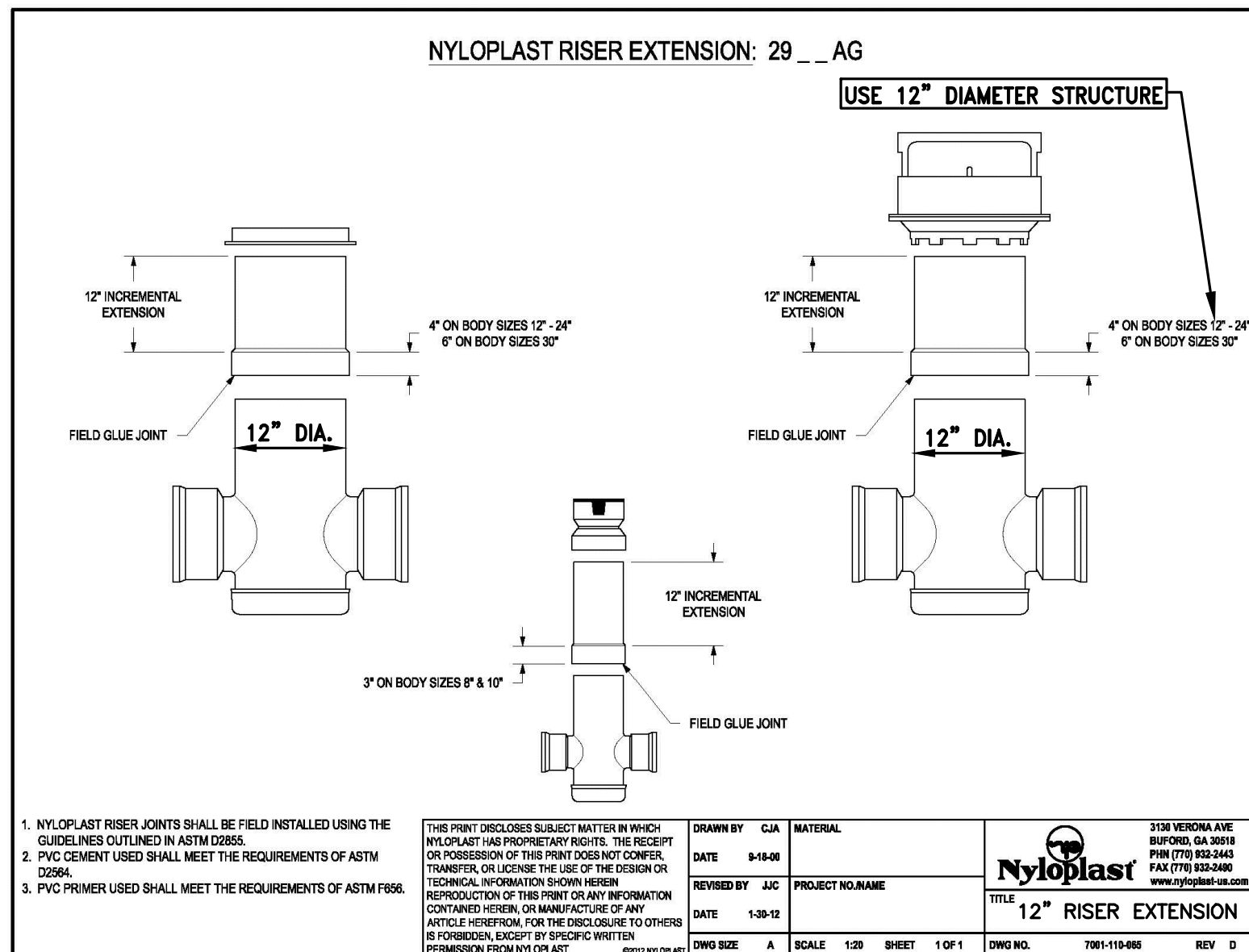
RIP-RAP DETAIL

NO SCALE



PIPE GRATE DETAIL

NO SCALE



12" DIA. SUMP PUMP COLLECTOR CLEAN OUT DETAIL

NO SCALE

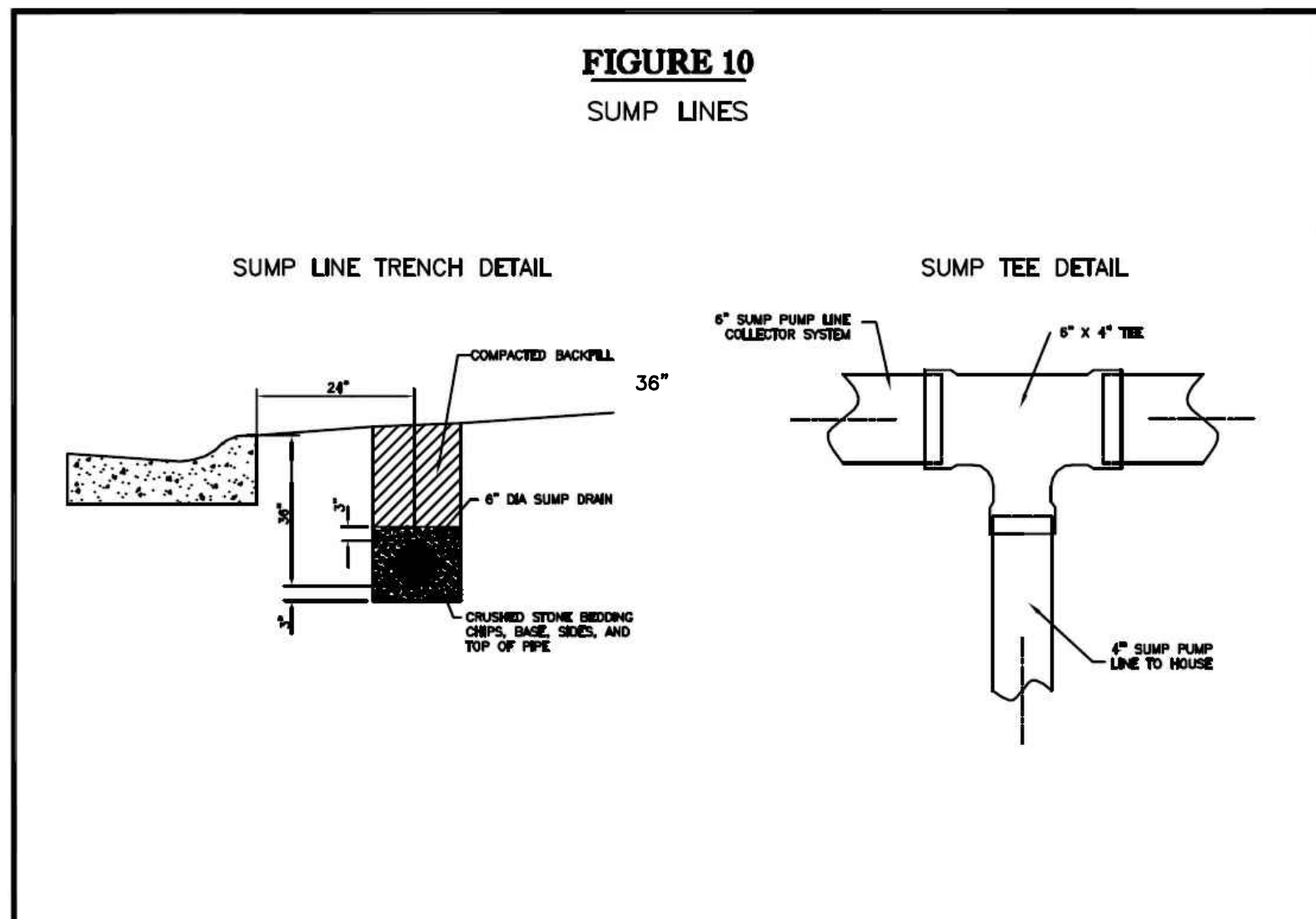


FIGURE 10

SUMP LINES

SUMP LINE TRENCH DETAIL

SUMP TEE DETAIL



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DESCRIPTION:

DETAILS AND
SPECIFICATIONS

SHEET

C6.1



Taking the lead in Washington County.

April 14, 2022

Mr. Josh D. Pudelko, P.E.
Trio Engineering LLC.
4100 N. Calhoun Road Suite 300
Brookfield, WI 53005

RE: Utility Plan Review of Maple Fields Subdivision Phase 1

Dear Mr. Pudelko:

The Village of Jackson has reviewed the proposed Sanitary Sewer & Water Main Installation for Maple Subdivision located in the Northeast Quarter Section 29, Town 10 North, Range 20 East, in the Village of Jackson. The plan set being reviewed is dated February 16, 2022 "Phase 1 Submittal". In order to receive final approval and permission to start the utility installation the following items need to be corrected and addressed:

General Notes:

- 1) Developer's Agreement along with the letter of credit shall be submitted prior to the commencement of any construction.
- 2) All vertical or horizontal breaks on the water main shall be defined with a degree bend. If the bend or break is greater than 1%, then a mechanical fitting is required.
- 3) All sanitary manholes shall have Neenah Casing R-1550A. See new detail along with this letter.
- 4) No sanitary lateral is allowed to discharge directly into a sanitary manhole. All sanitary shall discharge directly into the sanitary sewer line.
- 5) Submit completed sanitary sewer design sheet or similar. The design sheet is to verify the proper velocities for the sanitary sewer pipes. See attached sheet as an example.
- 6) Storm sewer lateral will be required for each lot and showed on the plan.
- 7) Only one water connection to the existing Jackson Water Utility System will be allowed during construction. The connection is recommended at East Gate Drive with a new valve. East Gate Court would be allowed second connection point.
- 8) Provide sanitary sewer access to serve the property on the east side of Maple Road. We can discuss ideas on how to achieve the request.

WI94NI6660
Eagle Drive
Jackson, WI 53037
Phone: 262-677-0707
Fax: 262-677-8770

Mailing Address:
P.O. Box 637

www.villageofjackson.com

- 9) The water service shall be 1 ¼ - inch poly water service equal to a 1-inch copper service.
- 10) Submit storm sewer management report.
- 11) The existing hydrants that are being removed for the connection to existing water main shall be inspected and verified for reuse in the project.
- 12) Each water node (hydrant, valve, etc.) shall have a corresponding station number.
- 13) Submit all construction materials for approval prior to the preconstruction meeting.

Plan Changes:

- 1) Sheet Number C3.0 Change Manhole and valve note to read: "Manhole castings to be set to final grade and gate valves can be set to binder grade."
- 2) Sheet Number C3.0 In Backfill Notes, change Village of Summit to the Village of Jackson.
- 3) Sheet Number C3.0 A culvert for ditch is needed by manhole #1 to access sanitary serving East Gate Court.
- 4) Sheet Number C3.1 At Station 51+45 the existing hydrant has been removed and a cap has been installed. Plan set should state remove cap & install new 8-inch gate valve.
- 5) Sheet Number C3.1 Move hydrant located between lots 93 & 94 to new location between lots 94 & 95. Create a station number.
- 6) Sheet Number C3.1 Hydrant assembly & 8-inch valve located between lots 89 & 90 are not needed and can be removed from the plan.
- 7) Sheet Number C3.2 Move hydrant between lots 85 & 86 to new location between lots 84 & 85. Create a station number.
- 8) Sheet Number C3.2 The 8-inch gate valve @ Sta 64+10 is not needed and can be removed from the plan.
- 9) Sheet Number C3.2 Move hydrant located at Sta 68+40 to Sta 66+70.

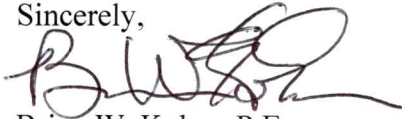
- 10) Sheet Number C3.3 Sanitary Sewer Manhole #7 – Remove 8-inch capped stub pipe. Core manhole at future date to proceed with Phase 2.
- 11) Sheet Number C3.3 Sta 20+00.00 the 8-inch capped watermain stub shall be 20 ft or more in length.
- 12) Sheet Number C3.3 Sta 20+05 Move 8-inch gate valve to north side of 8" x 8" Tee.
- 13) Sheet Number C3.3 Hydrant located between lots 57 & 58 relocated to between lots 56 & 57. Create a station number.
- 14) Sheet Number C3.3 The 8-inch Valve located at Sta 23+40 is not needed and can be removed from the plans.
- 15) Sheet Number C3.4 The hydrant assembly located at Sta 12+45 is not needed and can be removed from the plans. A temporary 2-inch pipe and valve will be needed for flushing the water main during construction.
- 16) Sheet Number C3.6 A drivable area over the 8-inch sanitary sewer main serving East Gate Court. Please see culvert comment with sheet number C3.0. A 30 ft easement will need to be continued in Outlot or per the Development Agreement the Jackson Sewer Utility is allowed access in outlot.
- 17) Sheet Number C3.6 No sanitary sewer laterals are allowed to discharge directly into a sanitary sewer manhole.
- 18) Sheet Number C3.6 Reusing existing hydrant shall be inspected by the Jackson Water Utility before reinstallation. No hydrant extensions will be allowed to get to proper height.
- 19) Sheet Number C4.3 The storm sewer main shall be installed in the Paloroma Court pavement area and not behind the curb.
- 20) Sheet Number C6.0 The Jackson Sewer Utility requires Ladtech rings to be used for adjustment rings. See attached detail. Also, attached is the new hydrant detail.
- 21) Sheet Number C6.0 The Village standard for "Road Cross Section" is 5-inches of asphalt and 9-inches of base course. See attached details.
- 22) Sheet Number C6.1 Remove 12-inch Dia Sump Pump Collector Clean Out Detail and Figure 10 since the details are not needed.

The list may not contain all the necessary changes for approval of the plans for construction.

All construction and materials shall conform to the Standard Specifications for Sewer and Water Construction in Wisconsin, Sixth Edition, with Addendum No. 1, and will be inspected by Village of Jackson.

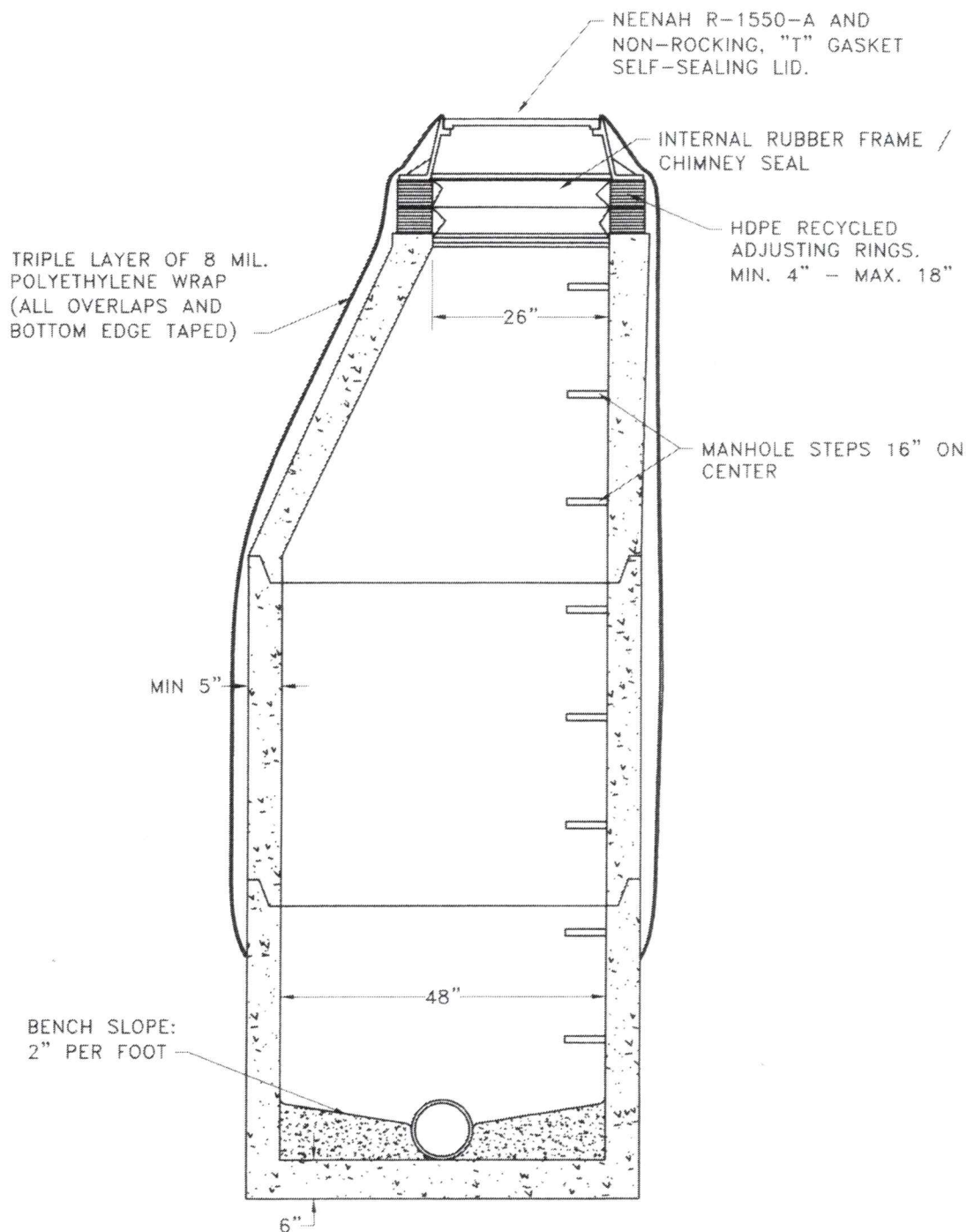
If you have any questions, please do not hesitate to call me at 262-677-9001.

Sincerely,

A handwritten signature in dark ink, appearing to read "B. W. Kober", written over a horizontal line.

Brian W. Kober, P.E.
Director of Public Works/Village Engineer

C: Jen Keller, Village Administrator
Village Board



STANDARD DETAIL B-3
SANITARY SEWER MANHOLE

REVISED: 1-16-07

SCALE: 1/2" = 1'

SANITARY SEWER DESIGN SHEET

SHEET _____ OF _____ SHEETS

PROJECT _____

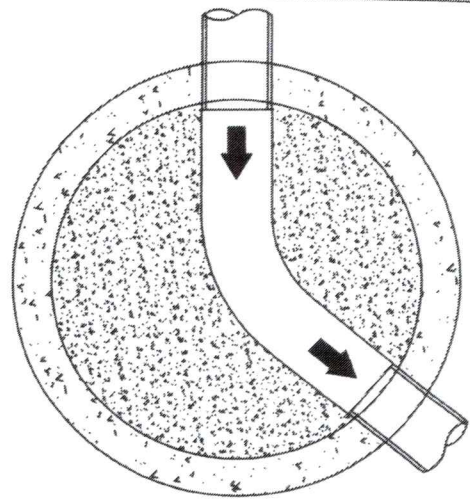
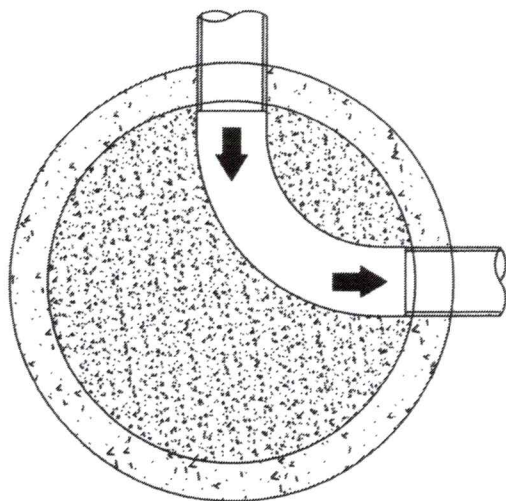
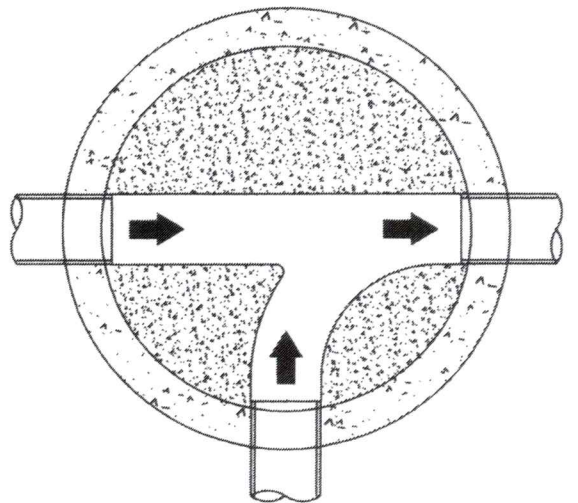
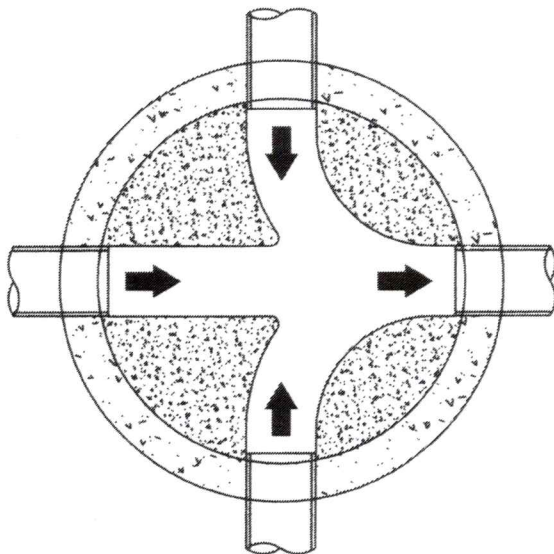
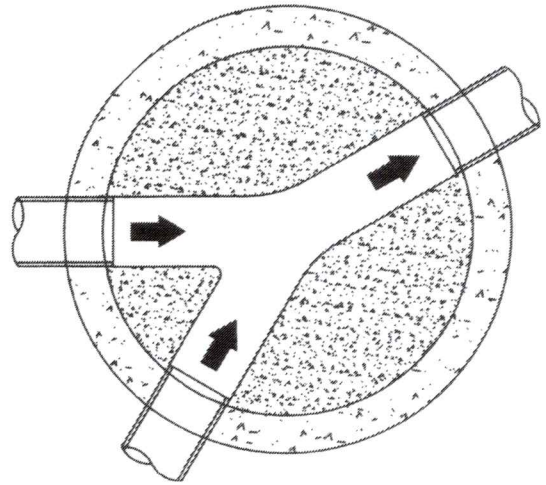
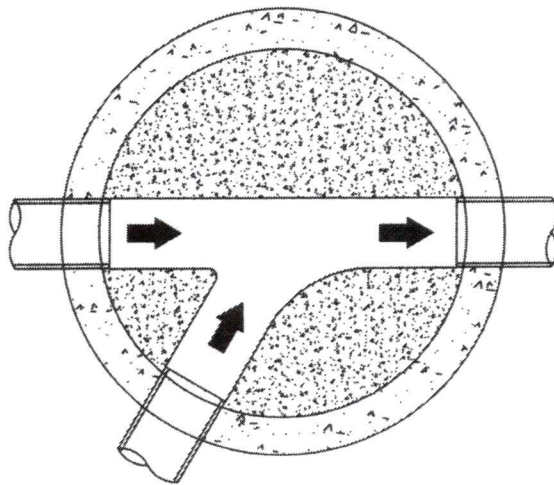
COMPILED BY _____

DATE _____

CHECKED BY _____

DATE _____

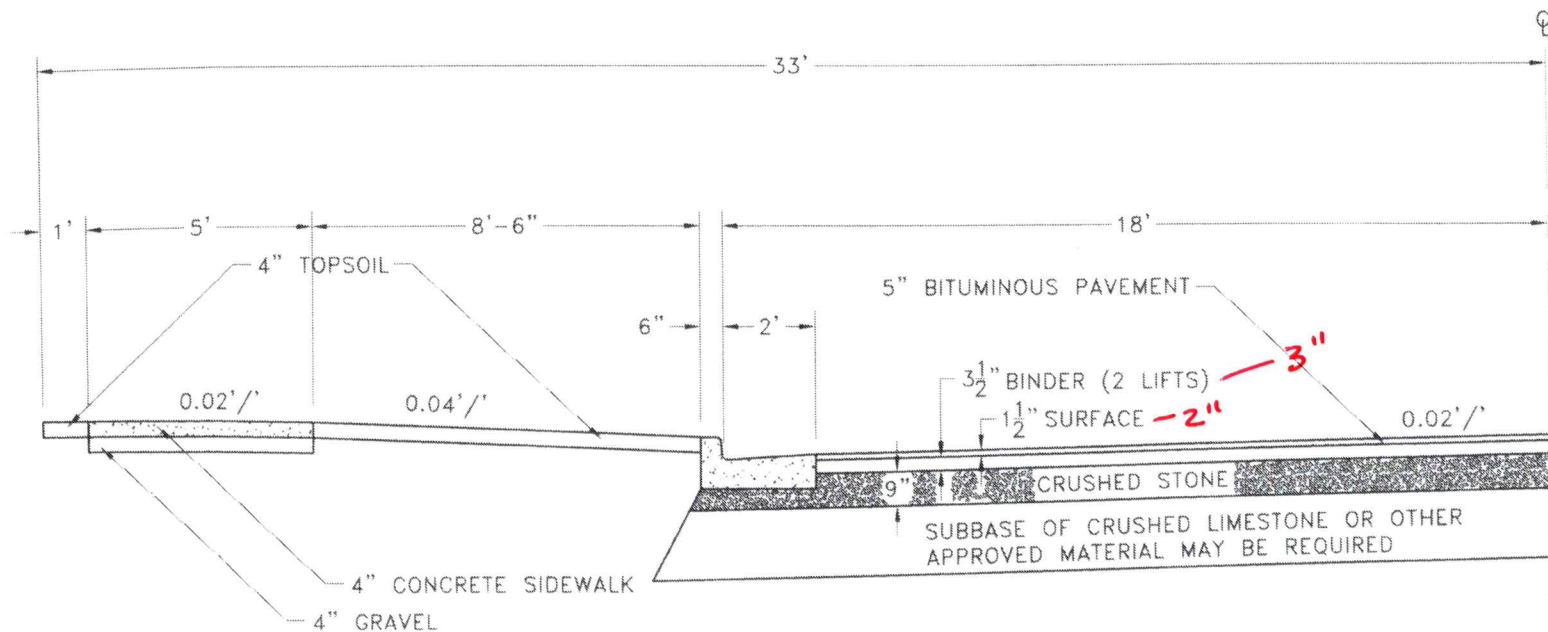
[illegible]



STANDARD DETAIL B-4
TYPICAL BENCH CURVATURE FOR
SANITARY SEWER MANHOLE

REVISED: 1-17-07

SCALE: $\frac{1}{2}'' = 1'$



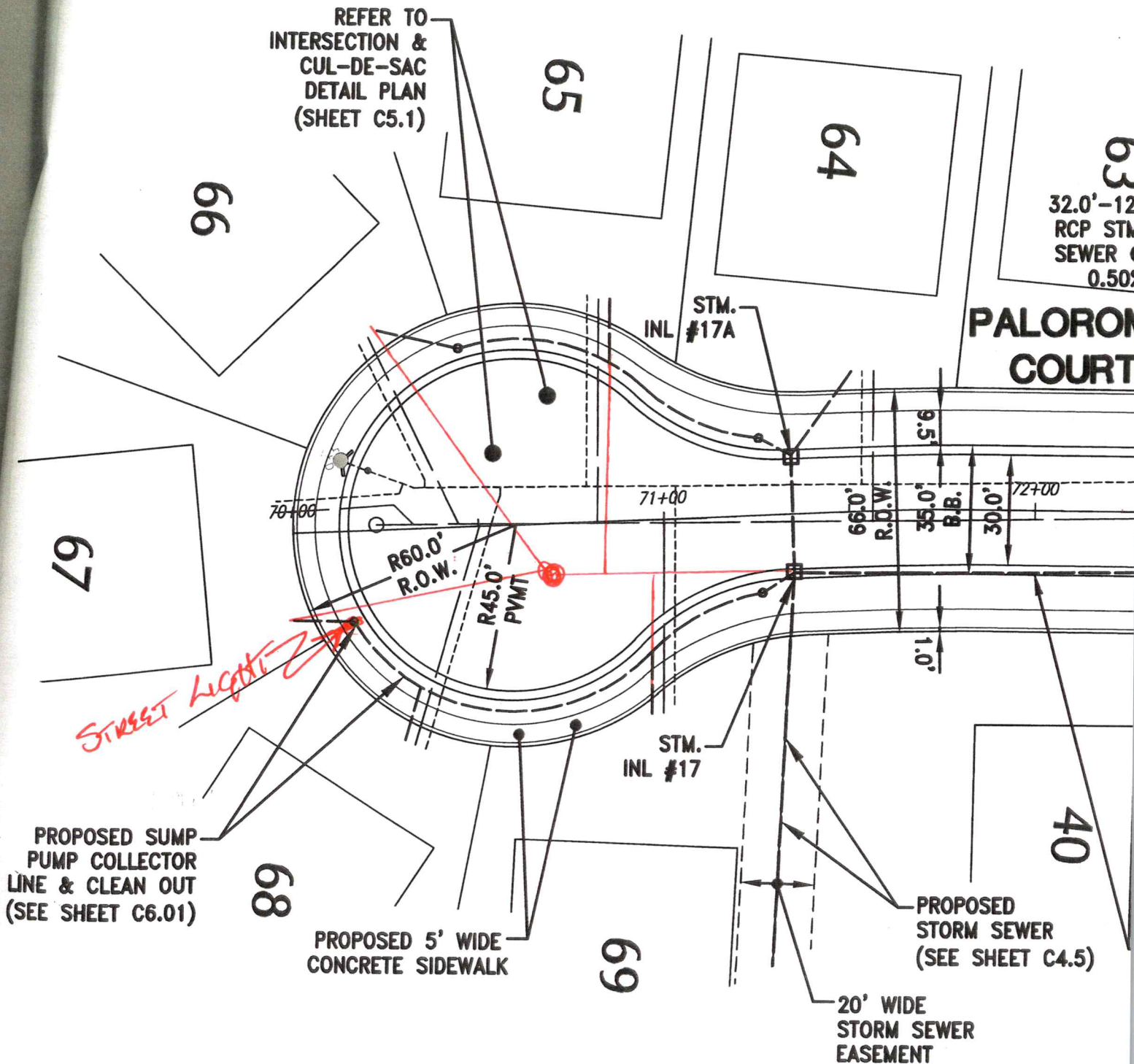
STANDARD DETAIL E-7
TYPICAL RIGHT-OF-WAY CROSS SECTION
MINOR STREET

REVISED: 1-16-07

SCALE: 1" = 40'

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

NOTE:
 EXISTING UNDERGROUND UTILITY INFORMATION MAKES NO GUARANTEE AS TO THE ACCURACY OF THE CONTRACTOR OF ALL UNDERGROUND UTILITIES. BE ASSUMED AS A CONDITION OF THE CONTRACT. DISCREPANCIES BETWEEN LOCATION OF UTILITIES



Public Works Report

April 26, 2022

Treatment Plant - Designed Capacity – 1.67 million gallons per day
 Peak Flow Capacity – 6.0 million gallons per day

Year 2020

January	Avg. Flow 1.280 MGD	Min. Flow 1.055 MGD	Max. 1.720 MGD
February	Avg. Flow 1.221 MGD	Min. Flow 1.000 MGD	Max. 1.630 MGD
March	Avg. Flow 1.581 MGD	Min. Flow 1.010 MGD	Max. 2.290 MGD
April	Avg. Flow 1.283 MGD	Min. Flow 940,000 g.p.d.	Max. 2.210 MGD
May	Avg. Flow 1.607 MGD	Min. Flow 1.010 MGD	Max. 4.090 MGD
June	Avg. Flow 1.178 MGD	Min. Flow 980,000 g.p.d.	Max. 1.510 MGD
July	Avg. Flow 1.269 MGD	Min. Flow 800,000 g.p.d.	Max. 2.370 MGD
August	Avg. Flow 1.042 MGD	Min. Flow 760,000 g.p.d.	Max. 1.510 MGD
September	Avg. Flow 1.148 MGD	Min. Flow 810,000 g.p.d.	Max. 1.850 MGD
October	Avg. Flow 1.172 MGD	Min. Flow 870,000 g.p.d.	Max. 2.210 MGD
November	Avg. Flow 1.122 MGD	Min. Flow 860,000 g.p.d.	Max. 1.770 MGD
December	Avg. Flow 1.164 MGD	Min. Flow 940,000 g.p.d.	Max. 1.480 MGD

Year 2021

January	Avg. Flow 1.075 MGD	Min. Flow 880,000 g.p.d.	Max. 1.460 MGD
February	Avg. Flow 1.015 MGD	Min. Flow 830,000 g.p.d.	Max. 1.590 MGD
March	Avg. Flow 1.525 MGD	Min. Flow 1.160 MGD	Max. 1.970 MGD
April	Avg. Flow 1.264 MGD	Min. Flow 1.020 MGD	Max. 1.950 MGD
May	Avg. Flow 1.108 MGD	Min. Flow 880,000 g.p.d.	Max. 1.450 MGD
June	Avg. Flow 1.091 MGD	Min. Flow 810,000 g.p.d.	Max. 1.670 MGD
July	Avg. Flow 983,226 g.p.d.	Min. Flow 780,000 g.p.d.	Max. 1.410 MGD
August	Avg. Flow 1.281 MGD	Min. Flow 800,000 g.p.d.	Max. 2.530 MGD
September	Avg. Flow 932,333 g.p.d.	Min. Flow 710,000 g.p.d.	Max. 1.170 MGD
October	Avg. Flow 930,000 g.p.d.	Min. Flow 770,000 g.p.d.	Max. 1.140 MGD
November	Avg. Flow 853,667 g.p.d.	Min. Flow 720,000 g.p.d.	Max. 970,000 g.p.d.
December	Avg. Flow 952,581 g.p.d.	Min. Flow 720,000 g.p.d.	Max. 1.330 MGD

Year 2022

January	Avg. Flow 839,968 g.p.d.	Min. Flow 720,000 g.p.d.	Max. 960,000 g.p.d.
February	Avg. Flow 848,571 g.p.d.	Min. Flow 710,000 g.p.d.	Max. 1.080 MGD
March	Avg. Flow 1.499 MGD	Min. Flow 890,000 g.p.d.	Max. 3.910 MGD

Years Summary of Water Consumption

2006 Total Pumpage 207,719,000 gallons	2007 Total Pumpage 217,224,000 gallons
2008 Total Pumpage 229,613,000 gallons	2009 Total Pumpage 231,160,000 gallons
2010 Total Pumpage 239,326,000 gallons	2011 Total Pumpage 240,268,000 gallons
2012 Total Pumpage 253,492,000 gallons	2013 Total Pumpage 228,371,000 gallons
2014 Total Pumpage 230,973,000 gallons	2015 Total Pumpage 222,621,000 gallons
2016 Total Pumpage 254,531,000 gallons	2017 Total Pumpage 251,387,000 gallons
2018 Total Pumpage 241,322,000 gallons	2019 Total Pumpage 253,427,000 gallons
2020 Total Pumpage 259,413,000 gallons	2021 Total Pumpage 242,216,000 gallons

Year 2020

Jan.	Avg.	662,650 g.p.d.	Highest Day 769,000 gals.	Total	20,542,000 gallons
Feb	Avg.	682,280 g.p.d.	Highest Day 886,000 gals.	Total	19,786,000 gallons
March	Avg.	702,030 g.p.d.	Highest Day 837,000 gals.	Total	21,763,000 gallons
April	Avg.	731,070 g.p.d.	Highest Day 1.153 MGD	Total	21,932,000 gallons
May	Avg.	691,030 g.p.d.	Highest Day 915,000 gals.	Total	21,422,000 gallons
June	Avg.	806,030 g.p.d.	Highest Day 1.057 MGD	Total	24,181,000 gallons
July	Avg.	841,970 g.p.d.	Highest Day 1.431 MGD	Total	26,101,000 gallons
August	Avg.	878,710 g.p.d.	Highest Day 1.437 MGD	Total	27,240,000 gallons
Sept	Avg.	696,370 g.p.d.	Highest Day 1.058 MGD	Total	20,891,000 gallons
October	Avg.	677,160 g.p.d.	Highest Day 963,000 gals.	Total	20,992,000 gallons
Nov	Avg.	567,100 g.p.d.	Highest Day 850,000 gals.	Total	17,013,000 gallons
Dec	Avg.	566,130 g.p.d.	Highest Day 815,000 gals.	Total	17,550,000 gallons

Year 2021

Jan.	Avg.	565,650 g.p.d.	Highest Day 789,000 gals.	Total	17,535,000 gallons
Feb	Avg.	517,650 g.p.d.	Highest Day 913,000 gals.	Total	16,047,000 gallons
March	Avg.	583,770 g.p.d.	Highest Day 1.303 MGD	Total	18,097,000 gallons
April	Avg.	642,770 g.p.d.	Highest Day 1.190 MGD	Total	19,283,000 gallons
May	Avg.	659,610 g.p.d.	Highest Day 1.103 MGD	Total	20,448,000 gallons
June	Avg.	825,730 g.p.d.	Highest Day 1.311 MGD	Total	24,772,000 gallons
July	Avg.	750,190 g.p.d.	Highest Day 1.529 MGD	Total	23,256,000 gallons
August	Avg.	768,940 g.p.d.	Highest Day 1.920 MGD	Total	23,837,000 gallons
Sept	Avg.	633,060 g.p.d.	Highest Day 1.775 MGD	Total	19,625,000 gallons
Oct	Avg.	753,030 g.p.d.	Highest Day 1.992 MGD	Total	23,344,000 gallons
Nov	Avg.	619,870 g.p.d.	Highest Day 1.059 MGD	Total	18,596,000 gallons
Dec	Avg.	560,520 g.p.d.	Highest Day 1.167 MGD	Total	17,376,000 gallons

Year 2022

Jan.	Avg.	553,580 g.p.d.	Highest Day 707,000 gals.	Total	17,161,000 gallons
Feb.	Avg.	575,360 g.p.d.	Highest Day 683,000 gals.	Total	16,110,000 gallons
March	Avg.	578,290 g.p.d.	Highest Day 861,000 gals.	Total	17,927,000 gallons

Pump Capacity Well #1- 400 g.p.m. Well #3 -900 g.p.m. Well #4 - 1200 g.p.m. Well #5 – 1,100 g.p.m. Well #6 – 800 g.p.m.

WWTP – Holding & Septage Receiving

2005	\$ 87,562.01	2006	\$101,115.11	2007	\$152,201.07	2008	\$210,441.47
2009	\$183,815.34	2010	\$197,653.66	2011	\$220,576.28	2012	\$236,224.70
2013	\$235,336.46	2014	\$203,938.32	2015	\$210,644.47	2016	\$220,473.17
2017	\$232,358.23	2018	\$245,767.74	2019	\$219,822.80	2020	\$204,656.11
2021	\$209,083.10						

2020	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,426,900				71,000	\$11,872.50
February	1,310,500			2,250	88,500	\$12,786.50
March	1,471,600	900		5,000	173,650	\$16,429.05
April	1,263,950			29,000	326,170	\$19,570.85
May	1,168,670			4,450	308,250	\$17,255.86
June	1,253,900			9,900	196,550	\$15,390.45
July	1,459,700			16,450	212,650	\$17,734.10
August	1,148,750			4,250	168,530	\$13,594.50
September	1,276,950			22,700	299,450	\$18,723.35
October	1,372,200	2,200		39,750	456,000	\$24,386.35
November	1,231,850			33,650	301,700	\$18,911.55
December	1,489,450			16,950	160,200	\$16,683.35

2021	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,284,600			6,650	77,250	\$12,507.30
February	1,386,475			3,000	44,450	\$12,338.05
March	1,633,050			27,600	206,050	\$19,457.65
April	1,425,850			38,000	268,500	\$19,829.30
May	1,297,900			34,550	232,100	\$17,740.45
June	1,392,350			52,800	258,500	\$19,977.30
July	1,338,500			31,600	245,050	\$18,256.25
August	1,499,450			31,200	196,250	\$18,305.85
September	1,389,200			23,900	213,400	\$17,524.10
October	1,275,550			16,250	297,260	\$18,367.15
November	1,249,400			22,400	224,200	\$16,608.20
December	1,448,000			32,000	205,900	\$18,171.50

2022	Holdings (gals)	Grease (gals)	G Decant (gals)	Septage (gals)	S Decant (gals)	Total Billings
January	1,311,750	2,700			40,650	\$11,780.25
February	1,321,050	8,000			48,350	\$12,577.15
March	2,076,350	2,000		40,750	303,750	\$26,238.30

CTH P and STH 60 Intersection Project and old Park-n-Lot Property

This is a place holder for the item. We will look to contact WisDOT for a meeting this Spring of 2022.

Morning Meadows Subdivision

Streetlights are being planned by the Village for installation in Phase 1 and 2. Phase 3 plans have been finalized and waiting for approval from the DNR to schedule the pre-construction meeting. Sewer approval has been received.

Little Lambs Subdivision (Glen Brooke Drive)

Plans have been finalized and waiting for approval from the DNR to schedule the pre-construction meeting.

Jackson Municipal Complex

May 18th is the next meeting with the contractor and designer to address the punch list items. We are getting closer to close out the contract for the building.

Willow Ridge Drive Reconstruction Project

A walkthrough of the project was conducted on April 21, 2022, to create an update punch list to close out the project.

Spruce Street/Ridgeway Drive Extension Project

We are working on a streetlight layout for the two streets. No change.

Coffee Connection Trail Project

Signage, painting of crosswalks, and landscaping are the remaining items to be accomplished. The weather has been helping to complete the project.

Eagle Drive & STH 60 Intersection Improvement

The Village has received the third review from WisDOT with the response that the Village is 100% responsible. We still have a chance to improve the intersection with the resurfacing project.

Midwest Fiber Installation

Cable Comm and Midwest is continuing the Village loop to connect all Village owned buildings with fiber. All Village Buildings: Community Center WWTP, and Public Works have been connected with fiber to the New Complex. Now we are waiting on lighting the fiber and IP addresses to move forward.

Stormwater Ponds Management Inspection Program

The Village has started the program by having a kickoff meeting with CDM Smith consulting. Letters will be sent to pond owners in the Spring of 2022 with a completion date sometime in the Fall of 2022.

Main Street (STH 60) Sewer and Water Replacement

The Jackson Sewer and Water Utilities are working on collecting data for the utility replacement in Main Street (STH 60) for this year of 2022 ahead of the resurfacing project by WisDOT in 2024. The Jackson Sewer and Water Utilities is working with Gremmer and Associates on the design. A letter to be sent for the remain forty-five (45) properties to have sanitary lateral televised.

CTH P (Sherman Road to STH 60) Utility Project

Gremmer & Associates is the engineering firm hired to complete the design prior to the 2024 CTH P Reconstruction Project. The design will be created this year with construction to be done in 2023.

Respectfully submitted, Brian W. Kober, P.E.